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AND

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An Address  
ON

**IODINE IN EXOPHTHALMIC GOITRE.**

DELIVERED BEFORE THE NORWICH MEDICO-CHIRURGICAL  
SOCIETY, OCTOBER 14TH, 1924,

BY

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*Introduction.*

A RELATIONSHIP between endemic goitre and iodine appears to have been recognized for many years. Coindet<sup>1</sup> in 1820 reported that by the administration of iodine goitres could be diminished in size. Chatin,<sup>2</sup> a French chemist, wrote extensively in 1850 and the years following, reporting his investigations on the amounts of iodine in air and soil and water, and he drew attention to the high incidence of endemic goitre and cretinism in localities where the amount of iodine was low. He further maintained that endemic goitre could be prevented by increased ingestion of iodine.

Following Chatin's work, iodine was used extensively in the treatment of goitre until evidence accumulated to show that, following iodine treatment of endemic goitre, the subjects frequently developed tachycardia, tremor, loss of weight, etc. Krehl,<sup>3</sup> Kocher,<sup>4</sup> and others, pointed out that iodine treatment in simple goitre could bring about a condition of exophthalmic goitre, or Graves's disease, and warned against its use. Probably for this reason its employment became much less general. In recent years it has been revived, largely as the result of the work of Marine.

In 1896 Baumann,<sup>5</sup> by demonstrating the presence of iodine in the normal thyroid gland, initiated a series of valuable investigations. The normal thyroid tissue, when dried, contains from 0.1 to 0.6 per cent. of iodine, and is eight to ten times richer in iodine than any other tissue in the body. Magnus-Lervy,<sup>6</sup> in 1895, showed that thyroid tissue has a powerful effect on heat production in the body, and Kendall<sup>7</sup> in 1914 isolated in crystalline form the substance thyroxine, which has the same action on heat production as the whole gland substance, and which contains 65 per cent. of iodine. Marine and Lenhart<sup>8</sup> showed that when the iodine content of human glands falls below 0.1 per cent. the gland shows changes of hypertrophy and hyperplasia, and that in glands showing a high degree of hyperplasia iodine is found only in traces or is absent. If the gland reverts to the resting condition—that is, to the colloid type of goitre—the iodine content rises. If the gland tissue contains over 0.1 per cent. of iodine histological examination will show no hypertrophic changes. Marino and Lenhart further showed that, after a partial thyroidectomy in experimental animals, hyperplasia of the remainder did not occur unless its iodine content fell below 0.1 per cent., but that if as much as three-fourths of a gland were removed and iodine administered to the animal, the hyperplasia that would otherwise have occurred could be prevented.

On the basis of these researches the prevention of endemic goitre by means of the administration of minute quantities of iodine is now practised in many parts of the world.

Exact knowledge of the cause of goitre is, however, still small. Whatever the cause, it would appear that iodine deficiency is one step in the process. It seems probable from the work of Marine, and of McCarrison<sup>9</sup> in India, that this deficiency may result (1) from a lowered intake of iodine, or (2) from a normal intake and a raised demand for iodine on the part of the body. Their researches point to several ways in which this increased need for iodine may be brought about. At certain periods in life, such as puberty, pregnancy, lactation, there seems to be an increased need of iodine. Faulty dieting, and especially excess of fat in the diet, has been shown to lead to hypertrophy and hyperplasia, and the addition of iodine can prevent this response of the gland to excess of fats. McCarrison has postulated a fat-iodine-thyroid balance on the results of these experiments. Pollution of food and of water has also been shown to produce hypertrophy and hyperplasia, and that this is preventable by the ingestion of iodine. All these researches refer to the simple hypertrophy and hyperplasia that is seen in endemic goitre and sporadic goitre, or to experimental conditions in animals that show the same histological changes as are seen in these goitrous conditions in man. These conditions in the individual may lead to the subsequent development of myxoedema, and the offspring of goitrous females are frequently cretins. In myxoedema and cretinism there is indisputably a lack or absence of the iodine-containing thyroid substance, and Marine has pointed out that endemic goitre and sporadic goitre, as well as myxoedema and cretinism, must be regarded as deficiency diseases, and that in all of them there is a deficiency of iodine. The goitre is the result of a response on the part of the thyroid gland to this deficiency. In myxoedema and cretinism the gland is unable to respond because of atrophy or because of congenital deficiency.

In patients with exophthalmic goitre—which in many respects appears to be hyperthyroidism—symptoms of myxoedema frequently develop, and every gradation may be found between these two apparently opposed states. In exophthalmic goitre the thyroid gland shows an exaggerated and irregular hyperplasia, and the iodine content is extremely low.

In 1920 McCarrison<sup>10</sup> reported that the hyperplastic thyroid glands that resulted in pigeons fed on an excess of butter without iodine showed on histological examination an irregular type of hyperplasia with vesicular budding similar to the picture seen in the glands of human cases of Graves's disease. In 1921 E. and M. Mellanby<sup>11</sup> reported that, in the course of their experimental work on rickets and on defective teeth in dogs, they found in the animals fed on an excess of butter a hyperplasia of the thyroid gland histologically resembling that seen in exophthalmic goitre, but that in the animals fed on an excess of fat in the form of cod-liver oil this hyperplasia did not result. They suggested that the high iodine content of the cod-liver oil was responsible for the difference.

These facts suggested that in exophthalmic goitre also an iodine deficiency might be present, and that the administration of iodine might have some therapeutic value in cases of this disease. Iodine therapy has been tried frequently in exophthalmic goitre, but an increased severity in the symptoms may result unless the dose is carefully regulated. This fact, and the frequently recorded examples of exophthalmic goitre symptoms developing during the treatment

of simple goitre with iodine, have led most authorities to issue strong warnings against its use if any symptoms of Graves's disease are present.

Such was the knowledge of iodine in relation to exophthalmic goitre a few years ago, when we commenced to study the therapeutic effect of iodine in cases of exophthalmic goitre. As so often happens, workers in other countries commenced similar studies at about the same time, notably in the Mayo Clinic, and after the results of our observations in the wards of the Medical Unit at St. Bartholomew's Hospital have been discussed reference will be made to several publications that have appeared in the last few months.

#### Preparation of Iodine Employed.

Throughout these observations the iodine preparation used has been the 10 per cent. tincture of the French *Codex*, in which the iodine is dissolved in 95 per cent. alcohol without the addition of any iodo. This preparation was selected because it contained no combined iodine. On adding it to milk the iodine is precipitated, but on stirring it is efficiently suspended, and the mixture is quite agreeable to take. It is probable that it is immaterial in what form the iodine is administered, so long as it is not in an inactive organic combination.

#### Results of Iodine Treatment.

Since March, 1921, we have been able to observe the action of iodine on 24 cases of exophthalmic goitre in the wards of the hospital. In addition to these cases there have been a small number who have received treatment as out-patients only, but in whom the conditions were not sufficiently under control to allow of deductions as to the effect of the treatment. In the following 8 of the 24 cases the results were sufficiently clear to justify detailed accounts of them in illustration of the action of the drug in exophthalmic goitre.

##### CASE I (Chart 1).

A woman, aged 27, who had noticed palpitation and shortness of breath in the beginning of 1922. In March they were sufficiently distressing to interfere with her work in the house, and swelling of the neck was noted. She was admitted on June 20th, 1922, as she had developed auricular fibrillation. This had disappeared by the next morning, but the heart rate was 120. Tremors were pronounced; exophthalmos was not pronounced, but von Graefe's and Joffroy's signs were present. The thyroid gland was enlarged, soft, and pulsating. There was a perforation of the right ear-drum septic. By July 3rd, when her basal metabolic rate was +48 per cent., the heart rate had settled to between 80 and 90 and the tremors were less, but she had lost weight steadily. The ear condition was being treated by syringing, and the general condition

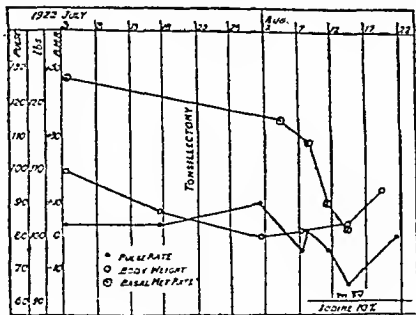


CHART 1.

was but little improved when, on July 21st, tonsillectomy was performed. By August 8th considerable improvement had taken place, the basal metabolic rate being +28 per cent. and the heart rate 82. Iodine was commenced in doses of  $\pi$  xv daily, of the metabolic rate was +10 per cent. and by August 11th the basal metabolic rate was +3.5 per cent. and the heart rate 76. On August 15th the basal metabolic rate was +3.5 per cent. and the heart rate 68, while she had commenced to gain weight. She was discharged from hospital, but in a few months' time was as bad as on admission. While an out-patient, although she felt better taking iodine, it had no obvious effect, and when the arrhythmia commenced to fibrillate again she was readmitted for surgical treatment.

##### CASE II (Chart 2).

A woman, aged 20, who for six months before admission in May, 1922, had noticed shortness of breath, swelling of the neck, and nervousness. The heart rate was 110 to 120 on admission. The thyroid gland was symmetrically

enlarged, soft, elastic, and pulsating. All the classical eye signs of exophthalmic goitre were present. With rest in bed the heart rate fell to 94, but she continued to lose weight, and the basal metabolic rate, which shortly after admission was +54 per cent., had by June 22nd fallen to +47 per cent. only. Commencing June 22nd,  $\pi$  xv of the iodine solution were given daily, and this was increased to  $\pi$  xxx on June 29th. By July 10th the heart rate was

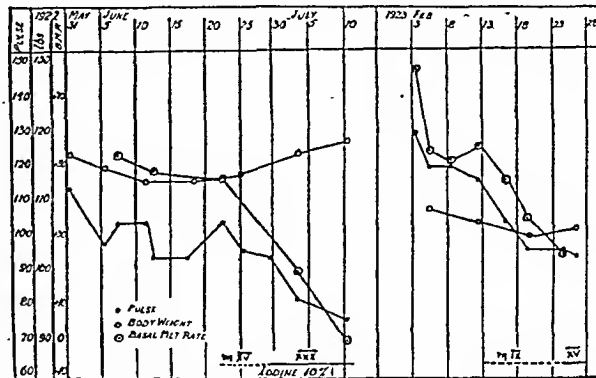


CHART 2.

76, the basal metabolic rate was not increased above the normal level, and the body weight was steadily increasing. On discharge from hospital the condition soon relapsed, and by October the greatly increased hardness of the thyroid gland caused the administration of iodine to be stopped. It was started again later at a smaller dose, as the patient thought she was better when taking it, but it had no noticeable effect, and she was readmitted in February, 1923, with a heart rate of 130, and basal metabolic rate of +68 per cent. With rest in bed the heart rate dropped to 110 to 120, and the basal metabolic rate to +56 per cent. Iodine was started, in doses of  $\pi$  ix of the solution daily, on February 15th. On February 24th the heart rate was 96, and the basal metabolic rate +25 per cent., and a few days later she was transferred to the surgical side for thyroidectomy.

##### CASE III (Chart 3).

A married woman, aged 49, who was said to have had exophthalmic goitre off and on since the age of 33. There had been a recent increase of palpitations, sweating, headache, and nervousness, and she was admitted in November, 1922, with auricular fibrillation, which disappeared, however, after a few hours' rest in bed. The following day the heart rate was 110 to 120. The thyroid gland was enlarged throughout, but the left lobe was larger than the right, and it was firm and elastic and not markedly vascular. Flushing and sweating were marked, and there was a fine generalized tremor. The eyes were somewhat shining and glistening, but no definite eye signs were present. With rest in bed for three weeks, the initial basal metabolic rate of +41 per cent. had fallen to +32 per cent., the heart rate was not altered, and the body weight had fallen steadily. Iodine was commenced on

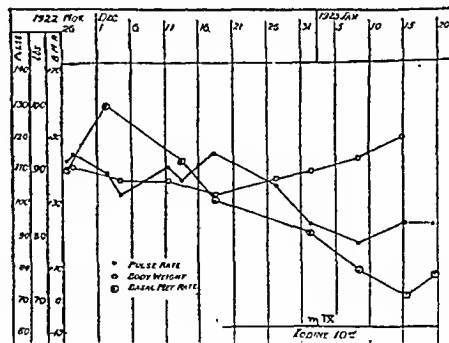


CHART 3.

December 19th, in doses of  $\pi$  ix daily, and by January 15th, 1923, the basal metabolic rate was +3 per cent., the heart rate 94, and she had gained 16 lb. in weight. Her general condition was greatly improved, and she was discharged. After a few months at home her condition was as bad as on admission, and although she always felt better when taking iodine, it had no obvious effect, and partial thyroidectomy was performed. Some doubt existed as to the diagnosis of exophthalmic goitre. While administration of iodine for several months, even in doses as small as  $\pi$  iij daily, caused the gland to become very hard, and increased the excitability of the patient and the rate of the heart.

##### CASE IV (Chart 4).

A man, aged 40, who for two years had noticed nervousness, palpitations, and weakness, and for six months before admission had noticed swelling of the neck. He had lost 2 st. in a year, and had frequent attacks of sore throat. On admission to hospital in April,



1923, the heart rate was 100 to 120, and the basal metabolic rate was +75 per cent. There was slight exophthalmos, the palpebral fissures were wide, and the conjunctivae glistening. The thyroid gland showed a uniform enlargement, it was soft and pulsating, and there was a loud bruit audible over it. A fine tremor was present. The tonsils were large and showed points of exudate. Tonsillectomy was performed on May 8th, and on May 16th the

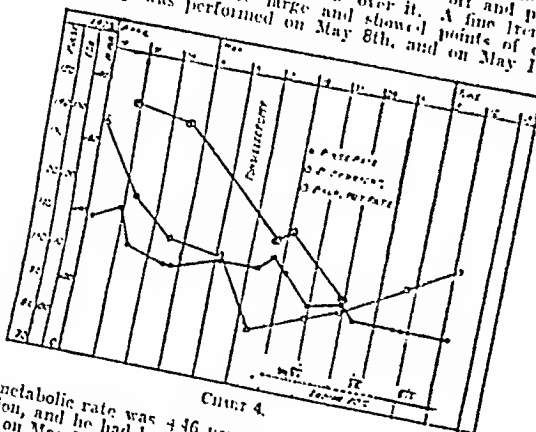


FIGURE 4.

basal metabolic rate was +46 per cent., the heart rate was as on admission, and he had lost weight steadily. Iodine  $\pi$  vj daily was started on May 16th, and later increased to  $\pi$  lx and then to  $\pi$  xli, and he commenced to improve in a striking manner. By June 10th the heart rate was 91, and he had gained a stone in weight. On May 25th the basal metabolic rate was +22 per cent. Unfortunately no further estimations were made. Partial thyroidectomy was performed on June 21st.

## CASE V.

A woman, aged 45, who complained of weakness and tremors following an attack of tonsillitis in November, 1921. In May, 1922, the swelling in the neck was noticed, and in December, 1922, she was told her eyes had become prominent. On admission, on February 23rd, 1923, the heart rate was 120, and the basal metabolic rate +61 per cent. The thyroid gland was uniformly enlarged, soft, and pulsating, and a loud bruit was heard over it. Exophthalmos and von Graefe's and Stellwag's signs were present. The patient's voice was husky, there was a fine generalized tremor of the muscles. Considerable improvement resulted from rest in bed, and on March 7th, when iodine was commenced, the heart rate averaged 101, and the basal metabolic rate was between +30 per cent. and +40 per cent. Two weeks later the basal metabolic rate was +16 per cent., the heart rate 81, and the body weight rose to +39 per cent., the heart rate to 116, and the weight ceased to increase; after recommencing it the basal metabolic rate rose to +39 per cent., the heart rate to 116, and the weight dropped again to +16 per cent. At the end of two weeks, the heart rate to 90, and she was again gaining weight. In spite of continuing the administration of iodine, the improvement was not maintained. The onset of an attack of tonsillitis may have been responsible for this, or a less strict condition of rest, or both.

## CASE VI.

A married woman, aged 41, who had had a history of exophthalmos for five years, palpitations, dizziness, and digestive troubles for more than one year, and a vague history of swelling in the neck from time to time. On admission, in November, 1923, general nervousness and excitability were marked. The heart rate was 112, and the basal metabolic rate +60 per cent. to +70 per cent. The thyroid gland was soft, symmetrically enlarged, and a bruit was audible over it. Besides exophthalmos, all the classical eye signs were present, but there was no tremor. With rest in bed the heart rate dropped to 98, but there had been little improvement otherwise when iodine was started in doses of  $\pi$  vj daily on December 11th. On December 21st the basal metabolic rate was +23 per cent., and the heart rate had been as low as 86. The patient became very excited during the Christmas festivities, and this was held to account for the fact that for a period of three or four weeks the condition relapsed. Towards the end of January, although the dose of iodine had been reduced to  $\pi$  iv, the heart rate and the basal metabolic rate were again falling, but not so satisfactorily as in December. The body weight had, however, increased continuously since the commencement of the iodine treatment.

## CASE VII.

A married woman, aged 43, who had noticed prominence of the eyes and shortness of breath on exertion for eighteen months, disturbed sleep for eight months, and severe weakness and tremor for four months. She was admitted in December, 1923, with a heart rate of 100, and basal metabolic rate of +46 per cent. Exophthalmos and all the classical eye signs were present. The skin was moist, and the conjunctivae glistening. Tremor was not marked. The enlargement of the thyroid gland was slight but symmetrical, and no bruit or thrill was noted. Under iodine,  $\pi$  vj daily, the basal metabolic rate fell to +22 per cent., and the heart rate to 82, but the improvement was not maintained and no gain in weight resulted.

In this case there were serious family troubles owing to the patient's absence from home, and it was soon seen that

no further benefit would be derived from hospital treatment. The improvement that results from iodine seems to have a feeble hold, for in this case worries, in Case vi excitability, in Case v tonsillitis, and in Cases i, ii, and iii less strict conditions of rest, all caused it to disappear to a greater or less extent. The following case is given in detail, not so much because it illustrates a typical action of iodine, but because the effect of the iodine was so striking, though unusual.

## CASE VIII.

A woman, aged 31, who had had increasing symptoms of exophthalmic goitre for one year, but who was found after admission to have a staphylococcal septicæmia in addition. She was given iodine for four days, and received  $\pi$  lxxx in all. At the end of the four days the heart rate, which had been 116, had fallen to 62, and after continuing at that level for two more days was again rapidly to 100. No other cause for the fall in rate could be discovered, and no disturbance of cardiac mechanism was suspected, the heart's action being regular throughout the fall and subsequent rise of rate.

This case appears worth recording if only to show that iodine is capable of profoundly influencing certain functions of the organism in disease. Of the remaining 16 cases, in 9 there was evidence of beneficial action similar to that seen in the foregoing cases. In these the observations on the basal metabolic rate were not so complete, or other factors disturbed the action, so that they do not present such a clear picture. In others, again, a sufficient control period without iodine was not present. Among these 9 cases are examples illustrating further some of the points already brought out. It was frequently seen that on the patient being allowed up, and more particularly on leaving hospital, the condition relapsed in spite of continued iodine administration. On the other hand, such patients are almost unanimous in stating that they feel better when on iodine. In a man aged 40 the subjective distress and nervousness improved strikingly, and the heart rate was slowed, but there was little or no effect on the basal metabolic rate. In a woman aged 44 the improvement in the general condition and basal metabolic rate was striking, but persistent auricular fibrillation set in, and the picture of exophthalmic goitre became overshadowed by that of circulatory insufficiency. Two cases in whom constipation had been troublesome to manage developed a desirable looseness of the bowels after commencing iodine, and the ward sister states that in other cases a similar action was noticeable, though to a less extent.

In 5 cases no beneficial action could be noted, but in 3 of them coincident infections may account for this. In one, septic teeth and chronic appendicitis, in another tonsillitis, and in a third bronchopneumonia, may have prevented the evidence of iodine action being seen. In none of the five was any harmful effect discoverable. In 2 cases undesirable effects were prominent. In one, a woman aged 20, tonsillectomy and rest brought about considerable improvement, but the commencement of iodine increased the severity of the symptoms—the thyroid gland became extremely hard, and troublesome diarrhoea appeared. The basal metabolic rate had before treatment with iodine been +20 per cent., and after the diarrhoea set in it rose to +40 per cent. The condition subsided somewhat on stopping the administration of the iodine, and partial thyroidectomy was performed. In the other case, that of a woman aged 27, considerable improvement occurred in the ward after tonsillectomy, and further improvement was seen on commencing iodine in doses of  $\pi$  xl, and later of  $\pi$  lx and  $\pi$  clxxx; but on leaving hospital on this last dose the thyroid gland became hard and appeared increased in size, and distressing palpitations appeared.

## Regulation of Dosage.

It will be seen that in those two cases in which harm resulted much larger doses than those usually given were employed. They were in the earlier days of our observation, and because of the very promising results obtained with the smaller doses, the larger doses were the result of an attempt to obtain even better results. As a result of experience we soon learnt that doses of  $\pi$  ix and  $\pi$  xv daily gave as good results as could be obtained with larger doses. If, however, such doses were continued for long, after a

varying number of weeks the thyroid gland would become gradually harder, and distressing symptoms of palpitations, pressure in the neck, choking sensation, and occasionally increased exophthalmos and tachycardia, would develop. After obtaining a decided benefit on daily doses of  $m\ ix$  or  $m\ xv$ , and no further improvement occurring, the dose is reduced to  $m\ vj$  or  $m\ iij$ , and the patient can continue on such doses almost indefinitely. In each case repeated examination is necessary to ascertain the optimum dose to maintain the improved condition. On the appearance of a rise in heart rate, or of the gland becoming harder, all iodine is omitted for one or two weeks and then recommenced on a lower dose.

#### Therapeutic Value.

In spite of such careful regulation of dosage, the ultimate results have not been as good as might be expected, for, as seen in the cases detailed, worry, excitement, and infections can undo all the benefit derived from the iodine. I think, further, that iodine cannot withstand the consequences that the daily contact with the world, either at work or at home, has on patients with exophthalmic goitre, and that so far it is of limited value in the medical treatment of the condition. If the patient can afford to lead a sheltered life it is a valuable addition to the other means at our disposal for managing a condition that in the majority of cases gradually subsides in time. But its very striking action has a much greater value than this, if it is combined with surgical treatment. The great majority of cases of exophthalmic goitre cannot afford to lead a sheltered life, and for them the only treatment that holds out the hope of a recovery sufficient to allow of successful competition in the struggle for a living wage is by means of surgery. Iodine treatment can so improve the patient's condition, even if temporarily, that surgical treatment by partial thyroidectomy becomes much simpler and much safer.

#### DISCUSSION.

In the last few months several reports on the action of iodine in exophthalmic goitre have been published. Plummer and Boothby,<sup>12</sup> reporting from the Mayo Clinic, base their deductions on their experiences with 600 cases in all, of which 43 were studied carefully. They administered the iodine in the form of Lugol's solution, which contains 5 per cent. iodine in 10 per cent. potassium iodide. In their summary they state that "it seems probable that approximately two-thirds of the patients with exophthalmic goitre will be greatly benefited, one-fourth will be slightly benefited, the remainder—or about one patient in twenty—will not be benefited." They consider that there is practically no probability of iodine doing any harm. In their recorded observations there is no mention of any attempt to use the larger doses which we employed at the outset, and which I think are capable of doing harm, and since their cases appear to have been in course of preparation for surgical treatment it is unlikely that they ever observed the action of even small doses of iodine over a prolonged period. Our results point strongly to the possibilities of harm even with such small doses as  $m\ vj$  of the 10 per cent. tincture, if continued for several months or weeks. Plummer and Boothby employ doses of ten drops of Lugol's solution daily for the average case, and may in urgent cases give as much as thirty drops for a few days only.

Mason,<sup>13</sup> reporting from Montreal, also uses Lugol's solution, and his experience is the same as that of Plummer and Boothby. He emphasizes the immediate relapse of the clinical condition on stopping iodine.

Jagic and Spengler<sup>14</sup> used a 5 per cent. solution of sodium iodide in the treatment of various types of goitre, and they report that, in 5 cases with symptoms of exophthalmic goitre, 2 were improved, 2 others relapsed after a preliminary improvement, and the fifth became worse. They advocate the use of eight drops of the 5 per cent. solution of sodium iodide, three times a day, in cases of goitre with thyrotoxic symptoms.

Wahlberg<sup>15</sup> used a 5 per cent. solution of potassium iodide in maximum doses of fifteen drops a day. In 2 cases out of 8 he found that after a preliminary improvement the disease became worse. The ultimate results on the

whole were not satisfactory, and he believes that the problem is largely one of dosage, and that the initial benefit is destroyed by a cumulative action of the iodine.

Starr, Walcott, Segall, and Means<sup>16</sup> followed the lines reported by Plummer and Boothby, and, using Lugol's solution in the same doses, confirmed their results. They also noted the temporary character of the improvement, and use the term "iodine remission" to describe the benefits obtained, and also noted that in some cases no effect is observable.

Since the cause of exophthalmic goitre is at present unknown, it is not easy to decide on the meaning of this action of iodine. The recent experimental work of Marine<sup>17</sup> on the result of damage to the cortex of the adrenal bodies is of interest in this connexion. He found that such damage in rabbits causes an increased heat production—that is, a rise of basal metabolic rate—and a loss of iodine in the thyroid gland. If the thyroid had been removed previously, this rise of heat production did not occur. Clinically these animals, in whom the adrenal cortex was damaged, showed features resembling those seen in exophthalmic goitre—namely, asthenia, exhaustion, myocardial damage, and loss of nutrition. These results appear to support the prevalent ideas that in exophthalmic goitre other organs of internal secretion besides the thyroid are essentially, and possibly primarily, involved.

It is tempting to try to bring exophthalmic goitre into line with the simpler goitres as an iodine deficiency disease, and to account for the different types of goitre by differences in the response of the thyroid and of the body generally to iodine deficiency. The results of iodine treatment in exophthalmic goitre, however, justify merely the view that in this disease there is an iodine deficiency relative to the needs of the body. It may be that the primary disturbance, whatever that may be, involves the thyroid gland in addition to other organs, and that the thyroid is stimulated to overactivity. This overactivity, by greatly increasing the need for iodine, would then result in a relative iodine deficiency. On this hypothesis, the administration of iodine would be of value in the treatment of what is merely a symptom, while it would have little if any effect in altering the course of the disease, and the administration of large doses would result in harmful effects, just as in the treatment of simple goitre.

#### SUMMARY.

1. The effect of iodine administration has been studied in twenty-four cases of exophthalmic goitre.
2. Iodine can bring about a lowering of basal metabolic rate, and of heart rate, and an increase of body weight, with a striking improvement in the general condition of the patient.
3. The improvement obtained with iodine does not as a rule persist.
4. The optimum dose at the commencement of the treatment appears to be about  $m\ xv$  of a 10 per cent. solution in alcohol, but this dosage cannot as a rule be maintained more than a few days or weeks. If the administration is stopped the condition immediately relapses. For prolonged treatment the dose should be lowered as soon as the initial improvement has taken place, and the administration continued with doses of  $m\ iij$  to  $m\ vj$  daily. The dosage must be carefully regulated according to the condition of the patient.
5. Increasing hardness of the thyroid gland is an indication for a smaller dosage.
6. The condition of the patient may be made worse, instead of better, if too large a dosage is employed.

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## An Address

ON

'CHRONIC MASTITIS' AS A TERM:  
ITS FALLACY AND THE DANGER OF  
ITS CLINICAL SIGNS.\*

BY

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(With Special Plate.)

THE term "chronic mastitis" is fallacious because it does not allude, as its name implies, to an inflammation of the breast, and also because the clinical signs universally considered to be connected with it mask many and various states of breast hyperplasia. It is a dangerous diagnosis, because these clinical signs hide carcinoma in its earliest stages, advanced carcinoma in rarer examples, and many other states of epithelial hyperplasia.

I believe the want of a proper recognition of these facts has led to the present confusion of opinion as to whether so-called "chronic mastitis" is or is not a prelude to carcinoma. Instead of saying that it is a prelude to carcinoma, I would prefer, to-day, to put the matter thus: The clinical signs on which its diagnosis depends include early and, in rarer instances, late carcinoma, duct papillomata (with which carcinoma is so often associated), as well as many other states of hyperplasia. Hence the danger and inaccuracy that lurk behind these clinical signs.

As a result of my paper I may be accused of demonstrating errors of diagnosis instead of proving that the clinical signs which indicate "chronic mastitis" are applied to various and some dangerous pathological changes. The accusation would be wrong, for the whole profession, including myself, is being misled constantly by these clinical signs, which are totally insufficient to enable any of us to be sure what is happening in breasts that exhibit them. There can be no doubt that the issues are so important that we ought to know precisely what is occurring in these breasts. Let me go more fully into these points.

I have inferred that inflammation and hyperplasia are different processes—an inference that clearly demands that I should say what I mean by inflammation, and by chronic inflammation in particular. Pathologists agree that what is now called "chronic inflammation" is quite a different process from acute inflammation. My conception of acute inflammation is as follows:

Blood corpuscles are aggregated in the blood vessels. There is dilatation of the arteries (commonly preceded by a brief period of contraction), giving rise to more free flow through the capillaries. This arterial dilatation is a purely nervous act that has been proved by Dr. Ninian Bruce to be due to an axon reflex. Other changes are that red and white corpuscles are prone to stick to one another and to the blood vessel wall, and the circulation becomes slow. There is an exudation of plasma, and an exodus of blood corpuscles from the interior of the blood vessels into parts outside them. Also, there is loss of function in an inflamed part; for example, the loss of movements of the cilia of ciliated epithelium (Lister). Lord Lister also stated that the lost movements of the granules in the pigment cells in the frog were another sign of lost function in the inflamed area. But our present knowledge renders pigmentation a much more complicated subject than it was in his time, and so much new work is in progress on this subject and that of acute inflammation that the pigmentary changes may prove, like the arteries, to be due to disturbed function and not lost function.

I have enumerated the changes that are classed together under the term "acute inflammation"; to them, when they last a long time and are less intense in degree, I assign the term "chronic inflammation." That is my conception of chronic inflammation, and I do not apply that term to any other tissue changes. The knowledge that has accumulated of growth, and of the effects of irritation applied directly to cells, has become so important that

Burdon-Sanderson's definition of inflammation (made in 1870) can no longer be accepted as true. He said: "Inflammation is the succession of changes which occur in a living tissue when it is injured, providing the injury is not of such a degree as to at once destroy its structure and vitality." That definition includes too much. In it there is no definition of injury, and there is no limitation of time, nor to the "succession of changes" that occur in tissues as a result of stimulation or irritation.

You may object and say that "Inflammation induces increased blood supply, which induces hyperplasia, and if that be so, therefore inflammation is at the bottom of hyperplasia." My reply would be that increase of blood may be essential to an increase of growth, but I do not admit for a moment that it can induce hyperplasia. I know that Hunter performed a classical experiment upon cocks, by which he intended to show that an increase of blood supply does induce an increase of growth. He transplanted their spurs into their combs, and an enormous growth of the spurs ensued.

In this experiment Hunter assumed many things, among which were that a cock's comb was a more vascular medium than the cock's leg, and that the subsequent excessive growth of the transplanted spur was due to the increase of blood supply it received.

I have repeated Hunter's experiment, and, in addition to transplanting spurs into combs, I placed them subcutaneously in the backs of the birds. The spurs seemed to me to grow equally big in both places. I had to cut short the lives of my birds because their vocal accomplishments disturbed the amenities of King's College and most of the inhabitants in the neighbouring Strand. I came to the following conclusions:

1. That the combs merely consist of a soft almost avascular gelatinous kind of substance that did not bleed at all on incision, and often there was smart hæmorrhage during the removal of the spurs from the legs. The natural blood supply of the spurs seemed greater than that of the combs.

2. That the increased growth of the spurs was due to the want of wear and tear to which they are not subjected in their abnormal situations. In the days of cock-fighting spurs were protected by a kind of thimble which allowed them to grow into formidable weapons of offence; the thimble did not increase their blood supply—it only protected them from the wear and tear of life.

3. That there are other more recently acquired fundamental facts relating to growth that are also involved in this matter, but into which I need not enter.

The formation of keloids that occurs in the scars (and sometimes only in parts of scars) of only certain individuals is an obvious example of hyperplasia, with which the mysteries of growth are more concerned than those of inflammation, with which it is now classified. The healing of a wound is not a process of inflammation, but one of regulated and controlled hyperplasia.

Further, I have pointed out recently that the connective tissue around fibro-adenomata, in their early stages of growth, is in a state of a diffuse hyperplasia that is identical in structure with that of the tumour. The area of this diffuse hyperplasia resembles what is now assumed to be "chronic mastitis," but the altering tissues in the neighbourhood of the fibro-adenomata are really taking part in the formation of the tumours, and are not suffering from an inflammatory process. (See Figs. 1 and 2.)

The truth of the matter is that now we know the problems relating to growth are much more complicated than they were supposed to be in the times of Hunter, and later of Burdon-Sanderson. Although our knowledge of the problems concerning growth is elementary, yet it is great enough to impel us to consider all states of hyperplasia in terms of growth and not in terms of inflammation.

This conception is of immense practical importance when considering pathological changes of the breast in relation to their clinical signs. As an example of this point, I will show you later on a breast that was diagnosed as "chronic mastitis" by one of the ablest clinicians of our time. Besides containing many different states of hyperplasia and cysts (the existence of which he knew), it also contained, totally unsuspected, a fibro-adenoma, a duct papilloma, and carcinoma—all of which were discovered incidentally on

\*The annual address delivered, November 27th, 1924, before the Sunderland Division of the British Medical Association.

making whole sections of this gland. With the exception of generalized nodularity and pain, there were no clinical signs to indicate the presence of any of these lesions. Discoveries such as this are not uncommon when breasts are examined by cutting whole sections for microscopic examination. Our knowledge of breasts cannot be accurate until their examination by means of whole microscopical sections is adopted universally.

I would go still further, and I would apply the term "hyperplasia" instead of "chronic inflammation" to other pathological states. Take, for example, the structure of a tubercle in tuberculosis. I would much prefer it were called a tuberculous hyperplasia and not "chronic inflammation." The lesion is one of pure hyperplasia. There is a giant cell surrounded by epithelioid cells, which are encompassed by an accumulation of lymphocytes, and an old tubercle is surrounded by newly formed fibrous tissue. You may say in surprise and indignation that surely lymphocytes are cells that belong essentially to "chronic inflammation." As a fact their presence is due to the laws that govern hyperplasia. You will remember that Carrel, in the famous address that he delivered before this Association, pointed out that lymphocytes and fibrous tissue cells respectively can grow and multiply *in vitro*.

There can be no doubt that acute inflammation and hyperplasia, different processes as they are, can occur at the same time. As an example, consider what is occurring in acute suppuration. Acute inflammation is present, and within the first hour it may be present alone. After two or three hours hyperplasia of tissue begins outside the centre of disease. Again, can there be a more wonderful state of hyperplasia than that which is occurring in the bone marrow, where the polynuclear leucocytes of suppuration are being manufactured in an enormous number? Nobody has suggested yet that the bone marrow is inflamed in this process.

You may tell me that tuberculous knees are hotter than normal joints, and that sign must always be one of the classical indications of inflammation. I agree it is, and chronic inflammation, as I have defined it, is also present when heat is manifest; but when proper physiological rest is applied to them the increased heat disappears, although tuberculous hyperplasia be still present. I may here point out that a breast suffering from what is now called "chronic mastitis" is usually of normal temperature.

Lastly, when I describe one of the types of desquamative hyperplasia of epithelium, it will be seen that colostrum corpuscles are being formed only in certain ducts of the breast, even when patients are virgins past their menstrual life. As the lesion is local and not affecting the whole breast, the result must be a combined effort of physiological and pathological processes that are operating locally. Hence much more complicated principles are concerned than merely those of inflammation.

I never use the term "chronic mastitis." I say the state is, as may be, either a local or a diffuse hyperplasia of the breast tissues respectively. Sir Humphry Rolleston, at my request, kindly suggested to me the term "mazoplasia."

My paper will be in vain if I cannot make you realize, when you are confronted by a breast which you now imagine to be one of "chronic mastitis," that you are in the presence of intricate problems of hyperplasia, that the clinical signs upon which you depend for the diagnosis of "chronic mastitis" do not convey an accurate conception of what is occurring in the breast before you, and that the life of the patient depends on the accuracy of your conclusions. In every breast that I examine clinically and microscopically my investigation is influenced absolutely by this dominating principle of hyperplasia and in what variety it may be present.

I proceed to give you examples of pathological changes that are included in this nebulous diagnosis of "chronic mastitis," and from them I trust you will see how inaccurate is the term, and how terribly anxious we ought to be when the only clinical signs to guide us are those of nodularity of the breasts and pain. I shall exclude all considerations of decided solitary tumours. The states of hyperplasia I shall describe occur, with some exceptions, mainly in the peripheral ducts, and also in some of the acini related to them.

The larger ducts may less commonly share in these processes, even as far as the nipple. This statement does not exclude the possibility of the hyperplasia occurring in the nipple itself, for it can be filled with secreting acini during lactation to such an extent that the ducts appear to be anatomically of minor importance. I will show that certain pathological changes are very often limited in site to the peripheral ducts and some acini connected with them. This limitation is common to various forms of epithelial and connective tissue hyperplasias, a fact that insists upon the consideration whether these processes are consecutive stages leading from one to the other should the action of the toxic agent be continued.

In order to make myself clear it is essential that I should draw your attention to the histological anatomy of the ducts and acini. Beneath the epithelial lining of the structures there is a layer of unstriated muscle fibres, which is separated from the clastica by a thin layer of a few bipolar cells loosely connected together by a delicate fibrillous tissue. The clastica is mainly limited to the ducts, and only occasionally surrounds acini; more rarely it surrounds a lobule. The delicate cellular fibrillous tissue that lies beneath the layer of unstriated muscle is continued around the acini, whether the clastica is continued around them or not. Outside the ducts and acini there is a layer of fibrous tissue that is in close contact with these structures. It is less dense in character than the supporting fibrous tissue of the breast, and forms the intralobular and pericanalicular fibrous tissue. This layer has almost a physiological connexion with the secreting elements. It often disappears in the breasts of virgins after about 35 years of age, so that the atrophied glandular elements are left in direct contact with the supporting fibrous tissue of the breast.

It is important to state that it is rare to find any type of connective tissue hyperplasia without a corresponding hyperplasia of the epithelium in the ducts or acini concerned; hence its presence may be assumed during the description of connective tissue hyperplasia. "Hyperplasia intra-elastica" is the term I apply to connective tissue hyperplasia that occurs internal to the elastica; "hyperplasia elastica" I apply to the enormous massive hyperplasia that sometimes occurs in the elastica itself; and when hyperplasia occurs in the pericanalicular and intralobular connective tissue, I term it "hyperplasia extra-elastica."

There is one more preliminary point. The best position in which to place a patient for the clinical examination of the breast is as follows: She should lie on a pillow that is placed immediately behind her chest. This position throws forward the breasts, the arms fall downwards with the elbows resting on the couch, and expose the axillae for clinical examination. The breasts and axillae should be examined, and the ampullae, ducts, and acini separately palpated.

I divide the pathological changes I am about to describe into three classes:

- I. Desquamative epithelial hyperplasia.
- II. Non-desquamative epithelial hyperplasia.
- III. In which the epithelial hyperplasia may be desquamative and non-desquamative in the same specimens, and in which the changes in the connective tissues appear to assume greater importance than the changes in the epithelium.

I must firmly impress upon the reader that the processes I describe often overlap each other to such an extent that I can show whole sections of breasts that contain in each respectively fibro-adenoma, duct papilloma, carcinoma, hyperplasia intra-elastica, hyperplasia elastica, hyperplasia extra-elastica, and cysts, as well as other types of epithelial hyperplasia.

#### CLASS I.—DESQUAMATIVE EPITHELIAL HYPERPLASIA.

This class consists of two types—A and B.

##### Type A.

**Pathology.**—In this type there is more commonly a generalized desquamative hyperplasia of epithelium, mainly in the peripheral ducts and also in some of the acini connected with them. It may, however, become

SIR G. LENTHAL CHEATLE: FALLACY AND DANGER OF THE TERM "CHRONIC MASTITIS."

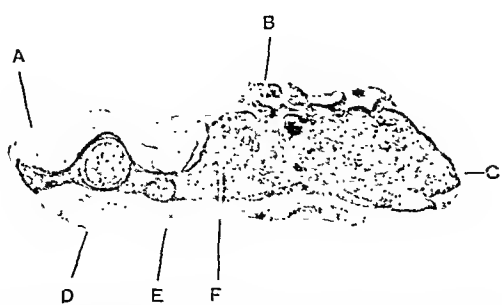


FIG. 1.—A segment of breast removed from a girl aged 16 years. The fibro-adenoma D called for the operation, and irregularity of the breast between A and B was the only palpable clinical sign of a more generalized pathological state. This microscopical whole section of the parts removed shows a distinct macroscopical appearance of the breast between the letters A, B, and that part between the letters B, C, where the breast is normal. At E there is an unsuspected small fibro-adenoma. From F Fig. 2 is drawn. (Natural size.)



FIG. 2.—A low power magnification of the tissue changes occurring at F in Fig. 1. There is a marked extra-elastic hyperplasia, and it is a diffused state of the same changes that are occurring in a localized form in the two fibro-adenomata at D and E, Fig. 1.



FIG. 4.—A vertical whole section of a breast removed for cyst due to "chronic mastitis." At A, C, D, there are three foci of infiltrating carcinoma, and at B there is a multiradicular papilloma in a duct cyst. (Natural size.)

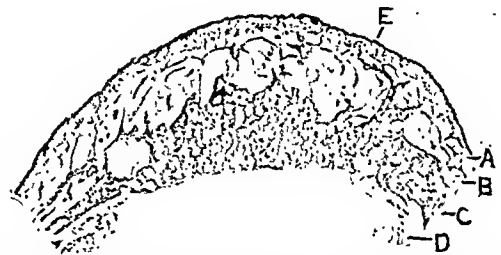


FIG. 5.—Horizontal whole section of breast. The shape is that of a normal breast. The structure of the breast is replaced by diffuse carcinoma, C. A, skin; B, subcutaneous tissue; D, remains of pectoralis major; and E points to one of the infiltrated ligamenta suspensoria of Sir Astley Cooper. (Natural size.)

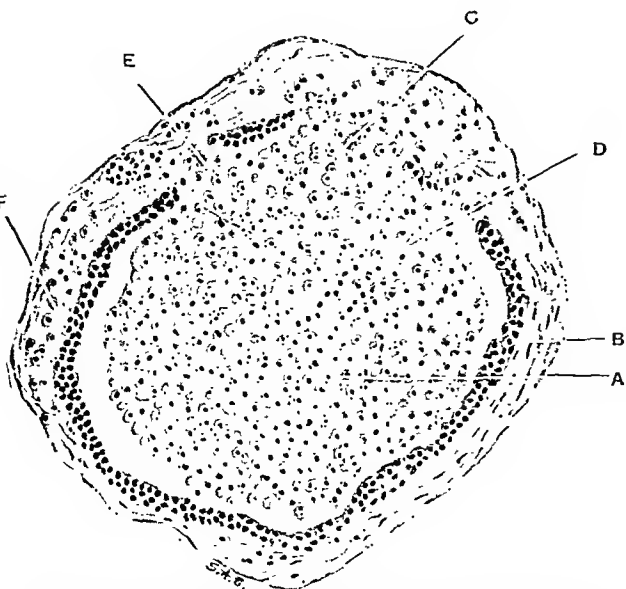


FIG. 3.—A low power magnification of a peripheral duct in transverse section. The desquamative hyperplasia belongs to Type B of this article. The lower part of the duct wall B at E, C the expanding wall has been parted by and the cell contents are being pushed out into the duct.

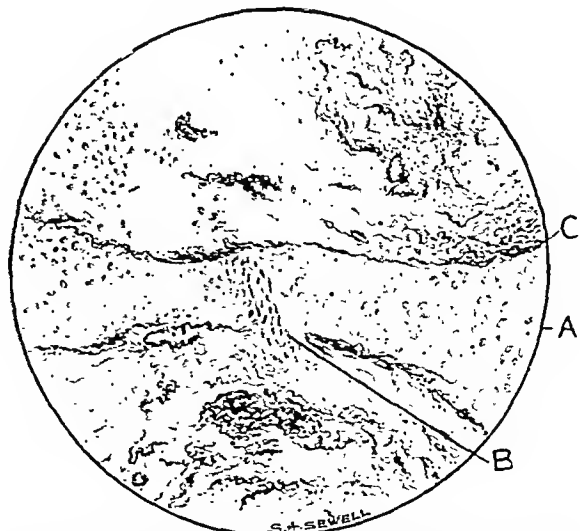


FIG. 5.—A low power magnification of a peripheral duct cut in longitudinal section. C, elastica; A, carcinoma cells filling the duct; and at B carcinoma cells are forcing their way from the inside to the outside of the duct.



W. A. H. MCKERROW: DORSO-LUMBAR DISLOCATION OF THE SPINE REDUCED BY OPERATION.

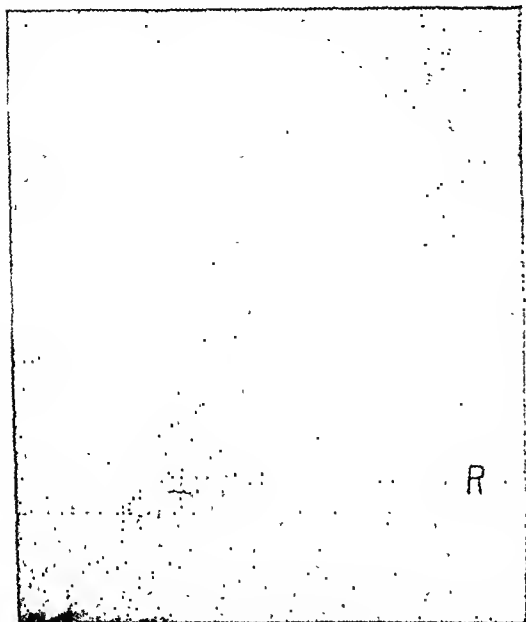


FIG. 1.—Before operation.

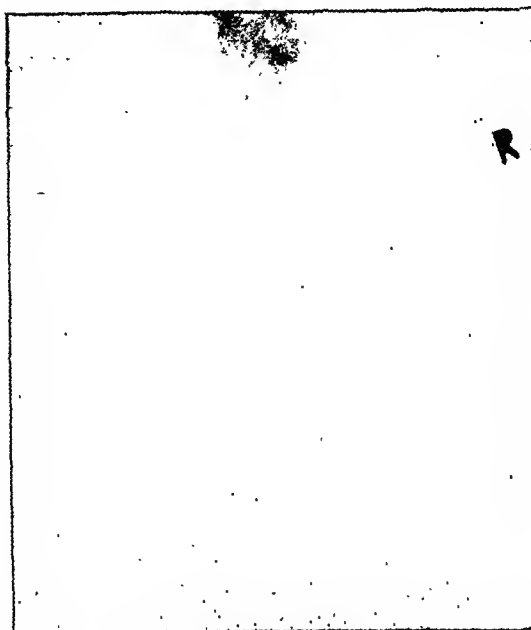


FIG. 2.—After operation.

J. G. WILLMORE AND M. DOUGLAS: SUPRARENAL TUMOUR, WITH DEGENERATION OF THE RETICULO-ENDOTHELIAL SYSTEM.

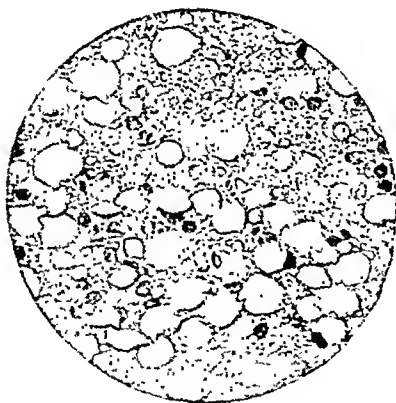


FIG. 1.

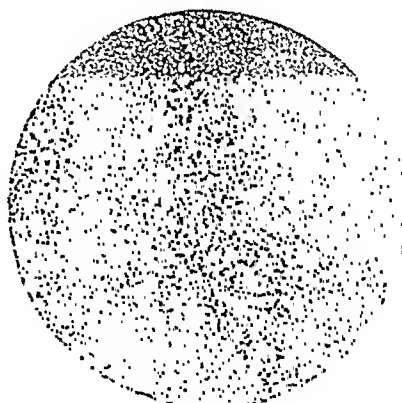
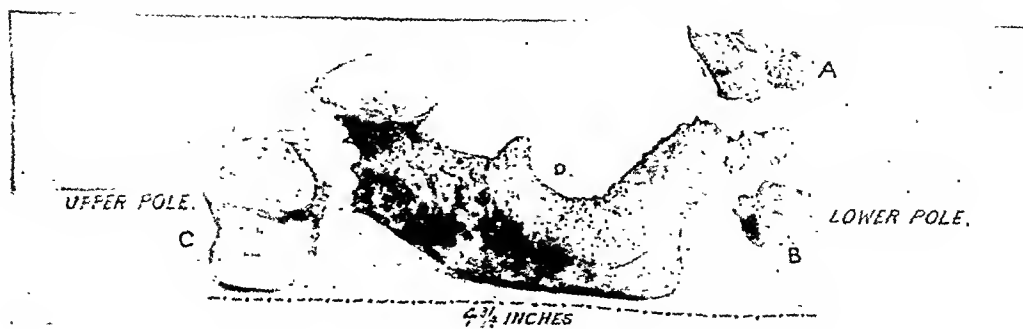


FIG. 2.

W. L. M. REITH: PERFORATION OF THE KIDNEY BY A LARGE BRANCHED CALCULUS.



more obvious clinically at one part or more than one part. All the affected structures are distended by this hyperplasia. The epithelium is proliferating universally from the surfaces of these structures. The cells thrown off are small, irregularly shaped, and desiccated, and are quite distinct in appearance from those thrown off by Type B. Hyperplasia extra-elastica is commonly in association, in which accumulations of lymphocytes are often present. The presence of lymphocytes is by no means an essential feature. Although this state affects most of the gland, there are parts which have not undergone these changes. This state of general epithelial hyperplasia is one of the early stages of cyst formation, Type B being the other. Also, slightly enlarged lymphatic glands sometimes occur in the axilla. Microscopical examination of the breast, and secondary in their centres a diffuse hyperplasia of endothelium to which their enlargement is due. I have seen the same endothelial hyperplasia occurring in lymphatic glands that were secondary to carcinoma of the breast, and secondary to apparently aseptic operations upon animals.

**Clinical Signs.**—On palpation the whole breast is studded by multiple nodules which vary in size, but are seldom larger than a dried pea. The ducts are tortuous, and ampullar can often be felt enlarged. There is no discharge from the nipple. Occasionally the enlarged lymphatic gland may be felt in the axilla. This state attacks married and unmarried women from 30 years of age onwards. It may last for months or years. Usually it has no relation to pain at the periods. The general hyperplasia is not be worse on palpation and when the breast is jarred. Pain is worse on palpation and when the breast is jarred. Pain is due to the distension of ducts and acini. The clinical signs appear local when the pathological changes are more advanced in one part than in other parts. When the changes appear to be local on clinical examination, the only way to be certain of the diagnosis between it and early carcinoma is to cut whole sections of the part removed for examination. How far is this practicable? This investigation is all the more essential when the affected parts are in the upper and outer segment of the breast, where the skin is often normally attached to the underlying breast.

#### Type B.

**Pathology.**—This type usually affects the peripheral parts of the ducts only, or acini only, or peripheral ducts and acini. It may affect mainly one part of a breast, or many quite isolated parts, or may complicate other states of hyperplasia. It attacks married and unmarried women from 30 onwards. As the processes in the ducts and acini are somewhat different, I will describe them separately.

**Ducts.**—In the early stages, what is seen is this: At four or five different spots in the circumference of the ducts the epithelial cells become long and feathery, undergo proliferation, and throw off large and swollen cells, and stain badly with a small degenerated nucleus. In other cells of the same type the protoplasm may stain badly, but the nucleus stains well. The various stages in the development of these large cells from the feathery cells, and demonstrated with certainty. In the later stages the duct surface feathery cells can be seen. One type of cysts arises from this type of epithelial proliferation in the ducts. I will show you in a transverse section of a duct what may happen when it becomes overdistended by this type of hyperplasia. You will see that mechanical rupture of its wall has occurred, and the big swollen cells are being pushed into the parts surrounding it (Fig. 3). In another specimen I saw a large collection of these particular cells lying loose, as it were, in the supporting fibrous tissue of the breast, and I wondered how they had got there. The explanation lies in this very interesting little discovery. I would like to say this: The large swollen desquamated cells of this type resemble colostrum corpuscles. I am confident they are colostrum corpuscles. If so, the origin of the latter in breasts of all ages and stages is clearly from the walls of the ducts and not from the acini, for in all my specimens these cells can be traced in all stages of formation as they arise direct from the duct cells.

**Acini.**—The epithelial cells lining the acini become long and feathery, but I have not seen among them the large colostrum cells that occur in the ducts. Eventually the cells lose their feathery type and become more cubical and spheroidal, and sometimes form columns consisting of four or five cells that grow into the interior of the dilated acinus. Often small, intracystic papillomata of delicate structure are formed. Acinous cysts thus formed may reach a large size. I consider that the pathological changes in Types A and B are premonitory and are preparing the way for many sequences—for example, cysts, stagnation of contents in cysts, papillomata, and even carcinoma.

#### Cystic Breasts.

**Pathology.**—The multiple cysts are a result of the changes described above in Types A and B. Cysts may be general throughout the breast, or more or less local. The smallest cysts, which are microscopic, still exhibit desquamative hyperplasia of epithelium of the type to which they belong. The larger cysts are lined by a layer, sometimes more than one layer, of more or less degenerated epithelium. Whole microscopic sections of these glands form an instructive object of study. I will give five examples. In the first, the breast is riddled with cysts of various sizes. There is no evidence of any intracystic growth. The second contains many where hyperplasia extra-elastica has become so marked as to form small fibro-adenomata. The third contains many cysts, in only one of which I was able to discover a papilloma, which happened to be of the rare uniradicular type. The cyst containing this papilloma was a small dilated duct. The third multiple cystic state (Fig. 4) exhibits one small cyst in which multiple parts of the of the multiradicular type. In three separate parts of the breast there are foci of carcinoma in which epithelial cells are infiltrating the fibrous tissue of the gland and fat in signs to indicate the presence of these complications, which were only incidentally discovered on microscopic examination of whole sections. The breast was removed upon a diagnosis of "cysts due to 'chronic mastitis.'" Fourth, there are other cystic breasts in which papillomata commonly originate. There is a fifth and more rare state in which carcinoma is incidentally discovered in large cysts when whole sections have been made.

I have the breasts of five separate patients which show remarkable and surprising pathological changes. On making whole sections of these breasts I found totally unsuspected carcinoma within large cysts. The cysts contained clear fluid and their walls were soft. What makes these observations so important is that medical men are apt to conclude that large cysts are never dangerous. Moreover, when they tap these cysts, they are content to regard them as simple when they extract a clear fluid and discover that their walls and surrounding parts of the breast are soft. Although I agree that large cysts, as a rule, are not dangerous, I do not consider that small cysts are reliable and the softness of surrounding tissue, are indications of complete safety. I am convinced that small cysts are a danger either in them or by a malignant small cyst formation, which I will describe later on.

**Clinical Signs.**—Over the whole breast multiple nodules occur, and vary from the size of a pea to that of an ordinary hen's egg. The larger nodules fluctuate definitely. Smaller ones are so decidedly elastic that no doubt could be entertained of their fluid contents. It is impossible to declare on clinical signs alone that there are no intracystic growths present. The fluid nature of their contents obscures the presence of internal growth. As a rule, on the formation of cysts pain disappears and is substituted by a feeling of general discomfort. Generally there is no discharge from the nipple, though gentle pressure on the breast may induce a clear or greenish discharge from the nipple. Lymphatic glands are not as a rule enlarged. When present, they exhibit endothelial hyperplasia, unless one of the cysts contains a carcinoma, when the gland might contain epithelial cells. Hence in doubtful states it would be well to remove the enlarged lymphatic gland and determine its contents by microscopic examination.

## CLASS II.—NON-DESQUAMATIVE EPITHELIAL HYPERPLASIA.

## A. Diffuse Carcinoma.

**Pathology.**—One would consider that advanced diffuse carcinoma could never be diagnosed as "chronic mastitis," but such is the fact. I will describe a breast of one patient, and the breasts of another.

Turning to the first, the breast appears of normal shape and size (Fig. 5). Curiously enough, there is no sign of breast tissue to be seen. The site of the normal breast is entirely occupied by a diffuse carcinoma. Epithelial cells have an alveolar arrangement. They completely fill spaces divided from each other by a thin network of fibrous tissue. The spaces vary in size, and are irregular in shape. There is no solitary lump. At many points the bases of the ligamenta suspensoria are attacked by carcinoma. Their attachment to the skin gave rise to the general nodularity which led to the diagnosis of "chronic mastitis." Lymphatic glands in the axilla contained carcinoma, although clinically they could not be distinguished.

In the second patient both breasts were affected by diffuse carcinoma. There were no solitary lumps. Carcinoma had invaded the bases of the ligamenta suspensoria, which gave rise to the general nodularity of the breasts. The pathological states of these breasts were the same and in no way resembled the remarkable appearances seen in the breast of the first patient. There was a primary carcinoma in each breast, which had spread in the usual method. Parts of the gland could be easily demonstrated in different parts of these breasts. Lymphatic glands in the axillae contained carcinoma, although they could not be distinguished clinically.

**Clinical Signs.**—The shape and the size of breasts belonging to this type remain unaltered. Careful palpation reveals diffuse puckering of the skin, general nodularity, and the absence of a decided solitary tumour. The breast may move freely over the pectoral fascia, or become fixed to it. Lymphatic glands in the axillae contain carcinoma, although their detection may not be possible clinically. The diagnosis is often rendered difficult by the fact that the patients may be fat. The two patients to whom I have referred were under the care of highly experienced observers, who, although they were always worried about these women, kept them under observation for eight months and eighteen months respectively. Doctors and patients were convinced that the states of the glands had not altered during these times.

## B. Local Carcinoma.

**Pathology.**—I am about to describe what I believe to be a common method by which carcinoma begins. A localized collection of peripheral ducts and acini are distended by well stained malignant-looking cells. After careful search made of whole sections of a breast, small definite areas can be seen in which epithelial cells of precisely the same appearances have invaded the surrounding tissue. The distended ducts and acini in parts are more or less cystic and contain a clear fluid. The duct cysts may contain multiradiolar papillomata. The acinous cysts may contain sessile growths, which project into the interior. I have not yet seen an early stage of carcinoma in which the peripheral duct or ducts were not implicated in the process. The epithelium of these cysts is identical in appearance with those that have invaded the surrounding tissue. It may be that the epithelial cells which have undergone hyperplasia may exist within the ducts and acini for a considerable period before the invasion of the surrounding parts occurs. I am led to believe, by what I have shown you in ducts and other breasts, that the invasion may be the result of accidental rupture of the walls of the small ducts or acini, and because the cells are malignant and capable of proliferation they continue to grow and spread to other parts of the body. Should the epithelial invasion of surrounding breast structures occur in the middle of the lesion, the ligamenta suspensoria are not affected and enable the diseased area to be pushed about without puckering the skin. The tumour may reach a large size before puckering of the skin can be demonstrated. I am sorry to say that breasts containing the early stages of this type are nearly always diagnosed as "chronic mastitis." Carcinoma may begin and spread also in a pre-existing cyst small in size.

**Clinical Signs.**—There is usually a history of pain, yet pain may be absent at the time of examination. When present it is made worse on palpation. There is nodularity of the affected area. There is no puckering of the skin in the early stages. It is certain to appear later, but the disease may be advanced beforehand. Enlargement of

carcinomatous lymphatic glands is usual except in the earliest stages of carcinoma, when it is limited within ducts and acini.

## C. A Diffuse Non-desquamative Hyperplasia of Epithelium.

**Pathology.**—There is a type of non-desquamative hyperplasia of epithelium which can affect only one peripheral duct and some of its acini and sometimes none of its acini. In other patients a non-desquamative hyperplasia of epithelium somewhat akin to this state can affect whole lengths of ducts secondary to Paget's disease of the nipple and to other forms of carcinoma of the breast. In those breasts in which only one peripheral duct and some of the acini are affected these structures are full of epithelial cells whose nuclei and protoplasm stain well, with no appearance of desiccated cells, nor of the large, swollen, colostrum-like cells, and look decidedly malignant. The appearances seen in these ducts lead me to believe that carcinoma in an early stage can exist for long periods in ducts which do not show epithelial transgression of their walls. Epithelial cells in the earliest stages of carcinoma are heaped up in ducts and acini, and distend them as if they were waiting for the final accident of rupture, through which they can escape into the surrounding tissue. Precisely similar changes are seen in the early stages of far cancer in mice. This observation is supported by the appearances noted in a duct whose epithelial hyperplasia belongs to this type (Fig. 6). This duct is distended by non-desquamative epithelial cells; at one part of it there is a solution of its continuity, and through which non-desquamative epithelial cells are pouring into the connective tissue, and carcinoma is undoubtedly present. It is most instructive and interesting to compare this ruptured carcinomatous duct with that duct in which the rupture occurred from overdistension, by the heaping up within its interior of large desquamated cells of colostrum type (see Fig. 3).

**Clinical Signs.**—The distended ducts and acini give rise to marked local nodularity. Pain is associated with the state and is referred to the site of nodularity, and is made worse on palpation. There is no discharge from the nipple, and lymphatic glands may be enlarged in those examples where the epithelial cells have passed their natural boundaries. This is one of the types that are so important to remove at the earliest possible moment. As a rule it comes for operation after it has passed through the usual period of diagnosis of "chronic mastitis."

## D. Papillomata.

**Pathology.**—Although one papilloma may exist in a breast, it is uncommon, and as a general rule it contains many papillomata. Where one papilloma exists, it is situated generally in an ampulla. Where many exist, one of them is usually found in the ampulla and the rest are scattered diffusely throughout one duct or more than one duct. I have whole sections of a breast in my possession that contain two ducts and their ampullae full of papillomata. Altogether over 170 can be counted in one of the sections. The papillomata belonging to this class are multiradiolar as a rule—that is to say, each papilloma may arise from many points in the wall of the duct. The epithelium in the tops of these papillomata coalesce. Sometimes the epithelial cells form columns which unite at their tops, also masses of epithelial hyperplasia arise directly from the lining of the duct and give rise to sessile tumours. The connective tissue in papillomata may be one of three types. It may consist purely of intra-elastic connective tissue; it may contain stalks of extra-elastic tissue, and hence contain the elastica in the centre of the stalk; and thirdly, the latter type may also contain an intra-elastic hyperplasia. It is a very interesting fact that papillomata are frequently present in the parts of those ducts which lead directly into the mass of spreading carcinoma. Papillomata often show evidence of past haemorrhage into their structure and into their ducts. I have no time to discuss the problem as to whether papillomata can become malignant. They may grow to enormous proportions. A uniradiolar papilloma is a rare occurrence.

**Clinical Signs.**—The general appearance of a breast is normal when the papillomata are small. When they become large they may deform the breast and even protrude from a duct orifice on the surface of the nipple. There is often a history of pain, not of a severe character. Sometimes there is a history of discharge of blood or serum from the nipple. I possess a specimen the clinical signs of which had lasted eight years and a blood discharge from the nipple was only noticed once, and that was in the middle of its history. When haemorrhage from the nipple occurs, it is a classical sign of papillomata or carcinoma of a duct. Papillomata can exist, however, without inducing haemorrhage from the nipple. On palpation one ampulla or more than one ampulla may be felt enlarged, palpation of which may induce pain and haemorrhage, or a discharge of serum. When the duct is full of papillomata an enlarged ampulla can be felt, and its ducts and branches can be distinguished tortuous and enlarged right down to the periphery. The general sensation on palpation is one of nodularity, and more than one duct may be affected.

**CLASS III.—IN WHICH EPITHELIAL HYPERPLASIA APPEARS TO BE, HISTOLOGICALLY, OF LESS IMPORTANCE THAN THE HYPERPLASIA OF THE CONNECTIVE TISSUE.**

#### A. Hyperplasia Elastica.

**Pathology.**—In this state there is a universal massive hyperplasia elastica throughout the whole lengths of all the ducts and those acini that happen to be surrounded by elastica. It is of enormous and surprising proportions and density. Hyperplasia elastica is accompanied by a loose hyperplasia extra-elastica. One never extends beyond the limits of the other, and their limit is the general supporting connective tissue of the breast. The state I discovered incidentally, on making whole microscopical sections of carcinomatous breasts, and of non-desquamative hyperplasia of epithelium (Type C). In one of the carcinomatous patients primary malignant disease and massive hyperplasia elastica were present in both breasts. Less marked hyperplasia elastica occurs in ducts that contain carcinoma and in ducts that contain a highly suspicious type of non-desquamative epithelial hyperplasia.

**Clinical Signs.**—Massive hyperplasia elastica gives rise to multiple solid nodules over the whole breast, which are due to tortuous, thickened ducts and the affected acini. The condition is painless, and I do not know how it can be diagnosed by clinical examination.

#### B. Hyperplasia Intra-elastica.

**Pathology.**—Hyperplasia intra-elastica affects mainly peripheral ducts and acini, sometimes picking out a terminal duct and its lobule. Its presence is very marked and always local. I have never seen it generalized. In the early stages the loose, delicate, cellular, fibrillous tissue inside the elastica undergoes diffuse hyperplasia. It may be evenly distributed, or it may be more marked at one place than another. The fibrillous matrix supports isolated bipolar or stellate cells. Here and there the layer shows a marked tendency to grow larger and give rise to a small intra-elastica fibro-adenoma, an intra-elastica papilloma, or only an irregularity of its surface. It usually undergoes degeneration, when only an occasional cell can be stained to prove its cellular origin. It is not a common state, and it is often associated with carcinomatous breasts. Certain types of fibro-adenomata are derived from this tissue.

**Clinical Signs.**—Hyperplasia intra-elastica generally occurs in women over 35 years of age. Enlarged ducts and acini give rise to local nodularity of the breast. The breasts are nodular, but there are no special clinical signs by which the state can be diagnosed. I have discovered it only on making large microscopical sections and during their examination for other diseases.

#### C. Hyperplasia Extra-elastica.

**Pathology.**—This type is found distributed generally throughout the gland, or only in association with the formation of the extra-elastica type of fibro-adenoma; it is an essential part in the formation of this tumour. It

is unnecessary to do more than allude to the general state of hyperplasia extra-elastica. I will deal only with the local state in connexion with the formation of fibro-adenoma. On cutting the breast in half, so that the incision passes through the affected and normal parts of the breast, a difference in the structure between these parts is at once evident macroscopically. The normal part of the breast appears white, the affected part appears lightish grey. The affected part usually occurs in the smaller ducts and acini at the periphery of the gland, and macroscopically looks definitely limited. Microscopically the limitation is not so definite. On cutting whole sections of these breasts for microscopical examination three things may be seen in the affected part: First, the fibro-adenoma, which attracts attention to the breast, is quite obvious. Secondly, a small, definite, unsuspected fibro-adenoma may be discovered in juxtaposition to it, or separated from it by a small area of breast tissue. Thirdly, the parts that appear lightish grey on macroscopical examination show marked hyperplasia extra-elastica, which is an essential part in the growth of this tumour. The parts of the breast that appear white are normal on microscopical examination.

**Clinical Signs.**—The fibro-adenomata are seen mainly in young people from 15 to 25 years of age, but may occur in breasts of much older people. Attention is drawn to the breast by the fibro-adenoma. On palpation the surrounding parts are nodular; the nodules are about the size of small shot. There is very little pain connected with this type, and it is usually localized to one segment of the breast.

I have not dealt with the management and treatment of these diseases, for these reasons—namely, that the correct management and treatment frequently depend absolutely on the most careful judgement and laborious and precise preliminary microscopical examination. The detailed description would take me so long that I must reserve this part of my subject for another time.

Finally, I hope I have said enough to show you that the term "chronic mastitis" is a misnomer, and does not correctly indicate the states to which it is universally applied; that the clinical signs on which its diagnosis now depends can only indicate the possibility of many, without specifying one, of the various lesions they hide, and that these lesions may include carcinoma in its earliest as well as in its late stages.

## PSICAINE: A NEW LOCAL ANAESTHETIC.

BY

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THIS cocaine substitute is an optically active isomer of ordinary cocaine prepared by Willstätter in collaboration with the firm of E. Merck of Darmstadt.

Cocaine is formed from the combination of l-ecgonine with methyl alcohol and benzoic acid. L-ecgonine contains four asymmetric carbon atoms, so that sixteen optical isomers are possible, eight of which are the mirror images of the other eight. One isomer of l-ecgonine is d-ecgonine, which differs from the former in the arrangement in space of the H and OH groups. D-ecgonine is built up from this in exactly the same way as cocaine is built up from l-ecgonine, and the acid tartrate of this substance is known as "psicaine."

In Germany psicaine is approximately twice as expensive as cocaine, but it is said to have double the anaesthetic power, half the toxicity, and to be free from addiction properties. Psicaine is freely soluble in cold water up to 25 per cent., and is not precipitated by saline solution, Ringer, nor by proteins.

On the cornea psicaine in my experiments has approximately one-sixteenth the anaesthetic power of cocaine. The minimal effective concentrations to give complete anaesthesia after instillations lasting one minute are—for cocaine 0.25 per cent., and for psicaine 2.5 per cent.; on the other

hand, a 0.5 per cent. solution of cocaine and an 8 per cent. solution of psicaine are equally effective in giving complete anaesthesia averaging thirteen minutes under the same experimental conditions. Psicaine moderately dilates the pupil in rabbits for twenty-four hours; it causes slight vascular congestion, but no drying of the cornea.

In my earlier experiments for determining the activity of local anaesthetics on nerve fibres I chose the vagus, and estimated the duration of the loss of conductivity of the cardiac fibres. In the present investigation I have adopted also the method of using true sensory nerves. The most satisfactory nerve in rabbits was found to be the anterior crural, both because of its small size and the ease with which a long portion can be separated.

For the quantitative comparison of the anaesthetic action of different local anaesthetics it is necessary to choose some nerve peripheral stimulation of which produces an effect which can readily be estimated. It is clearly of great importance that this nerve should be small in size. The American and German observers have, for the most part, used the sciatic nerve of animals; the objections to this are obvious, because the nerve is so big that before a complete anaesthesia is produced the drug has to penetrate a considerable thickness of nerve tissue—that is to say, the rate of penetration or absorption comes into play. When a drug is injected subcutaneously it acts on only the very finest of the nerve fibrils, and therefore to obtain any result comparable with the effect of a subcutaneous injection the finest nerve possible should be chosen for experiment.

The method adopted is a modification of that recently described by Schnitz and Loevenhart.<sup>6</sup> The rabbit first receives an injection of urethane (1.5 gram per kilo), and one hour later ether is administered and a cannula is inserted into the trachea. The anterior crural nerves are isolated and are cut as near to the periphery as possible. Ether is now discontinued, the urethane giving adequate and uniform anaesthesia. Each anterior crural nerve is held by a protected electrode at a point 2 cm. from the cut end, and is excited by the weakest current necessary to produce a definite effect on respiration. A tambour connected to the tracheal cannula records the respirations on a moving drum. In all experiments, both with the vagus and with sensory nerves, the drug is applied over 1 cm. of nerve for thirty seconds. The nerve is stimulated immediately after painting, and subsequently every few minutes, the absence of any effect on respiration denoting complete anaesthesia. By using a double key in the secondary circuit the other anterior crural nerve can be excited by the same current and serve as a control, and subsequently used for a comparative test with another drug.

The results of experiments given in Table I show that the activity of psicaine compared with that of cocaine and tutocain is very weak for both sets of fibres. Novocain in 0.05 per cent. solution has the remarkable action of paralyzing sensory nerve fibres in a degree equal to that of cocaine, but in double this strength it has no effect on vagal cardiac fibres. Dixon has shown<sup>7</sup> that cocaine has certain specific effects in that it paralyzes sensory fibres before motor in mixed nerves, and efferent before afferent fibres in the vagus. Novocain has a strong affinity for sensory fibres and relatively little action on the cardiac fibres of the vagus.

TABLE I.—Effect of Local Anaesthetics on Nerve Fibres.  
(Figures refer to the duration of complete loss of conductivity, in minutes.)

	Cocaine Hydrochloride.	Tutocain.	Psicaine.	Novocain.
Vagus nerve: cardiac fibres	0.1 % 12	0.1 % 10	0.1 % 5-8	0.1 % 0
Anterior crural nerve: sensory fibres	0.05 % 15-20	0.05 % 5-8	0.05 % 0	0.05 % 15-20

The toxicity of psicaine was estimated by determining the minimum lethal doses for rabbits, guinea-pigs, and mice, and also, in rabbits, the minimal doses required to produce convulsions lasting five minutes. The results are given in Tables II and III.

TABLE II.—Minimum Lethal Doses Compared.

	Cocaine.	Psicaine.	Novocain.
Rabbit— Intravenous: 1 per cent. solution (1 c.cm. in 18 s.ccs.)	mg. per kilo. 12*	mg. per kilo. 1†	mg. per kilo. 90
Subcutaneous: 5 per cent. solution	75 (200*, 93†)	40	600
Guinea-pig— Subcutaneous: 2 per cent. solution	30	40	Ove: 350
Mouse— Subcutaneous: 2 per cent. solution (dose in mg. for .0 gm. mouse)	5	7-10	18

\* See Reference 11.

† See Reference 6.

TABLE III.—Minimum Convulsant Dose for Rabbits.

	Cocaine.	Psicaine.	Novocain.
Intravenous: 1 per cent. solution (1 c.cm. in 18 s.ccs.)	mg. per kilo. 8	mg. per kilo. 8	mg. per kilo. 45
Subcutaneous: 5 per cent. solution ...	40	37-40	120

The figures for cocaine given in my previous paper<sup>9</sup> have been modified, and represent the results of experiments made with a sample of cocaine hydrochloride having a melting point of 182° C. (normal 183° C., Martindale).

The Abbott Laboratories, Chicago, U.S.A., the manufacturers of butyn, inform me that they have found "considerable variation in the toxicity and efficiency of different samples of cocaine." They consider that the inequality of samples probably accounts for discrepancies in the results obtained by different investigators, and they suggest that there may be a relation between melting point and toxicity.

In rabbits psicaine, injected subcutaneously, was found to be more toxic than cocaine, whereas injected intravenously the two drugs are of almost equal toxicity. Guinea-pigs and mice are relatively less susceptible to psicaine.

Both cocaine and psicaine give rise to symptoms identical in character though not in degree. Experiments on frogs show that psicaine is a more powerful stimulant than cocaine, since it will more readily increase reflexes and will even produce convulsions, which cease when the cerebrum is destroyed. In rabbits, following a preliminary stage of excitement during which reflexes are increased, there is a sudden tonic spasm, and this is succeeded by a stage of marked clonus in which there are violent spasms of the limb muscles, together with twitchings of the muscles of the head area. The head is retracted and the corneal reflex is lost. With larger and lethal doses the clonic spasms are very violent and are quickly followed by death from failure of respiration. Convulsions do not occur when the cerebrum is destroyed, nor after the administration of a general anaesthetic.

The irritant effect of psicaine is less than that of cocaine, and for practical purposes should not be of any significance. In rabbits 0.5 c.cm. of a 10 per cent. solution of psicaine injected subcutaneously causes slight hyperaemia, followed by thickening lasting two days and some desquamation on the fifth day, whereas cocaine in similar concentration produces ecchymosis and thickening lasting three days, followed by scab formation.

Psicaine has relatively little effect on blood vessels, and its action suggested that psicaine would not cause any swelling of the nasal mucous membrane. This, however, is not the case in the cat, since, using my perfusion method,<sup>10</sup> it was found that after an application of a 5 per cent. solution of psicaine lasting twenty-five minutes the mucous membrane became so swollen as almost completely to obstruct the flow of fluid—an effect which lasted for several hours.

In this series of experiments I have been unable to verify the claims for efficiency and low toxicity which have been made for psicaine. If these experimental results are confirmed psicaine is unlikely to be useful as a substitute for cocaine.



I desire to express my thanks to the Medical Research Council for the special grant it made for the expenses of this research, and to Professor W. E. Dixon, to whom I am greatly indebted for help and advice throughout the investigation.

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## PSICAINE: AN ARTIFICIAL COCAINE.\*

BY

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PSICAINE is said to be the acid tartrate of a pseudo-cocaine, a dextro-rotatory artificial isomer of natural cocaine.<sup>1</sup> (Formula,  $C_{17}H_{21}O_4N$ ; molecular weight, 453; alkaloid content, 67 per cent.). It is a white crystalline powder, very soluble in hot water, soluble in cold water up to 20 per cent.; the solution is acid in reaction, 1 per cent. solution giving a rather pinkish orange tint with dimethylamino-azo-benzene—pH about 3.3; the solution is also dextro-rotatory. (This is mentioned, as other properties of the substance I have examined differ somewhat from those described in Continental reports.) The powder is sparingly soluble in alcohol.

**Anaesthesia.**—Applied to the nasal mucous membrane a 5 per cent. solution gives very good anaesthesia. As compared with 5 per cent. solution of cocaine hydrochloride, the time taken for full anaesthesia is rather longer; the depth of anaesthesia ultimately obtained is the same. The duration of anaesthesia without adrenalin is over fifteen minutes, after packing. If 7 per cent. solution is used, the time required for anaesthesia is practically the same as with 5 per cent. cocaine hydrochloride solution. (The alkaloid content of 7 per cent. psicaine solution is 4.7 per cent., that of 5 per cent. cocaine hydrochloride solution being 4.5 per cent.) I have made over fifty observations with uniformly good results, performing such operations as puncture of the antrum, canterization, etc. I have not found that the anaesthetic value is twice that of cocaine as claimed.

**Toxicity.**—No cases of toxicity in the human subject have been brought to notice. Experiments have shown that doses up to 70 mg. do not produce excitement or fainting when injected into men.<sup>1</sup> This dose (containing less than gr. 3/4 of alkaloid) is too small for deductions of value; many men might escape symptoms after the same quantity of cocaine.

**Shrinkage.**—Psicaine is said to be a vaso-dilator, but I have found uniform good shrinkage after spraying the nose with my 5 per cent. solution. This strength also checks bleeding. If it is desired to use adrenaline the solutions mix well.

**Irritation.**—I have found no case of primary or late irritation with solutions of the strengths described.

**Habit Formation.**—In common with all cocaine substitutes, psicaine is said not to lead to addiction. Deductions from animal experiments support this view—the dose required to produce excitement would probably be so near the lethal dose as to prevent the drug ever making a popular appeal.

**Stability.**—A 5 per cent. solution of psicaine grows "moulds" just as does cocaine solution; the addition of 1/4 per cent. salicylic acid prevents this. Time has not allowed an investigation of keeping powers; the solution is unaltered after two months. Psicaine can be boiled for

five minutes, or steamed for an hour, with only slight loss of power; fifteen minutes in the autoclave at 134° C. seriously diminishes the anaesthetic power and the experimental toxicity.

**Dangerous Drugs Acts.**—It appears that psicaine comes under the Dangerous Drugs Acts. (The Home Office is investigating this point, and will give a decision when the work is complete.)

**Experimental Work.**—Subcutaneous injection into guinea-pigs was chosen as a method of comparison. The minimal lethal dose in 5 per cent. solution was found to be 53 mg. per kilogram. The toxicity is therefore 19 kilograms per gram of psicaine (the toxicity of 5 per cent. cocaine hydrochloride is 25 kilograms per gram). The toxicity figure is affected by the large proportion of acid in the molecule—just under a third. In kilograms per gram of alkaloid, the toxicity is 28, the same as that of cocaine in 5 per cent. cocaine hydrochloride solution. In 1 per cent. solution, the toxicity of psicaine is 18 kilograms per gram. The new isomer therefore appears to have no advantage over the natural alkaloid as regards toxicity measured by the minimal lethal dose. The minimal convulsant dose seems to be almost the same as the minimal lethal dose: it was practically impossible to produce convulsions without killing the animal. Assuming that the same holds good in man, and further that there is some relationship between the dose required to produce excitement, nausea, fainting, etc., and that required to produce convulsions, it is seen why I consider the drug unlikely to become one of addiction: the dose necessary for excitement would be dangerously high—that is, psicaine probably has a high "danger ratio." This is important, since, if so, we shall not be warned when our clinical dosage is getting dangerously large. No one should use psicaine who has not acquired with the much safer (from this aspect) cocaine hydrochloride practice in safe dosage. When death occurs, it is from respiratory failure, the heart continuing to beat after the respirations cease. Under ether anaesthesia, deep enough to abolish reflexes, convulsions do not occur, but the same dose kills the animal, respiration gradually failing; it is not, in fact, the convulsions that cause death.

## Summary.

1. Psicaine is the acid tartrate of an artificial isomer of cocaine. It is soluble in water, giving a definitely acid solution. The solution is not harmed by brief boiling. It requires the addition of salicylic acid to prevent the growth of moulds.
2. Used in the nose, 7 per cent. psicaine solution gives anaesthesia identical with that produced by 5 per cent. cocaine hydrochloride solution. The anaesthetic value of the new alkaloid is the same as that of natural cocaine.
3. The same "shrinkage" as is seen with cocaine is found in using psicaine.
4. The experimental toxicity of psicaine in 5 per cent. solution is three-quarters that of cocaine hydrochloride; the toxicity of the new alkaloid is therefore identical with that of cocaine.
5. It is probable that excitement, fainting, etc., will not be so readily produced by psicaine as by cocaine; it may therefore be useful in susceptible persons.
6. For the same reason psicaine should not be used except by those well accustomed to use cocaine; the dose of psicaine should not exceed that found safe with cocaine.
7. Psicaine is a "dangerous drug."
8. The price of psicaine has not yet been published.

I am indebted to Professor Walker Hall for permission to use the Pharmacological Laboratory of Bristol University for the experimental work on psicaine; and to Messrs. Merck of Darmstadt for supplies of the drug.

## REFERENCE.

- <sup>1</sup> *Munch. med. Woch.* 1924, No 26.

\* The cost of these experiments has been defrayed by the Colston Research Fund of Bristol University.

# THE TREATMENT OF PERFORATED GASTRIC AND DUODENAL ULCERS.

WITH A REPORT ON FORTY CONSECUTIVE CASES.\*

BY

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This paper is a plea for the performance of gastro-jejunostomy whenever possible at the time of operation for perforation. Beginning with some apprehension, I have been led to do so more and more frequently with increasing experience, and I now regard it as almost a routine part of the operation.

The cases analysed below are all those I have treated in hospital since my return from the war: 16 were duodenal, 15 pre-pyloric, 5 in the body of the stomach, and in 4 the situation of the ulcer is not stated in the notes. There were 38 males and 2 females.

## Treatment.

Every case but one was operated on. This patient was moribund on admission, and failed to rally with treatment. The death is included in the mortality statistics. In early cases, seen within about twelve hours of perforation, suture of the ulcer and gastro-jejunostomy was performed without drainage of the peritoneum, except in three instances of very severe soiling, in which a suprapubic drain was put to the bottom of the pelvis. I have long discontinued drainage through the main wound. The same treatment was adopted in a few late cases in which the patient, in spite of long perforation, was still in good condition. In the majority of late cases suture of the ulcer and pelvic drainage was all that was attempted. A single row of sutures covered by omentum was used, and this proved mechanically efficient to prevent further leakage. I believe it is waste of valuable time to put several rows of sutures.

## Mortality.

Of the whole series 11 died, including the case not operated on—a gross mortality of 27.5 per cent.

Of 22 cases in which immediate gastro-jejunostomy was done, one died—a mortality of 4.5 per cent. The death was due to pneumococcal peritonitis seven days after operation.

Of 17 cases in which suture and drainage without gastro-jejunostomy were done, 9 died—a mortality of 52.9 per cent. This high mortality, of course, reflects the fact that the operation was reserved for the worst cases. Five of them died within twenty-four hours of operation of peritoneal shock, three a few days later from peritonitis, and one from acute nephritis and uraemia.

A striking fact about the series is the complete absence of what I used to regard as a common complication—subphrenic abscess. I attribute this to the fact that I put no drainage tubes into the upper abdomen. It might be supposed that subphrenic abscess would be commoner in these circumstances, but clearly the reverse is the case, for since I gave up draining the upper abdomen I have had no subphrenic abscess.

## End-results.

All the patients operated on over six months ago were written to, and several were seen personally. Of the 29 survivors 22 were traced.

*Cases without Gastro-jejunostomy.*—Traced 8, perfectly well 1, still serious gastric trouble 5, relieved by subsequent gastro-jejunostomy 1, died of carcinoma 1. Thus of eight cases only one was cured.

*Cases with Gastro-jejunostomy.*—Traced 14, perfectly well 10, at work but some gastric discomfort at times 4.

## Commentary.

The difference in these end-results is very striking, and shows clearly the advantage of performing gastro-jejunostomy at the time of perforation whenever the patient is in a condition to stand it. Moreover, there is no doubt that with gastro-jejunostomy the patients do better and

have a shorter convalescence than without it. A perforated ulcer is an active ulcer, and it is only natural that to put it at rest should increase the patient's chance of recovery. On the other hand, to do more than is absolutely necessary to a patient suffering from a grave abdominal emergency is to invite certain criticism that the immediate mortality will be increased. If my mortality for the whole series, however treated, is greater than the average, mortality for perforating ulcer, my method stands condemned, and this is why I have been careful to state my gross mortality of 27.5 per cent., which is, I believe, less than the average.

Obviously, considerable judgement is required to decide when to perform gastro-jejunostomy in these cases, but I find from my notes that I have gradually come to do so more and more frequently. Of the last 15 cases operated on I have performed gastro-jejunostomy in 13; all of them recovered, while the two in which I did not do so died.

# CONJUNCTIVITIS IN THE TROPICS.\*

BY

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I was once told by a surgeon with many years of tropical ophthalmic practice behind him that he did not recognize such a thing as tropical ophthalmology. Such a position premises to my mind a great lack of perception and of imagination. Tropical practice differs so materially from that in temperate climates as to demand a very special study in order to fit a man for success. We are all of us, as we grow older, conscious of regrets for lost opportunities, but there is no department of ophthalmology which brings up to my mind more often or more acutely the sense of what I might have done and did not do than the study of inflammations of the conjunctiva. I feel that the young man who starts his ophthalmic work in the tropics, awakened to an appreciation of the avenues of research opened up by this line of study, has great possibilities in store for him. With the view of stimulating the interest of some of the younger men in this very interesting subject I propose to review it in a more or less summary manner, and to indicate some of the lines along which I think that research can profitably be conducted.

There is another side to the question. The expansion of our colonies and the movement of great bodies of men to and from the tropics during the war has brought tropical disease to our very doors, and has stimulated an interest in the subject amongst our own medical men practising in Great Britain and in its temperately situated colonies. It is my hope that this bare outline of a great subject may therefore be of some interest to them too.

The habits of the residents in tropical lands, and the climatic conditions which prevail there, are favourable to the implantation of germs within the conjunctival sac and to their growth on its lining membrane. Sun, dust, and wind constitute a triad of evil influence adverse to the maintenance of conjunctival health. All who have lived in Eastern countries are conscious of the drying up of the skin and the rapid exfoliation of its surface layers which are experienced in the hot weather, and which are greatly aggravated when the hot air is in motion, and especially so when it is laden with dust, as it so often is in tropical lands. It used to be suggested that the epidemics of conjunctivitis with which every tropical worker is so familiar are due to the infection of the conjunctivae of the population by germ-laden air. As a matter of fact, the majority of the organisms responsible for the Eastern epidemics of ophthalmia are non-sporing, and we know by experiment that such are easily killed by drying. I will revert to this subject later on, being content here to lay stress on the view that the action of dust, like that of heat and wind, is probably traumatic, abrading the surface epithelium, causing local congestion, and so preparing the membrane for the growth of pathogenic organisms.

\* Abbricated from a paper read before the Birmingham Branch of the British Medical Association, November 23rd, 1924.

\* A lecture delivered at the London School of Tropical Medicine on October 23rd, 1924.

It is not always easy in studying epidemics to eliminate other factors and so to concentrate attention upon those which are most vital. This has, however, been done for us most admirably by Sichel in his investigation of an epidemic of conjunctivitis which occurred on Christmas Island. The climate in this locality shows a well marked wet season (January to May), and an equally distinct dry season (May to December), whilst the temperature is extraordinarily uniform. The mean annual temperature is 80.7° F., the extremes in the monthly averages throughout the years under observation showing a difference of only 2°, whilst the diurnal range does not exceed 14°. The industry of the island is the production of phosphate of lime; the phosphate quarries reflect the sun and cause an extreme glare, whilst the phosphatic dust is extremely irritating. Complete meteorological and hospital records were available for a period of fourteen years. It was thus possible to construct charts showing the close relationship existing between dry weather and the epidemics of conjunctivitis. The influence of glare and dust upon the causation of inflammations of the conjunctiva is clearly proved. The elimination of the temperature factor is most valuable and instructive.

The epidemics of conjunctivitis with which tropical practitioners are so familiar appear, wherever they occur, to have certain common and very definite characteristics. They have probably been better studied in Egypt than anywhere else in the world, but it would seem probable that what is true of them there is equally true, with minor variations, throughout the tropics. They present certain features of interest which should be carefully borne in mind—namely, (1) the great variety of organisms met with in these epidemics; (2) the very definite subdivision of what at first sight might be taken for a single epidemic into a number of subepidemics, each of which shows its own curve of rise and fall in more or less independence of the others; and (3) the curious evenness with which the same class of subepidemic repeats itself at the same time in each successive year, subject of course to variations in intensity, duration, etc., from year to year.

To illustrate these statements I may say that, with the exception of the conjunctivitis of Morax-Axenfeld origin, Meyerhof found that all the forms of acute ophthalmia in Egypt (inclusive of those of gonococcal, Koch-Weeks, streptococcal, pneumococcal, and diphtherial origin) become epidemic during the summer. Lakah and Khouri noted in Alexandria that the Koch-Weeks epidemic appears before the gonococcal, the former attaining its maximum in June, the latter in September. Meyerhof verified these observations in Cairo and Upper Egypt, with the exception that he found the Koch-Weeks conjunctivitis to attain a primary acme in May or June and a second in September or October, the latter being concurrent with that of the gonococcal epidemic. In December the curve of incidence falls, and only sporadic cases occur until the first days of spring. This sequence is repeated yearly with astonishing regularity, though the epidemic varies from year to year in its virulence.

#### PECULIAR FEATURES OF CERTAIN EPIDEMICS.

##### *Gonococcal Conjunctivitis.*

We owe the main bulk of our knowledge of epidemic gonococcal conjunctivitis to the workers in Egypt, who have long recognized this variety of ophthalmia, and have studied its epidemiological features very carefully. Quite recently MacCallan and Beaton have drawn attention to the differences, long familiar to tropical practitioners, between gonococcal conjunctivitis as seen in Egypt and in some other tropical and subtropical countries, and the same disease—at least so far as origin is concerned—in Europe. Those differences may be briefly stated: (1) The tropical form usually results from contagion acquired from another conjunctiva instead of from the genital organs; (2) it is frequently subacute or chronic in its course; (3) it shows definite seasonal variations, becoming epidemic as the atmospheric temperature rises; (4) it is a far less virulent disease than that met with in Europe, the cornea often escaping injury. These observers are of opinion that the Egyptian disease is truly gonococcal, and that it is not due,

as has been suggested, to a different organism which morphologically resembles the gonococcus. Beaton is now engaged on a further study of the subject, and is preparing immune serums, with the object of throwing light on the specific vital characteristics of the Egyptian conjunctival organisms as compared with genital gonococci.

The same disease has been studied in Indo-China by Talbot, who has watched it spread in families, in limited areas, and in whole villages during the hot months of July, August, and September. He has attributed the diffusion of the disease to the carriage of infection from case to case by fingers and other soiled objects. Similar evidence has come from different parts of the world, and certainly one of the most interesting of these contributions is that which comes from Samoa. We know that about a century ago a form of purulent ophthalmia was prevalent in Samoa and other South Sea islands, and that it became epidemic "in the bread fruit or fly season." It is believed that its appearance in Samoa dates from contact with the Canaanian, and is therefore one of "the blessings of civilization," which have been such a curse to those islands. In any case we know that gonorrhoea was very prevalent throughout the South Sea islands at the close of the eighteenth century. More recently the epidemics of the disease, which has come to be known as Samoan conjunctivitis, have been milder in type and smaller numerically than they were formerly. The symptoms are those of gonorrhoeal ophthalmia, but in a distinctly modified form; the cornea and the uveal tissues may be severely affected in neglected cases, but in those submitted to suitable treatment serious complications are absent. Quite recently Hunt has investigated Samoan conjunctivitis bacteriologically and with the aid of cultures, and has found that it is due to a Gram-negative diplococcus which he believes to be a modified form of the gonococcus. Not the least interesting part of his investigation was the implantation of the virus of the disease on a healthy conjunctiva, on a healthy male urethra, and on a virgin vagina. Of the three subjects two were volunteers and one was a prisoner.

Enough has, I think, been written to show that this form of tropical conjunctivitis has very definite characteristics of its own, and that it merits the careful attention of all who would practise ophthalmology in the tropics.

##### *Membranous Conjunctivitis.*

A disease rare in Europe, membranous conjunctivitis is, of far more frequent occurrence in certain tropical countries, and may even occur there in epidemic form. Thus between September 7th and 20th, 1922, an epidemic of nineteen cases, all of which were truly diphtherial, was seen at Assiout (Girgis), whilst three more diphtherial cases and forty non-diphtherial appear in the same year's report. The ophthalmologists of Egypt regard the subject as so important that they recently went so far as to devote a special session of their annual meeting to its discussion (Ophthalmological Society of Egypt, *Bulletin* of 1923). MacCallan and Rasheed Bey there dealt with the bacteriological side of the question, and pointed out that organisms other than the diphtheria bacillus may produce a membranous conjunctivitis; their list included the staphylococcus, the streptococcus, the pneumococcus, the gonococcus, and the Koch-Weeks bacillus in addition to the Klebs-Loeffler organism. The non-diphtherial cases are rather less severe than the diphtherial.

Infection with Klebs-Loeffler bacillus may take place (1) directly by contact, or by fly transmission from case to case; (2) through a diphtheria carrier who presents no symptoms; (3) by such a carrier suffering from nasal catarrh; (4) through dust infected by dry membrane, etc.; and (5) by want of care in the handling of eyes in the out-patient department.

Other points of interest which were brought out at this meeting may be briefly alluded to. The affection may be unilateral or bilateral, and one eye may be much more strongly infected than the other. Diphtherial conjunctivitis is not often accompanied by faecal or nasal diphtheria in Egypt. Paresis of accommodation may occur as the result of a previously undiagnosed attack of ophthalmia (Sobhy of Bey), though such an event must apparently be regarded as

very rare; indeed, MacCallan and Rasheed Bey have never seen the accommodator muscle affected in any of their cases. All varieties of membranous conjunctivitis may be accompanied by glandular enlargement. When it occurs in epidemics true diphtherial conjunctivitis appears to pass from eye to eye, and it is rare to get a history of contact with patients suffering from the usual forms of diphtheria. Symblepharon is never seen after the disease in Egypt, but 63 per cent. of MacCallan and Rasheed Bey's cases had corneal ulceration, and 50 per cent. lost one or both eyes; this unfortunate record—so much worse than might have been anticipated from European experience—was largely due to the fact that diphtherial, like many other forms of tropical conjunctivitis, is often a mixed infection. When in doubt as to the cause of a membranous conjunctivitis a dose of antitoxin should always be given whilst waiting for the bacteriological report. Constant irrigations with encol and painting of the conjunctiva with 2 per cent. silver nitrate solution are recommended; when the lids are swollen hot fomentations should be used. Fly-proof rooms or tents are advocated, and careful disinfection should be carried out at the end of each case, for diphtherial membranes, when dry and kept in the dark, may produce cultures months afterwards. Those in contact with the cases are advised to gargle with potassium permanganate solution (1 in 5,000) thrice daily, and to wear protected glasses; utensils should be disinfected in buckets containing solution of cyllin (1 in 200), and the same disinfectant should be placed in convenient spittoons.

#### *Swimming Bath Conjunctivitis.*

Of late years attention has been directed in various centres in Europe to the occurrence of severe epidemics of conjunctivitis which have had their origin in swimming baths. In one at least of these, which occurred in Berlin, the bath was well cleaned and well built. The interest of these observations to the tropical ophthalmologist lies in the clear implication that the conjunctiva may be readily infected from contaminated water, and that we have here a possibly fruitful line of investigation in our study of the epidemics of conjunctivitis with which we are so familiar in the tropics. It may well be that under tropical conditions water, and especially dirty water, may at certain times of the year breed in abundance some at least of the forms of organism which are responsible for such epidemics. No one who has visited Turkish baths in an Eastern city, or who has watched Oriental natives performing their ablutions in polluted water, can fail to be suspicious of the possibility of this form of transmission of infection.

#### *Pediculous Conjunctivitis.*

Some years back Ruata recorded the observation that the eyelids of negroes are especially liable to attack by the public louse. More recently Blane has noticed a close connexion between pediculosis of the scalp and phlyctenular conjunctivitis both in France and in Tunis. It is of peculiar interest that the connexion between these two conditions in his tropical practice was equally marked both amongst Europeans and Arabs. He has had similar experiences also at Athens and in Crete. To confirm the connexion he injected into the eye of a monkey an emulsion of ground-up lice and produced a typical phlyctenular conjunctivitis a little over two months after the inoculation.

#### *Koch-Weeks Conjunctivitis.*

In lands where trachoma is rife, Koch-Weeks infection plays so important a part that prophylactic measures against it merit very careful study. Recently Nicolle, Conseil, and Cuénod have been studying the advantages of preventive inoculation against this form of conjunctivitis. Both subcutaneous and subconjunctival injections were employed, and the patients were then subjected to the instillation into the conjunctival sac of fresh cultivations of the Koch-Weeks bacillus without any serious symptoms supervening, whilst a control case showed typical infection. To those who know the havoc wrought in tropical countries amongst trachomatous patients by mixed infections—in which the Koch-Weeks organism plays a by no means unimportant part—these observations will have a very real importance.

## THE TREATMENT OF VARICOSE VEINS OF THE LEG BY INJECTIONS.

BY

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DURING my student days I became greatly interested in varicose veins of the leg, on account of the number of operations performed and the number of recurrences which I saw at the dispensary. It was evident to me then that there was no one operation which could with certainty be relied on to effect a cure, recurrences taking place after each of them in a large proportion of cases. This impression has been greatly deepened since, and has led me to try some other means of benefiting these patients without the necessity of incapacitating them for work for at least six weeks and without the risk of a general anaesthetic.

Dr. Sicard in 1923<sup>1</sup> described his method of injecting varicose veins with sodium salicylate. Thrombosis of the veins is produced. The danger of producing thrombosis in veins, to my mind, was the fear that the thrombosis would extend up the vein or produce embolism. Having had at that time (May, 1923) a large experience of treating haemorrhoids by injection, and also having convinced myself from clinical experience and the examination of microscopic slides that thrombosis was produced in these haemorrhoids, that the thrombosis did not extend up the vein, and that embolism was not produced, I commenced injecting veins with sodium salicylate, and have now treated thirty cases by injection.

My first patient was a female shop assistant with varicose veins of both legs. The left leg, being the worse, was injected. She was kept in hospital for one week after the injection, but was allowed to go about the wards. At the end of the week she was sent home. I have seen her at various intervals since, and on the last occasion she asked me to inject the other leg. She has never been off work since May, 1923, on account of the varicose veins, whilst previously she had to take days off repeatedly. The other cases have all been treated as out-patients and have not been incapacitated beyond one day, except one case in which cellulitis was produced.

The method employed by Dr. Sicard when using sodium salicylate is as follows: The susceptibility of the patient to the drug is tested by injecting about 1 c.cm. of 20 per cent. solution into the veins. If there is no reaction next day a stronger solution is used, but it is recommended not to go above 40 per cent. Several sections can be injected at the same time, but the total dose of sodium salicylate should not exceed 3 grams. No constricting band is used. The patient, as a rule, complains of a very severe pain coming on immediately after the injection and lasting about one minute. Occasionally goose-flesh feeling and slight cramp in the leg or foot are noticed, lasting for a short period. Dr. Sicard states that this method is very suitable for varicose veins which are bunched together, and that one injection may effect a cure. If a cure does not result the treatment can be repeated. Immediately following injection the vein swells, and its contents can be felt becoming hard. When examined about a week afterwards one or two things will be found if a cure is going to be effected: (1) a hard mass is felt in the vein at the seat of injection, and (2) in addition it is found in some cases that thrombosis is extending down the vein. In no case was extension up the vein noted. Later the vein, if thrombosis has extended downwards, becomes replaced by a fibrous cord. If thrombosis has only occurred at the seat of injection, the veins below remain patent and varicose, but whatever happens the patient always states that the veins are reduced in size and the strength of the limb is greatly increased. On account of the severe pain experienced after injecting sodium salicylate, I have been trying the effect of mercury perchloride (1 in 500). A few minims only are injected at different points. There is less pain, the swelling of the vein is much less, and the results are as good. My method is to insert into the vein a fine needle pointing downwards. When the blood flows freely through the needle I attach the syringe containing the fluid to be

injected, block the vein above the needle with my left thumb, and inject slowly into the vein. The syringe is then removed, and the blood prevented from flowing out of the needle by placing a finger on the mount. The needle is left *in situ* for about one minute, or until no blood flows out of it. The left thumb is removed at the same time as the needle is withdrawn. During the operation the patient is seated at a convenient height. By this method the fluid is prevented from getting into the cellular tissues. In one case, where some 30 per cent. solution of sodium salicylate got into the cellular tissues, cellulitis was produced and a slough formed at the site of injection. As the tissues over a varicose vein are very thin and their vitality greatly reduced, this is liable to happen unless great care is taken to ensure that no fluid escapes into the subcutaneous tissues. Where a varicose ulcer or eczema is present the effect of the injection is sometimes very marked.

In no circumstances would I recommend the injecting of an inflamed vein. In my opinion, before treatment is begun a considerable period should elapse after inflammation has been present, both on account of the danger of producing a recrudescence of the inflammation and subsequently septic emboli, and also, in some cases, after phlebitis it is found that a cure has resulted.

I do not claim that the results of injecting varicose veins are better than those obtained by operation, or that the liability to return of the varicose condition is less (in fact, I would expect the percentage of recurrences to be higher); but I do claim that the treatment improves the circulation in the legs, and consequently the strength of the lower extremities, without incapacitating the patient in any way.

#### REFERENCE.

<sup>1</sup> *Journ. de Thérap. Franç.*

## DORSO-LUMBAR DISLOCATION OF THE SPINE REDUCED BY OPERATION.

(With Special Plate.)

BY

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THE occurrence of spinal dislocation without fracture is extremely rare below the cervical region. The case to be described was practically a pure dislocation of the twelfth dorsal from the first lumbar vertebra.

Walter R., aged 25, motor driver, was admitted on February 4th, 1924, to the Royal Infirmary, Preston, suffering from shock and paraplegia. The following history was obtained: When driving a heavy vehicle from Ormskirk to Preston, the same evening, he had stopped just round a right-angled bend in the road, and got underneath the car, taking the rear light with him, to inspect and repair a leaking petrol pipe. Another vehicle ran into the stationary car from behind, and knocked it forwards a few yards; one of the wheels passed over R.'s body.

On admission the patient was conscious and in a state of severe shock. There were numerous abrasions of skin over the chest and upper abdomen, especially on the right side. Both lower extremities were completely without power of movement; knee- and ankle-jerks were absent. There was no sensation in the right foot and reduced sensation in the other parts of the lower limbs. The patient complained of great pain in the back and at the right side of the chest; respiration was difficult. Subconjunctival haemorrhage was present in both eyes. There was swelling and loss of alignment of spinous processes at the dorso-lumbar region, without undue prominence of any particular spinous process. Sphincteric control was lost. The abdomen was soft, and resonant in the flanks. The tenth right rib was fractured.

X-ray examination on February 5th showed a lateral dislocation of the twelfth dorsal from the first lumbar vertebra, with displacement of the lower portion of the spine to the right. Apart from a small chip of bone detached from the left upper margin of the first lumbar body, the injury was a pure dislocation (see Fig. 1).

An attempt at reduction under anaesthesia on February 6th by traction, etc., was unsuccessful.

On February 7th, assisted by my colleague Mr. A. Toulmin, I exposed the injured part by a median dorsal incision, with the patient in the prone position. The articular processes were intact; the left lower articular process of the twelfth dorsal vertebra was placed externally to the left upper process of the first lumbar, thus opposing reduction. Laminectomy of the first lumbar was performed, but this did not help matters much, except to give a better view of the spinal cord, which was seen passing obliquely in a strap-like manner between the displaced vertebrae. The spine was then flexed at the injured part by raising the lumbar bridge of the

operating table. This disengaged the articular processes; by lateral pressure they were forced into correct alignment and the spine was then allowed to extend by letting the bridge down. The articular processes thereupon fell into their correct positions, and as they were intact there was no tendency to recurrence of the displacement (see Fig. 2). The dural sheath of the cord appeared to be uninjured. Muscles and fasciae were united as well as possible; a small drain was placed at the lower end of the wound.

After operation the patient was kept on his back, with a pillow under the injured part of the spine. There was complaint of pain and "pins and needles" in the legs for two days. Cystitis was present, the urine being alkaline and containing blood and pus. Regular catheterization was necessary.

On February 11th very slight active movements were elicited at the left great toe. Tested on February 21st, most of the muscles of both lower limbs were found to respond to faradism, the responses being weaker on the right side than on the left. Within three weeks there were feeble active movements in the muscles of both limbs, above and below the knee. Under treatment by massage and electrical stimulation these gradually became stronger. Sensation was normal, except at the right sole, where it was diminished, and over the right great trochanter, where it was absent over a small area (see later). A small bed sore over the sacrum appeared, but soon healed.

By March 10th the cystitis, in spite of the usual remedies, was alarming; the urine was very foul, and the patient was running a temperature of 100° to 101° every evening. There was a small hard swelling above the pubic symphysis. On March 20th a suprapubic incision was made and pus evacuated from an abscess behind the symphysis. A separation of the symphysis, wide enough to admit a finger, was found; this injury had hitherto escaped observation. The bladder was then opened and a tube inserted. Subsequently the patient's general condition improved markedly. The suprapubic incision eventually closed, after which catheterization was again necessary. There were no signs of returning control over the anal sphincter. The patient was discharged, to attend as out-patient, on September 18th. He had been trying his legs, assisted by crutches, occasionally during the previous three or four weeks.

Present condition (October 28th): The general condition is fairly good, and the patient maintains a cheerful outlook, as indeed he has done ever since the accident. He eats well; his weight is 8 st. 6 lb. (normally 9 st. 10 lb.). The operation wounds are well healed. He can get about the house without the aid of a stick; outside he can walk about half a mile with two sticks. He takes an aperient every three days, otherwise his bowels do not act. Having taken the aperient, he prepares to be incontinent. He wears a catheter, leading into a portable urinal. The catheter is removed and replaced twice weekly.

In walking the right leg is thrown outwards, as slight foot-drop is present. The left leg is a sound and useful limb, with full range of movement, active and passive; but the knee-jerk is weak and the ankle-jerk not elicited. The right leg is considerably weaker—for example, when sitting in a chair the patient can only partially extend the knee with the foot off the ground. Full passive extension of the knee is obtained, but not full flexion. The ankle is somewhat stiff and cannot be dorsiflexed passively to less than a right angle. The anterior and posterior tibial muscles have active power, but are weak; toe movements are almost absent. The peronei exhibit very faint active movements. The anterior part of the foot is somewhat inverted, giving a slight degree of pes cavus. No knee- or ankle-jerk is elicited on the right side, and the whole limb feels cold to the touch as compared with the left. There is slight oedema at both ankles and feet, more marked on the right side. Sensation to light touch with cotton-wool and to pin-prick is present over both lower extremities, except at a small area, about 4 inches square, over and above the right great trochanter, extending almost to the iliac crest. This area is quite anaesthetic to touch and pain; no doubt it indicates a laceration of the twelfth dorsal nerve, whose lateral cutaneous branch supplies this area. Although present, sensation is diminished at the right sole. Plantar reflex is not obtained at the right foot; at the left the second to fifth toes extend slightly, and the great toe remains motionless.

The right thigh measures 2 inches less than the left in circumference at middle; the right calf is half an inch less than the left. Oedema of the right calf masks the wasting of muscles. The muscles of the left leg respond to faradism, including the intrinsic muscles of the foot. On the right side response is feebler and absent from the peronei and foot muscles.

The urine is alkaline and deposits pus and phosphates; specific gravity 1020; albumin present. Treatment is being continued. (There has been some improvement in the condition of the urine since this report was written, and it is hoped soon to dispense with the catheter.)

#### Comments.

The spinal cord being crushed at the lower part of the lumbar enlargement—where the centres for control of the bladder and rectum are situated—recovery of voluntary control of these was not to be expected. Most of the nerve fibres to the muscles of the lower extremities have left the cord above the level of the injury in question, and in this case they soon began to recover from the pressure to which they had been subjected. A laceration of the twelfth dorsal nerve, at its exit from the intervertebral foramen between the twelfth dorsal and first lumbar vertebrae, is readily conceivable, to account for the area of anaesthesia over the great trochanter on the right side.



Most authorities are agreed that operation is rarely indicated in cases of spinal injury with complete transverse lesion of the cord, unless the injury is below the first lumbar vertebra. One would not go so far as to extend this limit upwards by a vertebra, as a general rule, on the strength of the case described; for although early and complete reduction was obtained, the patient is still, and is likely to remain, very much of an invalid; inasmuch as a return of sphincteric control is not to be expected. The presence of cystitis, moreover, which persists to some degree in spite of treatment, is a constant menace to the integrity of his kidneys. Nevertheless, the measure of recovery which has taken place is very encouraging. It is largely to be attributed to the optimistic outlook of the patient, and the skill with which he has been nursed.

The chief point of interest is the extreme rarity of such a lesion. Dislocations of the spine without fracture occur almost entirely in the cervical region—about 98 per cent. The remainder occur in the dorsal region. I have not been able to find any previous record of a dorso-lumbar dislocation.

I am indebted to Dr. A. Rayner, honorary radiologist to the Infirmary, for the excellent radiographs.

### A CASE OF

## SUPRARENAL TUMOUR, WITH DEGENERATION OF THE RETICULO-ENDOTHELIAL SYSTEM.

(With Special Plate.)

BY

J. GRAHAM WILLMORE, AND MACKENZIE DOUGLAS,  
M.D., M.R.C.P., M.A., M.D.

IN a leading article in the *BRITISH MEDICAL JOURNAL* of September 20th, 1924, the question is raised as to what might occur in the event of damage to the cells of the reticulo-endothelial system. Comment is made as to the lack of clinical evidence on this subject, and the need for further investigation regarding the effects on digestion and metabolism of a diminished formation of bile.

A case recently under the care of one of us may possibly supply the answers to at least some of the problems thus postulated, and we think that a fairly full report of it may be of scientific interest.

X. Y. Z., aged 31, first seen on April 22nd, 1924, complained of diarrhoea and vomiting. The date of onset was uncertain, but probably not earlier than July, 1923. He had served in France, Salonika, and with the Egyptian Expeditionary Force from 1915 to 1919. He had "enteric" in 1916, but no other serious illness. Family history unimportant. Height 5 ft. 5½ in.; weight 8 st. 4 lb. 4 oz. On admission he was pale, and his general condition poor. His tongue was raw and red, with (later) small, sore, sprue-like ulcers on its right lateral surface near the tip. The teeth were in order. There was no pigmentation of skin, and no icterus. The central nervous system was normal, but he stammered.

The abdomen was distended, tympanitic, and rigid. There was tenderness in the right hypochondrium, where the patient complained of constant severe pain during the whole of his illness. No mass was palpable (confirmed by several observers).

The liver was diminished in size (percussion and x rays). No abnormality was detected in the spleen, heart, or lungs.

The urine was acid; specific gravity 1010; there was a faint trace of albumin; no sugar. (N.B.—Glycosuria had been found previous to admission.) No acetone or diacetic acid was present. Diastase: 23–25 = 20 units—that is, within normal limits. Microscopically, hyaline casts and polymorphonuclear cells were found. Cannidge's reaction was positive.

The blood Wassermann reaction was negative on repeated examination, both before and after provocative neosalvarsan. Blood pressure 190/130. A blood count showed: red cells 5,530,000; haemoglobin 80 per cent.; colour index 0.7; white cells 15,500—polymorphonuclears 64 per cent., eosinophils 1 per cent., large mononuclears 4 per cent., lymphocytes 31 per cent.; no abnormal cells were present. (On August 8th the red cells numbered 6,000,000; haemoglobin 80 per cent.; white cells 22,700—polymorphonuclears 70 per cent., eosinophils 1 per cent., large mononuclears 9 per cent., lymphocytes 20 per cent.) Urea, 0.015 per cent.; cholesterol, 0.145 per cent. Van den Bergh's test showed no direct reaction, but a very weak positive indirect (mere trace).

Blood sugar:

(a) 9.30 a.m. (fasting) 0.081 per cent.	
(9.35 " 50 grams of glucose per os.)	
10.5 " 0.155 per cent. ... ..	(Urine, 0)
10.25 " 0.225 " ... ..	{ " 2 per cent. }
11.5 " 0.187 " ... ..	{ " 1.51 " }
11.35 " 0.175 " ... ..	{ " 0 }

(b) 10.27 a.m. (fasting) 0.118 per cent.	
(10.30 " 50 grams of lactulose per os.)	
11.0 " 0.150 per cent. ... ..	{ Urine, 0 }
11.30 " 0.143 " ... ..	{ " 0 }
12 noon 0.131 " ... ..	{ " 0 }
12.30 p.m. 0.085 " ... ..	{ " 0 }

The faeces were abundant, pulsatious, light clay coloured, fermenting, and offensive; they were completely acholic by chemical examination.

Neutral fat ... ..	16.8 per cent. = 25.5 per cent. of all fat
Fatty acid ... ..	38.5 " = 58.6 " "
Soaps ... ..	10.5 " = 15.9 " "

Total ... 65.8 per cent.

N.B.—Total should not exceed 22.5 per cent.

Microscopically, muscle fibres, oil globules, and fatty acid crystals were found in the faeces. There were no protozoa, cellular exudate, blood, or mucus; no tubercle bacilli were found. The benzidine test showed no occult blood (on meat-free diet).

Sigmoidoscopy revealed no abnormality.

The fractional analysis of a test breakfast (oatmeal gruel) revealed no free hydrochloric acid, and a total acidity not exceeding 0.018 per cent. During an attack of vomiting, however, on May 15th, the vomitus showed 4.9 per cent. of lactic acid, with no free hydrochloric acid. An opaque meal revealed a high active stomach, with a normally acting intestine, empty in twenty-four hours.

No gall stones were found on a special examination. Loewi's mydriasis test was negative. The temperature was afebrile, and the pulse between 74 and 96.

On the presumption that the illness might be due to sprue of an unusual type, the patient was put to bed on a sprue diet (fat-free) and given calcium lactate gr. xx t.i.d.s. and parathyroid gr. 1/10 t.d.s. The only effect of this was to convert the diarrhoea into a most obstinate constipation—not relieved by *fel hovin*, gr. xv t.d.s.—which lasted until the patient's death, long after the sprue treatment had been discontinued. At no time (except when bile was being administered) did the stools show a trace of bile in any form, at no time was there any evidence of jaundice in skin, conjunctivae, or blood serum, nor did the urine show a sign of bile pigments or salts. On the supposition that the case might be due to syphilis a course of intravenous neosalvarsan (two injections of 0.15 gram at weekly intervals) was begun; but this provoked such intense headache, with albuminuria up to 1.7 grams per litre, that it was abandoned.

The patient's progress thereafter was steadily downhill, the liver began to increase in size, and his weight fell to 7 st. 10 lb. 8 oz. On August 8th he developed a lobar pneumonia which was practically afebrile throughout, the temperature rising to 100° F. during three days of the first week only. The respirations, on the other hand, rose to 56 and the pulse to 120. He died on September 2nd.

### Post-mortem Examination.

At the autopsy, sixteen hours after death, *post-mortem* rigidity was present. The body was emaciated. There was no sign of jaundice in the skin.

**Thorax.**—There were no adhesions and no fluid in either pleura. The lining of the trachea and large bronchi was hyperaemic, and there was much viscid muco-purulent material. There was consolidation of both lobes of the left lung and of part of the lower lobe of the right lung. There was no sign of tuberculosis and no new growth. The heart weighed 13½ oz. There was some hypertrophy of the muscle walls, which were soft. There was no change in the valves. There was no atheroma of the coronary arteries. There was some fatty change in the first part of the aorta.

**Abdomen.**—The stomach and duodenum showed no change of note. In the small and large intestines there were patches of hyperaemia but no other change of note. There was no evidence of dysentery. The pancreas, which weighed 1½ oz., showed no naked-eye change. Attached to the tail by adhesions was a tumour about the size of a man's fist. This tumour, lying above the upper pole of the left kidney, was attached by adhesions to the spleen and to the transverse colon. The spleen was very firmly attached, and could only be separated by tearing away some of the splenic tissue. The left suprarenal could be definitely seen to be embedded in the tumour, characteristic suprarenal tissue being seen at the lower portion of the tumour. On the surface the tumour was nodular and on section it had a patchy yellow and dark red appearance with many cysts, some of which had well marked fibrous walls. The largest cyst was about 2½ inches in diameter. Most of the cysts contained a dark brown "colloid" material, but the contents of the large cyst were of a slightly more fluid consistence. The right suprarenal showed no new growth or change of note. Along the left suprarenal vein were small new growths similar in appearance to the large one, but not cystic. The vein was greatly dilated and one of the growths with a diameter of three-eighths of an inch had budded into the vein and was attached to the intima. It did not occlude it, however. The kidneys showed little change of note to the naked eye, except slight enlargement of the left. The capsules stripped readily. There were no new growths in either. The right weighed 5½ oz. and the left 7½ oz. The liver was slightly enlarged. It weighed 3 lb. 13 oz. The change in appearance was very striking, looking like a very marked "nutmeg liver," the dark patches contrasting very markedly with the light fatty portions. There were no new growths present in the liver, and there was no indication of any abscess and no scarring. The gall bladder contained a little yellowish mucus.

Microscopic examination of the tumour showed at one portion the normal cortical portion of the suprarenal with practically no medulla; the tumour seemed to grow from one portion of the zona fasciculata, the cells near the suprarenal being in long pillars with increased fibrous tissue between the different acini. The cells had the appearance of polygonal epithelial cells, like liver cells,

characteristic of the middle zone of the suprarenal cortex. Further away the cells were arranged in round masses separated in places by a delicate stroma and wide capillaries filled with red blood corpuscles. At other parts of the tumour there was much fibrous tissue, and at places the tumour was undergoing mucoid degeneration with disappearance of the alveoli; at places it would appear that the cystic appearance was due to these degenerated areas surrounded by the thick fibrous tissue with haemorrhages. At one point there was much pigmentation and fibrous tissue as from an old haemorrhage. The bud growing in the vein showed round masses of cells similar to those in the large tumour. There was not much interstitial fibrous tissue in this growth, but the cell masses were separated by capillaries which were congested. Mitotic figures were not frequent and seemed to be fairly regular. The nuclei of most of the tumour cells contained well marked round nucleoli. (See Figs. 1 and 2 on Special Plate.)

The suprarenal of the right side showed microscopically little change of note.

The pancreas from the portion adjacent to the tumour showed the islets of Langerhans slightly disintegrated, the strand-like appearance of the cells being lost and the protoplasm of the cells diminished. There was little change in the nuclei of the cells and the alveoli of the pancreas were fairly well preserved. There was no invasion of the organ with new growth.

The spleen showed some fibrosis, and at places, especially where it was adjacent to the tumour, there was necrosis. At other places the organ looked oedematous and to have lost the arrangement of pulp sinuses.

The liver showed very advanced fatty change. In a paraffin section there were places where the appearance was that of adipose tissue with the large clear spaces from which the fat droplets had been dissolved. There was very little cells, but the cell nuclei showed up well.

system seemed to be quite obliterated. of the peripheral and middle zone of the lobules. Round the central venule the degeneration was even more marked. There were no liver cells intact. There were only red cells, polymorphs, some nuclei, and dark brown pigment globules. The pigment did not give a blue reaction with potassium ferrocyanide and hydro-

chloric acid, but remained dark brown. Frozen sections stained with haematoxylin and Schiarlach R showed the adipose appearance very markedly, the large fat droplets quite obliterating the protoplasm of the liver cells, while round the central veins were the red cells and dark brown pigment granules. Sections stained by Langhans's method showed complete absence of glycogen.

The two remarkable findings at the autopsy were: (1) The occurrence of a true tumour of the suprarenal in contradistinction to the hypernephroma which are usually found to arise in the kidney. Budding of the tumour occurred to a slight degree in the neighbourhood of the tumour, but there were no metastases. (2) The fatty changes in the liver and the central degeneration of the lobules were as marked as those after chloroform poisoning, and greater than in any other condition in our experience.

### Conclusions.

The clinical condition of the patient, the constant pain in the right hypochondrium—which at times was so severe as to suggest biliary colic—and the nature of the stools, all pointed to the liver being the primary seat of the disease; the site and comparatively small size of the tumour, the rigidity of the distended abdominal walls, and the fact that the patient never complained of pain or tenderness on the left side, all combined to mask the presence of the tumour.

We hazard the suggestion that from the first some poison must have been at work—possibly one secreted by the neoplasm—with a special selective action upon the hepatic parenchyma, and, to a less degree, on the spleen. The result of this was that the hepatic functions were almost suspended, the carbohydrate metabolism was disturbed, and possibly the haemolytic functions of the spleen were moderated; otherwise one would have expected at least some secondary anaemia in a man profoundly ill and cachectic for so long a period before his death.

## PERFORATION OF THE KIDNEY BY A LARGE BRANCHED CALCULUS.

PERINEPHRIC ABSCESS: SEPTICAEMIA: DEATH.

(With Special Plate.)

BY

WILLIAM EVERETT, M.B., F.R.C.S.ED.,

SURGEON, BARRY HOSPITAL.

It is well known that a large stone may rest in the kidney pelvis for many years with an almost total absence of any symptoms. The following case illustrates this very well, and I think it worthy of recording because of the unusual size of a branched phosphatic stone removed from the right kidney and of the clearly defused and interesting conditions found at the operation.

### History.

Mrs. K. M., aged 60, was admitted to hospital on September 26th, 1924, complaining of great pain across the back and over the right lumbar and hypogastric regions, accompanied by vomiting and diarrhoea. She stated that until six days previous to her admission she had been a very healthy woman, with hardly a day's illness in her life of sixty years. She had, however, suffered from time to time from bouts of flatulence, and when this occurred she had a dull aching pain in the back which disappeared after getting rid of the flatulence. A point, to which I at first did not pay much attention, but which might have an important bearing upon her illness, was that six weeks previous to the commencement of her illness she complained of a severe pain in her back after lifting a heavy bucket of water. On September 20th, she complained of general backache on getting up in the morning, which later in the day became more severe and settled down to the right of the spine. She felt ill and that night had a rigor and vomited. Vomiting occurred several times daily from the commencement of her illness. On the third day she complained of the pain spreading round to the front of the abdomen on the right side. On the fifth day she again had a rigor and diarrhoea began. The pain remained severe and gave her no rest that night. She called in Dr. Irving of Barry on the morning of the sixth day, who advised her removal to hospital. Careful investigation of her past life revealed no history of any haematuria, no colic or radiating pains, no frequency of micturition, and her water as far as she knew had always been clear. As stated above, there had been occasional dull lumbar pain associated with flatulence.

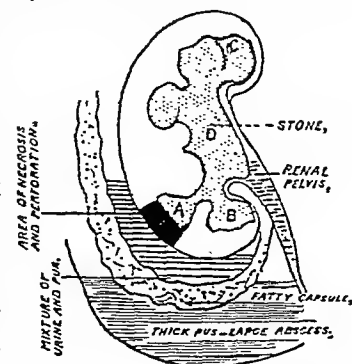
### Examination.

The face was flushed, with marked pallor round the mouth, the tongue was furred and dry, and the breath was foul. Her temperature was 99.8°, the pulse 128 and of little volume. Her picture was that of general toxæmia. She was a big, well built woman. On examination of the abdomen there was a visible swelling of the right hypogastrium. On palpation a rounded, tender swelling the size of a large coco-nut, dull to percussion, could be felt filling the right hypogastrium, extending forward to the middle line and down into the right iliac fossa as far as the middle of Poupart's ligament, but here its lower border was ill

defined and the fingers could not get below the tumour. The swelling could be pushed forward slightly with a hand placed posteriorly. In the absence of urinary symptoms the diagnosis was obscure, although it was thought that the swelling was renal in origin. The urine showed only a trace of pus, with no sign of blood.

### Operation.

A general anaesthetic was administered by Dr. Neilson of Barry, and the abdomen opened in the region of the right semi-lunar line. Examination revealed a large kidney, bigger than a coco-nut, with a boggy fluctuating swelling below its lower pole extending to the brim of the pelvis. The peritoneum was again drawn together and was peeled off the anterior surface of the kidney, the ascending colon and caecum being displaced inwards and packed off with towels. A large, very foul abscess, smelling of *B. coli*, and of the consistency of thick cream, was opened into. There was oedema and induration of the surrounding cellular tissue and fat. The abscess, which was outside the fatty capsule of the kidney, and which extended inwards and downwards to the brim of the pelvis, was first of all swabbed up. The fatty capsule was greatly indurated, and on piercing it with the finger several ounces of urine and thin pus were evacuated. On palpating the enormous kidney, a hard body, presumably stone, could be felt in the upper pole. At the lower pole the finger encountered a soft necrotic area, about the size of a florin, through which a stone could easily be felt. The kidney was so indurated that the body of the large stone which was subsequently removed was not felt on palpation. In view of the critical condition of the patient, and of the superadded difficulties that would be met in removing such a kidney, it was decided to remove the stone by splitting the kidney in its long axis. Although it was found impossible to put a clamp upon the pedicle without grave danger to the major vessels, because of the matting and induration of the fat in the hilum, the kidney did not bleed much on section. The kidney substance was very indurated and grasped the stone firmly. Three of the dendritic processes broke from the body, and one was removed through the perforation in the lower pole. After extraction of the fragments the kidney was sutured in the usual manner. Ample drainage was provided, and intravenous and subcutaneous salines were administered before the patient left the theatre. She came out of her shock, but died on the evening of the third day following the operation, from septicaemia. A post-mortem examination was not obtained.



### Pathology.

The accompanying sketch illustrates the interesting conditions found at the operation and suggests the pathological sequence: (1) Stone formation. (2) Infection and necrosis of kidney substance

in contact with dendritic process A. It is conceivable that with a stone of this weight and size a sudden jolt, such as may have taken place on lifting a heavy bucket of water six weeks previously, may have caused the dendrite A, which was sharper and more dependent than the others, to tear the lining of the calyx into which it fitted, and thus to have made an entrance for bacterial infection of the kidney substance. (3) Perforation of the kidney with leakage of urine and formation of abscess within the fatty capsule. (4) Extravasation beyond the fatty capsule with abscess formation and cellulitis of the posterior abdominal wall. (5) Septicaemia.

The photograph (see special plate) is a reduction of one showing the actual size of the stone. Its measurements are as follows: length  $4\frac{1}{2}$  in., girth 3 in., circumference  $12\frac{1}{2}$  in., weight 1,202 grains (24 oz.). It consists of calcium phosphate.

#### Remarks.

It is instructive to recall with the pathological findings the history and the clinical picture. The total absence of any symptoms, excepting bouts of flatulence, although the stone must have been there for many years; the more acute onset of pain and rigor, corresponding with the invasion of the kidney substance by organisms, and final perforation brought about by the continual pressure of a heavy stone upon an infected and necrosing area; the extension of pain in the back to the anterior abdomen following the spread of infection in the perinephric and iliac cellular tissues; the symptoms of profound toxæmia, especially the vomiting and diarrhoea.

## Memoranda:

### MEDICAL, SURGICAL, OBSTETRICAL.

#### A CASE OF MEASLES WITH MENINGISM AND SURGICAL EMPHYSEMA.

The following case of measles, occurring in a child aged 2½, the daughter of a marine stationed at the Depot, Royal Marines, Deal, seems to be worth recording on account of its unusual complications.

After coryza and general malaise for about four days the child became covered with a typical and extremely well marked measles rash; Koplik's spots were present on the gums; the temperature was 102° F., there was slight tonsillar enlargement, and sibilant bronchi were scattered over both lungs. On the following day there was practically no change in the child's condition or in the physical signs, but by the third day her state had become much worse. The temperature was 104°, the respirations 70, and well marked patches of bronchopneumonia were present in both lungs. Persistent cough was present, with considerable cyanosis, and symptoms of acute laryngitis were rapidly becoming manifest. Owing to the length of time before the result of a bacteriological examination could be obtained, and in view of the possibility of the laryngitis being diphtheritic, 4,000 units of antitoxin were given at once. Within a few hours there was a distinct improvement in the child's general condition, the temperature had dropped to 99.4° F., and the laryngitis had much improved. The lung condition was unaltered, however, and dyspnoea was still severe.

About this time a general puffiness of the skin of the neck was noticed, which rapidly extended up to the cheeks. On palpation crackling was readily elicited, and suggested surgical emphysema. During the next few days the condition became progressively aggravated until there was marked oedema over the head, neck, chest, abdomen, back, and upper extremities, the skin being raised from half an inch to an inch from the subcutaneous tissues. The patient's condition remained unchanged during the two following days, the temperature fluctuating between 100° and 103° F. The next day I was informed by the parents that the child had been extremely restless all night, and was apparently in great pain. I found marked retraction of the head and neck, with intense photophobia and opisthotonos. On being touched anywhere in the region of the skull the child uttered the piercing, high-pitched meningeal cry. Kernig's sign was strongly marked, no knee-jerks could be elicited, and there was no response to plantar stimulation. The child was semi-conscious, the respirations were 70, and the pulse was practically imperceptible. I decided to perform a lumbar puncture, and the same afternoon withdrew about 15 c.cm. of cerebro-spinal fluid. This was under increased pressure, and was slightly turbid. It was forwarded to a pathological laboratory for examination.

The withdrawal of this fluid had an almost immediate effect; by the same night the patient's condition had definitely improved, full consciousness had returned, and she was able to recognize her parents. The pain appeared much less, and the child did not resent handling. Plantar stimulation was followed by attempted withdrawal of the foot. By the next morning nearly all the meningeal symptoms had disappeared, and the temperature had dropped to 99° F. From this time on the patient rapidly improved and the lung condition began to subside. Within four days the temperature became normal, and the respirations had dropped to 24. The

child is now convalescent and doing well, though slightly irritable in temper. No organisms were recovered from the cerebro-spinal fluid, and a swab from the tonsils was negative for the Klebs-Loeffler bacillus.

With regard to the meningitis, a similar case is reported by Fien<sup>1</sup> in a girl aged 16, but in this case the cerebro-spinal fluid showed no turbidity. I have no explanation of the emphysema to offer, and can only submit the hypothesis that rupture of some air vesicles occurred through constant coughing, permitting air to escape via the anterior mediastinum to the subcutaneous tissues.

I am indebted to the Medical Director-General of the Royal Navy for permission to publish the details of this case.

R. W. NESBITT, M.B.,  
Royal Marine Infirmary,  
Deal.

Surgeon Lieutenant-Commander, R.N.

### CONGENITAL MALFORMATION OF THE DIAPHRAGM.

THE following case illustrates what is, I believe, a very rare condition, and therefore seems to be worthy of record. I recently performed a necropsy on a male infant 11 days old. Its weight at birth was 4 lb. The parents were young and healthy. The child was apparently well nourished; it had been breast-fed and was slowly gaining weight. It had not been examined by a medical practitioner. I found the right lung normal and the heart in the middle of the chest; the left side of the chest contained about half a pint of clear fluid and the left lung was undeveloped. There was a large bulge of about 18 in. of the transverse colon into the lower part of the left side of the chest, above the diaphragm, and pressing against the heart. Several coils of the small intestine were also situated in the chest behind the colon. I found a large, well defined opening in the diaphragm behind the spleen and just in front of the left kidney; it admitted four fingers. There was apparently no strangulation, since the intestines moved freely in and out of the chest through the opening.

J. GUNN McLANNAN, L.R.C.P. and S.I.  
Stonehouse, Gloucestershire.

### TREATMENT OF PSORIASIS BY PARATHYROID EXTRACT.

IN THE BRITISH MEDICAL JOURNAL of April 26th, 1924 (p. 772), there was a note by Dr. Claude Wilson on the treatment of psoriasis by parathyroid extract. I was particularly interested as I have a patient, a man aged 40, who has suffered from psoriasis since the age of 8 years. Various forms of treatment have been used without success. Chlorsarobin, however, has never been tried, owing to the fact that the patient is unable to spare the time from his professional duties. He has noticed that from October to March in each year he is more or less free from the condition; whereas from April to September it is always with him.

Treatment by parathyroid extract was commenced on May 1st and continued until the end of August. The dose was 1/10 grain daily. I regret to say that there was no amelioration in the condition. There was no decrease in the number of lesions, which became redder and more irritable. Large crusts formed on the scalp to a much greater extent than ever before.

I am not suggesting that the disease was aggravated by the treatment, but I could not help feeling disappointed in view of Dr. Wilson's optimistic note.

Holt, Norfolk.

A. S. HENDRIE, M.B.

### OVARIAN CYST COMPLICATING LABOUR.

A good many years ago I saw in consultation a primipara who, some days before, had been delivered after a difficult forceps operation. When I saw her the abdomen was distended and she was obviously very ill. The perineum was ruptured into the rectum, from which hung the septic remains of an ovarian cyst wall. The fingers in the vagina passed straight into the abdomen, among the bowels behind the uterus.

I opened the abdomen at once, removed the remains of the cyst, and drained both through the abdominal wall and vagina, after repairing the rent in the recto-vaginal

<sup>1</sup> *Gaz. degli Osped.*, 1923, 464.

septum. The patient rallied from the operation, but died some days later from septic peritonitis.

This case, like that reported by Dr. Gordon Taylor in your issue of December 6th, 1924, emphasizes the necessity of ascertaining the cause of delay before resorting to forceps. With an anesthetized patient one may easily invoke the catastrophe of Dr. Gordon Taylor's and my own case.

Penrhyn Bay, Llandudno.

NORMAN PORRITT.

## British Medical Association.

### CLINICAL AND SCIENTIFIC PROCEEDINGS.

#### CAMBRIDGE AND HUNTINGDON BRANCH.

##### AN APPARENT CASE OF HOUR-GLASS STOMACH.

At a combined meeting of the Cambridge Medical Society and the Cambridge and Huntingdon Branch of the British Medical Association, held at Addenbrooke's Hospital on December 5th, 1924, the following notes on a case of apparent hour-glass stomach were contributed by the President, Dr. J. R. GARROOD.

The congenital form of hour-glass stomach, which this case resembles, is referred to in the textbooks, but on examining the literature it appears to be a vanishing condition, due, I think, to more accurate diagnosis.

Saake (1896),<sup>1</sup> in the case of a female aged 67, states that the hour-glass contraction was obviously of congenital origin, while in the pyloric portion a large cancerous growth was discovered.

Rokitanski (1859)<sup>2</sup> mentions rare congenital malformations in which an annular contraction divides the stomach into a cardiac and pyloric portion or into three or four sacculated divisions.

C. F. Martin (1908)<sup>3</sup> thinks that in the specimen in McGill Museum from an infant the condition is so marked as to leave no room for any conclusion but that it is congenital; but, speaking of pylorospasm, he states that fixation in the contracted condition may take place at death in one phase of digestion.

Adami and McCrae (1914)<sup>4</sup> mention occasional cases of congenital hypertrophy of the mid zone of muscle, but Moynihan denies the existence of the condition.

The specimen here described was taken from the body of a male child which lived seven weeks. The mother was 47 years old; the labour was uncomplicated. The patient was the eighth child (the other children are normal); he weighed 7 lb. at birth and was breast-fed; he cried a good deal and vomited from the first; no treatment benefited him. The amount of vomit was estimated to be about as much as he took; it was yellow or brown; he also brought up wind which was offensive.

After the meconium but little faeces was passed, and that which came was described as looking like a worm; not much urine was passed. The upper abdomen was rather swollen. The patient wasted and died in seven weeks. On opening the abdomen a reversed S(2) shaped organ appeared, and apparently consisted of a double stomach. The upper and right limb of the 2 was directed backwards, its plane being nearly at right angles to the lower curve.

I removed the stomach and intestines, and wish now I had taken the liver and pancreas as well. On opening the organ both cavities were found to contain milk. The opening between the two admitted a wooden match. The cavities were of about the same size, and I thought I had a perfectly good hour-glass stomach. I removed a small piece of tissue from the junction piece, sections from which were examined under the microscope.

On further consideration I have come to the conclusion that the second sac is really the first and second parts of the duodenum, for the entrance to the common bile duct is found in it. The microscopic structure at the point of junction of the two sacs is similar to that at the pylorus, as is the macroscopic appearance, while the lower end of the second sac has no resemblance to it. If this is so, we have a dilated and hypertrophied duodenum brought about by an almost complete occlusion just below the entrance of the bile duct. This could not have been complete, for the infant lived seven weeks, but was very nearly so, as the patient starved to death, and the intestines are nearly empty; presumably seven weeks, even under bad conditions of nourishment, was sufficient time for the enlargement to take place.

In Green's *Encyclopedia*<sup>5</sup> it is stated that duodenal occlusion

occurs just above the entrance to the bile duct, and is due either to a membranous or to gradual narrowing. The vomit is not bile-stained, the bowels act several times after birth, and death occurs in one to eleven days. Obviously the occlusion in my case does not quite correspond with this account.

The specimen shows a stomach 14 cm. along its greatest curvature, with walls from 2 to 3 mm. thick, and, I believe, a normal pylorus—at all events it was patent, and the second cavity contained milk. This is followed by a sac 8.5 cm. along its greatest curvature, with walls of the same thickness as the stomach. They show plicae circulares within, and there is no mesentery; a bristle has been passed through a short piece of the portal vein behind. At the intestinal end of this sac is a transverse partition, and on the upper surface of this is a small opening, which on passing a bristle is found to lead to a vessel which I believe to be the common bile duct. The first part of the duct passes in the wall of the septum, and was so thin that it broke away, but the track can be seen in its substance beneath the bristle. A narrow opening can be made out in the septum near the posterior and inner wall. The intestine which immediately succeeds this partition appears quite normal. The sections show the thickened portion at the pylorus followed by the thinner first part of the second sac or duodenum. There is a gradual transition from pyloric glands to Brunner's glands and villi; the difference between these is never very marked, and I suppose would be even less obvious in an infant.

## Reports of Societies.

### RHEUMATOID ARTHRITIS.

At meetings of the Royal Medico-Chirurgical Society of Glasgow on December 5th and 12th, 1924, the President, Professor ARCHIBALD YOUNG, in the chair, a discussion was held on rheumatoid arthritis.

Professor R. STROCKMAN described rheumatoid arthritis as being probably a group of closely allied microbial diseases, such as chronic articular rheumatism, chronic rheumatic arthritis, chronic fibrous rheumatism, chronic villous polyarthritis, nodose rheumatism, rheumatic gout, atrophic arthritis, Still's disease, and chronic infectious arthritis. The clinical course and morbid anatomy marked it as a bacterial infection of low virulence, but of extreme chronicity. As a rule, no organism could be found in the areas affected or in the blood, but in a very small number of cases bacilli, diplobacilli, cocci, diplococci, and streptococci had been isolated from the joints. There were probably several different causal organisms, and this belief was supported by the considerable clinical and anatomical differences in individual cases. Whether all cases were due to the same organism or to various different organisms the broad results for the patient were the same. The white fibrous tissues of the locomotory system of the body were the sites of attack, and essentially and in the beginning the disease was a fibrositis, with proliferation and increase of the affected fibrous tissue structures. There was never any suppuration or local emigration of polymorphous leucocytes. Chronic hydrarthrosis of one joint was probably its mildest form, and from this there were all grades of severity up to polyarthritis with high fever. The disease usually began insidiously in the small joints and progressed with little constitutional disturbance; less often it began in the large joints with more acute systemic symptoms. Ultimately in all cases it presented the general clinical aspect of a low chronic septic infection. It must be regarded as a very general infection and not merely as an arthritis. In all cases the fibrous tissue of the muscle, aponeuroses, fasciae, and panniculus adiposus were more or less deeply involved and inflamed. In the joints the fibrous tissue of the synovial membrane and capsulae were primarily affected. The cartilage and bone were not primarily involved, but as the influence of disuse, muscular contractures, and other changes came into play the bone became thinned and atrophied, the cartilage rough or ulcerated, the fibrous capsule contracted and hardened, and ultimately a fibrous or a bony ankylosis might result.

The focus of infection could only very rarely be identified with certainty. It was possible that in many cases the original focus had disappeared before the patient came under observation, and one joint might remain as a reservoir

<sup>1</sup> Saake (1896): *Med. Annual*, 1896, p. 539.

<sup>2</sup> Rokitanski (1859): *Path. Anat.*, Syd. Soc. p. 23.

<sup>3</sup> C. F. Martin (1908): *Osler's Modern Medicine*, vol. v, pp. 203 and 304.

<sup>4</sup> Adami and McCrae (1914): *Textbook of Pathology*, p. 626.

<sup>5</sup> Green's *Encyclopedia of Medicine and Surgery*, vol. 4, p. 513.

of infection after others had ceased to show active signs. Tonsillitis, boils, septic sores, pyorrhea, chronic pulmonary or intestinal conditions, and so on, had been blamed, and the association of various skin conditions, such as psoriasis, had been noted. The various methods of treatment, both local and general, were then described. In speaking of the protein shock treatment, Professor Stockman believed that in most early cases the method was capable of cutting short the infection. The later symptoms and changes which followed as a result of the fibrositis were referred to, and the necessity for vigorous treatment by massage, movements, baths, and appropriate exercises was urged—anything rather than rest. Treatment must be directed (1) to restore movement in the joints by elongating the contracted muscles and shortening the elongated ones so that they might regain their normal action; (2) to get rid of the fibrositis in and around the joints, and to stretch and render more pliable their ligamentous tissues and adhesions; and (3) to increase the bulk and strength of the muscles. For the most part the stretching and movements could be done manually, but the assistance of splints was desirable in many cases. Forceful extension under an anaesthetic was to be avoided, but in certain instances the mobility or otherwise of a joint could be more easily tested under chloroform. The fixation of a joint in plaster or splints for more than a few days was very inadvisable owing to the risk of immobility occurring.

Dr. DAVID CAMPBELL related the results of the treatment of rheumatoid arthritis, and described the technique he had employed in the treatment of 100 cases from 1921 to the present date. Of 70 cases treated up to November, 1923, 58 derived great benefit, both directly from diminution of pain and tenderness in the joints, and also indirectly from the consequent greater facility with which more effective local treatment by heat and massage could be carried out. The maximum benefit was obtained in those cases which had started acutely and with involvement of many joints. Of the 12 cases which showed no improvement, 4 were of long standing in which the disease process had become inactive. Seven patients reacted to each injection, but the infection remained active. Of the 50 patients improved by the treatment, 40 had, during periods varying from one to three and a half years, been able to perform all their ordinary duties, with no exacerbation of the joint conditions or spread of the disease to other joints. In 16 cases in which relapse had taken place a fairly advanced stage of the disease had been reached before treatment was started, while in several the treatment had been discontinued after two or three injections, owing to the great improvement shown. The advisability was considered of continuing the injections after the active process had apparently ceased. In conclusion, Dr. Campbell expressed the opinion that, while protein shock therapy could not be regarded as ideal, it offered greater probability of success than any other known methods.

Mr. JAMES RUSSELL, discussing the surgical treatment of arthritic conditions, referred to the various deformities which might result from these diseases. He strongly deprecated operative treatment based on x-ray appearances alone, and insisted that surgical interference could be justified only where improved functional value of the limb was likely to be attained thereby. The fundamental question was function, and mere deformity as such should not be allowed to assume undue importance. The commoner deformities of the various joints were then described and the methods employed for their prevention discussed. Various splints were shown and the method of their use demonstrated. It was pointed out that the splints should be such that they could easily be removed for massage and other local treatment. In the acute stage of the disease there was a limit to the patient's tolerance of treatment, and in such cases the skill and judgement of the surgeon might be taxed to the utmost. Once deformity had developed, any forcible movement was sure to be harmful, but gradual stretching by weights or splints could overcome many of these early contractures. In conclusion, Mr. Russell urged the necessity of physicians and surgeons appreciating the value of posture during the acute stage

of the illness, and splintage in the prevention and control of deformity.

Dr. W. S. SYME referred to the difficulty of finding a focus of infection, and urged that the examination of the throat and nose should be more strict than was commonly the case. For example, it was often the most innocent-looking tonsil which showed the greatest degree of infection in the crypts when a thorough examination was made by pressing forwards the pillars and projecting the tonsil towards the observer. With nasal infection even more care was required to demonstrate the freedom from infection of the various sinuses. In some cases where generalized infection had occurred removal of the primary focus did not afford relief, probably because secondary foci were then equally fertile as sources of infection.

Dr. J. N. CRICKSHANK referred to the herpes occasionally observed after protein shock therapy. He described six cases in which severe herpes of the mouth and lips and surrounding area of skin had occurred. Subsequent injection of a fresh vaccine from the same stock was again followed by herpes. One patient had been treated by a vaccine from a different stock without the appearance of herpes. When treated by the vaccine which produced herpes in the other patients he also suffered in the same way. These facts suggested the need for care in selecting a suitable stock vaccine.

Dr. HOWIE mentioned the importance of focal infection in rheumatoid arthritis and allied conditions.

Dr. MANNON GILCHRIST referred to the difficulties in the treatment of rheumatoid arthritis and the problem of individual resistance to such infections. Vigorous application of all measures calculated to raise the patient's general resistance was essential. In the prevention of deformities and limited function movement was important. Pain was a difficult symptom to treat, and in several instances she had found local x-ray treatment of much benefit in its relief. She wished particularly to emphasize the importance of treating the mental attitude of the patient.

Dr. G. H. CLARK had found that a dressing of methyl salicylate and carbolic oil with the application of heat gave in some cases a much better effect than heat alone. He had also obtained better results in some cases with the Greville bath than with ordinary radiant heat.

## HEADACHE.

A discussion on headache took place at the meeting of the Hunterian Society on December 15th, 1924. Mr. H. W. CARSON presided.

Dr. C. O. HAWTHORNE, in opening the subject from the medical side, said that headache was a symptom which demanded a large exercise of care and judgement in the field of differential diagnosis. It existed as a clinical expression of numerous and varied pathological states, and it differed widely in different cases both in its degree and its significance. Nothing could be worse in practice than to regard the complaint of headache as an opportunity of prescribing one or other of the various remedies which had therapeutic value in this direction. To rest content with the temporary benefits which many of these remedies were able to afford might be to relieve the pain, but it would be essentially to neglect the patient. Among conditions of which headache might be an early or the earliest symptom, he mentioned chronic renal disease and also what was commonly spoken of as high blood pressure. He would suggest that the most prompt and efficacious remedial measure to apply in these cases was blood-letting, either by resection or the application of leeches to the temple. Again, everyone would admit that headache might be the sole symptom of tumour of the brain. He urged that every patient with headache should be examined by the ophthalmoscope for changes in the fundus oculi. This examination should be repeated at frequent intervals to secure diagnostic safety. He believed the ophthalmoscope to be a necessary part of the equipment for every clinical examination. There were other intracranial changes which might be manifested by headache, prominent among them the various forms of intracranial syphilis, and again of meningitis. In each of these conditions there were other symptoms, but headache,



might be early and predominating. It was therefore necessary to stress another method of examination—that of lumbar puncture and examination of the cerebro-spinal fluid. In obstinate and severe headache for which no obvious explanation could be obtained it was just as necessary to examine the cerebro-spinal fluid as to examine the fundus oculi. As local causes of headache—occurring, he admitted, rarely, but not to be neglected—he mentioned suppuration in the intranasal sinus, and tabes dorsalis. He then went on to speak of eye-strain as one of the causes of headache. Whether migraine was always due to ocular defects, and was capable of being cured by correction of those defects, he could not say, but no one having a patient suffering from migraine would think of leaving any refractive defect uncorrected. He wondered whether anyone had had the courage to treat an acute attack of migraine by lumbar puncture. It was certain that post-epileptic headache could be relieved by this method, and he would like to see what would happen if the puncture were made at the earliest possible moment in migraine. There still remained headaches for which an explanation had to be found, some of them due to anaemia, some to calcium defect. Another group was associated with gastro-intestinal disturbances. The headache due to bad temper had to be reckoned with, and also the "diplomatic" headache, which was of such great value both in politics and society.

Mr. WILFRED TROTTER spoke on the surgical aspect. There were certain varieties of pain in the head which could by a little inquiry be dismissed from the category of headache. In the headache complained of by the neurotic patient there was a quality which placed it apart; the patient, if questioned, would say that it was not pain but a queer and indescribable sensation. In another class of headache the sensation was like that produced in characteristic trigeminal neuralgia—bouts of pain of agonizing intensity, which the patient invariably compared to puncture with a red-hot needle. A third group was the headache associated with disease of the nasal sinuses. One of the characteristics of the pain under these conditions was its liability to come on at the same time on successive days. Then there was headache associated with definite cranial abnormality, the characteristic of which was severe pain more often in the anterior part of the head than the posterior, particularly behind the eyes, of a throbbing character, and intensified by anything which stimulated the circulation or altered the intracranial tension. Finally there were headaches in connexion with injury to the head. A patient who had received a severe injury to the head was particularly liable to develop severe and disabling headaches, brought on by slight mental anxiety, bright lights, or loud noises. In this headache one must not expect to get any neurological signs whatever. All the signs that Dr. Hawthorne had mentioned would probably be negative. The characteristic feature was the clinical aspect of the case. With regard to the surgical treatment of these cases, it was only necessary to realize that they were due to the bruising of the brain, which was the only organ of the body to have any serious difficulty in recovering from a simple bruise. The one great means of relief was rest in bed, and afterwards, on any sign of relapse or recurrence, the patient should be sent back to bed again. If the headache was persistent and recurrent a simple decompression operation would bring it to an end.

Dr. BERNARD HART dealt with the psychological aspects of headache. He referred to the surprising variability in localization and quality of the headaches in the psychoneuroses. There was no question that a great many conditions which these patients described as headache were not headache in the real sense of the word, but it was necessary to distinguish three types—actual pain headaches, paraesthesia, and the type of headache which denoted not so much pain as great mental disturbance, or, as the patient sometimes expressed it, the feeling that he was standing on his head. A certain number of headaches which occurred in neurasthenic conditions were produced by a mechanism identical with that which produced ordinary headaches, save that the initial link in the chain of causation was a psychological factor. Other headaches, however, might be produced entirely psychogenetically. Of these the first subgroup

would be those produced by suggestion. When patients described themselves as suffering from "helmet" and other classical headaches it might be taken for granted that they had been assiduously studying the literature of the subject. There was also "preoccupation headache," cases in which at one time a general headache occurred which had subsequently become the subject of a psychological preoccupation. Another form was the "projection of incapacity headache," in which the patient, suffering from the typical disability of many neurasthenies, projected his feeling of incapacity into his head, and expressed it as a headache. These distinctions were of practical importance if treatment was to be reasonably founded.

Dr. FIELDEN BRIGGS discussed the dental aspects of the question. He mentioned that the late Sir Lauder Brunton never approached a case of headache without first examining the teeth. Headaches caused by the teeth came under two heads—reflex and toxic. Sir J. DUNDAS-GRANT, while supporting Dr. Hawthorne's view as to the necessity of ophthalmoscopic examination, thought that Dr. Hawthorne had rather underrated the difficulties of the practitioner who was not specially skilled in this form of examination in interpreting properly what he saw. Dr. SYMONDS spoke of headaches due to neuritis of the scalp and—a much rarer cause—disease of the cranium. The former was usually distinguishable from other headaches by the hyperaesthesia of the scalp. Mr. PHILIP FRANKLIN said that most of the headaches which they met with in practice were not really very serious, and those which were serious had usually other symptoms associated with them which gave a clue. The nose specialist had frequently to observe post-operative headaches. Interference with the bone of the nose was a very important factor in causation. Dr. W. H. KELSON advocated the use of the post-nasal mirror in dealing with headaches arising possibly from nasal trouble. Dr. F. HOWARD HUMPHRIS said that high blood pressure and low blood pressure headache were both amenable to electrical treatment. Migraine was amenable to diathermy, and calcium deficiency headache to artificial sunlight.

Dr. HAWTHORNE replied on the matter of the ophthalmoscope. He granted that interpretation was difficult, but observation must necessarily precede interpretation, and the persons who accustomed themselves to regular observation were the persons, after all, who would make themselves expert in interpretation.

### MULTIPLE POLYPOSIS OF THE COLON.

At a meeting of the Surgical Section of the Royal Academy of Medicine in Ireland, held on December 12th, 1924, Mr. R. C. B. MAXSELL in the chair, Sir WILLIAM I. DE COURCY WHEELER read a paper on a case of multiple polyposis of the colon, the specimen and lantern slides of it being shown by Dr. O'FARRELL.

Sir William Wheeler referred to the literature on the subject which connected the condition with chronic ulcerative colitis. The ulcerative process was of such a character that portions of the mucosa and submucosa adjacent to the primary arterial branches were preserved, and these portions remained as ragged tags scattered over the surface of the colon. In a later stage of the disease the orifices of certain of the tubules between the polypi became occluded and retention cysts were formed, which gave rise to the name—colitis polyposa cystica. He thought that the distinction made between adenomata, papillomata, and true polypi in the class of case under review was unnecessary; one condition was probably only a stage in the development of the other. Multiple polypi in the stomach were not very rare, and they were not infrequently found in the caecum and the rectum. A few isolated cases of polypi of the small intestine had been described, and all authorities were agreed that multiple polyposis of the colon was potentially extremely malignant.

The patient in this case was a woman, aged 26, who had been admitted to hospital with a long history of constipation, followed more recently by diarrhoea with the passage of blood and pus. Her temperature ranged from 99° to 101° F. A tumour was detected in the line of the descending colon, and hyperirritability and hypermotility of the colon were observed by the radiologist. When the abdomen was opened in the first instance, the wall of the colon from the caecum to the pelvic colon was found to be rigid, inflamed, and hyperaemic: it gave the impression that if it were bent

unduly it would break. The condition of the colon recalled the condition found in cases of "leather-bottle" stomach: septic inflammation of the mucous membrane was found. A short circuit between the ileum and the rectum was made, and the operation completed by an appendicectomy. Six months later she was again admitted to hospital: she had been free from haemorrhage for four months, but it had then recurred and the tumour could still be felt. The abdomen was again opened and the entire colon removed to the line of the original anastomosis; a tube was passed through the rectum into the small intestine. The patient died on the third day, apparently from peritonitis, but an autopsy was refused. An hour before death there was copious drainage through the tube, with a cessation of vomiting, but this appeared to come just too late for recovery in a case which was a bad surgical risk. The colon weighed  $2\frac{1}{2}$  lb., and was covered with myriads of polypi from the caecum to the pelvic colon. The caecum itself was free from polypi, as was the pelvic colon, which was thought to be an unusual line of demarcation.

Mr. MACAULEY referred to the help obtained in these cases by means of a barium enema. He had recently had a patient, a woman aged about 53, who complained of bleeding from the rectum; he had suspected malignant disease. The bleeding was too severe to make a satisfactory sigmoidoscope examination, and no information was obtained from a rectal examination. A barium enema was given, and the radiologist reported that the signs were characteristic of colitis, evidence of obstruction being absent. At operation the wall of the colon felt indurated, friable, and stiff, as described by Sir W. Wheeler. The abdomen was then closed, and the patient had since reported herself as doing well.

The President and Mr. A. CHANCE joined in the discussion.

#### *Perthes's Disease.*

Mr. H. F. MACAULEY read a paper on Perthes's disease, and showed lantern slides. He demonstrated the radiographic appearances of the upper femoral epiphysis, and showed the persistent progress of this disease, even under prolonged treatment by immobilization and traction. In some cases there was a very definite traumatic history; in others there had been a spontaneous onset, attributable to bacterial or toxic causes. He then discussed briefly the symptoms of the disease in the acute phase, when it was likely to be mistaken for tuberculosis of the hip, and in the latter quiescent stage. The remainder of the paper was mainly concerned with a discussion of the prevalent views on the etiology of the condition, with particular reference to Jansen's theory. Mr. MacAuley believed all the theories were partly true, some applying to some cases and others to the remainder; he did not believe any one theory accounted for all the cases of this malady, which might be due to very different causes. He endeavoured to show how the theories could be corrected, and how trauma, infection, and want of joint balance could all be used to explain the epiphyseal changes. Regarding treatment, he advised immobilization and traction with the limb abducted during the acute phase, and the subsequent use of a walking calliper until the fragments became reunited, which would be about one year later. Though he believed treatment was without effect on the evolution of the epiphyseal changes, he thought it prevented prolongation of the acute stage, and possibly subsequent abduction deformity.

Mr. H. STOKES referred to a case of Perthes's disease, associated with Schlatter's and Köhler's diseases, and he believed that this condition suggested a nutritional cause. Dr. T. J. D. LANE thought it possible that there was some connexion between Perthes's and Köhler's diseases. The condition was, radiologically, very similar, and the prognosis in both diseases was the same—namely, the condition generally healed up with or without treatment. Dr. T. T. O'FARRELL said that it was a matter of great importance in connexion with child hygiene to know what symptoms of Perthes's disease should be looked for first, also to know what could be done by way of prevention. He did not think that the disease could be due to injury. Dr. P. DE BURCA thought that a bacteriological examination of the urine should be made as a routine measure, since it would thus be possible to find out whether the child was suffering from bacterial poisoning or not. He also suggested a complete investigation of the endocrine secretions. Dr. W. STEVENSON believed the deformity of the head of the bone in these cases was caused by the pressure of the muscles, and he thought that, in addition to rest in bed and weight bearing, traction might lessen the fragmentation.

## DISEASES OF ADOLESCENCE.

A MEETING of the Chelsea Clinical Society was held on December 16th, 1924, Dr. GORDON LANE in the chair.

Dr. THEODORE THOMPSON discussed the subject of disease in adolescence, and drew attention to the mental, bodily, and sexual changes which occurred at this period of life. The chief mental abnormalities were epilepsy and hysteria, and he also mentioned dementia praecox. On the physical side he also drew attention to the influence of heredity, climate, and the surrounding temperature. He gave an interesting account of the supposed functions of the ductless glands. With reference to the questions of vice and masturbation, he insisted on the duty of parents and schoolmasters to deal boldly with them. As regards actual disease Dr. Thompson remarked that growing organs were apparently more liable to disease than parts which were not growing. He instanced the effect of rheumatism upon the growing heart, and the incidence of phthisis upon the developing areas of the lungs.

Mr. IVON BACK emphasized the surgical aspect of disease in the adolescent. He believed that much surgical tuberculosis was bovine in origin, and stated that the cows in one European country were all tuberculous. Tuberculous lymphatic glands in the neck were always more numerous than could actually be felt, and he advocated their treatment by artificial sunlight. He thought that it was dangerous to attempt the surgical removal of tuberculous mesenteric glands. He also laid stress upon the hopelessness of trying to remove sarcoma of bones even by amputation.

Dr. CREWSDON THOMAS believed the path of infection of tuberculous cervical glands lay through the tonsils. Dr. ERIC PRITCHARD drew attention to the prevalence of sub-acute appendicitis and enteritis in adolescents, and to the good effect which ultra-violet rays had upon the general health at this period. Dr. ERNEST YOUNG, Mr. GAYMUN JONES, and Mr. A. T. ROGERS spoke favourably of the results of sunlight and of deep x rays in the treatment of certain bone lesions. Dr. GORDON LANE referred to the hereditary tendencies which might be first manifested at the period under discussion. He was a firm believer in the treatment of malignant disease with radium and deep x rays.

## THE PATHOLOGY OF DISEASE OF THE THYROID.

At a meeting of the Liverpool Medical Institution on December 18th, 1924, Dr. G. SCOTT WILLIAMSON discussed the pathological basis of symptoms in thyroid disease.

Dr. Williamson first described the new conception of the anatomy of the thyroid apparatus, and then proceeded to detail the two cycles of function, colloid storage and true secretion. The process of the storage of colloid was discussed in detail, and the typical disorders affecting this function were considered. The most significant fact in this connexion was the existence of two distinct types of endemic goitre, of which the vesicular goitre alone represented a pure disturbance of the "colloid" function. This goitre occurred as a sporadic affection, and it was noted that in the sporadic variety thirty-two out of thirty-eight cases occurred in males at puberty. McCarrison was cited as having succeeded in producing this form of goitre by overfeeding with calcium. This was contrasted with the results of iodine and protein experiments, which resulted in a true hypertrophic enlargement. Attention was called to the necessity of further study being given to the endemic goitres before adopting a wholesale treatment in goitrous zones. A therapeutic suggestion was that calcium medication might be used to supplement iodine treatment in dealing with goitres. Secretory disturbances were shown to have a very clear-cut histopathology. The so-called hyperthyroidisms were disturbances of the secretory function, and were essentially dystrophic states. Thus in this connexion two types of dysthyroidism arose—Graves's disease at one extreme, and myxoedema at the other, or alternating with each other. Graves's disease was shown to arise as a primary condition with a definite histopathology, of which the additional factor was

## POST-ENCEPHALITIC PARALYSIS AGITANS.

A MEETING of the Devon and Exeter Medico-Chirurgical Society was held on December 18th, 1924, the President, Dr. VINCENT SMITH, being in the chair.

Dr. WILLIAM GORDON read notes on two cases of post-encephalitic paralysis agitans. The first patient, a boy aged 15½, had been seen in association with Dr. Foulkes. The initial symptoms had been characterized by fidgeting, with bouts of sleepiness, and the resulting effects were hemiplegia of the left side of a mild degree—as regards loss of power in the limbs—and with very slight paresis of the facial muscles. Nystagmus had been noted occasionally.

At the present time, in addition to the hemiplegic signs, the facies, attitude, and tremors of paralysis agitans had developed, the typical position of the arms when at rest and the "cigarette-rolling" movements of thumb and index finger being also noted during observation in hospital. The second case was that of a man, aged 34, in whom there was mental cloudiness, fixed expression, rigidity, and the general attitude of Parkinson's disease, without tremor. There was also a dry scaly condition of the skin. There were no abnormal reflexes, but there was slight weakness of one external rectus. The patient was unable to walk without support. There was a definite history of encephalitis some four and a half years ago; cerebral symptoms lasted about four weeks, and from that time onwards there had been progressive deterioration to the condition described above.

Dr. Gordon discussed the treatment in these cases, with special reference to Steinach's operation, which did not appear to be applicable to either of the cases. On the other hand, he considered that there was every justification for Letter's treatment, which aimed at bringing about an artificial leucocytosis by means of local irritants applied externally, as, for instance, in the region of the hip. Dr. Gordon had faith also in the use of iodides with arsenic.

Dr. G. L. THORNTON recounted the case of a young man, now aged 29, in whom symptoms of paralysis agitans had shown themselves definitely some three years ago, and who had already reached the paralytic stage of the disease. This patient had served in the navy, and there was a history of a short illness in 1918, in which the cerebral symptoms manifested a diagnosis of encephalitis. Vague neurological manifestations followed, but were considered to be sub-stantiated at the time of his discharge, and for a year subsequent to that date. It had been noted, however, that in spite of his complaint of weakness in the legs, he was able to jump over low obstacles and to run upstairs, which was, of course, easily explained in the light of the now clearly established diagnosis. The interest of the case lay in the contrast between it and those shown by Dr. Gordon, in that, although without doubt a sequela of encephalitis, the Parkinsonian syndrome was uncomplicated, whereby it might be assumed that the original lesion had been confined strictly to the tracts now associated with paralysis agitans.

Dr. F. A. ROREN discussed the question of the apparent interval which elapsed between encephalitis and the onset of paralysis agitans, mentioning the case of a woman who had seemed free from symptoms for one year after an attack of encephalitis lethargica. Dr. G. P. HAWKER warned the meeting not to be deceived by a spurious nystagmus in cases where the ocular muscles might easily show fatigue.

*Tuberculosis following Injury.*  
Mr. R. WAYLAND SMITH showed a youth with a tuberculous lesion of the forehead which had occurred on the site of an abrasion set up by a piece of falling timber. The original wound failed to heal, and tubercle bacilli had been found locally. The family history was healthy and the previous health excellent. The case was one of great medico-legal interest.

Mr. DRYALL mentioned two similar instances: (1) In a butcher who had received an abrasion of a finger when cutting up an ox, and subsequently developed tuberculosis of the finger and forearm. The disease became generalized and proved fatal. (2) In a servant girl in whom tubercle occurred on the site of a scald which, although of the second degree, had remained unhealed for three months, sinuses recurring, as in the case shown by Mr. Wayland Smith.

A-colloidism. Secondary Graves's disease usually presented an intoxication symptom first, which was followed by an exophthalmic train of symptoms. Though the gland in secondary Graves's disease contained colloid, the colloid was ineffective in that it was encysted. Toxic goitre, so called, was a simple dysthyroidism and had the same basic pathology as secondary Graves's disease, except that the colloid was still circulating while secretory activity in some areas was producing stored secretion which was brought out in the history, and if Plummer's therapeutic iodine test was applied; primary Graves's disease was peculiar in manifesting a need for iodine, whereas simple dysthyroidism (toxic goitre) and secondary Graves's disease were made worse by this administration. This distinction was demanded by the histopathology of the condition. Myxoedema was shown to have a very definite histopathology. It was clearly not a simple atrophy, but a disease *sui generis*, and essentially a dysthyroidism of a distinct order. Perhaps the insufficiency of thyroid medication in myxoedema might be explained in this way. Dr. Scott Williamson emphasized the need of remembering that each individual was a law unto himself as to the amount of thyroid activity needed by his physiological, and pregnancy were not to be looked on as pathological, since they all exhibited only a simple hypertrophy. Disease also gave rise to hypertrophy, and of the greatest importance was the hypertrophy associated with status lymphaticus. This association accounted for nearly all the sudden deaths in goitre. Since secondary Graves's disease or simple dysthyroidism arose as a sequel of hypertrophy, it became necessary for the surgeon to exclude carefully status lymphaticus in all cases of goitre, no matter what were the train of symptoms; this was emphatically necessary up to the age of 25 years in men and women. Primary Graves's disease was shown to have a peculiar thymus condition, differing from that of status lymphaticus. Dr. A. C. WILSON was not satisfied that surgery was the only remedy for exophthalmic goitre. For twelve years he had used *B. coli* vaccines in shock doses with good results; he had treated eighteen cases of exophthalmic goitre, including two or three desperate cases, with success. In his experience the vaccine had not the same value in simple goitre. Two recent cases were of interest: a lady with exophthalmic goitre who had tried several other treatments, including x rays, was cured by six injections, and in twelve months gained two stone in weight. A spaniel dog with a simple goitre the size of a lemon was cured by two injections, all signs clearing up in eight weeks. The dose of *B. coli* used was 500 million.

Dr. N. B. CARON described three cases of congenital goitre in newly born infants. Severe dyspnoea was a prominent symptom in two of the cases.

Professor BLAIR BELL said that his own interest in the thyroid had been both philosophical and practical. His experimental work had shown that the thyroid, in association with the rest of the hormonopoietic system, was directly related, not only with the individual metabolism, but also with the reproductive. He laid stress on the necessity of considerable knowledge of comparative anatomy and physiology in interpreting the nature, variations, and disorders of organs of internal secretion. He referred to the fact that removal of the thyroid-parathyroid apparatus in the cat caused death within forty-eight hours, unless the animal was pregnant and the thyroid of the foetus was so far developed that secretion was generated and passed into the circulation of the mother, in which circumstances she remained well until after parturition, when she died. This was comparable with the improvement seen in hypothyroidic patients during pregnancy. Reference was also made to the evolutionary aspect of the disease as demonstrated by the normal condition of exophthalmos in association with epithelial hyperplasia, as seen in Graves's disease, which he had described in the lemur, and the phenomena of aeromegaly which were seen normally in the higher apes, as suggested by Keith. Professor Blair Bell believed that the hypertrophy of the thyroid to which Dr. Williamson referred was not quantitative but qualitative. In the rabbit, ordinarily there was but little colloid secretion, but during pregnancy there was often an enormous quantity.

## Reviews.

### THE HUMAN TESTIS.

SIR ARCHIBALD GARROD, in his recent Harveian Oration, said: "It is natural, nay inevitable, that as medical science grows and advances, some of the workers in the field should elect to follow the path which leads through the laboratory, whereas to others the wards make a stronger appeal; and thus is taking place a differentiation of medical workers into distinct groups, and there is danger that the fission may go too far."

It is therefore with special pleasure that I review at length a monograph by Dr. Max Thorek of Chicago on *The Human Testis and its Diseases*,<sup>1</sup> for, not satisfied with a wide surgical experience, he has also devoted time and attention to experimental and laboratory investigations, and, in my judgement, it is this conscientious and painstaking endeavour to familiarize himself practically with the whole subject which has enabled him to sift and correlate the facts relating not only to his own work, but to that contained in the numerous publications of other investigators. The conclusions he reaches strike the reader as being based upon sound judgement founded on first-hand clinical, experimental, and laboratory knowledge and experience of the subject. He is confident that continued research will soon establish definitely the identity of the internal secretion of the testis and its chemical composition, and supports this opinion by reference to the works of Winniwater, who claims to have followed the transition of mitochondria to crystalloids; he refers also to the work of Duesburg, Iscovesco, and Mulon on the same lines. He does not accept the view that the Leydig cells are controlled by centres situated in the hypothalamic region or elsewhere, because they continue to live after transplantation of the testis.

The history of our knowledge of the functions of the Leydig, seminiferous, and Sertoli cells, from the earliest times until now, is discussed. The view that the testis has a double function is an old one. The point, however, which has caused particular dispute is not the question of a separate testicular secretion which influences sex characters, but rather, what particular testicular structure is responsible for such secretion, and how it acts. There seems now to be general consensus of opinion that the interstitial cells are entirely responsible for sex potency, libido, eroticism, and retention of the secondary sexual characters. This is borne out by the results of castration and experimental transplantation in men and animals.

Dr. Thorek devotes about one hundred pages to the pathology of the testicle. He gives a short analysis of twenty-four cases, diagnosed as strangulated hernia, in which torsion of the spermatic cord was found. Ten of these cases were observed by himself. He makes another analysis of seventy-nine cases of radical operation for testicular growth, and concludes that the evidence is sufficient to show that a radical operation gives better results than simple castration.

Next an admirable account is given of the effects of the internal secretion of the testes upon growth and metabolism. Weil's studies relating to body proportions and sex-gland abnormalities are summarized, and Pézard's researches on the effects of castration are fully related. A fresh account is given of the strange Russian religious sect, the Skopzies, founded on a recent study by William Koch, who resided among them during the war. Their religion requires male members of the sect to submit to castration at some period in early life. Koch recognized four types: (1) the ordinary, with long extremities; (2) gigantism; (3) a type with acromegaly; and (4) a type with hypophyseal adiposity. The type seemed to depend upon the age at which the castration was performed.

After recording a number of interesting facts concerning the physical and psychic characters of castrates, Thorek concludes that the incretory function of the testes is of vital

importance for the well-being of the individual, and that its correlation with other endocrine glands is fundamental. There are three types of eunuchoidism—(1) feminism; (2) genito-dystrophic gerodermia, a condition where the male is "old and seems young," or is "young and seems old"; (3) Kall's, or the tardy type, which appears after normal general sexual development when regressive symptoms develop. Precocious puberty, dwarfism, and gigantism, and their relation to gonadal and other endocrine dysfunctions, are fully considered, and the descriptions are illustrated by cases and some excellent photographs.

A good account is given of Steinach's vas-o-ligation experiments and of the so-called "rejuvenation" operation. Thorek's own experiments on the higher apes and operations on a number of human beings according to Steinach's method gave results which in some instances were good, in others disappointing. The author provides the following summary of his opinions:

"(1) I am opposed to the term 'rejuvenation.' It is misleading and may create a great deal of harm, particularly with the laity, who are bound to exaggerate.

"(2) More clinical data from unbiased sources are necessary to form a definite opinion. Human data are the only reliable criteria, because what may hold true in the lower form of mammalia may often be found reversed in the human.

"(3) Clinical evidence supported by laboratory checking will in due time establish the merits or demerits of the Steinach procedure. Presently a mass of evidence is inclined to pessimism, although some good results are reported from some quarters."

In a chapter on "The Male Climacteric" the author states that between 55 and 65 there is in many males a marked mental and bodily change, associated in some instances with arterio-sclerosis; in others a type of neurasthenia and involuntal melancholia well known to neurologists and psychiatrists may occur. Steinach's experiments suggesting that the substances of internal secretion have a selective storage action in the central nervous system are of especial interest in relation to these conditions.

Thorek transplanted testes in six rhesus monkeys and obtained some interesting results. He found that when x rays were applied the transplant thrived, whereas in the control animal in which the transplant was not x-rayed it was absorbed. This he explains on the ground that around the x-rayed transplant few leucocytes were to be seen, whereas around the control they were abundant. He gives the dose of x rays which preserves the interstitial cells and ensures an adequate blood supply to enable them to thrive and function.

A very complete survey is given of reported cases of transplantation by various workers, including Voronoff. There is a strong biological reason why grafts from bovines, dogs, etc., are not successful when applied to man, and the investigations by Nuttall of blood affinity of man with the Simiidae offers some assurance of successful transplantation of "monkey gland." The work was in the press before the publication of Carr's investigations upon "The behaviour of the testis in transplantation, experimental cryptorchidism, vasectomy, scrotal insulation, and heat application" was published in *Endocrinology* (July, 1924). This important work, independently confirmed by a Japanese investigator, Fukui, appears to prove that "the scrotum of mammals is a local thermo-regulator for the testis, and that the regulatory or functional capacities are indispensable for the production of differentiated germ cells or the maintenance of those already produced." A very striking experiment of Fukui was this: Both testes of an animal were elevated into the peritoneal cavity, but artificially cooled on one side in the region of the testis. He found in the course of a few days that the testis which had been kept cooled was normal, whereas the uncooled testis was degenerated.

A chapter of particular interest to psychiatrists is that on dementia precox and the gonads. An account is first given of the investigations of Gibbs (*Archives of Neurology and Psychiatry*, 1923, ix, 73), which showed that the failure in sex growth and behaviour was due to a biological inadequacy, but it is probable that the failure is not limited to the sex mechanism. "There is a total functional deficiency in most of these patients. Adequate functional activity of the thyroid, pituitary, and suprarenals seems to be necessary

<sup>1</sup> *The Human Testis and its Diseases*. By Max Thorek, M.D. London: J. B. Lippincott Company. 1924. (Med. Bro. pp. x + 547; 303 figures. 3s. net.)

for sex growth." This is entirely in accordance with my histological observations of pituitary, thyroid, and adrenal glands in one hundred hospital and asylum cases.

Undue prominence is unfortunately given to the work of Matsumoto, who merely overlooked my specimens and was in no way responsible for the findings, as he only confirmed what I had already explicitly stated in a paper published in this JOURNAL (1919, vol. ii, pp. 655, 698, 737) on the examination of the testes in one hundred hospital and asylum cases. Thorek refers later to this paper in appreciative terms, as well as to another paper on "The interstitial cells in dementia praecox and primary post-adolescent dementia" by myself and Prados-y-Such. The conclusions are quoted verbatim, together with the tabular summary of results and most of the original illustrations.

It is interesting to note that at the present time Thorek has a number of cases of dementia praecox under observation in which human testicles have been implanted. Reports of some seem hopeful, but it must be remembered that spontaneous remission of symptoms is not unknown. I am doubtful, having regard to the fact that this disease is in all probability a genetic inadequacy affecting many organs of the body, and especially the telencephalon, whether any treatment is likely to give more than temporary benefit. However, seeing that modern investigations show that the interstitial cells have an energizing effect upon all the organs of the body, and that, as Thorek shows, an implanted testicle may retain its interstitial cells, such operative procedure is of great interest and importance, and is more likely than injections to be attended by good results. Still, having regard to the remarkable effects of insulin, it is possible that an analogous substance may be prepared from the testes; Steinach's experiments, however, suggest that it is only likely to have an effect on the central nervous system if the substance be obtained from animals of the same species—either anthropoid apes or man.

As a result of his own experiments and observations Thorek concludes "that the practicability of therapeutic transplantation from the higher apes to man is proved beyond any doubt." The indications and contraindications for sex gland transplantations in the male are fully discussed; moreover, all the details of the operation are very carefully and clearly described, and the reader is helped to follow the technique by numerous diagrams and photographs. The concluding chapters deal with such subjects as neuroses of the testicle, diseases of the scrotum, varicocele, hydrocele, and their medical and surgical treatment.

Thorek's authoritative standard work should prove of great value to the medical profession on account of its clear exposition, practical character, first-hand knowledge, and up-to-dateness. The book is illustrated by 308 excellent diagrams, photographs, and photomicrographs. There is a good bibliography at the end of each chapter, and an index of over 500 authors cited.

FREDERICK W. MOTT.

#### "E.R.A." TREATMENT.

"The Abrams Treatment" in Practice: An Investigation, by Dr. G. LAUGHTON SCOTT, is a small volume which we have read with much interest. The writer has attempted no general examination of the doctrines of the "E.R.A." cult, but has confined his attention to two questions only: (1) whether the instrument of treatment, the oscilloclast, produces clinical results which cannot be denied; and (2) whether the instrument gives rise to demonstrable electrical phenomena which might explain any positive results."

The first problem is treated in the body of the book, and part of the second question is dealt with in an appendix in which Messrs. A. S. E. Ackermann and W. Clark, consulting engineers, report upon the machine. Messrs. Ackermann and Clark conclude as follows:

"Having made the experiments and investigations herein recorded, we are satisfied that a patient, when treated as were our subjects by the oscilloclasts we used, is subjected to the electrical pressure of the supply mains, whether the current in

the mains is alternating or direct, and that this pressure is interrupted about 200 times per minute. We are also satisfied that these electrical effects could be produced by a more simple and less costly apparatus."

They mention in their report that earlier investigations of another model of the oscilloclast failed to show that it produced any electrical effects in its terminal leads, but, as the reporters say, "it is clear the oscilloclasts with which we experimented were not of the same design as that illustrated and described at page 177 of the *Lancet* of January 26th, 1924." The criticisms of the earlier types of oscilloclasts examined by previous workers were so drastic that it is not surprising that the pattern of apparatus has been changed so as to avoid the obvious criticism that it does not do anything at all.

Information concerning the structure of the oscilloclast has been scanty; these machines are leased (not sold) for about £150, and one of the conditions of the lease is, we are informed, that the instrument shall not be opened. Messrs. Ackermann and Clark show that the greater portion of the apparatus in the oscilloclast is functionless, and that the essential part of the machine is a simple rocking magnetic interrupter.

The electrical effect of the machine examined is that, with each interruption, a very small current of the order of a micro-ampère flows to the patient (the actual quantity depending on his insulation from earth), and this current gives him an electrostatic charge of the same voltage as that of the supply mains. The current flowing into and charging patients can be demonstrated by means of a gold leaf electroscope or by a telephone receiver. If the patient's skin be stroked with a conducting substance (for example, a finger) leading to a body—as, for instance, the observer—possessing electrostatic capacity, a rough feeling is experienced; this effect is presumably due to a small current passing through the skin from the patient to the other body and stimulating the erector pilae muscles. There is, of course, nothing very surprising or unusual about a machine which produces such effects. The really remarkable thing about earlier patterns of oscilloclasts was that a machine should have been so constructed that when a current from the supply mains was put in at one end no electricity whatever escaped at the other.

The reports of the clinical effects produced by the instrument are much more remarkable than the electrical effects, for Dr. Laughton Scott relates cases of his own and of three other medical men, and claims that treatment with the oscilloclast produced marked benefit in cases of tuberculous, chronic local infections, exophthalmic goitre, and various other conditions. In particular, the observers found that treatment had a marked effect in reducing temperature in cases of chronic pyrexia. The author concludes:

"After a year's work, the writer is unable to avoid the conclusion that the instrument exercises in favourable cases an exceedingly powerful influence on general health, which in the treatment of particular diseases may be, and frequently has been, very useful."

Dr. Laughton Scott is careful to emphasize the fact that he in no way accepts the general doctrines of the "E.R.A." cult; his position is summed up in the following words:

"If the electrical phenomena described should thus be found to account for all the effects of the oscilloclast, the main fabric of Abrams's work would fall to the ground. But in its place the study of the therapeutic value of periodic low electrical pressure would arise, the possibilities of which might be considerable."

This position appears to be unexceptionable. There are few therapeutic agents which have excited such high hopes and yielded such severe disappointments as has electricity. Electro-therapeutics, moreover, has had the misfortune to be exploited repeatedly by unscrupulous quacks. These facts, however, are no reason for not examining as exhaustively as possible any method that offers any promise. Paracelsus claimed that he had sought truth everywhere, even when it was hidden in the stews, and Dr. Laughton Scott is to be congratulated if he has isolated a kernel of truth from the doctrines of the "E.R.A." cult.

The followers of the "E.R.A." cult have been attacked repeatedly in the medical journals of this and other countries, the essence of the charges against them being that they

"The Abrams Treatment" in Practice: An Investigation. By G. LAUGHTON SCOTT, M.R.C.S., L.R.C.P., B.A. Oxon. London: Geoffrey Blaisdell. (Cr. 8vo, pp. 155; one diagram. 5s.)



have claimed to possess a universal cure-all and have declined to put forward any intelligible explanation of their method. The same rules hold for medicine as for other sciences. Any new theory, however improbable, deserves impartial investigation, provided that reasonable evidence is put forward in its support, and provided that no attempt is made to preserve secrecy but the fullest information and facilities are given to all investigators who desire to check the observations described. The leaders of the "E.R.A." cult violated these rules by patenting their apparatus and leasing it at a very high price, and at the same time doing their utmost to preserve secrecy regarding its method of construction.

We express no opinion regarding the clinical results that Dr. Laughton Scott records, but we must note that although he has shown that the modern type of oscilloclast produces electrical effects, yet these effects scarcely seem adequate to explain the clinical results he has described. It would be very extraordinary if such feeble currents of low intensity should produce any demonstrable clinical effects. Dr. Laughton Scott has, however, described his methods fully, and anyone who is interested can test them for himself, and it would be perfectly easy to make certain obvious controls. Dr. Laughton Scott informs us that, in order to avoid any suggestion that he is exploiting a patent or secret remedy, he has arranged for the Medical Supply Association to make, and to supply at an ordinary trade profit, an apparatus which will produce the electrical changes, with which he claims to have produced his successful clinical results.

#### MODERN CLINICAL METHODS.

DRS. BEAUMONT and DODDS are greatly to be congratulated on having succeeded in bringing into the compass of a small book a reliable account of some of the more important new methods of clinical and laboratory investigation of disease. It is difficult for practitioners to keep abreast of the innovations that are being made in clinical methods and in modern treatment. *Recent Advances in Medicine* offers in concise form not only the technique of the new methods, but a tentative valuation of them: What every practitioner asks when he hears that some investigation that is strange to him has been proposed or performed on his patient is, What is the practical importance of the results obtained?

As examples we may quote from the tests of renal function that in obstetric cases "premature labour should be induced if (a) the blood urea and non-protein nitrogen contents are above 40 mg. per 100 c.cm., (b) the hepatic tests become positive." On the other hand, "from the medical aspect renal function tests fall short in the fact that they do not provide a diagnosis and give a poor idea with regard to prognosis."

This way of stating the case is admirable. We want to know how to advise our patients. Many investigations are in the nature of trials of claims made for the tests rather than of means to afford useful information for individual patients. It is imperative that such trials shall be carried out, but often the practitioner is at a loss to know to which category a proposed test belongs. This book will enable him to decide. It is not to be supposed that the judgements of the authors are final, but for the present time it serves its purpose excellently. To turn to another use of this work, nowadays many practitioners are both willing and competent to carry out laboratory tests not requiring elaborate apparatus. The technique of the tests is described in sufficient detail to make the volume a laboratory handbook; or at least it will enable the reader to decide whether the method is beyond the resources of himself and his private laboratory.

The authors have not confined their study to methods of examination alone. They have included some most valuable chapters on treatment; we refer in particular to the treatment of diabetes, of gastric and duodenal ulcers, of asthma

and urticaria, and the use of some cardio-therapeutic measures.

The book is well illustrated and well printed. It is likely to be successful because it meets adequately a real demand.

#### BIOCHEMISTRY AND HUMAN PHYSIOLOGY.

WE have great pleasure in welcoming the appearance of a second edition of Mr. PARSONS's book *Fundamentals of Biochemistry in Relation to Human Physiology*.<sup>1</sup> It is particularly difficult to write about biochemistry without becoming involved in a maze of structural formulae and other essential but dry details, and elementary textbooks are specially liable to degenerate into a recital of somewhat disconnected facts. Mr. Parsons, however, has succeeded in producing a clear and readable introduction to his subject, and the fact that a second edition has appeared only eighteen months after the first shows that these qualities have been appreciated.

Only minor alterations have been made in preparing the new edition, but the book has been brought thoroughly up to date, and various errors and misprints in the first edition have been corrected. An account of the most recent views as to the part played by lactic acid in muscle contraction has been introduced into the chapter on the utilization of carbohydrates, and an account of the functions of insulin has been added to the chapter on diabetes. New theories are also given concerning the mode of origin of creatinine, the chemical constitution of glucose, and the structural formula of urea.

The essential feature of the book is that it gives a really readable account of those fundamental facts of biochemistry which are of special importance in medicine, and the work is therefore admirably adapted for medical students, and also for medical practitioners who desire to refresh their knowledge of this subject.

#### COLOUR VISION.

IN noticing the first edition of Sir JOHN PARSONS's *Introduction to the Study of Colour Vision*, we expressed the opinion that it was a valuable book. This judgement has been confirmed by the call for a second edition.<sup>2</sup> The author has taken note of the important work which has been done since 1915; thus he gives a satisfactory summary of Ives's researches into the phenomena of recurrent vision. It would, perhaps, have been as well in this, and some other cases of postulated mathematical "laws," to reproduce the numerical data as well as small-scale diagrams. The non-mathematical reader is sometimes overawed by formulae, the arithmetical justification of which is scanty. It is, however, difficult to give a full account of so large a subject in one volume, and both Sir John Parsons and his readers are to be congratulated on the appearance of the new edition.

#### DIVISION OF THE RENAL NERVES.

THE *Archives Urologiques de la Clinique de Necker*<sup>3</sup> contains Dr. Flandrin's paper on the nerve supply of the kidney. The author makes a practice in certain cases of exposing the nerves on the pedicle of the kidney and deliberately dividing them, and his article contains a description of the technique of his operation and the best manner of recognizing the delicate nerve fibrils. The most important portion of the paper, however, is probably the section dealing with the action of the nervous system on renal secretion.

In summing up, Dr. Flandrin states that he has found that division of the nerves of the pedicle is particularly useful as a method of relieving pain in cases of pyelitis and

<sup>1</sup> *Recent Advances in Medicine: Clinical, Laboratory, Therapeutic*. By G. E. Beaumont, M.A., D.M.Oxon., F.R.C.P., D.P.H.Lond., and E. C. Dodds, M.B., B.Sc.Lond. London: J. and A. Churchill, 1924. (Extra post 8vo, pp. xii + 232; 37 figures. 10s. 6d. net.)

<sup>2</sup> *Fundamentals of Biochemistry in Relation to Human Physiology*. By T. R. Parsons, B.Sc.Lond., M.A.Cantab. Second edition. Cambridge: W. Heffer and Sons, Ltd. 1924. (Cr. 8vo, pp. xii + 285; 20 figures. 10s. 6d. net.)

<sup>3</sup> *An Introduction to the Study of Colour Vision*. By Sir John Herbert Parsons, C.B.E., D.Sc., F.R.C.S., F.R.S. Second edition. Cambridge: The University Press, 1924. (Roy. 8vo, pp. x + 323; 94 figures, 1 plate. 25s. net.)

<sup>4</sup> *Archives Urologiques de la Clinique de Necker*. Publiées par Dr. F. Legueux. Tome IV. Fascicule II. Paris: Maloine et Fils, 1924. (Imp. 8vo, pp. 101-228; 7 figures. Fr. 15.)

movable kidney. In his experience this practice has not been followed by any untoward results with regard to excretion, although laboratory experiments have shown that the innervation of the kidney modifies the excretion of water and chlorides.

### EGYPTIAN MUMMIES.

THE history of mummification is not only of profound importance to the Egyptologist and archaeologist; it has much interest for the anatomist, by reason of its influence upon the early development of his science, and also for the student of the history of medicine. Professor ELLIOT SMITH and Mr. WARREN R. DAWSON have presented us, in a volume entitled *Egyptian Mummies*,<sup>2</sup> with a most fascinating sketch of the development of the process of mummification, and have suggested its far-reaching effects and importance. More than two centuries ago the theory was advanced that the first crado attempts to prevent corruption of the dead body had been suggested by the arrest of decomposition found on examination of many of the corpses buried in the shallow graves in the hot dry Egyptian sand. A number of other and more fanciful explanations have been advanced to account for the origin of this interesting custom, but so far we are compelled to speculate as to the motives which induced the procedure in the first instance. Whatever the origin, it seems clear that for three thousand years the art was practised with increasing skill, two objects being constantly before the embalmers—to prevent decomposition and to preserve the actual form and identity of the individual.

At first the attempts at preservation were very simple and quite inadequate, some material, possibly natron, being applied to the surface of the body, which was then wrapped in a series of bandages. Later the viscera, with the exception of the heart, were removed through a wound (generally found on the left side) and placed in Canopic jars. The Canopic jars were used from ancient times, and were frequently decorated and inscribed. Their number was constant, four invariably being used. In the first was placed the liver, in the second the stomach, in the third the lungs, and the intestines were deposited in the fourth. The heart was never removed; the treatment of the kidneys was not so constant, but usually they were left in position. After excision of the organs the body was embalmed, and the body cavity packed with sawdust and balls of linen impregnated with resin. The essential preservative agent for embalming the body was common salt, but analyses of the resins have proved that balsams and the woods of various aromatic trees, especially juniper, were also used. Even in the earlier remains there is evidence suggesting that an attempt was made to produce a model of the individual as well as to preserve the tissues. With the acquisition of greater skill, the brain was removed piecemeal

through the cribiform plate of the ethmoid, and the cavity of the cranium packed with strips of linen soaked in resin. A further development was the evolution of an elaborate method of packing the trunk and limbs to avoid the great distortion consequent upon shrinkage of the tissues. During the later history of the subject, in an obvious effort to make the whole as complete as possible and convert it into a "portrait statue," mummification became a very lengthy process, calling for high skill. Not only were the limbs and trunk padded and the organs restored, after embalming, to the body cavity, but the swathed mummy was painted in as realistic a manner as possible. It is of interest to find that with the greater elaboration of this external decoration, the processes required for preservation of the body became less adequate, and by degrees less attention was given to the body and more and more to the wrappings.

In order to unravel this history a vast number of mummies have been examined, and their study has brought to light valuable and interesting information regarding diseases to be found in those distant times. Although the pathological processes which may be recognized in the mummified body are very limited, quite a number of conditions have been identified. Most of the diseases are of necessity those affecting bone, but several cases of arterial disease have been found, and even the presence of vesical calculi and pleural and appendicular adhesions noted. The absence of any true example of rickets or syphilitic disease, and the non-appearance of true cancer until the more recent dynasties, although several cases of sarcoma have been discovered, is significant and of considerable interest. One case of gout, one of leprosy, and evidence of tuberculous disease have been encountered. Mastoid trouble was of frequent occurrence. Examination of the joints has shown that very few pre-dynastic Nubians ever reached adult life without exhibiting the changes of rheumatoid arthritis, a disease common at all periods. Dental caries was rare until the advent of luxury, but alveolar abscess

from infection of the pulp cavity exposed by wearing down of the teeth is not infrequently revealed.

Information about the treatment of disease is scanty, and so far no bodies examined have afforded any evidence of surgical procedures other than the use of splints. The discovery of the remains of mice in the alimentary tract of several children suggests that this animal was used, as it still is in some countries, as a children's medicine.

### NOTES ON BOOKS.

*How is your Heart?*<sup>3</sup> and *Your Heart and how to take Care of it*<sup>4</sup> are two books by American authors which have been written specially for the education of the lay public. The former, by Dr. S. CALVIN SMITH of Philadelphia, is written in a style which is likely to appeal to readers who have no

<sup>2</sup> *How is your Heart?* By S. Calvin Smith, M.S., M.D. With an introduction by Sir Thomas Horder, Bt., M.D., F.R.C.P. London and New York: Cassell and Co., Ltd. 1924. (Cr. 8vo, pp. 204, 5s. net.)  
<sup>3</sup> *Your Heart and how to take Care of it.* By Robert H. Babcock, M.D., LL.D. New York: D. Appleton and Co. 1924. (Cr. 8vo, pp. 235; 6 illustrations. 5s. net.)

<sup>1</sup> *Egyptian Mummies.* By G. Elliot Smith and Warren R. Dawson. London: G. Allen and Unwin, Ltd. 1924. (Post 4to, pp. 190; 48 woodcuts, 25 other illustrations. 25s. net.)



Queen Nozme, the wife of Hrihor, the first king of the XXIIst Dynasty (Thebes). The mummy belongs to the transition period when the embalmers were attempting to restore the form. (Woodcut by A. Horace Gerrard.)

previous knowledge of the heart and its functions. The author's object is to direct attention to the various causes and earliest symptoms of heart disease, so that affections of the heart may be recognized and treated at the earliest possible moment in order to avoid much preventable cardiac disability in later life. The subject is treated in considerable detail, and many of the minor factors which militate against an efficient circulation are explained in a rational way. It is usually difficult to explain a technical subject to an untrained person, but we feel that Dr. Smith has succeeded in producing a book which should serve its avowed object. There may be a difference of opinion about doctors addressing the public on medical subjects, but we notice that Dr. Calvin Smith does not anywhere mention his address, and the copy we have received has been printed in this country. We think it right to our readers to mention that the author should not be confused with another member of the profession of the same name who is on the British Medical Register. The second book, by Dr. ROBERT H. BABCOCK, while also addressed to the public, is much more technical. The anatomy and physiology are described in too much detail, and terms are employed which will tend rather to confuse than help the popular reader. Otherwise the information contained is mostly sound and follows in general the same lines as the other volume.

A revised edition of the useful little pamphlet *To Wives and Mothers: How to Keep Yourselves and your Children Well and Strong*<sup>9</sup> has recently been issued. Its popularity is evidenced by the fact that its issue has reached 285,000. The pamphlet is compiled by the Association of Infant Welfare and Maternity Centres. As the committee responsible for it consists of certain leading authorities on child welfare, together with some medical officers of welfare centres and lay members practically interested in mothercraft, its contents may be taken as representing the most modern and practical teaching on this subject, standardized as far as is possible. It is not intended to replace expert medical advice, but rather does it represent excellent "notes" which an intelligent mother might take from the health talks of a doctor. Information is given clearly and concisely under good headings, and there is an index. In the chapter on care of the infant the statement is made that "until the cord is healed the baby should not be immersed in the bath water"; this teaching is contrary to the practice usually adopted by midwives. The method of breast-feeding is described fully, together with notes on mixed feeding and weaning. The management of children from 1 to 5 years is referred to, with a few words on character training. Other sections deal briefly with the usual infantile ailments, the common infectious diseases, and emergencies. The importance of sunshine, fresh air, and cleanliness is indicated. A few simple recipes, hints on washing, and directions for making a knitted outfit for the baby complete a most instructive little guide.

*Lessons on the Care of Infants*,<sup>11</sup> by Mrs. WATSON, is a revised edition of a small pamphlet first published in 1907. There is a preface and introduction by Mr. BENJAMIN BROADBENT, ex-Mayor of Huddersfield, whose interest in the welfare of mothers and children is well known. There are five lessons—on natural food, artificial food, clothes, sleep and fresh air, and general care. Simple information is given on these subjects and at the end of each lesson are a few questions. It should prove a useful little pamphlet to school teachers and those who give instruction in mothercraft.

The *Manuel de petite chirurgie* of MM. ARDIN-DELTEIL and P. SOUBEYRAN has now reached its third edition.<sup>12</sup> It is a large book of 917 pages, well illustrated, containing an account of the essentials of minor surgery, and ending with the technique of necropsy. The book follows traditional lines and gives a fair account of antiseptics, anaesthesia, splints, etc., and various of the lesser operations. It is intended for practitioners, students, and nurses, and will not lead them astray, but a book of this size might have been expected to reflect more clearly advances in surgical pathology and treatment.

Sir ARCHIBALD GARROD's Harveian Oration on *The Debt of Science to Medicine*,<sup>13</sup> published in our columns on October 25th, 1924 (p. 747), has been printed in a pamphlet published by the Oxford University Press.

<sup>9</sup> National League for Health, Maternity, and Child Welfare, 117, Piccadilly, W. 1924. (Demy 8vo, pp. 53. 5s. post free.)

<sup>11</sup> *Lessons on the Care of Infants (for use in schools)*. By Mrs. Watson. With a preface and introduction by Benjamin Broadbent, C.B.E., LL.D., M.A., J.P. London: Longmans, Green and Co. 1923. (Cr. 8vo, pp. 19; frontispiece. 6d. net.)

<sup>12</sup> *Manuel de petite chirurgie et de technique médicale journalière*. Par P. Ardin-Delteil et P. Soubeyrans. Troisième édition. Paris: Masson et Cie. 1923. (Roy. 8vo, pp. 927; 501 figures. Fr. 45.)

<sup>13</sup> *The Debt of Science to Medicine*. Oxford: By the Clarendon Press. 1924. (Med. 8vo, pp. 30. 2s. 6d.)

Dr. LOUISE BRINK's monograph on *Women Characters in Richard Wagner*<sup>14</sup> is a study of *The Ring* from the standpoint of psycho-analysis. The work is divided into two parts, dealing respectively with the psychic problem and the problem in the drama, and traces a close relation between Wagner's drama and his psychic life. A bibliography of psycho-analytic works bearing on literature and mythology is appended.

The "Wellcome" Photographic Exposure Calculator<sup>15</sup> for 1925 contains the usual memoranda, with certain additions. Two methods of developing with the aid of a tabloid densitometer are described, and a comprehensive list of the comparative speeds of development of papers and lantern slides is given. Over 280 kinds of plates and films, including the later varieties, and more than 100 kinds of bromide and gas-light papers are classified.

<sup>14</sup> *Women Characters in Richard Wagner*. By Louise Brink, Ph.D. Nervous and Mental Disease Monograph Series, No. 37. New York and Washington: Nervous and Mental Diseases Publishing Company. 1924. (Med. 8vo, pp. xv + 125.)

<sup>15</sup> London: Burroughs Wellcome and Co. 1925. Price 1s. 6d.

## MOTOR NOTES FOR MEDICAL MEN.

### CHANGING CONDITIONS IN 1925.

By H. MASSAC BUIST.

THE three outstanding fresh phases of motor enterprise in the New Year which have a direct bearing on the medical man's use of a car are:

(a) The readjustment of the broken period licence charges, which comes into operation on New Year's Day.

(b) The Road Traffic Bill, which will be introduced in February by Lieut.-Colonel Wilfred Ashley, Minister of Transport, to consolidate the law in regard to the use of vehicles on the road; it will, it is anticipated, abolish the twenty miles an hour and all other speed limits, require the evidence of at least two witnesses before a motorist can be convicted of dangerous driving, and make the use of rear lights compulsory for all vehicles on the road, including pedal bicycles.

(c) The introduction of a remodelled scheme for the safeguarding of industries, whereby the hard-pressed British motor car maker will be shielded in some degree against the competition of car industries in other countries, all of which are assured of their home markets.

Medical men who are relatively new to motoring may be reminded that all vehicle licences have to be taken out at the New Year; that it is not usual to give more than six days' grace in face of the opportunity offered to send in the necessary papers, and so forth, a fortnight before the end of the year.

### SITUATION IN REGARD TO LICENCES.

The new arrangement in regard to taking out what are called broken period licences for cars does not concern the owner who takes out a licence during the first month of the year. It is in the nature of an adjustment, as distinct from a concession. In short, the revenue does not stand to lose anything by it. Like all changes, of course, examples can be cited in which it causes hardship on the motor owner by comparison with the situation that obtained formerly. These matters, however, have to be arranged always on the principle of securing the greatest good to the greatest number. From that point of view the readjustment is more equitable in the majority of cases. It is possible to obtain a quarterly licence now on payment of 27½ per cent. of a full annual licence. If a broken quarter is taken into account, together with what remains of the calendar year, there is a calculation of "one-twelfth of the full annual rate of duty for each month, or part of a month, included in the given period, and a further amount calculated at the rate of 5 per cent. of the amount so ascertained." The car owner has to pay one-third of the quarterly rate for one month, two-thirds for two months, and the full rate for any balance of weeks or days over two months.

### CAR TAXATION.

As far as motor taxation is concerned, it is extremely unlikely that any reduction in car licences will be made in

the Budget this year. The reason is that, even as the present scale of licences exceeds anything that was anticipated when it was introduced, so, unfortunately, does the expenditure on roads. It is being realized that this is becoming more effective, and that motorists will obtain full value for their money.

Again, it is now abundantly plain that the one branch of the world's industry which in general might be said to suffer from the licence scheme—it has an overwhelming advantage in every other respect—is American manufacturing and export. It is already clear that practically all the leading makers in the United States will shortly produce engines which will come out much more favourably under European engine rating schemes than the power plant they have put in their vehicles hitherto. Consequently any hardship under that head will tend to diminish. Current types of transatlantic cars enjoy such an enormous advantage in the matters of low initial cost, and so forth, that any item of extra tax would have to be paid for more than a dozen years before an owner's costs would begin to be on a par—under the combined heads of initial purchase price and licence fees—with a home-made car.

#### SAFER NIGHT DRIVING.

Probably medical men are the section of the car-using community which stands most to benefit by the legislation to be introduced in February concerning road traffic. Medical men have necessarily to do a good deal of motoring by night, and the strain of watching for a bicycle ahead without a rear light is serious. Driving at night will also be rendered easier by the numerous improvements being made all over the country to eliminate dangerous turnings, and so forth. Such improvements are urgently needed, for commercial night traffic is increasing at an amazing rate. It seems probable that before very long main roads will be as busy at night as during the day.

The proposed abolition of the speed limit of twenty miles an hour, which rarely troubles the medical man, and which in most parts of the country has been regarded by motorists and the authorities as a dead letter, is of itself not a matter of importance. Its consequences may, however, be important. Thus, whenever it is desired to prosecute hereafter it will have to be on the charge of dangerous driving. There is nothing to prevent any person, or persons, accusing a road-user of dangerous driving in circumstances in which it would be practically impossible for the motorist to disprove such a charge on his own evidence alone. The proposal to require two witnesses is in accordance with the recommendation of the Departmental Committee. It must be admitted that police evidence is sometimes prejudiced, and that even when unprejudiced the constable who gives it may be no competent judge. As cars are now being designed and built the efficiency of control varies enormously, and even experts may not always be prepared to give testimony one way or another. As a matter of practice we know also that the proclaimed policy of several benches in the country, carried out during the last score of years, has not been quite impartial. The bill it is proposed to introduce next month will probably remain in force for a good many years, and it is essential that all concerned should look carefully at the probable practical effect of the proposed changes. The clause in the bill should be so clearly worded as to make it impossible for any bench to indulge its prejudice by distorting the letter of the law. A wrongful accusation of dangerous driving may result in an innocent accused being sentenced to a term of imprisonment. Unless the bill is worded very explicitly under this head, leaving no loophole for discretion or no power of discretion on this point to departments (that is, unless it strictly and satisfactorily defines the conditions on which a prosecution may succeed), I personally am of opinion that removal of the twenty miles an hour motor car speed limit will be popular for nine days only and be regarded as a *curso* afterwards. It is the most difficult problem the Government has to face in drafting this bill. The bill will not contain any proposal to require car drivers to undergo medical examination before driving licences are granted.

#### FUTURE DEVELOPMENT OF CARS.

Mechanically, there will be many changes. There is a world-wide tendency to obtain better performance from smaller and, therefore, lower-taxed power plant. We shall see more of this when the motor show comes to be held at the end of October and the beginning of November next. It will be noted that this is a later date than that of the successful experiment at Olympia in mid-October last year. This is due to the situation in Paris, and to an old understanding between the organizations of the British and the French industries. A period will have to be put to that unwritten arrangement, however, in that it works to the detriment of the motor vehicle user and buyer, as well as to the motor manufacturer and trader, in this country. Indeed, we want, in London, not a show in the middle of October, but in the first week of that month. There will be no motor show in Scotland this year, for there were two last year.

There will be no 1,000-mile trial for standard cars in the Highlands of Scotland, nor in this country, and no Tourist Trophy car race in the Isle of Man. But there is likely to be some important racing in Dublin, for which the Royal Irish Automobile Club has been preparing for a long time.

More important in regard to the development of the car, however, is the introduction in Parliament of what a few years ago would have been regarded as fantastically impossible—namely, a private bill to permit the closing of roads for a few hours in order to conduct in the heart of England, probably in the Midlands, an international road race. Such an event could not be held this year. But the necessary Parliamentary powers are likely to be obtained this year, because it is recognized that the motor industry is a key one, and that ours is handicapped greatly by comparison with the industry on the continent of Europe and in America, where road racing is permitted. As there could be no road racing in England until 1926, and as the present small car engine limitation (1,500 c.c.m. cylinder content) will be the limit for the largest cars to be raced in the classic event in America in 1926, it seems not unlikely that such a private bill will go through. It would assist experiment and trade greatly.

From the medical man's point of view, as one who requires, to use covered types of cars, I would mention that if this essential work of experiment is carried forward under every encouragement from wise regulations, there is no reason why a 500 c.c.m. (or motor-bicycle size) engined car should not be sufficient in less than a decade to propel a four-seated saloon; this will mean an enormous saving, not only in initial cost and taxation, but also in running costs (tyre and fuel). Meantime, much more will be learned by manufacturers this year concerning lacquer finishing for cars, which can be cheap, durable, and proof against spilt petrol.

#### THE FUTURE OF FUEL.

Very important fuel experiments are being made. Of course, there is no such thing as British fuel, because benzol failed us badly last year, owing to the depression in the coal and iron industries. It cannot be produced in sufficient quantities, since it pays only to distil it as a by-product. Before a decade is out, however, we shall have something really important and quite different in the way of home-produced fuel. The talk of British petrol proves seldom to be more than the embarkation of British capital in purchasing and working oil fields in countries which, if not hostile, are at least subject to all sorts of influences from nations and interests hostile to ourselves. In the event of a national emergency such oil fields would rather need guarding than be an assured source of fuel supply to our navy. Consequently, we are living in a fool's paradise as long as we assume that we are assured of foreign oil fields. Far more important are the oil fields which exist in British territory, no matter by whom owned. At least, their outputs could and would be commandeered in emergency. But we shall not have completed the vital task until we derive a suitable motor fuel from treating raw material obtainable in these islands. At the moment I cannot state more beyond indicating that the necessary experiment will assume a very important phase by September or October next.

## British Medical Journal.

SATURDAY, JANUARY 3RD, 1925.

### THE ROYAL COMMISSION ON NATIONAL HEALTH INSURANCE.

IN the SUPPLEMENT this week is published the draft Memorandum of Evidence proposed to be given by the British Medical Association before the Royal Commission on National Health Insurance. This is one of the most important documents that has ever been put before the medical profession for its consideration. It has been the subject of prolonged thought and debate by the Insurance Acts Committee and by a large special committee containing representatives of consultants, pathologists, and others working in special branches of the profession, together with general practitioners not engaged in insurance practice. At the meeting of the Council on December 17th it was discussed, emended, and approved as a document suitable for discussion at meetings of the profession to be summoned immediately in all areas. As will be seen from the report of the proceedings of Council published in the SUPPLEMENT this week, the paragraph dealing with the question whether dependants should (subject to restrictions) be included within the scope of national insurance was retained by the Council by 25 votes to 11. As will be seen also from the list of questions appended to the draft Memorandum of Evidence, this is the first matter upon which the meetings of the profession will be invited to express an opinion.

It is true that the main proposals in the Memorandum are in substance, and often in detail, covered by resolutions which have at some time or other been passed by the Representative Body of the Association or the Conference of Local Medical and Panel Committees; but it is none the less imperative that they should be reviewed in the light of the present situation, and that any decisions upon them should be well considered by the whole profession.

The document is not a final one. It is issued as a draft merely—though a draft which represents the provisional considered judgement of those members of the profession who have had most to do with the matter with which it deals. It is now to be submitted to local meetings of the whole profession—not of insurance practitioners or members of the Association only—in the various areas, and it is hoped that all these meetings will be representative and well attended. It is hoped also that not only specialists but those general practitioners who have hitherto refrained from accepting service under the Insurance Acts will attend and freely express their opinions. Certain specific questions are to be asked at these meetings, but the whole document will be open to discussion. These meetings must be held during the present month, as answers must be ready by January 31st for consideration by a committee on February 5th, and by the Council on February 18th. Thereafter a revised memorandum will be issued to the profession;

this, in its turn, will be considered at local meetings if thought necessary; and on March 12th at a special conference of members of the Representative Body with members of the Conference of Panel Committees. This procedure should enable the Association to send the Memorandum to the Royal Commission, and to present its evidence, with complete confidence that it has behind it the full and deliberate backing of the profession as a whole. It is worth while to make sure of this even by a programme which is somewhat elaborate; any opinion so gathered and expressed must carry very great weight.

It should be remembered, however, that there is another sense in which the Memorandum is not final. It does not, and will not, represent a fixed and determined policy of the British Medical Association, or a decision which is not open to modification or revision. It is clearly to be understood that the Memorandum of Evidence to be submitted to the Royal Commission will contain merely suggestions—though suggestions of wide-reaching importance—which the profession thinks it well to place before, or even to urge upon, the Royal Commission. Some of these may not be adopted by the Commission in its report; some, even, of those adopted may not be presented to Parliament in a Government bill or embodied in any legislative Act. At a later stage, when a report is issued or when a bill is introduced, there will be time and opportunity for the profession to make its voice heard and its pressure felt with regard to any proposals actually made. This position should be borne in mind by the meetings at which the draft Memorandum is considered, but it should at the same time be remembered that it will be almost impossible later to oppose proposals substantially in the same form as suggestions made by the profession itself in its evidence.

Such is the authority and present position of the document; it is to be regarded as an attempt to present in outline a comprehensive constructive scheme for making provision for the public health along insurance lines. Proposals from any quarter which are obviously in the interest of the common health will always be received with sympathetic consideration by the medical profession, even though they may seem to conflict with professional interests and traditions; but it is of paramount importance to all, not least to the sick person, that such conflict should be avoided if at all possible, should be reduced to a minimum where it cannot be avoided altogether, and that all necessary arrangements should be so presented to practitioners as to avoid their antagonism and to secure their willing co-operation.

The scheme presented in the Memorandum, if adopted in its entirety and with all its provisos, would, it is hoped, go far to attain this desirable end. Its aim is to secure a complete medical, surgical, and maternity service for all the poorer members of the community who are unable to provide it for themselves. It seeks, while giving an impetus to preventive medicine in many ways, to preserve that individual interest in attendance and in administration which it is so desirable to perpetuate. The scheme, however, raises serious difficulties, not merely of public finance but of economic and other effects upon the profession, which need for their solution all the wisdom which the medical profession, the Royal Commission, the Ministry of Health, and Parliament can bring to bear upon them. The care with which the draft Memorandum has been prepared ought to be reflected in the earnestness and deliberation with which it is considered by every practitioner.



## IODINE IN EXOPHTHALMIC GOITRE.

"Though the waves toss we travel." The perusal of Dr. Francis R. Fraser's address, published this week, conveys a sense of progress. For fourteen years the majority of physicians have followed the advice of those who considered that iodine should not be given in Graves's disease, unheeding the assurances of some who advised them to the contrary. Now comes the convincing evidence, provided by Dr. Fraser as well as by physicians in the United States and Canada, that iodine in appropriate dosage can bring about a lowering of the basal metabolic rate and of the heart rate to a normal level, and an increase of body weight, with a striking improvement, objective and subjective, in the general condition of the patient. Though the improvement does not last it has great significance, and is of a kind which will lead in the near future to a better understanding of this remarkable malady.

In all but a small proportion of cases (5 to 10 per cent.) there is present in exophthalmic goitre, as one of its cardinal symptoms, a condition of greatly increased activity of the thyroid gland. This increased activity is associated with diffuse hypertrophy of the organ and a greatly increased discharge from it of its iodine-containing secretion. It would seem that the function of the thyroid gland is to elaborate an internal secretion containing the gland's active principle or principles, and to deliver this secretion to the circulation for distribution to the tissues in amounts proportionate to their needs. It may, perhaps, be assumed that the greater the needs the greater the discharge of this secretion. We know that iodine is indispensable to the performance of this function, and that the gland cannot go on performing it efficiently unless a sufficient amount of iodine be available to it for the elaboration and discharge of its secretion. When from any cause the supply of available iodine falls below a certain level, the demands of the tissues being normal, then the time comes when the gland's secretion is neither efficiently elaborated nor efficiently discharged. This is what happens in so-called "simple goitre," which is a state of diminished functional activity of the gland: a state which, having reached a certain degree, cannot always be rectified by correction of the iodine deficiency, although it may be set right by the injection of the gland's active principle, thyroxin. But if the supply of iodine be not at fault, and the demands for the gland's active principles increase beyond a certain point, then the organ will continue to elaborate its secretion and to discharge it into the circulation in amounts proportionate to the degree of stimulation. Here again a point may be reached when it may be assumed that there is an iodine deficiency relative to the demands of the body, and it is then that the administration of iodine in appropriate amounts will do good. It will do good by assisting the gland in the elaboration of the normal secretion itself or by bringing the gland more nearly to rest, increasing its iodine content and diminishing its blood supply. Conceivably, then, the thyroid may thereby be enabled to satisfy the demands of the body and to adjust the metabolic balance.

This, we gather, is the view taken by Dr. Fraser, who considers that in exophthalmic goitre there is "an iodine deficiency relative to the needs of the body"; and it would seem to follow that it is the outpouring of an excess of secretion deficient in iodine which exercises so profound an effect in increasing the metabolic rate. In this connexion it

is of interest to recall Kendall's conclusion that the active part of thyroxin is not the iodine it contains in such large amount (65 per cent.), but the  $\text{NH}_2\text{COOH}$  group. Why, then, does not iodine continue to do good when the patient is again subjected to the stresses and strains of modern existence, of faulty food, and of infection? Surely because the stimulus to the thyroid's hyperactivity is then of a kind beyond the power of iodine to control. Dr. Fraser mentions the fact that the administration of iodine will prevent the compensatory hypertrophy of the remainder of the normal thyroid when three-quarters of the gland has been removed; he might have added, however, that it will not prevent the hypertrophy of the remainder when nine-tenths of the gland has been removed. In the latter circumstances the stimulus to increased activity of the fragment that remains is so great that no amount of iodine will lull it to rest. The condition of the thyroid gland in Graves's disease may be compared to that of the fragments which remain after removal of the major part of the normal organ. It is under the influence of some stimulus, or of some power, so great that iodine may or may not afford the gland some rest. When it does so in the cloistered security of the hospital ward, the gland's circumstances are more akin to those of the "one-quarter fragment," and iodine then prevents its overactivity, and those symptoms of the malady which are due to the outpouring of an excess of secretion are alleviated. When, on the other hand, the patient leaves the restful shelter of the ward, and meets again the stresses of life—physical, mental, metabolic, and infectious—the gland's circumstances become more akin to those of the "one-tenth fragment," which no amount of iodine will cause to rest; while doses of iodine that formerly availed may now do harm.

Though the term "stimulation" has been used in relation to the thyroid gland's hyperactivity in Graves's disease, the impetus to the gland's disorder may, in fact, be of quite a different order: possibly of a kind, as Marine's researches on the effects of ablation of the adrenal cortex would seem to suggest, which removes some restraining influence normally exercised over the thyroid's activity. Dr. Fraser says that a great merit of the proper use of iodine in Graves's disease is that it prepares the patient for thyroidectomy; but it does more than this, for it would seem to prepare the patient for the cure of the disease. It may be suggested that in the next series of cases reported from the medical unit of St. Bartholomew's Hospital—and may this be soon—the investigation will have been carried further still, and advantage taken of this effect of iodine, in restoring the metabolic rate and the heart rate and in preventing the loss of weight, to seize the opportunity to overfeed these patients with milk, cream, wholemeal bread, green leafy vegetables, and vitamins of all kinds, so that they may gain in weight as rapidly as possible. For if, indeed, Graves's disease be due to disorder of other endocrine organs besides the thyroid—and there is not much doubt of it—then it would seem that the only way at present known to restore them to health is by appropriate food, with repose of mind and body. In this connexion, and remembering the effects of loss of function of the adrenal cortex in causing thyroid hyperactivity with depletion of the gland's iodine store, we may recall the remarkable effects of faulty food deficient in vitamins on this organ, and of the effects of bacterial products upon it.

It is said that the value of writings is proportionate

to their capacity to make readers think. Dr. Fraser's address will have this effect. Whether or not what we have here said be near to or far from the truth, it seems clear that by the recognition of this effect of iodine in Graves's disease another trench has been taken in the attack on this remarkable malady.

### CHRONIC MASTITIS AND CANCER.

No very important technical advance has taken place within the last thirty years or so in the radical treatment of cancer of the breast, and it seems as if we had come to the limits of what surgery can hope to perform in the cure of the condition. The cry, therefore, has been for earlier diagnosis, and many have hoped that, by more widespread knowledge amongst the public of the signs of the disease, cases would come to the surgeon at less advanced stages, so that radical operations might achieve an enhanced percentage of permanent cures. It is unwise to assume because a growth is very small, or has only been noticed for a short time, that a more restricted operation than usual will be effective, for the lymphatic dissemination in such cases may be surprisingly extensive, and probably most surgeons practise a wide removal, no matter how early the cancer may seem to be. Whether any method of popular instruction or propaganda will be successful in inducing the public to seek medical advice more opportunely is a question upon which opinions may differ, and the surgeon has to deal with the disease in such a stage as it comes to him, and not as he would like it to be. There can be little doubt that, owing to the equivocal nature of the early manifestations, an expectant policy is adopted far too often, with disastrous results. This is hardly the fault of the general practitioner, who is as eager as his surgical colleague to read the signs aright. Once a definite tumour is detected there should be no delay in having recourse to surgery, and probably in the vast majority of cases no undue delay occurs.

There are many who are convinced that future advance in the treatment of cancer of the breast must lie in the exploration of the mammary lesions before palpable growth formation has taken place. The surgeon frequently comes across borderland cases where he cannot be certain of the nature of the condition—it may be simple or it may be malignant. And the practice differs with different surgeons. Some treat these as if they were frankly malignant, and perform the complete radical operation. Such a proceeding, as it leaves nothing to chance, may be condoned even if, in the majority of instances, it is unnecessary. Others remove the mammary gland alone, and submit the specimen to the pathologist for examination, being guided as to whether a subsequent operation is desirable or not by the result of the pathologist's findings. Probably this is the most satisfactory and most frequently adopted routine. Others, again, remove a small portion merely and have it examined there and then by frozen section, arresting the proceedings until the verdict is given. Granting that in the hands of an expert reliable indications may not infrequently be obtained, the histological pictures so revealed are always too crude for absolutely certain interpretation, and even with properly prepared paraffin sections the most experienced pathologists are sometimes unable to give a verdict one way or the other. This is not surprising, as there is no sharp demarcation between the simple and the malignant. If we could pick out with any degree of certainty or even probability the precancerous con-

ditions—that is, such as if left alone would inevitably become cancerous—surgical treatment would be infinitely more effective; but at present neither the surgeon nor the pathologist is in a position to do so. There are, to be sure, those who maintain that the condition generally called chronic mastitis is a precursor of, and frequently develops into, carcinoma; on the other hand, there are surgeons of considerable experience who hold that carcinoma is no more liable to arise in a breast affected by mastitis than in a mammary gland not so affected; and according to their opinions they remove the organ entirely, or only a portion of it, or even they may leave it untouched.

The term "chronic mastitis" is unsatisfactory, and a host of other names have been suggested; but still it has been sanctified by use, and to the clinician it connotes a fairly definite condition. To the pathologist, however, it is a very nebulous term, embracing practically every lesion which is neither an acute inflammation nor a true neoplasm, and he is further handicapped by the impossibility of choosing a standard for the normal breast of older women. In this field Sir Lenthal Cheate (whose address appears in this issue at page 5) has laboured for several years, to the advantage both of the surgeon and the pathologist. By his methods of large sections he has clearly demonstrated how extensive the pathological changes are in a breast which is the seat of cancer. In the same organ there may be all degrees of hyperplasia of the epithelium right up to malignant neoplasia. It is to these concomitant features, which were not realized until Sir Lenthal pointed them out, that one must look for a sure indication of the precancerous states, and it is interesting to note that he has found the same features in some cases that were considered to be chronic mastitis. If we understand him rightly, he does not insist that chronic mastitis is liable to become cancer, but that within the group of lesions to which that term has been applied there are a certain number which are essentially neoplastic. Whether these can be separated off by clinical diagnostic methods alone is doubtful, but it is only by the careful study of the "mazoplasia" that the pathologist may hope to gain a clearer appreciation of the nature of the precancerous stages.

### THE YOUNGER UNIVERSITIES.

Of the universities founded in England during the nineteenth century—a not inconsiderable achievement of that much maligned epoch—the majority grew out of or were preceded by a school of medicine. This is true to some extent even of London, though the foundation of that university was really a protest against the Test Acts by which at that time admission to the Universities of Oxford and Cambridge was limited. Durham is hardly an exception, nor is Sheffield, though before the institution of the university there the medical school was small. Manchester, Liverpool, and Bristol are not exceptions, nor is Leeds, and Sir Berkeley Moynihan has done well in his address, delivered during the jubilee celebrations, to recall some of the great achievements of the great men of the Leeds school. Their names we need not repeat; are they not to be read in the address published at page 36? They seem all to have been men of a certain sturdiness of mind and independence of judgement, a tradition which has been carried down to the present day. The "Heydays" of Leeds surgery began in the eighteenth century, and the first William Hey had the courage to challenge the supremacy of London, which was then the metropolis of surgery, owing

largely to the work of John Hunter's pupils, among whom, it is to be remembered, William Hey himself was numbered. Whether or not the late Mr. Pridgin Teale's boast that the Leeds Infirmary was the first hospital in England to put Listerian methods to the test is well founded (we fancy University College Hospital, London, must have run it very close), it is certain that some of the surgeons in Leeds very early appreciated the importance of Lister's theory and practice. One of Mr. Teale's contemporaries of whom mention is made in the address—Mr. C. G. Wheelhouse, a surgeon of much ingenuity and resource—was a strong friend of the British Medical Association; he was Chairman of its Council for three years (1881-83), and its President when it held its Annual Meeting at Leeds in 1889. The Leeds School of Medicine was founded in 1831, though teaching had been given in the town at an earlier date. The Yorkshire College was established as a college of science in 1874, and the two institutions were united in 1884. The united body formed a part of the Victoria University from 1887 to 1904, when the University of Leeds was founded by Royal Charter. It now has many faculties—arts, science, technology, engineering, commerce, and many subsidiary faculties—but the School of Medicine still maintains itself as one of the chief, as it is the oldest, of its departments. The laboratories of the University are bewildering in number, and not a few of them are related to the many industries of the industrial region of which Leeds is the centre. It attracts students from abroad, and altogether the number of those working for its degrees or diplomas exceeds a thousand.

#### A LISTERIAN ORATION OF CANADA.

LISTER is one of the immortals. Lord Rosebery many years ago devoted to the memory of Robert Burns one of the finest orations he ever delivered. In the course of it he conjured up a centennial roll-call of the men who have been regarded by their contemporaries as secure of immortality, and he speculated as to how many of these would, after hundred-year intervals, fail to answer to their names. But as regards his own hero, the ploughman poet, he prophesied that the *Adsum!* of Burns would sound clear and strong all down through the coming centuries. So it will be with the name of Joseph Lister in the list of benefactors of mankind. In the ranks of medicine, no more than Harvey or John Hunter does he need an annual oration to perpetuate his memory. But just as the pride and gratitude of the profession to which they belonged have led to the commemoration of these great men, so it is appropriate that Lister's services to humanity should be made the occasion of public oratory. Influenced by such considerations, there has been formed within the Canadian Medical Association a Lister Memorial Club, and Dr. John Stewart of Halifax, who was one of Lister's dresser-clerks, and who accompanied the master when he left Edinburgh for King's College, London, was appointed by the Council of the association to deliver the first Listerian Oration. The occasion was the annual meeting of the association at Ottawa, and the date June 18th, 1924. The oration has now been published as a special number of the Association's *Journal*, with an appropriate and appreciative foreword by Dr. A. D. Blackader. It constitutes a most suitable introduction to what will no doubt be a long series of deliverances on surgical work which would never have been done, and surgical problems which could never have arisen, had it not been for Lister. The orator begins with a brief account of his hero's early days, touches on his holiday studies in natural history and chemistry, his education in surgery at University College, his going to Edinburgh with the intention to stay there for a few weeks to see the practice of Professor Syme, and how that stay was prolonged for nearly seven years, his appointment to the Glasgow chair of surgery in 1860, his succession

to Syme in Edinburgh in 1869, his visits to the Continent and America, his transfer to the professorship left vacant by the death of Sir William Fergusson at King's College in 1877, and his gradual triumph over difficulties in the world-wide acknowledgement of the greatness of his work. But it is impossible to follow Dr. Stewart through his enthralling story, which combines personal reminiscences with sketches of the later events in Lister's career, and displays not only the qualities of the surgical scientist, but the high Christian character and personal distinction of the man. Dr. Stewart has indeed worthily inaugurated what will now become the stated annual celebrations of the great surgeon with whom he had the good fortune to be so closely in contact both as master and friend.

#### ANNUAL REPORTS OF MEDICAL OFFICERS OF HEALTH.

IN the days of the Local Government Board medical officers of health were accustomed to receive at the end of each year a memorandum from the medical officer of the Board with respect to their annual reports. The memorandum was couched in very general terms, although certain subjects were mentioned as to which it was desirable that detailed information should be given. During the years of the war the Board suggested that, having regard to the necessity for strict economy in the use of paper and in demands on printing establishments, the annual reports should be confined to statistical records and urgent matters which had affected the public health during the year. On the termination of the war the whole question of these reports was considered by the Ministry of Health, and, after conference with the Society of Medical Officers of Health in 1921, it was decided that a full and detailed report would only be required normally once in five years. In a circular (No. 540) as to the contents and arrangement of the annual reports of medical officers of health, issued on December 18th last by the Ministry of Health, it is intimated that the report for 1925 will be of this detailed character, or, as it is described, a "survey report." In this document the medical officer of health will be expected to deal comprehensively with the measure of progress made in the area during the preceding five years in the improvement of public health; with the extent and character of the changes made during that period in the public health services of the area; and with any further action of importance in the organization or development of public health services contemplated by the local authority or considered desirable by the medical officer of health. The report for 1924 is to be an ordinary report on the lines laid down by the Ministry in circulars issued annually during the past three years. The current circular is a revised edition of its predecessors, though the alterations and additions are, for the most part, not of primary importance. In paragraph 3 it is made clear that information should be given with regard to maternity and child welfare schemes and schemes for the treatment of tuberculosis or venereal diseases, and not merely with respect to centres or institutions. The Registrar-General will continue to supply, as he first did for 1923, information about the number of cases of certain infectious diseases notified during the year. Information is also asked for now with regard to the administration of the Milk (Special Designations) Order and the Condensed and Dried Milk Regulations. An important alteration has been made in the housing section of the appendix. Details are asked for as to the "Number of dwelling-houses which were rendered fit after service of formal notices" under Section 28 of the Housing, Town Planning, etc., Act, 1919, and of the "Number of dwelling-houses in which defects were remedied after service of formal notices" under Public Health Acts. The words in italics are introduced for the first time this year, and should assist in making the records of medical officers of

health more comparable than has hitherto been the case. A medical officer of health is required by the Factory and Workshop Act, 1901, to report annually on certain matters connected with the administration of the Act, and until 1920 the Factory Department of the Home Office supplied medical officers of health with a form (572) containing tables for their guidance in presenting information regarding inspections, formal notices, prosecutions, and defects found and remedied. This form has been reissued this year. A summary of these tables, which it may be expected will appear in due course in the report of H.M. Chief Inspector of Factories, will serve to emphasize the important position held by medical officers of health with respect to the sanitary conditions of factories, workshops, and workplaces.

#### THE DANGERS OF VERONAL AND ITS DERIVATIVES.

At an inquest held recently by the deputy coroner for West London with regard to the death of a lady, aged 41, Mr. John Webster gave evidence to the effect that death was due to veronal poisoning. Sir William Wilcox, who had seen the patient before death, said that the danger of the veronal group of poisons was not fully realized. This class of drugs ought to be made subject to the restrictions of the Dangerous Drugs Act; the number of deaths was greater than the Registrar-General's returns showed. A craving for this class of drugs arose if they were taken habitually, and a very definite form of mental deficiency, accompanied by delusions and inarticulate speech, might be produced. After a very large dose of veronal pneumonia supervened within about twelve hours. This is a point, we may observe, to which Sir William Wilcox called attention in a paper read at the International Medical Congress in London in 1913. At its meeting last month the Council of the British Medical Association had before it a communication from the Home Office stating that the Home Secretary had under consideration the advisability of bringing under the Dangerous Drugs Act the group of drugs derived from barbituric acid (veronal, propional, medinal, luminal, dial, etc.). A small informal departmental conference, attended by Sir William Wilcox and representatives of the Royal College of Physicians, held recently, suggested, we understand, that in the event of the barbitone group of drugs being brought under the Act the extent of the control should be limited to preventing their sale to the public except on the prescription of a duly qualified medical practitioner. The Home Secretary invited the Association to send representatives to a conference to be held this month to consider a draft Order in Council and draft regulations. The Council accepted the invitation, and nominated Mr. E. B. Turner, Chairman of the Medico-Political Committee, Dr. J. W. Bone, a member of that Committee who has given special attention to the Dangerous Drugs Act, and the Medical Secretary, to represent the Association at the conference. We publish elsewhere (p. 56) a pathetic letter from a member of the medical profession who has recently had a distressing experience of allonal.

#### AUTO-HAEMOTHERAPY AND SKIN DISEASES.

TRANSFUSION of blood (hetero-haemotherapy), which consists of the injection of the blood of one subject into another, has been known to medicine for nearly three centuries. Auto-haemotherapy, however, which is the reinjection of a certain quantity of the patient's own blood into himself, is more modern. Spiethoff of Jena first had the idea of treating certain dermatoses by the injection of the patient's own serum. It was later suggested by the French dermatologist Rarant that blood should be used instead of serum. Hebrant, Antoine, and Liégeois<sup>1</sup> have recently recorded the results of some interesting experiments on the skin diseases

of dogs conducted along these lines. Their technique consists in the aspiration of 1 c.cm. of citrate solution into a 10 c.cm. hypodermic syringe, which is then filled with blood drawn from the jugular vein. This citrated blood is injected subcutaneously in the costal region, or intra-arterially in the gluteal region. They do not attempt to explain fully the rationale of their method, but they think that it may be anti-anaphylactic in nature. Every anaphylactic reaction is the result of a previous sensibilization. In the case of a reaction with a cutaneous localization the toxic substances reabsorbed in small doses have the effect of the preliminary injections. Normally these reabsorbed doses are dealt with by the liver and other organs. When their functions are in abeyance an anaphylactic shock is set up, which, although far removed from the skin, has nevertheless cutaneous localizations (vaso-dilatation, urticaria, pruritus). If this is so, auto-haemotherapy may be considered to be an anti-anaphylactic method. Hebrant and his associates conceive this action as a form of protein therapy, depending on the production of a protein shock (without preliminary sensibilization), the manifestations of which are confined to the blood stream. The parenteral introduction of a non-specific protein brings about a physical modification of the complex blood colloid (colloidoeclassia). The reinjected blood has not the same physical nature as it had before being drawn: its mixture with the citrate solution, contact with the walls of the syringe, and cooling, have rendered it a different colloid as compared with the circulating blood, which is thus returned to its normal state. This supposition seems to be pure hypothesis, and further work is needed for confirmation. These workers claim to have treated successfully a number of cases of eczema, alopecia, and pruritus by this method. They conclude that auto-haemotherapy is indicated in the case of all non-toxic and non-parasitic pruritus, and that it is a valuable adjuvant in chronic, but not in acute, eczemas in the dog. Panisset and Verge<sup>2</sup> had previously arrived at similar conclusions. On the other hand, several observers have found that this new therapeutic measure has little or no effect, so further developments will be awaited with interest.

#### ENZOÖTIC JAUNDICE IN DOGS.

CANINE enzoötic jaundice is a very common disease in this country, as elsewhere, and causes considerable losses to dog breeders and masters of hounds. Until recently comparatively little was known about it, and, indeed, most people considered that it was merely a variety of distemper. It is characterized by the production of a large amount of haemoglobin in solution, with the consequent clinical picture of jaundice. Other symptoms are vague, sometimes there are none, and the lesions are far from constant; accordingly diagnosis is very difficult. In the last few weeks, however, Okell, Dalling, and Pugh have been able to demonstrate that the disease, like that sometimes, in man, called Weil's disease, is caused by *Leptospira icterohaemorrhagiae*, a spirochaete normally attacking rats. Presumably the disease is transmitted to dogs by the bite of infected rats—a presumption which is supported by the fact that jaundice is commonest in pups of hunting and terrier breeds. The disease in man has excited the interest of many workers, and a serum has been prepared from horses which has been found to exercise a considerable prophylactic and curative action in dogs. So far no human cases have been found associated with the disease in the dog, but the possibility of infection of man from this source cannot be altogether ignored. The connexion between enzoötic jaundice and canine distemper is a very vexed question. It is often very difficult to separate them on clinical grounds, and hitherto laboratory diagnosis has not been possible. The opinion is gradually gaining ground

<sup>1</sup> Ann. Méd. Vét., 1924, pp. 305-12.

<sup>2</sup> Rev. Gén. Méd. Vét., October, 1923.

that distemper is not a single clinical entity at all, but may consist of a number of different protozoal and bacteriological diseases. The whole question, however, becomes more complicated as fresh facts are discovered. It will be remembered that the Medical Research Council undertook the study of distemper, not only to help to elucidate the canine problem, but in order to accumulate data for the study of human infections suspected to be due to so-called ultramicroscopic virus. The disease is one of such importance that we hope the lack of immediate success indicated in the interim report of last spring will not discourage those engaged in the inquiry.

#### TUBERCULOSIS REGULATIONS.

THE compulsory notification to a medical officer of health of cases of tuberculosis came into force in England and Wales in 1909 under regulations made by the Local Government Board, the application of which was limited to cases of pulmonary tuberculosis occurring among Poor Law patients. A few years later this limitation was removed, and since February 1st, 1913, it has been the statutory duty of every medical practitioner to forward to the medical officer of health certain specified particulars of all cases of tuberculosis—pulmonary and non-pulmonary—attended by him. The medical officer of health is required to keep a register of the cases notified to him, and to take steps to make it a correct record of the number of persons in his district who are suffering from tuberculosis. Notification certificates wrongly addressed to him must be sent by him to the appropriate district, and at least once every three months he must revise the register by erasing the names of deceased persons and of those who have removed from his district. In many districts difficulties have arisen in keeping a sufficiently correct register to render it of much use for statistical purposes. On the one hand, a certain proportion of cases are not notified and so do not get on the register, and, on the other hand, names are left on the register which should be expunged. In the first category are patients attending a dispensary who escape notification because the tuberculosis officer thinks a notification certificate has already been transmitted. In a circular (549) recently addressed to sanitary authorities in England by the Ministry of Health the opinion is expressed that a tuberculosis officer should immediately notify each case in which he diagnoses tuberculosis unless he ascertains definitely that a practitioner has notified, or will notify, the case. In the second category are those who have died or who have removed from the district, and those in whom the diagnosis of tuberculosis has not been established or are said to have been cured. The name of a deceased person may be kept on the register because, quite legitimately, his death has been certified as due to some other cause. With a view to minimizing this source of error the Ministry of Health, in a circular (549A) recently addressed to county councils and tuberculosis joint committees in England, suggests to those bodies that their medical officers should communicate to medical officers of health any information they may have as to deaths or removals. As regards cases the diagnosis of which has not been established, the Ministry considers that no case should be removed from the register except with the assent of the notifying practitioner unless he is no longer available for consultation. The views of the Ministry as to cured cases are important. They are "that the removal of a case from the register as 'cured' is justified in pulmonary cases in which for a period of five years there have been no symptoms of tuberculosis and no signs of tuberculous disease, except such as are compatible with a completely healed lesion, and sputum, if present, has been free from tubercle bacilli; and in non-pulmonary cases in which three years have elapsed without any signs or

symptoms of active disease." In order still further to assist in an accurate compilation of the tuberculosis register the Public Health (Tuberculosis) Regulations, 1924 (England and Wales), have been made by the Minister of Health, and they came into operation on January 1st, 1925. They require the medical officer of health to furnish the county medical officer of health at the end of every quarter with a statement showing the number of cases, distinguishing between males and females and pulmonary and non-pulmonary cases, on the register at the commencement of the quarter, the number notified and removed from the register during the quarter, and the number remaining on the register at the end of the quarter. As regards the removals from the register, the names and addresses of those removed must be given, and the reason for the removal.

#### THE WALLER MEMORIAL.

AUGUSTUS WALLER died in March, 1922, and his wife, whose fatal illness began before his sudden death, did not long survive him. As Sir Edward Sharpey-Schafer said at the meeting to inaugurate the memorial fund, Waller's physiological work was extraordinarily original and always accurate, even when working over new ground; his wife was a perfect helpmeet, taking the most lively interest in his work and habitually acting as one of his assistants. A desire to commemorate their lives arose in the minds of physiologists and their many friends, and it was natural to propose that the memorial should be associated with the London School of Medicine for Women, for Waller had been at one time lecturer in physiology there, and his wife was first a student, then demonstrator, and later a member of its council until her death. A sum of £2,000 has been subscribed by 206 donors, and has been paid over to the council of the school to invest, and to apply the interest for purposes of scientific research, to which both Waller and his wife owed lifelong devotion. Waller was for nineteen years lecturer in physiology at St. Mary's Hospital Medical School, London, and a further sum of about £105 has been subscribed towards a memorial to Waller in that school, to take the form of a Waller research room. As the larger scheme has clearly appealed more strongly to the friends of Dr. and Mrs. Waller, it may be necessary to reconsider the proposal with regard to St. Mary's Hospital Medical School, and in that event the donors will be consulted as to the best method of applying the money they have subscribed.

#### THE TEAM SYSTEM IN PHYSICAL TRAINING.

THE Board of Education has issued a circular<sup>1</sup> containing suggestions intended to supplement the notes on the "team system" contained in Appendix B of the Board's Syllabus of Physical Training, 1919. The team system is the name given to a method of organizing a class in teams, which work together under their leaders in games and exercises, and compete with other teams. Physical training through team work combines healthy individual exercises with the education of the children to become members of society. Organized team games provide an outlet for the spirit of competition and an opportunity for correcting the extravagance of individual competition by subordinating it to the social spirit. In order that competition may have a social value it should have a co-operative basis, and the competing unit should, therefore, be the team and not the individual. The quality rather than the actual result of each competitor's efforts becomes the standard of value. The less capable are encouraged by the thought that their efforts are of service to the remainder of the team, while the more highly endowed realize their responsibility to give of their best for the common good. Suggestions are given for the introduction of the team system into all but the smallest rural schools.

<sup>1</sup> London: H.M. Stationery Office. Price 1d. net.



## THE CONTRIBUTIONS OF LEEDS TO SURGERY.

AN ADDRESS DELIVERED AT THE COMING OF AGE OF THE  
UNIVERSITY OF LEEDS ON DECEMBER 8TH, 1924,

BY

SIR BERKELEY MOYNIHAN, Bt., LL.D.

The craft of surgery is as old as mankind. The earliest human remains show that the art of the surgeon had been practised upon them. Among the hoary superstitions by which men have always been beguiled, that which is concerned with belief in the "possession" of the human body and mind by demons is perhaps the most interesting. The ancient rites practised for exorcism have survived to the present day. In the *Yorkshire Evening Post* of August of this year an account appeared of the casting out of devils from a young girl in Tuscany. For the relief of this malady of "possession" the aid of the surgeon was not infrequently invoked in prehistoric times. Wherever skulls of the Neolithic period have been discovered, openings made by the trepan have been found in them. The apertures are not due to accidents after death, for the shape of the fragments removed is always similar, the parts of the skull in which they are found are often the same, and the edges of the gap show that the discs of bone must have been removed during life, for healing had clearly taken place. The piece of bone removed in this way was worn as an amulet. It is interesting to learn that the operation of trepanning is still practised in the ancient way, to permit the escape of evil spirits confined within the skull, by the natives of New Ireland, to the east of New Guinea. Of no art, then, are there more ancient records than of the art of surgery.

Many of the diseases for which the aid of surgery now is asked are as old as human history. In the bodies of the mummies found in Egypt evidences of gall stones, of appendicitis, of tuberculous disease of the bones, including the spine, of sarcoma of bone, are plain to be seen.

The science and the art of surgery owe their twin birth to Hippocrates, under the fertile inspiration of the Socratic philosophy. His power of accurate observation, combined with ingenuity and integrity in the exercise of the faculty of reason, have rarely, if ever, been surpassed by any man. So vast was the range of his observation, and so amazingly accurate his comments, that the minds of many generations of his successors were fully occupied in the consideration of the intellectual legacy he had bequeathed to them.

It was not until centuries later that Galen, a vain, ambitious, garrulous, and rather quarrelsome man, brought experiment to bear upon the problems of physiology and of medicine. As Hippocrates was the parent of inductive reasoning, so was Galen of the deductive method. Galen's experiments were, of course, confined to the bodies of animals, and it was by "analogy" that he applied their results to the bodies of men. Though he was the first of experimenters, he asserted that speculation should lead experience. If his reasoned conclusions were not supported by experiment it was because the experiment was fallacious. Yet no man has dominated the mind of the world for so long a stretch of time as Galen. For 1,500 years his authority was unchallenged. Men sought for all truth, and for all experience, not in the study of the living patient, but in the writings of this dead philosopher. The Fathers of the Church have never had their writings more implicitly accepted, their doctrines more loyally observed, and their errors more confidently believed, than these Fathers of Medicine, Hippocrates and Galen. For nearly 1,500 years the writers on medicine preserved with reverence the old tradition and the ancient knowledge; they discussed every device and at interminable length they elaborated the meanings of the old scriptures; they tortured new meanings out of old phrases; they were diligent in dressing old words anew, and their scholarship was judged by their ingenuity and infinite prolixity in so doing.

From the long slumber of nearly 1,500 years medicine was awakened by William Harvey. The influence of great teachers in inspiring great students was never more happily

shown than when the great anatomist Fabricius became the lodestone that attracted Harvey to Padua. The discovery of the circulation of the blood, a discovery on the very edge of which so many men had trembled, is the great glory of English medicine. But it was a discovery made possible by the example and the encouragement of a great teacher. Harvey was often wearied and despondent. He found the tasks upon which he laboured so arduous and full of difficulties that he was tempted to think with Fracastorius that the motion of the heart was only to be comprehended by God. The discovery has been claimed for many men and many countries. But a strict examination of the evidence leaves no doubt that Harvey's claim is now beyond dispute. The unhappy Serretius had recognized the existence of the pulmonary circulation, and was in consequence burned as a heretic, with all his works, by Calvin, at Geneva in 1553. To controvert the teaching of Hippocrates and Galen was not error only, it was heresy. It required a rare and reckless courage for Henry of Mondeville to say that "God did not surely exhaust all His own creative power in making Galen."

Harvey, Galileo, Bacon, Gilbert, physician to Queen Elizabeth, confirmed in their several ways the value of experiment in research. But the method was to find, as yet, no place in surgery, for the foundations of surgery were not yet laid. No knowledge existed as to the nature of the diseases by which man was so grievously afflicted. The morbid appearances of the organs, the processes by which they were attacked and laid waste, were almost unknown. It is due to Morgagni, and to our own John Hunter, that this defect was made good. The science of pathological anatomy was founded by them, and their investigations were carried so far that, nearly a century and a half later, we may still read their works with advantage.

The first of the surgeons in Leeds was a pupil of John Hunter. William Hey was one of the founders of the Leeds General Infirmary in the year 1767. At the age of 14 he had been apprenticed to Mr. Dawson, a surgeon of Leeds, much against his own inclination, for he wished to follow the sea. He studied at St. George's Hospital, and so proper was his conduct, so high his intelligence, and so assured his future, that a gentleman offered him his daughter in marriage. Hey, it is said, gave "the same prolonged consideration to this suggestion as he was accustomed to give to all matters of importance," and declined the offer. When he returned to Leeds to practise surgery the outlook seemed unpromising. Mr. Lawman, the chief surgeon of Leeds, had only once operated for the stone, and had only once amputated a limb. In the year 1767 Hey performed each of these operations four times. In the years 1800, 1803, 1805, and 1809—the Leeds General Infirmary being, as now and always, in want of funds—he gave anatomical demonstrations upon the bodies of criminals, and handed the funds over to the Infirmary. As we look back and endeavour to measure the value of the work done by the pupils of Hunter, we may safely claim that Hey was not inferior to any of them, not even to Abernethy or to Astley Cooper, the handsomest and most popular surgeon of his time. London was then the metropolis of surgery. Hey was the first to challenge this supremacy.

The eponymous contributions of William Hey to anatomy and to surgery outnumber those of any surgeon. There are two "Hey's amputations," one in the foot and one in the leg; a "Hey's ligament"; "Hey's hernia"; "Hey's internal derangement of the knee"; the "fungus haematodes of Hey"; and "Hey's saws" are in use to this day. Hey founded a dynasty of surgeons. His son William Hey, and his grandsons William Hey, Samuel Hey, and Edward Atkinson, who served in the Crimea, were all surgeons to the Leeds General Infirmary. His great-grandson, Dr. Wawn of Ilkley, was a student of the school. Hey was a close friend of Priestley, and their amity was undisturbed by their not infrequent theological controversies. Hey died in 1819 of diverticulitis of the colon.

The names of two great surgeons of the days contemporary with the "Heydays" of Leeds surgery have survived. Samuel Smith (1790-1867) was held in most affectionate remembrance by Mr. Teale and Mr. Jessop, who regarded him as the most "common-sense man" they encountered in their younger days. He was surgeon to the Infirmary for forty-five years, in general practice; and he

lectured for thirty-five years on midwifery at the hour of 7 a.m. A widow, anxious as to the engagement of her only daughter to a youth with whom she was unacquainted, took counsel with Sam Smith, and confessed her ignorance of the tests to which the youth should be submitted. "Invite him to breakfast," said Sam Smith, "and if he eats a good meal you may safely allow him to marry your daughter." A letter is extant in which he invites a colleague to breakfast at 5.30 a.m. He was a pioneer in the operation of excision of the astragalus; and his portrait in the board room of the Infirmary will keep this claim for ever before our eyes. He seems to have been every man's friend.

Thomas P. Teale (1801-1867) was the son of a successful Leeds practitioner. He was trained at the United Borough Hospitals, and qualified in 1823. He was elected surgeon to the Leeds Dispensary in 1824, and to the Leeds General Infirmary in 1833. He served for thirty-one years. Like William Hey the first, he had lost one eye in childhood. He excelled in the operations for stone, lithotomy as well as lithotomy, and in plastic surgery. He was active in inquiry and research, and he was eager in pursuit of new plans of treatment. He enriched our museum. He was zoologist as well as geologist, writing lengthy papers on each subject; and salmon fishing was the recreation in which he, like many other members of our staff, excelled. He invented a new method of amputation, which to this day is known as "Teale's amputation," and is practised more often than its merits deserve. The reasons which made it so successful in the old days hold good no longer; and the long anterior flap is wasteful. Teale also wrote a treatise on hernia, a sound textbook much quoted in its day. He was a Fellow of the Royal Society, and one of the founders of the Leeds Philosophical and Literary Society.

Throughout all these centuries, from Hippocrates to Hunter and to Hey, the lot of the individual patient was, however, not very greatly improved. More, far more, was known of the causes, symptoms, and morbid processes of disease, but in direct consequence of all this little advantage came to the patient. An operation practised for the relief of any disease was attended by a mortality almost prohibitive, and by a delirium of pain that only the stoniest hearts could face unflinchingly. Anaesthesia, whose merciful discovery we owe to Morton of Boston (October 26th, 1846), robbed operations of their most menacing terrors, but many survived the operation only to perish quickly from its effects. And the effects were terrible beyond belief. A visitor to Paris during the Crimean war wrote: "We can recognize at a distance a surgical hospital owing to the stench of the human putridity it contains." Bell of Edinburgh spoke of a hospital as a "house of death." The death rate from all surgical conditions was very high: the simplest procedures, carried out with superb craftsmanship, became deadly because of that infection in the wounds which nothing seemed able to prevent or to control. And then Lister came and all was changed.

It is perhaps impossible for the surgeons of to-day to realize the magnitude of the change that has come over surgery because of the work of this one man. Operations which were attended by a prohibitive mortality are now performed without a thought of mischance; and operations then beyond the power of the most reckless to imagine are matters now of everyday routine. Lister made the old operations safe and the new ones possible. And I have made the claim for him which understates the truth, that he has been the means of saving more lives than all the wars of all the ages have sacrificed. Leeds at this moment, too, had its standard-bearer in the new great fight that was to be waged against diseases hitherto unassailable. Thomas Spencer Wells (1818-1897) was a student of the Leeds School of Medicine, acted as an unqualified assistant to a parish surgeon, and attended the lectures of William Hey the second and the elder T. P. Teale. He had been apprenticed to Dr. Michael Thomas Sadler of Barnsley, nephew of the distinguished author of that treatise, *On the Law of Population*, which attracted the attention of Macaulay. After qualifying, Spencer Wells served in the navy until the age of 30, when he retired and went to London to practise. In the year 1854 he assisted Baker

Brown to perform the operation of ovariectomy; both were discouraged by the death of the patient. In January, 1855, Spencer Wells sailed for the Crimea, and there learnt that "a man's abdominal walls might be lacerated by fragments of shell, his intestines protrude for hours till they were covered by dirt, and yet that after careful cleansing of the cavity and accurate closing of the wounds complete recovery was possible."

In 1856 Spencer Wells returned to London, and in December, 1857, attempted his first ovariectomy; the patient died. The second patient, operated upon in February, 1858, happily survived, and so the way was opened for the intrepid advance which Spencer Wells was eager to make. His success was almost incredible, having regard to the fact that his early operations were performed before Lister's work began, and that the opposition of his colleagues was unrelenting. The moral courage required to persist in his efforts may be inferred from the opinion expressed by the most influential medical review of the day, that the operation was one which, "though it may excite the astonishment of the vulgar, calls neither for the knowledge of the anatomist nor the skill of the surgeon," and that "when-ever an operation was performed so fearful in its nature, often so immediately fatal in its results, a fundamental principle of medical morality is outraged." Wells, undismayed, pursued his course, telling with perfect frankness the story of his successes, and of his failures, and at last led the medical profession to recognize the value of his work. He was the great pioneer in all the stupendous advance that the art of surgery has made in the last fifty years. Ovariectomy being made safe, other abdominal operations were attempted, and error in diagnosis was not without its value. Spencer Wells, in operating upon a case of "ovarian cyst," found that the fluid was free in a peritoneal cavity whose walls were studded with tubercles. And the surgical treatment of tuberculous peritonitis was inaugurated at that moment. In operating in 1887 upon a young girl, jaundiced from her birth, for the removal of a "fibroid tumour of the uterus," the tumour was recognized as an enlarged spleen. With the quality so characteristic of Leeds surgery of meeting a difficult situation with courage and ready resource, the spleen was removed. The jaundice soon disappeared, and a new chapter in our knowledge of splenic disease was opened, and for the first time a patient suffering from haemolytic jaundice was cured.

The minds of men are too often repelled by novelty. It is perhaps not so much the new thing as the new-fangled thing which excites opposition. And of opposition Lister received full measure. His theory and his practice alike were new-fangled, and the assaults upon both were vicious and unrelenting. The attitude taken by the surgeons of Leeds is interesting. The older men were sceptical as to the truth of Lister's teaching: the younger discussed it with enthusiasm, tested it, proved it, and applied it. The fierce opponent to it was Thomas Nunneley (1809-1870). After he was qualified Nunneley went to Paris "to increase his professional knowledge." On his return he applied for the post of house-surgeon at the Leeds General Infirmary, and was not elected. He realized at this time that there was an opportunity for the practice of ophthalmic surgery in Leeds, and he applied for, and obtained, the post of surgeon at the Eyo Hospital, and for twenty years worked in Leeds with "eminent success." Then in 1864 he was appointed surgeon to the Leeds General Infirmary. His most important work was *An Essay on Erysipelas*, published in 1831, and again in 1841. In 1869 he delivered the annual address in surgery before the British Medical Association. The address occupies thirteen pages of the JOURNAL. It is well written in a vigorous, graceful, if rather ornate, style; but it contains a bitter attack on the methods of Lister. Allusion was made to the practice of his colleagues and their application of the principles of the antiseptic treatment, and Nunneley asserted that "for every successful case that they could show with it, he could show as good a one without it." He then went on to say that lately the omission of the treatment, even in large operations, had been more and more frequent, until its use had become the exception instead of the rule—

a change which, had "any marked benefit resulted therefrom, most certainly would not have happened." Now this was carefully calculated to wound the members of the staff. For, as Mr. Pridgin Teale always assured me, the Leeds Infirmary was the first hospital in England to put the practice of Lister to the test; and the improved results from it, even in its crudest forms, convinced the staff of the accuracy of the hypothesis upon which it was based. A flat denial of Mr. Nunneley's statement followed. A letter from Mr. Teale to Mr. Lister was published three weeks later in which it was categorically stated that "Mr. Nunneley was in no sense justified in making such a statement; we still use and have as much confidence as ever in antiseptic treatment," and that "any want of success in our practice may fairly be attributed to imperfections in carrying out the rules." Mr. Nunneley, though urged by his friend to retract, made no reply. Nunneley was the author of an operation for cancer of the tongue which bore his name (BRITISH MEDICAL JOURNAL, 1866, ii, 493). It was certainly the quickest, neatest, and safest of all the operations practised in that day. My father-in-law, Mr. Jessop, was apprenticed to Mr. Nunneley. I have heard much of those times in many talks. Mr. Nunneley was a man not without ability of the ready-witted kind. It is interesting to remember that he appeared in defence of Palmer, found guilty of poisoning Cook by strychnine in 1856.

His son, John Nunneley, was ophthalmic surgeon to the Leeds General Infirmary, and in his earlier days demonstrator of anatomy at the school. Infinite reiteration was the secret of his success as a teacher. I can still hear him say, "The cribriform fascia, gentlemen, the cribriform fascia is the deep layer, the deep layer of the superficial fascia; the deep layer is the cribriform fascia, the deep layer of the superficial fascia." He was a silent, reserved man, and an excellent chief for whom to work. I was his dresser and enjoyed my days with him, and learnt much from him.

Surgery was now equipped for its great adventure. The science of pathological anatomy had established upon the only sure foundation our knowledge concerning the morbid processes responsible for the symptoms of which a patient made complaint and for the signs which were disclosed when an examination was made. Treatment could therefore deal with structural changes which had been carefully studied. Operations were rendered painless by anaesthesia, and safe by the application of the antiseptic method. The advance that surgery has made in its relief of human suffering, and the prolongation of human life, is incomparable. Nothing that has happened in the world since the birth of time has meant so much in matters of human happiness and welfare. What is the part that Leeds has played in all this great revolution? At the time when Lister was introducing his methods Mr. Wheelhouse (1826-1908) and Mr. Teale (1832-1923) were surgeons from 1864 to 1884. Both contributed new thoughts and new methods to surgery. None of us who knew Mr. Wheelhouse are ever likely to forget him. He was the most punctual man alive. Arriving at the Infirmary less than one minute before eight in the morning, he raised his hand to arrest the porter hastening to sound his bell, and admonished him to wait for the town-hall clock. His bell and the hour struck together. His demeanour was of the most solid gravity; his speech slow and of a solemnity that made one listen with awe to the emphatic announcement of the time of day or the state of the weather. I heard him speak also at medical meetings. What he said seemed, as one afterwards recalled it, to contain no message of any value, but one almost held one's breath as one listened to its massive and deliberate utterance. I saw him operate on a few occasions only; he moved, as he spoke, with the utmost deliberation and emphasis. On one occasion I helped him in a very minor biblical operation. I gave the baby chloroform and assisted at the same time. The operation was done in the ward, and as he walked away with the same brooding sense of the vast and profound significance of every act, I listened to a minutely detailed account of the difficulties that had been encountered in this very operation; of cases in which the operation, full of hazards, had

been abandoned by no less a man than Tom Nunneley; and of the deaths that had followed upon delayed hæmorrhage. By the time we stood upon the doorstep I was the victim of a profound nervous exhaustion, and I felt that the least I could do, in view of the threatening dangers ahead of me, was then and there most solemnly to vow that never would I suffer my own slender skill and my unripe experience to embark upon so menacing an operation as that which I had just witnessed.

Once as I walked past the theatre door with him he asked who was operating. I said "Mr. Teale; and the operation a lithotomy." He stopped at once, and with a gentle push upon my arm he bade me enter the theatre and watch "the most beautiful little hands in England" at work. The description was not, I think, inaccurate. Wheelhouse's originality was shown in his suggestion of a new method for dealing with stricture of the urethra. "Wheelhouse's operation" is known to this day, and if not practised with such frequency as formerly it is because the conditions requiring it are prevented by more careful treatment of the disease in its earliest stages. Mr. Teale and Sir Clifford Allbutt formed the first alliance known to me in this country. They were the pioneers of "team work." Sir Clifford, the most deeply learned physician of this day, master of a style of English which for sheer beauty and majesty is perhaps unmatched by that of any scientific author of our generation; an orator whose speech makes Time seem hasty; a cultured, upright, English gentleman, is the pride of the school he served so long and loves so well. Mr. Teale was the authentic product of Winchester and Oxford, and I know nothing better than that. He was the flawless example of intellectual and moral integrity. He was modest, cautious, reserved; free from any jealousies, ready with words of encouragement, and an occasional word of praise. He had not a creative mind, and we owe no large conceptions to him. His advances were slow but well assured, and he had never to turn back. He gave the utmost devotion to any subject which engaged his eager attention, and though conclusions were slow in finding expression, they became articles of steadfast faith with him. He preached a very noble gospel. The estimate which Mr. Wheelhouse made of his technical skill was not over-generous. He had the faintest hands, the gentlest touch, the most sensitive movements. He was the first to deal with "serofulous glands." When in London he was a pupil of Sir William Bowman. Up to the end of his active life in surgery he operated upon ophthalmic cases, and he devised a new method for the extraction of cataract.

He was a pioneer in domestic sanitation, and his book on *Dangers to Health* became a classic. For his work on hygiene he was made F.R.S. I learnt much from Mr. Teale, for whom I had a deep affection. He was a most comely, truthful, upright gentleman—a man who honours his calling, and whose noble example is not soon forgotten.

Mr. Jessop (1837-1903) was beyond question the most popular practitioner in Yorkshire for a quarter of a century. His experience was gigantic, in medicine no less than in surgery. He was in general practice during the whole of his period of office as surgeon to the Leeds General Infirmary (1870-90), and his consulting practice was almost as large on the medical as on the surgical side. He was the greatest man I have ever known in our profession, for to his massive qualities of intellect he added a grandeur of character unsurpassed. Though I knew him as well as any man, I never heard a heartless word or an ungenerous estimate pass his lips. But his silence could be full of awe; and when need arose he could denounce with devastating emphasis the acts or the qualities he believed to be evil. In his examination of a case he left nothing undetermined; he was methodical, comprehensive, and deliberate. That completed, he would discuss the diagnosis, or the treatment, with the utmost circumspection; nothing in the history or in the signs had escaped him; there was never a need to look again or to feel again. Every detail was remembered and its value measured. All men considered his judgement as the final one, and popular sentiment was not alone in feeling that if Mr. Jessop had not seen a case there still remained something to be done, and

a gleam of hope was still to be found even in the gloomiest outlook. He was indisputably the best, and the safest, operator on the staff. He had developed a technique which for those days was good. His hands were strong, gentle, yet compelling. He was imperturbable. No crisis—and there were such events in his time—ever disturbed his perfect tranquillity of speech or action. He never knew the name of any assistant or house-surgeon, and addressed everyone as "Mister." This became in time his own title, and as "Mister" he was known to many generations of students and residents, who regarded him with the deepest admiration and respect, and with, perhaps, a shade of fear. He, too, was a pioneer. He recorded the first case of successful extirpation of a growth in the kidney in this country, and the first case in which an operation upon a patient with advanced extrauterine gestation saved both mother and child. He was vice-president of the Royal College of Surgeons in 1901.

The greater number of the Leeds surgeons have been home-grown products, trained at the Leeds Infirmary; a few have been imported. The greatest of the foreigners was A. F. McGill, a nephew and godson of Sir William Fergusson. He had the widest vision and the clearest intellect of any member of the staff, and his dexterity, on his best days, was unsurpassed. He had his bad days, too, and it did not take long to discover that these were warnings that the diabetes, from which, with other members of his family, he had long suffered, was beginning to murmur the most ominous threats. He will, of course, be forever remembered as the pioneer in prostatectomy. His first operation was performed in March, 1887. At that time I was his dresser, and by a happy chance was acting as his house-surgeon. A patient with a tumour in the bladder came to his wards, and an operation revealed a projecting mass near the internal meatus of the urethra, which was removed. In those days the house-surgeon cut all sections for his chief. When I examined this tumour I found it was prostatic, and, with a little gloom at the chance to score off my dear master, I met him in the entrance hall the next morning. He asked after the patient, and I said he was doing well, and that the "tumour" he had removed was a part of the prostate. "Oh, was it," said McGill at once, "then why don't we always take the prostate out?" At the British Medical Association meeting in Leeds in 1889 he showed a number of patients, old men seated in a row, each holding his prostate in the jar which still contains it to-day. The question of priority in the performance of prostatectomy has raged fiercely, but no serious controversy is possible. McGill's specimens are as he left them, and they show that from nibbling operations be passed to enucleations, until, at the last, the whole prostate, with a part of the prostatic urethra, was removed exactly as it is done to-day. McGill was a pioneer, too, in gall-bladder surgery, but a most untimely and deeply lamented death prevented his marching with Mayo-Robson along this road which has led to such new and fertile fields.

The surgeon who came at the most pregnant moment and made the fullest use of his opportunities was Mayo-Robson. From McGill, whose dresser I was, and from Mayo-Robson, whose house-surgeon I became in October, 1887, I learned the rudiments of all I have ever known of surgery. Mayo-Robson had been a great prize-winner at the medical school, and he regarded me, I think, with favour from the first because in this direction I had shown a greed hardly inferior to his own. He was never a resident officer, and on joining the staff, he has since told me, he was "very raw." But he had an unquenchable zeal for work, a most acquisitive and retentive mind, and a skill of hand and of eye that made him then a marksman of almost the very first rank and a fisherman of the greatest repute. Coming into surgery at the birth of a new time, Mayo-Robson used the methods of Lister to explore regions of disease which had never yet suffered deliberate assault during the life of a patient. He carried a stage further the work of Spencer Wells and of Lawson Tait on pelvic diseases, and, becoming daily more practised in his art, began to explore the upper regions of the abdomen also. After Lawson Tait had inaugurated the surgery of the gall bladder, the greatest advances made in

our knowledge of cholelithiasis and of its treatment were his. His work on diseases of the stomach surpassed that of any other man of his time. He added greatly to our knowledge of diseases of the pancreas. I thought then, and I am certain now, that in his day there was no surgeon in the world safer than he. His mind was original; he was quick-witted to an amazing degree, seeing in new discoveries an immediate application to some problem or another in surgery; he was as dexterous, as gentle, as accurate in every movement as any man I ever saw; he had an earnest and unwearied desire to help his patients to the utmost of his powers. Perhaps he was not altogether free from the faults of the pioneer and enthusiast. He was a little inclined to make little of his mistakes, or to think that another's share in the work had perhaps been a shade less conscientious than his own. The generous word of encouragement, the word we are all of us the better for hearing on due occasion, did not often pass his lips. During the war he gave noble service to his country: his industry, his devotion, and his great surgical experience were most bountifully given to our troops. The high reputation the Leeds School of Medicine already enjoyed was beyond question greatly advanced by the writings and the work of Mayo-Robson.

Of Edward Ward, an artist among surgeons, and an inspiring teacher, I have so recently written that I need add nothing to-day. He devised an operation for the excision of the larynx, which he practised with a degree of technical skill, and an exquisite perfection of design, that were unsurpassed; and his name is still attached to the single stitch by which the operation of colotomy may be completed.

War is a great testing time, of nations as of men. The tale of the doings of the men of Leeds during the world war has been fully told by W. H. Scott. All the members of our staff, of course, gave loyal and continuous service. Harry Littlewood (1861-1921), as administrator of our 2nd Northern General Hospital, proved himself as competent in the direction of the manifold affairs of that office as he had been skilful and sagacious as a surgeon. Of him, too, I recently wrote in the *Yorkshire Post* at the time of his death, which, as all of us realize, was in no small degree hastened by the intensity of his unremitting devotion to duty during the busy days of war.

As we look back, then, upon the first century and a half of the work of our forebears in Leeds we may in all modesty claim that their achievements are not inferior to those of the staff of any hospital in this country. In range of vision, in the subtle invention of new methods, in the skilful moulding of new practice, they have played a worthy and, at times, a very distinguished part. It has not been our fortune to own a Lister, a Hunter, or a Victor Horsley; the highest pinnacles of all have as yet been denied to us. But among those who cluster round the greatest heights the figures of more than one of our surgeons may be clearly discerned. We of the present time have come into a great inheritance which is not ours to squander or to dissipate. Earnestly must we strive to add something—something of our own, however humble. Perilous as it may be to say so, I believe that the paths which we now follow have been explored nearly to the end. The methods of surgery can scarcely be made more safe than they are to-day. Operations of the utmost severity are performed by the great masters with an absence of risk that leaves little hope of betterment. The chief risk in surgery to-day comes from delay. But though as a measure of therapy the surgical art has now approached perfection, as the handmaid of medicine, as an instrument of scientific research it has still very much to do. Immense though its achievements in this respect have been, we need in these days a broader method. Experimental research, in spite of its occasional fallacies, must march along with us, and the mass of evidence afforded by our surgical work must undergo a wider and closer scrutiny. Clinical and experimental research we needs must have, both extensive and intensive. These are functions of a university, and to our own university we have but now made our plea. When our centenary is celebrated I pray that the speaker who will then take this place of mine may be able truthfully to claim that, great as were the achievements in the early days of our School of Medicine, they have been far surpassed by the labours of our successors.

## Nova et Vetera.

JOHN FREIND.

No English physician is securer of immortality than John Freind, and yet to those critics who, like the old Science and Art Department, pay by results, his claims to remembrance may seem very modest. Munk did, indeed, quote an "authority" who proclaimed Freind's *Emmenologia* to be "admirable for the beauty of its style, the elegant disposition of its parts, its wonderful succinctness and perspicuity, and for the happy concurrence of learning and penetration visible through the whole." But it is not probable that a modern reader will be greatly impressed by the acumen which finds a sufficient explanation of the menopause in the increasing rigidity of the fibres of the uterus and the cicatricial occlusion of the capillaries, "as occurs in piles which have been frequently incised," and explains everything by plethora. The *History of Physick* is metal more attractive. This was a favourite of Sir Norman Moore, and we have heard him say that, while it was enough to have a single edition of most books, he was glad to have a copy of every edition of Freind's *History*. Diligent Germans long ago superseded it as a source of exact information, but nobody is likely to supersede it as a source of pleasure. When one has read this book and looked at Freind's handsome face among the portraits in Pall Mall East, it is not hard to understand why he was loved in the flesh and has left a fragrant memory.

No English have never had any special reverence for very learned or very scientific men; specialists, possessed of and by their subjects, are apt to be accounted bores and pedants. But an enjoying English gentleman—in Bagehot's phrase—who carried his learning lightly, who, by success in practice, proved that he could do something besides write elegant Latin, and who always "played the game," has very rarely failed to command both affection and respect.

Freind had all these qualities, of the high spiritual faculties, creative imagination, and

enduring patience which go to make a Harvey or a Darwin, was wholly destitute. What he had in perfection was a sort of luminous common sense; the physiology of *Emmenologia* is nothing, the description of cases and how he handled them everything. In his commentaries on the *Epidemics* of Hippocrates there is no breadth of vision; he is not curious about the general theory of epidemics, but he is perfectly alive to the danger of getting oneself into a fog. Sydenham, in a very famous passage, said:

"This, at least, on the strength of a multiplicity of accurate observations, I am convinced of; viz., that diseases of the character alluded to, and more especially continued fevers, differ from one another like north and south, and that the remedy which would cure a patient at the beginning of a year, will kill him perhaps at the close."

A striking observation this, and Freind had as much respect as any man for Sydenham; but the question for him was: Did Sydenham in fact produce any evidence for his statement which would pass the common-sense test of practice?

"If we study," says Freind, "the method of treatment which this author has adopted in curing these fevers belonging, as he

says, to utterly different genera, a method in which he was conspicuously successful, we do not find the smallest indication of this diversity."

A man on this level is not perhaps going to make any great discovery, but certainly he will not come upon any gigantic mare's nest.

Freind is, in fact, a true disciple of Horace, keeping to the *via media* of common sense. A wide literary culture saves him from the crudities of the practical man who wishes to see something "on a plate," and even if his eyes are blind to the highest generalizations, he is perhaps a safer model for most of us than more philosophical men. In his *History* these qualities are conspicuous. He was not trying to produce a mere chronicle, but to discover what all the ancient writers were at, what advances they made from the point of view of practice. More learned writers (not that Freind's learning was to be despised) have not always been guided by so good a principle. An edition of

this book which earned for its author Haeser's not lightly bestowed commendation, "one of the most famous writers on the history of medicine," would be a fitting celebration of the second centenary of Freind's death, which will be in 1928.

It is inevitable that the Freind type should grow scarcer in our profession. We shall never, indeed, lack great gentlemen, but wide culture in the humaner letters is no longer universally looked for; familiarity with the "literature" of ductless glands will earn more respect for the young physician than ability to read Quintilian while strap-lugging in the tube. Even the College of Physicians declines any longer to impose upon its members a test of classical erudition. This is, no doubt, inevitable. But we may still have a warm corner in our hearts for the Tory medical M.P. who began his *History* while a close prisoner in the Tower, and lived the life of a scholar and gentleman.

Indeed, it is likely to be one of the most serious difficulties of medical education in the future to conserve the type of which Freind was a fine example. The case for the eighteenth century system of liberal education was that all received a general culture which, however faulty, was

wider than technical education; nowadays the demands of the technicians are so numerous that hardly any time is left for general culture. Mr. Flexner, whose opinion is, of course, entitled to the most reverent attention, has urged us to make our system still more technical, and the days of the Freinds and Lathams are numbered.

"So in entering this place, even this vast hospital, where there is many a significant, many a wonderful thing, you shall take me along with you, and I will be your guide. But it is by your own eyes, and your own minds, and (may I add) by your own hearts, that you must observe, and learn, and profit. I can only point to the objects, and have little more to say than 'see here, and see there.'"

This is an obsolete exhortation if the student is to regard the patients as cases upon whom half a dozen heads of clinical services have furnished expert reports; his time will hardly be long enough to enable him to co-ordinate the findings of the radiologist, the chemical pathologist, the applied physiologist, the ophthalmologist, and the half-dozen other specialists whose observations are placed before him in the most up-to-date of foreign clinics. Let



JOHANNES FREIND, M.D.  
Serenissime Regine CAROLINÆ Archiatrus  
*Qui suas Artes sua dona, laus  
Et Lyram, et Terga Salutaris Totum  
Seire concepit, celerem et Medendi  
Delusit Num.*



him study the report of the cardiologist and not bother about the promptings of his own "heart."

Another remark of Latham is not obsolete; it is this:

"But, in our day, there is little fear that students will be spoiled by the recommendation of their instructors to be content with a scanty knowledge, and trust to their sagacity for the rest. They are not likely to suffer harm by having Sydenham held up as an example for imitation: the fear is of another kind (and it is an a. . . that many men of the best abilities are deterred from prosecuting physics as of the necessity indiscriminately laid upon all for impossible attainments, of which no example is or can be held forth for their imitation."

## THE RURAL PRACTITIONER AND MATERNITY.

BY

MAURICE MOTTRAM, M.R.C.S., L.R.C.P.

In a leading article in the *BRITISH MEDICAL JOURNAL* of November 15th, 1924, surprise was expressed that no general practitioner had taken up the cudgels in the recent conference and correspondence on puerperal sepsis. Doubtless many felt that much might be said, but perhaps thought that we were inclined to be too touchy, and that the remarks made did not bear the meaning that they seemed to do. The leading article, however, seems to confirm the impression that a very definite attack has been made on the general practitioner.

Why were these remarks allowed to pass in silence? Two reasons, at any rate, can be offered. In the first place, it is quite useless to argue when the other side is ignorant. No one would question the right of the various speakers to speak with authority on all matters gynaecological, but I think it is no exaggeration to say that most of them showed a regrettable ignorance of the conditions under which midwifery is practised by a large proportion of the profession. Until they have at least a working knowledge of the various types of practice the advice they give us must of necessity be robbed of much of its value.

There is another possible reason for our silence. Just as the eels in the story got used to being skinned, so we have become used to being criticized. Each Annual Meeting brings its crop of criticism of the general practitioner—some of it just and fair, some pitying and patronizing, and some unfair and in very bad taste. Unfortunately the last is generally copied into the lay press, and the prestige of the profession is lowered accordingly. Such articles as "How to conduct a confinement in a private house" are common, and seem to be written by those who never do it, or, at any rate, not in the country. For example, one enthusiast waits the matter treated as a major operation—the pictures down and the carpet up, the surplus furniture removed. Where to? Presumably into the street, for the husband and rest of the family are sleeping in the only other room, which is already overfull. Another writer seems to depend on a gas stove for his routine. The nearest gas stove is eight miles away. And so on *ad infinitum*. After reading a few lines of these gentlemen's advice one is driven to the conclusion that, however perfect their technique may be, it is useless to the rural practitioner.

This brings me to the root of the matter—the total lack of understanding of the work and conditions of the rural practitioner. To make the matter quite clear I will define the type of man and practice that may fairly be looked upon as rural. He works single-handed in a radius of five miles, he lives eight miles from his nearest town and hospital and five miles from his nearest medical neighbour, he dispenses all his own medicines, he would probably have from 750 to 1,000 insured persons on his list. There are, of course, the mountainous practices, where the conditions are accentuated, and the semi-rural, where they are better. I venture to say that a man running such a practice is generally a good type, and to-day he is threatened with extinction—in fact, the process is well started. I hope to show the relation such a man has to maternity work in the country, and to raise the question whether the maternal welfare will be best served by scrapping him and replacing him with something else, or by trying to improve the conditions under which he works, and so making him a still better type.

In the recent discussion the word "practitioner" was used. It is a bad word, for the work of a rural and urban practice is so different that the question of maternity work in either must be discussed separately. I have had twenty years' experience of rural conditions, and my suggestions apply *solely* to rural practices. I have no advice to offer in connexion with

town practices, of which I know nothing. I would that those who know nothing of the country would be equally reticent.

Most of the points raised by the various speakers and writers are, I think, covered by the following headings, and I propose to discuss them in so far as they have a bearing on the rural practitioner and his work.

### Maternal Mortality.

This, we are told, does not fall, and apparently it is the fault of the person attending the confinement. I find no suggestion as to where the incidence is most common, town or country. We are constantly told that child-bearing is a natural process. But is it? The production of young by the female is natural, but to say that child-bearing by a woman of to-day, with her curved pelvis and various diseases to complicate matters, is a normal process is untrue. In view of the splendid opportunities for trouble to arise it is surprising that things are not worse, though that, of course, should not deter us from trying to make them better. If our knowledge has increased tenfold, the difficulties to be overcome have increased a hundredfold.

### Puerperal Sepsis.

I do not intend to try to define this, but there seemed to be very little agreement at the conference on the subject. All varieties of treatment seem to have their advocates. Suffice it to say that any case that runs a temperature after confinement is a source of worry to the conscientious practitioner, and has to be dealt with. It seems that the person attending is apparently to blame. Dr. Stevenson blames the doctor and absolves the midwife. This is a very serious charge, and appears to be based solely on his interpretation of certain figures. But which, in point of fact, are the cases which run a temperature in the country? Ask any experienced rural practitioner, and he will probably say that it is not the difficult forceps case, which has had no end of handling (with intervals while the operator has to stop to give more anaesthetic), which shows a rise of temperature, but more often the case that has, perhaps, never been examined during labour. In a case of this sort the chances of the doctor being directly responsible are greatly reduced. The fact that just outside the window pigs are wandering about knee-deep in silt may have something to do with the matter, and this is a job for the Ministry of Health.

### Notification of Sepsis.

I am relieved to find that some speakers seem to be losing their faith in this fetish. To some minds a notification to an official is all that is needed to cure every ill. It may be some use to notify an infectious disease in a town; I believe it is. But, speaking of the district in which I live, I have no hesitation in saying that up to a year ago it was useless. There being no hospital to which a case could be removed, the medical officer of health was powerless. It is true that in present circumstances it is possible to get a case into the town infectious hospital *sometime*. But I remember notifying a case of diphtheria in a two-roomed cottage with five inmates. Medical officer of health, district nurses, health visitors—all were useless. When the child was moribund I felt that it might be justifiable to try my hand at a tracheotomy. A neighbour was found who "durst" hold a candle for me. The child revived and lived two days, succumbing when the membrane spread below the tube. He was nursed by his father, who had once looked after a tubed horse. And yet, with this case in my mind, I am asked to enthuse over the advantages of notifying puerperal sepsis! A tin of disinfectant from the sanitary inspector, and a visit in due course from the medical officer of health, who lives thirty miles away, is all that can be expected here.

Professor McIlroy suggests that notification is apt to get the doctor into trouble. In this instance I agree with her. The notification that something is wrong, and the coming of an official who may or may not be tactful, is quite enough to set the husband thinking that the doctor is to blame. What more natural, in the present state of affairs, than that he should bring an action? Recent cases have shown that the fact that the doctor is, from the medical point of view, not to blame has very little bearing on the matter. The judge will make his usual platitudes and the jury find against the doctor.

I would suggest that before we are asked to make further notifications those responsible should set their house in order, and see to it that there is a chance that the notification will bear some useful result. As I said before, I am concerned with the country districts only.

### Specialists.

Regret was expressed recently that a midwife had done her duty in calling in a registered practitioner, the suggestion

apparently being that she should send for a specialist or, though it seems incredible, the medical officer of health himself. The fatuousness of such a suggestion can only be appreciated by those who live in the country. In this district the medical officer of health lives nearly thirty miles away and the nearest specialist gynaecologist forty. Dr. Fitzgibbon appreciates the difficulty, and estimates that over 700 specialists would be wanted. I admit I have not worked it out, but should think that this number might go some way towards supplying the larger towns. To give a really efficient service in the country areas I suggest that nearer 7,000 specialists would be wanted. It would, of course, be possible to appoint a certain number of men as "specialists." Sillier things have obtained official sanction before now. But I fail to see that the parturient woman will be one iota better off, and it will have appalling results in other directions. If there is one man fitted to deal with an emergency (other than the obstetrician, the genuine ones), surely it is the rural practitioner. A bad case in a cottage a mile off the road, two candles for light, a limited supply of hot water and utensils, an ignorant woman to assist, and no medical help nearer than five miles. And yet these cases live and do well. Could our critics do better in such circumstances, or as well?

#### Hospitals.

It has been suggested that all abnormal cases should be sent to hospital. No one is such a fool as to want to tackle eclampsia or a placenta praevia in a cottage. But, as a rule, by the time the doctor sees the case the time for removal is gone.

#### Midwives.

Professor McIlroy refers to these as a "highly trained body of specialists." On what does she base this statement? I should describe them in the country as a hard-working class, but to refer to them in bulk as highly trained specialists is absurd. How did they become so? Was their training superior to that of the average doctor? Is their knowledge of anatomy and physiology greater, or are they by nature our intellectual superiors? It is such random statements as this which make the rural practitioner feel that argument is useless. Doubtless Professor McIlroy's experience of midwives is vastly greater than mine, but I have yet to meet a single one of these highly trained specialists. On the other hand, I have met several who have been positively dangerous. She suggests, further, that the midwives are cutting out the doctors, and appears to derive some satisfaction from this. But is it a matter for congratulation? As a matter of fact it is true, but it is not due to the superiority of the midwives; the reason is largely financial.

#### Finance.

This is a subject that is seldom mentioned, partly because those who speak most at conferences, etc., appear to be enjoying fixed salaries. The last clause in the leading article that I have already referred to is typical: "Provided discussion is carried on from the wide viewpoint of the public good and not from the narrow one of professional interest," etc. Surely the public good is intimately combined with the best interests of the profession. The utter-ignoring of the financial side of the doctor's business, so far from having done good, is going to do the public in the rural areas an incalculable amount of harm. It is an unfortunate fact that practically every innovation which is alleged to be for the public good leads to a diminution of the doctor's income. The worst of us probably rarely spends a day without giving something away, frequently of necessity rather than as a virtue. But it is one thing to give individually among the people that we live with and know, and quite another matter to be called upon to give our services generally and at the demand of public bodies. If we received preferential treatment in the matter of taxation there might be some excuse for it, but no profession is treated more shabbily than ours. All our small privileges have been swept away—for example, reduction on car tax and petrol.

It is absolutely certain that when a district nurse is introduced into a practice the doctor can say good-bye to a slice of his income. The habit arises of calling in the nurse to decide if the doctor is wanted. If he is not wanted the doctor loses the fee he should have had. Often the nurse tries her hand at treatment for a few days. This, when the case is of an infectious nature, may have disastrous results, and I am quite sure that this practising by unqualified practitioners—for it is nothing else—is not for the public good. In the case of the very poor there may be some excuse, but the habit spreads to those who can and should pay fees. The well-to-do farmer's wife has the nurse to attend to the boil on her leg and the child's cut hand. There is an idea that the doctor does not

want to be "bothered" with trivialities. This may be true, and I blame the members of the profession to a certain extent for this idea. Looked at broadly, the doctor has to do a certain amount of work to make a certain income. The simpler the case the greater the profit. The acute abdomen and the difficult confinement are not profitable; the fee is insignificant compared with the amount of work and worry involved.

But it is when we come to the maternity work of the midwives that we find the most crying scandal in the matter of fees. Let us assume fifty confinements per annum in a country practice such as I have in mind. In this district the minimum fee is £2. Among the working classes it is also nearly the maximum, for however bad the case it is no use asking a man for a fee that he cannot possibly pay. The easy cases must pay for the difficult. Of the fifty cases about thirty will be normal—I quote Dr. Fitzgibbon. The doctor gets £60, and it is admittedly fairly easily earned. Let us assume ten cases will be abnormal, and a few of these will be really bad, causing no end of work, and, what is much worse, anxiety. In a poor district it is probable that he will not get more than an average of £3 per case. He has earned every penny of this £30, and it is probable that a little has had to go in anaesthetics and help. The remaining ten cases would probably be better-class cases which would not have the midwife. Thus he gets £90 for forty cases, and, taking the rough with the smooth, it is not too bad. What happens when a nurse is imported? She manages the thirty normal cases without help, and the doctor is £60 out of pocket. And this brings us to the most scandalous part of the business. The nurse, remember, is "cutting the doctor out." Professor McIlroy has said it. She is his professional opponent. She meets with one of the abnormal cases. She is in a difficulty, and this difficulty may have been increased by her failure to diagnose the abnormality early. The general practitioner—for whom, apparently, Professor McIlroy has no use—is sent for. The matter is urgent—the well-being, perhaps the life, of a woman is involved. Human nature prompts the doctor to tell the nurse to get herself out of the difficulty. Ordinary humanity compels him to go, and not only to go, but to abandon whatever else he may be doing. A call of this sort cannot be put off. Now, one would have thought that even a soulless organization like a county council would have had a sufficient sense of honour to pay the man that they are ousting a really good fee when he helps one of their agents in her extremity. A certain speaker (I am not positive of her name, so will not mention it) stated recently that in the circumstances "a fee is paid." She did well not to mention the amount; perhaps a sense of shame stopped her. The fact is as follows. A doctor may be called upon to turn out at any hour of the day or night to help an organization which is admittedly opposed to him, to tackle single-handed any and every sort of obstetrical catastrophe in a patient living at a distance up to two miles from his house (a small mileage fee is paid for longer distances), and to put in all necessary attendance for ten days, and the fee is £2—the same fee that he can get for a normal "B.B.A." Surely, seeing the kid in its mother's milk by comparison a humane and decent proceeding. I feel that I may end my indictment and defence on this note. If those who have read as far look upon this as a fair and just deal, then I have failed indeed.

#### Conclusion.

The matter seems to boil down to this. The maternity service is unsatisfactory, and it is suggested that the general practitioner is to blame. There are three ways in which the matter may be tackled. The general practitioner may be abolished or superseded by a superior service—it is the same thing. He can be left to continue as he is, or his work and general conditions may be improved.

Do those who criticize us really wish to do away with the rural practitioner? Can they offer anything that will take his place?—I mean in actual fact, not in theory. And have they considered what very far-reaching results such a step must have, and whether it will be for the public good, of which we hear so much? I think most of us would be willing to withdraw to fresh fields of activity if a better service can be provided. But can it? The midwives will have to increase vastly in numbers and skill before they can be trusted with all and every confinement. And what of the people of limited means? The *nouveaux riches*, who now inhabit most of the large houses, can easily get their doctor from the nearest town; but there is an enormous majority of people living in the country who cannot afford to pay a doctor to come eight miles to see them, and even if they manage to pay him they are not in a position to get medicines, etc., from a chemist who lives equally far away. I am perfectly sure that if nothing is done to encourage the better class of men to practise in the country, the rural practices, where they still exist, will within twenty

years be in the hands of the very lazy and the very incompetent. I cannot think that this will tend to reduce the maternal death rate in the country.

#### The Cure.

Destructive criticism is useless in itself. I honestly believe there is a means of putting the country practices on a sound footing, a means that will benefit the medical profession—I am quite unashamed of putting ourselves first—the general public in the country, and incidentally in the towns as well. Salvation lies in the erection of numerous cottage hospitals. Every year large numbers of potential good surgeons are turned out from the medical schools. A liking for a country life leads some of these into the country. They get the life they want, but so far as professional advancement goes they might as well have tied the proverbial millstone round their necks. At first they find little scope for surgery. If they undertake it they find that the obstacles to success are innumerable—the best surgeon in the world is useless unless the case can be nursed. Gradually the inclination wears off, and the capacity soon follows. A vicious circle is set up—the less a man attempts the less he feels inclined to attempt, and he gets into the habit of passing his cases on to the nearest hospital; whereas, given the opportunity, he could perfectly well have treated them himself. Now, with a cottage hospital to about every three practices things would be different. Neighbouring practitioners should or would work together,

more partnerships would probably be formed, and team work, with all its advantages, undertaken. As at present, surgeons from larger hospitals would probably be willing to do major operations, but the necessity for such help, now generously given, would diminish with time; there would soon be plenty of capable surgeons in the country districts if opportunity for surgery was offered. The present congestion of the existing hospitals would be relieved. The existing organizations of district nurses and midwives might be incorporated with the hospital nursing staffs, and maternity wards could be arranged for those cases whose houses are utterly unsuitable. Though I love the country, I should strongly advise any young man straight from hospital to give it a wide berth. But with a cottage hospital a country practice would be a very attractive proposition.

There is one bar to this scheme. It will be said that the country cannot afford it. This is untrue. Unlike an individual, a nation can afford anything it wishes for. We had to afford a war, and a very small part of the money spent on this—about three millions a day, I believe—would have gone far to providing a considerable proportion of the necessary hospitals. We can afford vast sums for doles, old age pensions, and education. But the public health makes little appeal to the general public, and as a vote-catching stunt is useless.

Finally, I beg those who criticize the general practitioner as a whole to try to learn something of his conditions, and to consider what the state of the country is likely to be in the future without him or with something worse.

### PULMONARY TUBERCULOSIS TREATED BY SPAHLINGER'S SERUM.

We have been asked to publish the following reports, by two medical observers, of a case of pulmonary tuberculosis treated by Spahlinger's serum at Geneva.

Dr. TH. STEPHANI (Montana) writes:

The following case—Mr. R. G., aged 29, an old patient of mine who has again recently come under my observation—is so remarkable that its details might interest your readers. He arrived at Geneva at the end of July in a most critical condition, with advanced cachexia; an evening temperature ranging between 102° and 104° for eight months previously; pulse 110 to 136; extremely weak; severe coughing—5 to 6 oz. of



FIG. 1.—Radiogram taken May, 1924.

purulent sputum, containing tubercle bacilli in large numbers; cyanosis and distressing dyspnoea necessitating the administration of large doses of oxygen for fifteen minutes hourly; profuse sweating; considerable emaciation; anorexia; prostration; breath foul. Moist râles were present over the whole of the left lung, which was completely involved. There was widely scattered disease in the right lung with a cavity in process of formation at the apex. It appeared as if the end would be only a question of a few days. It was decided that Spahlinger's serum should be given daily in as large quantities as possible. This treatment was started on August 1st, 1924, by injections, by rectum, and by mouth, together with oxygen, digitalin, camphor oil, and eryogenin. The temperature, pulse, and appetite improved rapidly, and the progress of the reduction of the toxæmia was most remarkable. Ten weeks later the disease seemed to be completely arrested. The temperature and pulse were normal; the cough and sputum were almost absent; tubercle bacilli were occasionally present in expectoration, but only in small numbers; he had gained over 1 st. 5 lb. in weight; the lowest weight had not been ascertained. The patient is now allowed to take mild exercise. Chest examination indicates a complete clearing up of the physical signs, the improvement being confirmed by radioscopy.

Of the two radiograms reproduced the first was taken at Meutono in May, 1924. The second, taken recently, shows a striking disappearance of the shadows in the former. Unfortunately the patient's condition was such that no x-ray photograph was possible on his arrival at Geneva.

The large doses of partial serum have rapidly arrested an extensive and severe evolution of the disease where there was practically no hope of a recovery.

I have treated this case in conjunction with Dr. E. Trechsel and Dr. A. Mermod of Geneva, and send you enclosed a report by Dr. B. Hudson of Montana, with whom I saw the patient in consultation.

Dr. BERNARD HUDSON (Montana) writes:

I was asked to see, in consultation, a young man, aged 29, suffering from pulmonary tuberculosis, who was on his way from



FIG. 2.—Radiogram taken September, 1924.

the South of France to Montana. He unfortunately became so ill in Geneva that he was unable to move. I saw him with his doctor on August 1st, 1924, and we were both in agreement that the condition of this patient was well-nigh hopeless. The temperature was running up from 102° to 104° every night, and had been doing so, without intermission, for many months; there were signs of extensive softening in both lungs; he was thin, emaciated, hectic-looking, and coughing up a large amount of offensive purulent sputum. To put it shortly, the patient had all the signs of active and severe pulmonary tuberculosis. Taking into consideration his condition, and the steady downhill course which the disease had been taking during the past year, I considered the case to be quite hopeless, and informed his friends accordingly. The patient himself was very anxious to try the Spahlinger serum; I discouraged this, as I did not think it would have the slightest effect in such a case. However, it was tried, with very beneficial results. I saw the patient again ten weeks later. The signs in the chest had cleared up, the temperature had become normal; he is gaining weight, the sputum is decreasing—in other words, the disease is becoming inactive. I have been asked to report this case, and am pleased to do so, for there can be no doubt that the recovery in this instance is a very striking one.

## Canada.

[FROM OUR CORRESPONDENT.]

### MEDICAL EXTENSION LECTURES.

It is not easy, perhaps, for those in the Old Country to realize the conditions of medical practice in Canada and the difficulties members of the profession encounter in their attempt to keep abreast of the times. Many of the doctors in country districts or even in small villages suffer from an isolation with which, I think, there is nothing comparable in the British Isles. In some of these districts it is extremely hard for the doctor to absent himself, especially from his obstetrical patients, to journey to a large centre and "brush up" by attending lectures and clinics and by watching hospital practice. It is true that there are, for instance in Ontario, county medical societies, and, to attend the meetings, the practitioners, in a very praiseworthy way, travel scores of miles by motor or sleigh, sometimes over roads which are only "roads" in name. Several years ago the Committee on Education of the Ontario Medical Association devised a scheme of post-graduate education for the medical profession. To Dr. J. H. Mullin of Hamilton, a former president of the association, belongs a great deal of the credit for developing this "medical extension" work. The medical faculties of Queen's University, Kingston, of Toronto University, and of Western University, London, have lent great aid by allowing members of their staffs to go out and give lectures. For two successive years the Ontario Division of the Canadian Red Cross Society made a grant of 5,000 dollars to the Ontario Medical Association for this work. On the invitation from a county medical society or from a group of practitioners a lecturer is sent out, and his paper forms the major portion of the programme of the meeting. A booklet of the association gives the titles of the lectures which may be asked for, and these are arranged under eleven heads, such as "internal medicine," "pediatrics," "oto-laryngology," "pathology," "physiology and biochemistry," "radiology," "miscellaneous," etc. There is, for instance, a choice of eighty-four different subjects included in the "internal medicine" list. A series of papers on the same branch of medicine can be arranged. It is not to be supposed that the medical societies rely only on this post-graduate lecture at their meetings; they are encouraged to have papers from their own members as well. The topic of the lecture is first asked for, and only after this has been done is the name of the lecturer sent out. The number of lectures delivered in the year 1921-22 was 241; in 1922-23 it was 249; for the period June 1st to October 31st, 1923, it was 121. The travelling expenses of the lecturer plus an honorarium of 10 dollars are paid by the association. It is satisfactory to note that the scheme has been successful, and that members of the profession are pleased with it. At the San Francisco meeting of the American Medical Association Dr. T. C. Routley, secretary of the Ontario and Canadian Medical Associations, outlined the plan of post-graduate education, and now in the United States a similar one is being adopted, and with, I think, the aid of the Rockefeller Foundation a million dollars has been set aside for the purpose.

### PATHOLOGICAL INSTITUTE OF MCGILL UNIVERSITY.

The new pathological institute of McGill University, which owes its being to the generosity of the alumni of the university, the citizens of Montreal, the Royal Victoria Hospital, and the Rockefeller Foundation, was opened on October 6th (Founder's Day) by the Lieutenant-Governor of the Province of Quebec, the Hon. N. Perceval. There was a distinguished gathering of medical men and representatives of universities in many parts of the world. The Graham Professor of Pathology in the University of London, A. E. Boycott, F.R.S., delivered the chief address of the day. Professor Boycott said that pathology had proved itself able to stand alone as a science, and he welcomed the opportunity afforded at some universities in England and elsewhere to non-medical students, seeking a degree of doctor of science or doctor of philosophy, of

taking pathology as one of their subjects. In his opinion too much time was spent by pathologists in doing routine work, such as the Wassermann test, which should more properly be performed in the clinical laboratories. He made a plea for the study of plant as well as animal pathology, for in both the pathologist studied problems of life. Immediate practical results should not always be taken as criteria of good pathological work, but knowledge of obscure phenomena should be sought for its own sake; in this connexion he cited the work of the young French-Canadian, d'Herelle.

The building stands close to the Royal Victoria Hospital and Medical School, and is connected with the former by an underground passage. It provides more than ample lecture and laboratory room for the present needs of the department of bacteriology, toxicology, and medical pathology. Some of the important features are the large post-mortem amphitheatre, where those of the students not actually helping at the autopsy may watch it being done, a large students' laboratory for microscopical pathology, arranged to secure good window light by placing long tables on a series of wide steps in the floor, and an excellent refrigerating room for keeping vaccines, serums, and cultures. Dr. Horst Oertel, Strathcona Professor of Pathology, is director of the institute.

### THE AMERICAN ACADEMY OF OPHTHALMOLOGY AND OTO-LARYNGOLOGY.

The twenty-ninth annual meeting of the American Academy of Ophthalmology and Oto-Laryngology, with Dr. Walter D. Lancaster of Boston as president, was held in Montreal on September 16th to 18th, when 400 members were present. On the day before the meeting about forty members competed in a golf tournament held at the Royal Montreal Golf Club. The official guest of the academy, Colonel Henry Kirkpatrick, I.M.S.(ret.), of London read a paper on some aspects of primary cataract, and several members took part in a symposium on papilloedema. Other papers dealt with the toxic effects of local anaesthesia, pulmonary complications (with death) after tonsillectomy, and the bronchoscopic treatment of tracheo-bronchial asthma. A short instructional course was given at McGill University for the members. Among the subjects dealt with were the fundamentals and modern treatment of diabetes mellitus, and the part played by the disease in ophthalmology and oto-laryngology.

### VISIT OF THE AMERICAN COLLEGE OF SURGEONS.

A successful meeting of the Mid-West Section of the American College of Surgeons was held in the Fort Garry Hotel, Winnipeg, on September 2nd and 3rd. Operations were performed each morning from 8 till 10 o'clock at the General, Misericordia, and St. Boniface Hospitals. There were many visiting members from the United States. Some of the subjects discussed were the treatment of chronic empyema, gastro-duodenal ulcer, the diagnosis and treatment of diaphragmatic hernia, the differential diagnosis and treatment of non-tuberculous pulmonary suppuration, and the principles governing the treatment of surgical conditions of the large bowel.

## England and Wales.

### THE LEEDS GENERAL INFIRMARY.

Mr. A. L. WHITEHEAD, having completed his period of service on the full staff, is now added to the number of the consulting staff with the right to use six beds. The conditions of appointment of the physicians and surgeons are that they serve on the full staff for twenty years or until they attain the age of 60, when they automatically go upon the consulting staff with the above noted valuable privilege. The term of office as a member of the full staff is, of course, preceded by a varying period on the assistant staff. In the case, however, of those who, like Mr. Whitehead, are attached to special departments, the total period of office is twenty-five years, there being no assistant staff attached to the

special departments. It is only those who have been accustomed to make their regular rounds for many years with a class of students who can understand the wretch which is felt when quite suddenly one day it is grasped that their hospital career is at an end, and we venture to think that the plan adopted at Leeds is worthy of imitation elsewhere. The vacancy created by Mr. Whitehead's promotion has been filled by the appointment as ophthalmic surgeon of Mr. S. D. Lodge, F.R.C.S.

#### REGULATION OF SLAUGHTERHOUSES.

The Minister of Health has made regulations, entitled the Public Health (Meat) Regulations, 1924 (Statutory Rules and Orders, 1924, No. 1432), as to the slaughter of animals for human consumption, the marking of inspected meat, and the conditions of storage, handling, transport, etc., of meat. The Order has been placed on sale by the Stationery Office, price 2d. It is accompanied by a circular to port and other sanitary authorities in England and Wales (No. 547, December 29th, 1924. Price 1d.). The circular has three sections, the first dealing with slaughtering, the second with meat marking, and the third with cleanliness. To admit of the necessary arrangements being made by the local authorities and the trade, the regulations will not come into operation until April 1st next, but applications for the authorization of meat marking will be made in anticipation of the date of the coming into force of the regulations. The Minister has also made an Order (No. 1431), entitled the Rural District Councils (Slaughterhouses) Order, 1924, conferring on all rural district councils the powers of an urban authority in regard to slaughterhouses. This Order also is accompanied by an explanatory circular (No. 552). The price of the Order and that of the accompanying circular is 1d. in each case. Copies of all these documents can be purchased through any bookseller, or directly from H.M. Stationery Office, Adastral House, Kingsway, W.C.2; 28, Abingdon Street, Westminster; York Street, Manchester; and 1, St. Andrew's Crescent, Cardiff. The cost of postage does not seem to be stated.

#### MEDICAL EXAMINATION OF LONDON SCHOOL CHILDREN.

The London County Council proposes to institute, as from April 1st next, a systematic medical examination of elementary school children immediately before they leave school; the purpose of the examination is to advise on questions relating to employment and to co-operate with factory surgeons. Under the present provisions children are medically inspected on entry into school and at about the eighth and twelfth years. It has long been realized that an examination on leaving school would serve a useful purpose, and indeed the arrangements for such examination in certain cases have been in existence for some time past. The routine examination will affect 60,000 children a year, and the additional expenditure will be £5,600 for the first year, and thereafter £6,000 annually. The question will be reconsidered if and when the proposed Factories Bill becomes law and contains provision for the medical examination of young persons employed in factories. The Board of Education has given its approval. The Council is also proposing to make additional provision for remedial exercises.

#### CENTRAL HEATING IN LONDON COUNTY COUNCIL HOUSES.

The Housing Committee of the London County Council has had referred to it the question whether, in view of the recommendations of the Departmental Committee on Smoke and Noxious Vapour Abatement, it would be practicable in the Council's future building schemes to provide smokeless arrangements for warming rooms, supplying hot water, and cooking. The possibility of adopting a system of central heating for the Council's dwellings has been considered, but the cost of providing the necessary installation, in view of the existing restrictions under the London Building Acts on the height of buildings, is held to be prohibitive, as it would involve an addition of between two and three shillings a week to the rents of the tenements. If the present restrictions were removed and it was practicable to provide dwellings of fifteen or sixteen stories high, the question would assume a different aspect. It is thought, however,

that the adoption of a system of hot-water supply for domestic purposes, with or without a radiator in the living room, should be further explored, and in one of the next blocks of dwellings a central heating system is to be installed for this limited purpose as an experiment.

#### CENTRAL MIDWIVES BOARD.

The Central Midwives Board met on December 18th, 1924, when the Chairman, Sir Francis Champneys, presided. Information had been sent to the Board that three cases of the use of nitric acid instead of silver nitrate had occurred on the part of midwives residing at a training institution. The Board considered that the authorities of the institution should be severely censured. Lady Mabelle Egerton was appointed delegate to the Conference of the Royal Sanitary Institute at Edinburgh next July. In reply to a letter from the National Poor Law Officers' Association, the Board decided that no satisfactory intern training can be secured by an institution which does not have at least fifty cases a year. The Board recorded its deep sympathy with the family of the late Dr. J. B. Hellier and its appreciation of the valuable services rendered by him as presiding examiner at the Leeds Centre. A penal session also was held.

## Scotland.

#### JUBILEE OF THE WESTERN INFIRMARY, GLASGOW.

The Western Infirmary, Glasgow, opened its doors for the reception of patients in November, 1875. At the Christmas meeting the chairman of the board of managers, Colonel J. A. Roxburgh, said that during that fifty years many changes had taken place, all in the direction of increasing the accommodation and usefulness of the hospital. In 1875 the number of in-patients was 1,253; last year it was 9,412. There were eight wards in the original building—four medical and four surgical; to-day there were thirty-two wards. The medical and surgical staff when the infirmary was opened numbered 13; now it numbered 61. Even more important was the fact that the efficiency of equipment for the diagnosis and treatment of disease had made steady progress, and numerous departments had been added to utilize all the modern discoveries both in medicine and surgery. The hospital had been established to serve as the clinical school for the University on its then new site at Gilmorehill, and throughout its history had maintained close connexion with the University. At one time four of the professors had beds in its wards; two of the chairs had been transferred to the Royal Infirmary, but the regius professors of medicine and of surgery still conducted their clinical teaching in the Western Infirmary. The small room in which Dr. Coats began the work of the research department in 1875 had been replaced by the splendid buildings of the pathological institute and the clinical laboratory. The Infirmary was one of the earliest hospitals to start an x-ray department, and one of the latest additions had been a massage and electrical department, where patients were treated and women trained for the recognized certificate. Owing to the receipt of numerous legacies, several of them of large amounts, the financial position of the Infirmary was unusually satisfactory. The ordinary income for the year was £67,000, but this left a deficiency of £14,000, about the same as in 1923. The extraordinary income, chiefly from legacies but including £3,350 received from the Voluntary Hospitals Commission, was £94,000. Advantage would be taken of this exceptional state of affairs to proceed with much needed repairs to the structure and equipment of the hospital, at a cost of about £20,000. After providing for the deficiency in the ordinary income it was hoped to carry to capital reserve something like £50,000. The board of managers was anxious to carry out as early as possible the arrangements with the University as to the Gavin P. Tennant chair of ophthalmology, and fulfil its part of the bargain by instituting the department his trustees some years ago had given a sum of money to construct. Unfortunately it was not possible to proceed; the cost of building



had fallen to some extent, but the Rent Restriction Act still precluded the board from getting possession of the intended site. It was hoped as soon as possible to establish a biochemical department, which would involve an expenditure of something like £20,000; towards this about £5,000 had already been received.

#### EDINBURGH ROYAL INFIRMARY RESIGNATION AND APPOINTMENTS.

At a meeting of the board of managers of the Edinburgh Royal Infirmary on December 22nd, 1924, Lord Provost Sir William Sleigh in the chair, the retirement of Mr. Alexander Miles, M.D., F.R.C.S.Ed., from the position of senior surgeon to the Royal Infirmary was announced as taking place, in accordance with the regulations of the institution as to tenure of office, on December 31st. The chairman stated that Mr. Miles had had a continuous connexion with the institution since the year 1889, when he was appointed house-surgeon to Mr. A. G. Miller; ten years later he was appointed assistant surgeon; and twelve years later (January 1st, 1910) he became surgeon. On the motion of Dr. George Mackay, the board minutely its high appreciation of Mr. Miles's service and asked him to allow his name to be added to the roll of consultant surgeons to the institution. Mr. Walter Mercer, M.B., F.R.C.S.Ed., and Mr. William Alexander Cochrane, M.B., F.R.C.S.Ed., were appointed assistant surgeons to the Infirmary out of seven candidates for two vacant posts. It was reported that the receipts for the past two weeks had amounted to over £21,956, which included a donation from the Edinburgh Education Authority in respect of treatment of school children suffering from ringworm, amounting to £300, and a payment of £20,000 on account of a legacy by Mr. James Aitken, Darroch, Falkirk.

#### SANATORIUM ACCOMMODATION IN SOUTH-WEST SCOTLAND.

At a meeting of the Dumfries County Council on December 17th, 1924, Sir William Younger asked for the sympathy of members of the council towards any scheme that might be brought forward to extend the accommodation of the Southern Counties' Sanatorium at Lochmaben. It was opened in March, 1924, with 56 beds, and accommodation is so much sought that there is at present a waiting list of twenty patients. There were 53 deaths from pulmonary tuberculosis in Dumfries-shire in 1923, and, assuming that there were five sufferers from the disease in an advanced form for every death, that meant that in the county 200 to 250 persons were definitely suffering from the disease, with only 22 beds at disposal. In the whole area covered by the Southern Counties' Sanatorium there were 162 notifications of pulmonary tuberculosis in 1923 and 118 deaths. It was therefore impossible to hope for eradication of the scourge unless there were far more than 56 beds available for the whole area.

#### DETECTED METHYLATED SPIRIT.

At a meeting of the Pharmaceutical Society in Scotland on December 17th, 1924, Mr. Anthony McMillan, Glasgow, in the chair, a paper was read by Mr. James Jack, Ph.C., F.L.S., on picric acid and pyridinized methylated spirit. He said that the Board of Customs and Excise, with a view to putting a stop to the habit of methylated spirit drinking, had caused the addition of crude pyridine to methylated spirit to render it undrinkable. This addition had created several difficulties in the use of methylated spirit for pharmaceutical and surgical purposes. For example, a solution of picric acid was frequently used in surgical and hospital practice. Crude pyridine contained several alkaloidal basal substances which formed an insoluble precipitate with picric acid, thus making the new form of methylated spirit incompatible as a solvent. This and other objections to the presence of crude pyridine in methylated spirit had induced the Pharmaceutical Society and the British Medical Association to approach the Commissioners of Customs and Excise with a view to securing elimination of pyridine or permission to use industrial methylated spirit for pharmaceutical purposes.

#### INVERNESS DISTRICT ASYLUM.

From the sixtieth annual report of the Inverness District Asylum by the medical superintendent, Dr. T. C. Mackenzie, it appears that 159 cases were admitted during the year ended May 31st, 1924; this, with 665 persons on the register at May 16th, 1923, made a total number of cases under treatment during the year of 824. The admissions were 14 more than for the previous year but 4 less than the average of the last five years. Of the patients admitted, 51 had previously been under asylum treatment, giving a readmission rate of 32 per cent. The ages of those admitted varied from 15 in the case of one male to 84 in the case of one female; 20 patients aged 70 and upwards were admitted. The patients admitted during the year fell into the following groups: 81 were cases of melancholia; 21 cases of mania; 40 were cases of dementia, of which 11 were secondary to previous attacks of mental disorder from which the patient had not recovered; 24 were associated with senile decay and 5 with epilepsy; 7 cases suffered from congenital mental deficiency, accompanied in 2 by mania and in 1 by melancholia. Dr. Mackenzie found that hereditary predisposition to insanity existed in 55 of the 159 cases, and in 66 of the cases there had been at least one previous attack of mental disorder. In 23 cases these two predisposing causes were combined. Senility was assigned as a cause in 38 cases, and indulgence in alcohol as a factor in 10 male cases. With regard to the discharges, 51 were dismissed recovered, giving a recovery rate on the admissions during the year of 32 per cent. for both sexes. The number of deaths during the year was 73, of whom 21 died from phthisis and 24 from senile decay; these two causes together were responsible for 61.6 per cent. of all the deaths. The report concludes with a review of the attention which is at present being paid to the early treatment of mental disorder, and urges the desirability of establishing a clinic in Inverness for dealing with patients suffering from incipient mental disorder without certification.

#### INDUSTRIAL EDUCATIONAL COUNCIL.

A body known as the Industrial Educational Council has recently been formed in Scotland with the object, among others, of educating the industrial workers on the diseases and sicknesses to which they are liable, with a view to their mitigation and prevention. The programme of the council is a double one: the first is to deal with the origin, history, and development of the various industries, with a view to giving the workers some knowledge of the industries in which they are engaged; and the other part of the programme, which is considered the more important, is a "health programme," designed with the object of educating the workers on the diseases to which they are liable. The council comprises over twenty medical members, the list including a number of medical officers of health for the principal cities in Scotland, and there are over thirty ordinary members and seven representatives of workers. The president of the council is Lord Salvesen and the secretary Mr. J. Mackenzie, who was for several years general secretary of the Y.M.C.A. National Council in Scotland. A special appeal has been issued on behalf of the council by the Lord Provost of Edinburgh, supported by the Lord Provost of Glasgow, and in this it is pointed out that in 1922 it was estimated that no less than 2,100,000 weeks' work was lost through sickness and disablement among the insured workers in Scotland. It is added that a large percentage of this was avoidable. The council is desirous of raising £10,000 to enable the work to be carried on effectively.

#### ST. ANDREWS INSTITUTE FOR CLINICAL RESEARCH.

The spring session of the St. Andrews Institute for Clinical Research will be devoted to the subject of renal efficiency. The meetings will be held on Tuesdays at 4 p.m., beginning on January 13th, when Professor Cathcart, F.R.S. (Glasgow), will read a paper on metabolism, with special reference to the kidney. It will be followed by a discussion, to be opened by Professor Herring and Dr. Hynd. The meetings will continue weekly until March

17th, and it is hoped to arrange a discussion to be held after that date on albuminuria in relation to life insurance. The subjects will be duly announced in the Diary of the JOURNAL. On Thursday, January 22nd, at 4 p.m., Professor Charteris will give a demonstration of kidney cases in his ward in the Royal Infirmary, Dundee. A meeting of the Association for Clinical Investigation will be held in Edinburgh on Saturday, January 31st. The morning session will be held in Professor Murray Lyon's ward in the Royal Infirmary at 11 a.m. An afternoon session will also be held. All practitioners are cordially invited to attend the lectures and discussions. The secretary of the Institute is Dr. J. Hunter P. Paton, St. Andrews, Fife.

## Ireland.

### SIR WILLIAM WHITLA.

SIR WILLIAM WHITLA has been elected a Pro-Chancellor of Queen's University, Belfast. He was educated at Queen's College, and graduated M.D. in 1877 with first class honours and a gold medal. He has been closely associated with Queen's University as professor of materia medica and therapeutics, and when he resigned his professorship four years ago he was elected to represent the University in Parliament. His *Manual of Pharmacy, Materia Medica and Therapeutics*, first published in 1882, reached its eleventh edition last year, and his *Dictionary of Treatment, including Medical and Surgical Therapeutics*, also reached its seventh edition during that year. Sir William Whitla was President of the British Medical Association at the Annual Meeting held in Belfast in 1909. His appointment as Pro-Chancellor will bring great satisfaction to his numerous friends.

### MEDICAL REGISTRATION IN THE FREE STATE.

Mr. P. McGilligan (National University), Minister for Industry and Commerce, referring in the Seanad to the position of medical students who passed and got their qualifications, and who, prior to a date in 1923, were validly registered, said it had been believed that, owing to the joint action of a section of the Constitution and a certain adopting Act, the position prior to the introduction of the Irish Free State had continued. He had attended a conference on the subject, and there seemed no doubt in the minds of the British representatives, but it was deemed advisable that legislation should be introduced in the Free State and in the British Parliament to validate what had been done previously, and continue in operation the General Medical Council for a period to be defined in the Acts. The legislation was to be corresponding, correlative, and complementary. He had introduced a bill as a matter of urgency, and it was almost immediately brought into the Seanad, and while engaged in the Seanad he was informed there was a certain point still in dispute. He had treated the question as one of great urgency, and he asked the House to treat it as such. He had not had any indication of anything seriously affecting the medical profession, and he was not aware of any such situation as had been represented in the press; nothing had happened, so far as he was aware, to change the situation. There had been no indication of any likely action to put an end to the prevailing state of things. The position remained as it was after the conference in London. If those in England connected with the matter did not know the reason for the excitement, if he (the Minister) did not know, and if the people who would be expected to advise him when they thought anything critical was coming on did not know, he (the Minister) did not see that there was any situation developing. At a gathering recently remarks were made by a surgeon which were interpreted in quite a different manner from what was really meant. He had received a telegram to the effect that the position would be unchanged until February, and the interpretation was that if a student were not qualified in January the last chance had gone. The use of the word February was probably due to the fact that the legislation would be passed by February.

At a meeting of the representatives of the medical and dental students of Connaught and Munster the following resolution was unanimously passed:

That the medical students of the University Colleges of Cork and Galway view with strong disapproval separation from the General Medical Council and the establishment of a separate medical council for Ireland, and we, therefore, urge members of the Dail and Senate, and the Irish representatives on the General Medical Council, to take the necessary steps to secure that the present arrangements remain unchanged.

### ROYAL ACADEMY OF MEDICINE IN IRELAND.

At a meeting of the Surgical Section of the Royal Academy of Medicine in Ireland, on December 12th, Mr. A. K. Henry and Dr. D. K. Milne Henry described, with the aid of lantern slides and specimens, an anatomical collection that is being prepared in order to illustrate operative surgery. Each specimen was labelled to indicate the lines of incision, and the various structures were appropriately coloured. Landmarks and planes of cleavage were shown by means of simple diagrams. This collection had been begun at the Royal College of Surgeons, Dublin, with the double object of helping students of operative surgery and of constructing a kind of reference library for the practising surgeon. The preparations shown included the exposure of the popliteal face of the femur from the outer and inner sides; the Sprengel Smith-Peterson exposure of the hip-joint; and Roylo's exposure of the lumbar sympathetic system for section of the rami in spastic paraplegia.

## Correspondence.

### PUERPERAL INFECTION.

SIR,—The question of a prophylactic immunization in preparation for childbirth, raised in the discussion in your columns, is one of great interest and perhaps of some importance, and a brief note of some work on this subject carried out by us in 1913-14 may be of interest.

Working on the out-patient maternity clinic at the London Hospital, under the care of Dr. Russell Andrews and the late Dr. Drummond Maxwell, we inoculated a series of 500 patients with a mixed streptococcus vaccine. The vaccine was made up partly from strains derived from the vaginal cultures of healthy pregnant women and partly from organisms isolated from the blood and uterus of cases of puerperal infection; the latter (mainly *S. pyogenes*) constituted the bulk of the vaccine. Usually two subcutaneous inoculations were made at weekly intervals, and we aimed to give them within two or three weeks of delivery; with an out-patient this date is mostly rather uncertain, but we found that 60 per cent. fell within one month of delivery and approximately 90 per cent. within two months. An amount of the mixed streptococcus vaccine containing 50 or 100 million was given for the first injection, and either 100 or 200 million for the second. Something like 3,500 uninoculated cases which were attended on the charity during the same period served as a control.

During the war years some of the notes were mislaid or lost, but, speaking from memory, certainly one and possibly two of our inoculated cases died of streptococcus infection; this gives a far higher percentage mortality than occurred in the uninoculated part of the clinic, though, of course, with such comparatively small numbers it is useless to argue about it. On the other hand, the general morbidity in our 500, including para- and peri-metritis, was less than among the uninoculated. However, it was clear that we had not achieved our end, and it was our intention to start again, using possibly a sensitized vaccine.

There are clearly serious difficulties in the project, which may be briefly discussed under the following heads:

1. *Infecting Agent*.—In fatal cases almost always a streptococcus, by laboratory classification generally corresponding to the type *S. pyogenes*, is present, but this type may include many strains; quite possibly each strain derived from a human host differs, *ipso facto*, from every other strain. In a certain number of less severe cases a short-chained anaerobic type of streptococcus is found.

These two types of organism would cover most of the severe cases.

**2. Degree of Immunity Required.**—It is probable that a high general degree of immunity would be necessary to prevent an infection with a pathogenic streptococcus gaining access to the uterus. There is, of course, the large raw area of the placental site, but, more than that, the uterus is physiologically decadent and proceeding to involution. In animals a high degree of immunity is only attained by prolonged and rather heroic measures such as are out of the question with the human subject.

**3. Dangers to be Avoided.**—If the danger to the patient is to be nil and the inconvenience slight, as we held it should be, we must rely on a gradual immunization, which is likely to be less effective than that which more active measures would produce. In our series we had one or two swollen arms which distressed the patients rather, but there was no direct evidence that anything in the nature of premature birth resulted from the inoculations, although some 13 per cent. of our series were delivered within the first week after the inoculation. Another danger—that of a temporary lowering of the resistance to infection—is believed to be a possible result of inoculation; our figures do not throw much light on this aspect of the problem.

**4. Finally,** this is an experiment in immunization which must be undertaken in a wholesale way if the figures are to be large enough to eliminate the chance factor, and it is a great question whether our knowledge of streptococcal immunization is sufficiently advanced to warrant this being done.—We are, etc.,

T. H. C. BENIANS.  
S. GORDON LUKER.

London, W.1, Dec. 19th, 1924.

#### THE GENERAL PRACTITIONER AND THE MATERNITY SERVICE.

SIR,—Some of your correspondents are under a misapprehension regarding the object of my letter to the *BRITISH MEDICAL JOURNAL* (October 4th, 1924, p. 642).

My chief purpose was to emphasize the necessity for improved clinical training in obstetrics. The correspondence confirms the opinion originally expressed, that existing educational arrangements are deplorable, and that increased facilities must be provided in the near future, both for undergraduates and practitioners.

As daughter and assistant of a country doctor, having been for some years in consulting practice, I fully realize the splendid midwifery work done by the general practitioner, frequently in face of perplexing and almost overwhelming difficulties, for which in many cases he has not been prepared by adequate training. The thousands of efficient obstetricians amongst general practitioners, for the most part, owe their skill to experience and not to early teaching.

There is another misapprehension. The rest of my suggestions apply only to State-aided cases, and not to private practice. The whole subject demands investigation and reform, and it is hoped that before long a Royal Commission may be appointed.—I am, etc.,

London, W.C.1, Dec. 22nd, 1924.

A. LOUISE McILROY.

SIR,—Writing on the above subject in your issue of December 20th, 1924 (p. 1177), Dr. Alexander Blair has quoted a paragraph from a previous letter of mine, and has gone on to interpret it in a manner so wide of the mark that I am obliged to correct him.

I have not now, nor ever have had, a contempt for general practitioners—I have, on the contrary, many friends and acquaintances among them for whose work I have the greatest admiration, and am not vain enough to suppose my experience in this respect to be unique. I have criticized, on occasion, the actions of individual practitioners or groups of them, and have been subject to the same criticism myself.

Unskilled midwifery means mismanagement of the child-bearing woman at any time from the commencement of pregnancy to the end of the puerperium, and sharing the responsibility for it are medical officers of health and their subordinates engaged in maternity and child welfare work,

hospital consultants, general practitioners, midwives, the women themselves with their fears and resulting prejudices, and their well meaning but sometimes ignorant relatives. We are all in it; and if drawing attention to the matter gives special offence to general practitioners, it would suggest that they are no more easy in their minds about the obstetrical side of their work than are practitioners of preventive medicine—which is a wholesome state of mind and to be encouraged until improvement comes about.

As regards suggested panaceas we are bound to differ according to our respective points of view and work experience; but may I suggest to Dr. Blair that it is a little invidious (even to the accompaniment of a complimentary epithet) to stigmatize the views and faiths of other medical workers as "pathetic," and also that the tide of organization, specialization, and officialdom being fully upon us in this twentieth century A.D., it were well to use it to our patients' advantage rather than try to sweep it back with a Mrs. Partington's broom.—I am, etc.,

Wilkesden, Dec. 23rd, 1924.

AGNES HILL NICOLL.

SIR,—In the interests of the community and of the medical profession I feel, as a practitioner of thirty years' standing, that it is my duty to protest against the tone of perfection advocated by Professor Watson in his address to the Edinburgh Obstetrical Society. Professor Watson's ideal is magnificent but is entirely unsuited to society as it exists. The net result of the elaborate precautions advocated is that the young men immensely magnify their office and charge such enormous fees that the public are ceasing to employ them, greatly to their own detriment and to the destruction of the doctors. My experience, though not great, has been spread all over England. I held every student appointment possible at Guy's, and when "Charity" over five hundred cases were attended. Over three thousand cases per annum were attended by students in the poorest districts in the Borough, and yet the deaths averaged 3 per annum from all causes. If such a result could be attained without the lofty but impracticable methods of Professor Watson, why rob the community and the doctors of their just dues? The bulk of puerperal fever, as Dr. Conyns Berkeley has declared, is due to auto-infection, which I know to be true, as in the cases of sepsis I have had in my own practice the children have had suppurative ophthalmia, which must have been due to maternal vaginal infection.

Those infected by the attendants are, in the opinion of a vast number of doctors, due to dirty hands. What other reason can be effective when one considers the experience of the Guy's charity? The men soaked their hands in mercury perchloride 1 in 1,000, and again they soaked them. The necessity of mercurial antisepsis had been rubbed into them. The primal focus of mischief is unwashed hands. Wearing gloves causes a man to be less careful to wash his hands, and lack of sense of touch renders him less careful to soak them constantly. Professor Watson will say they should not, but they do.

Dr. Peter Horrocks used to tell us that one cannot be sure of an occipito-posterior position. All of us have seen breeches mistaken for heads, or on by the cracks. It is the general experience that a greatly huddled case rarely becomes septic. Clean hands and no vaseline, and there is no need for all the precautions that have robbed the public of their rightful attendants. The ante-natal teaching is admirable, but the fallacies are terribly frequent.—I am, etc.,

East Sheen, Dec. 28th, 1924.

VAUGHAN FENDRED.

#### NEAR SIGHT AND CIVILIZATION.

SIR,—I have read with much interest the account of Sir Arthur Keith's lecture in the *BRITISH MEDICAL JOURNAL* of December 20th, 1924 (p. 1172), in which he alludes to my theory of myopia, and states that if muscular exercise caused myopia all would suffer from it; but the same argument might be used with regard to tuberculosis, in which only a certain proportion of those exposed to infection contract tuberculosis. If the direct exciting cause of myopia be increased intraocular pressure, as I am firmly convinced it is, whether the eye will dilate or not will depend upon

the strength of the eye and the condition of the health of the person. For instance, a boy in a debilitated condition, as after measles, may become myopic on lifting heavy weights when in his normal health he would escape.

The general athlete rarely becomes myopic; probably through training his eyes have acquired a strong power of resistance. Myopia appears to be caused, and may appear, at any age, particularly in those who having had a sedentary occupation suddenly take to one which causes a considerable and intermittent increased intraocular pressure, as for instance a shop assistant who becomes a carter and has to lift heavy weights which would present no difficulty to a stronger man. The forms of exercise to be avoided are those which cause the veins of the neck to stand out, thus obstructing the return of blood from the eyes.

If this intermittent increased intraocular pressure be avoided the eyes may become less myopic or even emmetropic.—I am, etc.,

London, N.W.2, Dec. 20th, 1924.

F. W. EDRIIDGE-GREEN.

#### APOMORPHINE IN ANGINA PECTORIS.

SIR,—I happened to see to-day a letter by Mr. Cyril Helm, D.S.O., F.R.C.S., in the *BRITISH MEDICAL JOURNAL* of June 28th last, on the treatment of angina pectoris, in which he describes a fatal case of an anginal seizure.

Although very late, I should like to draw attention to the effect of a hypodermic injection of apomorphine in such cases. I have seen it act like magic, and I have suggested this treatment to several medical men, who have reported surprisingly good results. The use of this remedy came about in a somewhat curious manner. A bush doctor in Australia (the late Dr. Symes) told me that he was called in one evening to see a man who was suffering from an agonizing pain over his heart. He was pulseless, speechless, and apparently dying. In order to afford some relief he hurriedly gave him a hypodermic injection, as he thought, of morphine, but to his horror he found that by mistake he had given apomorphine. He consoled himself with the thought that, in any case, the man could have lived for only a very short time. To his intense astonishment, in a few minutes the pain stopped, the pulse returned, and the man was able to lie down in comfort.—I am, etc.,

ALEXANDER FRANCIS, M.B.

London, Dec. 26th, 1924.

#### REX v. BATEMAN.

SIR,—From the report of the trial *Rex v. Bateman* it is difficult to gather the grounds upon which Dr. Bateman was convicted for manslaughter. It is clear: (1) the uterus was ruptured, but it is not stated when or how; (2) the uterus was removed with the placenta; (3) the rupture of the uterus and the removal of it did not cause death, either by shock or by bleeding; and (4) death was induced by septic infection—a common enough ending to parturition without any tear of any part of the genital tract. It will be no wonder if the verdict of the court should create consternation amongst practitioners who are engaged in midwifery practice. We may ask, Why any sentence and not acquittal?

A matter of great importance regarding the dispensation of justice has been brought to light in this case. A pathologist, a non-practising doctor, who in all probability has seen but little if any obstetric work, and has never been actually engaged in it, has permitted himself to give in a court of law an opinion which laymen, from the learned judge downwards, would undoubtedly accept as equivalent to that given by a real true expert on the subject. The opinion given was "that if the woman had been operated upon she would have had some chance of surviving, and that she would have been fit for an operation before she was removed to the hospital."

The pathologist can hardly have realized that by so acting he placed himself in a false position, and in that of one who knows. In reality, among his professional brethren, he could not pretend to a practical knowledge or acquaintance with either midwifery or surgery. Moreover, as he had not even seen the patient; obviously it was impossible for him to judge whether the woman had any chance of recovery after an operation or whether she was

in a fit state for removal before the date actually determined upon.

The injustice that might arise from the expressions of opinion by a pathologist in a court of law upon subjects outside the scope of his work concerns all doctors throughout the land; and from the trend of events it would appear that the time is ripe for concerted action by doctors for restating in unmistakable terms their relation to the public, and for the public to realize that their best safeguard lies in the willing acceptance of responsibility by qualified medical men for the treatment of their injuries and diseases. Without that willing acceptance regularized doctoring must inevitably come to be worked on a contract basis between doctor and patient. Medical practice under such conditions would soon get into a deplorable state, and that would mean nothing less than ruin to British medicine.

I apologize for the length of my letter, and my only excuse is the gravity of the situation revealed by this trial.—I am, etc.,

Cambridge, Dec. 22nd, 1924.

JOSEPH GRIFFITHS.

SIR,—Every medical man practising in an industrial area—that is, one where midwives flourish—will read the account of the trial *Rex v. Bateman* with grave uneasiness. The average midwife seldom sends for a doctor until forced by the relatives to do so, and when we are called in to deal with a case of prolonged labour it is generally to find the patient weak and frightened, worn out with pain, and some complication which should have been dealt with hours before. Under these unfavourable conditions we do our best. Most of the cases do well. But it now appears that this is not enough. If our treatment is unsuccessful we are liable to be prosecuted for incompetence, and, if we lose the patient, perhaps to be convicted of manslaughter. It is an intolerable position, for no one who is not actually present at a case can form a just opinion of the difficulties encountered and the skill brought to overcome them. There is no definite evidence that Dr. Bateman was grossly unskilful, and he was working under very bad conditions—how well we can all picture them! When he discovered the truly appalling calamity of a uterus torn out he admittedly did all that was possible for the unfortunate woman. Yet he is guilty of manslaughter. In my opinion the conviction is unjust, and if it is not quashed on appeal I suggest that doctors should in future cease to attend midwives' cases at the patients' own homes, but send them all into hospital. I do not believe the results would be any better, and the patients would certainly object, but we should at least escape the possibility of a fate like Dr. Bateman's. Also we should preserve our self-respect, for I do not see how we can preserve it if we feel that our actions and treatment may afterwards be criticized by ignorant laymen.

We are not told the post-mortem findings in this case, but if the woman was really in labour for forty-eight hours with a transverse presentation, spontaneous rupture and separation of the uterus are possibilities. The absence of an account of the nurse's evidence is to be regretted.—I am, etc.,

Hebburn-on-Tyne, Dec. 20th, 1924.

H. C. BROADHURST.

#### PROBLEMS IN NUTRITION.

SIR,—To those of us who are specially interested in the relation that exists between dietary and stamina, dietary and longevity, and dietary and fertility, your report of Colonel McCarrison's lecture (December 13th, 1924, p. 1126) comes as a record of observations of extreme value.

I well remember investigating the dietary of some Sikh regiments at Lahore. I knew that they were men of splendid physique, tall, stately, agile, capable of great endurance, and renowned for their courage. I asked them if they ate meat, and they said that at home they did not, but that when they joined the army they did. I then inquired how many ounces or pounds each man ate a day. At this there was great hilarity, and then it was explained to me that once a month, on pay day, each company clubbed together and bought one little goat, and this they killed and cooked and ate! A few ounces apiece once a month!

It would be well for every practising physician who has

been brought up to believe in the value of flesh foods and meat broths and beef teas, for the promotion of and restoration to health, to ponder carefully the nutritional problem involved in the statement by Colonel McCarrison, that among races who lived upon a lacto-vegetarian diet "the highest degree of physical efficiency . . . among any of the races of mankind was found," and that peoples in the extreme north of India who lived upon a lacto-vegetarian-fruitarian dietary "had exceptional powers of physical endurance, gastro-intestinal disease was extraordinarily uncommon, and they retained vigour to a very old age." It is well to remember that the climate in this part of India is more trying than in England. I have been almost baked during the day there, and almost frozen during the night.

Now that the importance of dietary in health and in disease is being recognized, it is well to note and record with the greatest care all accurate observations that can be made upon considerable bodies of men and women.—I am, etc.,

Repallo, Italy, Dec. 19th, 1924.

JOSIAH OLDFIELD.

#### MILK AND ARTERIO-SCLEROSIS.

SIR,—As long as the average adult only tolerates the presence of milk in his cup of tea, it is rather a stretch of the imagination to assume that such small quantities as are imbibed can damage the arteries. Now if it can be shown that the incidence of arterio-sclerosis is greater in America and Scandinavia than in this country, I shall sit up and take notice. The type of person whom one comes across suffering from this complaint does not exactly strike one as being a milk maniac—unless it is "Bristol milk"! And if the calcium in cow's milk is indicted why should ordinary hard drinking water be exempt?

It has been stated that the calcium in cow's milk is in a non-ionized form, and that therefore, in order to be utilized by the tissues, it must first be ionized. Certain ductless glands are supposed to be responsible for this work, and what is not required for body needs is passed in the faeces as calcium soaps and otherwise. I do not venture an opinion as to whether the proteins of milk can be regarded as a factor, but I cannot see how calcium can.—I am, etc.,

Wellington, Salop, Dec. 13th, 1924.

A. D. SYMONS, M.D.

#### ACCLIMATIZATION TO HIGH ALTITUDES.

SIR,—May I claim the courtesy of your columns to suggest to Dr. Haldane and other investigators of the physiological problems of high altitudes that the main aspect of the case has escaped attention? A careful examination of the signs and symptoms of disordered function which occurred in the members of the Mount Everest expedition during the ascent, points inevitably to the conclusion that such manifestations are identical with those of the gradual and rapid onset of hyperthyroidism.

The first sign of trouble is tachycardia accompanied by panting on slight exertion, followed by nausea, difficulty of sleeping, giddiness, lividity, loss of muscular power, persistent wasting, diarrhoea, mild tremors, mental confusion, and in a few cases sudden death. All the classical signs and symptoms are exhibited, even to the distaste for meat.

McCarrison, in his classical book on the thyroid gland, states that the thyroids "in healthy animals, living at sea level, or 1,000 feet above, are in the colloid or resting stage." He adds that "the functional activity of the [thyroid] gland appears to increase with residence at increasing heights above sea level." This, I submit, is the true explanation of the clinical syndrome observed in the historic ascent of Mount Everest.

Dr. Haldane notes in his lecture (BRITISH MEDICAL JOURNAL, November 15th, 1924, p. 885) that cases showing neurasthenia or disturbed action of the heart developed most urgent symptoms when submitted to a slight diminution of atmospheric pressure. This is a most interesting and suggestive note. Many cases labelled neurasthenia and disordered action of the heart are in reality suffering from overaction of the thyroid gland. If diminished atmospheric pressure causes increased urgency of symptoms

of thyroid overaction, it is but natural to suppose that increased atmospheric pressure would diminish the urgency of these symptoms, and it is possible to imagine that, in the future, treatment of hyperthyroidism may proceed along these lines.

It is found that Italians stand increased atmospheric pressure well and are therefore generally made use of for caisson work. It is significant that the quick, brilliant, emotional Italian with flashing eyes suggests an active thyroid and a high basal metabolic rate, and his use for caisson work appears to support the theory that an over-active thyroid would benefit by increased atmospheric pressure. The phenomena of "caisson disease," or compressed air illness, may be explained as due to exhaustion of the thyroid gland and subsequent hypothyroidism. The "heuds" complained of by caisson workers are similar in origin to the contractions of tetany following complete extirpation of the thyroid gland. It is to be expected that men showing signs of slight hypothyroidism and a low basal metabolic rate, as evidenced by a somewhat stolid countenance, slow pulse, and slow speech, would, other things being equal, make the best air pilots and members of any future Mount Everest expedition.

Medical experience of the examination of airmen comes into line with this theory. Many of the essential tests of air efficiency are based directly or indirectly on a stable thyroid gland. It is well known that after a great shock an air pilot becomes nervous and loses efficiency in the air. Maublane and Ratié in their manual of examination of airmen note that a number of pilots showed marked acceleration of the pulse at starting, which was even more marked on landing. This is a most important matter for the safety of the air service, and it is possible that eventually the test of efficiency for pilots during service will be based on the estimation of the basal metabolic rate, or some better method of estimating the activity and stability of the thyroid gland.

It is tragic to think that if the cylinders of oxygen carried by the Mount Everest expedition had been left behind and some tablets of quinine hydrobromide, pancreatin, insulin, bromides, and possibly parathroid, had been taken instead, the expedition might have had a successful issue and valuable lives have been saved.—I am, etc.,

London, W.B. Dec. 14th, 1924. A. M. GALE, B.Sc., M.D., Glas.

#### CRITERIA OF TRANSMISSION AND CULTIVATION OF ENCEPHALITIS AND ALLIED VIRUSES.

SIR,—Dr. McCartney, in the BRITISH MEDICAL JOURNAL of December 20th, 1924 (p. 1159), makes several sweeping assertions concerning the results of experimental investigations into the etiology of encephalitis lethargica. For my purpose it will be sufficient to quote part of his summary, where he states that "normal stock rabbits reveal in a high percentage of cases lesions identical with those described by other workers as evidence of the experimental transmission of encephalitis lethargica." Now, being one of those other workers specifically mentioned, I cannot allow this statement to pass unchallenged. Here I shall be as brief as possible, as my opinion on this criticism, which was originated by Dr. Flexner in America, has already been published both in this country and in America. For the following reasons the arguments put forward by Dr. McCartney are invalid:

1. Spontaneous encephalitis of rabbits, whatever its frequency may be in America, is a rare disease of our animals.
2. Only the inoculation of virulent material from human cases of encephalitis lethargica produced an encephalitis in rabbits, and never the control material.
3. Spontaneous encephalitis of rabbits is mainly a chronic disease, whilst experimental encephalitis is an acute infection.
4. The histological lesions of the two diseases are sufficiently distinct to be readily distinguished by microscopical examination, whilst the possibility of the demonstration of the parasite of spontaneous encephalitis gives a conclusive distinction.

In view of the above facts I do not think that Dr. McCartney's criticisms are applicable to the work done in this country, and as far as I know there is only one instance where the disease was transmitted to rabbits from human encephalitis bears any resemblance to the spontaneous encephalitis of rabbits. We admit that there is still much



to be learned concerning the etiology of this protean human disease, but criticism to be helpful must take cognizance of all details.—I am, etc.,

JAMES MCINTOSH.

The Bland-Sutton Institute of Pathology,  
The Middlesex Hospital, London, W.1,  
Dec. 22nd, 1924.

#### CYCLE DELIVERY OF GOODS AND HEART STRAIN.

Sir,—During the past fifteen years I have treated an ever-increasing number of cases of heart strain in boys of 14 to 18 years of age, whose occupation consisted in the delivery of goods by means of cycles with carriers. The heart symptoms were generally progressive, appearing after one or two years' work. They presented more or less the same features—namely, dyspnoea, faintness, or giddiness, with tachycardia, and the apex beat displaced downwards over a somewhat diffused area. The weight carried by these boys ranged from 10 to 80 lb., which, against a strong wind or uphill, represents considerable energy in foot-pounds. There does not appear to be any existing law which fixes the maximum weight to be carried on cycles by boys. Though the work could be efficiently done by dog traction, as seen in Belgium, Switzerland, and Luxembourg, this is forbidden by an Act of 1854.

Therefore, as dog traction, even under the best conditions, is barred, and there does not appear to be any legislation whatever controlling the weights carried, boys in increasing numbers are receiving irreparable heart injury, directly due to the excessive strain caused by their work during a susceptible period of their lives. The majority of the cases I have seen had no rheumatic history or evidence of pre-existing heart trouble.—I am, etc.,

J. H. KEPPEL-COMPTON, M.R.C.S.,

Southampton, Dec. 9th, 1924.

L.R.C.P.

#### TREATMENT OF MOBILE BACKWARD DISPLACEMENT OF THE UTERUS.

Sir,—I was much interested in Professor Donald's paper published in your issue of December 13th, 1924 (p. 1087). In February, 1924, I collected and published (*Lancet*, February 2nd, 1924) a series of 50 cases in which sling operations had been performed for retroversion between the years 1916 and 1922, by various members of the staff of the Hospital for Women, Soho Square. While excluding cases of retroversion in the presence of prolapse, my results are not strictly comparable with Professor Donald's, as cases other than mobile retroversions have been included in my series, but they serve strongly to support his statement that "complications are generally the only things that matter in retroversion and not the displacement itself."

Of the 50 cases operated on in my series no fewer than 31 had complications—most commonly pelvic adhesions and inflamed tubes; and of the 20 per cent. of cases cured and 26 per cent. relieved by the sling operations, 80 per cent. had complications requiring treatment.—I am, etc.,

London, W.1, Dec. 22nd, 1924.

ALICE BLOOMFIELD.

#### "SAUCE FOR GOSLINGS."

Sir,—I am a frightened gosling. I want some old gander (a nice respectable one) to tell me what I may, or may not, do. How can I write when I want to without the risk of being called to stand before the judgement seat? As things are, those of us who use pen and ink and paper in a laudable attempt to illuminate other people's darkness seem to be in considerable danger. At any moment we may be charged with "advertising"; and, if so charged, we shall find it difficult to rebut the charge. A man who writes for the public cannot help getting his name before the public. I have done it many times, and, so far as I know, I have been the only sufferer. Prospective patients shook their heads and sought medical counsel elsewhere. They were misguided, but they were logical. They argued that a doctor who wrote things down on paper could not also find time to listen properly to their tales of woe: they knew nothing of the infinite capacity for work of a general practitioner!

I am in complete agreement with Dr. Harry Roberts when he suggests that it is time for the collective opinion of the

profession to express itself on this question of medical publicity. The outside world is laughing at us—not without reason. We are accused—also not without reason—of being parties to the establishment of a very real and very powerful medical priesthood. We are reminded that in 1215 Pope Innocent III prohibited any operation in which blood was shed; and we are asked how long it will be before some other powerful person issues an edict forbidding any enterprise in which ink is shed! Do we not, as a profession, take ourselves a little too seriously? After all, ours is said to be a liberal profession. Yet in more than one direction it is possible to hear the rattle of fetters. There can be no harm in an examination of those fetters before we adopt them for constant wear.

In this question of medical publicity, I suggest, the one thing that really matters is the manner of the publication. Vulgar publicity must be frowned at. It is all a question of good taste.—I am, etc.,

Walsall, Dec. 21st, 1924.

FRANK G. LAYTON.

#### ANTISEPTIC PASTES.

Sir,—Your leader on "Listerism and War Wounds" (December 27th, 1924, p. 1205), referring to a new chapter, "Postscript, 1924," says it will revive many memories and stimulate thought; it calls to my mind the fact that while the use of "bipp" was undoubtedly instituted by Mr. Rutherford Morison, and generally sanctioned by the weight of his authority, a preparation of the same character, approximately, was employed in France in January, 1915, in No. 11 General Hospital. At that time a sapper officer, well over 6 feet in height, was a patient, suffering from a butterfly fracture of the femur below the trochanter, with gas gangrene; his wounds were so extensive that dressing without an anaesthetic was impracticable, and nitrous oxide gas was administered daily by George Chapman, whom many will remember as a London Hospital rugger forward, and who was killed a few weeks later at Neuve Chapelle. Unfortunately, the supply of gas ran out, and the difficulty of dressing the wound became acute; but a compound of iodoform 1 part, bismuth subnitrate 2 parts, with sufficient glycerine to render it viscous, was suggested by the late Philip Ferguson, F.R.C.S. This was injected into the depths of the wound and smeared over the surface, at first every third day, later once a week. The success of the mixture was immediate, the temperature chart showing a drop to normal and remaining there for the period of the officer's stay in France. Owing to the extreme height of the patient he was treated on a specially made quadrilateral box, covered with canvas, having a compartment for each limb and an area cut out underneath the wound area. He was ultimately transferred to England, and after some early difficulty in persuading the surgeons there to allow him to retain the limb, he made an excellent recovery, and was, I believe, the first "fractured femur" to return to duty in France.

Reference to Sir George Makins would, I think, confirm these statements. It should be noted that the technique differed somewhat from Mr. Rutherford Morison's, in that glycerine, then available in sufficient quantity, was employed as the excipient, and that no attempt was made to close the wound, no "excision" having been effected. At the same time, I have long felt it due to Ferguson's memory that he should have some of the credit of bipp. Our mixture was employed in many severe cases at that time, but with the dispersal of many of our officers to the line I fancy it fell into disuse until the bipp revival in 1916.

At this season one's thoughts hark back to old times and to friends who have gone. Philip Ferguson, who was a Manchester man fresh from doing a job at Golden Square, survived the war, but died early in 1919; S. W. McLellan of Liverpool, who was our bacteriologist and took much interest in our "bismuth porridge" cases from a cultural point of view, also died—on his honeymoon—in 1919. Those who have had the opportunity of reading the private diary of the war kept by the latter will share the opinion of his personal friends as to the loss that literature as well as medicine sustained by his untimely death; he illuminated everything he touched, from bacteriology to bull-dog rearing.

It makes a commentary on the grimness of the long struggle that of twenty-five "Irregular" officers who were a hard-wrought, whole-souled, and happy mess in the early months in No. 11, I can trace no more than four alive at Christmas, 1924.

With apologies for the discursiveness of this letter, I am, etc.,

Sunderland, Dec. 25th, 1924.

W. GRANT WATGH.

#### NOTIFICATION OF INFECTIOUS DISEASES.

SIR,—The Infectious Disease (Notification) Act, 1889, enacts that—

"A medical practitioner attending on or called in to visit the patient must, on becoming aware that the patient is suffering from an infectious disease, forthwith send to the medical officer of health a certificate, stating the name of the patient, the situation of the building, and the infectious disease from which, in the opinion of such practitioner, the patient is suffering."

Does this mean that in the following cases all the medical practitioners concerned shall notify the case and receive the legal fee: principal and assistant or locumtenents, medical practitioners in partnership, transfers from one practitioner to another in the area of the same local authority?

Is there any recognized custom in such cases? A comment in *The Lancet* of England, vol. 23, p. 448, on the above section suggests that where more than one medical practitioner attends a patient the obligation to send a certificate seems imposed on each one, and each is entitled to a fee.—I am, etc.,

Worcester, Dec. 22nd, 1924.

ARTHUR FOSTER.

\*\* Section 3 (b) of the Infectious Disease (Notification) Act, 1889, reads: "Every medical practitioner attending on," etc. On page 821 of the seventh edition of Lunn's *Public Health Acts*, vol. i, there is an annotation to the effect that "in reply to an inquiry addressed to them on the subject the Local Government Board stated that they were advised that if more than one medical practitioner is attending on or called in to visit the patient, each practitioner is bound to send a certificate, and is entitled to the prescribed fee." The recognized custom is, however, for a local authority to require only one certificate. If in any particular instance a practitioner is in doubt as to whether a case has been notified he should forward a certificate to the medical officer of health, and he will be paid the usual fee.

#### ADMINISTRATION OF MEDICAL SERVICES.

SIR,—I suggest that the question of administration of medical service is one that requires consideration. National health insurance has set up an incomplete State medical service, and when that has been extended, and 60 to 70 per cent. of the population are included in it, independent practice will be considerably smaller. Only men in public posts—and not all of them—appreciate the effect of a certain doctrine that doctors are incapable of controlling medical affairs. One explanation given is that they are not business men. It is curious that this is often accepted as a complete explanation, and there is failure to perceive the anomalous position of the doctor. It will be impossible to correct long-standing ideas in a few months, and it might be desirable to consider the subject before any definite proposal for a complete State service is made rather than wait to hear what is proposed.

The root of the matter seems to be an indefinite relationship between the profession of medicine and society. When Governments appoint Royal Commissions to inquire into matters of public health and omit to make doctors their representatives, they nevertheless take care to call medical evidence. It would seem that work is valued, but space for working in is not estimated.

Local government bodies who appoint medical men to advise them in health administration delegate authority to lay officials so that public health may be represented. Therefore, speaking generally, advice is sought and in most cases is followed, but authority and representation are not allowed. Of course, this arrangement pleases those who are put in the intervening positions, and all of them agree that

doctors are unfitted for administration. The latter term, of course, is comprehensive, not limited to certain branches of work, and a duo advantage is taken of its full meaning.

In this way men who write letters, add up figures, and see about repairs, come to control medical service. The effect is not fully realized by the majority of doctors because they have not come into sufficiently close contact, but opportunity will arise when a full-blown State service comes into force governed on these lines. It will be too late to do anything then, however.

To illustrate by comparison: Suppose the general principle now in force to be applied in its literal form elsewhere; suppose it to be held that a professional soldier can only act in an advisory capacity; then an army would be commanded by a layman, representing public authority, who would have under him a general for the purpose of advising him on military actions that had to be taken. One need hardly say that administrative schemes like this do not work well, and actual examples from medical services could be given of their failure and the modifications that necessity has demanded.

What good purpose is served by retaining a theory that breaks down in practice? To begin now to take practical steps to secure proper status and proper measure of control over their services for all men in whole-time posts would commence a new period of progress from which the whole community would benefit. The first and easiest step is at the bottom, where the doctor's case is unanswerable.—I am, etc.,

Southend-on-Sea, Dec. 8th.

R. A. S. SUNDERLAND.

#### Obituary.

R. R. G. RUSSELL, M.D.,

Assistant, Imperial Cancer Research Fund.

We regret to announce the death of Bertie Ronald Gordon Russell, which occurred, after a short illness, on December 22nd, 1924. Dr. Russell graduated M.B., Ch.B. at the University of Aberdeen in 1904, and became M.D. in 1908. After serving as an assistant in the pathological department of the University, he came to London in 1906, and acted as voluntary assistant in the laboratories of the Imperial Cancer Research Fund. The following year he joined the scientific staff, of which he remained a member until his death. During the great war he served in the R.A.M.C. from 1914 to 1918, first at the Royal Herbert Hospital, Woolwich, and later in Malta.

Russell's scientific work was almost entirely confined to the study of malignant disease, and on this subject he was recognized among experts the world over as a sound and trustworthy experimenter and critic. His early work was concerned chiefly with the study of resistance to the growth of implanted fragments of tumours. This resistance may be natural or induced; the induced or artificial form follows inoculations of normal tissues, or, sometimes, is a consequence of the growth of a tumour graft. Russell demonstrated that the anatomical basis of the resistance is a failure on the part of the host tissues to supply a vascular framework around and upon which the implanted tumour cells may grow. The development of resistance, which may occur concomitantly with the growth of implanted fragments of cancer tissue, was investigated with great care by him. It was a task which demanded an extraordinarily high standard of skill—operative, experimental, and histological. Few could have been found equal to the demand, but Russell succeeded in this work, and showed that differences between tumours in the power of inducing resistance are very great, and that the influence of the host tissues—"the soil"—is of little importance. In later work he was occupied with the comparison of the metabolic processes—the oxygen requirements, the powers of utilizing sugars, and so on—of normal and malignant tissues. The object of the work was to discover some measurable difference, apart from the fundamental difference in growth energy, between cancerous and normal cells. This work was still in progress at the time of his death.

For many years Russell was interested in the malignant transformation of the stroma of certain carcinomata. It

was for a long time the only method known of producing a new malignant growth. One carcinoma in particular which he studied was able regularly, on about the ninth week of its growth, to cause the connective tissue stroma, which is provided by the host, to develop into a sarcoma. It was natural, therefore, when it had been shown by Yamagiwa and his colleagues that tar, applied repeatedly to the skin, will induce a carcinoma, that Russell should attempt to induce a sarcoma by the same means. In this he succeeded.

In all his work Russell was very thorough and painstaking; his attention to detail saved him much labour. But it was in the difficult art of experimentation that he excelled; his judgement in the "lay-out" or disposition of an experiment enabled him to obtain answers to questions with a surprising economy of materials. As a colleague no man could have been more admired and respected. His learning, which was vast, was at the disposal of all; his kindness and patience were apparently limitless, whilst good humour, in good times or in bad times, never failed him. In public scientific controversy he would take no part, but delighted in the controversy or argument which is inevitable in a research laboratory; he was a very formidable but always scrupulously fair opponent in such discussions. To his friends he was a most lovable man, loyal, and charitable to weaknesses. He bore long-continued ill health with a courage and patience which formed a part of his strong character.

W. E. G.

**JOSEPH MANSERGH PALMER, F.R.C.S.I., M.R.C.P.I.,**  
Surgeon, County Armagh Infirmary, Armagh.

THE announcement of the death, on December 21st, 1924, of Dr. Palmer at his residence, Infirmary House, Armagh, will be received with much sorrow by the profession in Northern Ireland, and by a very large circle of private friends and patients. Dr. Palmer was 74 years old, and had been connected with the County Infirmary of Armagh for over fifty years. His professional attainments were of a high order, and his skill in operative surgery was well known. Dr. Palmer was one of those busy men whose services are sought for by all around. He had been president of the North of Ireland Branch of the British Medical Association, and formerly was a very constant attendee of its meetings. He was visiting and consulting physician to the Armagh Lunatic Asylum; consulting physician to the "Retreat," Armagh; physician to Shiell's Institute, Armagh; and held many other posts; he was also D.L. and J.P. for the county, and had held the office of high sheriff in 1906.

Much sympathy is felt for his widow and family, many of whom played a distinguished part during the war, both in the army and in the navy.

**DR. ERNEST ALFRED EDELSTEN**, who died on December 18th, 1924, at his residence in Streatham, aged 63, was educated at the Boteler Grammar School, Warrington, New College, Oxford, and St. Bartholomew's Hospital. In 1884 he graduated B.A., with honours in natural science, and four years later won the Bentley surgical prize at St. Bartholomew's Hospital. In 1889 he obtained the M.R.C.S.Eng. and L.R.C.P.Lond. diplomas and the M.A., M.B., and B.Ch. degrees. His first appointment was that of house-surgeon to the East London Hospital for Children, Shadwell, and he afterwards served as house-physician and assistant house-surgeon at the York County Hospital. After a short period of general practice in partnership at Shirley, Southampton, he removed, in 1896, to Brixton. For the last four or five years, owing to ill health, Dr. Edelsten accepted no new patients, only keeping on the old ones, by whom he was very highly regarded. He spent a total of thirty years in general practice. He served for some time on the Executive Committee of the Lambeth Division of the British Medical Association, and on the committees of local medical societies. He took a considerable interest in post-graduate work. Since 1907 he had been an enthusiastic motorist, and until the beginning of the war was actively interested in golf and lawn tennis. He is survived by his widow and four children.

**DR. CHARLES JAMES PENTLAND** was killed outside his house in Gower Street, London, on December 21st, 1924, as the result of a collision between a motor car and a lorry. Dr. Pentland received his medical education at Trinity College, Dublin, and graduated M.D., B.Ch., B.A.O. in 1910. He was assistant physician to St. Mary's Hospital for Women and Children, Plaistow, and x-ray dermatologist to the Western Skin Hospital. He was a Fellow of the London Dermatological Society, and of the Society for the Study of Venereal Diseases. His previous appointments included those of medical officer to the Rowan Dispensary, to the Royal Irish Constabulary, and to Dr. Stevens's Hospital, Dublin. He had published articles on *Ascaris lumbricoides* infection in children, and on diabetes from the physiological standpoint. He was a member of the British Medical Association.

**DR. RICHARD HOLGATE SHAW**, who died on December 22nd, 1924, was born in 1868, and received his medical training at Leeds. In 1891 he obtained the diplomas of M.R.C.S.Eng., L.R.C.P.Lond. From 1892 to 1912 he was engaged in medical practice in Liversedge, Yorkshire, where he was medical officer of health and police surgeon. After a year or two of leisure he recommenced practice at Golders Green. He acted as medical officer of the Hampstead Garden Suburb Auxiliary Hospital from 1916 to 1919, and for his services there he was mentioned in despatches and awarded the M.B.E. He held the post of surgeon to the Southern Division of the Metropolitan Police from 1917, and also that of surgeon to the Post Office in Golders Green. He had been a member of the Executive Committee of the Bradford Division of the British Medical Association from 1906 to 1909, and from 1920 to 1923 he was a member of the Executive Committee of the Finchley and Hendon Division. Dr. Shaw was a man of strong personality, highly successful as a general practitioner, and most popular with his patients and colleagues. After his final retirement in June, 1923, he lived at Bournemouth. He married Louisa Marion, daughter of the late Dr. Francis Boynton-Lee of Liversedge, who, with two daughters and one son, survives him.

**DR. SARAT KUMAR MULLICK, C.B.E.**, one of the leading medical men in Calcutta, died there on November 30th, 1924. He was educated at Calcutta University, St. Mary's Hospital, and Edinburgh University, graduating in the latter as M.B. and C.M. in 1887, and as M.D. in 1905. He took a leading part in medical politics in India, and was an ardent advocate of military service for the Bengalis. During the war he raised the Bengali Ambulance Corps, which served successfully in Mesopotamia. He had a considerable share also in inducing the Government to enrol a Bengali battalion for combatant service. He received the C.B.E. after the war, in recognition of his work. He was president of the Indian Territorial Force Committee, and had just attended a meeting at Delhi on this subject when he was attacked, on the return journey to Calcutta, by pneumonia, which proved fatal in a few days. Dr. Mullick was professor of medicine and clinical medicine in the National Medical College of India; and physician to the King's Hospital, Calcutta, two purely Indian institutions. He was also editor of the *Medical and Surgical Journal of the Tropics*, Calcutta.

## The Services.

### DEATHS IN THE SERVICES.

**Lieut.-Colonel George Augustus Emerson**, Bengal Medical Service (ret.), died at Parkstone, Dorsetshire, on December 27th, 1924, aged 72. He was born at Dinapur, and was the son of Lieutenant James Emerson, of the 26th Bengal Native Infantry. He was educated at Edinburgh, where he graduated M.B. and C.M. in 1876. He entered the I.M.S. as surgeon in October, 1877, reached the rank of lieutenant-colonel after twenty years' service, and retired on April 2nd, 1903. He served in the Afghan war of 1878-80, receiving the medal with a clasp, and in the Sudan campaign in 1885 at Suakin, gaining the Egyptian medal with two clasps, and the Khedive's bronze star. In this campaign, when the dervishes made a sudden attack on the British force as it was making camp, Emerson's regiment, the 17th Bengal Infantry, or Loyal Poorbeahs, was the one which was first attacked, and suffered very severe losses, their commandant, three other officers, and some 150 men being killed. The action is known by the name of Tofrek, or Baker's zariba.

## Universities and Colleges.

## UNIVERSITY OF LEEDS.

## HONORARY DEGREES.

THE celebrations in connexion with the jubilee of the Yorkshire College of Science and the coming of age of the University of Leeds were described in our issue of last week, and it was mentioned that the University had taken the opportunity of conferring honorary degrees on a number of distinguished persons, including the Earl of Balfour, Chancellor of the University of Cambridge; Sir Michael Sadler, formerly Vice-Chancellor of the University of Leeds; Sir Berkeley Moynihan; and Dr. J. E. Addison, formerly professor of medicine in the University.

In presenting Sir Berkeley Moynihan, the Vice-Chancellor recalled that he had been a student of the Leeds School of Medicine, that he had been connected with Leeds General Infirmary during the whole of his professional life, and that he had been elected in 1909 to the chair of clinical surgery. It had been Sir Berkeley Moynihan's privilege and pride to enhance the prestige of the school. During the great war he had been consulting surgeon to the Northern Command, and chairman of the Army Medical Advisory Board (an office he still retained). His office as teacher of surgery had enabled Sir Berkeley Moynihan to bring into play the magnetism of a rare personality, stimulating, suggestive, inspiring, vigorous, and lofty-minded. He had insistently urged upon his students that the first duty of a surgeon was to make use of every available source of knowledge to place the patient in the right position for recovery. His brilliant technique, his imaginative resourcefulness, his splendid courage, his delicate manipulative power, were the admiration of his professional brethren.

In presenting Dr. J. E. Addison (who was not able to be present), Professor Wardrop Griffith said that the name of Emeritus Professor John Edwin Addison would always be remembered by those who had watched the development of the University of Leeds. He had been a member of the council of the Yorkshire College from its earliest years; he had succeeded Sir Clifford Allbutt as professor of medicine, and he had taken a great part in the work of the Leeds Literary and Philosophical Society; he had also for some years been its president. Between that society and the University there had always been a close connexion. Dr. Addison had served on the full staff of the General Infirmary from 1871 to 1892, and during all that time was actively engaged in teaching. As a teacher he was critical and suggestive rather than merely didactic, and probably the full and true value of his teaching was appreciated by his pupils only after they had been some years in practice.

## UNIVERSITY OF DURHAM.

AT the convocation held on December 20th, 1924, the following degrees were conferred:

M.D. (for Practitioners of Fifteen Years' Standing).—P. Henderson, E. G. D. Nilsson.  
M.B., B.S.—Elizabeth M. Dorothy J. Brown, A. Fairlie, J. Hamilton, R. B. Holme, H. V. Ing.

## UNIVERSITY OF ST. ANDREWS.

A MEETING of the Senate was held on December 20th, 1924, when Dr. W. L. Burgess and Dr. David Lennox were appointed Lecturers in Public Health and Forensic Medicine respectively. Professor E. P. McLoughlin, Professor of Anatomy, University College, Dublin, was appointed an additional examiner in anatomy and medicine, and Dr. Alexander was appointed examiner in surgery for the Diploma.

## QUEEN'S UNIVERSITY, BELFAST.

AT the meeting of the Senate on December 23rd, 1924, Sir William Whitla, M.A., M.D., D.Sc., was appointed Pro-Chancellor. Dr. John A. Milroy was appointed "J. C. White" Professor of Biochemistry, and Dr. Victor D. Addison "J. C. White" Lecturer in Bacteriology.

## ROYAL COLLEGE OF SURGEONS IN IRELAND.

THE following candidates have been approved at the examinations indicated:

PRIMARY FELLOWSHIP.—J. J. Walsh.  
FINAL PROFESSIONAL FELLOWSHIP.—R. H. J. M. Corbet, G. E. Strahan, and W. E. C. Wynne.

## CONJOINT BOARD IN IRELAND.

THE following candidates have been approved at the examinations indicated:

FINAL PROFESSIONAL EXAMINATION.—J. J. Bourke, A. F. Cook, T. F. Crean, T. A. Cronhelm, J. Dalrymple, E. J. A. Dugan, Mary J. Fagan, E. M. Flanagan, E. C. Gray, T. T. Joyce, C. Keating, M. G. Kelly, A. B. Kennedy, Wilhelmina C. Maguire, J. C. Murphy, Mary J. McDermott, Mary E. Nelson, T. J. O'Connor, C. E. A. O'Riordan, A. Owen Flood, J. H. Owen Flood, P. C. Raftery, T. C. Stedley, R. Taylor, T. W. Wilson.  
D.F.P.R.—Marianne H. Hoskin, Kathleen O. M. Kennedy, J. F. O'Connor, M. Sayers.

## SOCIETY OF APOTHECARIES OF LONDON.

THE following candidates have passed in the subjects indicated:

SENIORE.—A. H. Allam, D. T. Jenkins, A. Mistry (Section B), J. Wilson.  
MIDWIFE.—S. W. Coff, D. T. Jenkins, T. McD. Kellough, F. R. Khatnagar, C. C. Taff, R. D. M. Tims.  
FORENSIC MEDICINE.—C. L. Copeland, T. G. L. Davies, R. Norrie, K. Samra, P. H. Steele, W. T. Swanton, C. C. Taff, R. D. M. Tims, C. W. Warner.  
MIDWIFE.—W. T. Swanton.

The diploma of the Society (L.M.S.S.A.) has been granted to Messrs. K. Samra, W. T. Swanton, and R. D. M. Tims.

## Medical News.

AS will have been seen in the newspapers this week, Dr. C. Courtenay Lord showed much courage and resource in his efforts to rescue a party of motorists whose car fell into the river Onny, near Craven Arms, in Shropshire, during the Christmas holidays; he succeeded in saving the lives of two people, and with great difficulty pulled a third (who died later) out of the flooded river. Dr. Lord is Assistant Medical Secretary of the British Medical Association.

THE arrangements for the next social evening, on January 19th, of the Royal Society of Medicine have been altered. The guests will be received by the President, Sir St. Clair Thomson, at 8.30 p.m., and at 9.30 Miss Lena Ashwell will give an address entitled "The Drama as a Necessity of Civilized Life."

REGULAR interchange of information is a notable feature of modern effort to control infectious disease. In England, for the use of medical officers of health and all others interested, the Registrar-General issues weekly and quarterly returns. There is, besides, for the confidential guidance of port health officers, a weekly record of infectious diseases at ports at home and abroad. Recently we called attention to the international action taken by the League of Nations in publishing annual reports of infectious diseases in many lands in every quarter of the globe, as exemplified in the volume for 1923. But note should also be taken of the monthly issue of similar reports in French and English. These contain in addition to tables of statistics, charts, etc., a general summary calling attention to the salient features of disease prevalence; the reports are on sale by authorized agents throughout the world. For Britain the agents are Constable and Co., Ltd., 10 and 12, Orange Street, London, W.C.2. The annual subscription is 10s., and the price per number is 1s.

AT the general meeting of L'Union des Syndicats Médicaux de Franco, held at the end of November, 1924, it was decided after a long discussion that the co-operation of the Syndicats Médicaux with the proposed insurance legislative measures would only be possible if the following conditions were accepted: Free choice of doctor, and strict professional secrecy; fees payable on a basis of visits, either according to a tariff regulating the financial responsibility of the State, but not limiting the actual amounts chargeable, or by arrangement between the medical practitioner and his patient, possibly in accordance with some agreement between the medical associations and the Government. With reference to the proposed new taxation a resolution was adopted that the medical practitioner should not be assessed on his apparent income without regard to his expenses; and that no new tax should be imposed on sickness by classifying medicinal preparations as luxuries. It was added that the medical staffs of hospitals should not be taxed.

THE late Lord Abercrombie, who was himself a distinguished authority on prehistoric archaeology, bequeathed to the University of Edinburgh a sum of £17,000 to found a chair in that subject. He also bequeathed to the University certain books to form the nucleus of a special section of the library, together with any other of his archaeological and anthropological books and photographs that the library committee of the University might select.

THE seventh Congress of the International Society of Surgery will be held in Rome from April 7th to 10th, 1926, when the following subjects will be discussed: Radium therapy of cancer of the uterus, treatment of cerebral tumours, surgery of the spleen, abscess of the liver, remote results of the treatment of Jacksonian epilepsy. Further information can be obtained from the Secretary, Dr. L. Mayer, 82, Rue de la Loi, Brussels.

THE new medical school building attached to the Hangchow Mission Hospital, which was opened at the beginning of October, 1924, is a combination of Chinese and foreign architecture, and provides an educational establishment on the most modern lines. On the ground floor is a large assembly room, four smaller lecture rooms, three laboratories

for physics and chemistry, and a museum. On the first floor there are two more lecture rooms, accommodation for the medical staff, and laboratories for biology, histology, and pharmacology, together with a library and reading room. The pharmacology laboratory contains two lines of steel drums, driven by an electric motor, for recording muscular action. The third floor of the building provides dormitories for seventy-five students, and there is additional accommodation in the old building for sixty. The old building also has a lecture hall for seating 1,000 students, and is fitted with a cinematograph. The medical school is attached to a hospital containing 500 beds and dealing with nearly 40,000 patients annually.

THE Joint Nursing and Midwives' Council of Northern Ireland, being about to revise its list of examiners, invites applications from registered medical practitioners, including women, who would be willing to act. Particulars can be obtained from the Registrar, 118, Great Victoria Street, Belfast, to whom applications should be sent not later than January 15th.

THE Harben Lectures of the Royal Institute of Public Health will be delivered at its house (37, Russell Square, London, W.C.) by Dr. Edgar L. Collis, professor of preventive medicine in the University of Wales. The subject of the course is phthisis and industrialism (national and occupational), with reference to other infectious diseases. The lectures will be given on January 26th, 27th, and 28th at 4.30 p.m. on each day. The lectures are open to the public.

POPULAR science lectures in aid of King Edward's Hospital Fund (7, Walbrook, E.C.4) will be delivered during the first three months of 1925, at various centres in London. The lectures will deal chiefly with scientific discoveries and achievements in recent years in the departments of biology, physics, chemistry, and physiology; they will be illustrated by experiments and demonstrations, or by lantern slides.

A SESSIONAL meeting of the Royal Sanitary Institute will be held at the Town Hall, Newcastle-on-Tyne, on Friday, January 16th, when, with Professor H. R. Kenwood, C.M.G., M.B., in the chair, a discussion on maternity and child welfare practice will be opened in critical papers by Dr. A. F. G. Spinks and Mr. H. Harvey Evers, M.S., F.R.C.S., at 4 p.m. Other papers will be read in the evening. On Saturday visits will be paid to the maternity and child welfare centre, to a maternity hospital, to a model dairy, and to the new public baths.

A HOSPITAL, health, nursing, and midwifery exhibition and conference will be held at the Central Hall, Westminster, from April 20th to 24th. The railways have consented to issue tickets at the single fare and a third for the return journey. Further particulars can be obtained from the Organizing Director, 12a, Belsize Park Gardens, London, N.W.3.

THE issue of *Nature* for this week (January 3rd) will contain an article by Professor E. H. Starling on the scientific work of Professor I. P. Pavlov. It will be accompanied by a photographic plate portrait suitable for framing.

### NEW YEAR HONOURS.

THE New Year's honours list contains the following names of members of the medical profession:

#### K.C.V.O.

HENRY JOHN FORBES SIMSON, M.B., C.M., F.R.C.S.Ed., Surgeon to the Hospital for Women, Soho Square, and Obstetric Surgeon to the West London Hospital.

#### Knighthood.

JOHN CAMPBELL, M.Ch., F.R.C.S., LL.D., Senior Surgeon to the Samaritan Hospital for Women, Belfast, and the representative of Queen's University in the Northern Ireland Parliament.

FREDERICK GOWLAND HOPKINS, D.Sc., M.B., F.R.C.P., F.R.S., Professor of Biochemistry in the University of Cambridge.

THOMAS MORISON LEGGE, C.B.E., M.D., Senior Medical Inspector of Factories, Home Office.

HOLBURN JACOB WARREN, C.B.E., M.S., F.R.C.S., Senior Surgeon, St. Bartholomew's Hospital, and Vice-president of the Royal College of Surgeons of England; Vice-Chancellor of the University of London, 1922-24.

Major-General ROBERT CHARLES MACWATT, C.I.E., M.B., F.R.C.S., Director-General Indian Medical Service.

FREDERICK TRUBY KING, C.M.G., M.B., Director of Child Welfare, New Zealand Department of Health.

#### D.B.E.

Miss LOUISA B. ALDRICH-BLAKE, M.S., M.D., Dean of the London School of Medicine for Women.

#### C.B. (Military).

Major-General S. F. ST. DAVIDS GREEN, C.B.E., M.D., D.D.M.S., Western Command, India.

Major-General H. J. K. BAMFIELD, D.S.O., I.M.S., D.D.M.S., Eastern Command, India.

#### C.M.G.

W. J. J. ARNOLD, M.B., Colonial Surgeon, St. Helena.

#### C.I.E.

Colonel C. H. BENSLEY, I.M.S., Inspector-General of Civil Hospitals and Prisons, Assam.

Lieut.-Colonel E. C. G. MADDOCK, I.M.S., late Civil Surgeon, Poona.

Lieut.-Colonel J. C. S. VAUGHAN, I.M.S.(ret.), Superintendent Radium Institute, Ranchi.

#### Kaiser-i-Hind Medal.

S. C. HORMUSJI, M.D., First Assistant Health Officer, Bombay.

HENRY T. HOLLAND, M.B., F.R.C.S.Ed., Medical Officer of the Church Missionary Society, Baluchistan.

Mrs. GRANT STAIR, M.D., American Baptist Mission, Udayagiri.

Other birthday honours of interest to the medical profession are the Order of Merit awarded to Sir James Frazer, author of the *Golden Bough*, and to Sir Ernest Rutherford, pioneer investigator of radio-activity and the constitution of the atom; and the knighthoods conferred on Mr. W. B. Hardy of Cambridge, Secretary of the Royal Society, and on Mr. Edmund Gosse, who delivered the first Lloyd Roberts Lecture at the Royal College of Physicians, on personal relations between medicine and literature (BRITISH MEDICAL JOURNAL, November 24th, 1923, p. 999).

## Letters, Notes, and Answers.

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the BRITISH MEDICAL JOURNAL alone unless the contrary be stated. Authors desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Financial Secretary and Business Manager, 429, Strand, W.C.2, on receipt of proof.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—not necessarily for publication.

ALL communications with reference to advertisements as well as orders for copies of the JOURNAL should be addressed to the Financial Secretary and Business Manager, 429, Strand, London, W.C.2. Attention to this request will avoid delay. Communications with reference to editorial business should be addressed to the Editor, BRITISH MEDICAL JOURNAL, 429, Strand, W.C.2.

Communications intended for the current issue should be posted so as to arrive by the first post on Monday or at latest be received not later than Tuesday morning.

THE telephone number of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is Gerrard 2630 (Internal Exchange). The telegraphic addresses are:

EDITOR of the BRITISH MEDICAL JOURNAL, Aitiology Westrand, London.

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), Articulate Westrand, London.

MEDICAL SECRETARY, Mediscera Westrand, London.

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 4737, Dublin), and of the Scottish Office, 6, Rutland Square, Edinburgh (telegrams: *Associate, Edinburgh*; telephone: 4361, Central).

### QUERIES AND ANSWERS.

#### INCOME TAX.

##### Cost of Repairs and Improvements.

"H. G. S." inquires: Can I deduct the cost of doing up my treatment rooms, such as laying new floors, putting up partitions, and the cost of electrical instruments?

\*. The same principle governs both classes of expenditure—namely, that the cost of improvements or of adaptations for special purposes represents capital outlay and cannot be deducted for income tax purposes. But in so far as the expenditure covers ordinary repairs it is deductible—for instance, if the floor in question was in such a condition as to make it advisable to replace it, then the cost of putting in the same sort of floor would be allowable, but not any extra expense incurred because a different or improved form of flooring was desired; similarly the cost of installing an electrical equipment is not allowable, but the expense of maintaining the apparatus in working order is deductible.

#### AGED BLIND.

"H. R."—Information regarding institutions where aged blind may be received into residence may best be obtained by application to the Secretary of the National Institute for the Blind, 224, Great Portland Street, London, W.1. The activities of the institute cover all parts of the country; it has local agencies and works in association with local societies for the blind. Since the inquiry comes from Buckinghamshire, communications might also be made to the Secretary of the Buckinghamshire Association for the Blind, Lindford Hall, Wolverton.

#### TREATMENT OF GOITRE BY IODINE.

DR. G. W. JOSEPH (Prestatyn, North Wales), in reply to Dr. McAskie (December 27th, 1924, p. 1216), writes to say that he has supplied details to all medical practitioners who have made personal application to him.



## LETTERS, NOTES, ETC.

## ALLONAL.

"M.R.C.S., L.R.C.P." writes: I wish to add my warning to that frequently given by Sir William Wilcoxon in regard to veronal allonal and all other veronal compounds. I have seen to my grief and misery the effects of allonal on a dear one when on his death-bed. If I can be of use in warning fellow medical men I shall feel happier. Small doses of heroin, as recommended by Sir William Wilcoxon, or, if I may give my own experience when dangerously ill, doses of morphine and atropine, will bring relief without the dreadful mental distress which is brought about by veronal allonal and other veronal types of hypnotic. Morphine and atropine is a kindly thing and a blessed thing, and if anyone reading this has a dear one hopelessly ill I ask that my bitter experience of this dangerous drug allonal be acted upon.

## HYPERPYREXIA IN INFLUENZA.

DR. J. ROBERTSON HALL (Fence Houses, co. Durham) writes: I have just attended a case, which unfortunately proved fatal, of influenza with so unusually high a temperature that I think it worth recording. The patient was a married woman, aged about 42, with three children, the youngest about 2 years. She was not pregnant when she died. She had a very severe attack of influenza with a high temperature, on an average about 104° F. for the first four days. On the morning of the fifth day after I was called in, I was sent for about 6 o'clock, and on arrival found her in a serious state, with a temperature of 110° F. Needless to say, she did not live long—in fact, she died in less than an hour after the temperature was taken by me. I could discover no evidence of pneumonia and her breathing was never difficult, but all through her illness she complained of severe headache. The really remarkable point, in my view, was the extraordinarily high temperature of 110° F. In seventeen years' experience of busy industrial practice I have never come across so high a temperature before.

\* The fact that hyperpyrexia may occur in influenza is noted in some of the textbooks, but it seems to be a rare occurrence.

## DERMATITIS HERPETIFORMIS GESTATIONIS.

DR. C. H. S. HOWRITZ (Sireatham, S.W.) writes: The following case is of interest because of the rarity of the complaint and the severity of the skin eruption: Mrs. X, aged 19, a primipara, had been perfectly well. On awakening in the morning three days before the birth of her child she noticed one or two "spots" on her face and neck. She had never previously had any skin affection to her knowledge. My attention was called to the eruption during the day, and I was struck with the similarity it bore to the rash of chicken-pox, with the exception that the vesicles were round instead of oblong. She felt quite well; the temperature was not raised and the pulse was normal.

Several hours later she presented a severe morning eruption on the neck, chest, and abdomen. The knees were covered with an inflammatory, superficially seated, multifocal, vesicular eruption. Upon pressure the vesicles easily ruptured and exuded a clear serum. The vesicles varied in size from a pin's head to a pea. She complained of intense itching. I judged the condition to be due to some toxic condition, caused, I thought, by the presence of the child, and I felt fairly confident that after the birth all would be well. With the birth of the child the source of the toxins would be removed, I argued, and I was able to reassure the parents, who were naturally very concerned about their daughter's appearance.

I ordered arsenic internally and gave great relief from the itching. After the birth there were no more fresh eruptions and the vesicles rapidly commenced to dry up and scab. In forty-eight hours all irritation had ceased, and in a few days nearly all signs of the eruption had vanished. The distribution of the rash—about the face and arms on the second day of the occurrence—was not at all unlike small-pox. The child was not affected.

## POISONING BY POTASSIUM CYANIDE.

THE following case is reported by Dr. JOHN REID and Mr. JOHN KENNEDY of Ashford, Middlesex: In the early morning one of us was called to see a man who was stated to be unconscious in bed, and supposed to have had a fit. The man, aged about 60 years, was completely insensible and deeply comatose, with hands clenched, the eyes fixed, staring, and completely insensible to light, and the muscles of the limbs relaxed and flaccid. There was froth on the mouth, the breathing was slow, deep, and convulsive, the pulse very quick and almost imperceptible. It was obviously a case of poisoning. On searching we found a packet of potassium cyanide inside the pocket of his coat, which we placed; 15 to 20 grains had been swallowed by the silver vessel having been used. As we expected, the usual treatment, injection of camphor oil, strychnine, and atropine, and artificial respiration, was of no avail, and death ensued in an hour and twenty minutes. At no time was there any reaction to treatment. There were no convulsions before death. Death was due to asphyxia, as the heart continued to beat for a considerable time after respiration had ceased.

## NITROUS-OXIDE-OXYGEN ANAESTHESIA FOR MAJOR OPERATIONS.

DR. CHARLES T. W. HIRSCH (London, S.W.) writes: The recent remarks of coroner and pathologist at an inquest on an unfortunate fatality should, I suggest, not be passed by anaesthetists without protest. The impression given by the coroner was that nitrous oxide was an anaesthetic for dental operations only, and the pathologist seemed of the same opinion—that for long operations unconsciousness could not be maintained with nitrous oxide if oxygen was given, and that if the latter was not administered suffocation occurred. As an anaesthetist on the staff of eight hospitals I desire to enter my protest against this scathing condemnation of the value of nitrous oxide-oxygen in major operations. I have administered that anaesthetic in many cases; I have had it myself on five occasions. I submit that it is a most useful and valuable anaesthetic, and though for certain abdominal operations I admit it may not alone give all the relaxation the operator might desire, still, with a little bubbling through ethanest, the relaxation needed can always be had. Even if thus a small amount of ethanest is employed, that is preferable, from the patient's point of view, to an anaesthesia solely procured by ether or ethanest. The little that may have to be used rarely produces any post-anaesthetic effects.

## NASAL NEUROSIS.

DR. CHARLES J. HILL AITKEN (Kilnburst, near Rotherham) writes: Dr. Neil MacKay states in his article (*BRITISH MEDICAL JOURNAL*, November 29th, 1924) that after a dose of guanidine "increased vascularity in the nose was noted, as well as an increase of mucus, and each animal performed active chewing movements and nose rubbing." Some years ago I was much bothered at sick parades by a delicate-looking man whose complaints were so curious and so varied that I labelled him a case of *psyllosthenia* (Purves-Stewart, *Diagnosis of Nervous Diseases*). One day it struck me this man had nasal obstruction and that he was a mouth-breather. Examination proved I was right. I taught him to breathe through his nose. And I not seen cases of children who had had adenoids removed showing wonderful results I would have been surprised at the patient's rapturous declarations of the change in his outlook on life. Some months later this formerly poor complaining individual told me he had had one symptom he had not confessed to me. This symptom was attacks of gluttony. He asked me now to explain how he never, except very occasionally, had such attacks. Experiment showed that excessive appetite was present when the nose became blocked during a meal. By experiment we induced this blockage and the patient wolfed down his food. I painted the anterior part of the vascular mucosa with a weak solution of cocaine. Shortly after the patient said, "Take away this food, I don't want it." His nose had cleared and synchronously his appetite failed. The explanation I gave was this. Purves-Stewart states:

"A certain amount of ... supports the view that there is a ... the sensations of hunger ... temporal lobe, at or near the ... tumours in this region have ... (Page 47 *ibid.*)"

In the case I record there was no central lesion. There was, however, peripheral irritation in the nose and hence voracious appetite, which ceased the instant the nasal passage was opened up and pressure removed.

## "A RICH SAMPLE OF MILK."

DR. H. D. BISHOP (States M.O.B., Guernsey) writes: I recently purchased for analysis in the ordinary way a sample of milk from a small shop in Guernsey. The analysis showed: Total solids, 15.21; fat, 6.9; solids not fat, 9.31; and cream, by volume, 26 per cent. I naturally thought that this milk must be either mid-day, afternoon, or "strippings," but upon investigation found that it was morning's milk and the mixed yield from a herd of twelve Guernsey cattle.

## A WARNING.

DR. HUBERT COX (Edgbaston) has been informed that an individual has been making use of his name and address in the Luton district for the purpose of obtaining money from doctors. He desires to put doctors on their guard. It is suggested that any practitioner receiving a visit from such a person should communicate with the police.

## BRIDGE OF WEIR SANATORIUM.

THE second issue of the *Bridge of Weir Sanatorium Christmas Magazine* is a matter for congratulation. The editor and the various contributors have produced an interesting, amusing, and well illustrated magazine, which should win the approval of those for whom it is written, and contribute to the establishment of the hopeful spirit, the importance of which is emphasized in a foreword by the medical superintendent, Dr. James Crockett.

## VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 32, 33, 36, and 37 of our advertisement columns, and advertisements as to partnerships, assistantships, and locum tenencies at pages 34 and 35. A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 16.

## A Post-Graduate Address

ON

HEART AND AORTA STRAIN AND  
"LYING-DOWN HEART."

BY

E. M. BROCKBANK, M.D., F.R.C.P.,

HONORARY PHYSICIAN, THE ROYAL INFIRMARY, MANCHESTER.

I HAVE chosen the subject of heart strain because it is one which has to be considered by medical men at the present time under a variety of aspects, in our private work and in compensation claims. As I think strain of the aorta may occasionally enter into the question too I have included it, and will give my reasons for doing so at a later stage.

*Definition.*

By heart strain I mean the sudden development of subjective signs of cardiac muscle failure which can be attributed to some unusual muscular effort, even though the effort was one which ought not to have had such a result in a healthy person.

The chief subjective symptoms of heart strain are pain over the region of the heart or behind the sternum, exactly like, or simulating, true angina pectoris, and shortness of breath on slight exertion. The objective signs are some dilatation of the heart with extension of dullness to the left, signs of valvular disease, feeble sounds or gallop rhythm, and a quick pulse rate with manifest shortness of breath on slight effort.

*Compensation Claims.*

Heart strain is often made the basis of a claim under the Workmen's Compensation Act, and such a claim was also common at the pensions boards set up after the war. The danger of heart strain occurring in workers who are known to have something wrong with the heart has not infrequently to be considered at the worker's or employer's request. This leads me to refer at once to a most important point in connexion with the causation of disablement from accidents. An accident in the meaning of the law is "an unforeseen or unexpected occurrence arising out of or in the course of employment."

The point I wish to emphasize here is that compensation for incapacity or death must be paid even if the injured worker has had some chronic disease or weakness, such as heart disease, arterio-sclerosis, aneurysm, or high blood pressure, which rendered him liable to suffer serious disablement or death from an "accident" which would have had no serious result in a healthy sound worker. This interpretation of the meaning of an accident caused a revolution in the decisions of the courts administering the Workmen's Compensation and Employer's Liability Acts, and consequently in the whole matter of claims for accidents.

The guiding case on accident claims is that of a man who, when tightening a nut with a spanner, finding it stiff, and making an extra hard effort to move the nut, burst an aneurysm and died. This was held by the House of Lords to be an accident, and this decision governs all analogous claims, the unexpected and unforeseen circumstance, I am told, being the bursting of the aneurysm, not the extra effort.

At present few employers or insurance companies require medical examination before engaging a workman, but the increased sums to be paid under the Compensation Act of 1923 for disablement—£600 lump sum instead of £300 and 30s. a week for life instead of 20s.—may lead to it, especially in elderly men and women. This, however, is a by-path and I will leave it.

*Strain of Healthy Heart.*

It is a much discussed question whether sudden muscular effort involving a heavy strain on the heart can produce muscle failure or valve injury in a healthy heart or valve of a normal person. I had the experience lately of some cases which at first led me to think that this could happen, if we were to believe the statement of apparently honest

steady men as to a history of accident or of venereal disease. But final investigation and clinical tests put a different complexion on the cases, and I formed the conclusion that I had seen no case of strain in a healthy person. This conclusion falls in with that of the physiologists, as stated by Bainbridge in his *Physiology of Muscular Exercise* (p. 200): "There is no evidence that in a perfectly healthy man, even the most intense exertion produces any harmful effect on the heart."

*PREDISPOSING CAUSES OF HEART STRAIN.*

All the cases of heart strain in my own experience have arisen through some latent weakness of the cardio-vascular system which has predisposed it to give way under strain which would not have affected a normal system.

I propose to consider the commoner predisposing causes of heart strain, and will take them in their relative order of frequency in my own practice. These are high blood pressure, valvular disease, syphilitic aortitis, and the senile heart. I will refer also to auricular fibrillation in its relation to heart strain.

*High Blood Pressure and Angina.*

The commonest form of heart strain I meet with is that caused by prolonged high blood pressure, the presence of which has probably not been known or suspected until shortness of breath or pain in the chest forces a visit to the doctor. This is also the commonest cause of angina pectoris, both in men and women, in my experience.

The heart in high blood pressure strain, with or without anginal pain, is considerably enlarged outwards towards or into the axilla, and the sounds are either feebly accentuated or there is gallop rhythm. There may be a murmur of mitral incompetence. The history is generally that of untireable activity in business or household work, then more or less sudden onset of bad shortness of breath or pain or both. When the breakdown has been apparently sudden it is quite likely that careful inquiry will show that there have been previous warnings, extending over a year or more, of slight pain and shortness of breath which the subject, unused to any shortcomings of health or power, thought could be worked off by extra effort.

Nature responds to the increased demands on the heart by laying down more heart muscle, and good compensation results, even if the heart has to be enlarged to twice or thrice its normal size. Life goes on until one of two things happens.

(1) The heart *gradually* becomes unable to do the work demanded from it and it shows signs of muscle failure, with breathlessness and perhaps pain. A common type of this event is the following case.

A lady, aged 73, sent for the doctor because she had a smothering feeling in the chest, shortness of breath, and pain behind the sternum, up the neck, and down the arms—typical angina pectoris. I was asked to see her eight weeks after she had called her doctor in. I found a systolic blood pressure of 180 mm., and the heart was about twice its normal size, with gallop rhythm. I was informed that she was a tireless worker at home and with manifold outside charitable interests. On pressing for the date of the onset of the first appearance of any discomfort I found that twelve months previously she had begun to have slight pain in the chest and shortness of breath on walking, but had said nothing about it to anyone. She had managed to get on with her work in a restricted way until the final breakdown.

(2) The heart *suddenly* fails under the stress of unusual muscular effort, often that of hurrying to catch a train, as happened in the following instance.

Mr. H. B., a business man, had worked hard for years at his own and public business, never getting tired. One day, when hurrying for three-quarters of a mile to catch a train, he became very distressed in his breathing, with oppression round the heart, and could hardly get along the last one hundred yards. The discomfort gradually eased off in the train, but he felt it again next day when walking to business. The pain was then shooting down both arms. When I saw him on February 20th, 1923, his systolic pressure was 200 mm. There was no arterio-sclerosis. The heart was enlarged, the apex extending to an inch further to the left than the normal and the sounds were accentuated. There was no albumin, sugar, or polyuria. At 48 he passed Grade I for the army. He was a lifelong abstainer from alcohol. He improved considerably under diathermy.

Here, I think, we had a heart that had been used to overwork for years, and had enlarged by good hypertrophy, but which was not able to stand the additional strain of a

rush to the station, and lost its compensation or failed suddenly. Rushing for trains, with the final dash upstairs—so many stations are above the level of the road—is responsible for many cases of heart strain, not only in subjects of high blood pressure, but in those with a senile heart.

*Treatment.*—I invariably treat these cases of heart strain in high pressure, especially those with the gallop rhythm, with digitalis, and with great benefit. Digitalis strengthens the failing heart muscle, and it does not increase the high pressure. Nitrites can be given as well, but the digitalis is essential. Less muscular effort, light and small meals, also are necessary.

#### Valvular Disease of the Heart.

*Aortic valvular disease* in the form of slight obstruction from roughened valve curtains without incompetence and with no dilatation of the heart or sign of muscle failure, is compatible with manual labour. Many elderly workpeople have it. I found it in one man, a mill hand of 79. He was then too old to work. Such a slight aortic valve change is not likely of itself to induce muscle failure, but its presence is an indication of atheroma and degenerative changes which may implicate the coronary vessels and so weaken the heart. Actual stenosis of the valve with thrill at the base may, in time, lead to heart failure. I remember a man about 40 years of age who fell dead from a telephone pole; his body was brought to the infirmary, and we found he had extensive stenosis of the aortic valve with much compensatory hypertrophy of the left ventricle; why he died we could not say.

#### Aortic Incompetence.

No one with aortic regurgitation should undertake manual labour, because this is the most dangerous of all valvular lesions, and for two reasons. The first is that when the aortic valves do not close completely there is not the normal amount of force to drive blood through the coronary arteries which arise from the aorta wall just above the cusps of the valve. The heart muscle, therefore, is inadequately supplied with blood and proportionately weakened. The second reason is that the pressure in the aorta, whatever it is, which drives blood through the incompetent valves, acts at its full strength on every part of the interior of the left ventricle of the same area as that of the leakage in the valve, and is not diffused all over the wall of the ventricle. In other words, if there is a force of 100 mm. of mercury acting on a valve leak of 1/4 inch square, there will be a force of 100 mm. acting on every square 1/4 inch of the ventricle, and not 100 mm. diffused all over the ventricle. This can be a very great degree of pressure, and, acting as it does on anaemic heart muscle, a sudden extra strain is very liable to cause paralysis of the heart and death from syncope, or to break down any existing compensation and lead to death from progressive heart muscle failure. I will mention one case in point.

I was asked to see a young man who had a sudden and unexpected strain arising in the course of his work—namely, hastily throwing a skip or basket containing cotton yarn, weighing 50 lb. or more, twenty feet along a floor, to save the time of a worker who was late in getting to the weighing machine where the skips were handed out. He felt a sudden pain in the chest and great breathlessness, and had to sit down. After a time he managed to get to the doctor, who thought he was dying, and kept him in his surgery for a couple of hours. Eventually he improved enough to get out of bed, and five months after the accident he came to see me to ask if I could attribute the condition of his heart to the accident. I found him very short of breath with marked aortic incompetence, and a heart about twice the normal size, with dilatation and hypertrophy and cardiac muscle failure—that is, broken compensation. I said that I could not attribute the whole condition of the heart to the accident described, but that the broken compensation had, in my opinion, been brought about by a sudden effort acting on a heart which had had aortic valve disease, especially incompetence, with consequent dilatation of the ventricle and some compensatory hypertrophy, for some time previously—a heart with no muscle reserve. The man eventually died in a few months, and the county court judge held that an accident had occurred which had hastened death.

I had one man with incompetence who was a motor driver, and I advised him to give this up. He dropped down dead when walking; fortunately not when driving a motor car.

It is very important to recognize aortic incompetence early, and this must be suspected whenever there is enlargement of the heart with moderate or normal rate of beat and when there is no increase of blood pressure. The diastolic murmur must be sought for carefully down the left margin of the sternum, even in the fourth intercostal space. There may be no obstruction with the incompetence and no murmur heard at the aortic cartilage.

#### Injury to the Aortic Valve.

I will now mention two instances of aortic valve affection which apparently were caused by unusual strain acting on an already diseased aorta.

A joiner, aged 42, joined the army in June, 1915, and was demobilized in April, 1919, without any medical examination, although he was short of breath on moderate exertion. He served in the Royal Engineers, and in 1918 felt a pain over the heart after lifting an unusually heavy balk of timber, and after this when the day's work was heavy. He also felt short of breath on marching from this time, but had no pain from walking. When I examined him in 1923 for a pension claim I found the apex to be in the fifth space and probably behind the sixth rib, and five and a half inches from the middle line—that is, two inches too far out. There was a musical squeak of diastolic rhythm to be heard all over the precordia and two inches away from the chest wall, without the aid of any stethoscope. A definite thrill was associated with the murmur. The nature, time, and area of audibility of the murmur were those of an aortic diastolic murmur, and the enlarged heart supported this diagnosis. He was passed as fit for service when he was examined by a recruiting medical board, and he had also been passed for insurance after medical examination before the war. His own doctor was sure that he had had no aortic disease before the war. The man said he had never had venereal disease, and I believed him. Here, I thought, might be a case of rupture or tearing of one of the cusps of a normal aortic valve causing incompetence of the valve, dilatation of the left ventricle, and compensatory hypertrophy, which was only partial because he was still breathless on exertion. A Wassermann test was carried out after a time at my request, and it turned out to be positive. There was therefore almost certainly some predisposing aortitis to weaken the valve.

A weaver, aged 36, in October, 1923, slipped whilst carrying a beam of warp yarn weighing 185 lb. on his shoulder, and was jammed between a pillar and a loom with the beam pressing on his chest. To get loose he had to lift the beam vigorously off his chest, and whilst doing so he felt something "go" inside his chest—like a finger cracking. He had no pain then, and continued at his work for five weeks, getting worse gradually, and then he had to give in because of pain and shortness of breath. I saw him in July, seven months after the occurrence. He then had shortness of breath and the pain at the base of the heart even on dressing himself. I found that he had a pulse of 120. The apex of the heart was four to four and a half inches from the middle line. When he lay down flat I heard a slight soft aortic diastolic murmur in the third intercostal space against the fourth rib. I could not be sure of the murmur when he was sitting or standing. There was no systolic aortic murmur. The second sound at the aortic area was ringing like that met with in aneurysm of the first part of the aorta, but there was no other sign of aneurysm. There was no change in the radial arteries, no increased blood pressure, and no albumin. It seemed to me that he had most likely strained the aorta and the ring of the valve, producing some dilatation of the first part of the aorta and incompetence of the valve. He said that he had had no venereal disease, and I again thought he was speaking the truth, but subsequent investigation showed a definitely positive Wassermann test. The leakage of the aortic valve was not sufficient, in my opinion, to cause as much dilatation of the heart as I thought was present, and so I came to the conclusion that he had probably strained the heart muscle as well as the aorta and brought on acute cardiac dilatation. He probably had some aortitis, and that predisposed the aorta and valve to strain. I was unable to get an x-ray photograph of the chest or an electro-cardiograph record of the heart's action.

These two cases of strain of the aortic valve under severe exertion are striking lessons on the importance of taking no one's word about venereal disease. I must say that I believed the men, and thought in both cases that the strain had come on in men who had not had syphilis.

*Aneurysm.*—Any person with aneurysm of the first part of the aorta would be very liable to injure the aortic valve and strain the heart by manual labour. The chances of an aneurysm bursting under such conditions are obvious.

#### Mitral Valve Disease.

Incompetence of the mitral valve—that is, with a systolic murmur—is the commonest valvular lesion in adult life. When met with after 50 years of age it is almost always slight in degree and unaccompanied by any heart muscle change of moment and has been present in stationary form for many years. I have found it in working men and women

over 68 years of age who did not know that there was anything amiss with the heart. Slight lesions occur in subjects with high blood pressure even at the same age. I have had carters, aged 53 and 45, referred to me by railway companies whose doctors had found loud systolic mitral murmurs and had certified incapacity. The men could not afford to give up work, and maintained ability to go on. There was a little cardiac enlargement, meaning good compensation, and no evidence of arterial disease or of muscle failure. The danger is the possibility of some extra exertion bringing on muscle failure and incapacity. A sudden event like this is not likely to occur with uncomplicated moderate mitral stenosis and incompetence. When the heart rate is normal and regular I generally let the men continue at their work and see them again in a month. If there is no change for the worse I recommend continuance of work which does not involve lifting of heavy weights. Men with such hearts would not get the disablement benefit of the National Insurance Act because they are able to do some work. One man I remember, in recruiting days, with a loud mitral systolic murmur and practically normal-sized heart, lifted 25 tons of pig-iron a day as part of his carting duties and felt no inconvenience.

#### Mitral and Aortic Disease.

All I could say in the following case was that army service had aggravated the heart condition.

A youth, aged 24, claimed disablement from war service. He enlisted at 15, was discharged on account of his age, and recruited again at 17. He was riding in the training camp when his horse bolted. He remembered nothing further until he found himself in hospital eighteen days afterwards. He had no rheumatism or its allied ailments. As a boy he had played games and managed physical drill all right. When in hospital his heart was found to be affected. He was in the army fifteen months only and never got beyond the training camp. I found that he had an enlarged heart extending 5 inches to the left of the middle line, and behind the sixth rib. There was a loud crescendo murmur with accentuated first sound typical of chronic mitral stenosis and a definite aortic diastolic murmur squeaking in character. Muscular compensation was good. I did not see how the accident could have brought on the valvular disease, especially the mitral stenosis, and there was no history in his army papers of any illness that could possibly have been rheumatic in nature. The valvular disease, especially that of the mitral valve, was almost certainly there on enlistment, although I could get no history of rheumatism in childhood.

#### Auricular Fibrillation.

Auricular fibrillation is a most important cause of serious heart-muscle failure, and its presence, either with or without valvular disease, contraindicates manual labour because effort makes it worse. At the same time a certain number of people work with it in its early stages before breathlessness comes on or before there is any indication of an abnormal heart. I have seen three people over 60 years of age claiming pensions with it, who were relieved of work at once. Auricular fibrillation is caused by failure of the auricular muscle, and it is conceivable that overexertion might bring this on in a weak auricle, but I have never met with a case in which fibrillation could be attributed to sudden strain, and at present I should be very unwilling to believe that such could happen. Auricular fibrillation is not uncommonly present, with or without organic valvular disease, without being suspected, and this fact would discount the value of its presence when recognized for the first time after a supposed accident.

#### Strain of Senile Heart.

By senile heart I mean a heart which is badly nourished because of atheroma of the coronary arteries or which has some fibroid degeneration—changes which occur in the later years of life.

A gardener, aged 62, used to mowing lawns, was delayed one day in trying to get a motor attachment to work. He failed to do so and had to push the machine, and unusually fast, to get the work done. He had an attack of palpitation and breathlessness with heart pain at night and all the next day, and had to give up heavy work, because of shortness of breath which came on when he made no effort. I saw him a month later, and found that his heart was a little enlarged and there was slight arterial sclerosis. His blood pressure was only 130. The pulse at the wrist was 64 and irregular, whilst the heart rate was 76. This meant

extra-systoles or auricular fibrillation, probably the former, for they are common at his time of life. He had ailed nothing before, but on being asked the question, said that for some years he had noticed his heart beating irregularly when he lay down in bed on his left side. Here, in my opinion, the man strained a senile heart muscle by unusually heavy exertion and had brought on some dilatation.

As I mentioned under high blood pressure a rush for a train at a railway station is not uncommonly the cause of the breakdown of a heart in older persons.

#### LYING-DOWN HEART.

Here is a case of pain of doubtful nature, but I wish to mention it because of a peculiar condition of the heart not uncommonly met with in people with intrathoracic pain.

E. W., wood machinist, aged 46, had had palpitation, shortness of breath on the least exertion, with precordial pains aching in character and occasionally very severe, on and off since 1917, when he was serving as a farrier in the army. He stuck to his work in spite of the pain. He had diphtheria in January, 1918, but went back to his farrier work, though the pains were worse than ever. He reported sick in April, 1918, because of debility persisting from the diphtheria. The doctors also put some letters on his sick sheet (? D.A.H.), and discharged him from the army in July, 1919. After a period of light duty as B2, with "something wrong with the heart" (again three letters, he thinks—probably D.A.H.), he took up his trade of cabinet-maker again, and was practically well until twelve months before he came to me, though he had occasional attacks of pain. He then began to find that the pains recurred regularly and that he felt done up by the Wednesday, but he kept at work until Saturday midday, when he went to bed for the week-end. Extra bad attacks would come on every two or three months and he had to go to bed; he then got ease by lying propped up on the right side with his knees up and by hot fannels about the left breast and some brandy. Walking a short distance against the wind would bring on an attack with palpitation and dyspnoea. Although the case was very suggestive of heart strain, there was practically nothing abnormal to be made out in the chest, and the man looked healthy and robust. The Wassermann test was negative. The x-ray photograph showed a heart of the "lying-down" type with the aortic shadow quite well defined, but no dilatation or aneurysm. There was some general peribronchial thickening, especially in the right lung, but otherwise the lungs showed no marked abnormality. The movements of the diaphragm were normal. There was an old-standing adhesion from the left root to the left diaphragm. Pleuritic adhesions do cause pain sometimes when stretched by deep breathing.

The electro-cardiograph record showed impaired conduction from the auricle to the ventricle, but this does not account for the pain.

I meet with this so-called "lying-down heart" occasionally in people who complain, as this man did, of intrathoracic pain or shortness of breath and in whom I can find no objective signs of heart abnormality. It is only revealed by an x-ray plate which I have taken in obscure cases. I cannot say why it should be associated with pain and cardiac debility, or how it can cause pain, if it does cause pain.

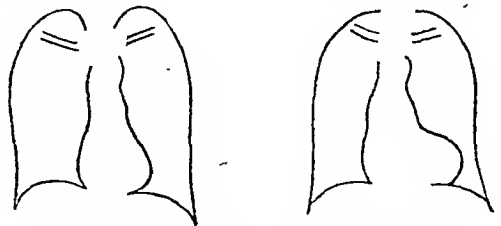


FIG. 1.

FIG. 2.

Orthographic tracings: Fig. 1, normal heart; Fig. 2, lying-down heart.

The term "lying-down heart" is used because, as the diagrams show, more of the heart is in contact with the diaphragm than is normal. It is a descriptive and convenient term. I wish to thank my radiological colleague, Dr. J. M. W. Morrison, for the figures which he has drawn from orthographic tracings (Figs. 1 and 2).

#### THORACIC MUSCLE STRAIN.

I will mention briefly as a contrast to the foregoing cases a railway carter who was thought by the railway surgeon to have strained his heart by muscular effort. As a further contrast this carter did not want to claim compensation,

but to be allowed to resume his work. I have mentioned it before (*Clinical Journal*, July 23rd, 1924), but should like to do so briefly again.

G. H., a railway carter, aged 55, was wheeling a hand truck carrying 7 cwt. of goods in October, 1922, when he felt a sharp pain behind the sternum and over the heart but not down the arms. For half an hour he felt short of breath and had to sit down, and attempts to breathe "punished him like a knife." After this he felt practically normal, but reported the incident, according to instructions. He went to work next day, feeling sore before the heart and in the chest, and with a sharp pain now and again when he was lifting heavy weights. He was sent, against his wish, as he wanted to work, to see the company's surgeon, who found nothing wrong, but thinking of the possibility of heart strain advised that the man be sent on to see me. I found systolic blood pressure 150. There was no albumin or sugar, and no arterio-sclerosis; the heart was practically normal, rate 90 standing, no sign of aneurysm. An electro-cardiograph record was taken, but it showed nothing abnormal.

The seat of the pain and its nature and mode of onset certainly suggested the likelihood of strain of the heart from sudden overexertion, but I thought it might be due to strain of a skeletal muscle and of the triangularis sterni. As the man was very anxious to get back to work we accepted this view, but put him back on a lighter job, and he kept perfectly well until he had an attack of encephalitis in February, 1924; from this he recovered.

#### DIFFICULTY IN PROVING HEART STRAIN.

Heart strain is not easy to establish in a court of law because of the difficulty in proving accident. I will briefly relate an instance of this.

A railway porter claimed compensation for strained heart, caused when carrying full milk-cans weighing up to 300 lb. up the station steps with the assistance of another porter, each porter taking hold of one handle of the can. Whilst doing this one morning the projecting flange which strengthens the bottom of the can caught under the overhanging edge of the stairs and pulled the porters up suddenly; this caused a pain over the heart of the claimant and subsequent shortness of breath, which persisted for several months on slight exertion, and kept him in bed most of the time until I saw him on his own behalf. I found that he had some slight enlargement of the heart and symptoms which could have been caused by heart-muscle strain. He was a healthy youth of about 24, though not of robust type; there was no history of venereal disease, but there was some neurasthenic element in the case. I told his lawyer, from past experience, that it would be very difficult to prove "accident"; but I agreed to say what I could on the strain, neurasthenia, and debility theory. It then transpired that the man had been first treated for a feverish cold or influenza, and as his doctor found unexpected cardiac weakness four or five days after the commencement of the illness or influenza he asked the porter if he could have strained his heart in any way. The man then thought of the accident, but had never mentioned it to his fellow porter working with him, or to anyone in the station at the time it occurred, nor did he do so until a week after the doctor had asked if there had been a strain. The railway company's doctor put the condition down to influenza, and on the above evidence produced in court, and heard for the first time, the judge held that an accident had not been proved and that the heart condition was due to influenza, which I think was a proper decision on the evidence.

I really did think that the man, who was not robust, could have strained his heart in the way claimed.

Another case was that of a collier, aged 38, who said that one day in the pit he had lifted a crane weighing 4½ cwt. which had become displaced. He felt short of breath but complained of no pain at the time. A couple of weeks afterwards he had some pains in the joints. He worked for four weeks after lifting the crane and then had to give up because of shortness of breath. I examined him nine weeks after the supposed strain. There was little to be found, only some slight dilatation of the heart with weak and doubled sounds. There was no albumin in the urine and no increase of blood pressure. The man was very short of breath. He was sent to bed for two weeks, and then got up again, feeling no better. He dropped down dead, presumably from heart failure, five weeks after I saw him. No post-mortem examination was held, unfortunately, but the predisposing cause of death was very likely atheromatous coronary arteries.

Here I had no doubt that the man strained his heart in some way lifting the heavy weight, but the court found against him, holding that strain was not proved, and that even if it had taken place could not so badly affect a sound heart, and that there must have been pre-existing heart disease. The case was tried in 1907, before the House of Lords' decision on the aneurysm and the spanner claim, which influenced so greatly the meaning of an accident. I am sorry that I was unable to get a Wassermann test here, for very probably, in one so young, we should have found it positive.

## An Address

ON

# A NEW OUTLOOK ON CANCER:

## IRRITATION AND INFECTION.\*

BY

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MORE than three years ago I<sup>1</sup> published an account of an organism obtained from carcinoma, and since then I<sup>2</sup> have described in increasingly more complete detail the morphological characters of this parasite. I have claimed, on the basis of a study of more than sixty cases, to show that this microbe can be obtained almost constantly from cancer. My conclusions have in some quarters met with opposition on two grounds. In the first place, it has been urged that to account for the cancer phenomena it is unnecessary to predicate the existence of a parasite. In the second place, it has been stated that my views are opposed to the established science of bacterial morphology. Within the limits of this paper I propose to deal with these two objections.

Of all the diseases of man cancer has probably the most unique features; it has little direct contact at any point with other morbid processes, and, for that reason, analogy is of small positive help in a search for the cause. The essential fact which marks it off is that, beginning in the proliferation of a small group of cells, it ends, when running its ordinary course, as a myriad host of anarchic cells destroying by direct inroad the healthy surroundings and burrowing often into the springs of life itself. Any class of cells in the body may be seized with this tragic impetus, and, according to their site of origin, so will the cancer differ in structure and, it may be, in deadliness; but in all, no matter what the origin, the same unique features dominate the process, in all we have a plague of riotous cells spreading as a blight without control or cessation.

It is important to stress the essential unity of the cancerous process, especially at the present time, for some observers are so immersed in detail that they have allowed themselves to lose sight of this unity and have accordingly, I believe, fallen into serious error. The differences in detail are seen when malignancy involves structures of different kinds. For example, when originating in squamous epithelium, squamous epithelioma is produced; when in gland acini, glandular cancer; but that these structural differences, which may be considerable in detail, are non-essential in regard to the ultimate nature of cancer is shown by the fact that, in an organ possessing both types of epithelium—for example, the uterus—we may find both types of cancer side by side. So, in the same way, carcinoma and sarcoma may occur together, and the essential similarity between these two such divergent types of "cancer" is further proved by the experimental finding that transplantable cancer may end as transplantable sarcoma, the cancerogenic factor in this case having been transmitted from one class of cell to the other. Considerations of this sort indicate that, where the malignant change is occurring in widely different tissues, the diversity in structure, and it may be in other points as well, cannot be held to justify any diversity in the ultimate nature and cause. The differences are rather local and environmental, and therefore non-essential.

The unique phenomenon of malignancy is not limited to man; it is found throughout the lower animals, and a process of an analogous kind is found also in the vegetable kingdom.

#### CHRONIC IRRITATION.

One of the most important positive facts in regard to the etiology of cancer acquired within recent years concerns the role played by chronic irritation. The experimental production of cancer in animals by the exposure of the skin to chemical irritants, of which there are now several, has lifted a long-established clinical observation into the realm of proved laboratory fact. It can now be claimed with

\* Delivered in opening a discussion on cancer at the Liverpool Medical Institution, December 11th, 1924.



certainly that cancer can be induced by factors which vary as greatly in their nature as do tar, soot, arsenic,  $\alpha$  rays, heat, etc. By some these isolated and distinct irritant influences have been adduced as necessarily so many direct "causes" of this unique process. To many who have followed the specious arguments which have sometimes been advanced in support of this extraordinary claim it must come as a surprise that even distinguished observers may be negligent of the warning lessons of medical history. Sixty years ago to claim that the specific disease, phthisis of the lungs, had a multiplicity of direct causes was in keeping with the knowledge of the period. Thus it was believed that the inflammation of a bronchitis, the irritation of the inhaled fragments of stone with which the mason worked, etc., were each one a direct "cause" of pulmonary phthisis, and that there were many other causes as well—for example, heredity, unhealthy environment, etc. Time has shown that the greatly differing direct irritants and the other indirect agencies operate in one common way—by increasing cell and tissue susceptibility to the one common factor, the *tubercle bacillus*. In many other cases the history of medical progress has shown that, where several causes have been advanced to account for a disease, these have proved to be nothing more than factors preceding, and predisposing to, the single common agent.

#### NATURE OF THE CANCEROGENIC FACTORS.

There are two facts which stand out distinctly in those cases where chronic irritation plays an antecedent part. (1) The regions so affected are typically covered by an adult resting epithelium—for example, lip, cheek, bowel, cervix uteri, etc. (2) The irritant influence typically has to operate for a long period, it may be months or even years, before the appearance of the cancerous change.

However we attempt to assess the influence of irritation we must admit that the special cellular alteration culminating in cancer must be a common effect of all the different materials and influences concerned—for example, tar, soot, arsenic, heat,  $\alpha$  rays, etc. Cancer implies such a unique reversal of cellular activity that it is impossible to escape this conclusion. As I have pointed out, it must also be evident that the differences in structure in the tumours produced when irritants act on different classes of cells must be due to the original structural difference in the tissue involved and not to any difference in cause. It must be clear that the same irritant operating on the skin will tend to produce squamous epithelioma, whilst on a gland surface it will tend to produce a cancer derived from the gland cells, and so on. It would seem unnecessary to stress such an obvious fact were it not that some observers have inferred that in cancer we have a jumbled congeries of morbid conditions. Read aright, the confusing array of "causes" comprise so many different ways in which the common cellular upheaval is induced.

Even a superficial study of this cell upheaval proves that it consists of an alteration of the affected tissue in such a manner that cells which were previously well behaved and orderly and stable have acquired the power of ready and continuous proliferation. In a healthy epithelium there are always cells which can proliferate to repair damage, but under normal conditions such dividing cells constantly tend to differentiate into stable resting elements. Where the damage is long-standing there is gradually acquired an increasing impetus to reproduction and a diminishing impetus to differentiate. The one property is exaggerated at the expense of the other.

By some observers it is believed that the cancerous tendency is the direct outcome of the irritative process without the operation of any other factor. This view implies that where the tissue is damaged for a sufficiently long time in a certain way the cells eventually gather such a momentum of proliferation that this goes on in an unending and destructive sequence. Opposed to this view is that of those workers who, while agreeing that irritation probably operates by unblocking the reproductive faculties of the cell, suggest that the real immediate stimulus to a cancerous proliferation consists of a new and different stimulus added to the susceptible cell. So long as the epithelium consists of healthy stable cells the immediate

cancerogenic factor is inoperative. Let this stability be undermined in any one of a variety of ways and the addition of the immediate factor launches the cells on their disastrous career.

That there are two such factors, each the complement of the other and each equally essential—namely, an antecedent cell susceptibility and an immediate agent—is indicated by a study of those cases of cancer where chronic irritation does not play the part that is so obvious where an adult epithelium is concerned. In chorion-epithelioma the cancerous change typically overtakes the chorionic cells within a short time of their being stranded in the uterus; there is not the delay which characterizes a cancer, for example, of the cervix uteri, where the antecedent chronic irritative change may be in operation for years.

This distinctive difference in the time onset of the chorionic cancer is clearly to be correlated with the fact that in the chorion we are dealing from the beginning with susceptible cells—cells, in other words, already naturally endowed with marked reproductive powers. This state is natural to the cells, but obviously cannot of itself drive them to cancer without the existence of some other factor. Loose thinking is responsible for an attitude which sees an ample explanation in looking upon chorion-epithelioma as dependent upon a cell which has become excessively embryonic. This attitude, which, I believe, has done more than any other single error to obscure the real issue, fails to recognize that between the embryonic cell and the cancer cell there are differences not of degree but of kind. These differences are fundamental, and it is impossible to evade the conclusion that chorionic cancer is due to the addition of some drastically new factor to a cell already by nature able to respond. In somewhat the same way the ovum is an embryonic cell, and it becomes launched on its career of segmentation because its "proliferability" allows of a very special response when the new and necessary extrinsic factor is added to it.

There are other considerations which suggest that in chronic irritation there is only one of the factors concerned in the cancer process. For example, it is well known that not all surfaces exposed to chronic irritation become cancerous; and, moreover, the cancer when it does appear develops as a wholly new phenomenon, often many months or years after the damaging process has been in full swing. The conditions suggest that the chronic irritation is one thing, the cancer another thing, and the abrupt leap from one to the other implies the accession of some new factor.

**Factors a and b.**—The essential problem revealed by the study of cancer as it develops, on the one hand, in an adult epithelium rendered primitive by irritation, and, on the other hand, in an epithelium primitive by nature, may be depicted in the following formula, where the two cancerogenic factors are represented by a and b:

Adult epithelium + a + b = cancer.

Primitive epithelium + b = cancer.

A conception of this sort at once removes the confusion with which the irritation factor has been surrounded. It relegates it to its proper place, and it moreover disposes at the same time of much of the loose argument which has been advanced against the parasitic hypothesis.

#### TWO FACTORS IN PARASITIC PLANT TUMOURS.

In plant tumours we find an interesting analogy with the dual factors operating in cancer. In the plant this dual phenomenon—cell susceptibility and immediate cause (parasite)—is very clearly represented. The immediate and necessary agent is the parasite, but this is potent only when it operates on a cell capable of, or in the act of, continued proliferation. It thus happens that the tumours develop in areas where the cells are young and primitive—for example, in warty disease in potatoes, where the tumour begins at the "eye." So in crown gall, a plant neoplasm caused by the *Bacillus tumefaciens*, the tumour growth originates in tissue which is primitive and capable of further growth, and not in resting adult tissue. Erwin Smith's investigations have shown the many and intimate ways in which crown gall resembles cancer in animals. The growth can be grafted on to other plants of the same species. It can be cut out, but it will recur if all the

tumour has not been removed. It destroys both by compression and by infiltration, and the latter process may spread into healthy tissues for a considerable distance from the original focus. Ordinarily the growth consists, as in cancer, of actively dividing cells with little tendency to differentiate. On the other hand, where multipotent cells are affected a true differentiation from tumour issue into leafy organs may take place, culminating in a malignant plant embryoma in essentials comparable to the malign embryomata of animals. As Erwin Smith reminds us, Jensen was so much impressed by these striking resemblances between crown-gall tumours and his mouse cancer that he considered them of much service in throwing light on the etiology of neoplasms, especially as, like cancer, they could not be considered as due to the operation of micro-organisms! A final and significant fact with regard to crown gall is that, as Erwin Smith points out, it tends to develop on irritated places. The irritation must clearly operate either by producing an abrasion in the tougher tissue by which the parasite can gain access to the primitive cells or by driving the mature resting elements back to the primitive state.

The conditions obtaining in these plant neoplasms bring out in a very clear light that, whilst the factor of cell susceptibility is a necessary antecedent, the *b* factor (parasite) alone can stir the cells into a malignant overgrowth.

#### HEREDITY IN CANCER.

Amongst some of the other facts on the general etiology of cancer which have been accumulated during recent years are those bearing on the hereditary basis of malignant disease. By an extensive series of experiments Maud Slye<sup>4</sup> has shown, apparently conclusively, that in the mouse there exist characters of individual resistance to and of susceptibility to the development of spontaneous cancer. These factors of resistance or susceptibility have an hereditary value, and, by selection, this observer has been able, on the one hand, to breed a race of mice insusceptible to cancer, whilst, on the other hand, she has bred a race every individual of which over a number of generations develops cancer, sarcoma, or pseudo-leukaemia. The latter condition Slye considers to be a form of malignant disease.

These findings are striking, and have been advanced by Slye as an argument against the infective nature of malignant disease. Such an argument would be logical only if it can be shown that susceptibility to infection, which exhibits great individual variation in man and animals, were a phenomenon with no dependence on heredity. So far is this from being established that some writers actually profess to have demonstrated that resistance to and susceptibility to infection are transmissible factors. Webster<sup>5</sup> has shown this recently in mice with regard to resistance to infection with organisms of the typhoidal group.

Plant pathology provides again a suggestive analogy along these lines, for in the case of some of the parasitic tumours the heredity element may be prominent. In warty disease in potatoes, for example, it is common knowledge that the tendency to infection with the tumour-producing parasite varies greatly in different strains of potato. The recognition of this fact has led to the almost complete stamping out of what threatened to be a severe scourge by the success which has attended the efforts of horticulturists to breed immune stocks.

A general consideration of the phenomena underlying the factor *a*, the antecedent susceptibility of the cell to neoplasia, thus suggests that, as in other diseases, it is a compound of several factors, amongst which the operations of both heredity and irritation may be apparent.

An analysis of the data carried out along the lines which I have indicated leads to conclusions in no way opposed to an organismal conception of cancer. If the argument be sound which impels us to predicate the necessary existence of another and a more immediate factor in those cases where chronic irritation plays an obvious antecedent role, it is clear that a strong presumptive claim for a cancer parasite is established.

Another consideration in this connexion is that underlying the immediate cancer-producing agent there are two

mutually dependent facts. First, it must be clear that, however we interpret this factor, any indirect agency can only operate by adding to the cell something by virtue of which it is lashed into its unduo reproductive activity. Secondly, it is clear that this new factor, once within the cell, is perpetuated and multiplied without ceasing, for only by its continued presence can the unending cell divisions and destructive growth be explained. It cannot be supposed that there are two separate factors, for this implies that the factor which stirred the first cells to a cancerous proliferation is different from that by which the later divisions are induced. The factor added from without and the factor which is then multiplied from within must be one and the same. Unless we can conceive of a motive power received *de novo* by the cell and then perpetuated by the cell, we are driven back to a living parasite as the sole possible explanation.

Despite the suggestive evidence supplied by the existence of so-called cancer houses and cancer eages, cancer has no obvious infective characters. This of itself is, of course, no proof of its non-organismal origin, as some diseases of definite micro-organismal nature may lack infectiveness in the ordinary sense. Just as there are all degrees in this character of infectiveness amongst diseases which owe their immediate production to a parasite, so cancer has some links with diseases whose general clinical and pathological associations presuppose an infective basis. I have said that cancer has unique features and that analogy is of little help in a search for the cause. If, however, we include within the scope of the cancerous process all the conditions with the same manifestations of a malignant cell proliferation—for example, chicken sarcoma, infective sarcoma of dogs, and the leukaemias—we find very definite support for the parasitic view. In all these conditions there is strong evidence of an infective basis, and the "leukaemic" state is especially interesting and suggestive, because in it are embraced all grades between lesions with obvious infective traits and lesions which are indistinguishable from malignant growths (lymphosarcoma).

#### THE CANCER PARASITE.

This I have described fully elsewhere, and in this place I can refer only to the general features of the organism and to the extensive support which my views on these characters obtain from bacteriological literature. I have shown that the microbe has a complex morphology, appearing in a variety of forms, each of familiar type and each capable of leading an independent life: hyphae, yeast, coccus, and bacillus. In addition I have described an amorphous phase or "plasm." I have urged that the failure to recognize this varying morphology has vitiated the problem from the outset, and I have claimed to show that an understanding of the alternative forms assumed by the organism under different conditions of life serves to unlock the secret of cancer, for the phase living symbiotically within the cell is wholly different from that found growing ordinarily in the test tube.

In support of these views I now have a mass of evidence so great that it is almost impossible to handle. Added to this, the literature proves that a large and increasing number of bacteriologists entertain views on general bacterial morphology similar to those for which I stand. Any close student of this literature cannot fail to be impressed with the tendency amongst practically all investigators on morphology to identify the bacteria with the fungi, and to look upon each form (coccus, bacillus, etc.) as merely one of several shapes in which the same organism can appear and in each of which it can grow true to type. The evidence, indeed, is so great that it must have been apparent to many that the very foundations of bacterial classification are tottering.

Many investigators have described cocal, bacillary, blastomyceto, and hyphal phases as occurring in the life story of the same organism, and, within recent years, work based upon the employment of single-celled cultures has removed the last shred of criticism that the innumerable instances of variability can be discarded summarily as "contamination" (Mellon,<sup>6</sup> Hort,<sup>7</sup> de Negri,<sup>8</sup> etc.). The fact, established by many workers, that each such variant

can propagate itself true to type in a vigorous normal fashion, disposes also of the objection comprised under the term "involution," which in such circumstances is robbed of all meaning.

The present position is rendered all the more confusing by the demonstration that not only is bacterial form unreliable for purposes of classification, but that the very factors which, in the past, have been considered as belonging to the most delicate of the means of distinction (for example, Gram's stain and the serological reactions) may in the same organism differ within as large a range as the morphology. These variations may imply nothing more than an index of the physico-chemical alterations which an organism exhibits during its changing morphology.

#### THE AMORPHOUS PHASE.

From the beginning of my research I have urged that it is this amorphous and often unsustainable substance that we have to look for the secret of the cancerous process. Elsewhere I have given evidence that, in this phase, the organism lives in symbiosis with the cancer cell, and the flora which quickly appears in a piece of incubating cancer tissue is derived from the rapid increase and the organization of this material under conditions of laboratory environment, which differ wholly from those obtaining in the living body. From this "plasm" any or all of the various forms can be derived. It is thus totipotent. On occasions I have seen it becoming organized simultaneously into yeast, coccus, bacillus, and filament. The details of this phenomenon I have described fully elsewhere.

This amorphous alternation in the mode of life of bacteria has been described by many workers under a variety of names. It has been noted in practically all known bacteria. Some investigators have dismissed it as an inert matter formed by a crumbling of living cells. By many others, however, it has been recognized as a homogeneous, often hyaline and highly refractile living substance, in which the organizing vegetative forms are laid down as granules, which subsequently enlarge into the mature elements. As Löhnis<sup>9</sup> has pointed out in his exhaustive summary of the literature, it has been described as such from early days down to the present time (Ray Lankester, Klebs, Koch, Haberkorn, Malassez and Vignal, Pernet, Rosenbach, Maher, Herzog, Almqvist, Kellermann and Scales, Mellon, Löhnis and Smith, de Negri, etc.). The extent and unanimity of the findings of such a large body of independent workers leave no doubt of the reality of this alternative mode of bacterial life. Whilst this is so, the indefiniteness of its appearance and, in some stages, its complete absence of structure have made it a phenomenon of extreme elusiveness. For these reasons, apparently, the early investigators were deterred from devoting to it the attention which more recent research shows it to warrant. For it must be clear that the recognition of this class of structure brings into the science of bacteriology a fact of very great practical importance, as well as one of considerable academic interest. A most comprehensive study of this form has, within recent years, been carried out by Löhnis, who rightly insists that in it is to be found the means of co-ordinating much in morphology that is at present in a state of chaos.

In justice to my own work, and incidentally as an argument in support of the general facts surrounding this plasm phase, I must state that during the first period of my research I was in ignorance of the work of my predecessors, and my recognition of this phase came independently as the result of a search for the source of bacterial forms, which, during the early stages of incubation of a cancerous growth, could always be seen to appear first as very minute elements, which were often gathered into bundles scattered throughout the tissue. In my most recent paper I have shown by means of photomicrographs that the forerunner of these organized elements consists of an amorphous slime which exudes from the cancer cells and appears first as globules or as filaments, which ordinarily are very unstable and persist for only a few hours. [By means of lantern slides Dr. Young showed the plasm emerging from the cells as pale rods, filaments, or globules of greatly differing size. The alternative ways in which the plasm became organized were shown.]

As I have pointed out, the essential link in the chain of bacterial morphology is the amorphous phase. Without it an understanding of the phenomena is impossible, for, after organization, the different individual forms which arise from this phase may each pursue an independent morphological career, growing true to type as yeast, coccus, bacillus, etc., when the common origins are quickly lost. It is sometimes urged that this conception of morphology is unlikely on biological grounds. The multipotential property of the bacterial plasm is, however, surely no more extravagant a conception than the multipotency of the germ plasm of higher organisms. In both instances, with development, an unfolding into differentiated cells is found, and in both the individual cells tend to grow true to type. In the higher organisms, as recent research has shown, the true to type growth may, like that of bacterial cells, even continue when the cells are separated from the body and placed in the test tube in a suitable medium. The analogy, it is true, must not be overstrained, for in the case of the higher organisms the unfolding of cell types is by a ladder-like sequence, whilst the bacterial plasm may differentiate directly and, as it were, on a flat plane into the variegated forms. Moreover, with the bacteria, although differentiation may apparently be complete—so complete indeed as to have given rise to the whole superstructure of monomorphic bacteriology—the careful studies of many observers have shown that, with a suitable environment, even the most stable elements can quickly retrace the whole morphological compass of the race. Each element has, as it were, the totipotency of a germ plasm. Again it may be urged, however, that amongst the more primitive of higher organisms a similar totipotency may be present, and that we are on safe biological grounds in insisting that any differences in these respects are of degree and not of kind, and are satisfactorily accounted for by the evolutionary simplicity of the bacteria.

To those with imagination and courage the fresh fields opened out by these new data furnish an unbounded opportunity for research. I cannot do more than touch on one or two topics that invite a vigorous attack. An amorphous phase of the tubercle bacillus, for example, was described by Klebs,<sup>10</sup> Malassez and Vignal,<sup>11</sup> and others many years ago. Such findings have naturally been submerged during the era of monomorphic bacteriology. They must, however, soon be revived by the discovery of several recent writers—for example, Valtis,<sup>12</sup> Vannucci,<sup>13</sup> and others—that the filtrates of tuberculous tissue are capable of producing on injection typical tuberculous lesions in animals, although from such filtrates no tubercle bacilli can be grown. So, also, to those who are conscious of the drift of recent bacteriological discovery, it must seem not unlikely that the chaos of morphological forms associated with influenza will find its solution in the new and broadened outlook.

It is apparent that with a substantiation of the views which are rapidly gaining ground in bacteriology must come a strong confirmation of my conception of the cancer parasite. It must also be equally apparent that some at least of the organismal forms previously obtained from cancer by different workers are in reality isolated alternative phases in the same cancer organism. This view I have urged from the beginning of my research since I discovered that within the morphological range of my organism were elements not to be distinguished from the yeasts of Plimmer, San Felice, etc., the coccus of Döyen, the filtrable micrococcus of Nuzum, etc. The nearest anticipation of my own work I believe to be that of Monsarrat,<sup>14</sup> who in 1903 described several bacterial forms obtained from cancer which correspond to some of the phases included in the life story of the organism described by me. Monsarrat, at the stage which his investigation reached, did not claim any definite significance for his organism. These previous observations all suffered, I believe, from the failure to discover the key to the problem, which is to be found in the "plasm" phase—the phase, as we have seen, that constitutes the essential link in the cycle of the organism, and is at the same time the secret of its parasitic mode of life.

I have pointed out that many recent observations prove that the methods usually employed for the differentiation of species are ill adapted for the purpose for which they are devised. This applies not only to morphological appear-

ances and staining characters, but also to serological and sugar fermentation reactions. In previous papers I have shown that different phases of my organism differ from one another widely, not only in morphology, but also in staining and sugar reactions. This aspect of the question, however, is in the meantime relatively unimportant, and is of little help so long as morphology is in its present unsatisfactory state. It cannot do more than multiply distinctions which are non-essential if the new lines of research are well founded.

#### CONCLUSIONS.

1. There are two completely independent factors underlying the change of a normal cell into a cancer cell. The first is an antecedent cell susceptibility. The other is the immediate cancerogenic factor. Analysis shows the antecedent cell susceptibility to be the capacity for continued proliferation in the body, and, when possessed naturally by the cells ("embryonic"), allows of a development of cancer when the immediate cancerogenic factor is added. In the case of a mature epithelium this cell susceptibility is acquired often as the result of chronic irritation. When the cancerogenic factor is now added cancer is possible.

2. In plant tumours this dual phenomenon—cell susceptibility and immediate agent (parasite)—is well seen. It explains why in warty disease of potatoes, crown gall, etc., infection by the parasite produces neoplasia in the healthy plant only when cells of a primitive kind are affected. Irritation of a mature surface of the plant may, however, make it susceptible to neoplasia after infection.

3. An organism with a complex life story has been obtained almost constantly from cancer. It possesses yeast, coccid, bacillary, and amorphous phases, and each of these can grow true to type and live a wholly independent life. Evidence has been given that the parasite lives in symbiosis with the cancer cell in the amorphous phase, and it is from this that all the other phases are derived during incubation of a cancerous growth. The discovery of this phase, it is claimed, provides the key to the cancer phenomenon, as also the key to the morphological variants.

4. The morphological features of this parasite resemble the life story described by many writers for other classes of pathogenic organisms. There is now strong evidence to support the view that a similar morphological variability is common to all bacteria and that bacterial classification is in need of revision.

5. The parasite belongs to familiar bacteria which are widespread in nature, and the ease with which cancer can be induced experimentally in animals by chronic irritation suggests that tissue susceptibility wherever found implies the immediate risk of infection by a ubiquitous organism.

The free and universal exposure of man and animals to infection, combined with the (relatively) small proportion of the total which develop cancer, suggests the all-importance of cell susceptibility, and corresponds to the laboratory difficulties attendant on an attempt to produce cancer experimentally by the injection of the organism. In previous papers I have shown that a marked proliferation of primitive tissues can sometimes be induced in animals by the experimental injection of the cancer organism. This proliferation may resemble an ordinary infective process, whilst in an advanced case it simulates a progressive lymphoma or pseudo-leukaemia.

The investigations described in this paper were carried out at the Royal College of Physicians Laboratory, Edinburgh.

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## DIAGNOSIS AND PROGNOSIS IN CHRONIC RENAL DISEASE:

THE RANGE OF UREA CONCENTRATION OR RANGE OF FUNCTION TEST.

BY

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THE purpose of this paper is to describe the above test, and also briefly to comment on other methods of investigating chronic renal disease. During a study covering three years extensive trial has been made of: (1) The urea concentration test (Macleod). (2) Estimation of urea or non-protein nitrogen in the blood; the uric acid, creatinine, inorganic phosphorus, and diastase contents of the blood have also been determined in many instances. (3) Diastase value of the urine. (4) The various dyo tests. (5) Water and salt excretion tests. (6) The variations in reaction of the urine.

Like others, I have not infrequently been surprised by the degree of destruction of kidney tissue found *post mortem* in some cases in which the tests failed to indicate inefficiency, or by the disparity between the amount of damage and the calculated impairment of function. Actually, certain workers have shown by experiment that as much as three-quarters of the total kidney substance may be removed before any abnormal accumulation of urea occurs in the blood. Apparently positive results are only obtained when the reserve power of the kidneys is reduced to a certain low level or when failure of compensation sets in. More sensitive methods are required, and it is in hope of stimulating, however slightly, further research that I venture to record the following notes.

#### The Urea Concentration Test (Macleod<sup>1</sup>).

In carrying out this test in "normal" individuals one is impressed by the wide range of results. Thus, in one series the maximum concentration varied from 1.8 to 5 per cent.—usually found in the second, sometimes in the third, and occasionally in the fourth hour-period. Inquiry proved that, as a rule, the low figures were obtained in persons whose twenty-four hour urine was considerably greater than the average in volume (and incidentally less in concentration) and the high figures in those whose volume of urine was less than the average, the same amount of fluid having been taken in each instance. The above findings, therefore, are not altogether extraordinary, and seem merely to reiterate the fact that marked variations occur in the response of normal people to other diuretics, such as water, tea, and prolonged exposure to cold.

When the "resting level" of urea in the urine (that is, the percentage prior to the test) is taken into account we gain a better idea of the value of Macleod's figure. For example, a result of 3 per cent. which is derived from a resting level of 0.9 per cent. indicates a greater degree of renal (perhaps better termed cardio-vascular-renal) efficiency than the same concentration derived from a level of 2.3 per cent.; or again, 1.8/1.0 per cent. means better function than 1.8/1.5 per cent.

Quite a number of seemingly normal cases have been encountered in which the test results did not exceed 1.6 or 1.7 per cent.; in all of these, however, the volumes of four-hourly specimens somewhat exceeded (by 10 to 30 c.cm.) the prescribed limit, the urea having had prolonged diuretic effects. But when the test was applied over the hours most conducive to concentration—the period of sleep—percentages of 2.2 to 2.8 were obtained; the "resting levels" (7 to 9 a.m.) stood at 0.9 per cent. approximately. It is now clear that the lower the latter value the more does the maximum concentration indicate efficiency, and also that in employing tests of this nature the fullest attention must be paid to the ability of the kidneys to excrete water.

#### The Water Secretion Test.

This test takes note of the proportion of water passed over the day and night hours, and also of the variation in the rate of secretion during the former. In the normal

the night volume is roughly about one-fifth that of the day, and during the latter period the rate of secretion and the specific gravity of specimens fluctuate greatly, depending on the amount of fluid taken. In advanced chronic renal disease "fixation" of volume and specific gravity is noticed; the night urine is decidedly increased and may equal or even exceed that for the daytime, thus showing that the reserve power of the kidneys has been lowered.

The foregoing tests are an expression of the concentration-dilution power of the kidneys. The healthy kidney can quickly adapt itself to alterations in the amount of fluid supplied to the circulating blood—any disturbance of water and molecular equilibrium is rapidly restored. In terms of Cushing's theory,<sup>2</sup> excess of water is removed by increased filtration and diminished absorption, while deficit is compensated for by an opposite process. In the diseased condition both the total filtering power and the total absorption power are defective, and since the kidneys have the task of eliminating a certain amount of waste products daily their range of action in excreting urine of high and low concentration must be less than normal. Clinically we recognize two widely different types of chronic renal disease; a mixed type falls between the two extremes. On the one hand we have chronic interstitial (or azotaemic) nephritis, on the other chronic parenchymatous (or hydraemic) nephritis. In the former variety Maclean's test usually indicates inefficiency, but in the latter it yields a normal figure; that is to say, in one case the test is of value, in the other it fails.

From what has already been said of the concentration and dilution powers of normal and abnormal kidneys, it will be agreed that not only should the maximum concentration be determined but also the "minimum." A test of this sort will reveal defect of function in both forms of the disease and in the mixed variety. In hydraemic nephritis the failure is to diuresis, in the azotaemic to concentration. The capacity for concentration is best examined over the period of sleep, when absorption of water from the tubules is naturally at an advantage and normally most marked, while the ability to form a dilute urine is best determined during the waking hours, when the kidneys are most sensitive to diuretics. Concentration depends not only on the state of the glomerulus and the tubule, but also on that of the heart's action and blood pressure, and as the same may be said of diuresis we see that the values obtained for the two processes enhance one another. The range of function, as denoted by such figures, is a statement of relativity; the minimum value forms a basis from which to judge the maximum, and vice versa.

#### Range of Urea Concentration (R.U.C.) or Range of Function Test.

No originality is claimed for this test; it is merely an adaptation of the above methods of determining renal function. I have used it in some 300 cases of renal disease during the past three years, comparing it with other methods and correlating the results with the clinical, and, when possible, the *post-mortem* findings. It has proved most valuable. The details are:

The taking of fluid during the five to six hours preceding the test is forbidden. Thus little fluid is taken at tea-time (5 o'clock), and none with the evening meal (7 to 8 o'clock). At, say, 10 p.m. the patient (an adult) drinks the following 3-ounce dose: urea 5iv, tr. aurant. ʒss, ag. ad ʒijj. An hour later (11 p.m.) the bladder is emptied and the urine discarded. The patient is then kept warm in bed and encouraged to sleep. All the urine is collected from 11 p.m. to 7 a.m., the bladder being completely emptied at the latter hour; a sample of this is known as "Specimen A." At 7 a.m. plenty of fluid is given. Thos between 7 and 7.45 a.m. the patient sips two large cups of weak tea, containing little or no sugar, followed by a pint of water—that is, about 30 oz. in all. The urine is collected from 7 to 9 a.m.; a sample of this is known as "Specimen B." "A" gives the maximum concentration of urea, "B" the minimum; the exposure of dressing aids diuresis in "B." That the ingestion of such large amounts of fluid, especially when taken slowly, has no detrimental effect has been pointed out by Orr and Innes.<sup>3</sup> On the contrary, the results seem to be beneficial—possibly owing to the elimination of pressor substances, etc.; of course, where the patient is waterlogged the giving of so much fluid is inadvisable. The collections may be made from 10 or 11 p.m. to 6 a.m. and from 6 to 8 a.m., if found more convenient. The urine is discarded up to one hour after the giving of the dose of urea in order to allow any diuretic effects to pass off.

It was essential to ascertain the variation of concentration throughout the night period, so as to ensure that a high concentration obtained during the earlier hours was not being lowered by subsequent excretion of more dilute urine. Consequently twenty individuals with "normal" and fifteen with "abnormal" kidneys were tested by examining specimens of urine collected every two or three hours. The following are typical examples:

	Concentration of Urea in Urine.	
	Normal.	Chronic Interstitial Nephritis (10 cases).
Urea given at 10 p.m.		
11 p.m. to 1 a.m. ... ..	3.35 per cent.	1.60 per cent.
1 a.m. to 3 a.m. ... ..	3.40 ..	1.58 ..
3 a.m. to 5 a.m. ... ..	3.35 ..	1.52 ..
5 a.m. to 7 a.m. ... ..	3.03 ..	1.53 ..

The concentration is well maintained throughout the night, and there is therefore no need to disturb the patient's rest by endeavouring to obtain a specimen over the early hours of the test. In a few normal persons the percentage falls a little in the latter specimens, but the error introduced is negligible; in the cases of renal disease no fall was noticed. The percentages obtained in this way are higher than those given by Maclean's method. It is instructive to compare the results obtained over the "A" and "B" periods in the normal, and in cases of chronic renal disease, when (1) no urea and no water were given (at the beginning of "A" and "B" respectively); (2) urea and no water given; (3) no urea but water given; (4) urea and water given. The following results are typical (the figures represent percentages):

Group.		Normal.	Marked Chronic Interstitial Nephritis.	Marked Chronic (or rather "Subacute") Parenchymatous Nephritis.
(1) No urea and no water	A B	2.20 1.20	1.24 1.24	2.52 2.40
(2) Urea and no water	A B	3.40 1.40	1.33 1.25	2.60 2.50
(3) No urea, but water	A B	2.23 0.33	1.23 1.05	2.50 2.35
(4) Urea and water (that is, the R.U.C. test)	A B	3.82 0.40	1.32 1.12	2.60 2.40

The table shows the normal swing in concentration from night to morning urine (Group 1), and illustrates how the range of urea concentration test (Group 4) is designed to exaggerate this phenomenon. Often the swing in the "normal" is much greater than here represented—for example, "A" may be 5.5 per cent., and "B" only 0.3 per cent.; this is taken to indicate a greater degree of efficiency of the cardio-vascular-renal system. Further, it has been noticed that in some cases the degree of range is due mainly to the rise of concentration, in others to the fall, the "resting levels" being taken as a basis.

Occasionally one encounters a person oversensitive to diuretics and ordinarily passing a large-volume urine, but otherwise apparently normal, or a person suspected of having renal disease in whom results such as the following are obtained: maximum concentration 1.6 per cent.; minimum concentration 0.3 per cent. In one patient passing 5 pints of urine daily and considered to be suffering from mild diabetes insipidus the maximum figure was 1.3 per cent. and the minimum 0.2 per cent.; the amount of fluid given in this test was 2 pints. The range of function in these cases differentiates them from those of chronic interstitial nephritis having the same maximal concentrations; the range in the latter is markedly less, and, in the worst cases, may be nil. In subacute parenchymatous (that is,



hydraemic) nephritis the range may be equally limited, but it is set at a higher level with the maximum, and indeed one might say the minimum, figure practically always above 2 per cent. If in this condition the blood pressure rises and the heart hypertrophies sufficiently to counterbalance the defect of the kidneys by increased circulation and filtration in the glomeruli, the oedema subsides and the kidneys may be said to have passed into the stage of contraction. The range of function may still show the same limitation as before, or it may be increased or diminished, but the maximum value is almost certain to be lowered. It is my experience that, taken conjointly, the lower the maximum concentration and the more restricted the range, the worse the prognosis.

#### Correlation of the Test Results and Various Pathological Findings.

The following cases will serve as illustrations.

##### CASE I.

T. C., aged 48, came under observation two years ago. Very pronounced subacute parenchymatous nephritis; oedema extreme. Urine: a few ounces daily, 0.8 per cent. albumin, 0.07 per cent. chlorides (as NaCl). Heart seemed to be normal. Blood pressure 138/90 (systolic and diastolic respectively). Blood urea normal. Fundus oculi normal. Range of urea concentration (R.U.C.): "A" = 3.8 per cent., "B" = 3.6 per cent. After eight weeks' treatment with large doses of urea and an occasional course of digitalis the oedema had completely disappeared and the patient was feeling remarkably well. On examination:—Urine: volume 60 oz., 0.2 per cent. albumin, 0.53 per cent. NaCl. Left ventricle hypertrophied; apex beat  $1\frac{1}{2}$  in. out. Blood pressure 160/102. Blood urea 0.077 per cent. R.U.C., "A" = 1.9 per cent., "B" = 1.5 per cent.

As observed by these tests fortnightly, the condition ran an even course, and after eight months the findings were: general condition still good, moderate anaemia, no oedema. Heart: apex beat now 1 in. out. Blood pressure 176/110. Blood urea = 0.076 per cent. No eye changes. Urine: 60-70 oz., 0.1 per cent. albumin, R.U.C. = 1.7/1.4.

I saw him again two months later. He had lost much weight; his appetite was poor, sleep fitful, irritable, moderate dyspnoea, occasional headaches. Heart as before. Blood pressure 179/120. Blood urea 0.101 per cent. Urine: 80-90 oz., albumin less. No eye changes. R.U.C. = 1.4/1.2. Death occurred one month later from uraemia, and at autopsy contracted, greyish, granular kidneys were found.

##### CASE II.

G. N., aged 45; admitted into hospital twenty months ago complaining of headaches, sleeplessness, nocturnal polyuria, and dyspepsia. Rheumatic fever in childhood. Urine: Merest trace of albumin, specific gravity 1005, 70-80 oz., about 9 g. chlorides (as NaCl) daily. Heart: Left ventricle hypertrophied; apex beat 1 in. out; no bruits; action regular. Blood pressure 198/120. Blood urea 0.107 per cent. No eye changes. R.U.C. = 1.65/1.3. During his six weeks' stay in hospital he was much relieved subjectively. Five months later he returned in a worse condition; the heart frequently missed a beat. Blood pressure 200/139. Blood urea 0.162 per cent. R.U.C. = 1.5/1.4. He got gradually worse, and in three weeks' time examination showed: Blood pressure 181/136. Blood urea 0.160 per cent. Urine about 50 oz. R.U.C. = 1.5/1.45. The heart was failing rapidly. At autopsy, a few days later, kidneys typical of so-called "primary" chronic interstitial nephritis were found.

##### CASE III.

Mrs. E. D., a patient still under supervision of the Medical Unit at St. Mary's Hospital. Admitted December 19th, 1923, suffering with marked oedema of legs, trunk, and arms, and there was much secondary anaemia. The illness was due to chronic interstitial nephritis; no attributable cause. On admission:—Urine: 40 in. Heart normal. Blood pressure 120/80. On account of the oedema, blood could not be obtained for urea estimation. Urine: 8 to 15 oz.; 1.2 to 1.5 per cent. albumin; a great number of granular, hyaline granular, and fatty casts present; no blood cells found; chlorides (as NaCl) 0.2 per cent. R.U.C. = 1.2/1.2.

After treatment with urea and digitalis the oedema began to subside until on February 13th, 1924: Girth 35 in. Heart as before. Blood pressure 108/82. Blood urea 0.046 per cent. Urine: 30 to 50 oz.; 1.8 per cent. albumin; only no blood cells; chlorides 0.3 per cent. the oedema was still very marked, this for the future and at once clearly of the kidneys from that in Case I, which until now it closely resembled.

On March 1st oedema had completely disappeared. On examination on March 3rd, 1924: Girth 27 in. Heart normal in size and action. Blood pressure 110/75. Eyes normal. Urine: 50-60 oz.; 0.7 per cent. albumin; an occasional cast; no blood cells. R.U.C. = 4.45/2.7. When I saw her last, a short time ago, she was in excellent health; findings unaltered. I think that these results, especially the condition of the heart and blood pressure and the R.U.C., show that the kidneys have recovered a great deal of their normal function.

The destruction of the renal elements indicated in the above cases, and found in many others post mortem, is in conformity with the concentration values obtained.

#### Hyperpiesia.

Since hyperpiesia is so closely allied clinically to chronic interstitial nephritis, one may, for purposes of differential diagnosis, cite the following case as representative of a group of the former I have investigated.

##### CASE IV.

H. W., aged 56, suffering from violent headaches, recent failure of eyesight, general debility, and occasional marked nocturnal dyspnoea. Heart: Left ventricle much hypertrophied; no evidence of valvular lesion. Arteries thickened but not tortuous. Blood pressure 230/134. Blood urea 0.051 per cent. Retinal arteries very sclerotic, discs a little fluffy at the margins. Wassermann reaction negative. Urine: 60 oz., specific gravity 1003, trace of albumin. R.U.C. = 4.4/0.9.

Practically the same results were secured just before death, which took place seven weeks later and was due to cerebral haemorrhage. Transitory mild convulsions and delirium occurred in the third and fifth weeks and lasted six and thirteen hours respectively. Post mortem the kidneys revealed no appreciable abnormality beyond considerable sclerosis of their arteries.

The wide range of function had clearly distinguished the condition from that of chronic interstitial nephritis. Similarly, another case was differentiated by a range of 1.5/0.4; the blood urea was 0.045 per cent.

The influence of failure of the circulation on the test must always be borne in mind. Renal-vascular stasis gives rise to slow glomerular filtration and, consequently, promotes concentration of the urine. The "A" and "B" values are raised and their approximation varies directly as the degree of heart failure. The occurrence of oedema and the presence of albumin and perhaps casts in the urine, which is also of low chloride content, increase the resemblance to the findings in hydraemic nephritis. However, the history, the general appearance of the patient, the onset and character of the oedema, and the state of the heart, lungs, and liver, usually make the distinction easy. Cases in which heart failure and renal disease complicate one another can only be diagnosed as such, and the primary or predominant lesion assigned to one or other organ, by careful appraisalment of all the data available. In this connexion the blood pressure is often of great assistance, for when the heart is failing as the result of renal damage one finds the overload represented by high systolic and diastolic readings. Early, both pressures had risen, the systolic more so than the diastolic, then, as the heart flags, the former drops somewhat, and, finally, as full cardiac defect supervenes, both fall.

Range of Function as Gauged by Specific Gravity Determinations instead of the Concentrations of Urea.—This method is generally of considerable value when estimations of urea are not feasible. The test is carried out in the same way, except that no dose of urea is given; it is really nothing more than the water test already mentioned. The following examples require no comment: Normal 1020/1005, chronic parenchymatous nephritis 1020/1018, chronic interstitial nephritis 1005/1004.

#### Other Tests.

(a) Blood urea or blood non-protein nitrogen estimations as indices of renal inefficiency are not quite as sensitive as the range of urea concentration test, often much less so—for example, in hydraemic nephritis they usually yield normal figures. Results above normal, however, constitute valuable confirmatory evidence. The R.U.C. test has proved the better guide in prognosis.

(b) The uric acid, creatinine, and diastase determinations in the blood have seldom, if ever, shown any superiority in diagnosis over the above tests considered together with the clinical picture; as routine procedures they are impracticable.

(c) Inorganic Phosphorus Content of the Plasma.—The work of de Wesselow, in showing the value of this estimation as an aid to the immediate prognosis in azotaemic nephritis, is worthy of note. In the twelve cases that I have investigated in this way the concentration of plasma phosphate (P 0.004 to 0.014 per cent.) was proportional to the gravity of the condition as indicated by the clinical examination, the range of kidney function, and other findings. The reader is referred to de Wesselow's comprehensive paper.\*

(d) The diastase content of the urine has proved of very little assistance.

(c) *Dye tests* have their value in surgical practice. In "medical" cases they yield results comparable to, but not so uniformly reliable as, blood urea estimations.

In conclusion it may be stated that special importance is attached to the following in the diagnosis and prognosis of chronic renal disease: (1) History of the case. (2) General condition of the patient. (3) State of the heart, blood vessels, and blood pressure (systolic and diastolic)—an estimate of cardio-vascular efficiency. (4) Condition of the retinae and discs. (5) General examination of the urine. (6) Range of urea concentration test. (7) Estimation of the blood urea and perhaps also the inorganic phosphorus in the plasma.

#### Summary.

Special attention has been directed to putting forward the plea that in estimating the function of the kidneys note should be taken not only of the degree to which concentration of waste products in the urine can occur, but also of the capacity of the kidney to produce a dilute urine. It has been shown that the power to concentrate urea is best determined over the night hours after a provocative dose of urea, and that the value of the result obtained is much enhanced by ascertaining the greatest extent to which water diuresis, most effective during the waking hours, can lower the concentration of urea. The minimum concentration provides a basis from which to judge the maximum, and vice versa, an expression of range of function or reserve power. The part played by the heart's action and blood pressure in determining these results has been discussed.

I wish to take this opportunity of expressing my indebtedness to Professor Langmead for his kindness in permitting me to make use of his cases and for much helpful advice.

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## THE RELATIVE LOSS OF HEAT AND WEIGHT IN THE NEWBORN, AND THE TREATMENT OF SHOCK.\*

BY

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### THE RELATIVE LOSS OF HEAT AND WEIGHT IN THE NEWBORN.

The initial drop in the weight of the newborn has hitherto been regarded as inevitable. As a rule the chief fall occurs in the first three days. The average loss is about seven ounces, and some authorities state that half a pound is within normal physiological limits. Various causes are assigned, such as adaptation of ante-natal and post-natal metabolism, loss of urine and meconium, and deficient nutrition until the mother's milk is fully established.

There is no doubt that some loss of weight must occur in the majority of cases, but the problem is whether the loss cannot be diminished. Weight cannot be regarded as an

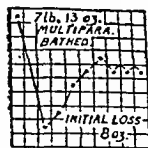


FIG. 1.—Charts showing initial loss of weight in normal newborn babies: A, of multiparae (bathed); B, of primiparae (warmed).

absolute indication of the infant's welfare, but is one of the best signs of progress. Some time ago Professor Pembrey pointed out to me that the treatment of the normal newborn was irrational as compared with that of the premature, and deprecated the process of bathing as it entails loss of heat. Acting on this suggestion, some nine months ago I began to try new methods of treating newborn infants. A series of normal babies at term were cleansed at birth with olive oil instead of by bathing.

The results have been satisfactory, and now oiling has

been instituted as the routine method in the Obstetric Unit at the Royal Free Hospital. The babies are oiled after birth and daily until the day before they leave the hospital, when the mothers are instructed how to bathe them. They lose less weight than bathed babies, and in most cases regain their birth weights or reach even higher weights before leaving hospital on the ninth or tenth day. The cleansing properties of oil are not well understood in this country: babies treated in the manner described are just as sweet and clean as if they had been bathed in the ordinary way. The oil is, of course, wiped off again after application.

After treating a large number of infants I felt that still further improvement could be effected by reducing exposure to the air after birth, and thus avoiding loss of heat. Immediately after delivery the infants in one ward were wrapped in warmed blankets. On the cord being cut the child was at once transferred to a cot with warmed blankets and hot-water bottles, and kept there until oiled and dressed. The results in these cases were still further improved.

Appended are two charts displaying results of 160 normal cases selected at random. For purpose of comparison the

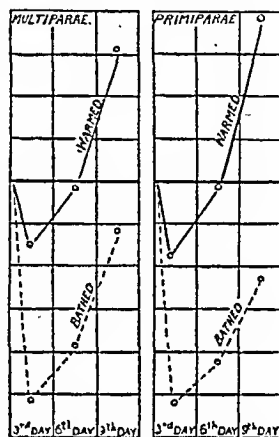


FIG. 2.—Charts showing the average loss of weight in 40 oiled and warmed babies and 40 bathed babies of multiparae, and 40 oiled and warmed babies and 40 bathed babies of primiparae (1 square = 1 oz.).

Records of temperature

(rectal) were kept of 100 warmed and oiled babies. The temperatures were taken at birth, one or two hours after, and after oiling. In almost every case there was a fall after birth and after oiling. The average temperature at birth was found to be between 99° and 100° F. In one or two hours it had dropped about 1 degree. After oiling it was further reduced 0.5 to 1 degree.

Strain during labour with shock to the infant is followed by a greater fall in weight than occurs after normal delivery. In forceps cases there is a considerable drop in the weight of the infant during the first three days. This is less marked when the child is not exposed to air or bathing. Premature babies and also those born by Caesarean section usually lose more weight than children born by normal deliveries. Early artificial feeding until the mother's milk is established in both these groups of cases has been found to give satisfactory results. The weight charts of twins show in many cases a parallel loss and gain of weight for each infant. In infants of mothers who have suffered from toxæmia the charts show a considerable loss of weight.

Feeding methods are not involved in the inquiry, but better results as to weight are obtained when the child is fed every three hours than when it is fed every four hours. The children were all breast-fed, but when the mother's milk supply was deficient supplementary feeds were given.

The decrease in infantile mortality during the first year has aroused much attention, but few realize that the decrease during the first month is comparatively small. To put the matter in another way, the improvement has been chiefly during the last eleven months of the infantile year. For instance, in 1905 the mortality per 1,000 for the first year was 128, between two and eleven months 86, and during the first month 42. In 1923 the corresponding

\* Read at a meeting of the Obstetrical Section of the Royal Society of Medicine, December 4th, 1924.

figures were 69, 37.5, and 31.5. According to the Registrar-General's records, deaths during the first month are mainly due to birth injuries and prematurity.

Probably much can be done to reduce mortality by improved methods at and after birth, but ante-natal treatment is the real remedy. The future of successful obstetric practice lies in skilled supervision during the ante-natal period. It is obvious that an infant whose mother has suffered during pregnancy from toxæmia or any constitutional disease has a reduced vital capacity. Any form of ante-natal treatment, therefore, which improves the mother's general condition and reduces the possible complications of labour will have a marked effect upon the newborn child.

Ante-natal correction of malpresentations, the treatment of cardiac complications by rest, the reduction of pain by the administration of sedatives during labour, and the stimulation of a failing foetal heart by strychnine, strophanthus, etc., must have a beneficial effect upon the welfare of the infant.

#### SHOCK IN THE NEWBORN.

The treatment of white asphyxia demands fresh consideration. As a rule blue asphyxia can be treated by clearing out the air passages and stimulating the skin reflexes.

In white asphyxia the usual method is to clear the air passages and immerse the infant in a warm bath, sometimes with the application of cold water to the head, followed by artificial respiration of varying and progressive degrees of severity, finally culminating in the Schultz method. This arduous effort probably satisfies the obstetrician that if he has failed to restore the infant he cannot be blamed for not having exercised his energies to their utmost capacity.

The late Dr. Gordon Ley pointed out that in such cases attention should be directed, not to establishing respiratory movements, but to relieving cardiac failure due to shock, usually caused by cranial compression, or in some cases by pressure upon the umbilical circulation. This is, I think, the correct view. The greater the strain upon the mother during labour the greater the shock to the infant. Respiration cannot be induced until the heart has adapted itself. What is required is cardiac stimulation and not inhibition. Much depends upon the amount of carbon dioxide in the blood for the stimulation of the respiratory centres. It is possible that the reserves for this purpose may be wasted in useless muscular movements carried out upon an infant with an enfeebled heart.

As soon as the child is born it should be wrapped in a warm blanket and its air passages cleared. The mucus should be sucked out of the trachea by a rubber catheter with a glass window enabling the mucus to be observed before it reaches the operator's mouth. The infant should be then left at rest in a warm cot. Gentle massage of the heart can be carried out under the blanket, and stimulants such as pituitrin (2 minims) and camphor given hypodermically. No movements should be permitted which involve the head or spine. It is difficult at first to abstain from artificial respiration; but experience has proved the efficiency of the alternative method, and shown that results are better than when more rigorous means are employed. Time, warmth, and rest will usually restore the heart's action if the shock has not been so severe as to be incompatible with life. In cases of blocked air passages artificial respiration may be advocated, but the use of the mucus catheter will generally be successful. Heart failure is not usually the cause of death in such instances.

After the administration of *scopolamine*, or morphine, or even of ether, during labour, the infant is often born in an anaesthetized condition. It must therefore be allowed time to recover.

I am grateful to my obstetric residents, Miss Langston and Miss Salmond, and to the students and sisters for assisting me in these investigations. A record of several hundred cases has been charted and classified by Miss Pritchard, whose services were available through the assistance of the Medical Research Council.

## EPIDEMIC ENCEPHALITIS SIMULATING ACUTE SURGICAL LESIONS OF THE ABDOMEN.

BY

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I AM taking the opportunity of reporting shortly on four cases observed by me during August, 1924, to put on record what appears to be a new development relating to the diagnosis of that extraordinary disease now so well known as "lethargic" encephalitis.

At present we are experiencing an epidemic of this disease in Glasgow, and it will be clear from my report how essential it is for those of us who are engaged in hospital practice to draw the attention of our colleagues engaged in general practice to the various forms which encephalitis may take. I may add that the diagnosis of the disease under the conditions of general practice met with in this city is of necessity a matter of the greatest difficulty, especially as many of the doctor will have had little opportunity of seeing cases formerly. It would seem that the qualifying adjective "lethargic" would hardly apply to the type of the disease I have seen lately, and the term certainly conveys a very wrong impression of the striking symptoms, at any rate in the earlier stages of the disease. It is pretty certain that many of the milder cases are treated for other conditions, and the danger of the disease becoming more widespread is very real.

All four cases described were admitted to hospital during the short period of one month (August 13th to August 28th as a matter of fact) as acute abdominal conditions, and subsequently three out of the four were diagnosed definitely as epidemic encephalitis and removed to isolation hospital. The fourth case is as yet not finally diagnosed, but the diagnosis appears to rest between encephalitis and tuberculous meningitis. This case shows that even when the resources of a large general hospital are available diagnosis may be difficult. The notes on the cases are of necessity short as the cases were observed for a brief time only.

#### CASE I.

Servicing soldier, aged 19. Admitted August 15th, 1924. The diagnosis on admission was perforated gastric ulcer, which had been changed from that of strangulated hernia. The patient gave a history of sudden onset of very severe pain in the left lower quadrant of the abdomen, and stated that he had received a blow in this region on August 13th. He had vomited freely prior to admission.

I did not see the patient until some hours after the diagnosis of perforated gastric ulcer had been made, and it was then quite clear that we were dealing with some acute nervous condition. My first impression was that the case was one of tetanus or strychnine poisoning, as on entering the door of the side-room in which he lay I found him in the position of opisthotonos and having marked spasm of almost all the muscles of the trunk and limbs. His mental condition was, however, lethargic, and in complete contrast to the spastic state of his body. Hyperæsthesia of the skin of the right side of the abdomen from nipple to groin was very marked, and on testing for this strong myoclonic movements were produced. The temperature was 97° F. and the pulse rate 60. He was unable to give a history of any symptoms. Having excluded the possibility of tetanus and strychnine poisoning so far as possible I made the provisional diagnosis of epidemic encephalitis, which was confirmed by a physician (Dr. Harrington) next morning. I was assisted in the diagnosis of this case by the fact that I had seen an almost similar case in the same room about a year previously. In this case, however, the pain started in the left arm, but was accompanied by similar generalized myoclonic movements.

The patient was removed in a few days, having run a completely apyrexial course with rather a slow pulse. Ophthalmic examination before removal showed oedema of both optic discs.

It is obvious in this case that the doctor who saw the case prior to admission had seen him before the onset of the typical myoclonic movements, which appear to follow and not precede the agonizing pain.

#### CASE II.

Miner, aged 41. Admitted August 20th, 1924. The diagnosis on admission was right-sided renal colic. The patient gave a history of having been seized with acute pain in the right lumbar region, which later shot down into the right testicle, simulating the pain of the passage of a stone. He had, however, no hæmaturia and no difficulty in passing urine.

He did not complain of headache, but two days after admission he began to have some disturbance of accommodation, not being able to say whether an object was near or at a distance. At this time he also commenced to have typical myoclonic movements of the right iliac region, most marked in the rectus muscle. He had very marked hyperaesthesia of the skin of the right side of the abdomen; deep pressure was, however, not very painful—apparently a fact of some importance in diagnosis. His knee-jerks were markedly exaggerated, and in a short time the myoclonic movements began to affect the left side of the abdomen as well as the right. The pain was of such severity that large doses of morphine were given. In the first twenty-four hours after admission he had no fewer than five injections of 1/4 grain without any apparent effect.

The absence of reaction to morphine in the cases which I have seen is very striking, and would seem to have some diagnostic importance. There happened to be a case of tetanus in the ward at the time, and I suggested that as the cases seemed very similar intramuscular injections of magnesium sulphate might be tried. This procedure seemed to make the patient so much worse that only two injections were given. The maximum temperature in this case during seven days was only 99°, and the pulse varied between 70 and 80, although it was obvious that the man was acutely ill and suffering agonizing pain.

## CASE III.

Miner, aged 40. Admitted August 27th, 1924. The diagnosis on admission was "acute abdomen"—(?) *strangulated hernia*. The patient gave a history very similar to Case II. Four days prior to admission he had some slight pain over the left inguinal region, which rapidly became worse and shot down into the left testicle. The patient described the pain as being "jerky" in character. He had vomited repeatedly, had fairly severe headache, and on admission had retention of urine. No hernia could be made out.

On admission there were strong myoclonic movements of both sides of the abdomen and marked skin hyperaesthesia. The knee-jerks were exaggerated and myoclonic movements of the legs were commencing. He complained of no eye symptoms, but lateral nystagmus was present, the significance of which was doubtful owing to his occupation. He had also severe pain in the left hand and the right foot. Again, the temperature and pulse were not above normal, and morphine had no effect on the pain; hyoscine, however, seemed to quieten the spasms.

## CASE IV.

Clerkess, aged 17. Admitted August 15th, 1924. The diagnosis on admission was *acute appendicitis*. The patient stated that on August 12th she was seized with acute pain on the right side of the abdomen. She had vomited repeatedly, was constipated, and had severe headache. Her temperature on admission was 102.8°, pulse 100, and respirations 22. During the period of observation the temperature remained moderately elevated.

When I saw her shortly after admission she was very restless and resembled a case of chorea. She was inclined to be hysterical, and her answers were unreliable. The skin of the right side of the abdomen was very hyperaesthetic, and deep pressure was not allowed. She had no local myoclonic movements, although generalized choreic movements were present. Her mental attitude was so peculiar that I decided not to operate and observed the patient for some days. In the interval I saw her own medical attendant, who told me that he had been in doubt regarding some of her symptoms, but had eventually diagnosed appendicitis. On August 17th, as she was still running a high temperature and fairly rapid pulse, I asked a physician to see her. He gave the opinion that he considered that we were justified in exploring the abdomen. I therefore opened the abdomen over the appendix region on August 18th. I found a perfectly normal appendix, but there were numerous enlarged mesenteric glands. I removed a gland for examination, and this was returned as being "chronic inflammatory."

Her condition did not improve after the operation and it was reported to me that she was becoming increasingly noisy at night, throwing off the bedclothes, taking off her nightdress, and behaving generally like a naughty child. During the day she lay perfectly quiet and resented any examination in such a manner that one got the impression of imbecility. The temperature remained high (103° in the evenings). The knee-jerks were absent at this period and she appeared to have a positive Kernig's sign. There was no neck rigidity and no very definite evidence of tuberculous meningitis, which had been suspected when the enlarged glands were found.

She was again examined by the physician, who now gave an opinion that the case might be one of encephalitis, although he would not say this definitely, the symptoms being so obscure.

If this diagnosis is correct we have a case beginning with abdominal pain and not developing the typical myoclonic movements, tending rather to pass straight into the more lethargic type of the disease.

Dr. Middleton has informed me (about September 10th) that the abdominal wound suppurated to some extent and that the condition of the patient has improved as regards pulse and temperature. She still remains in a curious mental condition, but has not developed anything else to make him give a definite diagnosis of encephalitis.

I merely quote the case as illustrative of one in which encephalitis had to be considered, although the definite enlargement of the abdominal glands might indicate another infection.

## Conclusions.

From the very limited experience of a surgeon in such cases I would say that the following points are of importance in diagnosis.

1. *Myoclonic movements*, if present to any extent, are characteristic of the type of the disease likely to be mistaken for the acute abdomen, and once those have been seen in a typical case the observer is not likely to mistake them for anything else, although in the cases reported those had evidently been mistaken for the movements of a patient in pain. The movements show themselves as fairly rhythmic contractions of groups of muscles, and not at all as the muscular rigidity characteristic of acute abdominal lesions. In the cases under discussion the recti and obliques were the muscles principally involved. Needless to say, a patient with an acute intra-abdominal lesion does not willingly move the muscles of the abdominal wall to any great extent, and it is very remarkable to observe the intense pain produced by the involuntary myoclonic movements in a patient suffering from encephalitis. Unfortunately the movements appear to follow the pain, the interval varying in length, and herein lies the difficulty in diagnosis.

2. *Eye symptoms* (double vision, disturbances of accommodation, nystagmus, irregular pupillary reflex) if present are of great value. Headache as a first symptom is also of some value, and pain in a site removed from the main site complained of would also appear to be significant, as in Case III, where there was pain in a hand and a foot in addition to the abdominal pain.

3. *Skin hyperaesthesia* in the cases I have observed has been very marked and has been much more widespread than is the case in the ordinary acute abdomen.

4. *Pulse and temperature* in three out of the four cases were hardly affected.

5. *Lethargy*, in the early stages of the myoclonic type of the disease at least, seems often to be notable by its absence.

The disease in the myoclonic form resembles tetanus in many respects, but the muscle spasms are in the nature of a clonus and there is not the tonic spasm found in tetanus. External stimuli, such as an examination of the patient or the banging of a door, tend to produce an exacerbation of the symptoms, and the spasms start in one group of muscles and afterwards spread over the body, retaining, however, their clonic character. Chorea and hysteria are also likely to pass through the mind of the medical officer examining such a case. I have already discussed the question of the acute abdomen.

My only object in trespassing on the physician's domain is to draw attention to the fact that these cases are being mistaken for surgical conditions, and I must apologize to my readers for the somewhat inadequate notes. I also write in the hope that others will give us guidance in the question of early diagnosis.

I am indebted to Mr. Paterson for his permission to describe the cases seen in his wards and to Drs. Harrington and Middleton for their help in consultation.

## SPONTANEOUS RUPTURE OF THORACIC AORTA.

BY

C. DUNDAS MAITLAND, M.B., F.R.C.S.ENG.,

HONORARY MEDICAL OFFICER TO OUT-PATIENT DEPARTMENT, ROYAL SURREY COUNTY HOSPITAL.

SPONTANEOUS rupture of the thoracic aorta as a sequel to an operation for gangrene of the leg is a sufficiently rare event to justify the following report.

A small, thin, rather cachectic-looking man, aged 49, had spent most of his life in mining work in Burma, where he had suffered from beri-beri and malaria. His work, he stated, was largely in wet boggy country, so that for years he was almost continually getting his feet bathed in water and mud. I was first called to see him about six months before his death for an attack of abdominal pain which was diagnosed by Dr. Paget-Jones (Horsley, Surrey, as due to appendicitis; I agreed with this diagnosis and operated the following day, removing a subacutely inflamed appendix. During the routine pre-operative examination



Dr. Paget-Jones noticed that the aortic second sound was not clear, and that there was a faint mitral murmur; the urine was free from albumin and sugar. The patient stood the operation perfectly and made an uninterrupted recovery, there being no disturbance of the heart or peripheral circulation as the result of the anæsthetic or operation.

Two months later his doctor again asked me to see him on account of acute pain and tenderness in the left scrotal sac and along the course of the left vas deferens. I found a condition of acute deferentitis and leucitis. Prostatic massage produced an exudate fairly typical of chronic gleet. At this time a history of gonorrhoea many years ago was obtained, but the patient persistently denied any history of syphilis, although pressed strongly on that point. He was treated by rest, urinary antiseptics, fomentations, and careful dieting, with the result that all pain and swelling disappeared in about a week, and he returned to his daily work, travelling up to his London office and appearing to be in his usual health.

Shortly after this his heart began to give trouble, and I again saw him in a condition of acute auricular fibrillation. At this time Dr. Paget-Jones had already got him under treatment; he was quite unable to walk, was slightly cyanosed, and severely dyspnoeic. In addition to the auricular fibrillation there was a rushing double mitral murmur with marked left-sided dilatation, and the aortic second sound was again noted to be a peculiar blurred type of note, though we were unable to detect any actual murmur. A very rigid course of treatment with graduated doses of digitalis and potassium iodide, combined with absolute rest and careful dieting for about two weeks, was followed by a very gradual return to normal activities. At the end of another month, Dr. Paget-Jones informed me, the patient had resumed his business life, and the heart seemed to have so completely recovered that nothing abnormal could be detected by stethoscopic examination.

About six weeks before his death I was again called into consultation. When I saw him he was suffering great pain in the legs, and both were showing blue-black patches of commencing gangrene below the knees, the right being considerably worse than the left. The history was that three days previously he had noticed some numbness in the feet "as if he were walking on wool" and that they felt cold; he, however, regarded that lightly, as he had often noticed the same feeling when they were constantly getting sodden with mud in Burma. The following day, however, a painful dark blue indurated plaque, about 3 inches in diameter, formed in the right calf apparently just beneath the skin. He then sent for Dr. Paget-Jones, who at once noticed a slight commencing cyanosis and coldness of the toes of the right foot and absence of pulsation in the dorsalis pedis, calcaneal, and popliteal arteries of both legs. He suspected the onset of gangrene, and diagnosed the indurated lump as a subcutaneous hæmorrhage. When seen by me the next day (fourth day after onset) it appeared quite certain that the right leg could not be saved, but we hoped that the left was not too far gone to recover. The heart was again fibrillating, though not so badly as in the previous attack, the mitral murmur had recurred, and the aortic sound was blurred and prolonged.

The patient was immediately removed to the Royal Surrey County Hospital, where Dr. Mitchell took charge of his medical treatment, which consisted essentially of 30-grain doses of potassium iodide three a day and daily intravenous injections of strychnin. This was continued for twelve days, during which time the feet were kept continually elevated, powdered with sterilized boric powder, wrapped in thick layers of sterile wool, and the whole cradle covered with a large radiant heat bath which was kept going continuously. Under this treatment the left leg recovered completely as regards colour, warmth, and sensation, but circulation could not be felt in any arteries below the knee. The line of demarcation on the right leg sank from just below the knee to midway between knee and ankle, and then became stationary, but remained quite aseptic and dry. Meanwhile the heart had improved so much that I felt justified in attempting amputation in the lower third of the thigh. The urine was carefully examined in hospital and found to contain a very slight trace of albumin, but no sugar or acetone. The blood Wassermann reaction was found to be positive. The blood count was normal except for slight leucocytosis with an excess of polymorphonuclear cells amounting to 85 per cent. The blood pressure was: systolic 160 mm. and diastolic 95 mm. Hg.

On the twelfth day of hospital treatment—that is, the sixteenth from the onset of trouble in the legs—I performed the amputation after first blocking the sciatic nerve in the buttock by a local deep injection of 20 c.cm. of 1 per cent. novocain solution directly into the nerve trunk. This was combined with a very small amount of ether to obliterate actual consciousness, and the operation completed in thirty-five minutes. The patient stood the operation remarkably well, and presented no signs of surgical shock. During the first five post-operative days everything appeared to be progressing perfectly. The flaps retained normal sensation, warmth, "starting pains" or pain of any description except a little soreness around the site of the injection in the buttock.

On sitting up the popliteal artery in the leg after its removal, it was found to have a lumen less than half the normal, and to have grossly thickened fibrous walls, but there was no naked-eye evidence of ulceration or calcareous changes in the intima of the vessel, and no thrombus was found. On the morning of the sixth day after operation the patient felt so well that, wishing to be unduly independent of nursing assistance, he sat up in bed, attempting to shave himself. He was then noticed by one of the nurses to fall suddenly forward without uttering a sound. The ward sister reached him two minutes later and found him dead.

#### Post-mortem Examination.

A necropsy was performed the same day and the following remarkable condition was found. The heart was dilated and the musculature felt hard and fibrous. The mitral valve appeared healthy, as did the whole of the endocardium with the exception of the aortic valves, which were thickened and more inelastic than usual, but not grossly diseased. There was a slight excess of clear fluid in the pericardium. The right lung appeared healthy, the left lung was collapsed and compressed to a very small bulk by a huge collection of non-coagulated and clotted pure blood which completely filled the whole of the left pleural cavity. The heart, aorta, venae cavae, trachea, and lungs and oesophagus were removed *en masse* to avoid any possibility of accidental injury to any part of the main vascular system, from which it was suspected such a rapid and profuse hæmorrhage must have issued.

It was then observed that no aneurysm was present, and that the aorta was rather smaller than normal and of uniform calibre throughout its length as far down as the diaphragm, at which level it had been divided for removal. The aorta was divided from end to end with very blunt-nosed scissors and then carefully examined for a rupture. This was discovered in the form of a 1 inch split situated on the convex surface of the aortic curve half an inch distal to the site of junction of the left common carotid artery. The thickened, rigid, brittle aortic wall was so grossly diseased that the artery cracked readily when bent or compressed between the fingers. This was due to the extensive calcareous changes which had taken place throughout the whole length of the vessel; calcareous plates 1 inch square could be stripped out without any difficulty. The muscular and external adventitious coats could be readily stripped from each other by simple traction with the fingers, and the calcareous plates appeared to be embedded in, and to have largely replaced, the muscular coat. No gross change was to be seen in the intima, though there were numerous small areas of shallow atheromatous ulceration and proliferation.

The whole history of this case points to the gangrene having been due to syphilitic endarteritis obliterans rather than to any embolic blocking. The most remarkable feature was that the patient should have been able to carry on a normal active business life and to survive successfully two general anaesthetics up to within such a short time of his decease with such an advanced degree of degeneration present in his main arterial channel.

## Memoranda:

### MEDICAL, SURGICAL, OBSTETRICAL.

#### ANEURYSM OF A BRANCH OF THE RENAL ARTERY.

I was very interested in Mr. R. P. Rowlands's article in your issue of November 22nd, 1924 (p. 939), on aneurysm of a branch of the renal artery. I think the following case of painless hæmaturia may prove of interest, and was possibly due to the same cause.

A man, aged 59, previously quite healthy, consulted me on August 14th, 1924, for profuse painless hæmaturia of sudden onset. The urine contained a very large quantity of bright red blood, and in the first specimen seen was a ureteric cast. Microscopically there was blood only, and no neoplastic cells were detected. Later, very slight ureteric colic occurred, with tenderness of the kidney on the right side. There was no history of trauma or of previous pain. A radiograph negatived stone, but gave definite evidence of slight enlargement of the right kidney. Severe painless bleeding continued for three days. On the fourth day I succeeded in demonstrating by cystoscopy profuse hæmorrhage from the right ureter and a stream of clear urine from the left. Some of the urine from the left kidney was collected and was found to contain 2.2 per cent. of urea. Profuse hæmorrhage persisted for the next forty-eight hours, and on August 21st I explored the right kidney through the loin, having diagnosed provisionally renal neoplasm. The organ was adherent, enlarged, and deeply congested. No stone or difference in consistency could be detected. As the hæmorrhage was just as profuse and continuous as ever, and the patient was becoming definitely anæmic, nephrectomy was performed without first opening the kidney. The patient made an uninterrupted recovery.

On splitting the kidney, after removal, the knife bisected the pelvis a globular mass the size of an olive, which appeared to consist of laminated blood clot, exactly comparable to that found on the walls of some aneurysms.

#### Pathological Report.

The whole organ was sent to the Clinical Research Department, St. Bartholomew's Hospital. The reports were as follows:

"August 30th.—Macroscopically the kidney shows several subcapsular hæmorrhages and subepithelial hæmorrhages in the pelvis. There is a larger hæmorrhagic area in the pelvic fat, in close relation with the pelvis, measuring roughly 2 by 1 by 1 cm. A section has been prepared from this area. It shows irregular areas of hæmorrhage in the peripelvic fat. The kidney itself appears normal and there is no evidence of new growth. Around



the areas of haemorrhage organization is taking place, as indicated by the presence of fibroblasts. The haemorrhage is therefore pathological, and is not recent. The section gives no clue to the cause of the haemorrhage. There is one small area of haemorrhage in the cortex which, macroscopically, looks not unlike an infarct. Sections are being prepared of this. The possibilities appear to be that the area of peripelvic haemorrhage is: (1) an infarct; (2) due to a very small papilloma which has been overlooked; (3) due to a leaking aneurysm. Further sections are being cut in the hope of finding the cause of the condition, but from experience of similar cases the probabilities are that no cause will be found."

"September 6th.—Further sections of the area of peripelvic haemorrhage show a condition identical with that found in the first section. No cause for the haemorrhage can be found. The small area of cortical haemorrhage is not an infarct, but simply haemorrhage in the kidney substance."

I cannot help thinking that the haemorrhage in this case arose from a leaking aneurysm of a branch of the renal artery of the type described by Mr. R. P. Rowlands. A papilloma small enough to have been overlooked would hardly have caused such severe and continuous bleeding as occurred in this case. I have preserved the kidney and the sections.

Newquay, Cornwall.

G. B. RICHARDSON, F.R.C.S.

### BARLEY ITCH.

An outbreak of "barley itch" or "miller's itch" has occurred recently in several ports on the south coast of England. The first outbreak occurred among men handling a cargo of Moroccan barley shipped from Casablanca to Southampton at the end of August, 1924. I examined several men affected at that time, as well as others subsequently, and obtained a very typical history and picture of an infestation by mites.

Intense irritation on the forearms and neck begins ten or twelve hours after first handling the barley; it then spreads rapidly all over the body, but is less below the belt line than above. There were no symptoms of malaise.

The rash appears first as a pale irritating spot like a nettle sting; it is quickly surrounded by an area of bright erythema, giving the skin a puffy appearance, somewhat like measles. A small vesicle appears generally, but not always, at the site of the bite. It is extremely likely to be broken by scratching. After two or three days the irritation dies away, and the skin at the end of a week suggests strongly a heavy infestation by *Pulex irritans*, for it is dotted with brownish-red areas of pigmentation the size of a small pin's head.

On September 8th I examined a sample of the barley, which had been in the grain store a week, and found no mites present. I reported at the time that the mite was probably one of the Tyroglyphidae (causing "grocer's itch") or the Tarsonemida (*Pediculoides ventricosus*), a parasite of the grain moth and its caterpillar.

The grain is unloaded here by a mechanical elevator, and practically only the few men working in the hold were affected. The matter was therefore considered to be unimportant.

During October several ports received consignments of Moroccan barley, and the men, in spite of a rise of 10s. a day, became chary of handling it. At Sharpness the men absolutely refused to do so, and a mechanical elevator was introduced. This made much dust, which was blown into some cottages near and infected all the women and children at home at the time.

Another outbreak occurred at the beginning of November, and I was able to obtain a considerable addition to my knowledge of the cause—namely, that, in reply to questions as to weevils, etc., the only parasites observed by the men working were a noticeable quantity of the grain moth. Unfortunately the ship had gone, so the only samples obtainable were from grain which had been unloaded by the elevator. No *Pediculoides ventricosus* could be found in it.

Dr. Bridge of the Home Office and Dr. Davies, Port M.O.H., Bristol, were able to take samples from the hold of a ship at Bristol, and found quantities of the mite on the first slide. The analysts, to whom samples were submitted, suggested that the cause was the sharp spicules which break off the husk of the barley, but these could never produce a pale spot. The presence of a toxic

substance is too strongly indicated by this vaso-constriction for such a cause to be possible.

Several similar outbreaks have been reported in this country, such as those at the London docks and Colchester in 1913, where the same mite was the cause in consignments of cotton-seed from Alexandria. In Casablanca it is well known as "boorweesh," but native coolies are seldom affected. I am informed by H.B.M. Consul there that "white men never sit on the sacks of grain twice"!

Mr. Hirst, entomologist at the British Museum, recommends flowers of sulphur, dusted freely over the body and inside the clothes, as the best preventive measure. After infection I have recommended a hot soda bath, which certainly allays the intolerable irritation.

A. G. G. THOMPSON, M.A., M.D., D.P.H.,  
Assistant M.O.H. Southampton.

### TUBERCULOUS DISEASE OF THE STERNUM.

LITTLE reference is made to tuberculous disease of the sternum in the ordinary textbooks, except to say that it runs its course like tuberculosis elsewhere. The unusual clinical features of the following case seem to merit record.

A plumber's assistant, aged 16, was sent into hospital with "rheumatism and endocarditis."

**History.**—He had had no previous illnesses and, according to his mother, was working, apparently in his usual health, until twelve days before admission, when he complained of vague pains in the front of the chest and arms. There was no history of injury to the chest.

**Condition on Admission.**—He was thin and undersized, complained of pain across the front of the chest, and had a cough. The heart was rapid (136) and the sounds soft; no murmurs were heard. The percussion note was impaired over the left base, where the breath sounds were tubular. The temperature was 101° and the respirations 36.

**Subsequent Course.**—On the fifth day a swelling suddenly appeared over the body of the sternum and adjacent costal cartilages. It could just be grasped in the palm of the hand; it fluctuated and was pulsatile (the pulsations being synchronous with the heart beat), but not expansile. On deep pressure the sternum could be felt eroded about the middle of its body. There was also another smaller swelling in the lower part of the neck just to the right of the middle line; it also was fluctuant but not pulsatile; there was apparently no communication between the two swellings. On the sixth day a small fluctuating swelling appeared over the back of the left hand. This was needled and pus withdrawn.

The patient ran a rapid course downhill. The temperature was intermittent; the mouth and lips dry and parched. He lay propped up in bed, was troubled with cough, was restless and delirious at night. On the twelfth day the swelling over the sternum diminished greatly in size. On the fourteenth day a fluctuating swelling was noticed over the left hip. On the sixteenth day he died.

**Post-mortem Examination.**—The sternum was completely eroded about the middle, the body being divided into two parts and the jagged ends separated by about half an inch. There was a quantity of brownish gray-like pus beneath the sternum. The heart showed no lesions. Of the lungs, the right was normal; the left was bound down by pleuritic adhesions and the lobes were adherent to each other. On the surface of the lower lobe were large flakes of fibrin. The upper lobe was oedematous, the lower much congested, exuded beads of pus on pressure, and sank in water. The spleen was a little enlarged, and the kidneys slightly enlarged and pale. No important changes were found in the other organs.

The interesting features are the rapidly fatal course and the sudden appearance of the swellings.

Warrington.

E. W. JOHNSON, M.B.

### CERVICAL RIBS IN CHILDREN.

IN view of the very interesting paper in the BRITISH MEDICAL JOURNAL of November 8th, 1924 (p. 844), by Drs. A. H. Southam and W. J. S. Bythell, the following two cases of cervical ribs in children appear to be worth recording.

**Case 1.**—A female child, aged 4, was admitted to hospital for treatment of fibrosis of the left lung. A cervical rib on each side of the neck was easily palpable, that on the right side being particularly well marked. X-ray examination showed that cervical ribs were present, and that the anterior end of the one on the left side was apparently attached to the first rib. This child had been under treatment at the same hospital twelve months before, and, though repeatedly examined, the cervical ribs were not detected then. At that time no x-ray examination was made.

**Case 2.**—A girl, aged 14, was admitted to hospital for treatment of pulmonary tuberculosis. Cervical ribs were palpable on both sides of the neck, and x-ray examination confirmed this finding. In this case there was also congenital absence of the right thumb and scaphoid.

In neither case did the cervical ribs give rise to any symptoms; they were only discovered during routine examination. Case 1 is of particular interest in view of the suggestion put forward by Drs. Southam and Bythell that symptoms do not arise so often in children owing to incomplete ossification. Apparently, incomplete ossification may also account for the fact that these ribs are not usually detected by ordinary physical examination, since in this case at the time of the child's readmission the ribs were detected at once, whereas twelve months before they had not been detected, although the child had been examined frequently.

C. D. S. AGASSIZ.  
KATHLEEN A. H. SYKES.

High Wood Hospital, Brentwood.

### CONGENITAL FAMILIAL JAUNDICE.

THE following family history may be of interest in that three children out of a family of six suffered from jaundice and survived to lead a healthy life.

A woman, now aged 40, suffered from jaundice from the first to the tenth day of her life; her mother was jaundiced at the same time. She married at the age of 25, and the history of her children is as follows:

1. Boy (born one year after marriage): no jaundice; healthy.
2. Boy (born four years later): jaundice first to tenth day; survived, healthy.
3. Girl (born eighteen months after No. 2): jaundice first to tenth day; survived, healthy.
4. Girl (born three years after No. 3): jaundice first to tenth day, when the child died.
5. Girl (born sixteen months after No. 4): jaundice first to tenth day, when the child died.
6. Boy (born two years and three months after No. 5): jaundice first to third day, when the child died.

Both father and mother are alive and healthy. The progressive nature of the result of the congenital disturbance is clearly indicated.

Lamberhurst.

T. R. THOMSON, M.B., B.Ch.

## Reports of Societies.

### CANCER.

At a meeting of the Liverpool Medical Institution on December 11th, 1924, Dr. JAMES YOUNG of Edinburgh read a paper on cancer, which is published in this issue (p. 60).

Mr. F. T. PAUL, opening the subsequent discussion, said his own conception of the cause of cancer was founded on observations extending over fifty years. No line could be drawn between normal tissue growth and cancer; a gradual transition could be traced from the embryo, through monsters, teratomata, mixed tissue growths, innocent tumours, and recurrent growths to cancer without a break. Every new growth was an erratic counterpart of the tissue in which it originated. These points showed that cancer was closely allied to normal tissue growth, and could not very well result from a microbe. He called attention to the exciting and controlling influences which regulated normal tissue growth, giving as an example the growth of a kidney after excision of the opposite organ. Cancer was subject to the same exciting and controlling influences. Given excessive excitation to growth or weakening of control, a possible cause was present for the growth of cancer. There was sufficient evidence to show that cancer only occurred in predisposed individuals; in such, he thought, the balance between excitation and control was disturbed. Formerly he had held the view that cancer was due to a local or general excitation to tissue growth, but recently he had felt convinced that it was a weakening of the controlling inhibiting influence that was the chief factor. In a condition like chronic mastitis, irritants, which excited growth, might very well lead to exhaustion of control. In a "predisposed" person—that is, an individual in whom this balance was imperfect—any influence which tended to excite growth would in the absence of growth control lead to new growth; this he believed to be the true pathology of cancer.

Mr. K. W. MONSARRAT said that the parasitic forms described by Dr. Young bore a close resemblance to those which he himself had isolated from cases of breast cancer some years ago, the life cycle of which he had described. He did not hold the view that cancer was invariably due to parasitic invasion. It had been demonstrated that repeated or continuous irritation was capable of turning somatic cells from their orderly course into the cancer type, and he saw no reason to doubt that the long-continued stimulation of a parasitic invasion in an organ like the breast might also bring about the same revolution. He had demonstrated that under certain cultural conditions an organism could be grown from most cases of breast cancer which had a cycle marked by a characteristic pleomorphism. He considered that therapeutic and protective measures, in breast cancer at any rate, might be based on these observations.

Professor BLAIR BELL said that only those who had followed closely the development of Dr. Young's investigations, and had had the advantage of personal acquaintance with him, could appreciate the amount of labour put into his quest, and the material sacrifices made. This work of Dr. Young had not escaped the traditional treatment of all originality: he had had detractors and critics. Professor Blair Bell suggested that evolution, variation, and even mutation, whether atomic or biological, would some day be expressed in terms of physical chemistry. He hoped that Dr. Young would be able to show that the "*Fungus youngi*" deserved a place with the numerous other agents that were believed to cause cancer, but which he personally regarded as being producers of a general precancerous condition in the cell.

Dr. J. G. ADAMI, from his own observations and from his knowledge of Dr. Young and the sincerity of his work, was prepared to accept Dr. Young's observations upon the pleomorphism of the organism discovered by him in cancer of the breast. Those observations coincided strikingly with the earlier observations of Mr. Monsarrat made in the late Sir Robert Boyce's laboratory twenty years ago. Monsarrat, indeed, had gone further and had evidently, by inoculation of his cultures, induced formative new growths of more than one order in the lower animals. To suggest that Dr. Young's results were due to imperfect technique was futile and a confession of conservative ignorance, so vast of recent years had become the mass of similar observations by bacteriologists of recognized standing upon bacterial pleomorphism. But while making this acknowledgement, he was far from ready to associate himself with Dr. Young in regarding this organism as in all probability the essential cause of cancer. Bacteria might be one cause. He accepted whole-heartedly Erwin Smith's remarkable studies upon the *B. tumefaciens* as the cause of crown gall in plants, and was quite prepared to find that there were in animals bacteria of that peculiar order or virulence which stimulated growth instead of bringing about cell destruction. He found it impossible to make any sharp distinction between benign and malignant growths. He had pointed out long ago how large a number of benign growths were truly teratomata of various orders originating from totipotent, multipotent, and even unipotent cells, misplaced during development. To demand that the action of bacteria must be added in order to bring about malignant growth was unnecessary. Taking, for example, chorion-epithelioma malignum, the most malignant of all growths, they knew that this originated from the chorionic epithelium, which normally exhibited physiological malignancy, invading and destroying the uterine tissues until its villous processes gained entry into the uterine blood sinuses. Were they to demand the presence of bacteria in the embryo in order to incite this physiological malignancy, or to explain the continued growth of these villi within the blood sinuses? He was thus prepared to hold that just as the causes of cell growth were various, so were the causes of malignancy.

Professor ERNEST GLYNN stated that it was generally recognized that bacteria were usually present in malignant growths. This did not mean necessarily that they preceded the onset of malignancy. On the contrary, they were probably often secondary invaders, entering the growth not only from the surface, but by the blood or lymph stream. The observations of Ford and others demonstrated that stray bacteria not infrequently entered the organs of

healthy individuals. If perchance these bacteria reached a malignant growth they would be more likely to survive and multiply there than in normal tissues. He asked whether Dr. Young considered the *Micrococcus neoformans* of Doyen to be related to the organisms he had found, and pointed out that vaccines of this organism had sometimes produced temporary improvement in malignant growths.

Professor C. E. WALKER said that while there was but little doubt that certain micro-organisms were among the causes of cancer, as they provided the necessary degree of prolonged irritation, it was difficult to believe that one particular parasite was the essential cause of cancer. At a certain stage in the processes involved in prolonged irritation, the cells sometimes adopted a new way of life and produced cancer. Very little was known at present about normal processes in cells and what influenced these processes. Until they knew more about these phenomena and what factors in the environment affected them, but little further advance in their knowledge of cancer was probable.

Professor J. M. BEATTIE said that Dr. Young had clearly demonstrated in his slides the presence of bacteria and fungi, but it would be unfair to criticize the views he based on those findings without first seeing and carefully examining the actual specimens. The weak point in his case was that he was not able to produce experimental cancer with his organism. The four positive results he obtained in over forty mice could not be considered, as spontaneous cancer was known to occur in mice. The varying form of the organism found was not against the view of there being a single causal organism; these forms were possible variations of one organism. Without agreeing with Dr. Young's view, there seemed no reason why his very careful and painstaking work should not be examined carefully and without prejudice, since there seemed no reason to deny the possibility of bacteria, not necessarily a specific bacterium, giving rise to irritation and producing cancer as far did.

Dr. YOUNG, in replying, said that with regard to the difficulty of the teratomata raised by Dr. Adami, where multipotent cells were infected a mixed tumour would be expected. Erwin Smith had shown that infection of multipotent cells with the *Bacillus tumefaciens* produced in plants a tumour analogous to a teratoma. In reply to Professor Glynn, he believed that the micrococcus isolated by Doyen many years ago was an alternative phase of the organism.

### GLYCOSURIA IN PREGNANCY.

At a meeting of the Section of Obstetrics and Gynaecology of the Royal Society of Medicine, held on December 4th, 1924, the President, Dr. H. RUSSELL ANDREWS, in the chair, Dr. ARTHUR CROOK read a paper on the incidence of glycosuria in pregnancy.

Dr. Crook said that the number of cases of unselected pregnancies dealt with was 548, yielding 1,346 urinary examinations. The cases included 26 with complications. Of these 548 patients, 166 had glycosuria at some time of pregnancy (30 per cent.), 23 had glycosuria in more than one pregnancy, but not all (4 per cent.), 8 had glycosuria in all their recorded pregnancies (1.5 per cent.). Of the 166 cases, 40 were first noted before the twenty-first week, 126 first noted after the twenty-first week; the highest number were at the twenty-eighth week, the next two highest at the twenty-second and thirtieth weeks. The percentage of cases in which the glycosuria ceased before labour in those who had sugar before the twenty-first week was 59, and 32 per cent. in those with sugar after the twenty-first week. The patients in whom sugar was detected before the twenty-first week had no recorded signs of toxæmia, but those signs were reported more often in those who developed the sugar after the twenty-first week. No special incidence of septic infection was recorded. The average weight of the children was 7.2 lb. The sugar was absent from the fasting urine in most of the cases and was amenable to diet. Cases were related: (1) showing the occurrence of oedema of legs, pruritus, and hydramnios in both pregnancies associated with glycosuria; (2) a case in which large quantities of sugar were present (up to 400 grams per diem), also present in the fasting urine, which did not disappear from

the urine till six weeks after labour (premature). The patient's highest blood sugar, during pregnancy, was 0.136 after glucose; (3) a case showing in three successive pregnancies the association of glycosuria and albuminuria with pernicious vomiting; (4) a case illustrating the ante-natal death of the nearly mature foetus in glycosuria and hydramnios. Two cases of true renal diabetes associated with pregnancy had no abnormal symptoms or signs. The large majority of cases in which sugar was found in the urine during pregnancy were unimportant; this applied especially to those occurring in the period before the termination of the fourth month and those appearing at the end of pregnancy. There was a group of patients, mostly found at about the fifth month, which were more difficult in regard to prognosis. They frequently had had severe vomiting, associated with oedema of legs and hydramnios; the foetus might die, when nearly mature, before labour.

The President congratulated Dr. Crook on his record of clinical observations carried on over a period of sixteen years. There was at present a good deal of uncertainty about the correct class for some cases of glycosuria in pregnancy, in spite of much recent work on the subject, and the after-histories recorded by Dr. Crook were of value in helping to show the relation of continued glycosuria to diabetes. The President had found pregnancy in renal diabetes rare; in most cases of glycosuria in pregnancy the patient's health was not affected, and no special treatment was necessary.

Dr. KNYVETT GORDON said that very many women suffered from glycosuria at one time or another during pregnancy, the proportion being in his experience somewhat over 50 per cent. The great majority of these had no other symptoms and required no specific dietary or medicinal treatment. The same thing happened in regard to the output of urea. The urea content of the blood in normal pregnancy was found, as a rule, to be lower than the normal, and the same phenomenon occurred with regard to the glucose content of the blood. So in regard to both protein and carbohydrate, these occurred less in the blood and more in the urine than in non-pregnant women, or, as the physiologist would put it, the kidney threshold for both urea and glucose was lowered. The explanation, he thought, was that, owing to the increased stimulation of the kidneys, probably of an endocrine nature, they became more active during pregnancy. If this stimulus failed the patient was in danger of toxæmia, or even eclampsia. In the bulk of the cases cited by Dr. Crook the blood sugar had not been estimated, so it was difficult to say whether they were toxæmic or not. The most useful remedy for metabolic disturbances in pregnancy, whether in regard to protein or carbohydrate, was thyroid extract.

Dr. EVERARD WILLIAMS raised the question of the innocence of cases of glycosuria without hyperglycæmia in pregnancy. Further knowledge and experience of cases of renal glycosuria or diabetes innocens had shown that some of these subsequently developed into true diabetes. It would be well to bear in mind the possibility that some of these cases might be early cases of renal glycosuria, made manifest by the strain of pregnancy, as had been suggested in cases of so-called alimentary glycosuria.

### Neo-natal Loss of Weight.

Professor LOUISE MELLOR read a paper on some observations upon the relationships between the loss of heat and loss of weight in the newborn. (The paper appears in full at page 67.)

The President remarked that papers on subjects concerning the newborn infant were too rarely brought before the Section. He thought that some of the charts shown were very striking, and agreed that in cases of white asphyxia the less vigour used in attempts at resuscitation the more likely were they to be successful. The method of putting cold water on the infant's head had not been taught for many years.

Dr. KNYVETT GORDON suggested that the diminished loss of weight recorded in the oiled babies might be explained as being due to absorption of oil. That absorption from the skin of newborn infants readily occurred was

shown by a case in which the vagina of the mother was swabbed freely with violet-green; shortly after birth the urine of the baby was coloured with the same dye. Oily substances were, as a rule, more easily absorbed than watery solutions. As regards loss of heat, oil would retard and water accelerate evaporation, with consequent lowering of temperature. Some of the oil would possibly be used as a food.

Dr. CLIFFORD WHITE and Dr. BOURNE also discussed the paper.

### THE GROWTH OF POPULATION.

At the meeting of the Royal Statistical Society on December 16th, 1924, when the President, Mr. G. UDNY YULE, C.B.E., M.A., F.R.S., was in the chair, a discussion on his presidential address on the laws governing population was opened by Dr. T. H. C. STEVENSON, of the General Register Office. An account of Mr. Yule's views was published in the *JOURNAL* of November 29th, 1924 (p. 1014).

Dr. Stevenson began by referring to three recent papers on the question of population, by Bowley, Brownlee, and Yule (the last being the presidential address delivered on November 18th, 1924). He could not accept Dr. Brownlee's finding that there was little connexion between fertility and infant mortality, in view of the very much higher child mortality returned for large than for small families at the census of 1911, the ratio being about 3 or 4 to 1 for the largest as compared with the smallest, while with each increase in the size of family born the mortality returns also increased. It seemed impossible that a direct count like this of the mortality history of millions of families could be in such serious error as Dr. Brownlee's results would suggest. But perhaps the most important result arrived at by Dr. Brownlee was that the present reduced birth rate was only just sufficient to maintain a stationary population. This the speaker had no difficulty in accepting, and its significance could be appreciated by all, though it was probable that the momentum of the present fall would carry them to a considerably lower level than any yet attained. Mr. Yule had very wisely warned his hearers against the risk of attempting to prophesy the distant future of the population, to the no small relief of the speaker, who, on hearing the subject of that address, had asked himself, "Is Saul also among the prophets?" and had been very glad to learn that Saul in this case was not. Prophecy was a most dangerous function for the statistician to undertake, for it could only be based, statistically, on assumption of the continuance of recent conditions, and as to the future of these the one thing they might assume with safety was change. The principles on which the assumption of such continuity of conditions, if only it could be made, might be applied to the estimation of population seemed to him to have been correctly stated by Mr. Yule, but in one most important particular he believed that those conditions were actually changing during the latter portion of the period from which Mr. Yule's curves were derived, and that not only here, but in other countries also, especially Germany. The birth rate for Europe as a whole, which during the nineteenth century, so far as covered by the official records, had not varied very greatly, had taken a sudden downward plunge with the advent of the twentieth, and had continued to fall, at an accelerating pace, until the outbreak of war in 1914 spoilt the comparison. This was illustrated by figures and diagrams, and it was pointed out that Germany had been much more affected by this movement than England and Wales, whose birth rate decline during the fourteen years before the war had been very similar to that of Europe generally. This fact, little recognized in this country, was, no doubt, well known in Germany; and it was interesting to speculate how far it might have contributed towards fixing the date for putting Germany's war machine in motion. Mr. Yule had pointed out that the death rate had varied without reference to population conditions, and in view of what he had said it seemed to the speaker that the same statement had applied, in the opening years of the present century, to the birth rate also, which would make the future course of population all the more difficult to prognosticate. The very suddenness of the change suggested interference

with the laws of nature, as by increased practice of contraception, rather than a change in the laws of nature themselves, though even on that theory he found it very difficult to explain to himself why or how 240 millions of people had come to make such a radical change in their lives with such precipitancy and simultaneity.

Professor HOWLEY criticized the logistic curve adopted by Mr. Yule, and doubted whether it possessed any special advantages other than mathematical neatness. Dr. BROWNLEE was of opinion that the declining birth rate could not be wholly explained by conscious volition, and held that a physiological factor, some race quality, was involved; he emphasized the dangerous position in which the country stood, having regard to the continued decline of the birth rate. Sir WILLIAM FLEVENING thought that the decline of the birth rate had begun earlier than Dr. Stevenson suggested. Dr. MARIE STOKES referred to the immense mortality rate, based upon conceptions, in the poorest classes.

Dr. MAJOR GREENWOOD remarked that an attempt to estimate the future population by a method similar to that of Professor Bowley, but making allowance for the decline of mortality since 1910-12, led him to conjecture that the population of England and Wales in 1931 would not exceed 41 millions, or that of 1941 42.8 millions. Dr. HENRY DEXTER held that the general contentions of Malthus had not been weakened by modern work.

The PRESIDENT said that an examination of the curves of birth rates and death rates did not suggest any discontinuity such as Dr. Stevenson emphasized, and he (Mr. Yule) was still unable to accept the explanations tendered to account for the trend of the population curves.

### THE CARE OF LIFE POLICY HOLDERS.

At a meeting of the Assurance Medical Society held on January 7th Dr. OTTO MAY read a paper on life offices and the care of the policy holder. He said that the American assurance companies had done much in the way of organizing the care of policy holders, so as to give them special facilities for the prevention and treatment of sickness, thus helping to ensure a favourable mortality. The object of his paper was to indicate the main features of this work and discuss how far it would be desirable for British companies to undertake similar work. The possible health activities of an insurance company were of three kinds: (1) general propaganda, (2) the endowment of research, and (3) the care and treatment of individual policy holders.

Of the various American companies the Metropolitan Life Assurance Company of New York appeared to be the most active in these matters, and Dr. May gave a summary of its work. With regard to propaganda, this had been carried out on an enormous scale. Millions of pamphlets dealing with every conceivable health topic had been distributed; exhibits had been organized at country fair exhibitions, etc.; and the company had always been ready to co-operate with any community contemplating special sanitary measures, and to support, or if necessary oppose, any suggested measure, by lecture, film, and leaflet. In this way the company claimed to have defeated the passage of laws which would have interfered with vaccination and weakened the quarantine laws. Under the heading of endowment of research the company had subsidized many investigations in various diseases, such as cancer and epidemic poliomyelitis. Among these Dr. May specially mentioned the sum (200,000 dollars) allotted for the "Framingham demonstration," the object of which was to show how greatly the death rate from tuberculosis could be reduced by organized team work. Special propaganda was undertaken among the inhabitants of the town, the co-operation of the local practitioners was secured, an expert consultation service was organized, and arrangements were made for detailed examination of a considerable proportion of the apparently healthy population. The results as regards tuberculosis mortality were as follows: In the pre-demonstration decade the figure was 131 per 10,000, in the demonstration period (1917-23) the figure declined from 97.5 in 1917 to 38.2 per 10,000 in 1923. The rates were

compared with control communities of a similar character to Framingham. These showed in the pre-demonstration period 125.9 per. 10,000, and in the demonstration period 129.4 in 1917, gradually decreasing to 84.6 per 10,000 in 1923. Dr. May considered that these figures strongly supported the conclusion that a vigorous tuberculosis campaign might result in a greatly diminished mortality and hasten the practical elimination of the disease. Such a campaign carried out in this country would, he considered, require an outlay of about £15,000,000 a year.

The activities of the company in the care and treatment of policy holders were discussed by Dr. May under the separate headings of industrial business and ordinary life business. In the industrial group the principal work consisted in providing an organized service of sickness visitors free of charge. In addition, special health work had been done among juvenile policy holders, one of the most interesting having been the holding of large picnics in various parts of the country. The results of fifteen years' experience of the work had been summarized in the company's pamphlet, *Lengthening Life through Health Insurance Work*, in which the mortality for the ages 1 to 74 between the years 1911 and 1922 were compared with that of the United States Registration Area over the same period. The chart giving the death rate from all causes showed a decrease from 1911 to 1923 of 28.9 per cent., as against that of the Registration Area of only 16 per cent. It was interesting to find that the corresponding figure for the Prudential industrial policy holders, for whom there was no special health scheme, was for all ages 25 per cent., and for ages 0 to 70 26.1 per cent. From a study of the charts Dr. May was unable to satisfy himself that the figures necessarily proved the financial value of the health work. Among ordinary policy holders the outstanding feature of the work was the provision of facilities for periodical medical examination, free of charge. Examinations were offered every year or every second, third, or fourth year, according to the amount of the policy, and were conducted on behalf of the company by the Health Extension Institute of New York. In criticism of this scheme Dr. May pointed out that in many cases the examination could be only the preliminary to accurate diagnosis, and that to be of any practical value the company should be prepared to carry out the whole further investigation of any abnormality detected in the course of the examination. As regards the actual results of the service, the statistics for the years 1914-21 showed that only 2.49 per cent. of the number eligible actually underwent medical examination, a figure which did not indicate any great anxiety on the part of policy holders to avail themselves of the privilege. Moreover, of this number only about 30 to 40 per cent. took the trouble to appear a second time, and of those who did avail themselves of the privilege the highest percentage was among those who were physically fittest—that is, who were least in need of it.

Summarizing the results, Dr. May concluded that the scheme, though excellent in theory, was impaired by the want of a really effective diagnostic service and by lack of interest on the part of policy holders. With regard to the suitability of these schemes for this country, National Health Insurance was already in existence, with its sickness visitors for the insured; further, the approved societies undertook, to a large extent, the work of the sickness visitor of the Metropolitan of New York, and it would seem that much of the propaganda could be and should be carried out in this country by the Ministry of Health. Of the work described, the Framingham demonstration, with its co-ordinated scheme of central organization working in touch with voluntary associations, appeared to Dr. May to be of by far the greatest interest. In the case of venereal diseases the Ministry of Health had already, to a large extent, adopted a programme on similar lines, capable of extension into a wider scheme; and it would appear that any financial expenditure for health work that life offices might feel disposed to make should be in the direction of supporting the many voluntary organizations which would always be required to help such a national health service to full success.

## Rebuelus.

### PSYCHOLOGY AND THE SCIENCES.

EIGHT lectures delivered in the psychological department of the University of Oxford have been published in a small volume entitled *Psychology and the Sciences*.<sup>1</sup> The purpose of the symposium was to ascertain the views of specialists in allied branches of science as to the value of the recent advances in psychology. Each essay is written by a worker eminent in his own sphere of knowledge, and the book will appeal more especially to readers of wide outlook and philosophic bent. The volume is edited by Dr. WILLIAM BROWN, who provides an essay on psychology and medicine. Dr. J. S. Haldane writes on biology; Dr. R. R. Marett on anthropology; Dr. F. C. S. Schiller on logic; Professor L. P. Jacks on ethics; the Rev. A. E. J. Rawlinson on theology; Dr. M. W. Keatinge on education; and Dr. T. W. Mitchell on psychical research.

The various writers must have experienced some difficulty in knowing which particular type of psychology to consider in relation to their own science, for, as Dr. Schiller points out, there exist at the present moment at least nine distinctive and antagonistic schools, all to be reckoned with. Since there is no agreement amongst psychologists as to fundamentals, so that psychology may be at present described as consisting of a number of competing tendencies rather than as a unified body of knowledge, the contributors to the symposium are naturally unable to base their discussions on the same foundations. The reader has thus a certain difficulty in discovering exactly what it is that is supposed to be helpful or otherwise to allied sciences. Dr. Haldane looks on psychology as the most important form of knowledge, and would appear to include all the teleological and normative sciences within its boundaries. He takes the view that the whole of the moral, literary, and humanistic side of education represents psychology; it deals, not with ordinary scientific abstractions, but with living and concrete personality—with interests and values which express themselves in conscious behaviour. He regards the really good school or university as that which teaches practical psychology (using the term in the widest sense) well, and points out quite truly that the teacher who cannot teach practical psychology, whatever else he may be teaching, has missed his vocation. It is evident that the psychology which Dr. Haldane regards as an essential part of the equipment of the teacher is not so much the formal psychology of the schools, or a belief in one of the many current theories of human behaviour, as one which is based upon an almost intuitive understanding of the developing mind of a child. The practice of teaching, as also that of psychotherapy, is generally in advance of its theory. Successful teaching, and perhaps psychotherapy, will always be as much an art as a science, and the teacher cannot be merely a theorist in dealing with his pupil; he must enlist his heart, his intuition, and his intelligence, as well as his science, in the service of the task he has assumed.

In his essay on psychology and education Dr. Keatinge makes some timely comments on what he describes as the dangerous doctrine of self-expression. This is to the effect that children should be allowed to express all their natural tendencies, that instincts should never be repressed, that freedom to do as inclination dictates is the cure for all evils in education and will produce sturdy and serviceable citizens. He does not suggest that instinctive tendencies should not be expressed, but considers it well to insist that such expression is only a transitory aim and that the ultimate aim of education is widely different. He feels that this position may be clearer if the term "self-expression" is reserved for the expression of primitive instincts through relatively simple channels, while the term "self-realization" is used for the expression of the same tendencies through the techniques of the sciences and the fine arts, techniques which can be built up only through self-control, self-denial, unflinching effort, and much pain. As there is no reason to suppose that life will ever be a bed of roses, the growing generation must obviously be equipped with the

<sup>1</sup> *Psychology and the Sciences*. Edited by William Brown, M.D., D.Sc., M.R.C.P. London: A. and C. Black, Ltd. 1924. (Cr. 8vo, pp. vii + 184. 7s. 6d. net.)



qualities of courage and endurance to overcome the obstacles and difficulties of life which are inevitable. Self-expression is not far removed from selfishness, and, in any case, as Dr. Haldane reminds us, the conception of persons as self-existent units is untenable from either the philosophic, psychological, or ethical point of view.

In spite of its multiplicity of confused tendencies, recent psychology has done much to increase our knowledge of human nature. It has ceased to be a purely academic study and is now in a position to give some guidance in the practical problems of life. In course of time psychology may, as Professor McDougall has suggested, build itself up into the master science of human nature, a science which will provide for all the social sciences the foundations for lack of which they have long remained sterile. This interesting series of essays certainly leaves the reader with the impression that modern psychology has already exerted a considerable influence on those branches of knowledge to which it is most closely allied.

### THE NATURAL METHODS OF CURE OF PULMONARY TUBERCULOSIS.

TWENTY years ago the clinician was a pathologist. To-day, with an inconstancy not altogether discreditable to him, he has forsaken his former mistress and is courting a fresh one; indeed, he has gone further—he has espoused her; her name is Radiology. To judge from Dr. Jaquerod's book on the natural methods of cure of pulmonary tuberculosis, the union is a fruitful one. Strong and lusty is the progeny, in striking contrast to the puny weaklings of the earlier mate.

The pathological study of tuberculosis was valuable in so far as it threw light on the processes of infection, the method of spread of disease within the body, the percentage of normal individuals suffering from latent infection, and the type of disease resulting from different routes of invasion; but it is not an exaggeration to say that it gave an altogether misleading idea of the processes by which healing is accomplished under natural conditions. At autopsy the morbid anatomist saw bands of fibrous tissue round the hilum of the lung, puckered cicatrices at the apex, calcified nodules, pleural thickening, and other signs of tissue reaction, and he concluded that it was by a process of gradual and progressive sclerosis that the disease was brought to a standstill.

The clinician, however, by taking repeated skiagrams of the affected lung, has found that this is not the only method; there is another and extremely important one, operative particularly in early cases of the disease—namely, the process of resolution. When the patient first comes under observation he is suffering from a bronchopneumonic consolidation of part of one lobe; he is placed under sanatorium treatment, and is observed both clinically and radiographically. After a period varying from a few weeks to several months, the lesion begins to clear up; the signs in the chest grow fewer and change in their character, the shadows on the plate become less dense and more circumscribed in their extent, till finally they disappear altogether, leaving a picture which is with difficulty, if at all, distinguishable from that of a normal lung. This is the process of resolution—a process analogous to that by which an ordinary lobar pneumonia resolves, with this difference, that instead of taking a few weeks to return to the normal physiological state, it requires a period of several months or even of two or three years. It might be suspected that though this method of healing may occur in a few isolated cases, it could not be responsible for any significant proportion of the total number of recoveries. But reference to Dr. Jaquerod's book will soon correct this fallacy. For ten years now he has followed his patients carefully, taking frequent and successive skiagrams of the same lesion, with the result that he has been able to collect a large number of instances in which healing has occurred by this method. Reference to the numerous reproductions of actual photographs which he gives is sufficient to convince one of the correctness of his opinions.

<sup>2</sup> *Les Processus naturels de guérison de la tuberculose pulmonaire.* Par Dr. Jaquerod, de Leyssin, médecin-directeur du Sanatorium Grand-Hôtel, à Leyssin. Paris: Masson et Cie. 1924. (Roy. 8vo, pp. 121; 32 plates, 62 figures. Fr. 10.)

Most of those who have been engaged in the treatment of tuberculous patients have seen examples of this method of cure, but probably few will be prepared to agree with him as to its frequency. It is greatly to his credit that he has recognized its importance, and has, in a book short but full of careful records, expounded the reasons for which he has arrived at his beliefs.

### CLINICAL METHODS.

THE eighth edition of that popular handbook *Clinical Methods*,<sup>3</sup> which first saw the light twenty-seven years ago, has now, by the sudden and lamented death of Dr. Harry Rainy of Edinburgh, been revised by the remaining author, Dr. ROBERT HUTCHISON, who acknowledges the assistance of various colleagues, especially of Dr. John Parkinson, with whose help the description of cardiographic methods has been entirely rewritten.

The present edition is ten pages short of the seventh edition, noticed in our columns at the time (*BRITISH MEDICAL JOURNAL*, 1920, ii, 518), for, although additions have been made, such as Professor A. A. Hijmans van den Bergh's reaction for bilirubin with Ehrlich's diazo reagent, fractional test meals, the estimation of sugar and of urea in the blood, and the urea concentration tests, methods which have become obsolete have been omitted. There is a new colour plate showing the spectra of haemoglobin and its derivatives compared with the solar spectrum, and attention is now drawn to the rotary haemoglobinometer devised by Professor Arthur Hall of Sheffield, but the caution is thrown out that Tallquist's method, of which the rotary haemoglobinometer is a convenient variation, gives only roughly approximate results and cannot be recommended. The Schick test for susceptibility to diphtherial infection finds a place as an established method of clinical investigation, but the Dick test for susceptibility to scarlet fever and tests for hepatic efficiency do not appear to be included; probably the author has good reasons for waiting until they are more fully confirmed and generally employed.

In conclusion it may confidently be predicted that this favourite handbook will soon pass into a further edition.

### A MANUAL OF SURGERY.

MR. ALBERT CARLESS is to be congratulated on the appearance of the eleventh edition of the *Manual of Surgery* popularly known as "Rose and Carless." In this edition he has been assisted by Mr. C. P. G. WAKELEY. Dr. Cecil Bosanquet has revised and modified the pathological section; Mr. Charles Hope has brought the chapters on the diseases of the ear, nose, and throat up to date; and Dr. Ernest Playfair has dealt similarly with the subject of anaesthesia. There is probably no surgical textbook more popular than this. Its chief merits are its uniformity, that it deals with a vast mass of information in a clear and concise manner, and that it leaves few subjects unmentioned. It is therefore an excellent book for the student working for an examination in surgery. For the pass student it is certainly too full, and Fellowship candidates will find in it a very sound foundation. As a practical guide it is as useful to the surgeon in a large hospital as it is to one whose lot lies in remote places, for whose benefit many of the older forms of treatment are retained. As a book of reference to the general practitioner it is invaluable. In many places the text has been drastically revised. For instance, all that was said in the previous edition about the treatment of congenital pyloric stenosis has now been summed up under the head of Rammstedt's operation. In the section of orthopaedic surgery the separate discussion of infantile paralysis and spastic paralysis is welcome. The chapter on acute and chronic ulcers of the stomach has been brought up to date. The general form of the previous edition has been adhered to, and the number of pages is about the same. The chapter on military surgery is

<sup>3</sup> *Clinical Methods: A Guide to the Practical Study of Medicine.* By Robert Hutchison, M.D., F.R.C.P., and Harry Rainy, M.D., F.R.C.P. Edin., F.R.S.E. Eighth edition, revised. London: Cassell and Co., Ltd. 1924. (Crown 8vo, pp. xiii + 688; 17 colour plates, 150 figures. 12s. 6d. net.)

<sup>4</sup> *Manual of Surgery* (Rose and Carless). By Albert Carless, C.B.E., M.D., B.S. Lond., F.R.C.S., assisted by Cecil P. G. Wakeley, F.R.C.S. Eleventh edition. University Series. London: Baillière, Tindall and Cox. 1924. (Demy 8vo, pp. x + 1570; 634 figures, 17 plates and an x-ray supplement. 30s. net.)

retained in the appendix. There is considerable improvement in the reproduction of the illustrations in the radiographic supplement, and several new and well chosen plates have been added. The author, in his preface, utters a word of warning against the modern tendency to depend more and more on laboratory help, to the detriment of the acquisition of that clinical sense or instinct which is of such supreme importance to the building up of the character of the true surgeon.

After so many years of active surgery, and writing from a detached yet keenly interested point of view, Mr. Carless can look back upon this edition with much comfort and many happy associations.

### AMERICAN ENCYCLOPAEDIAS.

THE enterprise of American medical publishers in issuing large books of the nature of encyclopaedias is remarkable, and the reviewer toils after them in vain. What, indeed, can he hope to do with a set of ten volumes covering the whole field of medicine, or with another set of six dealing with treatment? He can do no more than indicate the general scope of the sets of volumes. The problem of how to keep abreast of the advances of medicine—to say nothing of surgery—grows every year more serious, more difficult, for the medical practitioner; he gets from week to week in the medical journals an account of that advance, but the time will come in a year or two when, in some emergency, he only vaguely remembers what he has read. The praiseworthy aim of the American publishers referred to is to supply him with a book of reference, and the plan of the loose-leaved volume from which the out-of-date chapter can be eliminated and replaced by a new one appears to be growing in favour.

It is, indeed, with no little chagrin that a doctor observes his familiar old textbooks lapsing so soon into antiquity. A very few only withstand the encroachment of the years. New diagnostic methods and modern therapeutic measures demand recognition, and hasten the demise of former favourites. When it comes to encyclopaedias of medicine, however healthy a sign their superannuation may be of the development of medical science, it is a serious concern for the practitioner who is perpetually confronted with the problem of how to keep up to date.

The editors and publishers of a new loose-leaf *Practice of Medicine*,<sup>1</sup> in ten volumes and a desk index, seek to ensure that its purchaser shall be kept up to date by the annual issue (at the price of thirty-five shillings) of a series of new pages to replace what has become obsolete, and to furnish a continuous supply of recent knowledge. This encyclopaedia is edited by Dr. FREDERICK TICE, head of the Department of Medicine in the University of Illinois, with the assistance of three advisory editors—Dr. Luther F. Warren in medicine, Dr. Julius Grinker in neurology, and Dr. Julius Friedenwald in gastro-enterology. They have had the assistance of no fewer than 130 contributors. The volumes, including the desk index, are handsomely bound in black leather. The typography is good, and the index has been so adjusted as to make ready reference easy. The standard of the contributions throughout is excellent. There are numerous illustrative plates and diagrams, and an adequate bibliography supplements each article. The work reflects the recent progress of medical research in the proportionate amount of space devoted to such subjects as the investigation of the functional capacity of various organs, which is considered at length in the chapters on "Functional diagnosis" in volume ii. It is impossible to enumerate the principal contents; and it might be invidious to single out any article for special praise. The impression gathered is that the whole work has been admirably planned, and reflects great credit on the contributors and the editors. The clinical features of the various diseases are clearly outlined, and the pathological basis is succinctly and ably presented. The description of therapeutic methods is full, and the standpoint throughout is

modern but yet sufficiently conservative. There are no separate indexes for each volume. These are replaced by the single desk index, to which reference has already been made. Its arrangement presupposes an ordinary familiarity on the part of the reader with the various relationships of the different aspects of a disease, and so needless repetition is avoided.

The other encyclopaedia to which we have referred is the fourth edition of the *Encyclopedia of Treatment*,<sup>2</sup> formerly edited by Drs. Frederick Forchheimer, Frank Billings, and E. E. Irons. It has been revised by Professor GEORGE BLUMEN, M.D., of Yale. In the preface to the first edition Ziemssen's *Handbuch der allgemeinen Therapie*, 1883, is noted as a forerunner. The list of contributors includes more than 150 names, and each section ends with a long list of references. As an encyclopaedia it includes information condensed from all sorts of special works and articles. But there is the essential drawback that the information cannot be brought up to the date of publication. Thus, on the insulin treatment of diabetes (vol. i, p. 699) we read: "It is too early to reach definite conclusions as to the ultimate value of insulin, but so far the results are encouraging (Banting et al.)." The papers by Banting referred to were all published in 1922. Turning to volume vi (p. 237), on the treatment of spinal cord syphilis, the account is very general, and the references seem to relate to publications during the ten years preceding 1922. Each volume is supplied with an index, and there is a composite index in a final separate volume.

### BACKWARD CHILDREN.

THE book on nervous children (*Les Enfants Nerveux*)<sup>3</sup> by Dr. ANDRÉ COLLIN does not deal with children who are nervous, precocious, or neurasthenic, but with those who are mentally deficient, and especially with minor degrees of retardation. It is a plea for early diagnosis and classification of all mentally deficient children, and for their special study and direction before and during the school period. The mental evolution of the normal infant is described; and a brief sketch is given of the successive stages by which the cortical and subcortical centres of the brain take over the control of the sensory, motor, and intellectual functions of the body. A classification of types of mental defect is then presented. Finally, the professional orientation of mentally defective children is discussed. This, indeed, is the principal object of Dr. Collin—that the State should obtain the best service from this group of defective units. If this is to be achieved, the important facts in the mental evolution of the child must be known: the dates of teething, of the acquisition of walking and speech; the behaviour and attainments of the child in school, not omitting a consideration of his aptitudes and tastes; and, finally, a trial of these children after school age by a carefully supervised apprenticeship in various trades and occupations. The subject is important, and one in which the co-operation of the doctor, the school teacher, and the social worker is needed; the book is of value in indicating the complexity of the problem, and how little as yet has been done to deal with it.

### NOTES ON BOOKS.

THE compact little volume on septicæmias and bacteriæmias,<sup>4</sup> by MM. E. VAUCHER and P. WÖRINGER of Strasbourg, consists of twenty-five chapters with an introduction by Professor Vidal. The first two chapters deal with the pathology and symptomatology of septicæmias in general, and the following twenty are devoted to a consideration of the different varieties of septicæmias, including not only the well recognized forms, but also those due to micro-organisms of the Pasteurella group, the fusiform bacillus, *B. faecalis alkaligenes*, and *B. lactis aerogenes*. Surgical and purperal septicæmias are discussed in a chapter by themselves, and

<sup>1</sup> *Practice of Medicine*. Edited by Frederick Tice, M.D. Foreword by M. W. Ireland. London Agents: Butterworth and Co.; Hagerstown, Maryland, U.S.A.: W. F. Prior Company, Inc. 1924. (Snp. 20v. 8vo. Cash price for ten loose-leaf volumes and desk index bound in leather, 20 guineas. Special terms can also be arranged. A yearly service of new pages will be issued periodically, the cost of which will be £1 15s. per annum.)

<sup>2</sup> The George Blumer edition. . . . . *Therapeutics of Internal Diseases: Care and other than Surgical*. Edited by London and New York: D. Appleton and Co. . . . . (Roy. 8vo; Illustrated. Six volumes and index, £13.)

<sup>3</sup> *Les Enfants Nerveux*. Par le Dr. André Collin. Paris: J. N. Baillière et Filz. 1924. (5x7 in. 15s. Fr. 63.)

<sup>4</sup> *Septicæmies Septicopurphères-Bactériæmies*. By Dr. E. Vaucher and Dr. P. Wöringer. Préface by Fernand Vidal. Paris: Octave Doin. 1924. (4½ x 7½, pp. xv + 456. Fr. 18.)

nearly sixty pages are taken up by a careful consideration of the various septicaemias met with in the newborn infant. The last three chapters are devoted to clinical and bacteriological diagnosis and treatment of septicaemias in general. A remarkably full bibliography, arranged according to the chapters, is appended. The writers are to be congratulated on their work.

CALDWELL'S *Volumetric Analysis*<sup>3</sup> is a book intended mainly for medical and university first-year science students. It is a matter of no small difficulty to prepare a course of study in chemistry for a particular class of students who for the greater part of their time are occupied with other studies. The prime necessity of directing the work along lines suited to their special needs is over a danger to the survival of a more important object—namely, that of teaching chemical science as a thing distinct from a selected group of chemical facts. In no case does this danger occur more obviously than in teaching chemistry to students of medicine. The author of this volume has handled the difficulty with circumspection. He has produced a useful volume giving a clear exposition of the subject-matter. Whether it is scanned for the finer elements of instruction or scrutinized for the absence of essentials, it bears the examination well. What has been omitted can be conveniently taken up by the student at a later stage. It is not well to obscure the landmarks of a new region to a beginner's view. This is likely to be the effect of giving too plentiful information. We note, however, the omission of a test which we regard as too important to be excluded—namely, the perchlorate test for potassium. Assistance has been borrowed from the art of the printer with good effect in the arrangement and spacing of the text as well as in the choice of plain and leaded type. A description of solubility should be more cautiously expressed than that under strychnine, where the sentence occurs, "It is only sparingly soluble in water . . . whilst it is insoluble in alcohol. . . ." These two statements are only permissible when used for different comparisons. Occurring as they do in the same sentence they are misleading, for little as is the solubility of strychnine in alcohol it is many times greater than in water. But this fault must not be allowed seriously to detract from the author's work. The book that contained nothing needing amendment in a future edition would indeed be a remarkable production. Since it is an excellent book we anticipate that opportunity for revision of its very few defects will not be long delayed.

Patrick Branwell Brontë<sup>4</sup> is the subject of an essay by Miss ALICE LAW, who, brought up in the neighbourhood of Haworth, has been imbued with the interest of the tragic Brontë family. She stands up with a vigour that must command respect, though it does not bring conviction, for the memory of the brother of the three phenomenal girls, and argues that the black sheep of the family and not his sister Emily (Ellis Bell) was the real author of *Wuthering Heights*. Among the illustrations is one of "The Withens," Haworth, the supposed site of *Wuthering Heights*.

<sup>3</sup> *Elementary Qualitative and Volumetric Analysis*. By William Caldwell, M.A., Sc.D., with an Introduction by C. S. Gibson, D.B.Sc., M.A., M.Sc., F.I.C. London: J. and A. Churchill, 1924. (Demy 8vo, pp. xxiv+418, 10s. 6d. net.)

<sup>4</sup> *Patrick Branwell Brontë*. By Alice Law, F.R.S.L., F.R.Hist.S. London: A. M. Philpot, Ltd., 1924. (Cr. 8vo, pp. 192; 6 illustrations, 6s. net.)

## MEDICAL AND SURGICAL APPLIANCES.

Dr. NOEL F. V.D. Clinic, (Sunderland)  
writes: The Company has made for me a urethral probe, which I venture to think will be found to be a considerable improvement on other types. It consists of a rod six inches long, the distal end of which is roughened for the attachment of cotton-wool, and terminates in a smooth acorn tip which permits of easy introduction into the female urethra. For use, the wool is attached to the roughened portion and the acorn tip is left bare. Swabbing with this instrument is smooth, painless, and speedy.



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**X-ray Apparatus and Material.**  
We have received from Messrs. Watson and Sons (Electro-Medical), Limited, of Sunic House, Parker Street, Kingsway, London, three leaflets containing particulars of the firm's x-ray apparatus and material. One of them describes the general principle and purpose of the Potter-Bucky diaphragm for eliminating scattered radiation when making an x-ray examination of the deep parts, and advises a special form of this construction by the trade name of the "Sunic." The second leaflet describes the "Sunic" intensifier screen, which is the result of a special process for the production of extremely minute grains of calcium tungstate and for binding the crystals together as closely as possible with the minimum quantity of binding agent. The third leaflet is a list of second-hand and reconditioned x-ray and electro-medical apparatus offered by this firm.

## GUY'S HOSPITAL BICENTENARY.

MAURICE E. SHAW, M.D. Oxon.,  
MEDICAL REGISTRAR, GUY'S HOSPITAL.

ALMOST exactly 200 years ago, on January 6th, 1725, sixty patients were admitted to the newly built hospital "founded at the sole cost and charges of Thomas Guy, Esquire." In the course of the two centuries that have passed since the opening of what has for many years been known as Guy's Hospital, many hundreds of thousands of patients have found within its walls a resting place in time of sickness, where all the resources of medicine and the skill of the greatest exponents of the art have been freely given to them—the gift, not of the physicians and surgeons who from time to time have had the honour of serving upon the hospital staff, but of him to whose generosity and philanthropic spirit this great charity owes its origin, the founder, Thomas Guy.

The private life of the founder has been the subject of much rumour, and many stories are told that are hardly compatible with the character of the greatest philanthropist of his day. It must be remembered that in the eighteenth century it was a very remarkable, if not an entirely unique act, for a man to devote practically the whole of an immense fortune made out of business to the founding of a hospital for the poor. The advent of the millionaire—a product of the nineteenth and twentieth centuries—has led us perhaps to accept philanthropy on the large scale as more or less a commonplace of everyday life. Two hundred years ago it must have been relatively rare, and it is difficult to picture Thomas Guy as the parsimonious miser that some of the traditional anecdotes would appear to suggest. The story of his preferring to sit in the dark to discuss business rather than give rise to the extravagance of a farthing rush-light has been told of other great men and is doubtless quite unreliable. On the other hand, many stories of his philanthropy are told, even before he conceived his great project of building and endowing a hospital. Of these, one of the most attractive relates how Guy was looking moodily into the Thames at London Bridge one evening when an entire stranger, fearing he was some unfortunate at the end of his resources and contemplating suicide, came up and spoke a few encouraging words, at the same time pressing half a guinea into his hand. Years later Guy heard that his would-be benefactor had fallen on evil days and was in the throes of bankruptcy proceedings. He immediately went to the rescue and paid the debts, re-establishing the poor man in a business which prospered greatly in the future.

The truth about Guy probably lies somewhere between the two extremes. He was doubtless a hard-headed business man of great capacity and economical in his private habits, preferring to use the great wealth he thus accumulated for the benefit of posterity rather than on himself. It may or may not be true that his failure to marry was due to his annoyance at finding that his bride-to-be had exceeded his instructions in the matter of giving orders for repairs to the pavement in front of his house. But even if he had married it is doubtful whether his philanthropic projects would have been greatly modified, for he acquired the habit of philanthropy *pari passu* with the accumulation of his fortune, as is well illustrated by the town hall and almshouses which he built for his native town of Tamworth, and of which the former is still standing.

The main facts of Guy's life are so well known that there is little need to narrate them in detail here. It is, however, interesting to note that he was born off Fair Street in Bermondsey—a street still standing, and many thousands of whose inhabitants must at one time or another have been patients at the hospital he founded within so short a distance of his birthplace. His father was a coal merchant and lighterman, which makes it particularly appropriate that the hospital should have been so placed as to draw the majority of its inmates and out-patients from among the riverside workers and dock labourers. By trade Thomas Guy was a bookseller and publisher, and devoted himself especially to the publication and sale of

bibles. But the great bulk of his fortune was made out of the purchase of the tickets which were given by the Government to the seamen in the navy in lieu of pay. These tickets were commonly bought at a discount by speculators in the City in the hope of redeeming them later at par. Guy and others who speculated in this way have been much criticized, and have been accused of sharp practice in persuading the sailors to part with these bonds. The Governments of those days, however, were quite capable of repudiating such debts, and no doubt the sailors felt that 50 per cent. in the hand was worth 100 per cent. in the bush, and were glad enough to get ready cash at any price; the purchasers undoubtedly took a great risk, and might have lost heavily but for the permission subsequently given to exchange these for South Sea stock. Guy took advantage of this offer, and became possessor of some £45,000 worth of stock in the South Sea Company. By judiciously selling out before the final crash he piled up an immense fortune in a very short space of time.

The idea of building a hospital only occurred to Guy comparatively late in life. As a governor of the ancient foundation of St. Thomas's Hospital, then situated in the Borough High Street, he had been impressed by the poor provision made for the convalescent and incurable cases discharged from that institution. His first idea seems to have been to start a home for incurables as a complement to the existing hospital, but later his mind changed, and the hospital is described in Guy's will as "for the reception of four hundred poor persons or upwards labouring under any distempers, infirmities, or disorders thought capable of relief by physic or surgery; but who, by reason of the small hopes there may be of their cure, or the length of time which for that purpose may be required or thought necessary, are or may be adjudged or called incurable, and as such, not proper objects to be received into or continued in the present hospital of St. Thomas or other hospitals in and by which no provision has been made for distempers deemed or called incurable."

In 1721, when Guy was already about 76 years of age, land was obtained from St. Thomas's Hospital on the other side of St. Thomas's Street, and the building was begun in the following year. Guy lived to see the building completed and ready for the reception of patients, but died on December 27th, 1724, in his 80th year, just ten days before the first patients were admitted. The building as it was in 1725 represents but a small fraction of the present-day hospital. The two wings of the front quadrangle were added soon after the opening of the hospital. In 1850 Hunt's House, in which are now housed the medical and private wards and a large section of the out-patient department, was built from the proceeds of the munificent bequest of William Hunt, who died in 1829, leaving £200,000 to the hospital. Since that date building has been almost continuous, and round the eighteenth century nucleus provided by the founder has grown, or rather evolved, a modern hospital, with all the plant and equipment that a modern hospital involves.

The names of many famous physicians and surgeons are intimately connected with Guy's Hospital. Among the earliest is that of Richard Mead, who is reported to have stimulated Guy to found his hospital. However that may be, there is no doubt that Mead took an active part in assisting Guy with the planning and organization, although he was never physician to the hospital, being already on the staff of St. Thomas's. Mead is described as a highly cultivated, scholarly physician, the exact opposite of his great friend, John Radcliffe, with whom he shared a large proportion of the fashionable practice of London. He was in practice for some fifty years, and is said to have made as much as £7,000 in one year. Amongst his intimate friends were such men as Halley, Pope, and Isaac Newton.

The most famous of Guy's men are undoubtedly Astley Cooper, Bright, Addison, and Hodgkin. The former was by far the most distinguished surgeon of the day and had a phenomenal reputation as teacher. His position was richly deserved, for his capacity for teaching was only excelled by his skill with the knife. Chandler, a contemporary surgeon at St. Thomas's, said of him, "Sir, it is of no consequence what instrument Mr. Cooper uses, they are all alike to him, and I verily believe he could

operate as easily with an oyster knife as the best bit of cutlery in Laundy's shop." Like Mead, Cooper made an immense income from private practice, his biggest annual income being placed at £21,000, an enormous figure for those days. His biggest individual fee was received in unsuspected fashion. He operated on a wealthy inhabitant of the West Indies for stone in the bladder. On being asked his fee, Sir Astley Cooper replied, "Two hundred guineas." To which the patient responded, "Nonsense; I shall give you nothing of the sort. That's all I shall give you," and took off his nightcap and threw it at the surgeon. With his usual perfect manners, Cooper merely bowed, and put the cap in his pocket, saying "Thank you, Sir, anything is acceptable from you." On his return home he took out the nightcap to examine it and found it contained a cheque for 1,000 guineas.

Richard Bright's name is immortal owing to his discovery of the association of morbid changes in the kidney with albuminuria and dropsy. Thomas Addison will ever be remembered for his essay on disease of the suprarenal capsule and for his description of pernicious—or, as it is now more often called, Addison's—anaemia. Thomas Hodgkin was never appointed to the staff at Guy's. He was an applicant for the post in 1837, but Babington was appointed in his place. He was chiefly known for his article on "a peculiar enlargement of the lymphatic glands and spleen." Another great Guy's physician, Sir Samuel Wilks, many years later extracted from Hodgkin's work the material for the description of a new disease which, with characteristic modesty, he insisted on calling Hodgkin's disease. It would, perhaps, be more just to call it Wilks-Hodgkin's disease.

A great character at Guy's during the last century was the apothecary, James Stocker. He appears to have been a sort of Pooh-Bah and to have been competent in all his offices. He had especially a reputation for rapid diagnosis from the appearance of a patient. He had little science, but his long experience in the wards rendered his judgement uncannily certain. He once denied that a case was one of pyaemia on the grounds that patients with pyaemia never did their hair in that particular way. He was wont to observe that if, in a difficult case that might be typhoid or tuberculous meningitis, the patient resisted an attempt to pull down the bedclothes the case was probably meningitis; if on the other hand the patient took no notice it was more likely typhoid. This is still described in some books as Stocker's sign.

These brief and somewhat disconnected notes can hardly be brought to a close without some reference to the rivalry, and indeed bitterness, that sprang up between the residents of Guy's and St. Thomas's Hospital. There was always great competition to secure the "best" accidents, and the police were persuaded to patronize one hospital rather than the other by the quality and quantity of the beer they received as remuneration for their services. This state of affairs continued until the extension of the railway and the replacement of the old Bricklayer's Arms terminus by the new one at London Bridge led St. Thomas's Hospital to sell their old site and rebuild on the magnificent new one which they secured opposite the Houses of Parliament.

Now, on its two hundredth birthday, this hospital of Thomas Guy is appealing to the public for funds to enable it to carry on its work as a centre of healing, research, and education. By the end of the last century the original endowment began to be insufficient for the cost of maintenance. An appeal was made in 1896 with such good results that, by the end of the war, the hospital was able to meet its expenses with the aid of annual donations from King Edward's Fund, governors, and other benefactors. However, science is always advancing. A scientific institution, like a lady's dress, is always getting out of fashion and as constantly has to be replaced or readapted. And so it comes about that the extensive alterations and additions that the march of science has imposed upon all hospitals during the last five or six years has left Guy's Hospital with a debt of nearly £200,000. For this sum the president and governors are appealing, and it must be the wish of all medical men, whatever their school, that this modest birthday gift will be forthcoming.



# THE BRITISH MEDICAL ASSOCIATION HOUSE. WORK ON THE NEW BUILDING.

IN the JOURNAL of July 7th, 1923, a preliminary account was given of the fine building off Tavistock Square, Bloomsbury, which the British Medical Association had just acquired for its future headquarters. As most of our readers are by now aware, the building, originally erected as a college for the Theosophical Society, and employed for Government purposes during the war, is approached from one of the principal thoroughfares of London, leading from the terminuses of the northern railways to the modern centre of the metropolis. The lease is for 200 years, and the terms secured, both from the Disposal Board and from the trustees of the Duke of Bedford's estate, are advantageous.

The building, of red brick with white stone facings, which stand back in its own quadrangle, was designed by the eminent architect, Sir Edwin Lutyens, R.A. It was complete up to a certain point when taken over by the Government; but a great deal of work had to be done upon it, not only to the interior but to some parts of the outside as well, before it could be fitted to the purposes of the Association. The general aspect of the building when this work is finished is shown in the architect's drawing reproduced in Fig. 1.

Early last year plans, designs, working drawings, and specifications, were prepared under the direction of Sir Edwin Lutyens, and invitations to tender for the building and decorative work were issued. Of the estimates received from building firms, that tendered by Messrs. Ford and Walton was accepted. Apart from the seven weeks' delay due to the strike of building operatives last summer, the work has proceeded with great despatch. The unfinished ends of the north and south wings have been covered in with red tiles in harmony with the brickwork of the building. Ornamental wrought-iron railings and gates, to complete the main quadrangle and serve as a memorial to members of the Association who lost their lives in the war, are being made by the Birmingham Guild in consultation with the architect. The building, as it stands, has a total floor area of 48,000 square feet, including passages and lavatories, as compared with the 18,000 square feet of floor space at 429, Strand.

The volume of work needed to put the house in order for occupation has been very great, but much progress has already been made. The central archway leading from the main courtyard through the building into Burton Street at the rear, which was filled in temporarily with rough brickwork, has been cleared, and many other make-shifts have been removed. This archway, running beneath the Great Hall, gives direct access on the north side into the Library, and on the south into the Members' Lounge. The new Library is being fitted with the valuable mahogany pillars, panels, and bookcases from the old Library at 429, Strand; and the oak panelling and other woodwork has been transferred in like manner from the old to the new Council Chamber. The lighting and ventilation of the basement beneath the new Library and

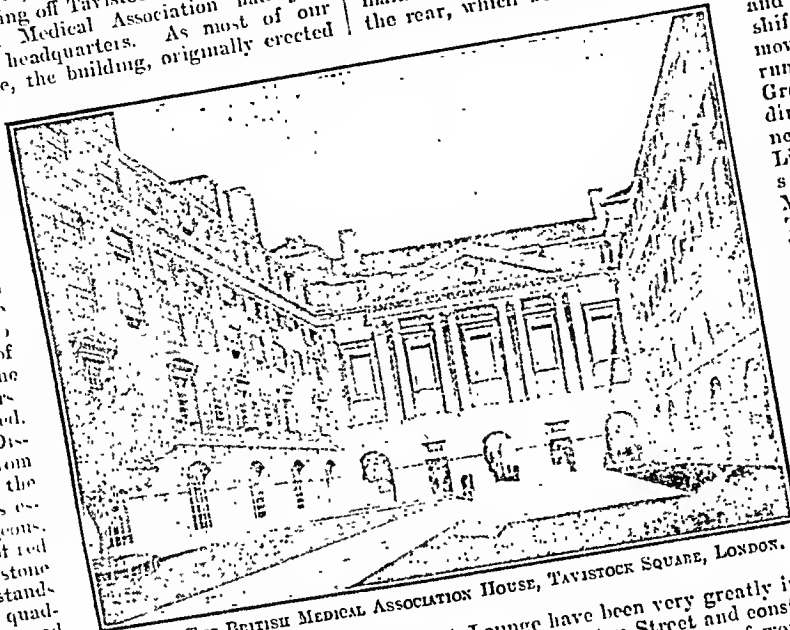


FIG. 1.—THE BRITISH MEDICAL ASSOCIATION HOUSE, TAVISTOCK SQUARE, LONDON.

Lounge have been very greatly improved by excavating two areas in Burton Street and constructing basement windows. One of the largest pieces of work now in hand is the completion and decoration of the Great Hall—a large and lofty chamber running from end to end of the central block, and capable of seating more than 500 people. Some idea of the magnitude of this operation—which includes the construction of galleries and a dais, and an arched ceiling (weighing some 45 tons) at each end of the hall—may be gathered from Fig. 2, showing some of the builders' and decorators' scaffolding in situ. Not merely the Great Hall, but every part of the building, from basement to roof, is to-day a busy hive of workmen—masons, bricklayers, joiners, plasterers, painters, plumbers, electricians, and so on. The work is being pressed on with great energy by Messrs. Ford and Walton, and it is hoped that the whole

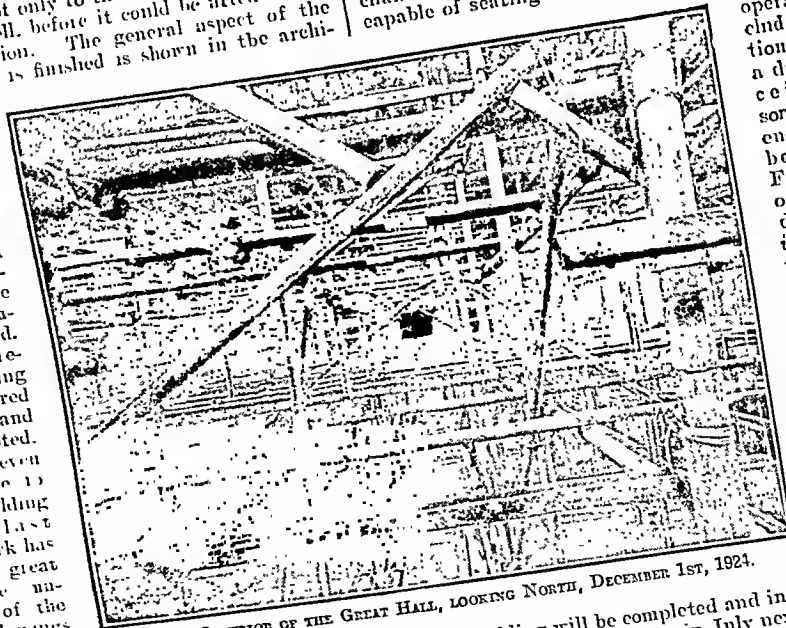


FIG. 2.—INTERIOR OF THE GREAT HALL, LOOKING NORTH, DECEMBER 1ST, 1924.

building will be completed in July next. Sir Edwin Lutyens has shown the keenest interest in all the plans for completing his building, and was in close touch with the work until his departure for India in connexion with the rebuilding of Delhi. After his return he will travel next April to New York to receive the gold medal of the American Institute of Architects.



# British Medical Journal.

SATURDAY, JANUARY 10TH, 1925.

## PROFESSOR PAVLOV.

PROFESSOR PAVLOV, the eminent Russian physiologist, is now more than 75 years of age, and yet he continues to publish research work and to direct the investigations of a group of younger scientists who have clustered round him. The earlier work of Pavlov is well known in this country, and has for many years occupied a prominent place in English textbooks of physiology, but his later discoveries have not received the same publicity, partly because Pavlov appears to be of a singularly modest disposition, and partly because much has been published in Russian scientific journals not available to many readers. This later work ought to be better known, and we propose to call attention to it, but before doing so our readers may be interested to have some details of the career of this venerable man of science.

Ivan Petrovitch Pavlov was the son of a village priest, and was born at Rjūsan in Russia on September 14th, 1849. He obtained his preliminary qualification to practise medicine in 1879, and four years later took the M.D. of St. Petersburg University. After two years' study in Germany under Ludwig and Heidenhain he returned to physiological research in Russia, but it was not until 1897, at the age of 48, that he was appointed to the professorship of physiology in the Military Medical Academy at St. Petersburg. During these early years of his career he developed a new method of approach to physiological problems, and perfected a technique peculiarly his own. The distinguishing feature of his early work is well described by Professor E. H. Starling in a character sketch which appears in the current number of *Nature*.<sup>1</sup> Improving on the customary physiological methods of the day, Pavlov set out to study the functions of the organs of the body as far as possible under natural conditions, thereby avoiding disturbing influences brought about by discomfort, pain, and the effects of general anaesthesia. Two examples will illustrate the precautions he took to keep the animals which were to be the subject of his experiments under the most natural and favourable conditions. His first papers, published in German in 1878-79, were concerned with the regulation of the blood pressure in dogs, and, in order to accustom the animal to the circumstances of the experiment, he trained a dog to allow the insertion of a cannula into a superficial artery on the inner side of the knee, and to remain quiet while the blood pressure was recorded. Again, when he first performed the classical experiments on dogs in which he provided a fistulous opening into the stomach and oesophagus for the purpose of studying gastric secretion, he could not be satisfied that the animals would receive sufficient care in his laboratory. He therefore took them home to his small flat, where they shared the comforts enjoyed by his wife and four children.

Although for many years every student of physiology has been brought up on Pavlov's classical work on digestion, a reference must be made to these experiments because they provided him with a technique which has served him in wider fields of research. His exceptional skill as an operator enabled him to make a fistulous opening into the oesophagus and stomach, and he observed that a few minutes after such an animal was given food a copious flow of digestive juice appeared through the gastric fistula. He found that even the sight or smell of food produced a psychical secretion due to the effect of appetite. He proved that the efferent channel for this reflex was by way of the vagus nerve; secretion could be stopped by section of the vagus, and began again after artificial stimulation of the cut vagus nerve.

After twenty fruitful years of study of the physiology of digestion, Pavlov came to concentrate his attention on the physiology of the nervous system, making use of the appetite reactions as an instrument for the study of the behaviour of the cerebral cortex. This study, which has occupied the last twenty years of his life, soon brought him to certain novel conceptions concerning the educable part of the central nervous system, the home of reactions learnt in the course of an individual's own existence. A preliminary account of this work was given by Pavlov in the Huxley Lecture delivered at Charing Cross Hospital in October, 1906. We can claim to have done something to bring Pavlov's later work into prominence, for the article by Dr. W. H. Gantt, entitled "A medical review of Soviet Russia,"<sup>2</sup> was a careful statement of Pavlov's point of view. We published also a report of the address on inhibition, hypnosis, and sleep, delivered by Pavlov at the eleventh International Physiological Congress in Edinburgh.<sup>3</sup>

To attempt to cover the whole of the ground on which Pavlov's rare genius has thrown new light would be far too big a task; we will refer only to three subjects about which his views deserve wider recognition—namely, the physiology of sleep, the transmission of acquired characteristics, and the question of trophic nerves.

It may be unexpected that experiments on the secretion of gastric juice should lead to a theory about sleep; but such is the case, and knowledge gained from these gastric reflexes has been turned to advantage in other directions. Pavlov distinguishes two types of reflex—the unconditioned and the conditioned. When acid or gustatory substances are introduced into the mouth of a dog a flow of saliva ensues. This is the "unconditioned reflex," an inborn connexion between an outside agency and corresponding definite activities of an organism. In contrast with this, any individually acquired reflex Pavlov describes as a "conditioned reflex." For instance, if some other kind of stimulus, such as the ringing of a bell, be associated for a long time with presentation of food or introduction of acid, this associated stimulus alone becomes sufficient to evoke a flow of saliva without actual presentation of food. This "conditioned reflex" must be due to the laying down of new paths in the cerebral cortex. A conditioned reflex, if not accompanied by the unconditioned, is temporarily suspended or inhibited. Now Pavlov holds that every conditioned stimulus, as soon as it is used alone, sooner or later leads to a drowsy state or to sleep. In his address at Edinburgh he gave an example of a dog which became drowsy and fell asleep after the repetition of the conditioned stimulus in the absence of

<sup>1</sup> *Nature*, January 3rd, 1925. The article is accompanied by a portrait in photogravure, which, judging from our recollection of Pavlov at the International Congress of Physiology at Groningen in 1913, is, allowing for the intervening years, an excellent likeness.

<sup>2</sup> BRITISH MEDICAL JOURNAL, September 20th, 1924.

<sup>3</sup> *Ibid.*, August 11th, 1923.

feeding.<sup>4</sup> He believes that the inactive state spreads from exhausted cells to others not involved in the work, as though the exhaustion of certain cells led to the formation of some substance capable of being carried to distant parts and acting there. The inhibition which we are always exercising during the waking state is to be regarded as a partial sleep—a sleep distributed in small parts and within narrow limits; generalized sleep is a diffused and continuous inhibition of the hemispheres, radiated over the whole area of active points of the great hemispheres and even over some parts of the brain which lie below the great hemispheres. Hypnosis he regards as an inhibition spread over the usually active points in special parts of the cerebral cortex. It must be admitted that the reasoning in this argument is not easy to follow, but we have not before us a full account of all the facts by means of which Pavlov supports this theory. We refer to this subject because of the conclusions at which Pavlov has arrived, and because it illustrates the unusual fertility of his mind.

These conditioned reflexes represent an individual attainment, and Pavlov turned to inquire whether or not they are inherited. This research has rekindled the old controversy as to whether or not acquired characteristics can be inherited; or perhaps it would be more correct to say that he has stirred up to a more lively activity fires that have been smouldering of recent years. In brief, he found that with the first set of wild white mice on which he experimented in order to establish the conditioned food reflex, using the sound of an electric bell, it was necessary to repeat the combination of ringing of the bell and feeding three hundred times in order to form a well established reflex. The second generation formed the same reflex after one hundred repetitions. The third generation acquired this reflex after thirty repetitions, the fourth after ten, and the fifth after five only.

A good account of Pavlov's views on trophic nerves was given by Dr. Gantt in the paper referred to above. Dr. Gantt remarked that the experience of clinicians, and especially of surgeons, has for a long time tended towards a belief in the existence of trophic nerves, whereas physiologists have been inclined to attribute so-called trophic changes to alterations in blood supply effected through vasomotor fibres. Well aware of this difference of opinion, Pavlov has always leaned towards the views of the clinicians that special trophic nerves do exist, and as the result of his own and his colleagues' researches has now satisfied himself that all organs and tissues have three classes of nerves—functional, vasomotor, and trophic. His opinion is best given in his own words: "Thus we would suppose that every organ is under a triple nervous control: (1) functional nerves, which may be inhibitors or exciters—for example, those nerves which produce contraction of muscle or the secretion of a gland, or inhibition of both of these functions; (2) vasomotor nerves, which regulate the bulk carriage of chemical materials and the taking away of refuse by augmenting or diminishing the flow of blood to the organ; (3) trophic nerves, which determine in the interest of the organism as a whole the exact quantity of material utilized by every organ."

No doubt many people in this country, having heard so much of the distress of the middle classes in Soviet Russia, must have feared that such distinguished scientists as Pavlov were hindered in their research work. It is reassuring to hear from the first-hand experience of Dr. Gantt that Communist officials take

interest and pride in the scientific institutions of Russia, and that the Soviet authorities have done what they could with limited means to keep science alive and to encourage its growth.

## THE POPULATION OF ENGLAND AND WALES.

Born in the leading article and in the correspondence columns of the *Times* the birth rate is now under discussion; the same topic had a principal place in the exchange of expert opinions at a meeting of the Royal Statistical Society, briefly noticed elsewhere in this issue (p. 74). If we are to reach the truth we must carefully distinguish between fact and theory; indeed, we must make a finer division—between undoubted fact, reasonable probability, and conjectural explanation.

Two undoubted facts are that the birth rate has been declining for more than forty years, and is now lower than it has ever been, in time of peace, before; and that the death rate has behaved in the same way. A third undoubted fact is that the rate of natural increase is declining. These are, indeed, the only undoubted facts. Reasonable probability, however, attaches to the following statements. The birth rate will continue to decline, so long as the present or any easily imaginable economic conditions prevail, and the death rate will also continue to decline, but not at a rate sufficient to prevent an increase of the crude (unstandardized) death rate. The decrease of death rates at ages cannot ultimately compensate the increased total mortality due to the increasing average age of the population. When the crude death rate will begin to increase is a question on the verge of reasonable probability; it is not likely to be delayed more than ten years at most.

We have now, perhaps, exhausted the reasonable probabilities, and pass into the field of conjecture. Within this field, however, are the really interesting topics. One, indeed, which seems to interest many people to the exclusion of all others—namely, whether the decline of the birth rate is due to deliberate "birth control," or whether "birth control" is an epiphenomenon—is, we think, of secondary importance. Obviously if, as Dr. Brownlee holds, "birth control" is a mere symptom, those who attack it are, from the racial point of view, wasting their breath. If, as Dr. Stevenson contends, "birth control" is the major factor of the declining birth rate, they are still, we believe, wasting their labour. A man may be induced by patriotic motives to die for his country, but hardly to procreate children for her, unless he can be convinced that those children will find places to fill at least as good as that he occupies. Rhetoric about race suicide, the decline of the empire, and so on, will never be accepted by the potential parent as a substitute for an economic guarantee.

The two questions, then, which seem to us of paramount importance are, first, what is likely to happen without some great economic change? and secondly, if the answer to this first question is gloomy, can any remedy be found? The answer to the first question is that within, at most, two generations the population will cease to increase at all, and that, owing to the rising proportion of elderly persons, its economic productive power will diminish. Mere decrease of population has been regarded by some as a great benefit, but those who use this argument have not always appreciated the consequences of reduction as effected under existing conditions. Let us suppose for a moment that

<sup>4</sup> BRITISH MEDICAL JOURNAL, August 11th, 1923, p. 257.

England and Wales, as an isolated unit, could support a population of 20 millions, and, with such a population, be entirely self-sufficing. If we could select from our present population of 38 millions 20 millions in the right sex, age, and occupational grouping, and dispose of the remaining 18 millions in some Utopia, England and Wales might be healthy and happy. But we can do nothing of the kind; we can only bring down the population to 20 millions by (1) reducing the birth rate and (2) emigrating population of the age, sex, and occupation groups which the British dominions and foreign countries will accept. When this had been done we should inevitably find that the 20 millions left at home were neither of the age nor occupational constitution that the isolated unit would need in order to be self-supporting. We should have far too many old people and far too few agriculturists. In other words, reducing the population as it is being reduced may not reduce the pressure of population at all; a smaller gross population with a larger proportion of non-producers may, indeed, render a territory not less but more overpopulated than ever.

We think, then, that Dr. Brownlee and Dr. Stevenson are right in viewing a probable further decline of the birth rate with apprehension, and that an answer to our second question is urgently needed. We, however, cannot give it; it is a problem of the higher statecraft. The medical statistician is entitled to call attention to the trend and probable future of our population; the death rate, which medical knowledge has done so much to diminish, is a factor of that trend; the national consequences must be weighed by others with the wider responsibilities of the statesman. We can only urge that these consequences should be weighed, and not obscured by idle rhetoric.

### THE OPIUM QUESTION AND THE LEAGUE OF NATIONS.

The two conferences at Geneva on the effectuation of the various provisions of the Hague Opium Convention of 1912, of the early proceedings of which we gave some account in the JOURNAL of December 6th, 1924 (p. 1071), suspended their sessions before Christmas and will resume work on January 12th. Discussions in the second conference, under the chairmanship of M. Zahle, have shown that it is not easy sharply to define matters touching the limitation of the production of opium and coca from the question, specially referred to the first conference under M. van Wetsum's presidency, dealing with the restriction and suppression of opium smoking.

Bishop Brent, the leader of the United States delegation, before returning to America expressed himself as profoundly dissatisfied with the results hitherto attained, and feared that support would be given to the accusation that Western nations with possessions in the Far East were indifferent to the welfare of the inhabitants of those possessions, and were content to have one law for the protection of their home population and another for the exploitation of dependent races. The three weeks' adjournment may afford time for reflection and reconsideration. Representations have, we understand, been made to the British Government that it would be well, in view of the important bearing of the opium question on the work of the League of Nations, and the inadvisability of alienating American co-operation on this and other pressing international problems, to strengthen the British delegation at Geneva, which has hitherto consisted only of Civil Service officials.

Time will also have been given for all the delegations to review the previous debates and digest the numerous reports of subcommittees and other data which have been collected. The proposals put forward for strengthening the provisions of the Hague International Opium Convention of 1912 are mainly two; first, those adumbrated by the Advisory Committee on Opium of the League of Nations, and secondly, the far more drastic amendments elaborated by the United States representatives. The latter include a provision to reduce by 10 per cent. annually the imports of raw opium to be used for making prepared (or smoking) opium into those countries in which traffic in such opium is not altogether prohibited.

Among the reports of the various subcommittees is one dealing with the amount of opium required annually for medical and scientific purposes. It will be remembered that a mixed commission of the Health and Opium Committees had reported that the only legitimate requirements were medicinal and scientific, and roughly calculated 600 milligrams a head a year as the amount of such requirement. The new subcommittee now finds that estimate to be too high, and regards 450 milligrams as the maximum, while Professor Knaff-Lenz, from the examination of a large number of data, considers 400 milligrams of raw opium as sufficing for normal legitimate medical requirements. The subcommittee allows a round figure of 7 milligrams as the corresponding figure for cocaine.

Another subcommittee was of opinion, though not unanimously, that cannabis indica should be brought under control in the same way as opium and coca. Yet another subcommittee reported that in Bolivia coca leaves have been, and are, habitually used by the people, and, it is alleged, with no injurious results; that their limitation to medical purposes would be impossible; and, further, that in Java the coca shrubs are utilized as hedges, and that the leaves are never consumed or exported.

The attention of the second conference was drawn to opium-growing in Jugo-Slavia, and a commission has been authorized to inspect the poppy cultivation in that country with a view to possible prohibition. This action has called forth from the Jugo-Slavian Government the retort that "it is the main source of income in the southern provinces and is not hurtful to the people, who export, but do not use, the product." This rather naïve confession is reminiscent of Warren Hastings's observation in regard to India: "Opium is not a necessary of life but a pernicious article of luxury, except for purposes of foreign commerce only, and which the wisdom of Government should carefully restrain from internal consumption."

### PROFESSOR BERGONIE.

THE rapid progress made during recent years in radiology has been due in no small degree to the fact that those concerned have combined ingenuity and resource with a high degree of personal courage and self-sacrifice. This combination was very evident in the case of Professor Bergonié of Bordeaux, who died on January 2nd, after a long and painful illness, at the age of 68. His early studies were made under the supervision of Professor Merget of Bordeaux, whom he later succeeded. He devoted special attention to the electrical treatment of paralysis and muscular atrophy, and to the treatment of obesity by faradic currents. During the war he invented an electrical device for detecting bullets buried in tissues. In addition to directing the radiographical work of a large area of the

French army, he was sent on consultative missions to the Italian, English, and Belgian fronts. The greater portion of his professorial life was, however, devoted to the use of x rays, particularly in relation to the treatment of cancer. "Almost exactly eighteen months before his death he said: 'I have eighteen months to live. I shall devote them all to the fight against cancer.'" The first anti-cancer centre in France was founded by him at the Hôpital St. André, Bordeaux, and he twice received the gold medal of the Carnegie Foundation. In our issue of November 28th, 1924 (p. 1031), we announced the gift by Professor Bergonié of 100,000 francs to the Bordeaux Faculty of Medicine, for the installation of a new institute in furtherance of the cancer campaign. The curative properties of radium in connexion with the treatment of cancer were also studied by him. For a long time he had had a sad personal experience of the dangers associated with the use of x rays, and the steady progress of disease in his own case was unchecked by amputations. Shortly before his death he received the Grand Cordon of the Legion of Honour as a tribute to the great value of his life's work. Marshal Pétain made the presentation on December 14th, when laying the foundation stone of the new cancer institute of the Hôpital St. André, the plans for which had been drawn up by Professor Bergonié. Acknowledging the honour received from the leader of the forces at Verdun, Bergonié, in almost the last words of his life, gave expression to the same indomitable courage, which inevitably paves the way to victory, however long delayed.

#### DEVELOPMENTS IN PUBLIC HEALTH TEACHING.

We have referred recently to some interesting developments in research which are being made by the London School of Hygiene and Tropical Medicine at the present time, in co-operation with the authorities of Southern Rhodesia, of the Zoological Society of London, and otherwise. The practicability of early developments in the teaching of public health is also being explored. A course in parasitology has been arranged by the school authorities in the tropical division of the school as a supplement to the teaching in other subjects for the diplomas in public health which is being given at the present time at other recognized teaching centres. The tropical division of the school (the old London School of Tropical Medicine at Endsleigh Gardens, Euston) was taken over by the new body on August 1st last, and the new course in parasitology is being given by the heads of some of the departments of this school. The course includes lectures and practical demonstrations in entomology by Colonel Alcock, F.R.S. (January 12th to January 22nd), in helminthology by Professor Leiper, F.R.S. (January 26th to February 11th), and in protozoology by Dr. Thomson (February 24th to February 26th). At the instance of the Board of Control a special course on the study of malaria, both from the clinical and laboratory standpoints, is being arranged in February for medical superintendents of mental institutions, for their guidance in the malaria treatment of general paralysis of the insano. Developments in the general public health teaching undertaken by the school will be made so far as is practicable, having regard to the accommodation and financial assistance available pending the erection of the new building. In this connexion an interesting stage has been reached, as five architects—selected by the board of management in consultation with their assessor from those architects who have had special experience in laboratory construction—have been invited to submit, in competition, designs for the building which is to occupy the site in Gower Street acquired some time ago for the purpose. It will be remembered that the funds for the provision of the new building and for its equipment

are being provided by the International Health Board of the Rockefeller Foundation. It is estimated that the building and site will cost well over £400,000, and that the accommodation to be provided, apart from the basement, will extend to 100,000 superficial feet of floor space. A special feature of the plans will be the large amount of space devoted to the museum. In its construction and in its equipment it is anticipated that the new school will realize the high hopes of those who have been concerned in its provision, and prove to be a worthy embodiment of the benefaction of the Rockefeller Foundation.

#### CANCER AND GOITRE.

Dr. Percy Stocks has contributed to the current number of *Biometrika* an important memoir on the statistical association of cancer mortality and the incidence of goitre. The first part of the memoir is a study of the regional distribution of cancer mortality and the estimated frequency of goitre in Switzerland, mainly based on recruiting statistics. The conclusion reached is that there is a definitely significant correlation between the rate of mortality from cancer of the stomach and oesophagus and indices of the prevalence of goitre. The less detailed statistics of other countries are next considered, and it is found that the proportional mortality of cancer of the stomach tends to be high in goitrous regions and low where goitre is infrequent. In the next place, autopsy records from the Middlesex Hospital are examined; the conclusions reached are, first, that enlargements and other anomalies of the thyroid gland are more frequent in cancer cases than in others, and that anomalies are of the types usually associated with depressed functioning of the thyroid; and, secondly, that the enlarged and adenomatous thyroid is attacked by both primary and secondary cancer more frequently than the normal gland. A preliminary study of the regional mortality from Graves's disease in England and Wales leads to the conclusion that there is a small negative association between mortality from this disease and mortality from cancer. Dr. Stocks writes: "The above findings seem to indicate that defective functioning of the thyroid gland is favourable to the incidence of cancer of the stomach, and possibly of other organs also. This leads to the suggestion that iodine prophylaxis applied after middle age, on the same lines as it is now being successfully applied to young persons in Switzerland for prevention of goitre, or some other form of thyroid administration, might result in diminishing cancer incidence. That it is at all likely to seriously influence the growth of cancer once started is not suggested, though retardation might result. It is admitted that some of the above conclusions are open to criticism, and that some of the facts might be explained in other ways, but before rejecting the hypothesis in the face of such evidence as there is, I contend that further research is called for, including, if possible, a direct experimental test of the results of prolonged iodine or thyroid administration to a cancerous strain of animals." We have quoted Dr. Stocks's words at length because there is, we think, some risk that particular sentences—for instance, the words from "The above findings" down to "incidence of cancer"—might be torn from their context and circulated among the medical profession, not perhaps constant readers of *Biometrika*, by commercial organizations whose interest in endocrine therapy is not wholly philanthropic. We are not, we hope, alone in viewing with regret the rapid extension of transatlantic publicity methods in the field of "endocrinology," and we could wish that all medical writers gave as little excuse for the broadcasting of extracts as Dr. Stocks. Dr. Stocks has, in fact, completed an excellent piece of statistical analysis.

<sup>1</sup> *Biometrika*, xvi, 1924, 364.

We see no reason whatever to distrust the arithmetical results; probably the indices of goitre are subject to much random error; this defect might decrease but could not increase the stringency of the correlations. Other factors of association—for instance, racial variations—will no doubt be considered by Dr. Stocks, to whom we wish success in the field he has now entered. The refined analysis of cancer rates is an arduous task; he who undertakes it must be prepared for many disappointments; but the task must be undertaken and must be completed, or the material will remain, what it has too often been in the past, the plaything of faddists, untrained in medicine or statistics.

#### FOOD INVESTIGATION BOARD.

THE report of the Food Investigation Board and its various committees for the year 1923<sup>1</sup> has now been issued; it reached us simultaneously with the announcement of the knighthood conferred on the chairman and director of the Board, Mr. W. B. Hardy, F.R.S. As in former reports, the introduction gives a brief account of the most important event of the year—in 1923 a scientific expedition to Australia to study the conditions of apple transport to this country—and a series of finger-posts to the main subjects dealt with in the several sections that follow. Section I, which deals in particular with the refrigerating industry, discusses the theory and practice of the freezing, chilling, and thawing of foodstuffs, more particularly beef and eggs. In Section II the physics of frozen fish and the preservative action of ice containing small quantities of some disinfectant are discussed by the Fish Preservation Committee. In Section III the Meat Committee reports the continuation of its studies in autolysis, and other investigations carried out at Cambridge in the Biochemical Laboratory and the Low Temperature Research Station. Notable among these was a series of studies on the growth of *Staphylococcus aureus* in meat extract. Among the technical matters dealt with in Section IV by the Engineering Committee is the devising of a portable apparatus for observing the ripening process in apples and pears. Section V illustrates the wide field covered by the Fruit and Vegetable Committee, ranging from the commercial storage trials into the temperature and metabolic balance in living plant tissues, through CO<sub>2</sub> production in apples and the physiology of fungal infection, as far as investigations into the cell wall substances of plants. Section VI gives an outline of the work carried on under the supervision of the Oils and Fats Committee, more especially research into the products of the hydrolysis of fats, and into the deposition of fat in yeast cells and in certain fruits and seeds. Lastly, in Section VII, the Canned Food Committee discusses the work on the chemistry of canned fish, carried out at Cambridge. The facilities of the Low Temperature Research Station made it possible to use fish whose history was exactly known from the time of catching; and, with the aid of a hand-canning machine, to complete in the laboratory the whole process of cleaning, brining, scaling, and cooking. It appears from this report that changes in the fish material occur during the first three processes, resulting in the accumulation of products of degradation, and that a marked increase of such products occurs during the cooking process, with a further small but gradual increase of volatile bases during storage of the canned fish, the last named increases being greater at higher storage temperatures.

#### INCOME TAX DEDUCTIONS.

Our readers may have noticed in a recent issue of the *Times* a letter signed "M.D.," in which it was pointed out that in the "Notes and Instructions" issued officially

with the forms of declaration of income tax the allowance of a proportion of the rent of a dwelling-house used partly for business purposes was specifically referred to in such a way as to convey to the mind of "M.D." that the allowance did not extend to a similar proportion of rates. As those of our readers who may have had occasion to peruse the answers to correspondents given in this JOURNAL from time to time are no doubt aware, this was a misunderstanding of the position, and unfortunately it appears to be one which cost "M.D." dear. The fact is, of course, that the income tax code of to-day is, in the main, founded on an old statute, that of 1842, which was conceived and drafted at a time when the country was free from the complexities of our modern industrial system. To-day the circumstances in which various incomes are derived differ so widely that no one would be likely to suggest that any particular expenses should be enumerated as allowable, in view of the obvious impossibility of making such a list inclusive; the laying down of general principles would be the method adopted; mention of specific expense would be avoided as misleading. Such principles are far to seek in the older statutes, and in so far as they do exist have to be deduced from such rules as "no sum is to be deducted in respect of any expenses not wholly and exclusively incurred for the purposes of the trade, profession, or vocation"—a rule which has probably been too strictly construed by a good many taxpayers besides "M.D." Common sense appears to suggest a redrafting on a more modern basis of the whole income tax code, but this would carry with it the disadvantage that it would necessitate discarding particular phrases and words which have been tested and defined in the High Court, and the adoption of other phraseology which might lead to a new harvest of litigation and expense. In passing, it may be remarked that recent legislation has to some extent reduced the hardship created by extending the time limit for repayments, but this remedy must remain partial, at least so long as any time limit remains in operation. The real protection, as is so often the case, lies in constant vigilance on the part of the individual. If each taxpayer will insist on a clear statement—for example, from his local inspector of taxes—of the precise reason why expenses which appear reasonable should not legally be allowed, such misunderstandings as that referred to above will become infrequent, and incidentally some good may be done by the direction of the official mind to some of the anomalies of the present tax.

#### LECTURES AT THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

THE usual courses of lectures will be given at the Royal College of Surgeons of England during January and February. Sir Arthur Keith will begin a course of six Hunterian lectures on recent discoveries of fossil man on Monday, January 19th. The lectures will be illustrated by casts and preparations from the museum and by lantern slides. The first two lectures (on January 19th and January 21st) will deal with the antiquity of man in South Africa, as illustrated by the Boskop skull and the Rhodesian skull respectively. The third lecture (on Friday, January 23rd) will be concerned with recent discoveries in Australia and Java and their bearing on the theory of man's evolution. The subject of the lecture on Monday, January 26th, will be Neanderthal man in Malta; that of the lecture on Wednesday, January 28th, will be recent discoveries of fossil man in France and Germany. The course will be brought to an end on Friday, January 30th, by a lecture on recent discoveries of fossil man in England and their bearing on the early distribution of racial types in Europe. Lectures will be given during February by Mr. Zachary Cope on extravasation of bile; by Mr. H. P. Winsbury White on hydronephrosis; by Mr. A. H. Todd

<sup>1</sup> London: H.M. Stationery Office, 1924. 3s. net.



on syphilitic arthritis; by Dr. V. E. Negus on some disorders of the larynx; by Mr. R. Jawford Knaggs on osteitis deformans; by Mr. Stanford Cado on regional anaesthesia; and by Mr. C. P. G. Wakeley on ectopic and imperfect descent of the testis. On February 18th and 20th Dr. G. Scott Williamson will give two lectures on the thyroid apparatus, and on February 23rd, 25th, and 27th Dr. G. W. de P. Nicholson will lecture on the nature of tumour formation. The lectures will be given at 5 p.m. on each day.

THE Hunterian Oration will be delivered by Sir D'Arcy Power, K.B.E., in the theatre of the Royal College of Surgeons of England, at 4 p.m. on Saturday, February 14th, the anniversary of the birth of John Hunter. It will be illustrated by lantern slides made from a series of contemporary drawings showing John Hunter the man and martyr to science. It is noteworthy that in its long history the oration has never before been given by father and son. Mr. Henry Power was Hunterian Orator in 1889.

A SMALL unit for the reception of in-patients unable to pay ordinary fees was opened at the London Radium Institute, Riding House Street, on January 5th. It consists of two wards on the cubicle system, one containing four beds for women and the other three for men, together with a properly appointed operating room for use in cases in which the surgeon must prepare the way for the application of radium. Patients will be expected to contribute as much as they can afford to the cost of maintenance, and to ensure that this is done an almoner will be appointed. Patients must be recommended by their medical attendants, who will be asked to certify that the disease is of a kind likely to be benefited by treatment. For the last two years seven beds have been available for paying patients.

## THE BICENTENARY OF GUY'S HOSPITAL.

### COMMEMORATION SERVICE.

A SOLEMN service in commemoration of the founder and other benefactors of Guy's Hospital was held at the neighbouring cathedral church of St. Saviour, Southwark, on January 6th. The day marked the bicentenary of the opening of the hospital "at the sole costs and charges of Thomas Guy, Esquire," the City bookseller, who died on December 27th, 1724, ten days before the cherished project of his old age reached fulfilment.

The Prince of Wales, president of the hospital, was received by the treasurer of the hospital and by the Bishop of Southwark, acting as dean of the cathedral, and was conducted to a dais just below the pulpit. In addition to the Bishop of the diocese, the Bishops of Oxford and Woolwich and Bishop Talbot walked in the procession of clergy. The cathedral, whose interior is one of the most cheerful and best lighted in England, presented a striking picture when the congregation was seated, the academic gowns in all parts of the nave and the nurses' uniforms in the transepts contributing to the effect.

The prayers, which were said by the hospital chaplain (Canon J. B. Haldane), included the collect of St. Luke and petitions for the doctors and nurses, for the patients, and for past members of the hospital staff. The lesson, read by the Bishop of Southwark, was from Ecclesiasticus xxxviii, the passage beginning, "Honour a physician with the honour due unto him for the uses which ye may have of him." The anthem, "The spirit of the Lord is upon me," was finely rendered by a full choir.

The Bishop of Oxford, who preached the sermon, said that it was fitting that that company should gather in the cathedral church, which was linked by ties new and old with the hospital of Thomas Guy, to offer its tribute for the service which, during the last two hundred years, the hospital had rendered to "the least of Christ's brethren."

It was fitting also to return thanks for the opportunity of simple Christian service which was called forth by the bounty of Guy, and which had enabled this work to grow and to gain so signal a place in national life and tradition. Guy's Hospital represented one instance—conspicuous enough, but still only one instance—of that single-minded Christian service with which our history was so rich. The Bishop went on briefly to sketch the career of Thomas Guy, the one-time apprentice lad, who, by his industry and intelligence, accumulated a great fortune and devoted it to serving his fellow men in various philanthropies, of which his hospital was the culmination. Guy laid well and truly the hospital foundations, and in each succeeding generation, as new needs had arisen, new men had come forward to take the place of those who had gone before. To-day the name of the bookseller was linked with a noble line of men, leaders in medicine and surgery in each generation. The Bishop mentioned James Jurin, William Saunders, Benjamin Guy Babington, Thomas Bright, Richard Bright, Walter Moxon, Charles Hilton Fagge, Sir William Gull, George Owen Rees, Golding-Bird, Samuel Sharp, Astley Cooper, Charles Aston Key, and James Hinton. All of these in their turn honoured the founder of the hospital and recognized the debt which medical science owed to his benevolence and far-sightedness. It could not be doubted that the future historian of this present time would find in it two distinguishing features. One of these would be the wonderful development of scientific knowledge applied to the treatment and cure of disease, the alleviation of human suffering, the saving of human life, the skilful nursing of the sick, and, not least, the careful training of young students in the great medical schools. All honour to the physicians and surgeons and nurses for the use they had made of their God-given talent. It would be a sorry day if the large-hearted generous spirit of Thomas Guy were stifled in the fever and fret of modern England. Earlier in his sermon the Bishop had deprecated the suggestion that the provision for the needs and development of hospitals should be by a compulsory tax. What Christ claimed was the free and willing service for "the least of these my brethren" on the part of those who bore His name. The other distinguishing feature of our generation would be regarded by a later day as the accumulation of great wealth. Fortunes which, in his own boyhood, were regarded as quite exceptional were now frequently made by business men. It was easy enough to take Guy's Hospital as a matter of course, and not to see that it stood for something in our common life which we could ill afford to be without. There, amidst the throngs and thoroughfares of crowded, pitiless London, where the individual might easily be led to believe that he could count for nothing, this hospital stood while the generations came and went, and it bore witness to those simplest, deepest truths which God would have all his children learn and teach, that human life was a sacred thing, that the highest duty was always possible, that self-sacrifice was sweet, and that the service of one's fellow men was the crown of being.

Among those present in the congregation were the treasurer of the hospital, Mr. F. P. Whitbread; the Hon. Evelyn Hubbard, Lord Revelstoke, and other governors; Mr. H. L. Eason, C.B., C.M.G., superintendent; Sir Arbutnot Lane, Sir Charles Symonds, Mr. C. H. Golding-Bird, Dr. John Fawcett, Sir Alfred Fripp, and other members of the medical and surgical staff; Miss Margaret Hogg, the matron, five former matrons of Guy's and members of the present nursing service; the deans of Guy's and of other London medical schools; Sir Humphry Rolleston, P.R.C.P., Sir John Bland-Sutton, P.R.C.S., and Mr. A. D. Brenchley, Master of the Society of Apothecaries; the Vice-Chancellor (Dr. E. A. Gardner) and other representatives of the University of London; Lord Stuart of Wortley, Sir Francis Champneys, and other representatives of King Edward's Hospital Fund; Sir W. J. Collins, representing the League of Mercy.

Although it was not mentioned at the service, the bicentenary celebration corresponds with the issue of a financial appeal on behalf of the hospital. A resolution, approved by the Prince of Wales, has been passed by the Court of Governors to the effect that an attempt should be made this year to relieve the hospital and medical school of their burden of debt by the provision of £160,000 for the former and £40,000 for the latter. The total is not quite equal to the original endowment (£220,124 2s. 7½d.) which Guy's received from the fortune of its founder.

## THE MEDICAL RESEARCH COUNCIL.

## ANNUAL REPORT.

THE annual report of the Medical Research Council for the year ended September 30th, 1924, contains a review of the tenth completed year of the work of the Council and its predecessor, the Medical Research Committee. It is an octavo volume<sup>1</sup> of 142 pages, and is provided with indexes of personal names, of institutions, and of subjects, as well as a table of contents. Cross-references also are introduced in the text; whoever subedited the volume for press deserves a word of praise.

As already announced, the Earl of Balfour has, since the completion of the Council's year, become its chairman in succession to the Right Hon. Edward Wood, and the Right Hon. William Graham, M.P., and Professor E. P. Cathcart, F.R.S., of Glasgow, have succeeded Mr. A. G. Church, M.P., and Professor Noël Paton as members of the Council.

We cannot pretend to follow the report page by page; many of the sections, indeed, do little more than enumerate the researches promoted or subsidized by the Council, together with the names of workers and lists of papers published. Even so they produce a strong impression of the number and diversity of the subjects, nearly all of them more or less closely related to clinical medicine, that are being attacked. We shall here direct attention to only a few the study of which has been advanced, a distinct stage. The Council has continued the policy of working in close co-operation with university departments and schools of medicine, and with other research institutions, among which special mention is made of the Lister Institute. In this way the universities and institutions are helped, and the funds at the disposal of the Council expended in the most economical manner. The report contains a long list of the special committees by which the expenditure is guided, and the researches in progress supervised.

## NATIONAL INSTITUTE FOR MEDICAL RESEARCH.

At the National Institute for Medical Research at Hampstead, maintained directly by the Council, the chemical laboratory has been reconstructed and the facilities for chemical manipulation greatly increased. The site acquired at Mill Hill for a field laboratory associated with the Institute has been developed, and the greater part of the buildings have been completed and are in use. Special buildings for the research into canine distemper have been erected as an addition to the Council's own laboratory accommodation there. The Field Distemper Council has provided from the voluntary subscriptions it has received the cost of the kennels and other necessary buildings in an isolated compound for the purpose of breeding a stock of dogs which shall be free from chance infection, and has provided also separate accommodation for the experimental animals and controls at a later stage. Workers are subject to rigorous discipline as to bathing and changing of clothes in the cleansing house, which provides the only means of entry and egress. The investigation of the virus of distemper has been undertaken by Dr. W. E. Gyo and Dr. P. P. Laidlaw, working at the Field laboratories; they have the co-operation of the workers at the National Institute at Hampstead, including Mr. J. E. Barnard, F.R.S., and Mr. C. Dobell, F.R.S. The disease will also be studied from other points of view as opportunity offers. A bacteriological and pathological examination of a series of infected dogs from an external source has already been made by Mr. R. E. Glover, who is now working with Professor J. B. Buxton in the Department of Animal Pathology, Cambridge.

The scheme of Rockefeller medical fellowships, tenable in America by scientific workers in the British Isles, mentioned in the last annual report, is now in working order. The first four Fellows, who went to America during the academic year 1923-24, have now returned; they have been replaced in America by six others.

## INSULIN.

Much was done during the year towards simplifying the manufacture of insulin, and so by lowering its price making it more generally available, and progress has also been made in the study of its nature and mode of action. Dr. H. W. Dudley and Mr. W. W. Starling, working at the National Institute, found a laboratory method of improving the yield and the purity and a better way of recovering insulin, as a chloride, in the picric acid process. Dr. Dudley has also utilized the solubility of insulin picrate in mixtures of alcohol or acetone with water for the preservation with picric acid of islet tissue, found in certain common food fishes (including cod), and the subsequent extraction of insulin. Drs. Dodd and Dickens, of the department of pathological chemistry of the Middlesex Hospital, having independently observed these special solubility relations of insulin picrate, applied a similar process to the mammalian pancreas, and obtained some very high yields of insulin. Light has been thrown by Dr. Burr and Dr. H. H. Dale, F.R.S., director of the department of biochemistry and pharmacology of the National Institute, on the still obscure question of how sugar is removed from the circulating blood. As the result of experiment they conclude that the murexes are the chief agents, and that, provided the supply of sugar is maintained, the process is accompanied by increased oxidation. All the sugar that disappears cannot be accounted for by this combustion; where the rest of the sugar is stored, and in what form, has not yet been ascertained.

The sensitiveness to insulin of animals of the same species is known to vary within wide limits. Dr. Burr and Mr. Marks have shown reason to believe that this is related to variation in the activity of the thyroid gland. The apparent antagonism between these two hormones has led to the trial of insulin in exophthalmic goitre with promising results, as narrated in the preliminary report by Dr. R. D. Lawrence, published in our columns on October 25th, 1924 (p. 753).

Five firms, two of them in combination, are now engaged in the manufacture and distribution of insulin; the combined output exceeds an average of a million units a week, and permits the export of large quantities to other parts of the empire and to foreign countries. The Council has entered into agreements with each firm for the supply of scientific information and for the close control of the quality and the price of the products sold. Owing to improvements and simplifications introduced as a result of the laboratory experiments the price of insulin has been reduced on several occasions and is now one-tenth of that originally found necessary, and considerably lower than the corresponding price in America. An essential part in the manufacture in this country is taken by the picrate method of purification already mentioned. Patent rights in this process were acquired by the Council for its protection against exploitation during the stages before publication; at the request of the University of Toronto these rights were extended to Canada and the United States and have been offered to the University to be exercised without charge for royalties in the same manner as the Council here exercises the rights assigned in the original insulin process. Insulin has recently been made available in the alternative form of sterile tablets. At the International Conference of Biological Standards in Edinburgh in July, 1923, the standards department of the National Institute of Medical Research accepted the duty of preparing a dry, staple standard of insulin. The work is now practically complete, and a trial sample has been submitted to the Toronto Insulin Committee, with a view to agreement on the exact form in which the mixed standard preparation shall be distributed. The routine control of the potency and sterility of all insulin issued for sale in this country is carried out in the Institute, and the methods of assay have been improved.

<sup>1</sup> 1924. H.M. Stationery Office or through any bookseller. Price 1s. 6d. net.

## FILTERABLE VIRUSES.

A good deal of work was done during the year with regard to the filterable viruses the existence of which has been proved or is suspected, but the results obtained do not lend themselves to summarization. The technical methods which must be employed are troublesome, and a sort of watchful scepticism must be continuously exercised. As an example it may be noted that Dr. P. P. Laidlaw spent much time at the National Institute in the study of certain appearances which developed in culture tubes of solid media inoculated with filterable viruses; they mimicked colonies of living organisms, but proved to be inanimate collections which could be produced in equal abundance from sterile implantations. The observation is of value in clearing up errors in previous work and for preventing their repetition. An investigation started at the field laboratories, Mill Hill, by Dr. W. E. Gye on the filter-passing virus of Rous chicken sarcoma is giving results which are described as very promising. Mr. J. E. Barnard, F.R.S., honorary director of the department of applied optics of the National Institute, has made progress with a method of using ultra-violet light for the microscopic study of particulate bodies smaller than those visible by ordinary light. An illuminator is now also being made on a new principle to enable bodies within the limits of visibility to be photographed in ultra-violet light without readjustment of any of the optical parts. The principle has already been applied to the smallest organism available, the virus of bovine pleuropneumonia, which has been photographed in ultra-violet light while in the living state and at various stages of its development. If and when filterable viruses are cultivated the method, it is anticipated, will be applicable to them.

Dr. Mervyn Gordon, F.R.S., is continuing at St. Bartholomew's Hospital his investigations of the filterable virus of vaccinia. A method of killing it has been found and the immunizing value of the same virus alive and killed compared. Protection is given by the killed virus, and its degree and duration are being studied. The prevalence of small-pox in this country has afforded an opportunity of comparing the virus of variola with that of vaccinia. In Dr. Gordon's laboratory Dr. T. G. M. Hine is engaged in the study of the growth of filterable viruses in association with tissue cultures. Dr. P. W. Twort, who is continuing his experiments on the cultivation of vaccinia virus, has also investigated the bacterial lysis; no definite filter-passing substance has been obtained for this group of micro-organisms such as has been found associated with the micrococci group and the dysentery-typhoid-coli group.

Inquiries have also been prosecuted into the pathology of lethargic encephalitis and its alleged relation to febrile herpes. Dr. Perdrau of the Lambeth Infirmary, who has been freed to give up most of his time to these problems, has continued to work with Dr. Laidlaw at the National Institute on filterable viruses and especially that of herpes. He paid a visit to Sheffield during the epidemic of lethargic encephalitis there in April last, and by the courtesy of Professor A. Hall and Professor J. S. C. Douglas was enabled to study the possibility of transmitting the disease. A fatal though mild encephalitis was produced in rabbits, but attempts at further transmission failed; a similar disease could be produced in rabbits, partially immunized, by inoculating the virus of herpes. It was found also that a mild form of keratitis, sometimes followed by partial immunization against the virus of herpes, could be produced "in a notable proportion" of cases infected with the nasal washings of patients suffering from lethargic encephalitis, but further transmission was not achieved. Dr. J. E. McCartney, continuing work done last year at the Rockefeller Institute, New York, has ascertained, while working in the University of Edinburgh, additional facts as to the biology of the virus, and has found it possible to extend the duration of its viability in artificial media, but not to prove its multiplication outside the body. Attempts to transmit the disease from human beings to rabbits failed.

## LIGHT.

During the year the investigation of the biological actions of light has occupied much of the attention of the department of applied physiology of the National Institute. The members of the staff, Dr. Leonard Hill, F.R.S.

(Director), and Dr. Agell Campbell, have studied local actions of light on the body, using the production of stasis in the capillaries of the mesentery as an indicator. The efficiency of different artificial sources of light has been studied by Drs. Hill and Eidinow and Mr. Angus. The spectrographic study of lamps has been aided by Mr. Barnard and Mr. Smiles; the conclusion is that "long-flame" arcs are more efficient than the short-flame Finsen lights hitherto used in phototherapy. Details of the results obtained are to be published shortly.

Daily measures are taken of the values of the ultra-violet rays at Hampstead, in the smoke-polluted centre of London, and in the open country in Oxfordshire, at Harrogate, and at the Liverpool Sanatorium, Cheshire. Readings are also being secured to illustrate seaside, alpine, arctic, and tropical conditions. The method will provide a ready means of measuring in medical practice the dosage of ultra-violet rays given by lamps. Mr. Angus, at the National Institute, has, by a modification of the apparatus, found that more of the ultra-violet rays, even on sunny days, came from the sky as a whole than direct from the sun. This is particularly true when the sun is low or obscured by cloud—a fact of practical importance in heliotherapy. The actions of light in the treatment of chronic inflammatory diseases have been observed in patients suffering from surgical tuberculosis and chronic dermatitis, lupus vulgaris, anaemia and high blood pressure, and asthuma. A lamp has been installed at the New End Hospital, and the London County Council has placed six beds there at the disposal of Dr. Hill for light treatment of chronic severe cases of surgical tuberculosis. Drs. Colebrook, Eidinow, and Hill have found that exposure of the skin to ultra-violet radiation leads to an increased bactericidal power of the blood and serum; so, also, do heat rays and mustard poultices. Dr. Eidinow has found that exposure of defibrinated blood to ultra-violet radiations destroys its bactericidal power, but that if this irradiated blood is passed into the circulation an increase in bactericidal power is observed. We mentioned some time ago that Miss E. M. Hume and Miss Henderson Smith had observed that normal growth can be induced for a time in rats fed on a diet deficient only in fat-soluble vitamin if the animals are irradiated with the mercury-vapour quartz lamp, and that this effect can be produced without exposing the rat directly to the source of light. This observation was not confirmed by others. It now appears that the effect is not obtained unless wood sawdust (or possibly other bodies not yet investigated) is present in the jar at the time of irradiation and afterwards. The nature of this curious phenomenon is being further explored.

(To be continued.)

## ROYAL MEDICAL BENEVOLENT FUND.

At the last meeting of the Committee thirty-seven cases were considered and £547 10s. voted to thirty-four applicants. The following is a summary of the new cases relieved.

M.R.C.S. Eng. 1896, aged 55, now unable to work owing to paralysis. He and his wife are living on the charity of friends. His wife has to look after the applicant. Voted £26 in twelve instalments.

M.D. Cantab., aged 71, is unable to regain his practice after the war and now owing to old age and infirmities can scarcely walk. Applicant's health necessitates his wife's constant attention. They are now dependent on friends. Voted £26 in twelve instalments and £10.

The widow, aged 59, of M.B. Glas., who died in 1899. The applicant received £8 from maternity nursing, but has been unable to work since August owing to trouble with her eyes. She sublets one room for £12 a year; her rent and rates amount to £27 per annum. Voted £10.

The widow, aged 57, of L.S.A. Lond., who died in 1923. Through illness she has had to give up her post as companion and is now entirely dependent on her daughter, who earns 5s. a week. Voted £10.

Daughters of M.R.C.S. Eng. who died in 1912. Their ages are 56 and 47. The elder nursed her father, who was paralysed for twenty-two years, and is not at all strong. The younger sister is a daily governess at £50 a year. They receive help from their brother and brother-in-law. Voted £18 in twelve instalments and £12 in twelve instalments.

Subscriptions may be sent to the Honorary Treasurer, Sir

Charters Symonds, K.B.E., at 11, Chandos Street, Cavendish

Square, London, W.1.

The Royal Medical Benevolent Fund Guild still receives

many applications for clothing, especially for coats and

skirts for ladies and girls holding secretarial posts, and

suits for working boys. The Guild appeals for second-

hand clothes and household articles. The gifts should be

sent to the Secretary of the Guild, 58, Great Marlborough

Street, W.1.

## Scotland.

### EDINBURGH ROYAL INFIRMARY.

THE annual report of the Royal Infirmary, Edinburgh, for the year ended September 30th, 1924, describes certain extensions which are in progress, and indicates the necessity for several important developments required in the near future.

#### Ear, Nose, and Throat Department.

The ear, nose, and throat department had for some time been found inadequate in size to cope with the large list of patients waiting admission to the wards for treatment. This waiting list during the past year formed about 44 per cent. of all the patients awaiting admission to the institution. It was decided, therefore, to add two new theatres, with sterilizing rooms and other accessories, two new examination rooms, and two extra wards with accommodation for twelve beds in each. The scheme was considerably delayed by the dispute in the building trade, but the work is now well under way, and it is estimated that these additions, which will cost some £17,000, will be ready during the course of the present year.

#### Radiological Department.

The new radiological department, which is estimated, with buildings and equipment, to cost £52,000, was described in our issue of December 27th, 1924 (p. 1213). Work has already been commenced in preparing the ground for this department, and it is hoped that it will be ready for use by October next.

#### Proposed New Maternity Hospital.

The question of providing a new maternity hospital is intimately associated with the interests of the Royal Infirmary, and it is now regarded as imperative that the institutions should be at least near together and in close co-operation with each other. The arrangements recently made between the Royal Infirmary and the Merchant Company with regard to the acquisition of the ground occupied by George Watson's School were mentioned in our issue of December 6th, 1924 (p. 1075). When these have been completed it is expected that part of the site will be available for a new scheme connected with the Royal Maternity Hospital.

#### Clinical Research Laboratory.

The Rockefeller Foundation of New York intimated some time ago to the Edinburgh University Court its readiness to make a grant of £35,000 for the building and equipment of a laboratory for clinical research, on condition that it was accommodated within the grounds of the Royal Infirmary. After negotiations between the University and the managers of the Royal Infirmary, it was agreed that the Infirmary would permit the erection of this laboratory on condition that, when erected, the building should become the property of the hospital. The managers of the Infirmary are satisfied that the scientific research which will be carried out in this department should make an important addition to the benefits derived by patients from the hospital, which are the board's primary interest and concern.

#### Social Service Organization.

A social service scheme has been gradually developing since permission was given in 1923 to the University Settlement (School of Social Service) to carry out through their lady visitors social service work among the out-patients of the Infirmary. This work has consisted in following up necessitous cases at their homes, providing them with the drugs or special nourishment they needed, arranging for their admission to convalescent and other homes as required, and improving from a health point of view their surroundings in their homes. This scheme forms a complement to the work done for patients in the wards of the hospital by the Samaritan Society, and it has been greatly appreciated by the members of the honorary staff. It has involved the appointment of a lady almoner and a staff of assistants, and entails an annual expenditure of £500 or thereabouts.

The scheme actually brings about a great saving in expenditure, since it permits of the treatment as out-patients of patients who otherwise would have to be accommodated in the wards, and it tends to shorten the stay in hospital of certain classes of case, and to do away with the necessity for return to hospital of many patients who have already received in-patient treatment.

#### Number of Patients Treated.

The number of patients treated during the year was 15,687; this was an increase of 644 upon the figure for the previous year. The average daily number of patients in hospital was 903, the highest number of patients in one day being 940, and the average length of stay of each patient under treatment was 20.68 days, as against 21.3 days in the previous year. The percentage of deaths among cases treated was 6.1, but deducting the deaths which occurred within forty-eight hours after admission the percentage was 4.5, or 0.3 per cent. less than in the preceding year. The number of individuals treated as out-patients was 48,349, an increase of 2,746 over the number treated in the preceding year. An indication of the pressure on accommodation within the hospital is afforded by the fact that there was during the year an average waiting list of 1,812, of which, however, 794 were accounted for by the waiting list of the ear, nose, and throat department for minor operations.

#### Finance.

The total ordinary income was £107,907, including £70,416 derived from fortnightly contributions, the latter showing an increase of over £1,694, as compared with the preceding year. An important source of revenue is the Badge Day Collection Scheme in town and country, by which £6,071 was raised in the past year, being an increase of £1,377 on the revenue from the same source in the previous year. A still more important source of revenue, which shows a tendency to steady increase, is found in the League of Subscribers, which includes employees in public works, business establishments, staffs of schools, Government and other offices, etc. From this source £20,904 has accrued in the past year. The contributions from some of the groups comprised in this League have diminished owing to unemployment and other causes, but this has been more than counterbalanced by increase in other places and from other groups of employees, so that from this source the amount of contributions shows an increase of £557 over that for the same source in the previous year. It is computed that the number of individuals subscribing to the support of the institution through this League on a systematic basis of not less than one penny a week is now 96,500, distributed over 1,373 groups. The massed contributions from miners engaged in the coal and shale industries, chiefly in the Lothians and Fifeshire, amounted to £14,669. The ordinary expenditure was £127,536, being an increase of £7,726 on that of the previous year. A considerable part of this was due to rise in the price of provisions, such as meat, eggs, milk, and especially potatoes. The extraordinary income amounted to £74,719, while the extraordinary expenditure was only £6,576. The cost per bed was £141 4s. 9d., an increase of £7 13s. 5d. on that for the previous year, but it is claimed that this annual rate of expenditure is considerably lower than that of the majority of the hospitals of similar size and nature in other parts of the British Isles.

#### MEMORIAL TO SIR WILLIAM MACWEN.

\* At the conclusion of the meeting of the managers of the Glasgow Royal Infirmary on January 1st a medallion memorial tablet to the late Sir William Macwen was unveiled by Professor W. K. Hunter. The memorial is placed in the central hall of the Dick surgical block; the design, by Mr. Proudfoot, is similar to that of the Lord Lister memorial in the same hall. It consists of a bronze medallion in a marble setting, and bears the following inscription in gold:

"Sir William Macwen, C.B., M.D., D.S., LL.D., F.R.S., Regius Professor of Surgery in the University of Glasgow, Surgeon to this Infirmary from 1877 to 1892. Erected by the past and present members of the visiting staff, 1924."

## Ireland.

### SIR JOHN CAMPBELL, M.D.

It was with wide and general satisfaction that not only the medical profession but also the public in Northern Ireland saw the inclusion of Dr. Campbell's name in the New Year's honours list; it is considered as due not so much perhaps to his eminent public services as to his long, faithful, and distinguished purely professional work: the profession feels it as an honour to itself. Sir John Campbell is the son of the late Rev. Robert Campbell, minister of the old Presbyterian Church at Templepatrick, County Antrim; he is the elder brother of the late Mr. Robert Campbell, who did so much for general surgery in Northern Ireland, and to whose memory the profession founded the Robert Campbell Memorial Oration. Sir John Campbell was educated at the Royal Academical Institution, Belfast, and took the B.A. and M.A. degrees in the now extinct Queen's University, with first class honours; he graduated M.D. in 1887, and became F.R.C.S. Eng. in 1891. After graduation he studied in London, Paris, and Vienna, and was demonstrator in anatomy in the Queen's College for five years under the late Professor Redfern. He specialized in gynaecology and obstetrics, and was appointed to the Samaritan Hospital for Women, Belfast, of which he is now senior surgeon, and to the Maternity Hospital. He was chairman of the Queen's University Veterans' Volunteer Corps, and in 1916 he served as surgeon to the British Red Cross Hospital (No. 5) at Wimereux for six months while some of the heaviest fighting was going on. He has been president of the Ulster Medical Society and of the Ulster Branch of the British Medical Association. He succeeded the Right Hon. Thomas Sinclair, M.A., as chairman of Convocation of the Queen's University, and in 1921 was elected M.P. for the University in the Parliament of Northern Ireland. His contributions to the literature of his specialty are many and varied. The profession in Northern Ireland and his numerous friends will join heartily in offering Sir John and Lady Campbell their warm congratulations and their wishes for long life and health to enjoy the well deserved honour.

### FERMANAGH COUNTY HOSPITAL.

At the last meeting of the Fermanagh County Council a deputation from the committee of management of the county hospital attended and suggested, amongst other matters, that the various district hospitals in the county should be closed, and the county hospital enlarged from 54 to 85 beds. The deputation stated that enlightened opinion is agreed that it is wasteful and extravagant for a small community to maintain three inefficient hospitals, the county hospital being inefficient on account of its small size, the two union hospitals inefficient to such an extent on account of their defective construction and want of equipment that their more serious cases have to be sent to Dublin, Belfast, or to the county hospital, with which last all three rural district councils have an agreement to take such cases on payment. The committee of the county hospital thinks, and the members of the profession agree, that a lying-in ward with convalescent rooms off it would be a boon to the public. In this section any medical practitioner in the county could arrange to attend his own patient. The special accommodation provided for the nurses and servants will leave a number of rooms available as private or semi-private rooms; they will, in effect, provide a small nursing home for the county, in which private or paying patients would have the advantage of being attended by the medical man of their own choice in certain cases. The charge for private wards would be, say, £4 4s. a week, and for a semi-private room—that is, with one other patient—say, £3 3s. a week (as in any other nursing home, stimulants, medicines, and surgical dressings would be extras). This would provide a service that would compare favourably with that of any nursing home in Dublin or Belfast, for which a minimum charge of £7 7s. is made. These low charges of £4 4s. and £3 3s. are suggested because the hospital is not a dividend-earning

concern. They would, however, represent a reasonable profit to the hospital and be a source of revenue to meet other expenses.

### WHOLE-TIME MEDICAL REFEREES.

The National Health Insurance Commission has decided to make three whole-time temporary appointments of district medical referees for the Free State. The candidates must be registered medical practitioners, with a knowledge of general practice, and not over 45 years of age. The salary offered is at the rate of £600 a year, without bonus, together with travelling and subsistence allowances. A preference will be given to candidates who have served in the National Army Medical Service. The latest day for receiving applications will be January 12th. The appointments will be made by means of a selection board set up by the Civil Service Commission. In connexion with these appointments the medical representatives of the Irish Medical Committee attended a conference with the Irish Insurance Commission and pointed out that the salary offered was altogether inadequate and was not calculated to secure such experienced medical practitioners as would command the confidence and co-operation of the profession. The Commissioners ultimately agreed to offer £700 a year, and stated that their funds did not permit them to offer a higher salary. In the face of this agreement with the representatives of the medical profession it has caused much disappointment that the posts have now been advertised at a salary of £600 per annum. This has been done without acquainting the representatives of the profession that the arrangements made with the Insurance Commission were altered subsequently to the date of the conference. Such treatment will not improve the relations between the Insurance Commission and the medical profession in the Free State. Another matter that was not mentioned at the conference was the preferential treatment of certain candidates.

## England and Wales.

### YORK COUNTY HOSPITAL.

SINCE its foundation in 1741 the wards of the York County Hospital have been distinguished by numbers, with the exception of the "Victoria" ward. On December 31st four wards exchanged their numbers for names commemorating four distinguished York medical practitioners—two of the eighteenth and two of the nineteenth century. The wards were formally named by three members of the present honorary medical staff. Dr. W. A. Evelyn, naming No. 6 ward the "Burton" ward, reminded the audience that Dr. John Burton, who went to York in 1735, co-operated with Lady Betty Hastings in starting the County Hospital. A man of strong political views, he wrote on the history of monasticism in Yorkshire, and was undoubtedly the original of Dr. Slop in *Tristram Shandy*,\* by Laurence Sterne, nephew of Jacques Sterne, LL.D., against whom Burton had written an article. Dr. Evelyn named one division of No. 7 ward as the "Drake" ward, in memory of Dr. Drake, the first surgeon to the hospital, who received this appointment in 1756. In common with his colleague, Dr. Burton, he was renowned for his archaeological work in connexion with the city of York. Mr. Wilfrid Gostling, naming the other division of No. 7 ward after Mr. W. H. Jalland, whom he had known personally for more than twenty years, spoke of the great help Mr. Jalland had given in bringing the hospital up to date, referring especially to the "Victoria" ward, the balconies, the nurses' home, and the rebuilding of the operating theatre. Dr. Peter Macdonald then named ward 10, or the eye ward, after Dr. Tempest Anderson, who became surgeon to the York Eye Institution in 1876. This institution was amalgamated with the York County Hospital in 1877, and Dr. Anderson continued to be surgeon until 1904. Dr. Anderson was closely associated also with the York Philosophical Society, the museum, and St. Mary's Abbey.

\* See BRITISH MEDICAL JOURNAL, April 5th, 1924, p. 649; May 3rd, p. 799; and May 17th, p. 888.



Mrs. Seebohm Rowntree, formerly a sister in the hospital, alluded to the unselfish work of the honorary medical staff, and pointed out that the workpeople's hospital fund was originated by her husband at the time of their marriage.

#### CENTENARY OF BRADFORD ROYAL INFIRMARY.

The centenary of Bradford Royal Infirmary occurs this year, and it is hoped to celebrate the occasion by raising a large portion of the sum required for the erection of a new infirmary on the site acquired at Daisy Hill. The scheme was begun before the war, and the subscriptions promised amounted to £78,000. From the amount actually received £40,000 remains over after defraying the cost of purchasing the site and adapting a residence on the estate for the use of a nurses' home. The pre-war estimate for the new infirmary was £250,000, but it is not expected that the scheme can be completed for much less than £500,000. It is hoped that £400,000 may be received from the centenary appeal. The receipt of an anonymous donation of £30,000 towards the building of the new infirmary was reported in our issue of February 16th, 1924 (p. 291).

#### NEW NURSES' HOME OF THE LIVERPOOL ROYAL INFIRMARY.

The first wing of the new nurses' home of the Royal Infirmary, Liverpool, was opened on December 30th by Miss E. M. Cummins, to whom, during the proceedings, testimonials were presented in recognition of her fourteen years of work as matron. The completed wing was built at a cost of over £40,000, and represents one-third of the whole building. A public appeal is to be made shortly for the £30,000 required for the second portion. Dr. T. R. Glynn, who presided, remarked that the old nurses' home, which was built in 1865, was the first institution of its kind in Great Britain. The new home, when completed, would accommodate 150 nurses, and would be the largest in the country. Mr. W. Thelwall Thomas, senior member of the honorary medical staff, drew attention to the great advances made in the infirmary since Miss Cummins was appointed thirty years ago. During this period the number of surgical cases had increased very greatly, and there were more than four times as many operations, which involved very heavy work for the nursing staff.

## Correspondence.

#### INDIGENOUS MEDICINE IN MADRAS.

SIR,—In continuation of my letter which you kindly published in the *BRITISH MEDICAL JOURNAL* of October 25th, 1924, I find in the *Madras Weekly Mail*, just to hand, that "H.E. the Governor opened on November 24th a School of Indian Medicine, the first of its kind sanctioned by the Government of Madras." It is clear from this that the Madras Government has disregarded the advice tendered to it by responsible medical opinion, and has persisted in carrying out its most regrettable and retrograde policy.

There are several points in the *Madras Mail's* article to which I particularly wish to draw attention. "H.E. the Governor, who was attended by his surgeon, Major D. P. H. Johnstone, R.A.M.C., was received by the Hon. the Rajah of Panagal." I have no wish to make the position of His Excellency's surgeon more difficult than it already is, and I recognize how difficult it must be for any medical man at the present moment, but the significant fact of this officer's official presence at such a ceremony shows how necessary was the warning I gave in my letter, above referred to, of the consequences that might threaten any officer who joins such a Government as that of Madras. I would specially invite attention to the fact that not a single European officer in the I.M.S. and no other officer of the R.A.M.C. was present. Moreover, with one exception, the Indian officers of the I.M.S. appear to have absented themselves in a body from the function. This latter is a satisfactory and very significant fact.

The Minister, in his statement, gave the history of the inception of this new institution, and, in speaking of the proceedings of the committee set up to go into the matter, added: "These findings were referred to two senior I.M.S. officers for scientific criticisms, and and they would not accept

the conclusions arrived at. . . . (The italics are my own.) It is not in the least strange that they should have refused to accept the conclusions arrived at. No one who wades through this hopelessly illogical and childish report could for one moment understand them adopting any other attitude. The whole thing is an abnegation of scientific medicine, and an attempt to substitute effete and worn-out rubbish in its stead.

The Governor in his speech regretted that his Government was limited in what it could do for the health of the people (not due to any want of sympathy for them—but due to financial stringency). We have here the unedifying spectacle of a civilized government at the end of the first quarter of the twentieth century cutting down what it would admittedly like to do for the health of the people, whilst throwing away a comparatively large sum of money on a futile substitute for a system of medicine.

I trust, Sir, that this is a matter that is going to have the earliest consideration of the British Medical Association. There is, to my mind, only one course open to us, and that is to hang, bar, and lock the door against the entry of self-respecting British medical men into the service of a Government that can behave so foolishly and so perversely as this.

There is one hopeful feature in the whole situation. I have received a message through an absolutely reliable channel from a number of young medical graduates of the Madras University saying that "they hope it will not be inferred from my letter that the average graduate from the Madras School has sympathy with or leanings towards the Ayurvedic system." They assured my correspondent that "they would be very sorry to be classified with the few who are so disloyal to their teaching." My correspondent goes on to say: "Possibly your letter might give an impression that the bulk of our Western system men out here were not wholeheartedly of their teacher's views. I think that that would be a pity. I have promised them to write to you on the subject." On re-reading my letter I cannot find that there was any such imputation, though I must confess that I was not sure what the real feeling among the younger Indian medical men was. I am glad to give prominence to their views, which are in happy contrast to the action of their rulers.

It is only fair to add that I have received an assurance that H.E. the Governor did not expect I.M.S. men to attend the opening of this self-styled school. It is impossible to believe that intelligent men, whether Europeans or Indians, can have any real sympathy with such movements as this, but it is none the less lamentable that in response to unreasonable clamour a British Government should lend its authority to such a movement.—I am, etc.,

London, W.1, Jan. 2nd.

R. H. ELLIOT, M.D.,  
Lieut.-Colonel I.M.S. (ret.).

#### ACCLIMATIZATION TO HIGH ALTITUDES.

SIR,—So far as the thyroid gland may be concerned in acclimatization to high altitudes the facts now known are these:

1. With increasing altitudes up to 6,000 feet the organ tends to assume a more active state of secretion, which is, however, within the normal range of the gland's physiological action in the absence of excitants of abnormal activity. Thus, at altitudes of 750 feet above sea-level in India 50 per cent. of the thyroids of normal wild rats are in the colloid or resting phase of secretion and 50 per cent. are in the phase of active secretion. At altitudes of 6,000 feet in the Himalayas as many as 82 per cent. may be in the latter phase, while of these 20.9 per cent. show an almost complete absence of colloid. These changes, however, are not associated with any increase in size of the gland.

2. Diminished oxygen supply, such as may be induced by experimental stenosis of the trachea or by confining animals in an atmosphere deficient in oxygen, causing a depletion of the gland's store of storable colloid, and, therefore, of its iodine content.

3. Experimental hyperthyroidism in rats, induced by thyroid feeding, renders these animals hypersensitive to diminished oxygen supply.

4. With increasing altitudes the iodine content of the air falls, and snow water is deficient in this element.

There are, so far as I am aware, no observations in regard to the effect of altitude on the gland at heights above 6,000 feet, but certain symptoms from which members of the Mount Everest expedition suffered—loss of weight, tremor, distaste for meat—certainly suggest, as pointed out by Dr. Gale, that at great heights the gland may take on abnormal secretory activity. The matter is of importance and could easily be decided by animal experimentation. It seems not unlikely that the ration equipment of the expedition was not selected with any special regard to its content of iodine, on which the normal functional activity of the thyroid is dependent. It may be suggested that at the next attack on the mountain the climbers should be provided with cod-liver oil as part of their ration. This would provide an additional source of fats, as well as iodine sufficient to maintain the thyroid in a normal state of activity, and an abundance of certain vitamins without which the gland will not function normally.—I am, etc,

Eastbourne, Jan. 3rd.

R. MCCARRISON.

#### "E.R.A." TREATMENT.

SIR,—May I, on behalf of a small British society of doctors who employ Abrams's methods of treatment, take this opportunity of removing all possible misunderstanding by saying that charges of quackery and unethical conduct cannot be made against this society, which therefore is entirely distinct from what is ordinarily known as the "Abrams cult"? Widespread misconception appears to necessitate certain explanations in this connexion.

In the first place, whatever private views individual members of the society may have held, it is certainly a fact that Dr. Mather Thomson, its president, has never in the course of his teachings made extravagant claims either in relation to diagnostic or therapeutic achievement.

In the second place, it has always been the desire of the society to remove the inevitable reproach attached to the employment of Abrams's treatment as a "secret remedy." A long time ago we made unsuccessful application to the leaders of the cult in America for full information concerning the machines used, and subsequently my proposal that we should ourselves explore the mechanism of the instruments supplied and publish all details was unanimously agreed to at a meeting of our society.

Dr. Scott's book, therefore, which you have lately reviewed (January 3rd, p. 25), is, in respect of disclosure of knowledge, in full accord with the wishes of the other members of the society. Nevertheless it is perhaps advisable to add that all of us do not yet share his satisfaction that electrical pressure affords a true explanation of the results, or that machines constructed purely on this principle will necessarily produce results equal in value to those produced by Abrams's apparatus. Further investigations, likely to be prolonged and difficult, are to be made into the possibilities of radiation.

Now that the subject is receiving a greater measure of consideration than before, it seems only right and fair that the position of genuine Abrams workers in this country should be properly appreciated. Hence I hope you will excuse this trespass on your valuable space.—I am, etc.,

Beckenham, Jan. 3rd.

J. KENELM REID.

SIR,—In acknowledging the conspicuous fairness of your reviewer towards my small work, "*The Abrams Treatment*" in *Practice: An Investigation*, I feel that I should name the three medical men without whom the investigation could hardly have been possible—namely, Dr. MacLeod of Bristol and Drs. Hetherington and Mather Thomson of London. The bulk of the cases examined were from the practice of the last-named, who spared himself no trouble to afford the fullest facilities for the inquiry.

If, in the words of your reviewer, I have been fortunate enough to isolate a kernel of truth from the "E.R.A." doctrines (and medical men are now able to test the matter for themselves), I am also in a position to know with what *ingenuity* the truth was covered up. The responsibility for this rests with Abrams and his clique, and I think it right

to say that among the "E.R.A." practitioners whom I met in the course of the inquiry I found nothing but candour and a desire to discover the truth.—I am, etc.,

London, W., Jan. 5th.

G. LAUGHTON SCOTT.

#### HEADACHE.

SIR,—In the discussion on headache at a recent meeting of the Hunterian Society, my fellow specialists, Mr. Philip Franklin and Dr. Kelson, and I, in our anxiety not to overstate the case for the influence of nasal disease on the production of headache, went almost to the opposite extreme. We might well have emphasized the point frequently discussed in our special sections, of the pressure of enlargement, absolute or relative, of the middle turbinate body in many cases of headache, and of the relief afforded by the removal of the redundant portion. The enlargement may act in two ways, namely: actual pressure on the sensory nerves, increasing or diminishing with the oscillations of congestion and anaemia of the part, or obstruction to the outflow of secretions from the adjacent air spaces, maxillary, frontal, ethmoidal, or sphenoidal. The partial removal of this body is a fairly stereotyped proceeding, especially in an otherwise normally constructed nose, and the relief afforded is usually most striking. If the headache is temporarily diminished by the application of cocaine, or preferably of a combination in ointment form of anaesthetic and adrenaline, the probability of a good result is all the greater.

My friends Mr. Franklin and Dr. Kelson concur with me in these views.—I am, etc.,

London, W.I, Jan. 5th.

JAMES DUNDAS-GRANT.

#### PULMONARY TUBERCULOSIS TREATED BY SPÄHLINGER'S SERUM.

SIR,—With reference to the case of pulmonary tuberculosis treated by Spählinger's serum at Geneva, described in your issue of January 3rd (p. 43) by Drs. Steplani and Hudson, it would appear, if the clinical facts and the radiological findings have been truly interpreted, that this method of treatment promises to revolutionize not only our therapeutic but also our pathological outlook in tuberculosis of the lungs.

It is stated that a patient, who was practically in extremis, and who had "signs of extensive softening in both lungs," had, after ten weeks' treatment, secured complete arrest of the disease, that chest examination indicated "complete clearing up of the physical signs," and that the "improvement" was confirmed by radioscopy. The radiogram before treatment shows dense opacity at the right apex and at the middle third of the left lung. After treatment both lungs are shown as perfectly clear. Are we to conclude, therefore, that the Spählinger treatment not only clears away all tuberculous deposit, but also removes the fibrous tissue formation which, up to now, has been generally regarded as essential for the healing of a tuberculous lung?

It may be that the reproduction of the reduced radiogram does not give an accurate idea of the appearances on the negative; if so, it might save misconception if further information could be given on the point.—I am, etc.,

J. M. JOHNSTON,

Murkle, Aberdeenshire,  
Jan. 5th.

Medical Superintendent, Tor-na-Doo  
Sanatorium.

#### CANCER MORTALITY IN MENTAL INSTITUTIONS.

SIR,—In my letter published in the *JOURNAL* of February 23rd, 1924 (p. 352), I pointed out the fallacy which may arise from considering only the rate of cancer mortality per 100 deaths in the insane. Nevertheless, I think the statement in the Board of Control's report—namely, "and there is reason to believe that in this class [that is, the insane] there has been no such progressive increase of this disease [that is, cancer] as is believed to have occurred in the general population"—is correct.

It appears to me that Dr. Stocks (December 13th, p. 1136) has not considered sufficiently the average age of the

insane in institutions. In the Board's report for 1921 (p. 13) it is stated that per 1,000 living in the general population above 15 there are 502 males and 494 females between 15 and 34, whereas in the insane admissions of 1920 the numbers are 327 and 309. I have not the figures of the ages of the total number of the insane resident in institutions, but, taking one of the annual reports of the Cardiff City Mental Hospital, I find 101 males and 79 females were from 15 to 34 years of age, and 232 males and 251 females above 34. Thus in the general population above 15 roughly 50 per cent. are over 34 years of age, in the insane admissions 68 per cent., in the total resident in the mental hospital indicated 73 per cent. Obviously, then, the proportion of those of the cancer age in mental institutions is considerably higher than in the general population. Further, while the large number of the insane dying from tubercle and general paralysis is one of the main causes of the small percentage of cancer deaths, the death rate from tubercle has fallen from 15.7 per 1,000 resident in 1909 to 10.4 in 1923, and the paralytic admission rate has fallen from 7.6 per cent. in the period 1878-1914 to 5.7 per cent. in 1920-22. The cancer rate is much the same as in the years just preceding the war.

There are two further points in connexion with this subject on which statistics might be of value—(1) the cancer incidence in private mental institutions as compared with public (from the point of view of the more liberal dietary in the former); (2) the cancer incidence in Poor Law institutions, excluding cases admitted with cancer, the mode of life being somewhat similar to that in public mental institutions. —I am, etc.,

Hastings, Dec. 15th, 1924.

HARVEY BAIRD, M.D.

#### FREUDIAN DOCTRINE.

SIR,—In response to your invitation appended to Sir Bryan Donkin's letter (December 20th, 1924, p. 1177), may I state, on behalf of the British Psycho-Analytical Society, that we are prepared at any time, by appointing representatives, to participate in any suitable conference, symposium, or discussion on psycho-analysis arranged by any medical or other scientific society.

It is only fair to add, however, that in my opinion the need for such a conference is less urgent than Sir Bryan Donkin's misapprehensions lead him to suppose. It is true that we have been scrupulous in refraining from answering in public, particularly in the public press, the constant stream of abusive attacks evidently designed for the popular mind, but solely because we judge it more correct to confine such a discussion to a more fitting audience. But he is misinformed in saying that no discussion similar to the French one has taken place "under the auspices of any medical or scientific body in Great Britain." If he searches the records of the British Association, the British Medical Association, the International Congress of Psychology recently held at Oxford, or many other such meetings, he will find that there have been already a number of such discussions. Before the most appropriate body of all—I refer to the "Medical Section" of the British Psychological Society—the symposiums, papers, and discussions of the past few years have been mainly on the topic of psycho-analysis. Nor is he correct in saying that there was no discussion when I read my paper before the Royal Anthropological Institute.

Nor is it true, as he states, that of the two attacks on psycho-analysis recently published—by which he presumably means the books by Mr. Wohlgenuth and Dr. McBride—"neither has been replied to by any prominent advocate of this doctrine." Both are fully discussed in the *International Journal of Psycho-analysis*, which, as the organ of the "International Psycho-Analytical Association," is surely the most appropriate place to find an answer to them; the *British Journal of Medical Psychology* also published a critical notice of Mr. Wohlgenuth's book, more than eight pages long, written by Mr. J. C. Flügel, a member of this society.—I am, etc.,

ERNEST JONES,  
President of the British Psycho-  
Analytical Society.

London, W.1, Dec. 20th, 1924.

#### EARLY DIAGNOSIS OF APPENDICITIS.

SIR,—Sir Berkeley Moynihan for years past has consistently advised medical men to have nothing to do with the non-operative treatment of appendicitis, however apparently trivial the case.

This advice, given with incisive charm (and intent) and with all the weight derived from his commanding position in the profession, cannot fall flat. He considers, however, that it falls on stony ground, judging by the number of serious cases he gets.

Most experienced practitioners have had apparently slight cases that have suddenly shown their real character, and know that his advice is sound wisdom. It is exactly the same kind of wisdom that is involved in the business man's advice to have nothing to do with a thief.

The real difficulty is to know when you are dealing with a thief or with appendicitis. Just as men everywhere deal with the courteous stranger and occasionally, too late, find a thief, so medical men deal with large numbers of abdominal cases and occasionally find a definite appendicitis hitherto only vaguely suspected. All that either can do is to use precaution: not to lend money to the one nor to conclude there is no appendicitis because there is no rise of temperature, no increase in pulse rate, no sufficiently localized pain, no tenderness that does not come under suspicion owing to the educated person's knowledge of where the appendix is, no resistance to pressure, no tangible swelling. There may, twenty-four hours later, now and again he found a gangrenous appendix.

The wise man waits for an established character before he lends; and the medical man can only wait, examine, and re-examine, and adopt Sir Berkeley's advice if and when appendicitis becomes evident; but I am personally satisfied operative surgeons cannot expect all their cases to be early ones. The ground may have yielded no fruit, not because it was stony, but because there was not sufficient light.

Here lies real ground for research, especially by men in general practice. May it be well lit!—I am, etc.,

Leeds, Jan. 1st.

RALPH HORTON.

#### REX v. BATEMAN.

SIR,—Permit me, as the wife of Dr. Percy Bateman (423, New Cross Road), through your columns to thank those loyal gentlemen who so ably defended my husband in court, also in your valuable journal. My husband got out of his bed to do all in his power to help this poor woman, and his reward is to be branded in a court of justice as a criminal.—I am, etc.,

London, S.E.14, Jan. 4th.

M. BATEMAN.

#### Obituary.

WILLIAM ARNOT PARKER, M.B., C.M.,  
Medical Superintendent, Glasgow District Asylum,  
Gartloch, Gartcosh.

Yet another well known name falls to be added to the already lengthy list of losses sustained by the medical profession of Glasgow and the West of Scotland during the year that has just passed. A few of these names may have been more widely known, but none could be held in higher esteem than was that of Dr. Parker of Gartloch by those whose privilege it was to have been associated in any way with him.

William Arnot Parker was born near Glasgow in 1865. He was educated at the High School and the University of Glasgow, graduating M.B., C.M. in 1889. After two voyages as ship surgeon he joined the staff of the City of Glasgow Fever Hospital, Belvidere, under Dr. James W. Allan. Early in his career he began to evince special interest in mental diseases, and was assistant medical officer and pathologist to the County Asylum, Lancaster. After a few years he was appointed assistant medical officer at the Glasgow Royal Asylum, Gartnavel. From 1897 till 1901 he was senior assistant at the Glasgow

District Asylum, Gartloch, becoming medical superintendent there when Dr. Oswald was appointed medical superintendent of Gartnavel. This position Dr. Parker held with great honour and distinction till his death. Under his direction at Gartloch many notable extensions and improvements were made, including the increase of bedding accommodation from 540 to 810, and the introduction of a modern sanatorium to accommodate 60 patients.

Dr. Parker was one of the first to advocate the open-air treatment of acute mental cases in bed, and the spacious verandahs he introduced at Gartloch early in 1903 were the first of the kind to be used in Scotland, and were amongst the forerunners of the modern verandahs to be found in practically all asylums in this country to-day. He was especially interested in research work, and the extensions of the pathological laboratory and the establishment of well equipped electrical and haematological rooms were evidences of his energy in this direction. When the Scottish Western Asylums Research Institute was founded in 1909, he was appointed the first honorary secretary and treasurer, offices he held for several years. It was his intention that further large extensions at Gartloch should be carried out, and plans had actually been prepared, but progress in this direction was interrupted by the war.

He endeared himself to his patients and staff alike and, in fact, to all with whom he came in contact, by his gentleness of manner and his kindly sympathy and encouragement at all times.

He married, in 1909, a sister of Dr. Charles James Lewis, associate professor of public health in the University of Birmingham, and his home life was particularly happy. For the past two years he had been in failing health, and he died on December 24th, 1924. His remains were followed to the grave in the Glasgow Necropolis by a large gathering of relatives and friends, representative of the public life of Glasgow, the medical profession, and his staff, past and present. He is survived by his widow and four young children, to whom, along with his sister and two brothers (one of whom is Professor Matthew Parker of the University of Winnipeg, Canada), the deepest sympathy is expressed in their great loss.

Dr. FREDERICK BURROUGHS JETTERISS, who died on December 20th, 1924, received his medical education at King's College, London. He obtained the diplomas M.R.C.S.Eng., L.R.C.P.Lond. in 1900, and the F.R.C.S. Edin. in 1905. He was for many years medical officer and public vaccinator of the East Chatham division of the Medway Union, and his other appointments included house-physician to King's College Hospital and surgeon to St. Bartholomew's Hospital, Rochester. He took an active interest in ambulance training, and was honorary surgeon and examiner to the St. John Ambulance Association and lecturer on ambulance to the South-Eastern and Chatham Railway; he was lately made an Associate of the Order of St. John of Jerusalem. He served for twelve years in the R.A.M.C.(T.), being attached to the 5th battalion of the Royal West Kent Regiment, with which he served in India from the beginning of the war, and later on in Mesopotamia, reaching the rank of lieutenant-colonel.

Dr. JOHN REGINALD LAMBERT, who died on December 26th, 1924, at the age of 50, was educated at Bradford Grammar School and Leeds University. In 1897 he graduated M.B., Ch.B.Vict., and received the diplomas L.R.C.P. and S.Ed. and L.R.F.P.S.Glasg. He then joined his father, Dr. F. Lambert of Farsley, on whose death he took sole charge of the practice. He was appointed medical officer of health for Farsley, and was medical officer for Farsley district and public vaccinator of Calverley with Farsley N. Bierley Union. He took an active interest in sport, was president of the Farsley Cycling Club, vice-president of the Farsley Cricket Club, and vice-president of the Farsley Celtic Association Football Club since its start. Dr. Lambert is survived by his widow and eight children. He was a member of the British Medical Association. His general popularity was very great, and his funeral was attended by 900 people.

Dr. LÉON CREINISSE, a well known writer on the staff of the *Presse Médicale*, and formerly attached to the now defunct *Semaine Médicale*, was recently killed by a taxicab in Paris.

## Universities and Colleges.

### UNIVERSITY OF LONDON.

At the meeting of the Senate on December 17th, 1924, it was decided that the Department of Bacteriology and Public Health at King's College should be closed at the end of the session 1924-25.

It was resolved to amend Regulation 4, Part B (ii), for the Diploma in Psychological Medicine, to read as follows:

(iii) Psychological Medicine. (Two papers and a clinical and an oral examination.) In order that candidates may have the option of showing either (a) a higher knowledge of mental diseases and a less advanced knowledge of mental deficiency, or (b) a higher knowledge of mental deficiency and a less advanced knowledge of mental diseases, paper I will be a general paper to test the candidate's knowledge of both mental diseases and mental deficiency, and part II will be special, and will consist of two separate alternative sections, the first relating to mental diseases, and the second section to mental deficiency. Candidates will be permitted to take only one of the two sections of paper II at one and the same examination, and each candidate must state at the time of entry which of the two sections he will take.

Other amendments and additions to the regulations for the Diploma in Psychological Medicine were also adopted.

Sir H. J. Waring, M.S., F.R.C.S., was nominated for appointment to represent the University on the Westminster Hospital Medical School Committee.

Dr. Herbert G. G. Cook has been reappointed the Vice-Chancellor's representative on the Court of Governors of the University College of South Wales and Monmouthshire.

A lecture on the relation of paralysis agitans to the Parkinsonian syndrome of epidemic encephalitis will be given at the house of the Royal Society of Medicine, 1, Wimpole Street, W.1, by Dr. H. Cruchet, professor of pathology and general therapeutics in the University of Bordeaux, on Wednesday, February 25th, at 5 p.m.; Sir Humphry will take the chair.

Professor B. will give a course of four lectures on puerperal sepsis, at St. Thomas's Hospital Medical School, on March 2nd, 3rd, 4th, and 5th at 5 p.m.

A course of four lectures on some practical considerations and experiences in the conservative treatment of fractures of the pelvis and the lower extremity will begin at St. Bartholomew's Hospital Medical School by Sir William Wheeler, past president of the Royal College of Surgeons in Ireland, on February 16th, 17th, 18th, and 19th, at 5 p.m. The chair will be taken at the first lecture by Mr. Walter G. Spencer, M.S., F.R.C.S. Admission to these lectures will be free without ticket.

## The Services.

### PASSAGES TO INDIA.

MAJOR M. PURVIS (Helenburgh, Dumfriesshire) writes: After reading your remarks, in a recent number of the JOURNAL, as to the benefits resulting to the Indian Medical Service from the acceptance by H.M. Government of certain recommendations of the Lee Commission, I applied to the India Office for passage at the public expense on my return to India from leave in March. In reply I have been informed that "the provisions of the Superior Civil Services (Revision of Pay and Pension) Rules, 1924, apply, so far as officers of the Indian Medical Service are concerned, only to those who are in permanent civil employ." It would appear, therefore, that those who, like myself, are serving on the military side of the Indian Medical Service do not reap any advantages from the recommendations of the Commission. My object in writing is to make this point clear, so that other officers of the I.M.S. on the military side may not suffer from a misapprehension.

### DEATHS IN THE SERVICES.

Surgeon Commander William Ernest Marshall, R.N.(ret.), died very suddenly at Treniole, Launceston, on December 24th, 1921, of heart failure, aged 58. He was born at Portsmouth in 1865, educated at University College, London, and after taking the surgeon of the Royal Portsmouth Hospital. He entered the navy abroad in November, 1891, and after ten years' sea service Haulbowline, and promoted to staff surgeon in the following year. From 1904 to 1906 he served in H.M.S. *Bulford*, and after she was Hospital. He was promoted to fleet surgeon on November 11th, 1907, and served successively in H.M.S. *Andromeda*, *Achilles*, and *Edinburgh*; he was in her at Malta in August, 1914, when the war began, and took part in the pursuits of the *Geben* and *Breslau*. After a short spell on convoy duty in the Indian Ocean and Red Sea, during which a Turkish fort was bombarded and destroyed opposite Perim, the *Duke of Edinburgh* was sent to Scapa Flow subject of this notice was invalided for heart disease, and since then had lived near Launceston. He was twice married, and leaves a widow, and also two children by his first wife.

## Medical News.

LETHARGIC ENCEPHALITIS was unusually prevalent in 1924 in Great Britain and Ireland, though, apart from Italy and Sweden, where smaller outbreaks have occurred, it was not observed so frequently on the European continent as during previous years. It reached a maximum in the middle of May, in England, and early in June in Scotland; in 1923 the greatest number of cases were notified in March, and in 1921 in February. The decline of the epidemic was slow, and the number of notifications became stabilized in September and October at a very much higher level than in previous years. The type of disease differed from that of earlier outbreaks in that the case fatality rarely exceeded 20 per cent., whereas formerly it had been 50 per cent. The onset often resembled influenza, and abortive attacks were frequent. The usual oculio-lethargic type was less common than during earlier epidemics, and many cases were characterized by myoclonic symptoms.

THE Imperial Bureau of Entomology has issued an index (price 9s. net) to Volumes I to X (1913 to 1922) of the *Review of Applied Entomology*, Series B: Medical and Veterinary. This index will greatly increase the value of the *Review* as a work of reference, and will also tend to simplify difficulties in nomenclature, which have resulted from many insects having been recorded under different names in different volumes. Arthropod names only are included, and for such entries as diseases and blood parasites, their vertebrate hosts, and their geographical distribution, reference must still be made to the annual index published with each volume. The general arrangement of this combined index is the same as that of the annual indexes, except that in the case of authors reference is restricted to those whose papers have been actually abstracted in the *Review*.

POST-GRADUATE courses on diseases of the nervous system will begin next month at the National Hospital for the Paralysed and Epileptic. There will be a general course beginning on February 2nd, consisting of clinical lectures and demonstrations, teaching in the out-patient department, and pathological lectures and demonstrations. The fee for this course will be five guineas. If sufficient applications are received a course of lectures on the anatomy and physiology of the nervous system will be arranged (fee, two guineas). A course of clinical demonstrations, chiefly on methods of examination of the nervous system, will also be given (fee, two guineas). A course of ten lectures and six demonstrations on neurological ophthalmology has also been arranged (fee, five guineas, or if taken with the general course, three guineas). The number of students in this class will be limited, and early application should be made to the Secretary of the Medical School (Queen Square, London, W.C.1.). A limited number of students can be enrolled as ward clerks or clinical assistants in the out-patient department.

THE Fellowship of Medicine announces that the London Temperance Hospital, in conjunction with Bethlem Royal Hospital, the Central London Throat, Nose, and Ear, the Royal Eye, St. Peter's, and the West End Hospital for Nervous Diseases, will hold a post-graduate course in general medicine, surgery, and the special departments from January 12th to 24th. A four weeks' course in urology will be held at St. Peter's Hospital from January 12th to February 7th. The following courses will be held in February: A fortnight's intensive course at the Prince of Wales's General Hospital, Tottenham; a combined course in children's diseases at the Paddington Green Hospital, Victoria Hospital for Children, and the Children's Clinic; a dermatological course at the St. John's Hospital; a gynaecological course at the Chelsea Hospital for Women; a course in tropical medicine at the London School of Hygiene and Tropical Medicine; and in venereal disease at the London Lock Hospital (Dean Street). Copies of the syllabus of each course may be obtained from the Secretary to the Fellowship of Medicine, 1, Wimpole Street, W.1.

SERIOUS losses in apples shipped from Australia and Tasmania in 1922 were incurred owing to many of them becoming affected with "brown heart," a functional disease which it has been ascertained is due to want of ventilation, or, as the Agent-General for Tasmania, the Hon. A. H. Ashbolt, put it, to "suffocation" (see BRITISH MEDICAL JOURNAL, August 25th, 1923, p. 335). The assistance of the Food Investigation Board of the Department of Scientific and Industrial Research was enlisted, and that Board has now issued through the Stationery Office (price 9d. net) a report (No. 20) giving a general survey and summary of the results obtained by a scientific expedition to Australia in 1923. The evidence obtained by the expedition, together with that

already published, indicates that "brown heart" is developed on shipboard, that the conditions which give rise to it are those accompanying insufficient ventilation of the hold, and that they can be guarded against and all danger of the occurrence of the disease eliminated.

THE KING has appointed Sir William Fairbank, K.C.V.O., O.B.E., to be Honorary Surgeon-Apothecary to the household at Windsor Castle.

At a meeting of the Medico-Legal Society at 11, Chandos Street, Cavendish Square, W., on Tuesday, January 20th, at 8.30 p.m., Mr. F. Llewellyn Jones, coroner for Flintshire, will read a paper on the laws of nations and the health of nations.

ON the report of the examiners (Sir William Willcox, Dr. Alfred Pincey, and Dr. Knyvett Gordon) the directors of Virol, Ltd., have awarded the company's research scholarship to Mr. R. A. Hickling, B.A. Cantab., M.R.C.S., L.R.C.P., demonstrator of pathology at Charing Cross Hospital. The scholarship is of the value of £200 for one year.

A MEETING of the Guild of Public Pharmacists will be held at St. Bartholomew's Hospital on Thursday, January 15th, when a lecture will be given on the influence of suggestion in social life, by Sir Robert Armstrong-Jones, C.B.E., M.D. Lord Stanmore (Treasurer of the Hospital) will take the chair at 8 p.m. The pharmaceutical departments will be open to visitors from 7 o'clock.

THE New York State Department of Labour last summer began the publication of a monthly *Industrial Hygiene Bulletin*, giving in popular language information with regard to industrial diseases and risks. The issue for December last contains a note on the danger of poisoning by tetraethyl lead, a substance which, it has been suggested, might be used to improve the efficiency of gasoline motors. It can only be used with safety in motors when extremely diluted, usually 1 to 1,000.

THE permanent committee of the International Congress for Industrial Accidents and Professional Diseases, which has not held a session since 1912, was reconstituted at a meeting in Amsterdam on December 21st, 1924. Sir Thomas Oliver (England) and Dr. Kaufmann (Switzerland) were elected honorary presidents. The next congress will be held in Amsterdam on September 7th, 1925. An English committee is being formed under the presidency of Sir Thomas Oliver. Further particulars can be obtained from the honorary secretary of this committee, Dr. H. S. N. Menko, 2, Grosvenor Gardens, Cricklewood, N.W.2.

THE late Dr. T. Sydney Short of Birmingham left estate of the gross value of £45,861, with net personality £42,691.

THE eighteenth French Medical Congress will be held at Nancy from July 16th to 19th, 1925. Professor Simon of Nancy is the president, and Professor Dr. G. Etienne of Nancy the general secretary. The three principal subjects for discussion are: aortic pectoris, introduced by Dr. Gallavardin and Professor Richou; acidosis, introduced by Professor Labbe, Dr. Nepveux, Professor Petren of Sweden, and Dr. Dantrebant of Brussels; and pulmonary gangrene, introduced by Professors Bezançon, de Jong, Parisot, and Caassade. In connexion with this congress arrangements are being made to visit Metz, the Graud-Courroue, and other places of interest in the neighbourhood. Inquiries should be addressed to the secretary, 32, Faubourg Saint-Jean, Nancy.

A CONFERENCE on congenital syphilis organized by the French National League for Combating the Venereal Peril will be held in Paris, under the presidency of Professor Jeanselme, at the beginning of October, 1925, immediately after the congress of French-speaking gynaecologists and obstetricians.

APART from numerous local journals in all the university centres, there are thirty-five medical journals in existence in Russia, almost all of which are published at Leningrad or Moscow.

THE Department of Biology, Georgetown University, Washington, D.C., announces that the commission for the distribution of the prize for cancer study founded by Dr. Sofia A. Nordhoff-Juag will in future be awarded every two years, and its amount will be 1,000 dollars. The next award will be made in 1926.

THE Scientific Press, Ltd., announces that the 1925 edition of *Burdett's Hospitals and Charities*, the Year Book of Philanthropy and the Hospital Annual, will be published this month. It provides an exhaustive record of charitable work during the past year, and is a reliable guide to British and Colonial hospitals and kindred institutions.

DR. MERCIER of Tours has been nominated professor of clinical medicine in the medical school there.

DR. MANUEL SÉRÉS, professor of descriptive anatomy, has been appointed dean of the medical faculty of Barcelona.



## Letters, Notes, and Answers.

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the *BRITISH MEDICAL JOURNAL* alone unless the contrary be stated. Authors desiring reprints of their articles published in the *BRITISH MEDICAL JOURNAL* are requested to communicate with the Financial Secretary and Business Manager, 429, Strand, W.C.2, on receipt of proof.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—not necessarily for publication.

ALL communications with reference to advertisements as well as orders for copies of the *JOURNAL* should be addressed to the Financial Secretary and Business Manager, 429, Strand, London, W.C.2. Attention to this request will avoid delay. Communications with reference to editorial business should be addressed to the Editor, *BRITISH MEDICAL JOURNAL*, 429, Strand, W.C.2.

Communications intended for the current issue should be posted so as to arrive by the first post on Monday or at latest be received not later than Tuesday morning.

The telephone number of the *BRITISH MEDICAL ASSOCIATION* and *BRITISH MEDICAL JOURNAL* is Gerrard 2630 (Internal Exchange). This telegraphic addresses are:

EDITOR of the *BRITISH MEDICAL JOURNAL*, *Litology Westrand*, London.

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate Westrand*, London.

MEDICAL SECRETARY, *Mediscera Westrand*, London.

The address of the Irish Office of the *British Medical Association* is 16, South Frederick Street, Dublin (telegrams: *Bacillus*, Dublin; telephone: 4737 Dublin), and of the Scottish Office, 6, Rutland Square, Edinburgh (telegrams: *Associate*, Edinburgh; telephone: 4361 Central).

### QUERIES AND ANSWERS.

"B." asks for advice in the prevention of chilblains and in the treatment of those threatening to suppurate. The usual remedies, including calomel and parathyroid, have been tried.

"B. A." asks for advice in the treatment of a man aged 40 with dermatitis exfoliativa. He has been in hospital for six months and is not cured.

#### MOSQUITO BITE.

DR. E. B. FENNELL (Hayle, Cornwall) asks for a remedy to apply at once to a mosquito bite. A member of his family was bitten and the bite was followed instantly by swelling and intense itching, and, within twenty-four hours, by alarming attacks of faintness, vomiting, and profuse perspiration.

#### WHOLEMEAL BREAD.

DR. C. E. SHELLY of Hertford has been good enough to reply as follows to an inquiry was recently transmitted to him: "Wholemeal flour and bread can be obtained from any reputable baker. It contains all the components of the wheaten grain—bran, germ, endosperm—chiefly starch—and (unless the flour has been bleached) the vitamins. But it is not well tolerated by most people: the irritating bran is apt to cause flatulences and an irregular diarrhoea; it soon palls upon the taste; it makes but poor and unattractive pastry, and it does not keep well. Wholemeal flour from which the bran only has been removed is free from these objections. It is usefully distinguished as "stone-milled flour," and the bread and pastry made from it are attractive, nutritious, and digestible. Such flour and bread can be obtained from Messrs. J. and B. Stevenson, Ltd., Battersea Bakeries, Battersea, S.W.11. Other addresses in London and its neighbourhood have been given in the *Times* from time to time during the last few months. Local bakers can generally be induced to obtain this flour and to make bread from it.

### LETTERS, NOTES, ETC.

#### SEA-SICKNESS.

In connexion with Mr. Vincent Moxey and Mr. Bertwistle's notes in our issues of December 6th, 1924 (p. 1040), and December 13th (p. 1144) respectively, on the treatment of sea-sickness, Dr. P. F. Sturridge (Sutton Benger) recalls that there have been previous account in our issue of January 3rd, 1920 (p. 23), of the investigation recommended the use of atropine in combination with adrenaline. Dr. G. W. Maw also reported in favour of atropine that it was useless when sickness had once started. Dr. Sturridge relates that he tried atropine early in 1920 during a voyage from Avonmouth to Jamaica which began with a storm. He and his wife received hypodermic injections of gr. 1/60 before leaving port, and repeated the dose in the evening. Although

the sea was very rough and the steamer small, neither of them missed a meal during the whole voyage of fourteen days. Two delicate young girls were very ill with sea-sickness and could not leave their cabins; on Dr. Sturridge's advice the ship surgeon prescribed atropine tablets; as a result both patients were immediately cured of sea-sickness and came on deck. Two years ago Dr. Sturridge gave atropine tablets to his brother, who was about to start on a similar voyage with a delicate wife and daughter; none of them were sea-sick throughout. He has advised other travellers to ask to be treated in this way, and has heard of good results.

\* \* A combination of atropine and strychnine has been recommended by other investigators, and hyoscyne has also given good results. Both these remedies can be administered in the form of small pills. A dose suggested is atropine gr. 1/100, strychnine gr. 1/60. One of these pills is swallowed one to two hours before the boat leaves port, and another is allowed to dissolve slowly in the mouth if any gastric uneasiness is experienced or the motion of the ship becomes unpleasant. In this way complete freedom from nausea and sickness has been obtained, although headache may occur. For short journeys, such as the Channel crossing, this method has the additional advantage in that it does not interfere with the appetite, and also that the benefit persists for some hours during such a train journey as that across France. These pills have been used with success in cases of train sickness also.

#### REMEDIAL EXERCISES FOR RECTAL AND UTERINE PROLAPSE.

DR. C. WESTMAN (London) writes: In the *JOURNAL* of December 6th, 1924 (p. 1041) Dr. T. Stacey Wilson drew attention to the benefit of exercises for the pelvic floor muscles in cases of prolapse of rectum and uterus. Dr. A. Hurst, who is never likely to pass by any therapeutic means of value, has already had fifteen years' experience of them. This fact speaks for itself, and it is to be regretted that the method is not more generally known. Dr. Hurst further observes that "it is a curious fact that those who are specially interested in remedial exercises entirely ignore the extremely important muscles which form the pelvic floor." I am sure Dr. Hurst will be glad to know that this statement is not entirely according to fact, because pelvic floor exercises have been known and practised, at least by Swedish experts in remedial exercises, for many, many years. Our difficulty, however, has been lack of sufficient opportunity of showing the great benefit from such measures. In certain cases of prolapse speedier results are obtained from a combination of remedial exercises with rectal faradization. I think the electro-stimulation has a particular value in severe cases where loss of sensation to muscular contraction is marked. The rhythmic contractions set up by the faradic current prepare, as it were, the patient for his own muscular efforts. These should, of course, never be left out, and certain remedial exercises can with great advantage be practised at home.

#### HERPES AND VARICELLA.

DR. JOHN PORTELLI (Province Wellesley, Straits Settlements) writes: On October 29th last I received a telephonic message from a rubber plantation asking me to visit a case of suspected small-pox in an Indian coolie. The case turned out to be one of chicken-pox, the diagnosis being based on the following points: great inequality in stage of development of the rash in various parts (the rash affected the forehead, the face, and the anterior aspect of the thorax); the lack of constitutional disturbance and of any history of it (the rash had appeared two days previously); the patient had been successfully vaccinated seven months previously. I was unable to trace the origin of the infection. The patient occupied a room with two other coolies. As a precaution against further spread of the infection amongst the labour force of the estate these two men were segregated. On inspecting them I found that one of them had recently had a patch of herpes in relation to the sixth left intercostal space, and extending from the mammary to the anterior axillary line. He stated that the "tiny blisters" had appeared about three weeks before and dried up about ten days afterwards. He had no eruption anywhere else and no general disturbance beyond the pain of the herpes. The treatment consisted of local soothing remedies. Four other cases of chicken-pox have since occurred on the estate. Careful investigation has failed to reveal the source of origin of this limited outbreak. There seems to be a close relation between the first case of chicken-pox and the case of herpes.

THE Hillman Motor Car Company, Ltd. (Coventry), announces that the prices of Hillman cars for 1925 have been reduced as from January 1st as follows: 11-h.p. chassis, £240; 11-h.p. 2-3 seater, £320; 11-h.p. 4-5 seater, £335.

#### VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments in hospitals, will be found at pages 38, 39, 41, 42, and 43 of our advertisement columns, and advertisements as to partnerships, assistantships, and locum tenencies at pages 40 and 41.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 27.

## An Address

ON

THE INFLUENCE OF CHEMICAL RESEARCH ON  
MEDICINE AND FORENSIC MEDICINE.DELIVERED TO THE JOINT MEETING OF THE MANCHESTER SCIENTIFIC  
SOCIETIES, NOVEMBER 7TH, 1924,

BY

SIR WILLIAM WILLCOX, K.C.I.E., C.B., C.M.G., M.D.,  
F.R.C.P., F.I.C., B.Sc.

CHEMISTRY at the present day may rightly be described as an exact science. It is only during the last hundred and fifty years that it has become so, and it is well to remember what a debt chemistry owes to physics for its present prominent position amongst the exact sciences.

The discovery and perfection of instruments adapted for accurate quantitative measurements, the discovery of those important physical laws with which are associated the honoured names of Boyle, Marriotte, Gay-Lussac, Dalton, Charles, Berzelius, and Avogadro, formed the basis of the development of chemistry as an exact science. With such a sure foundation the progress of chemistry became stable and assured, and in later years it may be said to have advanced by leaps and bounds.

Medicine has been closely linked with chemistry from the earliest times, and each in the earlier times of its development has owed much to the other. During recent years medicine has gained enormously from chemical research, and chemistry may be truly said to be the main foundation of modern medicine.

Medicine at the present time may be described as an "applied science." Many of its problems have been too difficult for solution beyond possibility of dispute, and theories and speculation still occupy a prominent position in the medicine of to-day. Thanks to the researches in chemistry and the ancillary sciences, many of the problems in medicine are being elucidated, so that as time advances theories and speculations are being gradually displaced by deductions based on exact scientific observations.

It is doubtful, however, if medicine can ever possibly become a science characterized by such exactitude as obtains in chemistry; too many complicated factors play a part in the processes of physiology and disease to render this attainable. Yet it is quite certain that the application of exact chemical methods in the solution of problems pertaining to medicine and physiology has done more than anything else to clear away error and to lead to the proper understanding of the difficulties with which they are confronted.

## HISTORY OF CHEMISTRY.

The development of chemistry may be divided into the following periods:

*The Alchemical Period (1500 B.C. to 1650 A.D.).*

It was during this period that scientific workers attempted the transmutation of metals, and the conversion of the baser metals, into gold. Some were working in a true scientific spirit, but it is to be feared that in many the hope of gain dominated their efforts. It must not be forgotten that it was in this period that the ancient Indian and Greek natural philosophers conceived the idea of atoms, and their conception was later on elaborated and formed the basis of the atomic theory enunciated by Dalton, which has played such a great part in the development of modern chemistry. During this period chemistry appears to have had little relationship with therapeutic medicine, but its association with toxicology was very close.

*Early History of Toxicology.*

Poisoning and antidotes for poisoning appear to have exerted a great fascination on the human race from the earliest times. The earliest writings contain accounts of poisons and their effects and possible antidotes. Xenophon (410 B.C.) relates that the use of poisons was so frequent amongst the Medes that it was an ancient custom for the cup-bearers to taste the wine before presenting it to the King. Criminal poisoning is referred to in Roman history in 331 B.C., when twenty matrons were surprised in the act of preparing a poison, which they were compelled by the magistrates to drink and from which they perished. Roman

law (82 B.C.) contains a legislative enactment dealing with the crime of poisoning, and a later enactment dealt with the use of poisons to procure abortion.

In the first century B.C., Mithridates, King of Pontus, was so interested in poisons that he personally conducted toxicological experiments on condemned criminals and others. He wrote a book on the subject and invented a universal antidote for poisons which Celsus describes as containing thirty-six ingredients. It is recorded that when Mithridates wished to commit suicide his constitution had been so long inured to antidotes that poison had no effect on him; he was therefore compelled to ask a mercenary to dispatch him with his sword.

With the Renaissance in Italy poisoning became a fine art. Political murder by poison was in those days considered to be quite legitimate in Italy, as is evidenced by the secret archives of the Council of Ten at Venice (1400 to 1500 A.D.). It was in this period that Pope Alexander VI and his son Caesar Borgia committed numerous murders by poison, and Pope Alexander VI himself fell a victim to poison in 1503, his butler giving him the poisoned wine intended for one of his victims.

Poisoning in England was not unknown at this period, and in 1531 a statute of Henry VIII ordered poisoners to be boiled to death. Down to the nineteenth century criminal poisoning was very common, and probably preparations of arsenic and corrosive sublimate were most commonly used. The methods of diagnosis of poisoning depended mainly on the supposed circumstances attending the administration. The *post-mortem* appearances in cases of poisoning appear to have been little understood, and importance was attached to signs such as lividity, discoloration of viscera, etc., which we now know to be merely ordinary natural *post-mortem* changes, and not in any way characteristic of death by poison.

Toxicology did not really make any great advance until the development of modern chemistry and the application of accurate analytical methods. It has been truly said that the only certain sign of poisoning is the identification and estimation by analysis of the poison in the body.

*The Iatro-Chemical Period (1500 to 1700 A.D.).*

In this period chemical investigations were closely associated with medicine, for the advance of which they were directed. Efforts were vainly made for the cure of all ills—the "elixir vitae." During this period phosphorus was discovered and improvements in many technical processes, such as the making and staining of glass and earthenware, were worked out. This period is of value to medicine in the discovery of sodium sulphate by Glauber, who extolled the virtues of his salt:

*The Phlogiston Period (1650 to 1775 A.D.).*

This period marked the efforts of scientific workers in endeavouring to explain the changes occurring in combustion and chemical combination. Their work, though much of it was unfruitful, paved the way for, and was the precursor of, the next period—"the quantitative period"—in which the foundation of modern chemistry was well and truly laid.

*The Quantitative Period (1775 A.D. to the present time).*

This period marks the development and growth of modern chemistry. Oxygen was discovered by Priestley in 1774, and independently by Scheele in 1777. Hydrogen was discovered by Cavendish in 1766, and in his experiments on air he found that 1/120 part resisted change, thus foreshadowing the discovery of argon by Lord Rayleigh and Sir William Ramsay in 1894. Scheele discovered chlorine in 1774, but thought it was a compound. Gay-Lussac in 1809, and Davy in 1810, demonstrated the elementary nature of chlorine. Scheele discovered arseniuretted hydrogen in 1775 and hydrocyanic acid in 1783.

It is unnecessary to pursue further the numerous discoveries made in the early part of this period by men whose names are household words in the history of chemistry. It is interesting to note that these early workers made use of physiological experiments on animals in their researches. The discovery of the important elements and their compounds, the conception of the periodic law by Mendeleef in 1869, all led the way to further research and pointed the way to further discoveries. Urea was found in the urine in 1773 and was synthesized from ammonium cyanate by Wohler in 1828.

The foundations of toxicological analysis were laid by early work of this period. Thus the Marsh test for arsenic was discovered in 1836, and further perfected by Berzelius. In 1839 Orfila showed that in fatal cases of arsenical poisoning arsenic could be detected in the liver, spleen, heart, and muscles, and showed that analysis should be made not only of the alimentary tract but of other organs of the body. The importance of the absorption of poisons and the realization that it is the absorbed poison which causes death in most instances were thereby appreciated. In 1844 Fresenius and von Babo devised a method for the systematic research of all mineral poisons and for the destruction of the organic matter of the viscera as a preliminary to the analysis. This method of analysis is in common use to-day. In 1850 Stas discovered a process by which alkaloidal poisons could be extracted from

viscera, and this process in a modified form is the one in common use to-day in the toxicological analysis of viscera in cases of poisoning by alkaloids.

#### DEVELOPMENT OF CHEMISTRY.

Liebig (1803-1873) may be regarded as the founder of organic chemistry. He elaborated the methods of ultimate organic analysis by combustion, and he applied his knowledge to the development of physiology and agricultural chemistry. Liebig's work was the foundation of the chemistry of the proteins and metabolism.

Pasteur was a chemist who had perhaps the greatest outlook on science of anyone in history. He is indeed claimed as the founder of modern medicine, though he had no official medical qualification. In his early work much attention was devoted to crystallography, and his brilliant researches into the constitution of tartaric acid led to the discovery that the racemic variety consisted of a mixture of the dextro- and laevo-rotatory acids. This work led to the discovery of stereo-isomerism, and its application by later workers to innumerable other substances now known to exist in stereo-isomeric forms. Professor Frankland describes Pasteur as the founder of stereo-chemistry, one of the most wonderful developments of modern chemistry.

Pasteur, when appointed to a professorship in Paris, was asked to give his attention to the processes of fermentation, so important in the national industries. By his study of fermentation he was led on from discoveries in this sphere to the study and foundation of modern bacteriology. He demonstrated conclusively the germ theory, and showed in a famous lecture at the Sorbonne in 1864 that the theory of "abiogenesis" or spontaneous generation, advanced by Dr. Bastian in this country, was untenable. He demonstrated that the growth of organisms in sterile culture media only occurred after these had been inoculated with living organisms. The truth of *Omne vivum ex vivo* was demonstrated conclusively by his experiments, and this work was fully confirmed by Tyndall in England.

This work of Pasteur led to the study of wound infection by Lord Lister, and the birth of antiseptic and later aseptic surgery resulted. The human race owes an ineffable debt of gratitude to Pasteur and Lister for their researches, whereby wounds and surgical operations were delivered of the dread of infection by the organisms causing pyaemia, septicaemia, erysipelas, hospital gangrene, tetanus, etc. Countless lives have been saved by their careful work and its application by those who have followed them.

Pasteur's work is a splendid example of the great discoveries which may follow when the trained scientific worker applies himself heart and soul to the elucidation of problems in applied chemistry. Pasteur might not have been led on to the discovery of the germ theory and bacteriology had he not in the first place set himself to solve the various problems in applied chemistry which were so essential for the progress of the national industries of his country. His work on fermentation was followed by masterly studies in silkworm disease, anthrax, the *Vibrio septique*, and chicken cholera.

Pasteur went on from the determination of the cause of disease to discover methods of immunity, and in 1881 gave a successful public demonstration in France of the practical value of his immunizing methods in that deadly disease anthrax. Twenty-five sheep were previously protected by the injection of attenuated anthrax cultures. On a certain day these twenty-five protected sheep and twenty-five unprotected sheep were all injected with living anthrax bacilli. The immunized animals were unaffected, but the unprotected sheep all developed anthrax and died within a few days.

Pasteur's knowledge of immunity was so great that he discovered the means of immunizing persons already infected with rabies by the injection of emulsions of the attenuated spinal cord of infected animals. This method is still in use in all parts of the world at the present day, and the discovery is all the more remarkable when it is remembered that the organism causing rabies has not even yet been isolated.

Emil Fischer was a chemist to whom modern medicine and physiology owe an enormous debt of gratitude. His work on the proteins led to an understanding of the constitution of the protein molecule and the methods by which the metabolic processes in the body bring about its synthesis. His discovery of phenylhydrazine, which has been termed the "pathfinder of carbohydrate chemistry," led him on to the discovery of the constitution of the sugars, and formed the foundation of a more precise knowledge of carbohydrate metabolism and diabetes. He discovered veronal and a host of new drugs, whereby pharmacology was greatly advanced.

Paul Ehrlich, by his chemical studies and their application to medicine, has been one of the greatest benefactors of modern times. His experiments on dyes and tissue staining led to the discovery of the triacid stain, whereby histology was greatly advanced. He discovered the fuchsin stain for tubercle bacilli in 1882, and the sulpho-diazobenzol test for bilirubin in 1885. Perhaps Ehrlich's greatest work was his conception of the theory of immunity. This theory has been, and still is, the guide-post to numerous discoveries by other workers. Wassermann, the discoverer of the complement fixation test for syphilis and other diseases, stated that without Ehrlich's theory he could never have hit upon his special and reliable diagnostic test. This test is being applied with success in the diagnosis of other diseases such as tuberculosis, gonorrhoea, etc. Ehrlich's name will always be associated with the discovery of salvarsan and allied arsenbenzol derivatives which have been of incalculable value in the treatment of syphilis, relapsing fever, yaws, etc. Ehrlich, by his study of the blood corpuscles consequent on his perfection of staining methods, became the founder of haematology.

Modern medicine has become an applied science, and its advances are mainly due to the application of accurate scientific investigations; chemistry has been perhaps its greatest helper. Physiology, which is the basis of medicine, owes to chemical research its knowledge of the chemical processes going on in respiration and tissue nutrition. The chemistry of digestion, the processes whereby renal and skin excretions are effected, the processes of metabolism, all owe their elucidation to modern chemistry.

The phenomena of internal secretion are essentially chemical processes and offer a very wide and fertile field for further research. One of the most interesting discoveries of recent times was the isolation of the active principle of the internal secretion of the suprarenal gland. This substance, known as adrenaline, was first isolated in pure condition by Takamine. Its formula is  $C_9H_{13}NO_3$ ; it is 1-methyl-amino-ethanol-catechol. Its chemical and physical properties have been accurately determined, and its physiological action is quantitatively known. Adrenaline has been artificially synthesized, the synthetic product being known as suprarenin. The synthetic suprarenin is, however, less powerful in its physiological action than the natural adrenaline. Both possess the same chemical formula, but stereo-isomerically they differ, the synthetic product being the racemic modification of the natural laevo-rotatory compound. Recently a preparation of adrenaline has been synthesized which is laevo-rotatory and said to be of equal physiological value to the natural product.

This recalls Pasteur's early work and difficulties in connection with the tartaric acids. Stereo-isomerism appears to play a most important part in physiological action. The varieties of hyosine provide another striking example of this, the laevo variety being stated to be twice as active upon peripheral nerve endings as the inactive variety. The influence of stereo-isomerism on physiological action adds to the difficulties of the artificial synthesis of complicated compounds. Adrenaline is the only hormone that has been isolated in pure condition as a known chemical compound. What a wide field of research is still open to chemistry and biochemistry!

The vitamins, of which so much has been written the last few years, are known to play a most important part in nutrition. Their resistance to heat and methods of extraction are known, but none of them has yet been isolated, and their chemical constitution is unknown.

### MEDICINE'S DEBT TO CHEMICAL RESEARCH.

Only a few instances need be given of the recent developments in medicine which owe their discovery entirely to chemical research.

**Renal Disease.**—Chemical analyses of the urine have been of great value in determining the function of the kidneys in disease, but since the kidneys act by removing waste products from the blood it is obvious that the best criterion of renal function will be the estimation of the excretory products in the blood. During the last few years methods have been devised and perfected (Marshall, van Slyke, and others) whereby urea in the blood can be accurately estimated on 3 c.cm. of blood. The method depends on urease fermentation and estimation of the ammonia produced thereby. Similar microchemical processes have been devised whereby (1) the non-protein nitrogen in the blood can be determined (Kjeldahl's process on the filtrate after removal of protein); (2) estimation of creatinine in blood (picric acid colorimetric process); (3) estimation of uric acid in blood (a colorimetric process devised by Benedict, Folin, and Wu). These methods of blood analysis have added greatly to the knowledge of renal disease.

**Gastric Analyses after Test Meals.**—The application of chemical methods whereby the free and organically combined hydrochloric acid could be determined, and whereby organic acids could be estimated, have been of the utmost value in medical diagnosis. During the last few years fractional test meals have been used whereby titrations on very small quantities of gastric contents in the presence of colour indicators have been used for the determination of the hydrochloric acid present. The criticism of the fractional test meal method is that determinations based on titrations with colour indicators in the presence of organic acids are not always reliable.

**Jaundice and Liver Disease.**—Most valuable research on this subject has been recently carried out, and this has been based entirely upon Hijmaus van den Bergh's method of estimating the bilirubin in the serum from a small quantity of blood. The method is based on Ehrlich's discovery of the test for bilirubin.

### Insulin and Diabetes.

In 1922 Banting, Best, Macleod, and their co-workers succeeded in isolating insulin and obtaining a preparation suitable for clinical use, and in April, 1923, insulin, prepared under the supervision and authority of the Medical Research Council, was available for general use in this country. The discovery of insulin is a triumph achieved, after very many unsuccessful attempts, by able scientific workers to prepare the active principle of the internal secretion of the pancreas. Thus, in 1908, Zuelzer prepared from the pancreas an alcoholic extract which prevented the hyperglycaemia normally following an injection of adrenaline, and he used this preparation with some success on diabetic patients. His preparation was too toxic for repeated administration, owing probably to the presence of other substances with the active principle from the pancreas, and he failed to establish the therapeutic value of his preparation. The ultimate isolation of insulin by Banting and his co-workers is an excellent illustration of the value of careful and accurate scientific work along various lines in preparing the way for the reception of a great discovery. It is a good illustration of the value of what may be called "spade work" in scientific research.

During the last few years, owing to the advances made in physiology and chemical pathology, rapid and accurate clinical methods have been devised for the determination of sugar in the blood, for the estimation of acetone and diacetic acid in the blood and urine, and for the determination of the basal metabolism and respiratory quotient. The percentage of  $\text{CO}_2$  in the alveolar air can be clinically determined with facility, as also the carbon dioxide combining power of the blood. It is unnecessary for me to name the workers to whom we owe the perfection of these methods now in general use. It was by the application of these methods that the real efficacy of the insulin preparations was enabled to be at once tested, and their potency

proved beyond doubt. It will thus be seen that those workers to whom we owe the clinical biochemical methods enumerated above may claim an indirect share in the accomplishment of a great discovery. The successful preparation of insulin is of great value, not only in that a potent and efficient remedy has been discovered for a widespread and incurable disease, but it is also of value in illustrating the importance of patient scientific work along definite lines in paving the way for a new discovery. Just as a great victory in war is usually the culmination of steady and painstaking preparation with an object in view, so a great discovery in scientific research is not to be looked for by fortuitous investigations, but rather as the crowning point of steady and painstaking investigations along carefully thought out and definite lines.

### FORENSIC MEDICINE AND CHEMISTRY.

The perfection of methods of toxicological analysis, with which the name of Sir Thomas Stevenson must be associated, has greatly added to the advancement of toxicology. The application of newly discovered tests for alkaloidal and other poisons has been of great importance. (In the Palmer case (1855) the tests for strychnine were not known.)

In the toxicological detection of arsenic a very great advance followed the introduction of the electrolytic Marsh-Berzelius test. This has obviated the danger of error from chemical impurities in the reagents used, and has rendered possible the estimation of the arsenic in every organ of the body. The test was first applied for forensic purposes in the Seddon case (1911).

The method of determination of veronal and allied substances has been of great value in cases of narcotic poisoning of recent years.

In the analysis of blood stains the precipitin test, associated with the names of Uhlenhuth and Wassermann, has enabled the medico-legal expert to say not only that a stain is of blood, but the animal species of the blood can be in most cases accurately determined.

Toxicological analysis is usually complicated by the presence of organic decomposable matter, and requires experience and care in order that errors may be avoided. It is really a branch of applied chemistry.

### Forensic Evidence.

A very important function of the medical man and the chemist is the giving of evidence in courts of law, and also the assistance of commissions, departmental committees, and other public bodies who are conducting inquiries into subjects of chemical or medical nature. The inquiries may be of criminal or civil nature. Whichever it is, the function of the scientific witness is the same.

The giving of evidence by the scientific witness is one of the greatest privileges and honours which falls to his lot. It is important to realize that the true function of the expert witness is to assist the court of inquiry by his expert knowledge and experience. He should not be an *ex parte* witness and should be absolutely free from bias. This is supremely essential in criminal cases, but it is no less important that in civil cases the expert witness should be absolutely impartial.

The giving of scientific expert evidence is a responsibility not to be lightly undertaken. The statements of fact on which the inquiry is based should be very carefully considered and examined in a critical spirit. The scientific witness should refresh himself by the most careful study of the literature and scientific knowledge relating to the subject in question. If necessary he should conduct scientific experiments and investigations to elucidate any difficulties which may arise.

The expert witness should turn and turn over in his mind the subject on which he is asked to advise. He should unsparingly cross-examine himself on every aspect of the question. It is a great advantage that an expert witness should imagine himself to be in the position of judge or cross-examining counsel and try to regard the subject of inquiry from their point of view, as well as from the aspect of the counsel on whose side he is engaged. The success of an expert as a witness is much assisted by an appreciation of the psychological attitude of those who question him; this view of things will enable the scientific witness to anticipate the questions which are going to be put to him, and it will make him tolerant and charitable to the searching questions of the cross-examining counsel.

Before being called upon to give evidence the expert witness should express his opinion on the facts before him in a written report, and it is well that the reasons for the opinion should be concisely stated in the report. The opinions expressed in the report should be the unalterable views on which the expert has no doubt whatever. Any expressions of opinion on which there is any possibility of doubt should be omitted from the report.

In giving evidence the witness should remember that it is his duty to help the court by answering questions put to him in a clear, concise, fearless, and audible manner. In giving evidence in chief the answers should be brief and to the point. In cross-examination the answers should be as concise and clear as possible. Long explanations and evasions of a direct answer are likely to create a bad impression. A direct negative or affirmative should be given where possible; if this is not possible the reasons for the inability to give a direct answer should be clearly and courteously stated. Lengthy explanations and attempts to give lectures in the witness-box are apt to weaken the evidence and to raise points of which the cross-examining counsel will not fail to take advantage.

The duty of a witness, whether he is an expert or ordinary witness, is to answer questions put to him by those entitled to do so. He should avoid making any statements which are not answers to questions put. The expert witness should avoid giving any answers which are not absolutely free from ambiguity. Thus, for instance, if a question is a double or triple one, the witness should ask for the compound question to be suitably divided so that separate answers may be given to each. If statements from books or reports are put to him the expert witness will be wise to ask to see the work in question and to give his explanation of the bearing which any written statement has on the inquiry.

In conclusion, from a very lengthy experience as a forensic witness, I should like to express my very great appreciation of the courtesy and consideration which is invariably extended by members of the legal profession. It is the duty and privilege of the expert witness to assist justice by his experience and advice. It is his duty to ensure that his views are clearly put before the court and that not one jot or tittle should be withheld or left in doubt.

#### CONCLUSIONS.

The relationship between chemical research and medicine is so close that advances in each occur *pari passu*. With the development of bacteriology fifty years ago, and the impetus derived from its application to medicine, chemistry became somewhat overshadowed.

There have been clear signs of a great revival in the study of biochemistry during the last ten years, and at present medicine is looking towards chemistry and its applied branches for great and immediate advances.

Physical chemistry opens the gates to advances in an untrodden field of medicine and therapeutics. Already colloidal chemistry is supplying a host of new remedies possessing special attributes owing to their physical state.

In the solution by chemical methods of problems relating to disease or poisoning in the body, observations and analyses are often perforce conducted on very small quantities of material. It is for this reason that microchemical and colorimetric methods are frequently employed.

In chemistry as in medicine specialization of work has become necessary, since the fields of each are so vast. The interest taken by the various chemical societies in this country in biochemical problems, the rapid growth and influence of the Biochemical Society, and the attention given to biochemical problems by the various physiological and pathological societies, are all evidence of the intimate co-operation existing between chemistry and medicine.

Pure chemistry has as its religion absolute and scientific accuracy of work. It is necessary that this spirit of scientific accuracy should be the foundation of all those branches of chemistry applied to medicine. The close co-operation between pure chemistry and those branches applied to medical research is the best safeguard against any dangers from over-specialization. Biochemistry will be best advanced by the application of the principles of pure chemistry in its work.

It is to be hoped that biochemistry will more and more attract to its ranks men like Pasteur, who have ingrained in them the principles and methods of pure chemical science, and who will approach the biological problems in that spirit of critical judgement and of experimental investigation which is so essential for great work.

## CHRONIC PELVIC PAIN IN RELATION TO NEURASTHENIA.\*

BY

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CHRONIC pelvic pain in relation to neurasthenia is, I think, a subject of very great importance; this is due to the fact that large numbers of unnecessary operations have been and are being performed for this condition, owing to the operator not recognizing the general condition of the patient and ascribing all the various symptoms that she complains of to some little pelvic abnormality, which could not in any way, even with the most vivid imagination, be rightfully attributed as the cause of her general condition. In other words, operations are being performed from an entirely wrong diagnosis. These operations are not altogether devoid of danger, as the statistics show; they subject the patients to the risk of serious complications later on, and even at the very best they accentuate the patient's sufferings and often drive her to seek medical advice elsewhere.

Of course, when cases of chronic pelvic pain are associated with definite physical signs, such as in pyosalpinx, there is generally no trouble in associating the pain with the physical signs, but such cases only form a small percentage of our patients. The largest percentage of patients who come to us complaining of chronic pelvic pain have generally nothing abnormal in the pelvis at all, or perhaps some minor condition, such as a mobile backward displacement of the uterus, which is frequently wrongly regarded as a cause of the pain.

The subject of neurasthenia is only gradually coming to be understood. About twenty years ago the diagnosis of neurasthenia was generally considered as tantamount to no diagnosis at all. Probably the best article that has been written on this subject, and one of the earliest articles, was written by Herman. He differentiated between the two extreme types of neurasthenia and described them with great accuracy: one type might be called the maniacal type, and the other the melancholic type. I am going to deal with the former type, because it is invariably associated with chronic pelvic pain. I hope, however, to be able to deal with the melancholic type at a future date, and to show how the vast majority of cases of descent of the pelvic floor are associated with it.

There have been many previous ideas as to the causation of pelvic pain in the absence of definite abnormal physical signs. It used very commonly to be ascribed to ovarian neuralgia, to prolapse of the ovary, to supposed adhesions, to supposed appendicitis, to mobile displacements of the uterus, and to varicocele of the pampiniform plexus; but all of these ideas are gradually becoming recognized to be erroneous, and some of them, especially ovarian neuralgia, are seldom if ever mentioned at the present day.

The previous methods of treatment of this condition depended on whether the case came under the view of a physician or a surgeon. The physician treated such cases by poultices, plasters, opiates, sedatives, hot vaginal douching, vaginal tampons, and numerous pessaries, all of which only aggravated the general condition, and the patient often became so bad that she had to be subjected to what used to be known as the Weir Mitchell treatment. This, in many instances, only made the patient a chronic confirmed invalid, and aggravated the condition by giving her ample time for her uneasy mind to dwell upon her numerous aches and pains. When it became evident to the physician that her mind was dwelling too much on her aches and pains, he prescribed asafoetida and valerian, for the purpose of distracting her attention to the smell of the medicine. Even at the present day crowds of such patients can be seen at a certain fashionable watering place, drinking water saturated with sulphuretted hydrogen in the hope that it may alleviate or cure their troubles.

\* A paper read before the Edinburgh Obstetrical Society, Wednesday, December 10th, 1924.



If, however, the patient came under the care of a surgeon, he, not recognizing the neurasthenic condition, performed all sorts of operations, which also only aggravated her mental and nervous condition, and in not a few instances her days were ended in an asylum.

Perhaps some will remember how common the removal of the ovaries was twenty-five years ago for ovarian neuralgia, until Herman spoke most strongly against it, and from that time the operation gradually commenced to die out. I think we are all now agreed that the removal of the ovaries in those cases was most highly detrimental to the patient's welfare. I have seen numerous chronic invalids who have stated that since their ovaries were removed they have not had a single day's health. Only last week I saw such a case, who appeared to me to be on the verge of insanity—a truly pathetic picture.

Immediately following that there came a great boom in operations for appendicitis, and if any patient happened to have a pain in the region of the right iliac fossa the diagnosis of appendicitis was usually made, and in many instances as the operation was being performed the appendix was found perfectly healthy. Then came such operations as ventral and vaginal fixation, but, on account of complications arising in subsequent pregnancies, vaginal fixation was soon abandoned, and ventral fixation or hysteropexy was not looked on altogether with undiluted favour. Then came various forms of suspension, and the Alexander-Adams operation, Gilliam's operation, and the Baldy-Webster operation; but all of these operations are fast being consigned to obscurity. We all remember, some years ago, how frequently nephropexy was performed in women suffering from pain slightly to the right of the umbilicus, or pain in the back, with all the same concomitant symptoms, such as dragging of the leg, headaches, etc., as are associated with the cases that I am at present describing, and the general surgeon can be heartily congratulated on the fact of having realized that nephropexy not only did not benefit them, but actually made them much worse; consequently, so far as I know, this operation is now practically abandoned.

How frequently one comes across a patient, who has had one of these operations, and who says that she is worse than ever, that the operation had only aggravated her condition, and that she wishes she had never submitted to it. With regard to ventral fixation or hysteropexy, an additional trouble is added in case of a future gestation. I have seen several cases where parturition was complicated by it, and at least two deaths in labour as the indirect result of this unnecessary operation. With regard to the Alexander-Adams operation, Herman spoke strongly against it, and I think his views have been confirmed by many observers since his time. Gilliam's operation and the Baldy-Webster operation are in a similar category. To think that a mobile displacement of the normal uterus could cause any trouble necessitating any of these operations is a pure delusion.

In 1923 I paid a visit to America, and had a long conversation with Dr. Hall of St. Louis, the leading gynaecologist in that great city, and head of the St. Louis Maternity Hospital; he entirely concurred with these views. Such views are also held by the leading gynaecologists in Sweden and by many first-class teachers in London, and I would refer you to the valuable paper read before the North of England Obstetrical and Gynaecological Society by Dr. Archibald Donald on the treatment of mobile backward displacement of the uterus (BRITISH MEDICAL JOURNAL, December 13th, 1924, p. 1087). At the Annual Meeting of the British Medical Association in 1921 I expressed similar views at the Obstetrical and Gynaecological Section, and I had practically the unanimous support of the meeting.

I now wish to describe briefly the position of this question at the present day, and for my purpose will roughly classify pelvic pains generally into three classes:

- (a) Cases due to inflammatory tumours or neoplasms.
- (b) Cases due to urinary troubles.
- (c) Cases associated with chronic dilatation or neuralgia of the great intestine or caecum.

It is with the last class that I wish particularly to deal, and it is this class that is so invariably associated more or less with the symptoms of maniacal neurasthenia. In such cases the patient complains of pain in the right iliac fossa over the caecum, or in the left side of the lower abdomen over the descending colon. In rare instances the pain will follow the line of the transverse colon, or may perhaps be found a little to the right of the umbilicus.

In nearly all these cases the characteristics of the pain are more or less similar. The patient describes it as a dull gnawing or aching pain in the right or left side, which often passes round to the back or down the thighs, causing numbness or dragging of the leg on the affected side. Bimanual examination will reveal nothing abnormal, or perhaps in a few cases a mobile displacement of the uterus, which I regard as in no way associated with this condition, but merely as an accidental position of the uterus which causes no symptoms. If the patient is asked whether she suffers from headaches, sleeplessness, "weak turns," palpitation, and all the general symptoms of neurasthenia, they will, as a rule, all be present. Not only that, but in most cases there will be no difficulty in observing certain facial characteristics, which are also a very good guide to the diagnosis. These characteristics are a want of the normal expression of the face, the angles of the mouth drawn slightly backwards or downwards, and a marked dilatation of the pupils.

As to the cause of the condition, we all know that probably the most common trouble amongst all women is constipation, intestinal stasis, or some intestinal irregularity; if the patient's general nervous system is normal the constipation is seldom associated with pain, but when for any reason her nervous system becomes irritable, or her nervous resistance to pain falls below normal, she is bound to feel pain first in whatever part of her body is most liable to irritation, and that part of her body is the great intestine and caecum. Then her mind is fixed on the situation of this pain, and a vicious circle is formed. The patient commences to worry about the pain, her nervous resistance is still further lowered, the pain becomes gradually worse, and before very long she goes to someone to obtain medical advice.

If by chance such a patient happens to have a mobile backward displacement of the uterus, and an operation is suggested and performed with a view to placing the uterus in a position of anteversion, it is quite possible that the mental satisfaction to the patient of having something radical done, and the three weeks' rest in bed, together with a complete change of atmosphere, will ensure temporary benefit; but it would be a great mistake to think that the actual details of the operation or the placing of the uterus in an anteverted position could do her any good.

In reading the accounts of the results of these operations I have noted the unanimity of the operators in claiming success for them from the fact that the uterus remains in an anteverted position even after a subsequent gestation, and not one single word as to whether the patient's symptoms are alleviated or cured, which, I think, is of primary importance. What difference can it make to the patient whether the uterus is anteverted or retroverted so long as her headaches, her pains, and her numerous symptoms remain still unrelieved?

In many cases a careful examination of the pelvis, and an assurance that she has got no pelvic disease and that the condition is merely due to worry or nervousness or constipation, will make her feel quite well. In other cases a mixture of potassium bromide and magnesium sulphate, together with fresh air and outdoor exercise, telling her not to tire or fatigue herself in any way and to stop worrying, will generally be sufficient treatment.

I have specially considered this subject for many years, and am fully convinced that the old methods of treatment and have spoken of are not only detrimental to the general condition but detrimental to the patient. I have also been greatly impressed on innumerable occasions by the ease with which a mere assurance to the patient that she has got no pelvic disease will not only settle her mind, but will make her quite well again.

## MUSCULAR EXERCISE IN DIABETES MELLITUS.

BY

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In conjunction with Mr. C. N. H. Long, M.Sc., experiments are in progress on the effect of muscular exercise in patients suffering from diabetes mellitus. We hope shortly to publish the results in full dealing with lactic acid, acidosis, and the respiratory metabolism. This preliminary communication on the blood sugar and urinary changes brought about by exercise is written more from the clinical standpoint.

Allen and his followers have insisted that in the treatment of patients suffering from diabetes mellitus it is beneficial for them during the time of their dietetic adjustment and subsequently to take moderate exercise and not to remain in bed for prolonged periods. The present experiments show that in a diabetic whose diet contains a moderate proportion of carbohydrate and who receives an adequate supply of insulin the effect of exercise is beneficial, rapidly lowering the blood glucose to a normal level and diminishing the production and therefore the excretion of ketones and so rendering tissue metabolism more complete. But in a patient even with adequate carbohydrate foodstuff or carbohydrate stores whose diabetes is moderately severe and who is without sufficient insulin, endogenous or exogenous, exercise produces little or no effect on blood glucose and ketosis is increased.

The patients who are the subjects of these experiments had been treated for some time previous to the experiments by dietetic restriction and adjustment with insulin, and they are now continuing their ordinary routine life.

The exercise which has been done is that of "standing running" in which the subject doubles rapidly on his toes with the elbows flexed and the arms drawn to the side of the chest, but he does not move forward and he maintains his position on about one to two square feet of floor space in the laboratory, drawing the knees well up. The number of steps a minute is noted, the patient keeping time with a metronome which is set to a certain rate; in this way the subject keeps up the rate of exercise for the stipulated time. The exercise done—for instance, 156 steps per minute—is only moderate, and a normal subject can readily do it for the time over which these patients were exercised, and with no great fatigue. By "all out" exercise is meant that the subject doubles as rapidly as he can so as just to last out the time, at the end of which he is "done." Samples of blood and urine are taken at intervals before and after the exercise. A rough estimate of the amount of urinary ketones has been made by the depth of the colour which is attained in one minute by the Rothera or sodium nitro-prusside test. These are designated  $\pm$  for a faint trace,  $+$  trace,  $++$  and  $+++$  for deeper colorations. All the samples of urine are examined at the same time and set side by side so as to get the comparative variation in colour produced.

**CASE I.**  
Male, aged 36; decorator. Weight 10 st. 10 lb. Diet 2,090 calories: Carbohydrate 69 grams, protein 77 grams, fat 167 grams. Insulin 30 units a day, given in two doses, of 20 and 10 units each. This patient had received insulin for seven weeks and he had been discharged from hospital on the above diet for three weeks when the first experiments—for example, experiments B and E—were done. The experiments were made at intervals over a period of five and a half months. This man leads an active life and he feels and looks a fit man.

**EXPERIMENT A.—Control for ordinary fall of blood sugar without exercise. Without insulin for thirteen hours—last meal two hours previously.**

Time.		Blood Sugar per Cent.	Urine.	
			Glucose.	Ketones.
10 a.m.	Resting	0.215	0.06%	$\pm$
10.30 a.m.	Resting	0.190		
11.10 a.m.	Resting	0.180	Nil	$\pm$
11.35 a.m.	Resting	0.155		
12.10 p.m.	Resting	0.135	Nil	$\pm$
12.55 p.m.	Resting	0.115	Nil	$\pm$

**EXPERIMENT B.—Insulin two and a half hours and food two hours previously.**

Time.		Blood Sugar per Cent.	Urine.	
			Glucose.	Ketones.
10.30 a.m.	Resting	0.110	Nil	Nil
10.50 a.m.	Exercise 33 mins. "standing running" at 210 steps per minute			
11 a.m.	Recovery	0.115		
11.15 a.m.	Recovery	0.105		
11.30 a.m.	Recovery	0.105		
11.45 a.m.	Recovery	0.095	Nil	Nil

**EXPERIMENT C.—Insulin three and a half hours and food three hours previously.**

Time.		Blood Sugar per Cent.	Urine.	
			Glucose.	Ketones.
10.25 a.m.	Resting	0.150	Nil	Nil
10.33 a.m.	Exercise 1 min. at 156 steps per minute			
11.5 a.m.	Recovery	0.140		
11.21 a.m.	Exercise 8 mins. at 156 steps per minute			
11.31 a.m.	Recovery	0.115		
12.1 p.m.	Recovery	0.105		
12.35 p.m.	Recovery	0.105	Nil	Nil

**EXPERIMENT D.—Insulin and food (with extra carbohydrate) three and a half and three hours before respectively.**

Time.		Blood Sugar per Cent.	Urine.	
			Glucose.	Ketones.
10.30 a.m.	Resting	0.195	Trace	+
10.45 a.m.	Exercise 3 mins. at 156 steps per minute			
10.51 a.m.	Recovery	0.150		
11.21 a.m.	Recovery	0.115		
11.35 a.m.	Exercise 5 mins. at 156 steps per minute			
11.43 a.m.	Recovery	0.110		
12.35 p.m.	Recovery	0.115	Nil	$\pm$

**EXPERIMENT E.—Last insulin fourteen hours and last meal two and a half hours previously.**

Time.		Blood Sugar per Cent.	Urine.	
			Glucose.	Ketones.
10.40 a.m.	Resting	0.240	0.44%	++
10.45 a.m.	Exercise 3½ mins. at 210 steps per minute			
10.54 a.m.	Recovery	0.140		
11.5 a.m.	Recovery	0.120		
11.30 a.m.	Recovery	0.120		
12 noon	Recovery	0.120		
12.50 p.m.	Recovery	0.110	Faint trace	Nil

**EXPERIMENT F.—Insulin omitted with evening meal eleven hours previously, but taken with breakfast two hours before experiment.**

Time.		Blood Sugar per Cent.	Urine.	
			Glucose.	Ketones.
10.10 a.m.	Resting	0.290	0.09 %*	Nil
10.15 a.m.	Exercise 1 min. at 156 steps per minute			
10.47 a.m.	Recovery	0.255		
11 a.m.	Exercise 4½ mins. at 156 steps per minute			
11.10 a.m.	Recovery	0.195		
11.40 a.m.	Recovery	0.145		
12.10 p.m.	Recovery	0.110	0.16%†	Nil

\* Total 0.05 gram. † Total 0.41 gram.

**EXPERIMENT G.—Without insulin for twenty-seven hours; last meal two and a half hours before.**

Time.		Blood Sugar per Cent.	Urine.	
			Glucose.	Ketones.
10.20 a.m.	Resting	0.195	Trace	Nil
10.38 a.m.	Exercise 8 mins. at 156 steps per minute			
10.48 a.m.	Recovery	0.140		
11.8 a.m.	Recovery	0.100		
11.32 a.m.	Recovery	0.100		
12.2 p.m.	Recovery	0.095		
12.18 p.m.	Recovery	0.109	Nil	Nil

**EXPERIMENT H.—Without insulin for fifteen hours; last meal two and a half hours before.**

Time.		Blood Sugar per Cent.	Urine.	
			Glucose.	Ketones.
10.55 a.m.	Resting	0.140	Nil	Nil
11.10 a.m.	Exercise 104 secs. "all out"			
11.17 a.m.	Recovery	0.125		
11.53 a.m.	Recovery	0.125	Nil	Nil
11.57 a.m.	30 grams of glucose by mouth			
12.27 p.m.	Resting	0.150		
12.31 p.m.	Exercise 101 secs. "all out"			
12.35 p.m.	Recovery	0.190		
1.13 p.m.	Recovery	0.135	Nil	Nil

**EXPERIMENT I.—Without insulin for twenty-seven hours; last meal three hours before.**

Time.		Blood Sugar per Cent.	Urine.	
			Glucose.	Ketones.
10.35 a.m.	Resting	0.190	Trace	Nil
10.48 a.m.	Exercise 30 secs. at 156 steps per minute			
11.15 a.m.	Recovery	0.140		
11.30 a.m.			Nil	Nil
11.33 a.m.	Exercise 5 mins. at 156 steps per minute			
11.45 a.m.	Recovery	0.105		
12.5 p.m.	Recovery	0.090		
12.25 p.m.	Recovery	0.085		
12.45 p.m.	Recovery	0.090	Nil	Nil

Experiment A is shown graphically by curve A in Fig. 1. Fig. 1 also demonstrates the results of Experiments B and E.

**CASE II.**

Male, aged 21; clerk. Weight 9 st. 6 lb. Diet 1,840 calories: Carbohydrate 52 grams, protein 92 grams, fat 140 grams. Insulin 50 units a day, in three doses of 20, 10, and 20 units each. Insulin had been given for twelve months before the experiments began. Three months before these experiments the diet and the insulin were increased to the above values. This subject is a severe case, and, although not as fit as Case I, he is active and he is able to do the exercise briskly.

**EXPERIMENT P.—Insulin six hours and food five and a half hours previously.**

Time.		Blood Sugar per Cent.	Urine.	
			Glucose.	Ketones.
6.45 p.m.	Resting	0.075	Nil	±
6.55 p.m.	Exercise 1 min. at 156 steps per minute			
7.25 p.m.	Recovery	0.030		
7.35 p.m.	Exercise 1 min. at 156 steps per minute			
7.55 p.m.	Recovery	0.030		
8.5 p.m.	Exercise 3 mins. at 156 steps per minute			
8.38 p.m.	Recovery	0.085	Nil	Nil

C

**EXPERIMENT Q.—Insulin five and a half hours and last meal five hours previously.**

Time.		Blood Sugar per Cent.	Urine.	
			Glucose.	Ketones.
6.5 p.m.	Resting	0.095	Nil	+
6.23 p.m.	Exercise 5 mins. at 155 steps per minute			
6.33 p.m.	Recovery	0.085		
7.23 p.m.	Recovery	0.075	Nil	±

**EXPERIMENT R.—Without insulin for eleven hours; last meal five hours before.**

Time.		Blood Sugar per Cent.	Urine.	
			Glucose.	Ketones.
6.25 p.m.	Resting	0.145	Nil	+++
6.40 p.m.	Exercise 8 mins. at 155 steps per minute			
6.51 p.m.	Recovery	0.135		
7.21 p.m.	Recovery	0.110		
8.1 p.m.	Recovery	0.090	Nil	+

**EXPERIMENT S.—Last insulin eleven hours and last meal five hours before.**

Time.		Blood Sugar per Cent.	Urine.	
			Glucose.	Ketones.
6.45 p.m.	Resting	0.163	Nil	+++
7.5 p.m.	Exercise 101 secs. "all out"			
7.6 p.m.	Recovery	0.155		
7.55 p.m.	Recovery	0.155		
8.6 p.m.	Recovery	0.150		
8.36 p.m.	Recovery	0.153	Nil	±

**EXPERIMENT T.—Without insulin twenty-four hours; last meal five hours previously.**

Time.		Blood Sugar per Cent.	Urine.	
			Glucose.	Ketones.
6.10 p.m.	Resting	0.270	1.9%*	+++
6.35 p.m.	Exercise 3 mins. at 155 steps per minute			
6.43 p.m.	Recovery	0.250		
7.13 p.m.	Recovery	0.280		
7.30 p.m.	Recovery	0.280	1.85%*	+++

\* Total 1.05 grams. † Total 5.25 grams.

**EXPERIMENT U.—Without insulin for twenty-four hours; last meal five hours before.**

Time.		Blood Sugar per Cent.	Urine.	
			Glucose.	Ketones.
6.20 p.m.	Resting	0.220	0.28%*	++
6.27 p.m.	Exercise 5 mins. at 155 steps per minute			
6.34 p.m.	Recovery	0.225		
6.49 p.m.	Recovery	0.220		
7.19 p.m.	Recovery	0.215	0.78%†	+++

\* Total 0.57 gram. † Total 0.40 gram.

## EXPERIMENT V.—Without insulin for twenty-two hours; last meal three hours previously.

Time.		Blood Sugar per Cent.	Urine.	
			Glucose.	Ketones.
10 50 a.m.	Resting	0.225	0.45%	±
11 a.m.	Exercise 30 sec. at 155 steps per minute			
11 23 a.m.	Recovery	0.205	0.83%	+
11 34 a.m.	Exercise 60 sec. at 155 steps per minute			
11 38 a.m.	Recovery	0.205		
11 53 a.m.	Recovery	0.210		
12 13 p.m.	Recovery	0.225	1.2%	+++

\* Total 1.2 grams. † Total 0.63 gram. ‡ Total 1.62 grams.

The results of Experiments P, R, and V are represented graphically in Fig. 3.

## CASE III.

Male, aged 56; tailor. Weight 9 st. 2 lb. Diet 1,940 calories: Carbohydrate 50 grams, protein 98 grams, fat 150 grams. Insulin 20 units a day in two equal doses. This subject had been stabilized on this diet with insulin for nearly twelve months when these results were obtained. He does the exercise fairly well, but he is not as active as the two younger subjects.

## EXPERIMENT X.—Without insulin for eleven hours; last meal six hours before.

Time.		Blood Sugar per Cent.	Urine.	
			Glucose.	Ketones.
7 p.m.	Resting	0.160	Nil	+
7 18 p.m.	Exercise 60 sec. "all out"			
7 22 p.m.	Recovery	0.155		
7 55 p.m.	Recovery	0.135		
8 25 p.m.	Recovery	0.135		
8 45 p.m.	Recovery	0.130	Nil	±

## EXPERIMENT Y.—With insulin five hours and last meal four and a half hours previously (with extra carbohydrate).

Time.		Blood Sugar per Cent.	Urine.	
			Glucose.	Ketones.
1 45 p.m.	Resting	0.205	0.92%	+++
2 9 p.m.	Exercise 33 mins. at 204 steps per minute			
2 15 p.m.	Recovery	0.200		
2 45 p.m.	Recovery	0.185		
3 15 p.m.	Recovery	0.170		
3 45 p.m.	Recovery	0.160	Trace	Nil

## EXPERIMENT Z.—Without insulin for twenty-four hours; last meal five hours previously.

Time.		Blood Sugar per Cent.	Urine.	
			Glucose.	Ketones.
7 p.m.	Resting	0.175	Trace	±
7 23 p.m.	Exercise 60 sec. "all out"			
7 24 p.m.	Recovery	0.160		
7 55 p.m.	Recovery	0.135		
8 25 p.m.	Recovery	0.120		
8 55 p.m.	Recovery	0.115	Nil	Nil

In the diabetic patient at rest the hyperglycaemia due to ingestion of food tends to decrease slowly. This fall in blood sugar is slower the more diabetic the patient is—that is, the less endogenous insulin there is present capable of metabolizing the glucose. This gradually decreasing hyperglycaemia is demonstrated in the ordinary glucose tolerance curves.

Fig. 1 represents the results of Experiment A, in which the blood sugar falls slowly and continuously to the normal and the ketosis, which is slight, is not affected. The effect of exercise is to lower this hyperglycaemia very rapidly to a normal blood sugar level ranging between 0.07 and 0.10 per cent. When the blood sugar is low to begin with, and within



FIG. 1.—The gradual and continuous fall in the blood sugar to nearly normal during three hours in the resting diabetic patient, without insulin for thirteen hours, and having had food two hours previously. A trace of ketosis is maintained throughout. Curves marked A are the results of Experiment A, Case I. The effect of the same exercise (three and a half minutes "standing running" at 210 steps per minute) on the blood sugar and ketosis in the same subject (Case I) when insulin had been given two and a half hours before — (1 in square) and seventeen hours previously — (2 in circle). The curves marked with the same numerals correspond. The curves with definite points are the blood sugar curves, and the others represent the urinary ketones. Exercise is started at zero time.

the normal range of 0.07 to 0.10 per cent., exercise has little or no effect on it. If ketones are present in the urine before the muscular exercise they are always absent or diminished in amount after the exercise, even when the blood sugar is low at the start, provided insulin has been administered not many hours previously.

The less severe cases of diabetes show these results—that is, a rapid fall in the blood sugar and a decrease in ketosis up to twenty-four hours since the last administration of insulin; but in the severe diabetic this result is only shown when insulin has been administered within the last fourteen to twenty hours. After the lapse of twenty-four hours in the severe diabetic, the production of endogenous insulin being smaller, very little or no effect is noticed on the concentration of glucose in the blood, as is shown in Experiments T, U, and V. In these circumstances too the ketosis is increased, showing that tissue metabolism is less perfect, and especially that of carbohydrate, for only in the perfect and complete metabolism of carbohydrate is the katabolism of fats perfect. The excretion of glucose in the urine is increased also, presumably owing to increased blood flow and increased excretion by the kidney after the exercise.

Curve A, Fig. 2, represents the patient's glucose tolerance eight weeks before Experiment H. The quantity of insulin he is now taking is the same as when he was discharged from hospital, so he has not gained tolerance to any marked degree.

Curve B, Fig. 2, represents this patient's glucose toler-

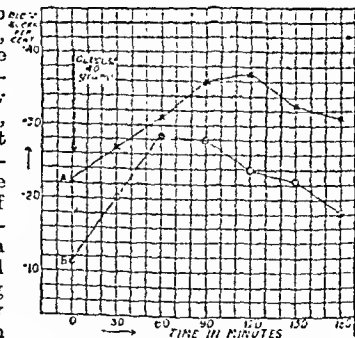


FIG. 2.—The glucose tolerance of Case I, with 40 grams of glucose before treatment with insulin was begun (Curve A), and seven months later after continuous insulin treatment (Curve B). See text. Curve A, after forty hours' starvation. Curve B, no insulin for sixteen hours; last meal five hours before the glucose was given.

ance with the same quantity of glucose seven months later. The configuration of the curves approximate closely, the difference in absolute blood sugar percentages being due to the fact that when Curve A was taken the patient's urine was not sugar-free and so the whole curve was displaced to a higher level. In the case of Curve B the patient's initial blood sugar was at a lower level and he was not passing sugar in his urine when the 40 grains of glucose were administered. So from the glucose tolerance tests and from the fact that his daily quantity of insulin has not been altered one would conclude that there had been little or no gain in carbohydrate tolerance.

In Experiment H the subject had had no insulin for sixteen hours when the 30 grams of glucose were given, so there can be little doubt that the exercise prevented glycosuria, and more than this, the exercise caused a rapid fall in the blood sugar. Most of the glucose must have been metabolized or rendered non-reducing as the result of insulin produced by the patient's pancreas consequent on exercise and increased blood flow, and probably to some extent by insulin previously stored in the tissues.

Hence for practical purposes we may state that in the mild and less severe diabetic with insulin moderate exercise has a beneficial effect by increasing tissue metabolism, burning glycogen, depleting the blood sugar, and more completely

transformation of the glycogen stores to glucose as the result of muscular exercise. A fall in the blood sugar concentration on exercise doubtless occurs in the normal healthy man, but the changes are not readily demonstrable, because of the small range over which the normal glycaemia fluctuates, any change being relatively small. However, when the range of glycaemia is increased, as in the diabetic, this fall in blood glucose on muscular exercise is more readily demonstrated.

#### CONCLUSIONS.

From these observations we might advance certain theoretical considerations. As the result of the muscular exercise a certain amount of glycogen must be katabolized in the muscles and a vacuum created which would necessitate a more rapid impouring from the blood of glucose to make this good. Already there is pouring into the blood glucose derived from other glycogen stores—for example, the liver—but this influx of glucose is not accelerated unless the blood sugar falls to below 0.070 per cent., and so the blood sugar would fall from exercise to this level. When the blood sugar at the beginning of exercise is low, as the same exercise is done the transformation of glycogen in the muscles must be at least equal to the transformation in circumstances when the blood sugar is relatively higher, and so the vacuum in the muscles must be made good at the expense of the blood sugar; but the blood sugar itself is replenished concurrently from the glycogen stores, but the glucose does not flow in in excess and the blood sugar remains at its initial low level. This would postulate a delicate balance between blood sugar and glycogen stores, the transformation of the latter to glucose not being in excess of its normal rate unless the blood sugar falls below 0.07 per cent.

Our conception of hypoglycaemia occurring from an excessive amount of insulin is that the blood is being depleted of its glucose more rapidly than the glycogen stores can be transformed into glucose, and so this latter process cannot keep pace with the former, and the blood sugar falls to the hypoglycaemic level and below it.

This hypothesis would hold good when there was an adequate quantity of insulin in the tissues. But when there is inadequate insulin present in the tissues there is no increased depletion in the glucose concentration of the blood, and the production of ketones is increased on exercise. Since the exercise is done just as efficiently the muscle metabolism must be as good, and just as much energy is needed for an exercise of equal length and rapidity to that in circumstances where insulin has been given shortly before. However, in the absence of adequate insulin the loss of glycogen or like products in the muscle tissue is not made good by the blood in excess of the amount which would be pouring into them when these structures were at rest, and so the blood sugar percentage does not fall more rapidly than it would have done had the subject remained at rest. Again, in the absence of sufficient insulin carbohydrate metabolism is less perfect, and so there is an increase of ketone bodies in the urine from the incomplete combustion of fats.

Hence insulin is essentially associated with the metabolic processes in the muscles, but apparently it is not necessary for the transformation of glycogen to lactic acid in the contraction of muscle, but the transformation of glucose into glycogen precursors and the intrinsic metabolic processes of muscle depend on its presence.

#### SUMMARY.

1. Muscular exercise in patients suffering from diabetes mellitus depletes the blood glucose provided there is an adequate supply of insulin in the tissues.
2. The more perfect and complete tissue metabolism is demonstrated by the disappearance of ketones from the urine under these conditions.
3. As the result of exercise the blood sugar tends to fall rapidly to between 0.07 and 0.10 per cent., but it does not become lowered further.
4. No hypoglycaemic reactions have occurred on exercise even if the initial blood sugar was as low as 0.07 per cent.
5. Muscular exercise does not tend to cause acidosis provided there are adequate carbohydrate and insulin for its transformation.

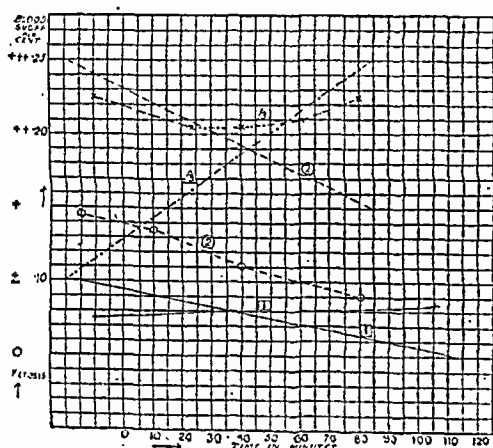


FIG. 3.—The effect of muscular exercise on the blood sugar and ketosis in the same patient (Case 11) when insulin had been administered six hours before (1 in square); not for eleven hours (2 in circle); and when he was without insulin for twenty-two hours (3 in triangle). All curves are read from left to right.

burning fats. In the severer case with insulin the same beneficial effect is noticed with exercise, but without adequate insulin exercise has no depleting effect on the blood sugar, and it increases the production of ketones. It amounts to the fact that with insulin most cases of diabetes can be rendered nearly normal as regards the tissue metabolism, but the severer cases depend much more on adequate quantities of insulin.

It was definitely recognized before the introduction of insulin that excessive exercise was a potent factor in causing diabetic coma in patients suffering from diabetes mellitus, and the explanation is readily understood when it is realized that the energy is produced at the expense of the incomplete tissue metabolism in the absence of a sufficient insulin supply, thus increasing the production of ketone bodies and resulting in acidosis and coma. Experiment V demonstrates this. The likelihood of acidosis and coma supervening as the result of exercise in the diabetic is small provided there are adequate supplies of carbohydrate or material capable of being readily converted to such and a sufficient supply of insulin.

These patients have been able to do the exercise without undue fatigue, and no difference has been noticed by them either in the nature of muscular stiffness or fatigue with and without insulin. No hypoglycaemic reactions have occurred even in such experiments as P and Q, where the blood sugar was low before the exercise, so even though the blood sugar is depleted there is apparently no check in



6. Exercise in patients without sufficient insulin, endogenous or exogenous, causes no change in the concentration of glucose in the blood, but markedly increases the production of ketone bodies, with resultant acidosis and the likelihood of the supervention of a diabetic coma.

7. An hypothesis for the action of insulin is suggested from these experiments.

## SOME OBSERVATIONS ON BLACKWATER FEVER.

BY

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"I am of opinion that our first duty is to inquire whether a thing be or be not, before asking wherefore it is."—HARVEY.

ENCOURAGED by my success in the treatment of blackwater fever, I feel justified in publishing my observations on 36 consecutive cases, and an account of the method of treatment I have followed.

The district of Bindura, situated about the middle of the Mazoe Valley, which runs from west to east for some sixty miles, has a somewhat scattered European population of 350. The district is traversed by the Salisbury-Shamva branch railway. Bindura station, 70 miles north-east of Salisbury, and 1,730 miles distant from Capetown, lies at an elevation of 3,737 feet above sea-level, and is the most northerly point on the railway system of Southern Rhodesia.

Bindura has the reputation of being the worst blackwater district in the country. The average mortality from blackwater fever in Southern Rhodesia, taken over a period of twenty years, is, according to the medical director's report for the year 1921, 20 per cent.

Since my arrival here in February, 1921, I have studied the local history of the disease and its treatment, both by the Roman Catholic sisters—who were the earliest nurses in the country—and the early settlers. It appears that they considered it imperative that blackwater cases should not be moved, but nursed on the spot where the disease was developed.

Blackwater fever may be defined as an acute non-infective disease associated with characteristic dark urine and grave constitutional disturbances. It is a condition affecting Europeans, very rarely natives, occurring at all ages, and most prevalent in males; it is consequent on chronic subtertian malaria, even though there be no definite paroxysms of fever.

I consider that blackwater fever should be regarded as para-malaria, and that its possible cause is a chronic anaemia, fulminated by a sudden lowering of the vitality from any cause; this leads to a temporary rapid hypotonic osmotic condition of the blood plasma, and consequent bursting of the red blood corpuscles.

My conclusions are based on my successful application, in the early stages of the disease, of normal saline injected subcutaneously, and sodium bicarbonate administered by the mouth. My belief is confirmed by the views expressed by various medical writers, including Manson (*Tropical Diseases*, seventh edition), of the value of subcutaneous and intravenous hypertonic and isotonic salt solutions. Further corroborative evidence lies in the fact that chronic malaria is associated with profuse sweating and consequent loss of salt.

### SYMPTOMS.

*Promonitory.*—A relatively large number of patients complain of severe abdominal pain with constipation, about twenty-four to forty-eight hours before the onset of blackwater fever.

The onset is usually characterized by the passing of six to ten ounces of very dark urine, in colour and frothiness like porter, but when viewed in a thin layer of a dark red colour; this is the first warning to the patient that he has blackwater fever, although he may not have been feeling very well, and has assumed the onset of malaria. The patient looks ill and the pulse is rapid, but pyrexia is by no means a feature of the disease in all cases. Headache,

loin-ache, and nausea are usually present, and a rigor may occur. Jaundice in a slight degree may be present before the onset of blackwater, but usually it comes on some hours after, and grows very profound if the patient is moved or shaken. The liver and spleen are nearly always palpably enlarged and the latter tender.

### Danger of Moving.

Mortality in cases who have been moved, even for a short distance, is very much higher than in those who have not been moved. Before I realized this two patients I moved with the utmost care, and only for a short distance, became suddenly intensely yellow and very collapsed within a few minutes of being lifted, and subsequently had two or three severe relapses in the following five or six days. One case, a slight one, moved ten days after the onset and seven days after the water was quite clear, was run slowly by car for a distance of five miles over a rather rough road, and immediately developed one of the severest attacks of blackwater I have seen. Another recent case went by train to Capetown twenty-seven days after the onset, and had a relapse.

*Complications.*—Acute nephritis, scanty urine, and complete suppression are perhaps the most trying and dangerous complications one has to be on the look-out for. Abdominal complications seem to figure largely: the pain is of a gripping character, and seems to be referred to the colon, and in most cases I have seen there has been obstinate constipation. In one case this appeared to lead to lighting up an old appendix, and in another to intussusception; in each of these cases the patient was too collapsed for operation to be urged. Two of my cases developed bronchopneumonia, and this, I think, was due to getting uncovered whilst hot and sweating profusely.

The diagnosis as a rule should present no difficulty in a patient who has lived in a country where malignant tertian malaria is prevalent, and whose first symptom of real illness is the characteristic urine.

### TREATMENT.

Prophylactic treatment consists in protection from mosquitos (and therefore malarial infection), early diagnosis, especially in incipient cases of malaria, and efficient quinine treatment over a sufficiently long period, and maintenance of good general health by means of good food and housing, the removal of all scrub near dwellings, and the draining or protection of all pools of water wherein mosquitos might breed. The successful treatment of blackwater fever depends on taking care not to move or shake the patient in any way. Therefore, if the patient is not near any dwelling, every effort should be made to bring a bed to him and erect a shelter over him.

Having got the patient to bed and well covered, I now, as a routine, immediately inject subcutaneously 5 to 10 ounces of normal saline, and repeat it if necessary. With this I find the urine, even in severe cases, clears up more quickly, sometimes in a few hours, whilst the jaundice and the constitutional symptoms are less marked. I also give from 1/2 to 1 ounce of magnesium sulphate at the beginning. This is probably beneficial from its depletive effects.

As 20 grains of sodium bicarbonate hourly is found to be beneficial in these cases, and as nausea and restlessness are nearly always troublesome features, I generally give a mixture such as the following:

R. Sodii bicarb. ....	...	...	...	gr. xx
Bismuth carb. ....	...	...	...	gr. x
Tr. chlorof. et morph. co. ....	...	...	...	℥ v

S. To be taken every hour in 5 oz. of water.

I have found vomiting less severe since giving up "Sternberg's mixture"; this, I think, is due to the fact that the mixture contains mercury perchloride. Abdominal or loin pains are best treated with hot-water bottles or antiphlogistine.

As a rule I do not prescribe quinine, but see no reason why it should not be given, and when symptoms of acute malaria have been present I have given it with good results; but it is best administered by intramuscular injection.

tion owing to its tendency to cause vomiting when taken by the mouth.

Large quantities of fluids should be given (water, barley water, etc.). Lactogen, slightly sweetened, has been well tolerated where there has been much nausea, and Benger's food has also been easily taken.

The patient should be kept in bed for at least fourteen days even in the mildest cases. It is owing to patients failing to realize the importance of this that the prognosis of a mild case is so bad.

## RESULTS.

Since assuming the post of district surgeon, Bindura, I have seen 36 cases of blackwater fever (29 males and 7 females); 53 recovered and 3 died. The percentage of mortality was thus 8.33. All the deaths occurred in males. Only one was actually due to blackwater fever, and in that one my warning not to move the patient had been disregarded.

## Deaths.

*Case 1.*—A middle-aged man, living temporarily in a tent, developed blackwater fever. On the day of onset I attended him, and found that he did not present any alarming symptoms. He was put on the treatment I have mentioned, and instructions as to diet were given to his wife. She was also warned not to allow him to be moved. On the third day of the disease I had a message stating that his water was now quite clear and that he was much better. On the morning of the fourth day I received a very urgent message saying that the patient had been moved, for better nursing, to a cottage a quarter of a mile away, and was then in an extremely critical condition. I found the patient quite collapsed and very yellow. All attempts to improve matters by the use of hot-water bottles, subcutaneous and rectal saline, injections of camphor, strychnine, and pituitary extract, failed to produce any improvement, and he died twenty-seven hours after having been moved.

*Case 2.*—A middle-aged man who had no blackwater for ten days, and who had a history of a severe kick in the epigastrium from a mule three months before, developed what clinically appeared to be intussusception and died. He had complete stoppage, passed blood per anum, and had a well defined sausage-shaped tumour in the region of the transverse colon; the diagnosis, therefore, was probably correct. Operation was refused, and I did not urge it owing to the weak state of the patient; the relatives refused a post-mortem examination.

*Case 3.*—A young man developed severe blackwater fever, with scanty urine and retention, which necessitated catheterization during the whole of his illness. The urine became clear in two days, when bronchopneumonia developed; this cleared up in four days and the patient's condition seemed most hopeful. The patient then developed a very severe attack of mumps, and after another twenty-four hours an old appendicitis of five years' standing lit up. The patient was too ill to stand an operation, and died twenty-four hours later.

## CONCLUSIONS.

A case of blackwater fever should never be moved if it can be avoided, and then only with the greatest care and for the shortest possible distance.

No case should be moved for at least fourteen days after the onset, however slight the case may be.

If possible a trained nurse should be obtained to see that the treatment is properly carried out.

If subcutaneous saline injections are given at once the urine will clear up more quickly.

I feel confident that quinine does not cause this disease, or even act as the fulminant, and think the reason this idea has been entertained is that, the premonitory symptoms being indistinguishable from malaria, quinine is taken, and the onset of blackwater is credited to it.

That blackwater fever is undoubtedly due to malignant tertian malaria has been conclusively proved by Professor J. G. Thomson of the London School of Tropical Medicine during his recent researches in Rhodesia.

The prevention of malaria, and therefore of blackwater, lies in the hands of the colonists, if they will only take the extremely valuable advice published for their benefit by Dr. A. M. Fleming, the medical director for Southern Rhodesia.

## CONTACT CASES OF LEPROSY IN THE BRITISH ISLES.

BY  
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HONORARY MEDICAL ADVISER TO THE ST. GILES'S HOMES  
FOR BRITISH LEPEES.

At a recent meeting of the Dermatological Section of the Royal Society of Medicine a contact case of leprosy was shown in a boy, aged 14, who was born in England, had never been abroad, and who contracted the disease from his father, a leper, who died four years ago. This is the first case which has been exhibited at the Section in which the disease was contracted in this country.

Within the last few years I have seen three other similar cases, and in view of the impression, not only among laymen but even among certain members of the medical profession, that leprosy in this country is either non-contagious, or its contagiousity is so slight as to be negligible, I have considered it advisable to put these cases briefly on record.

## CASE I.

A boy, aged 12, with nodular leprosy, was born in a southern county in Ireland, and was never out of Ireland until he was brought over to London for advice with regard to his disease. His father was a Russian, who had emigrated to Ireland, and who was in comparatively poor circumstances. When I saw the father he was suffering from nodular leprosy in an advanced stage, and had had the disease when he reached Ireland. As far as I could ascertain, the mother was not infected.

## CASE II.

A boy, aged 15, was admitted to the St. Giles's Homes for British Lepers in 1920, suffering from nodular leprosy, with ulcerated lesions. He was born in a town in Lancashire and had never been out of England. His parents were healthy and had from British Guiana, bringing an elder son who had nodular leprosy. The boy was born a fortnight after their arrival in England. During his childhood he had been in close association with his infected brother, with whom he had slept for five years, and from whom he contracted the disease. He died in the St. Giles's Homes after being there seven months, two years after the death of his leper brother.

## CASE III.

A married woman, born in Belgium, who suffered from leprosy of the mixed type, with both nodular and anaesthetic lesions. She was married in England and had lived here since then. She contracted the disease from her husband, who had nodular leprosy, and died in the St. Giles's Homes in 1916. Down to the time of her husband's admission to the Homes, she had taken no precautions to avoid infection, and had lived with him.

It is only comparatively of late years that the contagiousity of leprosy has been recognized, and it was not until 1897, at the first Leprosy Congress held in Berlin, that leprosy was definitely agreed to be a contagious disease, and resolutions were passed recommending compulsory notification and segregation. Since then numerous instances have been recorded of the transmission of leprosy by contact in countries where the disease prevails.

In Great Britain, largely owing to good hygienic conditions, leprosy has come to be a rarity, though at one time it was common, and the cases which exist here, with few exceptions, are exotic lepers who have come home from different parts of the empire where they had become infected with the disease.

The last place where a leper settlement of any importance existed in this country was in the Shetland Islands. There the disease seemed to have been rife, possibly because the natives were of Scandinavian origin, and were in more or less frequent communication with Norway and Iceland, where leprosy was prevalent. The value of segregation was early appreciated by the Shetlanders, and several centuries ago a leper colony was established in the island of Papa Stour, to which all suspected cases were sent. This is a remote island situated to the west of the Shetland group, and separated from the mainland by a stormy sound, which effectively isolates it in anything but fine weather. The last case of leprosy in Papa Stour—as far as I have been able to ascertain—died more than a century ago, and the

disease seems to have been exterminated there, probably on account of isolation and acquired immunity. At the present time the natives of the island are a hardy race, and show no trace of the scourge which prevailed amongst their ancestors, in spite of the fact that in winter their diet consists largely of dried, partially cured, and imperfectly cooked fish, a diet which was once believed to be responsible for the propagation of leprosy.

The experience in Papa Stour cannot but suggest that an island is the ideal site for a leper colony, and should it be found necessary to adopt measures of segregation here it might be possible to find some such island where a colony could be established.

The contact cases here recorded show the danger of belittling the contagiousity of the disease in this country, and of gainsaying the risk connected with intimate association with lepers; it may not be amiss to quote the resolutions of the second Leprosy Congress at Bergen in 1909—namely:

(1) "That leprosy is a disease that is contagious from man to man, whatever may be the method by which this contagion is effected."

(2) "That every country, in whatever latitude it is situated, is within the range of possible infection by leprosy, and may, therefore, usefully undertake measures to protect itself."

By means of a modified segregation, which was introduced in Norway in 1885, the number of cases was reduced in twenty years by about 50 per cent., and similar results have followed methods of isolation in Iceland and other countries. It does not seem inopportune at the moment to reconsider the advisability of putting our own house more in order, lest further cases should occur.

## A CASE OF MYASTHENIA GRAVIS.

BY

A. H. DOUTHWAITE, M.D., M.R.C.P.LOND.,  
WORTHING.

THIS case, I think, merits publication because the disease is comparatively rare, and the case also presents certain uncommon features.

A man, aged 57, sought my advice in March, 1924, on account of choking attacks occurring towards the end of meals. He had one healthy child. His mother had died of diabetes and his father of rectal carcinoma. Apart from scarlet fever at the age of 8 his health had always been good.

### History of Illness.

In 1913 he noticed that on tapping the extensor surface of either forearm or thigh the underlying muscle rose up in a wheel. His eyes happened to be examined at this time on account of errors of refraction; no ophthalmoplegia was then present. In 1914 he had a transient attack of abdominal pain and nausea accompanied by bilateral ptosis. This was attributed to his having eaten bad fish. Later in this year the muscles of the thigh and gluteal regions felt stiff and an unusual effort was required to rise from a stooping posture. Transitory diplopia also occurred about this time.

From then until May, 1923, the patient felt well, but the irritability of his muscles persisted. Since 1923 he had had frequent attacks of diplopia, which at first lasted from one to three days. From January, 1924, the condition became permanent, but was always less noticeable in the early morning. In March he noticed weakness of the jaw towards the end of a meal, and found that if he assisted it with his hand he was unable to close his mouth for half an hour afterwards. Being informed that he was suffering from a nervous breakdown associated with high blood pressure, he was advised to go to the seaside. His condition here became steadily worse, and marked ptosis in both eyes developed. For this he wore glasses, but found that the more he attempted to keep his eyes open the more complete was their closure. On the evening of March 27th fluid suddenly regurgitated through his nose whilst he was drinking, and a choking attack ensued.

### Condition on Examination.

When giving me the above history a remarkable change passed over him. Whereas at the commencement of the recital his voice was clear and strong, yet, as he talked, a nasal twang developed to a pronounced degree. The forehead, previously wrinkled, became smooth, and bilateral ptosis developed coincidentally. From time to time he stopped to support his jaw, then with a further effort struggled to the completion of the sentence. The main points discovered on examination were:

1. Pronounced hippus when a light was thrown on the eye.
2. Normal reflexes and sensations.
3. Blood pressure 162 and 105.
4. All except the muscular system normal. A skiagram of the chest revealed no suggestion of thymic shadow.
5. Muscular system: Weak right external rectus. Ptosis, which became more pronounced if the patient made a sustained effort to look upwards. Inability to roll r's when speaking, and to whistle. The masseters were rapidly fatigued by faradism, recovered after rest, and were again fatigued after the passage of the current for one minute forty seconds. They were then capable of weak voluntary movement and of contraction to the galvanic current. The "nasal smile" or "myasthenic snarl" was exhibited in an attempt to smile after conversation. The upper lip was drawn upwards in the effort, movement at the corners of the mouth being absent. Movement of the soft palate was defective, with slight deviation to the right. No weakness of the limb muscles was demonstrable, but they all showed the remarkable excitability to direct mechanical stimulation already referred to. This was chiefly marked in the extensors, a tap of the finger producing a wheel-like swelling of the muscle, which persisted in one case for three minutes. The reaction was precisely such as one finds in Thomson's disease, of which, however, there was no further sign.

### Choking Attack.

On the evening of April 19th I received an urgent summons as the patient was choking. I found him in a prostrate condition, filled with fear of impending death. The respiration was both stertorous and stridulous, the soft palate flapping to and fro with each breath. At the time it was impossible to examine the condition of the vocal cords, but on the following day a definite weakness of abduction could be detected. Apparently, previous to this attack, he had been talking more than was his wont, but the actual onset was precipitated by his taking some bismuth. Feeling the powder cling to the back of his throat, he made violent but largely ineffectual efforts to clear it, thus rapidly exhausting the pharyngeal muscles. Rhonchi and râles could be heard over both lungs at this time, and the patient complained of inability to "clear his chest." The condition improved during the following day, and in thirty-six hours he suddenly coughed up ten ounces of viscid mucoid sputum, expressing himself much relieved thereby.

### Treatment.

Treatment was mainly directed towards securing as complete rest as possible for the affected muscles. Visitors were forbidden. All food was minced so as to reduce mastication to a minimum. Both eyes were covered by shades for the greater part of the day. The masseters and larynx were daily subjected to diathermy, which appeared to produce a definite amelioration of the condition. Strychnine was administered by the mouth.

Gradual improvement followed, so that when last seen in June there had been no further choking attacks; nasal intonation of the voice was very slight; diplopia was often absent during the greater part of the day. The patient was thus able to return home and resume light work.

Presumably the ultimate prognosis is thoroughly bad.

The main point of interest in this case is to be found in the muscular excitability to mechanical stimulation. Those muscles which were clearly affected by the myasthenia—for example, the masseters—failed to react abnormally to tapping. So far as I know this condition has not been previously described in myasthenia gravis, and I should be interested to hear opinions as to whether its occurrence here should perhaps be regarded rather as a coincidence than an unusual manifestation of the disease.

## TREATMENT OF NEURITIS BY ELECTROLYSIS.\*

BY

W. BLACK JONES, M.D., B.S.LOND., D.P.H.,  
BULHILL WELLS.

NEURITIS is such a common disease, and its treatment often so unsatisfactory, that no apology is needed for referring to treatment by electrolysis, which gives good promise of relief in cases where the lesion is of the interstitial type, due to inflammation of the nerve sheath.

This method was first published by Dr. Naunton Davies,<sup>1</sup> and its use in sciatica has been described by Dr. E. A. Goulden.<sup>2</sup> The apparatus consists of a pantostat, or similar instrument, with two electrodes, one being a large pad, which is applied to the arm or leg, and a smaller pad or button. An insulated needle, with a platinum point, is fixed in a holder, and is used for the actual treatment. In the absence of an electric supply, a small induction coil can be used for the faradic current, and a battery of about a dozen Leclanché cells for the constant current.

For diagnosis the pads are soaked in warm salt solution, and the larger is applied to some neutral part of the body, such as the wrist; both are connected with the terminals of the induction coil. The current used should be so weak that when the small pad is applied to the normal skin it is hardly felt; when it approaches the site of the inflamed nerve a distinct pain, or series of shocks, is felt. This area is marked with a pencil. Should no tender spot be found it may be concluded that neuritis is not present.

For treatment the skin is swabbed with iodine, and a few drops of local anaesthetic are injected under the epidermis. After a few minutes the platinum needle, having been connected with the negative pole of the constant current, is inserted into the skin and pushed down upon the nerve. The large pad is connected with the positive terminal. If the spot is very tender a current of 1 milliampère or less is applied, but sometimes from 3 to 5 milliampères may be used. The current is allowed to flow for ten minutes; it is then gradually turned off and the needle withdrawn. The wound is protected by collodion.

Only one spot should be treated on the same day, and a day's interval is advisable before the next treatment. The following cases will illustrate the method of treatment.

*Supra-orbital Neuralgia.*

A plasterer, aged 38, had suffered for three years from severe pain in the region supplied by the left supra-orbital nerve. Six spots in all were treated, and he was completely relieved.

In a somewhat similar case, following upon an attack of influenza, a man had suffered from supra-orbital neuralgia for five weeks. He was relieved after two treatments.

*Neuritis and Osteo-arthritis.*

A woman, aged 25, had suffered from pain in the left shoulder for fifteen months; latterly the pain had been so severe that she was unable to sleep. The joint showed signs of osteo-arthritis, there being creaking on movement. Four spots were treated, and complete relief was obtained. The osteo-arthritis was still present, but there was no pain on movement of the joint; this shows that neuritis often occurs around a joint so affected, and is the chief factor in causing pain. The patient went away for the winter, and lived in a damp house; the pain returned, on this occasion in both shoulders. It was found that she had four spots in the left shoulder, in different places from the original areas which had been previously treated, and three in the right shoulder; all were treated and the pain relieved.

*Painful Knees.*

The knee may become similarly affected. A man, aged 54, complained of pain in both knees; one spot was found below the right patella, and on the left side three spots, one on each side of the patella and one below it. He was completely relieved.

*Sciatica.*

The only cases of sciatica that I have had an opportunity of treating are those affecting the small sciatic nerve.

A labourer, aged 49, had suffered from sciatica for two years, and came to me after an acute attack. The gluteal branch of the

small sciatic nerve was treated, and also a cutaneous branch of the popliteal; he was completely relieved.

A woman, aged 59, had suffered from sciatica for several years. After an acute attack two spots on the small sciatic nerve were treated; the pain was relieved.

A man, aged 37, had complained of pain on the left lumbar and gluteal regions; in the part last named the pain had existed for six months. No reaction to the faradic current was obtained on testing the lumbar region, but a tender spot was found over the small sciatic nerve; immediate relief was given by a single treatment.

It is important to note that, in cases of multiple spots, complete relief is not obtained until all the spots have been treated. It is probable that the electrolysis converts the sodium chloride of the tissues into sodium hydrate, and this has a caustic effect on the exudation.

## REFERENCES.

<sup>1</sup> *British Medical-Chirurgical Journal*, June, 1915. <sup>2</sup> *BRITISH MEDICAL JOURNAL*, April 9th, 1921.

## MELANOTIC SARCOMA OF THE SEPTUM NASI.

BY

PHILIP R. W. DE SANTI, F.R.C.S.,

SENIOR SURGEON TO THE THROAT, NOSE, AND EAR DEPARTMENT,  
WESTMINSTER HOSPITAL.*History of Case.*

A woman, aged 47, went to Golden Square Throat Hospital in October, 1921, for a "lump in the right nostril that kept bleeding"; she could feel it inside the nose with her finger, and it had caused some broadening of the right side of the nose; there was no pain or other discharge. She was seen by Dr. Badgerow, who found a purple tumour on the anterior part of the septum on the right side; portions removed and submitted to microscopic examination proved the growth to be a melanotic sarcoma. In February, 1922, the growth was removed under general anaesthesia with cutting instruments, and the base scraped. The growth was the size of a small walnut, and was attached to the cartilaginous septum on the right side only.

Subsequently (on March 13th) at the Radium Institute she had fifteen hours' radiation (30 mg.) screened with 1 mm. silver in the nostril; again on May 15th and on August 14th. At the end of August she was reported free of growth. Nevertheless, in October, 1922, the patient became aware of another "lump" in the nostril; owing to closure of wards at Golden Square delay took place, and eventually, in March, 1923, she came to me at Westminster Hospital.

I found the right nostril completely blocked by a bluish-black fairly firm growth, bleeding easily on probing; the actual site of origin could not be determined; there was expansion of the ascending nasal process. The left nasal cavity was free; there was no growth in the nasopharynx or the right antrum of Highmore. Microscopically Dr. Braxton Hicks reported portions I removed for examination to be "spindle-celled sarcoma of a type, the cells being large and with large nuclei; in and about the cells undoubted melanin pigment; growth is a melanotic sarcoma (melanoma)." The patient had no ascertainable secondary deposits or enlarged glands and her general condition was good.

On April 4th, 1923, I performed right lateral rhinotomy, which gave good access to the interior of the nose. The growth was clearly growing from the anterior part of the nasal septum, and involved the lateral ethmoidal mass. To remove it thoroughly I had to cut away part of the ascending nasal process of the superior maxilla; I also cut away a large part of the nasal septum and ethmoid, and the tumour was removed *en masse*. Bleeding was not profuse. The orbit was not involved, nor the antrum.

Recurrence was noticed in August, 1923. Radium treatment was given in November and in January, 1924. Considerable reaction followed, and the growth did not appear to have lessened. There was much greater external deformity, and the right maxillary antrum was obviously involved. No enlarged glands or secondary deposits were

\* A paper read before the North Glamorgan and Brecknock Division of the British Medical Association on July 8th, 1924.

detected. Owing to the total closure of Westminster Hospital for repairs, I asked my friend Mr. Harmer to take the patient into St. Bartholomew's Hospital and operate.

Mr. Harmer, who had never seen a similar case, performed the same operation as I had done, but had to cut away a good deal more of the superior maxilla, including most of the anterior wall of the maxillary antrum. He also made free use of diathermy. Immediately after completing the operation the cavity was packed with radium, which was retained for forty-eight hours. Very severe reaction followed the use of the radium. Mr. Harmer reports to me (November 20th, 1924): "The radium burn has not entirely healed yet, but most of the dead bone has separated from the cavity. As far as I can tell there is no evidence of a recurrence of the growth; ultimately I hope for a good result."

#### Remarks.

Melanotic growths, whether classified as sarcomas or carcinomas, are uncommon. I have seen few, and never a case connected with the throat, nose, or ear, and such a case is unknown to most of the rhinologists I know.

The literature on the subject of melanoma of the nose is scanty. Dr. Lack (*Diseases of the Nose*) states: "A few instances of melanotic sarcoma are on record; in one or two the diagnosis seems to have been established without doubt, but in others the pigment was probably the result of old haemorrhages." He refers to a paper by Cozzolino<sup>1</sup> in which a full description is given of an undoubted case of melanoma of the septum nasi. Cozzolino mentioned eight other cases, but in only one of them (Heymann's) does the diagnosis seem to have been beyond doubt; in the others the pigment in all probability was due to old haemorrhages. In Cozzolino's case the growth originated in the right nasal vestibule in a man aged 58; despite removal by snare and cautery it recurred rapidly, and the patient died of sarcoma cachexia and secondary growths in the internal organs. In Heymann's case also the patient lived only a short time, dying with secondary growths.

Melanomas are usually primary growths affecting the skin (pigmented moles, etc.), and containing black pigment—melanin. Spencer, in his Bradshaw Lecture,<sup>2</sup> classifies them as carcinomas. The amount of pigment varies, and usually the secondary growths contain more pigment than the primary. (In my case the primary growth was rich in pigment.) Secondary growths in the glands and internal organs is the rule, and the duration of life short—two to three years. According to Spencer, once the malignant change has started metastasis follows, whether sooner or later; there are instances of great delay in its appearance, such as twenty-two years with four recurrences at intervals, twenty years with recurrence *in situ* after ten years and another recurrence at the end of twenty years.

I was unaware of the presence of pigment in the nasal cavities, but my colleague Mr. Spencer, who saw my case with me at Westminster Hospital, informed me that melanin pigment is regularly present in the olfactory epithelium.

So far my patient has no discoverable secondary glands or metastatic deposits, and the growth is somewhat slow-growing, but it seems to have a marked tendency to local recurrence. No doubt growths in the anterior part of the nasal chamber, shut in as they are by bony walls, tend to remain localized without involvement of the glands for a long while, but in the end, if sarcomatous, they are almost always fatal.

It will be noted that after each operation radium has been employed, and there is no doubt that radium as an adjunct to removal is of great service if the growth is a sarcoma. I have had a long experience of malignant disease affecting the nasal cavities, nasopharynx, and larynx, and I always advocate the use of radium after operations for sarcoma of these parts and for any small recurrences, but as regards carcinoma my experience of the use of radium is exactly the opposite. I have found such growths generally irritated by radium, and often dissemination is hastened.

#### REFERENCES.

<sup>1</sup> *Arch. f. Laryngol.*, 1903, xv, p. 77. <sup>2</sup> *BRITISH MEDICAL JOURNAL*, November 17th, 1925, p. 507.

## THE MENTAL SEQUELAE OF EPIDEMIC ENCEPHALITIS IN CHILDREN.\*

BY

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EPIDEMIC ENCEPHALITIS, although often affecting children, is not predominantly a disease of childhood. About 50 per cent. of the four or five hundred cases in the Sheffield area during 1924 occurred in persons under 16. As great a proportion might occur in epidemic pneumonia or typhoid fever without calling for any special consideration from the children's point of view. Even in those epidemic diseases, such as diphtheria, poliomyelitis, or cerebro-spinal meningitis, in which the central nervous system is more particularly attacked, age alone does not lead to any very noteworthy differences in the results. Similar paralytic, running similar courses and showing similar groupings, are seen in young and old alike. In encephalitis, however, this is not so. Its virus, while attacking any part of the central nervous system, seems to have a predilection for those upper and upper middle nervous centres whose functional development only begins some time after birth, and whose organization and adjustment is not completed until well on in adult life.

Clinical pictures thus appear in children which have hitherto been regarded almost as the prerogatives of adult or even senile years. Children in whom week after week and month after month sleep cannot be induced at bedtime, even by the most patient mother or the most potent medicine, were almost unknown ten years ago. Paralysis agitans under 40 years of age was formerly so rare that Willige, in 1911, could only find records of less than twenty cases in medical literature, and the youngest of these was 18 years of age. Hooliganism, homicide, and suicide in children of tender years are events to which the community is unaccustomed, and for which it is unprepared. Each and all of these are now recognized sequelae of epidemic encephalitis in childhood, and indeed are its special characteristics.

Although it is impossible to arrange the stages of this disease in orderly sequence, yet in whatever order they come there are acute phases and chronic phases. In the former the mental conditions, whether of positive or negative type, differ but little in children from those seen in adults. In both there may be early exaltation and euphoria. One patient, an athletic public school boy, told me that during the first two days of his attack he never felt so fit in his life. In another case a girl was found by her parents dancing in her bedroom in the dark. Incessant and continuous talking all through the night has been often noted; sometimes it is quite unintelligible.

In some cases the child cannot keep still; it rushes about, sings and shouts, tears and destroys its toys or clothes. If delirious, "sums" or other school work form the basis of these patients' delirium; at other times it is something seen at "the pictures." They have visual hallucinations, pick at imaginary objects on the bed, or wave their arms about in an aimless manner. If they were shy and timid before, they are now bold, cheeky, and outspoken. This phase, whether coming earlier or later, does not usually last long; the accompaniments are too severe, and either death occurs or the phase changes to one of lethargy. In other cases there is no marked excitement; the acute phase is, on the contrary, characterized by drowsiness, lethargy, or stupor.

These early mental effects, of positive or negative character, resemble in many points the different effects of alcohol on different persons. One man becomes garrulous, noisy, and truculent before requiring forcible removal, another has been silent and morose for some time before disappearing under the table. The similarity of many acute cases to delirium tremens is a close one and has often been remarked.

\* Contributed to the discussion at the Royal Society of Medicine, January 13th, 1925 (see p. 114.)



*Chronic Phases.*

In the more chronic phases the mental symptoms may be divided for purpose of discussion into four main groups. Some of these are, and some are not, mutually exclusive.

1. *The Idiot Group.*—These cases are practically limited to infants up to 5 years of age. Paterson and Spence<sup>1</sup> reported seven such cases out of seventeen affected at this age. In one of my cases the attack began in December, 1920, at 6 weeks old. The child would lie quite still, apparently asleep, for twenty-four hours at a time, refusing all food. There was slight fever. A week later there was a right hemiplegia. Nocturnal restlessness followed and has remained troublesome during the last four and a half years. She is now a permanent and hopeless idiot. In this group the virus has damaged the upper and upper middle nerve centres in their primitive and undeveloped state, and there is no possibility of effective repair. The question of how to deal with them is no new problem and calls for no new machinery.

2. *The Parkinsonian Group.*—This is more common in children above than below 10 years of age. One of my cases is below that age, and others have been recorded. Paterson and Spence showed a fully developed case in a child of 8. It is not easy to estimate the amount of mental defect in these cases on account of the coexisting motor disabilities. There appears to be some loss in many of them; but on the other hand one is often surprised to find their minds so clear, in spite of the bodily inertia. Much depends on the extent of the Parkinsonism itself, and perhaps more on whether there is, as so often happens in these cases, some wider involvement of the nervous system as well, such as occurs in the two following groups.

3. *The Apache Group.*—The prototype of this group has for long existed in our larger cities, but he is usually rather older. Moreover, he has developed gradually. It is the curious property of the virus of encephalitis that it can suddenly unmask this type in a child who has previously shown no trace of such tendency. In fact, the number of cases of this and the next group who have been described as being hitherto unusually clever at their books, or particularly docile, is quite surprising. In this type the child becomes completely changed in character. He is aggressive, cheeky, and untruthful. He quarrels and fights with his fellows, wanders abroad, is dirty in his habits, shows sexual tendencies, and may even be homicidal or suicidal. Only rarely have these last features been recorded, but one such case occurred in the North of England in a boy of 15. He nearly strangled a girl who had laughed at him, and afterwards hanged himself. While this group consists chiefly of boys, girls may be similarly affected, the kind of symptoms differing with the sex. I have seen one typical case in a girl of 17 necessitating certification, and another younger girl under my care is almost as bad. How best to deal with these cases presents the greatest difficulty. Before considering their mental condition it will be well to take the next group.

4. *The "Difficult Child" Group.*—It is not easy to draw a line between this and the preceding group; indeed, the difference seems to be one of degree rather than kind. Among the cases which I have seen by far the greater number can as yet be classed under this heading. They, too, are excitable, irritable, and quarrelsome. Most of them have nocturnal restlessness and insomnia—but can sleep soundly and well when it is near "getting-up" time. If they did not they would obviously become physical wrecks. On the contrary, they are as a rule, in their waking hours, surprisingly alert and active. They are difficult to control, the difficulty varying inversely with the skill and efficiency of those around them and with the nature of their environment. Mental efforts soon tire them. That they are mentally inferior to what they were before and to what they ought to be is generally agreed, and this defect is increased by their long illness. Like adult psychasthenics, they cannot concentrate; they have lost the habit of sleeping at night, and their emotions are dulled or even abolished. One little boy of 6, a bright, lively little fellow, tells his parents that they cannot make him cry now, and it is quite true. This loss of emotional affectivity in childhood deprives the parent of the chief means of guidance and control. It

is as though one were astride a colt being broken to harness, and the reins suddenly gave way. The whip is now worse than useless, and it requires good horsemanship and suitable country to regain control and escape trouble. That these children can be controlled is shown in many ways. Most of them improve considerably while in hospital with its orderly régime and moral influences. They sleep better and improve generally. Some of them continue this improvement after going home, others relapse in bad environments. They improve also when sent away to the seaside or country, where they are out of doors all day. Conversely, after improving for a time, they are easily made worse by any excitement, even a visit to "the pictures."

There is a considerable danger of exaggerating the number of cases belonging to the apache group. Such cases by their very nature attract so much attention that there is a tendency to magnify their numbers. Personally I have only seen very few that can properly be classed as such. Others who really belong to Group 4 are made worse than they need be by the folly of those in control of them. The child's threats and doings are talked of so much in its presence that it is encouraged to do even greater things.

*Treatment.*

The problems of treatment are many and difficult. Two points stand out prominently: (1) How to protect the community against the apache, and at the same time, if possible, reform him; (2) how to prevent the difficult child from developing into an apache or a wastrel. While institutional treatment may be necessary for the former, in the public interest, yet the collecting together of this type of child and the absence of individual control has many drawbacks for him personally: he needs very much the haven of normal persons around him.

In the case of the difficult child, institutional treatment must, if tried at all, be something very different from that which is usually provided under this name. The requisites seem to be: fresh air (seaside or country), small numbers, close individual supervision, plenty of rest interspersed with regulated physical exercise of a congenial kind, carefully graded mental work under an experienced teacher, plenty of good food. It is an expensive and difficult ideal to carry out, but the numbers in any locality would not be large, and it seems as great a thing to save a damaged mind as to save a diseased limb.

REFERENCE.  
<sup>1</sup> *Lancet*, 1921, ii, 431.

## Memoranda : MEDICAL, SURGICAL, OBSTETRICAL.

### TREATMENT OF SPRUE WITH CALCIUM AND PARATHYROID EXTRACT.

I HAVE read with interest Dr. H. H. Scott's account of the successful treatment of sprue by calcium lactate and parathyroid extract in the *JOURNAL* of August 23rd, 1924. I have had some experience of it, and report the following remarkable case, in which symptoms like those of sprue were manifest, together with paresis, loss of tone, or trophic changes in the terminal nerves of the intestines, liver, stomach, ear, and skeletal muscles. The trophic, or, more correctly, the dystrophic, changes provide the pathological basis of the signs and symptoms of the sprue-like condition in this case, and I advance the tentative hypothesis that sprue is not due to any specific organism, but mainly to this exhaustion of the nerve centres or of endings in the viscera in general, particularly of the intestines. Though there are no definite pathognomonic signs in the intestines affected the condition arises solely from the lack of certain principles, supplied by the calcium and parathyroid treatment, and concerned in the causing and curing of sprue. The lack of these principles may affect the nerve terminals in the intestines, as when large, bulky, undigested, foul, fermenting stools occur in sprue, or may involve the nerve centres or the nerves themselves supplying the various organs—such as the auditory nerve when deafness and

timitus occur, as in the case here reported. Symptoms of mental exhilaration or depression occur when the brain is similarly affected. In fact sprue, and sprue-like diseases, may be regarded as deficiency diseases, caused by lack of some vital principle other than the vitamins. It may be the lack of the metal calcium which causes the neurosis.

The patient, a male, aged about 48, European, had lived in the East for more than twenty years. He complained of sore tongue and indigestion, and later of frothy, fermenting white stools, with considerable loss of weight. He had had malaria and gonorrhoea previously. From being a very sociable and entertaining man, he became very peevish and depressed in mind after the onset of symptoms, which, however, ceased when the patient was put under rigorous diet restriction and a nitro-hydrochloric mixture. Rich feeding brought on a relapse, and he now complained of deafness, a feeling of weight, and pain in his right ear, and of hearing noises. The right ear was found to harbour a fungous growth, and when it was cleared out, a discharge and tinnitus remained. The latter was very persistent, although the discharge was cured by treatment. The liver being markedly enlarged he was given emetine, which seemed to do him a little good. Symptoms of sprue again set in, however, but the discovery of the calcium and parathyroid therapy gave him new hope, and he started treatment once more, to find himself, in his own words, "cured." The cure was not complete, wasting being very marked, and there being also mental depression. He got tired, and ceased treatment, and tried a change of surroundings; this did him much good for a time, and he returned able to eat well. He is still under the treatment and is better, but the ear noises persist; he has lost a considerable amount of weight, and has to diet himself occasionally.

F. D. BAXA, M.B., M.R.C.S.,  
D.P.H., D.T.M. and H.

Bombay.

#### PERFORATION OF CHRONIC DUODENAL ULCER IN A BOY.

It will, I feel sure, be of interest to record this case of perforation of a chronic duodenal ulcer in a child of 14 years, not only on account of the rarity of this occurrence in a child of these tender years, but also in support of Dr. A. F. Hurst's theory of congenital predisposition to duodenal ulcer, set out in his address on the hyper-thenic gastric diathesis. The early age of this patient—an age at which the abuse of diet and general hygiene, one would think, had not had time to produce such disease—the nature of the ulcer found, and the general condition of the stomach at the time of operation, all help to convince me that the predisposition was so great that it did not require any powerful secondary exciting cause to produce the result.

On November 10th, 1924, I was called to see D., aged 14, who had been taken violently ill the previous evening with severe abdominal pain; I saw him at about 2.30 p.m., and learnt that after an unusually good tea the previous day he had been playing until 7.30 p.m., when he suddenly collapsed with pain; he became white, and screamed. He was put to bed and spent a restless night, vomiting and distressed. Finding him no better the following morning, his mother sent for me about mid-day. When first I saw him he looked very fit and did not complain much; his temperature was 102° and his pulse 140; he was generally tender all over the abdomen, with perhaps a particular selection for the region of the right iliac fossa. The tongue was muddy and offensive. I determined he had a perforated appendix with general peritonitis, and at once ordered his removal to hospital.

I operated at about 4 o'clock, and opened the abdomen through a right lateral rectus incision, as for an appendix. There was a quantity of free fluid, and the parietal and visceral peritoneum were both intensely inflamed. The appendix was found to be normal and was removed. The wound was then extended upwards, so as to expose the stomach. On the anterior wall of the first part of the duodenum, and attempting to adhere to the under surface of the liver, was the perforated base of an ulcer. The ulcer was about the size of a shilling, hard and crateriform, and had at its base a perforation about the size of a pea. This perforation was closed with a fold of the gastro-hepatic omentum, and a posterior gastro-enterostomy performed. The muscular wall of the stomach and the gastric mucous membrane were both found to be much hypertrophied when one came to cut into them, and the latter was intensely congested. Drainage was effected through an opening in the lower portion of the abdominal wall and the wound closed. The patient made an uninterrupted recovery and was home at the end of sixteen days.

The previous history of this case is interesting in view of these later events. The boy had pneumonia in 1918, and began to complain of abdominal pain some twelve months ago. He always had an unusual appetite and was always craving for food, even between meals. His teeth were quite normal, and there is no evidence of sepsis either in his throat or nose. He has a scar on his right cheek, the result of a birth injury which tore open his cheek practi-

cally from the angle of the mouth to the ear. It is of interest to record that some nine months ago I removed a perforated appendix from his mother.

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L.R.C.P.

Garry, Glam.

#### ENCYSTED PSOAS ABSCESS: OPERATION: RECOVERY.

A WOMAN, aged 40, had pleurisy in 1899, and "very advanced" lateral curvature of the lumbar spine in 1902. She was treated in bed for six months, and recovered.

In March, 1924, she complained that her right thigh was stiff, and that she could not cross the leg over the other. She presented small lumbar kyphosis and a large boggy fluctuating swelling in the region of the right hip and the upper half of the thigh. There was resistance and dullness in the right flank, but no fluctuation between abdomen and thigh was detected.

On April 23rd 50 ounces of fluid were aspirated, thick with cholesterol crystals and resembling an emulsion of gold dust. By May 25th the fluid had reaccumulated.

On June 4th the sac was exposed beneath the tensor fasciae femoris. Its wall was thick and white, and the cavity burrowed deeply beneath the glutei and the muscles of the upper thigh. The lower part of the sac wall, about 8 in. square, was dissected out and removed. The cavity was left open to drain into the intermuscular planes.

In December, 1924, there had been no recurrence, and the patient was not conscious of discomfort.

The case illustrates the favourable termination of lumbar curvatures with curvatures and psosas abscess. The patient's carriage and figure are now well above the average.

Carnarvon.

GRIFFITH EVANS.

#### AIR EMBOLISM FOLLOWING URETHROSCOPY.

I report this case in order to emphasize a little known source of danger in using the aero-urethroscope.

A man, aged 30, was sent to the Chester venereal clinic with a history of a recent slight haemorrhage from the urethra. He denied having exposed himself to infection, and there was no obvious discharge, although gonococci were subsequently found. The urethroscope tube was passed and I examined him in order to try and locate the cause of the bleeding. In a few seconds after starting inflation we noticed a general tetanic spasm; he then became profoundly collapsed, quite unconscious, and pulseless. His breathing was shallow and irregular. On auscultation of the heart numerous musical sounds were heard, which at once suggested the presence of air. He remained in this state for nearly an hour, and then only slowly recovered. He was admitted as an in-patient, when it was found that his vision had almost completely disappeared. Next morning he appeared to be quite normal and the only physical sign noted was a slight systolic bruit.

I have assumed that the cause of the collapse was an air embolism due to a direct communication between the source of the previous bleeding and the cavernous sinuses.

Chester.

K. V. TRUBSHAW, F.R.C.S. ED.

### Reports of Societies.

#### DRUNKENNESS: ITS SIGNS AND MEDICO-LEGAL ASPECTS.

At a meeting of the Society for the Study of Intebriety on January 13th, Sir WILLIAM WILCOX presiding, Sir JAMES PURVES-STEWART gave an address on the subject of drunkenness, and particularly on the tests to be employed in assessing intoxication.

Sir James Purves-Stewart said that in the *Oxford Dictionary* a drunk man was defined as one who was overcome with liquor. This was not quite synonymous with alcoholic intoxication, because a person might have taken a mildly toxic dose of alcohol insufficient to overcome him or make him drunk. At what stage of alcoholic intoxication was a man to be regarded as drunk? According to a legal dictionary, no statutory definition of drunkenness existed, and a man might be held drunk in connexion with one offence when he would not be held drunk in connexion with another. The degree of intoxication which would make an engine-driver drunk if he were driving an express train would not legally make him drunk if he were walking

along a country lane. Medical men had to be more precise, and he would submit the following definition:

A drunk person is one who has taken alcohol in sufficient quantity to poison his central nervous system, producing in his ordinary processes of reaction to his surroundings a temporary disorder which causes him to be a nuisance or danger to himself or others.

In the eyes of the law a person was liable to punishment, not for being merely drunk, but for some combined offence, such as being drunk and incapable. Alcohol intoxication occurred when the quantity of alcohol absorbed became enough to poison the central nervous system and disturb its normal reactions. The total amount necessary to produce nervous symptoms varied widely in different persons. The seasoned toper might consume large and increasing quantities for many years and never show any signs of drunkenness, while the habitual teetotaler would become drunk if he tried to keep up with him for an hour. Alcohol swallowed before or between meals was more rapidly absorbed than when taken with or immediately after food. Fatigue and excitement might predispose to rapid alcoholic intoxication. A sudden fall in atmospheric temperature might precipitate drunkenness. The most rapid method of alcoholic intoxication that he knew was intravascular injection.

One of the early effects of moderate doses was to dull the critical and inhibitory centres in the cerebral cortex. Everyone who organized a charity dinner knew how alcohol set free the latent generous impulses of the diners; therefore the subscription list was never sent round until near the end of the banquet. The lower muscular centres might also become imperfectly controlled. Cerebellar inco-ordination might be brought to light by a sudden change of posture. Many guests only realized that they had dined not wisely but too well when the time came for them to rise from the table. Double vision was not uncommon. Hughlings Jackson used to tell the story of a Scotsman who said to a fellow Scot: "When ye gang oot o' the door, Tam, ye'll see twa cabs. Jist get intae the first yin, for the second yin's no there." Indistinctness of articulation was another frequent sign. Alcoholic vomiting might tend temporarily to aggravate the nervous symptoms. The smell of alcohol was conclusive evidence that alcohol had recently been swallowed, but of nothing more, for it might be produced by a single glass of alcoholic refreshment. City men took cloves and other aromatics after their mid-day sherry to mask the smell. Alcoholic hiccup occurred only at an early or moderately advanced stage of alcoholic poisoning. A deeper stage was alcoholic stupor, but even here it was well to be cautious. An alcoholic aroma in a comatose patient, though suggestive, was not conclusive evidence of alcoholic poisoning. An intercurrent attack of apoplexy might have supervened, or the man might have fallen and sustained a head injury. Unilateral signs, such as localized paralysis, pointed to a unilateral intracranial lesion. The urine should be examined to exclude diabetic and uraemic coma, while various other poisons such as veronal could be recognized by appropriate tests of the gastric contents, urine, or cerebro-spinal fluid. Typical alcoholic stupor was a less profound degree of unconsciousness than that of opium or veronal poisoning. The diagnosis of drunkenness was often so easy that it was arrived at by non-medical observers, in most cases of police, and was confirmed, or otherwise, by the police surgeon. In nine cases out of ten the policeman's diagnosis was correct. There was a good deal of loose thinking on the subject of tests for drunkenness. With the possible exception of a positive reaction for alcohol in the cerebro-spinal fluid, there was no single clinical sign which was pathognomonic of alcoholic poisoning of the central nervous system, because drunkenness was not a single entity, like a broken bone or a consolidated lung, but a way in which certain nervous tissues reacted, as evidenced by a whole series of transient phenomena following the initial poisoning. He then went on to consider in detail some of the commoner clinical phenomena observed by medical men as tests in the recognition of drunkenness at a given moment. In his opinion disorders of articulation, to be of value in establishing the diagnosis of alcoholic intoxication, should be present in the pronunciation of words which the particular

individual was likely to use in his ordinary conversation. It was all very well to try an elocutionist or a schoolmaster with tongue-twisters, such as "terminological inexactitude," but to expect perfection in such phrases on the part of the chauffeur, especially at a time of emotional shock following arrest, was unfair. Disorder of the reflexes was of no practical value in the recognition of alcoholic poisoning. The exaggeration of knee-jerks and other deep reflexes was sometimes mentioned by medical officers as indicating acute alcoholic poisoning, but the degree of briskness of these reflexes varied so widely in normal individuals that their exaggeration could not be regarded as of diagnostic significance.

His general conclusion was that in slighter cases of supposed drunkenness two distinct and successive facts must be proved to have occurred in order to establish a diagnosis. First, it must be shown that the person had recently taken alcohol; secondly, the reactions of his central nervous system to his surroundings must be shown to be temporarily disordered to such a degree as to be injurious to himself or to other people. If a person already suffered from disease of the central nervous system, thereby preventing the corresponding cerebral, cerebellar, pontobulbar, or other symptoms, and happened to come under observation after taking alcohol in the most moderate amount, he might easily be the victim of an injustice. But in such a patient the phenomena would not be temporary; they would be present both before and after the alleged poisoning. There was also a class of persons in whom transient excitement, due to such a circumstance as being arrested, might simulate alcoholic poisoning of the central nervous system. When the decision was doubtful, it was the duty of the medical officer, resisting the human tendency to corroborate without careful consideration the snapshot diagnosis of the police-constable, to give the patient the benefit of the doubt. Matters were different, however, in cases where, superadded to the alcoholic breath and emotional excitement, there was incoherence of thought and speech, together with signs of temporary cerebellar and pontobulbar disorder. The important point, after all, was not whether the person could perform various elocutionary or acrobatic feats, but whether he was in a fit condition to pursue efficiently his ordinary daily avocation.

In the deepest stage of alcoholic poisoning, where stupor had supervened, the history and surroundings of the case, together with the appearance of the patient, were usually characteristic, but other varieties of coma must be excluded, not only those arising from outside poisons, such as opium or veronal, but also from autogenous toxins, as in diabetic and uraemic coma. The possibility of gross vascular lesions, such as cerebral or pontine haemorrhage, and traumatic lesions, as in head injuries. There was no short cut to accurate diagnosis. The only safe guide was a careful and systematic clinical examination. The main difference between a superior medical opinion and one which was less valuable was, not that the one man necessarily knew much more than the other, but that he was wise enough to make a more careful and more accurate examination of his cases.

#### Discussion.

The ensuing discussion was almost entirely confined to a few remarks from two or three divisional police surgeons. Dr. M. I. FINEANE felt strongly that medical men must not overlook the enormous responsibility which was theirs in view of the increasing and very serious dangers to the community which drunken people brought about in these days of mechanical transport. In his experience, in 99 per cent. of the cases which came before the divisional surgeon the police had been right. He gave particulars of the examination which he conducted, and which lasted half an hour or longer. Dr. MATHAN also described his procedure, and said that after eliciting what the person had had to eat and to drink, and his account of the accident, he devoted usually not less than three-quarters of an hour to physical examination. Dr. BLACKETT referred to the usefulness of the time test. If a person under the influence of alcohol were asked to tell the time without looking at the clock he was generally an hour or two out. Another member of the audience referred to Dr. Eyslop's contention that the

process of becoming drunk began as soon as a man's judgment was affected. Another member referred to the strong position taken by the automobile authorities on this point. One of the leading motor journals had said that motorists must realize that even the smallest quantity of alcohol had deleterious effects on their driving.

Sir WILLIAM WILLECOX, in closing the discussion, referred to the great difficulty arising in the case of persons who might be subject to organic defects of various kinds. Some little time ago he gave evidence in a case of alleged drunkenness, in which the examination showed some signs of nervous instability. Within three months that person developed grave organic nerve disease. No doubt the phenomena exhibited at the time of the accusation were due to the oncoming symptoms. He had never met with a case in this country of optic atrophy occurring as the result of the taking of alcohol, but he had seen one such case in the United States. There was no doubt that impure wood spirit did give rise to retrolbulbar neuritis which might be followed by optic atrophy, and in these cases generally it was not only the optic nerve that was damaged, but there was considerable other damage as well. In the case he had seen the patient developed grave mental disorder, due no doubt to the effects of this impure alcohol, and the case terminated fatally. The lecturer had referred to the extensor plantar reflex; this Sir William Willecox had not seen in cases of alcoholic stupor, but one knew that it did occur with many of the narcotic poisons—veronal, salvarsan, sulphonal all gave it—and an extensor plantar reflex might be shown in cases of coma from bacterial poisoning. In general he could only say that the diagnosis of drunkenness was in many cases very easy, but in some cases in which the intoxication was slight, and in which the person might be subject to some functional or organic nervous disorder, the diagnosis was extremely difficult, and he was sure that Sir James Purves-Stewart's address would prove to be of great assistance.

### THE MENTAL SEQUELAE OF ENCEPHALITIS LETHARGICA.

Four Sections of the Royal Society of Medicine (Psychiatry, Neurology, Disease in Children, and Epidemiology) combined in a discussion on January 13th on "The mental sequelae of encephalitis lethargica." Dr. R. H. COLE was in the chair.

Professor M. BRAMWELL (Edinburgh), in opening, said that recent experience of epidemic encephalitis had served to demonstrate that the clinical picture and the ultimate outlook were both much more varied than was at one time believed. It was now known that in some cases the onset was insidious and the course slowly progressive, and it was generally recognized that months, or even years, after the patient appeared to have made a more or less complete recovery remissions might occur. It was impossible even to express a dogmatic opinion as to when the patient was to be regarded as out of danger, and as to whether or to what extent the existing manifestations of the disease cleared up. Were the mental symptoms themselves sufficiently characteristic and distinctive to permit of a diagnosis apart from the help that might be afforded by the history and the presence of physical manifestations? Personally he believed that this was rarely if ever possible. He went on to draw attention to the mental sequelae which had specially impressed him. In the case of adult patients the complaint was often made by them—if they complained of anything at all—was (in his own words, of course, not in theirs) slow cerebration, mental fatigue, and defective application. It was almost unnecessary to remind his audience that in those cases in which the Parkinsonian syndrome was present the expressionless face so well recognized might give a misleading impression of the patient's mental capacity. Another feature was that the patient who had had a more or less acute attack of epidemic encephalitis could seldom recall any of the events pertaining to the earlier stages of his illness. These people, however, seemed to regard their condition, mental and otherwise, very complacently. Pronounced mental depression was very uncommon. He had never met a case of suicide, although two or three patients of a nervous temperament had volun-

teered the remark that they felt as if they might do something desperate. A true psychosis calling for certification was, to judge from his experience, a very exceptional sequel to epidemic encephalitis. Disorientation and more or less mental confusion were often observed about the time of onset of an acute case, and he had met with two or three cases in which the patient was maniacal. These phenomena, however, were to be associated with the acute stage of the disease, and not as sequelae in the true sense of the word. On the other hand, he had been impressed with the number of cases in which the patient found himself unable to cope with his duties on returning to work, and the patient's recognition of his incapacity had led to sleeplessness and other secondary psychological conditions. In children the great majority of the cases he had met with had conformed closely to the adult type, though there were differences. He had met with a number of cases in which parents had remarked on the altered disposition of the child and had complained of his irritability and inchoiveness. In only one of his cases was moral deterioration present to a pronounced degree at the time the patient came under observation. These moral defects did not appear to be met with in adults. Another thing met with in children, but not often in adults, was the disturbance of the sleep rhythm. The speaker dealt with points to be noticed in diagnosis, and referred to the great importance of the Parkinsonian syndrome. Some slight immobility of the face, an unnatural pose of the arm or hand, or an apparent stiffness about the trunk had suggested the appropriate line of inquiry; otherwise one might have failed to recognize the condition. A great variety of tremors and anomalous movements also were met with, and all such movements should nowadays bring to one's mind the possibility of epidemic encephalitis.

Professor ARTHUR J. HALL's remarks are printed in full this week at page 110.

Dr. F. G. SHRUBSALL brought forward some figures obtained in the London school medical service. Reports had been obtained in the latter part of 1924 relating to the condition of 119 children who, earlier in that year, had been reported as suffering from encephalitis. Of this number 26 had apparently completely recovered, and 93 partially recovered. The predominant symptoms at present were: impaired sleep, 40; impaired intelligence, 26; paresis, 6; twitchings, tremors, or "fits," 12; ocular symptoms, 10; conduct changes, 44. The proportion of cases which seemed to have recovered completely was low, but it was probable that the milder cases did not come under notice. The most characteristic of the mental changes was irritability, the rapid onset of fatigue, lack of continuity of attention, such as was noted in those recovering from influenza, but in the case of encephalitis the condition persisted for a prolonged period. The common story from the schools was that the subject's work had fallen off badly, his attention wandered, and he was sleepy. The changes of conduct noted were of a varied character, but seemed to take their origin in the state of irritability, lack of inhibition, and consequent impulsiveness which immediately followed the acute phase of the illness and became fixed either by habit formation or by a secondary development of psychoneurosis dependent on the particular features of the individual environment. Dr. Shruballs gave a remarkable account of the conduct changes in some individual instances. One of these was a theft mania, which took the form of persistent stealing of bicycles, the culprit endeavouring to sell the machine after having had his "joy ride."

Dr. A. S. McNALLY, in a joint contribution from Dr. ALLAN PARSONS and himself, dealt with the epidemiology. He said that encephalitis lethargica was a disease which was claiming an increasing toll of victims. The notifications for 1924 largely exceeded the figures for each preceding year. From 1919 to 1923 the inclusive case mortality had averaged about 50 per cent. on the basis of the notified cases, but during the recent outbreak there had been indications that the severity of the disease had declined. It was sufficiently established that the disease brought in its train sequelae of both neurological and medico-legal importance. The manifestations of the after-effects of encephalitis lethargica might be grouped into (a) those appearing in the course of the original acute

malady and persisting after partial or complete disappearance of all other symptoms, and (b) those which ensued after the original acute malady had apparently terminated or, in some cases, had passed unrecognized. It was as yet unknown whether the late manifestations were true after-effects or were indicative of the persistence of the original infection, an interval of latency having occurred. Investigations were now being made by the Ministry of Health on this question. In a number of instances reported to the mental condition had been such that it was necessary for the patient to be certified. The great frequency of the Parkinsonian syndrome was a marked feature in Continental literature; it was difficult to say whether the fact that the acute illness passed unrecognized and unmanifested could not be ignored, however, the late disease were more pathetic than juvenile cases of pargia. agitants, familiar to the neurologist since 1919. The treatment and provision of institutions for patients presenting Cases of mental disorder following on encephalitis lethargica in the adult appeared, on the whole, to be more recoverable than similar conditions in children. At the same time, it was his opinion that many juvenile cases, if recognized early and suitably and sympathetically treated, would do well. Between these cases and the severe mental disorders with hopeless prognosis were a number of cases of mental derangement in which special treatment would be well worth trying with a view to recovery. Facilities were needed also for medical observation and study of these conditions. The question of making provision for the special care and treatment of the after-effects, especially the mental, was under the consideration of the Ministry of Health and other Government departments at the present time.

Dr. P. C. P. CLOARE said that the mental symptoms which arose in toxic infections states were of a fairly uniform nature, chiefly impairment of apprehension of environment, of the power of retaining mental impressions, and of memory and its activation, and variability in mental capacity and the level of attention. These disturbances resulted in the well known clouding of consciousness, often amounting to delirium, with hallucinations, illusions, and disorientation. It was important to realize that the mental symptoms of acute lethargic encephalitis belonged essentially to this toxic infectious group. But in addition there was one most important complicating factor, one which gave the disease its distinctive character, and was closely bound up with the pathogenesis of all its mental manifestations; this was lethargy. Though the other acute mental symptoms appeared to be due to a toxic affection of the brain, and hence were more marked at night, when toxic effects were commonly most apparent, it was difficult to escape the view that lethargy arose from quite another cause. The lethargy appeared to be due to the localization of the disease process predominantly in and about the mid-brain. Sometimes lethargy preponderated, and the toxic symptoms were slight; in this case the state of prolonged sleep was found to be common in the early days of the acute illness; at other times the toxic symptoms were more severe, and there was an active delirious state at night which might continue in a milder form during the day. The view that the lethargy was not a result of the toxæmia was supported by the fact that it was quite easy, as a rule, to wake the patient up, when he was frequently as clear as if awakened from normal sleep—a very unlikely possibility if the drowsiness were really a toxic manifestation. In the coexistence of lethargy, a phenomenon perhaps dependent upon inflammatory reaction in the mid-brain, and the toxic infections mental symptoms of acute encephalitis lethargica. The speaker went on to consider closely the mental symptoms of cerebral damage, and to argue that psychoses of the constitutional type probably did not occur, except as accidents, in relation to encephalitis lethargica.

The further discussion was adjourned to a later meeting, provisionally fixed for January 27th.

## CANCER OF THE OESOPHAGUS.

A JOINT meeting of the Sections of Surgery and Laryngology of the Royal Society of Medicine was held on January 7th, with Mr. H. J. PATERSON, President of the Section of Surgery, in the chair.

Mr. H. S. SOUTAR read a paper on carcinoma of the oesophagus, which during the decade 1910-20 was responsible for 16,000 deaths, 12,000 of the deaths being in males, and constituting 7 per cent. of the deaths of males from cancer. The preponderance of males affected would have been even higher had not the post-cricoid cancer been so common amongst women. It was for this reason that statistics collected from different sources might show very different proportions—the number of female cases being much higher in laryngological practice. Three common sites for cancer of the oesophagus were well recognized—at the commencement, in the middle where it was crossed by the left bronchus, and at the lower end. In men the cancer occurred more often in the lower sites, but in women the post-cricoid form was three times more common than either of the others. Most cancers of the oesophagus were squamous-celled, exhibiting large numbers of cell nests and marked keratinization, but occasionally medullary forms occurred, these usually spreading from the stomach. The growth was generally circular and single, though multiple strictures might occur from lymphatic permeation. At *post-mortem* examinations the extent of the growth was often astonishing, the greater part of the gullet being replaced by a tube composed of cancer cells, which alone shut off the structures of the mediastinum. Death usually occurred from perforation into a bronchus with resulting septic pneumonia. The average duration of life after the first symptoms was about twelve months, and as a rule the cases were inoperable, from the point of view of radical cure, when symptoms began. The symptoms of the disease were—(1) dysphagia in spite of a good appetite; (2) the regurgitation of small quantities of food, usually early in the morning, after which the patient might be free from this for the rest of the day—thus differing from the copious and repeated regurgitations of cardiospasm; (3) hoarseness; (4) dyspnoea from mechanical pressure on the trachea or bronchus; (5) marked and rapid wasting, which a remarkable recovery was made after intubation; (6) cachexia was a late symptom. Three methods of local examination were available—by bougies, by the x rays with a bismuth meal, and by the use of the oesophagoscope. While the danger of bougies had been exaggerated, the speaker preferred only to use them in conjunction with the oesophagoscope. The x rays had proved most useful, not only in the diagnosis of the tumours, but also in showing the extent and nature of the stricture. As regards treatment, no radical operation was as yet feasible except perhaps in a very few cases of cervical growths, so that palliation was all that was aimed at. Opinion was divided as to the use of x rays and radium, but in his hands these had been disappointing. The stricture of the oesophagus might be dilated by bougies, but the effect of this lasted only a few weeks, whereas intubation gave more permanent relief. He now used a modification of Symonds's tube, consisting of coiled German silver wire, elliptical in section and having a slightly spiral form. These were introduced along a flexible bougie after dilatation of the stricture as far as was safe, the whole operation being performed under direct vision through the oesophagoscope. The patient was quite unconscious of the presence of the tube and was able to wear it indefinitely, so that he was given complete relief from the stricture. This had the advantage over gastrostomy that the patient was able to eat finely divided food and to swallow his saliva.

Dr. G. E. VILVANDRÉ showed a number of x-ray photographs of carcinoma of the oesophagus as well as of other conditions with which it might be confused, notably cardiospasm and pouches, and pointed out the differences in the appearances in these conditions. While the x rays could usually establish the diagnosis, a few early cases might be missed unless the oesophagoscope was also used.



Sir STCLAIR THOMSON pointed out that dysphagia was often a late symptom, and urged that when elderly people began to lose flesh without any other obvious cause the oesophagus should be explored by the oesophagoscope, which would reveal a growth before x rays could do so. Many cases of oesophageal cancer died of chest symptoms without having had any dysphagia at all. He inquired what was the general feeling about gastrostomy—was it usually performed too late or should it never be performed at all?

Sir CHARTERS SYMONDS thought it remarkable that Mr. Souttar's wire tubes did not in time work downwards through the growth—possibly this accident was prevented by the penetration of the growth through the interstices of the wire. He had never seen an accident from the use of bougies, but care must be taken not to force them down when the patient was regurgitating. As regards the diagnosis, dysphagia was not always present, and he had seen a case in which the first symptom, contrary to general experience, was distasto for food. He considered that gastrostomy was never necessary, since it was possible to intubate any part of the oesophagus, even the lower end.

Dr. WILLIAM HILL considered that the statistics of cancer of the oesophagus had been falsified by the inclusion of many cancers of the pharynx. The level of crossing of the left bronchus was not, in his opinion, a special site for cancer, but the whole of the middle third (the part generally most affected by swallowing escharotic fluids) was liable to be affected. Dysphagia was a late symptom and the x rays were not to be relied upon for early diagnosis, which could only be made with certainty by oesophagoscopy. He held a brief for radium treatment, from which he had had some very successful results, but added that its successful application required a special technique. Recently he had tried diathermy in a few cases. He regarded Symonds's tubes as invaluable.

Sir JAMES DUNDAS-GRANT traced the progress of the treatment of carcinoma of the oesophagus. He suggested that rubber tubes might have a "dilator effect." Several cases of post-cricoid cancer in young women had been due to the loss of teeth and resulting bad mastication. Gastrostomy was a dangerous operation if performed late, but where successful gave great relief; some of his patients had been able to return to work after this operation.

Dr. G. F. STEDING said he used a Symonds tube of a material with which bismuth was incorporated. He considered that little advantage was to be gained by passing bougies through an oesophagoscope, since only the top of the stricture could be seen, whereas the x rays would reveal the whole course of a stricture. A bougie properly handled was free from danger and followed the windings of the stricture. Many of his cases had already had a gastrostomy performed; in such cases he intubated the stricture and allowed the gastrostomy to close, since patients invariably preferred the oesophageal tube.

#### Fat Necrosis of the Breast.

Mr. GEOFFREY KEYNES read a short communication upon a case of fat necrosis of the breast. The patient, a spinster aged 50, presented a hard tender nodule in the upper and outer quadrant of the breast; this was attached to the overlying skin, which was slightly dimpled. No enlarged glands were palpable. A clinical diagnosis of carcinoma was made without hesitation, not only by the speaker, but also by three other surgeons. At the operation the lump was cut into, and small white areas, surrounded by a zone of infiltration, were revealed. A frozen section showed large polyhedral cells which, though larger than the usual carcinoma cells, were regarded as cancerous; a radical amputation of the breast was therefore performed. Paraffin sections cut subsequently to removal, microphotographs of areolar tissue with infiltration of necrosis in fatty leucocytes, and, in places, numbers of large polyhedral cells, now identified by Sir F. Andrews as embryonic fat cells. There were also scattered through the section some large multinucleated giant cells, the nuclei of which were centrally placed. Though there was no blood pigment in the sections, and no history of injury, there could be little doubt that the origin of the fat necrosis was traumatic.

Five similar cases reported in America were all traumatic in origin—three from saline infusion and two from blows. Mr. Keynes considered that the chalky whiteness of the necrosed areas, resembling the "fat necrosis" of acute pancreatitis, combined with a history of trauma, should suggest the true diagnosis to a surgeon who was on his guard against this very rare lesion. In reply to a question, Mr. Keynes said that the breast tissue itself was normal, and that the tumour lay in the subcutaneous fat superficial to the true glandular tissue.

#### RESEMBLANCES BETWEEN LEPROSY AND TUBERCULOSIS.

At a meeting of the Section of Tropical Diseases and Parasitology of the Royal Society of Medicine on January 8th, Dr. L. S. DUNGEON presiding, Sir LEONARD ROGERS delivered a lecture on points of resemblance in the epidemiology and treatment of leprosy and tuberculosis.

Sir Leonard Rogers, who illustrated his remarks by reference to maps of India showing the distribution of these two diseases and the geography and climatology, pointed out that when leprosy reached an area where climatic conditions were favourable to its spread, and where it had not occurred before, it tended to take an epidemic form, and the same was true of tuberculosis when it affected tribes and races hitherto free, as instanced in the Sandwich Islands and islands off the South American coast. It had to be remembered that in the greater part of Europe and the United States the great majority of the population of over 15 years of age had been "tuberculinized"—that is to say, infected with the tuberculous organism, although mostly without symptoms—and this fact obscured to some extent the relationship of the disease to climate and other factors. Both leprosy and tuberculosis were essentially house infections. Formerly tuberculosis was looked upon as hereditary, and leprosy also, as late as 1860-70, was considered by all European authorities to be essentially hereditary; but it was now known that this was absolutely untrue. The theory of hereditary predisposition had been suggested in connexion with both diseases, but the general opinion now was that in both this was a doubtful factor. Young people were much more susceptible than older people to both infections, and for this reason the conjugal relationship played only a very minor part as a source of infection. He believed the incubation period in leprosy to be shorter than was usually supposed—in the majority of cases not more than two or three years, rarely over five years—and some recent figures from the Philippines relating to children exposed to infection confirmed this view. A child, as long as it remained in the house with an infective leper, was likely to get the disease, and the same was true of tuberculosis. If children in tuberculous families were boarded out, as was largely done in France under the Grancher system, they were not likely to get the infection. It was also evident that in both diseases certain cases were much more infective than others. In South Africa, out of 2,500 patients in leper asylums, nearly 700 were found not to be discharging bacilli, and from the prophylactic point of view there was no value in their segregation. He felt that there was a great deal too much segregation of non-infective leprosy, and a great deal too little segregation of tuberculous cases of tuberculosis. No open case of tuberculosis ought to be allowed to reside in a house in which there were children.

Continuing, Sir Leonard Rogers said that the route of infection, which in tuberculosis was the air passages, in leprosy was mainly the skin. He thought it possible that the high incidence of leprosy in areas of heavy rainfall might be explained by the large number of biting insects in such regions, and by the fact that their punctures of the skin were exacerbated by scratching by the victim. In this way any micro-organism on the skin might be rubbed into the tissues. He then drew attention to the climatic differences between the leprosy and the tuberculosis distribution. One exception to the close correspondence between heavy rainfall and high leprosy incidence was to be noticed in Lower Bengal, where the rainfall was high and the

leprosy rate low. The low incidence of leprosy here has been attributed to the natural segregation in this region, where the houses were built at a considerable distance from one another, not in the close aggregations of Indian villages elsewhere. On the other hand, to bear out his main argument, leprosy was low in the Deccan and in Central Madras, where also the rainfall was low. Turning to the distribution of tuberculosis, he remarked that Assam, with the highest rainfall in India, had almost the lowest tuberculosis rate; also in some other parts of the country the tuberculosis incidence did not follow the rainfall. In certain areas the construction of the land was such that, while there was no great precipitation of rain, the damp relatively rainless areas brought rain, prevailed in these continued beyond the rainy region—and in these regions the tuberculosis rate was high. It was the general rule that places with the lowest humidity had the lowest tuberculosis rate, and there was no real contradiction even in Assam, with its heavy rainfall and its low tuberculosis incidence, for here there was an area which, notwithstanding the rainfall, was, by the configuration of the land, protected from the rain-bearing monsoon currents. In brief, rain favoured the leprosy bacillus; damp winds, which did not necessarily mean rain, favoured the bacillus of tuberculosis. He pointed out that in the case of leprosy the organism was extremely difficult to cultivate, which indicated that it did not live for any length of time outside the body, and this fitted in with the theory that high rainfall created favourable conditions for the leprosy bacillus to live for a short time on the skin, and so get rubbed into any slight wound.

Surgeon Rear-Admiral Sir PERCY BASSETT-SMITH commented what seemed to him Sir Leonard Rogers's inference that where tuberculosis was abundant it protected to some extent against leprosy. It did not appear to him likely that tuberculosis could immunize a population against disease of a totally different character.

Lieut.-General Sir WILLIAM LEISKEMAN considered that there was a possible parallel to what Sir Leonard Rogers had pointed out in the case of two other organisms, themselves closely allied, though quite different from the organisms of tuberculosis and leprosy—namely, the typhoid and paratyphoid organisms. There was no laboratory evidence whatever that immunization with typhoid bacillus gave antibodies to the paratyphoid group, but his own experience in the war showed clearly that inoculation with the paratyphoid vaccine did give definite protection against the paratyphoid. As the typhoid inoculation in the army was increased, in the early days of the war, the incidence of typhoid fever fell, but so did the incidence of paratyphoid infection, and yet there was no laboratory evidence of immunization against this latter.

Sir LEONARD ROGERS, in replying to the brief discussion, said that he had worked out his figures for the distribution of tuberculosis in India, not from the statistics for the general population, which were absolutely valueless, but from the figures for the gaols, which were collected by qualified medical men. Further, he had taken the figures for ten consecutive years, and for separate areas each time. The distribution of pneumonia was quite different from that of tuberculosis, so that it was not a case of the incidence of lung affections simply. He went on to declare his absolute opposition to the unrestricted segregation of lepers. While it was too soon to speak of cures of leprosy, he had known cases remain well for ten years after having been covered from head to foot with leprosy lesions. But compulsory segregation was a stumbling-block to that early treatment which was necessary if cure was to be effected, for where there was segregation the early cases did not come forward.

*Animal Infections in the Zoological Gardens.*  
Dr. N. S. LUCAS gave an account of the infections of animals in the gardens of the Zoological Society of London. The commonest infections, he said, were those of the pulmonary and alimentary systems. Many captive animals showed extraordinarily low powers of resistance to pulmonary disease; polar bear cubs, for example, invariably died of pneumonia within a week of birth. No particular

type of mammal or bird could be said to be specially immune from or specially subject to pulmonary disease, though perhaps the larger birds came less frequently than others to the post-mortem room. The size of mammals furnished no clue to their capacity of resistance; he had seen a giraffe apparently well in the evening and dead the next morning from pneumonia, whereas the little marmoset, affected in the same way, put up a good fight for life. Animals died from pneumonia with extraordinary suddenness; he had seen a monkey die while taking a meal of rice, with some uncommon amongst mammals, and birds occasionally had pericarditis, with more or less effusion. Enteritis with mammas, birds, and reptiles alike had been a common cause of death. In healthy birds the number of colonies of *B. coli* on a plate was not large, but in diseased birds these colonies became very numerous. He believed that *B. coli* played a far more important part in the pathology of bird enteritis than it did in human enteritis. Except for bird enteritis as they would obtain in their natural haunts, and he thought it possible that a stago was reached when *B. coli* became pathogenic. Newly imported animals died of enteritis or of pulmonary infections more frequently than animals which had been longer in this country; but deaths were also very frequent among animals which had been domestic pets, and failed to adapt themselves to the new environment. Of the chronic infections the most important was tuberculosis. An idea prevailed that tuberculosis caused the bulk of the deaths among mammals in the Zoological Society's care. This was not the case; tuberculosis was a diminishing which sent up the figures. Such an epidemic occurred in the anthropoid ape house in the early part of 1924. Among mammals the apes, monkeys, and herbivora were most susceptible to tuberculosis, the carnivora were most so. Among birds the disease had diminished greatly during the last two or three years, and scarcely a case had occurred recently outside one aviary, which was somewhat ancient. One curious circumstance was the infection of a rhinoceros with bovine tuberculosis. It was difficult to make out why a rhinoceros living in solitude and with no milk in its diet should acquire the bovine type of tuberculosis. Its quarters were distant by almost the entire length of the gardens from the cattle-sheds, so that there could hardly be any question of contaminated dust. On the other hand, apes, which had milk in their diet, acquired the human type of tuberculosis. He had only once seen joint tuberculosis; this was in a dove. The tuberculosis cases were usually of long standing, but he recalled the case of a bear which had the acute pulmonary condition. He thought it would be well to view with caution the suggestion that there was any cross-infection between epidemics of pulmonary disease in the gardens and in the London streets; certain epidemics influenced rendered all mammals equally susceptible. So far as he was aware, there had never been known in the London gardens an instance of a man affecting an animal or vice versa, although in a foreign zoo tuberculosis among some animals had markedly declined after their cages had been removed beyond the range of human expectoration.

#### PITUITARY DISEASE.

A MEETING of the Section of Medicine of the Royal Academy of Medicine in Ireland was held on December 19th, 1924, the President, Dr. F. C. FORSTER, in the chair. Dr. LEONARD ABRAHAMSON showed two patients. The first was a case of Fröhlich's syndrome.

The patient, a male aged 17, was admitted to hospital for a traumatic ulcer on the leg. He was undersized and extremely stout. The obesity had come on fairly rapidly and without apparent cause three years previously. His height was 4 ft. 7½ in., weight 7 st. 13 lb.; considerable accumulation of fat on face, breasts, and abdomen; memory poor; tendency to drowsiness; voice high-pitched; skin dry, rather coarse; no hair on face or axillae; pubic hair of feminine outline; genitals infantile; blood pressure 145 systolic, 80 diastolic; temperature normal, elevated to 99° F. by injection of extract of anterior lobe of pituitary. A glucose

tolerance test showed definite diminution of carbohydrate tolerance; basal metabolic rate normal. Examination of the eyes showed some contraction of the right field of vision; no change in the fundi. A skiagraph of the skull suggested bridging over of the sella turcica by an enlargement of the anterior clinoid process.

Dr. Abrahamson discussed the diminished carbohydrate tolerance, and suggested, as an explanation for this and for the increase of blood pressure, compensatory overaction of a ductless gland other than the pituitary—namely, the suprarenal.

The second patient was a case of diabetes insipidus with symptoms of hypopituitarism.

The patient, a male aged 19, had complained for six years of thirst and polyuria. The urine looked like water; the quantity varied from 190 oz. to 360 oz. in twenty-four hours, and the specific gravity from 1001 to 1002. A skiagraph of the pituitary fossa revealed no abnormality. Besides the symptoms of diabetes insipidus the patient presented a somewhat feminine appearance. The voice was high-pitched, the skin smooth and fine; no hair on the face; no axillary hair; pubic hair of feminine distribution. Blood pressure 105 systolic. Marked improvement in the thirst and polyuria took place during injections of pituitrin 1/2 c.cm. twice daily. Pituitary gland by the mouth produced no effect.

The PRESIDENT said that about a year ago he had had a case of diabetes insipidus for which he could find no cause, but he treated the patient with pituitrin. The amount of urine passed in twenty-four hours was about 27 pints. The pituitrin had no effect when given subcutaneously or by the mouth, and removal of 7 c.cm. of cerebro-spinal fluid by lumbar puncture only increased the amount of urine passed.

Dr. T. G. MOORHEAD had only seen one patient with diabetes insipidus within the last four or five years. This was an extremely severe case in a woman aged 40. Apart from the urinary symptoms nothing else abnormal was found. He advised injections of pituitrin, and the first dose of 1 c.cm. produced such a dramatic effect that the patient at first refused to have any more. The amount of urine passed the night following the dose was under a pint, whereas previously it had been measured by the pailful. A subsequent course of injections was given, and as long as it was given the patient remained better, but she refused to go on with it and relapsed. Pituitary gland substance by the mouth had absolutely no effect, and a lumbar puncture was refused. The patient died about a year after he had first seen her.

Dr. H. F. MOORE, referring to the second case shown by Dr. Abrahamson, said that the fact that the basal metabolic rate was normal removed any suggestion of thyroid deficiency, and therefore he did not think much good would result from the giving of thyroid extract. To use it would only be treating the obesity, and not treating the fundamental condition. The fact that the boy's blood pressure was normal, while the sugar utilization was increased, might be explained in several ways—(1) he might be suffering from diabetes mellitus in addition to the other condition, and (2) hyperadrenalism might be present as well as the anterior pituitary trouble, or (3) the anterior lobe might be hypofunctioning and the posterior lobe hyperfunctioning.

Dr. R. H. MICKS referred to a girl of 17 who had always been childish; for about two years before he saw her she had suffered from intense headaches, had optic neuritis, and looked very like a case of Fröhlich's syndrome.

#### Clinical Blood Cultures.

Dr. J. H. POLLOCK read a paper on blood culture in clinical medicine, showed lantern slides of apparatus, and discussed the question of technique. He emphasized the need for diluting the patient's blood, to remove any bactericidal bodies present; a reasonable quantity of blood should be employed. Having detailed a series of cases in which streptococci were recovered from the blood, he concluded that blood culture was a valuable clinical supplement for both diagnosis and prognosis.

Dr. T. G. MOORHEAD thought that nobody who had been through a typhoid epidemic would doubt the value of blood cultures in making an early diagnosis of typhoid or paratyphoid fever. He regarded blood culture examinations as a part of ordinary routine clinical work.

Dr. R. J. ROWLETTE considered that the cultural examination of the blood was a very helpful part of clinical diagnosis; it should never be neglected in cases of pyrexia, even if in a fair proportion of cases a negative result was obtained. Owing to the improvement in technique of late years positive results were obtained in a great many cases in which one would not have succeeded ten years ago. He thought positive results were rare except in furunculæ, septicaemia, when a positive result was almost uniformly obtained. A positive blood culture in a maternity case meant a very bad prognosis. Very few patients recovered if streptococci were found in their blood, but he knew of a case in which *Staphylococcus aureus* had been found and the patient recovered. He had found autogenous vaccines beneficial in puerperal cases. He thought that as the method of blood culture improved still further it would be possible to get positive results in cases such as chronic arthritis, which he felt was due to some very persistent though not active infection.

Dr. H. F. MOORE, from his experience of pneumonia and typhoid fever, could not agree that positive blood cultures were only obtained when hyperpyrexia was present. The agar plate method, when correctly employed, gave a very good numerical idea of the degree of septicaemia; pneumonia with a rising degree of septicaemia was almost certainly fatal.

Dr. G. DE BENCA said that when doing blood cultures he used a small bottle with a glass stopper and a few bits of broken glass at the bottom; he used 50 c.cm. of titrated broth, and always put the blood into the broth at blood heat. He mentioned several recent cases in which pure cultures of pyogenic organisms were obtained from the blood and an autogenous vaccine had been given with good effect.

Dr. L. ABRAHAMSON suggested that blood cultures were not done often enough in the same patient. The writer of a recent article had done a blood culture twenty-one times in one patient before isolating an organism. In one group of cases all the symptoms of septicaemia were present, but the blood cultures were always negative; in another group with the same symptoms the culture was positive. He had observed that patients with septicaemia from whose blood stream no organism could be isolated seldom recovered.

Dr. R. H. MICKS, like Dr. Moore, had found the agar method, in combination with broth cultures, helpful in excluding skin contaminations. He drew attention to the value of doing subcultures from the original culture.

#### BONE SURGERY.

The second meeting of the Ulster Medical Society was held in the Medical Institute, Belfast, on January 8th, with the President, Dr. SINGLETON DARLING, in the chair.

Mr. A. B. MITCHELL read notes, illustrated by lantern slides, on some modern methods of bone surgery. The first was a case illustrating the life-history of a bone graft, with slides over a period of six years after removal of some six inches of the tibia for a growth. Another series of slides showed the results of the treatment of spiral fracture of the tibia by tying silver wire round both ends of the fracture and tightening, after putting the fragments in position. The third series showed the result of a modification of Macewen's and Jones's operation for extreme knock-knee, in which the lower fragment of the femur was completely separated from the upper, and placed in direct axis of the limb; the fear of sepsis from the necessarily large wound was unfounded. The fourth series of slides showed excellent results following arthroplasty of elbow-joints.

Professor SINCLAIR, discussing the paper, said that in former times amputation was occasionally performed in cases of simple spiroid fracture of the tibia owing to the very bad results that too often followed the ordinary treatment by splints.

Mr. IRWIN, Mr. HOWARD STEVENSON, and Mr. CRYMBLE also congratulated Mr. Mitchell on his paper and his excellent results.

Dr. SAMUEL SIMMS read a paper on the principles and practice of the Father of Medicine. The paper dealt with the state of medicine during the famous epoch in which Hippocrates lived, the traditional family custom of inheriting occupation, the health shrines, and the collection of dicta or sayings. He then examined, and gave extracts from, some of the writings handed down as the writings of Hippocrates, and showed what an enormous advance was portrayed.

The PRESIDENT, in thanking Dr. Simms for his interesting and instructive paper, expressed the hope that more would be heard from him in this department of medicine.

### EDINBURGH OBSTETRICAL SOCIETY.

At a meeting of the Edinburgh Obstetrical Society on December 10th, 1924, a paper on chronic pelvic pain in relation to neurasthenia (printed in full at page 100) was read by Professor RANKEN LYLE.

Dr. DOUGLAS MILLER read a communication entitled "A study of two cases of Krukenberg tumours of the ovary." In the first case the patient had been operated on for gastric carcinoma twelve months after ovariectomy; in the second case the ovarian tumour was associated with an irreparable malignant tumour of the bowel. In both cases the ovarian neoplasm was found to correspond more or less closely in its microscopical appearances with Krukenberg's original description, the groundwork of the tumour consisting of a fibrosarcomatous reticulum in the meshes of which large "signet-ring" epithelioid cells were present. Dr. Miller referred to the various interesting pathological questions of interest which a study of the Krukenberg tumour provoked; the possibility of the tumour arising as a primary growth in the ovary was discussed, and the problem of explaining the combination in its structure of malignant connective tissue and epithelial elements was shortly considered. The communication was illustrated with lantern views.

Dr. CHASSAN MOIR read a paper entitled "An investigation of the clinical effects of laevo-rotatory and dextro-rotatory hyoscine," based on his clinical experience of twenty-seven cases of labour, of which twelve were treated by dextro-rotatory hyoscine and fifteen by the laevo-rotatory compound. The system of dosage was similar with both drugs—namely, morphine sulphate gr. 1/6 and hyoscine hydrobromide gr. 1/100 at the beginning of labour, followed by a further dose of hyoscine gr. 1/200 an hour after, and then gr. 1/450 every succeeding hour. As a result of his investigations it was found that the dextro-rotatory compound was practically inert as regards "twilight sleep," no amnesia, no drowsiness, and no loss of intelligence following its administration, whereas the laevo-rotatory produced complete amnesia in twelve cases and partial in three. It would seem, therefore, that it was the laevo-rotatory compound which produced the narcosis, and Dr. Moir urged that all hyoscine compounds should be standardized, as in Germany. It would then be known what quantity of the laevo-rotatory compound was present, and the results of administration would not be so doubtful as they were now when no standardization was required.

A series of interesting specimens were shown by Dr. A. E. CHISHOLM; and the President, Professor B. P. WATSON, showed a consecutive series of ovarian cysts, which were found to be malignant on examination, and on this account the necessity for removal of such cysts without a preliminary tapping was strongly advocated.

### BRONCHOSCOPY AND OESOPHAGOSCOPY.

At a meeting of the Brighton and Sussex Medico-Chirurgical Society held on January 1st, the President, Dr. E. F. MAYNARD, in the chair, Mr. D. A. CROW read a paper on peroral bronchoscopy and oesophagoscopy.

Mr. CROW outlined the work of Chevalier Jackson and his associates in the bronchoscopic clinic in Philadelphia; lung abscess drainage, the diagnosis and treatment of neoplastic, cicatricial, and spasmodic stenosis of air and

food passages, and foreign body problems were briefly described. As an illustration of the immensely detailed study necessary for the removal of a foreign body, Dr. Jackson's methods of removing a point-up safety-pin were reported. Mr. CROW laid stress on the importance of distinguishing between a foreign body potentially or actively obstructive to the air passages or vegetable substances, such as nuts, which caused intense reaction, and less urgent conditions such as the non-obstructive metallic bronchial foreign body, which was often overlooked (in the absence of a radiogram) in cases diagnosed as phthisis or bronchiectasis.

The PRESIDENT referred to the rapidity of recovery of an abscess after the removal of the foreign body concerned. He believed that bronchoscopy was a very valuable aid to diagnosis in cases where no organic disease of the lung could be found by clinical methods, and in cases of lung abscess.

Mr. A. J. HUTCHINSON thought oesophagoscopy should be employed more frequently in cases of dysphagia.

Dr. L. A. PARRY asked if Mr. CROW advocated that swallowed foreign bodies which had passed into the stomach should be removed by the mouth. Of twenty cases in his experience only in one case—that of a latch-key remaining in the stomach seven days—was it necessary to operate abdominally; the other foreign bodies all passed per rectum.

Mr. H. N. FLETCHER asked what were the possibilities of operation by bronchoscopy on abscesses of the lung, which were usually situated in the lower lobe.

Mr. D. A. CROW, in reply, referred to the rarity of foreign bodies being coughed up from the bronchi (2 per cent. only). Gastroscopy was not required for foreign bodies in the stomach, and abscess of the lung could be dealt with very successfully by bronchoscopy.

### Eradication of Tonsils and Adenoids.

Mr. J. R. GRIFFITH read a paper, illustrated by lantern slides, on the eradication of diseased tonsils and adenoids. He described Waugh's method of removing tonsils by means of blunt dissection. He claimed that the method was clean, accurate, and almost bloodless; that it avoided injury to the pillars of the fauces with their contained muscles, and that it also avoided the danger of aspiration of blood into the larynx and trachea. It was important to make the primary incision in the right place so as to expose the capsule at once. The blood vessels were identified entering the capsule before they were divided, and bleeding was completely stopped by gauze pressure over the divided ends of the vessels. The technique of the last part of the operation was important, ensuring the removal of the whole of the lingual pole and at the same time avoiding injury to the base of the tongue. The adenoids were then removed with a La Force adenotome, an instrument on the guillotine principle. The window was curved to fit the superior and posterior walls of the nasopharynx, and the cutting part was furnished by a flexible steel blade running in grooves in the window frame. This instrument cut through the adenoid attachment cleanly without tearing the mucous membrane. As a rule bleeding was very slight, ceasing after the nasopharynx had been mopped out two or three times. Mr. Griffith claimed that the results obtained by these methods were superior to those he had obtained previously by enucleating with Sluder's reversed guillotine.

Mr. A. J. HUTCHINSON preferred the reversed guillotine for children under 12 years of age. The disadvantages of Waugh's operation were the deep anaesthesia required and the length of operation. Also, if the incision was not made in the exact line, more damage was done to the pillars than by the reversed guillotine. Mr. D. A. CROW always used Waugh's method in children and adults, but did not stitch the pillars of the fauces. Mr. F. E. FEILDEN stressed the importance and difficulty of getting into the right layer.

Mr. GRIFFITH, in reply, said that there was less danger in deep anaesthesia by ether than in light anaesthesia with the possibility of laryngeal spasm. Bleeding might be very serious when the reversed guillotine was used.

Dr. A. W. WILLIAMS showed a case of pityriasis rosea involving the whole trunk and limbs down to the elbows and knees. The rash had cleared, but the areas were left deeply pigmented, owing to arsenic, which had been administered in small doses before the case came under his notice.

## Rebiefus.

### THE NERVOUS PATIENT.

DR. MILLAIS CULPIN has written a book on *The Nervous Patient*,<sup>1</sup> designed to meet the needs of the family practitioner in dealing with a type of case which bulks so largely in his practice. The author points out that psycho-pathology offers explanations and methods of treatment for nervous troubles which have hitherto been the reproach of medicine and the hunting ground of the irregular healer. He feels that it can throw light upon old problems and suggest new ones, and that to the practitioner it offers an increase of clinical opportunities. Among the subjects considered are: psycho-analysis; repression and suggestion; the physical relationships of the minor psychoses; the principles of diagnosis; the mental factors in asthma, exophthalmic goitre, and gynaecological conditions; postural deformities and the psychological aspects of the effort syndrome; and simple principles of treatment. Mr. W. S. Inman contributes a chapter on eye symptoms, and Dr. Stanford Read another on the major psychoses in general practice.

Dr. Culpin suggests that the phrase "minor psychosis" might be used for the cases now included under the term "neurosis" or "psycho-neurosis." He recognizes that an objection might be made to this proposal on the ground that it might frighten the public, who now draw such a sharp line between "mental disease" and "nervousness." He thinks, however, that a trend of psychiatry is to educate the public towards the removal of the stigma that attaches to mental disease, and that the present terminology is pandering to the conception of a stigma. From the standpoint of verbal accuracy, Dr. Culpin's suggestion has much to commend it. A psychasthenic is certainly not suffering from "nerves," and his symptoms cannot be anatomically localized in the nervous system; the disease manifests itself by disturbances in psychological rather than physiological functions, and this holds good even if the abnormal attitude of the patient be associated with physical changes in the organism. Thus general paralysis does not cease to be described correctly as a major psychosis because its symptoms are the outcome of structural changes, or an influential depression cease to be a minor psychosis because its symptoms can be correlated with a toxic state of the organism. Though, strictly speaking, the term "psychosis" means any concrete psychical process, element, or act, it has come to be associated with abnormal mental reactions, and for this reason it is quite properly applied to both mild and severe psychical disturbances. An obsession is obviously quite as much a psychotic manifestation as a hallucination. French psychiatrists find it convenient to use the phrase *petits mentaux* to cover the cases to which "minor psychoses" might be applied, so that the author's suggestion is not without a precedent.

### OPERATIVE DENTISTRY.

In the *Text-Book of Operative Dentistry*,<sup>2</sup> edited by Professor C. N. Johnson of Chicago, we have the views and practice of many of the most eminent dentists of the United States of America on their specialties of dental work. Perhaps the most interesting chapter to the general practitioner is that on the application of the Roentgen ray to dentistry. He will possibly be comforted to learn that the correct interpretation of dental x-ray pictures is often as difficult to the dentist as to himself. The writer of the chapter is outspoken in his criticism of bad work, from which only mistaken diagnoses can be made. "Disease itself can never be recognized upon a film" is one of the author's dicta; and he is of opinion that "to take a skiagraph, and charge for it, for the diagnosis of pyorrhoecia, is just robbery." He has, however, written a most interesting and well illustrated chapter indicating the limitations and difficulties as well as the usefulness of x rays as applied

to dentistry. We may, perhaps, be allowed to ask, where is the missing tooth in Fig. 501?

Nearly a third of the book is devoted to "orthodontia," and the medical mind will be chiefly struck by the fact that "fixed appliances" bulk so largely in the treatment of "regulation cases." It will at once be asked, how can these things be kept clean? When discussing thumb-sucking, the writer of this section suggests the use of an aluminium mit fastened to a sleeve tied on the child's arm. The hollow aluminium ball is large enough for the child's hand to move freely inside it and too big for its mouth. It should be perforated for ventilation.

Pyorrhoecia is dealt with in some twenty pages, and given its true position as a local disease amenable to local treatment—"systemic conditions or a constitutional diathesis without local irritation do not destroy the integrity of the gingival border." The writer's method of treatment is, in brief, by sealing and subsequent cleanliness; but it may be doubted whether the advice not to touch the pockets for sixty or ninety days for fear of disturbing "the plasma out of which repair comes" is sound. Probably no reunion of gum flaps to denuded tooth ever takes place, and the undisturbed plasma runs the risk of becoming only a breeding ground for bacteria.

The writer who discusses replantation of teeth (an operation which is not to be confounded with transplantation of teeth from one mouth to another) notes that x-ray pictures seem to show that the periodontal membrane is destroyed in these cases, and that this leads to immediate apposition of bone to root; but he publishes an x-ray picture of a molar, replanted nineteen years before, taken shortly before its final extraction, which, he claims, shows that the periodontal membrane survived the operation of replantation. The hope is expressed that we shall some day learn to perform the operation without destroying the periodontal membrane, when replanted teeth will last indefinitely. We may be allowed to suggest that the x-ray appearances could be well explained as the result of absorption of bone leading to the final undoing of the tooth.

Those who have used the dental engine and burr in operating for the extraction of an impacted tooth know well how easy it is to injure the parts by overheating of the burr, and how blood and saliva obstruct progress. For use in cases operated on under local anaesthesia the writer on tooth extraction describes a method of irrigation with cooled water, delivered by one tube of a two-way catheter and removed by suction through the other, which, he says, effectually removes these difficulties. We note that so-called surgical extraction receives no mention, and that enucleating of sockets is only advised where obvious granulomata exist or bony edges need smoothing: "teeth affected by pyorrhoecia are not difficult to extract, and their sockets require no further treatment of any kind."

In a short review for medical readers we cannot pretend to note every point that arrests attention, but one general criticism we may venture—there is an exuberance of verbosity in some parts which, though adding to bulk, in no wise adds to value. This said, we can only record our opinion that Professor C. N. Johnson's *Operative Dentistry* maintains the high standard in this, its fourth, edition which we have learned to look for in all his work. It is a book that should be in every reference library, and every section will well repay close study.

### AN ENCYCLOPAEDIA OF PEDIATRICS.

THE fourth volume of the new edition (third) of PFAUNDLER and SCHLOSSMANN's *Handbuch der Kinderheilkunde*<sup>3</sup> has now been published. A review of the first two volumes was published in the *JOURNAL* of February 9th, 1924 (p. 240). It remains now to give some account of volumes iii and iv.

Volume iii deals with diseases of digestion, of respiration, and of the circulation. The large and complicated subject of nutritional disorders in infancy is expounded in a long article by the late Professor Niemann, while the closely related subjects of metabolism in nutritional disorders, and of the bacteriology of the digestive tract, are dealt with

<sup>1</sup> *The Nervous Patient*. By Millais Culpin, M.D., F.R.C.S. (Eng.). London: H. K. Lewis and Co., Ltd. 1924. (Demy 8vo, pp. vii + 366. 10s. 6d. net.)

<sup>2</sup> *A Text-Book of Operative Dentistry*. By various authors. Edited by C. N. Johnson, M.A., L.D.S., D.D.S., M.D.S., F.A.C.D. Fourth edition, revised and enlarged. London: William Heinemann (Medical Books), Ltd. 1923. (Med. 8vo, pp. xvi + 1136; 1144 figures. 50s. net.)

<sup>3</sup> *Handbuch der Kinderheilkunde*. Herausgegeben von Professor Dr. M. von Pfaundler und Professor Dr. A. Schlossmann. Vols. iii and iv. Third edition. Leipzig: F. C. W. Vogel. 1924. (Imp. 8vo; vol. iii, pp. 773, 15 plates, 185 figures; vol. iv, pp. 789, 8 plates, 163 figures.)



by Professors Meyer and Uffenheim. It is interesting to note in Niemann's paper the trend of opinion towards a simpler clinical classification of the dyspepsias of infancy. The influence of Czerny and Keller remains predominant, and their teaching as to constitution, food injury, and infection is accepted as the pathological basis of the subject. But a simpler and more rational account is given of the abnormal bacterial processes in the intestinal canal of dyspeptic infants, the alternative predominance of sugar fermentation and of protein decomposition determining in one case the green acid stools of diarrhoea, and in the other the pale, putrid, soapy stools of marasmus (or, in Finkelstein's terminology, decomposition). The ground is thus prepared for a clinical grouping of the cases into those with diarrhoea of varying grades of severity and those presenting malnutrition. The treatment of these conditions is also essentially governed by the state of the stools and the evidence they yield, either of excessive fermentation or of excessive putrefaction. All this is a real advance towards simplicity and intelligible pathology and therapeutics founded on reason. It is to be hoped that Finkelstein's vocabulary, which has really confused an obscure subject by attaching to it long and unintelligible names. In the same section, in the chapter on the peritoneum, Professor Birk gives a full and clear account of pneumococcal peritonitis, both in its acute and chronic forms, and the volume is completed by long and well illustrated accounts of respiratory and circulatory disease.

Volume iv begins with diseases of the uro-genital system, which are described at great length by Noegerrath and Eckstein. This chapter is prefaced by an index of chapter headings, an aid to reference which is too seldom employed in the other volumes and sections. Diseases of the suprarenals and chromaffin system, organic disease and functional disorders of the nervous system, a separate chapter on meningeal conditions, and diseases of the locomotory system make up the remainder of the volume. An elaborate general index to all four volumes is provided and completes this so-called handbook, which is really an encyclopaedia of the subject.

On surveying again the wide field of medicine covered by this book, we are impressed by the space occupied by physiology, hygiene, and preventive medicine. Another impression is the strong position which the subject of pediatrics has won in German medicine. That place of honour has been built up by adequate teaching of the subject and zealous research in every important medical school, and by the communication of that teaching and research through special societies and journals. Pfaunder and Schlossmann's book is something more than the combined effort of two skilful editors and many learned contributors: it is the natural and choice fruit of a sound system of growth, in which teaching and study have reacted upon one another, the teacher communicating the ardour of research to the student, so that the tree of knowledge grows and bears fresh fruit.

### POST-MORTEM ROOM TECHNIQUE.

The procedure tabulated by Dr. BÉLA HALPERT in his work on post-mortem examination,<sup>4</sup> is at an opposite pole to that often pursued in this country. An assistant is set to lay open the body and remove the viscera, which are only then examined, the examiners being satisfied when some change is found which will pass as a cause of death. In a preface Dr. Gnox states that, as an extension of the method ascribed to Rokitansky for the examination of the three cavities, the several organs are first inspected in position together with their vascular supply. After the removal of the organ glands of the region are observed. The examination of each of the three cavities proceeds in steps—first the inspection of the surface and of the orifices, then due note at each stage in course of laying open the cavity, and in exposing the organs.

<sup>4</sup> *Pathologisch-Anatomische Sektionsmethode: Nach den Grundsätzen des pathologischen Institutes der Prager Deutschen Universität.* Herausgegeben von Dr. Béla Halpert. Mit einem Geleitwort von Professor Dr. A. Gion. Vienna: Julius Springer, 1924. (Demy 8vo, pp. vii + 48. Dollar 0.50)

In the case of the head the examination commences with the surface of the scalp, face, chin, ears, nose, mouth, then the laying bare of the skullcap. Observation of the skullcap in the course of removal and of the exposed dura mater is followed by the reflection of the latter, and the inspection of the arachnoid, pia mater, surface of the brain, and the entry of the cerebral arteries into the fissures. Whilst removing the brain the cranial nerves and circle of Willis are noted as cut across. The brain being removed for systematic examination, then follows the laying open of the venous sinuses, exposure of nerve ganglia and of the pituitary body, base of skull, aural and nasal sinuses, nasopharynx, nose, mouth, fauces, and pharynx from above, concluding with the large blood vessels and lymphatic glands underneath the skull. Examination on similar lines is described for the root of the neck and chest, for the abdomen and pelvis. Such a systematic method is likely to discover changes to which can be attributed the cause of death.

### HERNIA.

In presenting the most important features of the anatomy, etiology, symptoms, diagnosis, differential diagnosis, and prognosis of hernia, Dr. L. F. WATSON of Chicago has succeeded very well in his object. One of the chief features of this book, *Hernia*,<sup>5</sup> is that an historical sketch is prefixed to the more important chapters. The anatomy is dealt with in detail, and the author has clearly been at great pains to study the literature of the whole subject; the bibliography given shows the undertaking has been very laborious. Not all the operations for hernia are described; details are given only of those to which he is partial; but those that are less generally used, though invaluable in certain cases, are outlined. The book is abundantly and clearly illustrated, and the anatomical details and operative technique well depicted.

The first chapter, on the general consideration of hernia, is a good introduction to the subject; the classification is based on the same lines as those in our own textbooks. Many of the old theories about the mechanism of strangulation are quoted, but not a few are at the present time only of historical interest; the author concludes that the theory of elastic strangulation explains the majority of cases. He advises primary resection as the treatment which should be employed whenever possible, as both the immediate and late mortality rates are lower after it than after operation to produce an artificial anus. The best method, he considers, is to close the divided ends and perform lateral anastomosis. End-to-end anastomosis is his second choice. In cases of extreme urgency the anastomotic button should be employed or an artificial anus formed. The distended afferent loop of bowel that lies above the constriction should always be emptied. In grave cases lateral anastomosis above the strangulation is sometimes advisable. When no assistant is available end-to-end anastomosis by means of the basting stitch, and recommended, although the text is not precise in describing the ultimate fate of the basting stitch. In the chapter on the anatomy of inguinal hernia some interesting figures are given showing the formation of oblique inguinal hernia. All direct hernias, it is said, belong to the acquired variety. Several alternative methods for treating this type are given, but that favoured is Downe's operation, where the sheath of the rectus is opened and united to Poupart's ligament. The internal oblique is similarly tethered, where these structures passing deep to the cord. The edges of the external oblique are then overlapped, giving three separate layers instead of two, as in the Bassini operation. Unilateral and ventral hernias are well described, although we could wish that more detail had been given about the use of filigrees, and expresses a strong partiality for free fascial transplants. The book concludes with a satisfactory description of all the uncommon types of hernia. It is

<sup>5</sup> *Hernia.* By Leigh F. Watson, M.D. London: H. Kimpton, 1924. (Sup. roy. 8vo, pp. 650; 232 figures. 52s. 6d. net.)

interesting to note that the author prefers the abdominal route for dealing with diaphragmatic hernia.

This book should fill the same place in America as the book on the same subject, by Mr. Jonathan Hutchinson, occupies in this country. Both are excellent, although Dr. Watson does not to the same extent share Mr. Hutchinson's enthusiasm for the use of kangaroo tendon in operations for hernia.

#### IMPERIAL COLLEGE OF AGRICULTURE, TRINIDAD.

SIR ARTHUR SHIPLEY is probably the best living writer of popular books tinted by accurate scientific knowledge. In the *Minor Horrors of War*—a series of articles chiefly on noxious insects which he wrote for this JOURNAL, and afterwards collected into two volumes—the tint was deeper than in his new book, *Islands: West Indian—Aegean*.<sup>6</sup> He went to the Greek islands for fun as a guest on Mr. J. Pierpont Morgan's yacht, but he contrived to land at Cos to see the remains of the Temple of Aesculapius and "the venerable and gigantic plane under whose shade it pleased us to think, as the pious islanders think, that the greatest of all physicians, Hippocrates, taught."

The object of the visit to the West Indies was to give a helping hand to the Imperial College of Agriculture which has been established in Trinidad. It has grown out of the Imperial Department of Agriculture, established by the Colonial Office in 1899, with headquarters in Barbados. Its object was to restore the sugar industry and to encourage others; it has done much to introduce economic plants from other lands. A committee appointed by Lord Milner when Colonial Secretary in 1919 recommended the establishment of a college, and selected Trinidad as the most suitable island. It was established in temporary buildings, but a permanent institution is now approaching completion. The staff of the Imperial Department of Agriculture have become professors in the new College, and the promise of good work in future is very great. Sir Arthur Shipley went to many of the other islands, about each of which he has something interesting to say. He gives a short account of the control of yellow fever, illustrated by an excellent diagram showing the rapid reduction since 1900 in the number and extent of the areas involved. Other chapters have other illustrations of a less serious kind. Barbados is one of the most densely populated areas on the face of the earth; it is the healthiest of the West India islands—in fact, a health resort. It has a porous soil (coral rock) and no anopheles mosquitos. The stegomyia is found, but is kept in subordination.

#### A DOCTOR IN THE DESERT.

THE lesser conflicts that led up to it are apt to be forgotten in the general chaos and upheaval caused by the great war. One of these was the Italian expedition to Tripoli at the end of 1911. It was an unprovoked attack upon a weak State, and it added little lustre to the arms of our late allies. Tripoli was a purely Moslem province of the Ottoman Empire, governed directly from Constantinople. Unhappily, the Sultan had for a long time neglected the navy, and the land forces were hopelessly inadequate for the defence of the country. In spite of this the Turks, with the aid of the Arabs, maintained a gallant resistance until October, 1912.

The British Red Crescent Society was founded by two distinguished Indian gentlemen to succour the Moslem victims of war. Under the flag of this organization Dr. E. H. GRIFFIN spent several months in Tripoli, and his experiences are related in *Adventures in Tripoli*.<sup>7</sup> It is only natural that he should take a view very favourable to the Turks and Arabs, whom he found invariably hospitable. In a prefatory note we are told that the present Italian Government is administering the country in generous fashion, so the change is probably for the better. As might be expected, the services of a European doctor were always in request, and the author was constantly travelling by

horse or camel from one place to another, attending to wounded Arabs, distressed Turks, beggars, and village folk. A cheerful disposition and a sense of humour carried him through hunger and thirst, scorching heat and bitter chill, and he soon found an appetite for the unsavoury dishes of the Arabs. A sketch map would have been a useful addition to the volume.

#### ANNALS OF MEDICAL HISTORY.

THE third number of volume vi of the *Annals of Medical History*<sup>8</sup> has on its cover the portrait of Thomas Sydenham, as is appropriate in the year which has seen the celebration of the three hundredth anniversary of his birth, and the editor has written a note on the "English Hippocrates." The frontispiece represents Ignaz Philipp Semmelweis, and shows a resemblance to the late Prince Consort. In his interpretation of the life and work of this famous pioneer Dr. P. M. Dawson of Madison, Wisconsin, expresses enthusiastic appreciation and gratitude for the great discovery connected with Semmelweis's name. Captain F. L. Pleadwell gives an account of Elisha North (1771-1843) and his *Treatise on a Malignant Epidemic Commonly Called Spotted Fever*, supplemented by information derived from a bundle of some sixty slips of manuscript which were intended for a second edition. This edition never materialized, but after all this is perhaps not a matter for great regret, as he apparently intended to put forward the view that cholera and cerebrospinal fever were varieties of a new disease complex, "malignant (or congestive) asthenia." A hitherto unpublished letter of Sir Thomas Browne, written in 1658 to Sir William Dugdale, is reproduced by Dr. Eli Moschowitz, and in this connexion it may perhaps be pointed out that in the *Scottish Historical Review* for October, 1921, Professor T. K. Monro made public another unpublished letter written to the same correspondent in 1659; both these letters deal with the same subject—namely, the drainage of marshy land. Under the title "The Siamese Twins of Española" Drs. A. Peña Chavarria and P. G. Shipley describe, from Oviedo's *Historia General y Natural de las Indias*, the first necropsy performed by white men in the Western hemisphere; it was on two nine-days-old twins born in 1533, "each of whom would have been a beautiful woman"; the reason for the examination was not medical in origin, but to satisfy the priest whether there was one soul or two, and perhaps this is the only necropsy ever undertaken to study the soul of the deceased. The twins were formed from a single ovum before the brain, heart, or circulation had appeared; Johanna and Melchiora, indeed, just escaped being a pair of ordinary single-ovum twins. In a really charming essay Dr. J. W. Courtney of Boston relates the life and labours of Gabriel Nauvé (1600-1653), doctor of medicine, physician in ordinary to Louis XIII, and librarian to Cardinal Mazarin; "it is more than probable," we are told, "that his treatment of that monarch was of the absent variety"; he lived only for books, bought them by the yard, and opened the doors of the first public library in France. Dr. Tenney L. Davis writes on the neglected evidence in the history of phlogiston, with observations on the doctrine of forms and the history of alchemy. Dr. M. Carlton, in his fourth instalment, concludes the history of medicine in Lower Canada, and the articles will no doubt be collected into a book.

#### NOTES ON BOOKS.

IN his little book, which in the English version has the title *How to Prolong Life*,<sup>9</sup> M. JEAN FINOT, the author of a work on the philosophy of longevity, maintains that by observation of certain rules of mental, moral, and physical hygiene man ought to live at least 150 years, and that without accidents or hereditary disease he kills himself if he dies before that age. Several examples of longevity from history are quoted. The premature death of Metchnikoff at the age of 71 is attributed to his not having put into practice himself his rules of elementary hygiene for attaining old age. The translation is good.

<sup>6</sup> *Islands: West Indian—Aegean*. By Sir Arthur E. Shipley, G.B.E., F.R.S., Master of Christ's College, Cambridge. London: Martin Hopkinson and Co., Ltd. 1924. (Cr. 8vo, pp. xii + 140; illustrated. 6s.)  
<sup>7</sup> *Adventures in Tripoli: A Doctor in the Desert*. By Ernest H. Griffin, D.S.O., M.C. London: Philip Allan and Co. (Demy 8vo, pp. xii + 238; 64 illustrations. 10s. 6d. net.)  
<sup>8</sup> *Annals of Medical History*, September, 1924, vol. vi, No. 3. Edited by Francis R. Packard, M.D. New York: Paul B. Hoeber, Inc.; London: Baillière, Tindall and Cox. 1924. (8½ x 12½, pp. 245-362; illustrated. Subscription in Great Britain, £2 2s. for four numbers.)  
<sup>9</sup> *How to Prolong Life*. By Jean Finot. Authorized translation by Fred Rothwell. London: John Bale, Sons and Danielsson, Ltd. 1924. (3½ x 6½, pp. 104. 2s. net.)

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(Concluded from page 88.)

## PHOTOTHERAPY.

Dr. R. G. BANNEFMAN, at Montana, Switzerland, has found that a sunbath which raises the general temperature is followed by an increase in the number of blood platelets; the same effect is produced by a hot-water bath; heat rather than light appears, therefore, to be the effective factor. The number of platelets was found to be reduced in such affections as nasal catarrh, influenza, and measles, but much increased in chronic pulmonary tuberculosis. Dr. Bannefman has now been appointed research pathologist to the Lord Mayor Treloar Hospital at Alton, where he will be associated with Sir Henry Gauvain in studying the use of heliotherapy in surgical tuberculosis and other conditions. Dr. D. T. Harris, at University College, London, investigating the part played by pigment in determining the effects of light upon the rate of chemical change in the body, has found that the respiratory function of the blood is enhanced by exposure to ultra-violet and luminous radiation in conjunction with Professor Leonard Hill, has investigated the effects of exposing the skin of man and of animals to ultra-violet light and other forms of radiant energy. It was found that the bactericidal efficiency of the subject's blood was raised by exposure to the rays from a carbon arc or mercury vapour lamp, as well as by certain heat rays; similar improvement followed exposure to the Alpino sun in winter. It is suggested that this improved action of sunlight upon tuberculosis and other infections. In agreement with clinical experience, it has been shown experimentally that therapeutic irradiation must be carefully graded, since extensive exposures cause deterioration of the blood in a striking degree.

## MALIGNANT DISEASE AND RADIOLOGY.

At Cambridge and St. Bartholomew's Hospital, Mr. T. S. P. Strangeways, Dr. M. Donaldson, Dr. R. G. Cantliffe, and Dr. F. L. Hopwood have continued their investigations into the effects of x rays and radium irradiation on tissue cells growing *in vitro*, paying special attention to the general biological effects and to the intensity and duration of exposure required to cause immediate death. They have studied the effect of large doses, which, though insufficient to cause immediate death, produce cytological changes which may eventually prove fatal; they have also investigated the possibility of establishing complete or partial immunity of the cells to the action of x rays and radium irradiation. At King's College Hospital, Dr. H. A. Colwell, Dr. R. J. Gladstone, and Mr. C. P. G. Wakeley, studying the action of radiations on chick embryos, have again observed cell proliferation in the foetal membranes, and have found indications of increased cell division in the neutral ectoderm. Dr. Colwell, Mr. Wakeley, and Dr. M. Sydney Thomson have found that irradiation of the tadpole skin in the presence of colloidal silver gave rise to marked hypertrophy of the epidermis, accompanied by definite syncytium formation. Other colloids, including those of copper, selenium, and gold, have also been tested, and it appears that the characteristic radiations from these different agents have different effects upon the epidermic cells.

The discovery that cancer was accompanied by a reduction in the cholesterol content of the blood led to the study of the factors regulating the production of this metabolic product, and Mr. A. N. Currie is engaged in biochemical work in Glasgow in this connexion. Sunlight seems to play an important part in the elaboration of cholesterol from simple tissue constituents. His results will shortly be published, and also researches dealing with coal tar in the production of cancer. Mr. W. B. Gabriel, at St. Mark's Hospital, has traced 124 cases of perineal excision of the rectum for carcinoma since 1910. Of these 22 did not

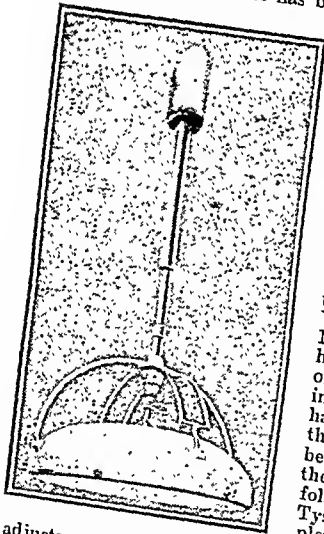
A book honoring the title of *The Infant and Young Child* has been written by three teachers of pediatrics at the Harvard Medical School—Drs. JOHN LOVETT MORSE, EDWIN T. WYMAN, and LEWIS WEBB HILL. There is very good material in the book, though not always well arranged, but it is difficult to see the necessity of yet another book on this subject, especially when there is set forth much that is at variance with the most generally accepted modern teaching—for example, the table for the first nine months after birth, showing the intervals between feeds, suggests six changes during the period. Good advice is given on the choice and treatment of a wet-nurse, who is apparently often employed by New England mothers. A chapter devoted to judicious use of infants deals thoroughly with the causes and treatment of this trouble. In the latter part of the book, which deals with the feeding and training of older children, appear many tables of foods and recipes, but there is much with which pediatricians in general would disagree—for example, green vegetables are forbidden until the child is 2 to 2½ years old; and "the saying that 'an apple a day keeps the doctor away' has been a great boon for those physicians who specialize in the diseases of children," if it is to be taken in the sense in which it appears to be intended, will not gain general approval. The unusual advice is given that when a new article is introduced into a child's diet, and he is unwilling to eat it, his nose should be held in order to make him swallow it! The authors do, indeed, add that such an article should not be given too often.

*The Infant and Young Child: Its Care and Feeding from Birth until School Age. A Manual for Mothers.* By John Lovett Morse, A.M., M.D., Edwin T. Wyman, M.D., and Lewis Webb Hill, M.D. Philadelphia and London: W. B. Saunders Company, 1923. (Large crown 8vo, 1p. 260; 15 figures. 8s. 6d. net.)

## MEDICAL AND SURGICAL APPLIANCES.

*A Suspension for the Scialytic Light.*

The scialytic light is a French invention for the illumination of the field of operation which is coming into use in this country. Sir Hamilton Ballance has been good enough to inform us that his experience of this light is satisfactory. It gives a beautiful beam of light, even in bright daylight, right into the wound, and no shadow is cast by it although the head of the surgeon may be between the light and the area of operation.



This result is obtained by means of a large number of mirrors disposed in an angular manner round the central light. For this light Messrs. Mann, Egerton and Co., Ltd. (5, Prince of Wales Road, Norwich, and 156, New Bond Street, London W.), have devised a special method of suspension; it has been fitted in the Norwich Hospital, and has proved very successful there. A similar fitting has been placed in the theatre of the Lowestoft and North Suffolk Hospital, and Dr. Wilson Tyson tells us that he is very pleased with the powerful illumination and with the adjustment, which allows light to be concentrated in any cavity. The suspension provides free movements—vertical, rotary to any extent, or tilted; all these movements can be effected by a light touch. The suspension fitting is not kept in stock, as the design has usually to be varied to meet the requirements of different hospitals in some particular. The light and the mode of suspension devised by Messrs. Mann, Egerton and Co. seem well worthy of the attention of surgeons.

*Apparatus for Unipolar Treatment.*

Those who read the review published on January 3rd (p. 25) of a book by Dr. Loughton Scott entitled "*The Abrams Treatment*" in *Practice: An Investigation*, will remember that the author stated that he had arranged with the Medical Supply Association to make and sell an apparatus with which can be produced the electrical changes which Dr. Scott claims effected the successful clinical result he describes. An advertisement of the apparatus will be found in our advertisement pages. It is of simple construction, and its purpose is to embody the principle of low periodic electrical pressure.

survive the operation and 44 have died since; of the remainder 15 are alive and well, after periods from five to thirteen years, and 43 are alive after shorter periods. Other researches in progress are the study of cell and tissue growth, the investigation of radium therapy in malignant disease, and a statistical inquiry into the occupational incidence of cancer.

The Middlesex Hospital has acquired, with the help of the British Empire Cancer Campaign, a further 500 mg. of radium salt, and an emanation service is to be established at the Middlesex Hospital in connexion with the radium already supplied to it.

#### CARDIO-VASCULAR RESEARCH.

Very considerable advances have been made in our knowledge of physiological and pathological conditions of the heart and circulation generally, in consequence of the installation of the "unit" system of medical and surgical teaching at University College Hospital and elsewhere. During the past year special attention has been paid to the peripheral blood circulation, and Sir Thomas Lewis, in the Cardiographic Department of University College Hospital, has concluded that the capillary pulsation is largely independent of high pulse pressure, and is due essentially to widening of the arterioles of the skin or mucous membrane in which it occurs.<sup>1</sup> With the assistance of Miss Wolf of Chicago he has made numerous thermo-electric measurements, and investigated carefully the effects of heat upon the skin. It has been shown that capillary pulsation is normal in the warmed human skin if the arterioles are present and are capable of adequate expansion, as is the case in young and healthy people. Previous statements that the capillaries of the human skin are capable of active contraction has now been independently confirmed. In a fresh investigation Sir Thomas Lewis has demonstrated that the minute vessels of the skin are capable of withstanding, by contraction, an internal pressure of 70 to 80 or more millimetres of mercury. Further inquiries have proceeded, mainly in conjunction with Dr. R. T. Grant, relative to the condition clinically termed "urticaria factitia"—a type of rapid skin oedema following skin injuries. The conclusion has been reached that skin oedema produced by mechanical, thermal, or chemical stimuli is essentially due to changes in the capillary vessel walls, and to their increased permeability. Thermal or mechanical injuries of the skin give rise to a complex reaction, which is chiefly determined by the local liberation from tissue cells of a chemical substance which leads to (a) local dilatation of the minute vessels produced by the direct action of the poison; (b) local and increased permeability of these vessels, an independent action; and (c) dilatation of the arterioles in this region and in the surrounding skin, dependent upon a local nerve reflex. When, as a result of blows, the application of heat, or of irritant substances, a small amount of poison is released, reddening of the skin occurs; when the action is more intensive oedema follows. These observations serve to link small local injuries with more widespread damage. This tissue poison, which has been shown to resemble histamine closely in its action, and which is held to be responsible for the local phenomena described when liberated in small quantities, would produce the general symptoms of shock if liberated in larger quantities, and passing into the general circulation. It is suggested that the liberation of this substance is an important factor in the normal mechanism of defence, and, thus, shock is provoked by an exaggeration of a normal physiological process. Sir Thomas Lewis, with the help of Dr. A. N. Drury, has analysed the train of causation of the numerous local and general symptoms associated with the short-circuiting of an artery with an adjacent vein, as, for example, in the case of bullet wounds. Clinical observations and conclusions in this connexion have been confirmed and amplified by the study of the experimental anastomosis of arteries and veins in dogs. Dr. F. Smith of Chicago has made an electro-cardiographic study of the events occurring when the cardiac apex is cooled in the human subject by the swallowing of much cold water. Dr. A. N. Drury has found that the vagus nerve is unable to affect the force of

cardiac contraction and the refractory period of the ventricle. He considers that the previous assertions that the vagus had such power was based on faults in the method of experiment. Dr. H. Blumgart of Boston, investigating the clinical effect of digitalis in controlling the ventricular rate in auricular fibrillation when the patient is exercised, has found that, although digitalis given in doses suitable for out-patients slows the heart rate, it does not prevent a full rise of pulse rate with exercise, although the maximal rates reached are less than in the pre-digitalis stage. Dr. R. T. Grant has completed observations of aortic lesions in infective endocarditis, and concludes that the damage to the aortic wall is entirely due to contact with vegetations seated in the valves themselves, and not to embolism, as previously it had been supposed. The nerve supply of the coronary vessels has been studied by Dr. A. N. Drury, Dr. F. Smith of Chicago, and Dr. J. J. Sumbal of Bratislava. They have found that adrenaline has a remarkable power as a coronary vaso-constrictor; that the sympathetic nerve produces a constrictor effect and the vagus a dilator effect; that the coronary nerve supplies vaso-dilator fibres to the ventricular vessels, the only peripheral effect so far ascribed to it; and that the coronary vessels are constantly dilated by pituitary extracts, acetyl-choline, and by histamine. Since pituitary extract has a constricting effect upon the arteries of the body generally, this dilatation of the coronary vessels is a striking phenomenon.

#### METABOLISM.

At the Middlesex Hospital, Dr. E. C. Dodds, studying the variations in the chloride content of the blood, has found that in the chloride interchange the most important part is taken by the blood corpuscles. Dr. H. S. Hutchison, as the result of a clinical investigation with Dr. G. Stapleton into late rickets and osteomalacia in India, has shown that these two diseases are probably due to the same pathological process, the different manifestations depending entirely upon the age of the individual affected. Until the illness which terminated in his death in March, 1924, Dr. Hutchison continued his work on infantile atrophy, and published a joint report with Dr. G. B. Fleming, on fat and protein in children. Dr. Grace Anderson, at Glasgow, has recorded an investigation into the calcium and phosphorus content of the blood in normal and in rachitic children.

#### BACTERIAL CHEMISTRY.

An important group of researches upon the chemical conditions for bacterial growth and the results of bacterial activity has been carried out during the year in the new School of Biochemistry at Cambridge under Professor Sir Frederick Hopkins. The work is done in a specially equipped department within the Sir William Dunn building.

The general problems of anaerobiosis have received special attention. Mrs. A. B. Callow has been investigating the basal metabolism of different bacteria by measuring the oxygen uptake of bacteria washed free from culture medium and suspended in a buffer solution. Miss M. Stephenson and Miss M. D. Whetham, studying the gaseous exchanges of bacteria, have been able to associate anaerobic growth with the presence of compounds which can break down anaerobically with output of energy. They have shown that anaerobic growth is made possible by the energy obtained from "coupled reactions" where the sum of the energy of the two reactions is positive. These results are of particular interest in view of the researches in progress by physiologists in connexion with the chemical changes in muscle cells. At Cambridge Dr. C. G. L. Wolf and Dr. E. K. Ridcal, investigating the behaviour of colloids with reference to the mechanism of such reactions as the Sachs-Georgi, have been able to produce antigens of almost any degree of sensitivity by using a suspensoid of a simple and easily controlled dispersion, the particles being treated with a protective agent.

#### SPIROCHAETAL DISEASES.

Dr. George Buchanan has continued his inquiries in connexion with the outbreak at East Lothian coal-pits of spirochaetal jaundice. The *Leptospira icterohaemorrhagiae* was demonstrated in several of the human cases, in rats and field-mice, and in roof drippings, but so far no evidence

<sup>1</sup> See in this connexion Sir Thomas Lewis's Sidney Ringer Lecture (BRITISH MEDICAL JOURNAL, 1924, vol. 1, p. 737).



as to the mode of infection has been obtained. Two papers on this subject have appeared recently in our columns—the first, by Dr. G. Lovell Gulland and Dr. George Buchanan, was published in the issue of February 23rd, 1924 (p. 313), and the second, by Dr. Buchanan alone, in the issue of November 29th, 1924 (p. 990). A supply of trypan-samide was received from the Rockefeller Institute at the beginning of 1924, and research is being undertaken with a view to verifying the good results obtained in New York by the use of this remedy in general paralysis of the insane. Investigation of the pathology of disseminated sclerosis is being continued along the line of experimental transference of this disease to animals, and its systematic study. It has been shown that significant nervous phenomena arise in animals inoculated from human cases of disseminated sclerosis, and in some instances the passage of the infective organism to a second animal has been successfully achieved. Spirochaetes have been found in some of these animals, but their relation to the disease is at present undetermined. The treatment of cases of disseminated sclerosis on antispirechaetal lines has resulted in some success, but it is still difficult to assess the value of the results. Dr. T. Jockes, at the Wellcome Bureau, is continuing his study of *Spirochaeta morsus muris*, the causal organism of rat-bite fever.

#### DENTAL DISEASE.

The committee for investigating the causes of dental disease has extended the scope of its inquiries; an important part of the expenditure has been borne by a grant from the Dental Board of the United Kingdom.

Dr. A. Livingston, working at King's College Hospital, has investigated the permeability of the enamel to fluids, and Mr. H. C. Malleon has shown the existence in enamel of a highly calcified prism, of an interprismatic substance, and of a prism cortex which remains after decalcification, and is presumably organic in nature. Specimens of early caries of the enamel show the presence of bacterial plaques, with deep penetrating ingrowths of micro-organisms. The mode of invasion is now being investigated. Mr. J. Howard Mummary has continued his histological study of early caries in enamel. The translucent zones of early decay, reported by him two years ago, have been re-examined with a view to obtaining further evidence as to their physiological significance. Dr. J. K. Clarke, working at St. Mary's Hospital, has isolated an organism called by him *Streptococcus mutans*, which appears to be the only organism regularly present in the early stages of caries. Artificial lesions identical with those of caries have been produced in healthy teeth placed in cultures of this organism. Two cases of infective endocarditis, due to *Streptococcus mutans*, have been studied, and it appears highly probable that the organisms gained entrance to the blood stream from carious teeth. Dr. Clarke has also begun an investigation of the etiology of pyorrhoen alveolaris. Mr. N. J. Ainsworth has completed a detailed examination of the teeth of school children in different parts of the country. A statistical analysis of his results has been made at the National Institute for Medical Research, under the direction of Dr. Matthew Young, and the results obtained are now being considered by the committee for investigating the action of dental disease, with a view to publication.

#### ANAESTHESIA.

Dr. W. E. Hume and Dr. Mona Kirkhouse, at Newcastle, have shown experimentally the value of diuretics in the treatment of cardiac oedema, but their uselessness, or even harmfulness, in cases of true renal oedema. A committee was formed early in 1924, in connexion with the Section of Anaesthetics of the Royal Society of Medicine, to study the modes of action of various anaesthetic agents, and of impurities in them. No poisonous substances have yet been discovered in samples of nitrous oxide gas which were found clinically unsatisfactory. Dimethyl ether has been suggested as a useful anaesthetic, and is being tested by Dr. K. B. Pinson of Manchester. Research is proceeding with reference to ethylene and acetylene as anaesthetic agents; we referred to their use in our issues of September 27th, 1924 (*Epitome*, para. 234), and November 15th, 1924 (*Epitome*, para. 385).

#### INDUSTRIAL MEDICINE AND FATIGUE.

An account of the results of the investigation of the relation of dust inhalation to pulmonary disease during recent years by Dr. J. S. Haldane at Oxford was embodied in a report published by Mr. H. M. Carleton. Eleven different kinds of dust to which men are exposed in mining and other industrial occupations have been experimentally studied, and evidence has been obtained that a certain degree of acclimatization can be induced by the inhalation of dust in small concentrations. It has been shown also that, as previously indicated by the experiments of Mr. Mavrogordato, whose study of miners' phthisis was reported in our issue of February 17th, 1923 (p. 299), the effects of harmful dust can be prevented to some extent by mixing it with a harmless dust. It appears that the phagocytic dust-cells are usually derived from the alveolar epithelium of the lung. Dr. T. J. Llewellyn of Nottingham has continued his research into underground illumination, with special reference to the use of tinted lamp glasses, and the results of his preliminary investigation with Professor E. L. Collis of miner's "beat-knee," "beat-hand," and "beat-elbow" have now been published by the Council. Mr. H. Lupton and Mr. C. N. H. Long, at University College, under the direction of Professor A. V. Hill, have been investigating the relation of exercise to oxygen intake; in co-operation with them Mr. K. Furusawa has shown that muscular exercise of short duration involves the oxidation only of carbohydrates. Dr. H. M. Vernon and Mr. T. Bedford have made observations in factories with regard to the influence of rest pauses on output, and Mr. S. Wyatt and Mr. A. D. Ogden have been carrying on experimental work of the same kind. We referred to the beneficial results of judicious introduction of rest pauses on March 15th, 1924 (p. 482). The causes underlying personal liability to accidents have been explored by Mr. E. Farmer, assisted by Mr. E. G. Chambers, who applied selected psychological tests to workers. So far as the investigation has proceeded there are signs that susceptibility to accident can be detected by these tests; the work is being continued at Portsmouth Dockyard.

#### STATISTICAL STUDIES.

The statistical inquiries undertaken during the year under review covered a wide field, and include independent investigations as well as co-operation with other scientific committees and individual workers. Dr. Lucy D. Cripps published a report on the application of the Air Force physical efficiency test to men and women, which was described in detail in our issue of May 17th, 1924 (p. 867). Dr. J. Brownlee has now completed his study of the various statistical methods which have been advocated in biological, physical, and chemical literature, and has been investigating the problems of human fertility with a view to throwing light on the statistical facts relating to birth control. A large volume of data for the study of environmental factors, including records of 10,000 children, has now been obtained by house visitations on a large scale in Glasgow, Dundee, Edinburgh, and various agricultural and mining areas in Scotland; this material is now being examined statistically. Sir St. Clair Thomson has published a statistical report of ten years' experience of tuberculosis of the larynx at King Edward VII Sanatorium at Midhurst, and Dr. P. S. H. Hartley, Dr. R. C. Wingfield, and Dr. J. H. R. Thompson have produced a similar report and an inquiry into the after-histories of patients treated in Frimley Sanatorium between 1905 and 1914; this was described in our issue of August 9th, 1924 (p. 244). Statistical research on the same lines is proceeding at Midhurst. Other inquiries of this kind made include investigations of the relation of weather to bronchitis and pneumonia in children under 5; the effect of social conditions upon the growth and development of young children; and the influence of fog upon respiratory disease, with especial reference to the years prior to 1890. The occurrence of epidemics of influenza in more recent years has introduced a complicating factor into this problem.



## British Medical Journal.

SATURDAY, JANUARY 17TH, 1925.

### ROYAL COMMISSION ON LUNACY AND MENTAL DISORDER.

THE Memorandum of the evidence to be given on behalf of the British Medical Association before the Royal Commission on Lunacy and Mental Disorder is published in the SUPPLEMENT this week. The committee appointed by the Association to prepare the evidence has kept in mind the principle that the interests of the patient as a sick person should be the first consideration. Subject to this principle, due weight was given to the claims of the public as a whole for protection against any improper restriction of individual liberty on the one hand, and against the risks which attach to the inefficient control of persons of unsound mind on the other, and likewise to the claims of the medical profession for adequate safeguards in carrying out the difficult and responsible duties placed in the hands of its individual members.

General approval will, we anticipate, probably be given to the recommendations made for amendment of the terminology used in the Lunacy Acts. The term "lunatic" should certainly be discarded, and one substituted which will still be satisfactory from the point of view of law and administration. The Committee recognizes that psychiatric classification, subdivision, and definition, so far from being helpful, would be a hindrance when considering mental disorder in its legal aspects. Thus a psycho-neurotic may need legal control, while a psychotic may sometimes be quite properly treated in an uncertified clinic. From a legal standpoint a social rather than a medical classification of mental disorder is required, and, bearing this fact in mind, the Committee has suggested that disorders of the mind, excluding mental deficiency, should be divided into "mental ailments," in which measures of control are not necessary, and "mental unsoundness," in which such measures are desirable. The latter term is intended to cover those cases now included under the term "lunatic" as employed in the Lunacy Acts, or, as we hope they will in the future be called, the "Mental Disorders Acts." The need for definition of these two categories is particularly emphasized when the provisions of Section 315 of the Lunacy Act, 1890, are considered. Here, unless the phrase "a person of unsound mind" were limited to those persons who, by reason of mental disorder, may properly be taken charge of and detained for care and treatment, the section would forbid the reception and treatment in nursing homes of patients who, though mentally disordered, do not require detention or control.

The treatment of the "mentally ailing" does not usually give rise to serious difficulties under the existing law, however, as such patients do not need control; the facilities for dealing with these cases away from home are certainly far from adequate at present, but this deficiency would no doubt be automatically remedied when an amended law permits of a greater variety of places in which mental abnormality as a whole can be treated. For the "mentally unsound" there is a serious need for more flexibility in arrange-

ments, and every medical practitioner must have found himself in difficulties, owing to the rigidity of the present law, in dealing with cases included within this category. Recognizing the reluctance of patients and their friends to apply for a reception order by a judicial authority, the Committee has endeavoured to suggest less formal arrangements for suitable cases. Experience has shown that many patients needing control, being aware of their instability, are willing to deprive themselves of their liberty; and since the principle of voluntary boarders was adopted an increasing number of patients have availed themselves of this mode of entry into those institutions in which it is permitted. The suggestion that the voluntary principle should be extended to non-volitional types, such as the confused, depressed, and stuporose, has much to commend it. This will actually be only an extension of the same privilege to certain "insane" cases—the privilege of being treated without certification, as is granted to a patient (say) with typhoid delirium; after all, this condition is a psychosis as much as any other morbid mental state in which the causation is more obscure.

As regards those patients who are unwilling to be treated, and for whom control is necessary, it is recommended that a Provisional Order should be allowed in suitable types, as it is felt that by this less formal procedure time for observation will be made available, and thereby the necessity for full certification will be avoided in case of recovery. There is little doubt that if legal sanction were given to these various suggestions the possibilities for the treatment of mental disorder suitable to the needs of the individual case would be greatly increased. As the Memorandum shows, in addition to the existing types of accommodation for patients suffering from mental disorder, treatment would be developed in non-registered hospitals or adjuncts to hospitals, voluntary or Poor Law; in clinics or homes established by local authorities; in homes established on a charitable or semi-charitable foundation; and in recognized homes on a purely private basis for several patients. Apart from any such additional provision, the Committee is of the opinion that all the existing facilities for treatment should be continued. The Memorandum states that the Association is satisfied, having elicited the opinion of practitioners in various parts of the country, that there exists a desire in the community generally that it should be permissible to treat many patients otherwise than in public institutions; should the existing veto on the setting up of new licensed houses or the extension of existing licensed houses result in the diminution or inadequacy of this provision, it may be necessary to repeal this veto or to provide extended facilities for the treatment of patients in small numbers in private hands under proper safeguards.

It is most desirable that the apprehensions of the medical profession in regard to certification should be set at rest. Apart from the fact that no one is anxious to be involved in expensive litigious proceedings, and least of all a busy practitioner, a reluctance to certify on the part of the doctor may result in the very delay in treatment which is likely to diminish the prospects of recovery. The Committee points out that it has become customary to speak of "certification" as being the fact which deprives the patient of his freedom, whereas, of course, the formal authority is in all cases the Order, and this is not made by the certifying doctor but by the judicial authority, or, in the case of the urgency order, by a relative. While it is desired to guard against the elevation of the medical

certificate to a position of authority which it does not possess, there is no wish on the part of the Association to underestimate the great importance of the certificate as evidence. Indeed, it is desired to insist upon its being given very definitely the status of evidence; and therefore that the protection which witnesses in courts of law are entitled to receive shall be extended to the practitioner who signs a certificate under the Lunacy Acts.

The Committee points out that, while the avoidance of an undeserved stigma, by allowing less formal arrangements, is much to be desired, it must be borne in mind that the associations springing from any arrangements will depend in the long run upon the actual facts and usage, and not upon any verbal description or sympathetic intention. Escape from stigma is practically impossible when the stigma is justified by facts. Giving a disorder a different name or treating it in a different type of institution certainly will not alter its character or lessen its serious import. Under existing conditions, however, a stigma tends to be applied indiscriminately to all certified patients; it is thus not based upon the biological facts in any particular case, but upon the patient's social classification. In advocating new methods of dealing with mental disorder the medical profession has no desire to minimize the serious nature of the problem created by its increasing incidence in civilized communities; on the contrary, it is hoped that by bringing the whole problem into the open and by educating the public to face realities, so that knowledge may replace fear, the possibilities, not only of the cure of mental disorder, but of its prevention also, will be greatly increased.

### SYMPATHETIC RAMISECTOMY.

For some time it has been known that skeletal muscle is connected with the sympathetic nervous system as well as with the cerebro-spinal, and the functional significance of the former innervation has been widely discussed in recent years. De Boer and Langelaan formed the opinion that muscle tonus was dependent upon the sympathetic nerve supply, but their views have been hotly contested by subsequent writers, particularly on account of the uncertain effects upon decerebrate rigidity which have followed experiments on the sympathetic. Recently the late Professor J. I. Hunter,<sup>1</sup> whose early death we had the grief to record in our issue of December 20th (p. 1181), and Dr. N. D. Royle<sup>2</sup> of Sydney have very thoroughly reinvestigated this important problem. In a most interesting series of experiments they discovered evidence that the sympathetic has an undoubted influence upon one aspect of muscular tone. After simple excision of the sympathetic fibres to one limb a "depression in reflex excitability and an inability to maintain the posture of the limb" were observed. Excision of the sympathetic supply in cases of transverse section of the cord led to a marked alteration in posture and diminution in the amplitude of the deep reflexes on the side where the sympathetic influence had been removed. Undoubtedly the most startling results were those obtained upon decerebrate rigidity. In a group of experiments upon goats, in which the sympathetic fibres to the left hind limb were excised and the animals allowed to recover from this before decerebration was performed, it was discovered that either

decerebrate rigidity did not appear in the left hind limb (in the case in which seventy-three days elapsed before decerebration), or that there was a pronounced difference in the amount of rigidity on the two sides. It seems probable that the striking result attained in this group of experiments was due to the introduction of an interval between the two operations. From an analysis of their experiments Hunter and Royle concluded that removal of the sympathetic innervation of voluntary muscle abolishes the "plastic tonus" of Sherrington; they advanced strong evidence that the somatic reflex arcs determine the posture of a limb, and that the position assumed is maintained through the sympathetic influence. The discovery made, largely through the researches of Kulchitsky, that the sympathetic fibres to striated muscle do not reach the same muscle fibres as the lower motor neurones, lends some support to the conception of muscle tonus advanced so lucidly by Hunter and Royle, since it appears probable that muscle fibres innervated by the sympathetic are concerned with "plastic tone," and those supplied by somatic nerves with what Langelaan has described as "contractile tone."

These brilliant researches are likely to have not only a far-reaching influence upon knowledge of the sympathetic nervous system and upon neurology in general, but also, if wisely applied, to prove of great value in the treatment of certain spastic conditions. Following on their experimental work, Hunter and Royle have respectively devised and practised in a large number of patients the operation of "sympathetic ramisection," in which the grey rami communicantes to the nerve roots distributed to one or more of the limbs are divided or avulsed. After the removal of the efferent part of the reflex arc necessary for the maintenance of plastic tone marked diminution of spasticity ensues in patients in whom there is an excess of this form of tone, but such an operation will have no effect upon contractile tonus. Furthermore, such a procedure does not reduce the voluntary control; on the contrary, it releases function which has been prevented by the spasticity, and this must be developed by a carefully planned course of re-education and training commencing as soon as possible after the operation.

The operation elaborated by Hunter and Royle has now been performed by several surgeons in this country and in America, and anyone who has had an opportunity of studying the striking results which occur in suitable cases is compelled to admit that a surgical measure for the treatment of spasticity has now been suggested promising to have far-reaching results. This form of treatment offers an obvious and very significant advantage over any other yet practised, in that it does not involve any sacrifice of voluntary function in the procedure necessary to reduce the spasticity. This appears to be an important point, and should be emphasized when the operation—which is clearly an intricate and difficult one—is compared adversely with some of the simpler procedures advocated at the present time. As the pioneers in this field of surgery have demonstrated, care must be taken in the selection of patients for treatment by sympathetic ramisection. If all cases of spasticity are treated indiscriminately in this way there is a risk that this most promising therapeutic measure may fall into disrepute. Already slight criticism has been heard because the operation has not benefited patients suffering from lesions which render them quite unsuitable for this form of treatment. The principal indication for the operation is an excess of plastic tone,

<sup>1</sup> John I. Hunter: *The Postural Influence of the Sympathetic Nervous System. Brain*, Part 3, vol. xlvii, 1924, pp. 261-274.

<sup>2</sup> Norman D. Royle: *The Problem of Treatment of Spastic Paralysis: an Experimental and Clinical Study. Ibid.*, pp. 275-322.

and it is obviously only to be recommended in the case of patients possessing at least a moderate degree of cortical control. As was to be anticipated from this, it has been found that the best results are to be expected in patients suffering from cortical lesions. The operation is designed to remove the sympathetic influence, and through it plastic tonus, from the spastic skeletal muscles, and it is important that the surgical interference should, as far as practicable, be limited to this—that is, division of the grey rami communicantes passing to the nerve roots distributed to the affected muscles. Already in some cases surgeons have divided the sympathetic cord or in other ways disturbed the distribution of the sympathetic to abdominal viscera, with unfortunate results. It has been hinted that in the future the fundamental principles enunciated by Hunter and Royle may be applied to the treatment of some abdominal conditions, but if we are to make real progress in this direction further experimental research is required; in the meantime resection must be limited as closely as possible to the sympathetic fibres passing to the limbs. We hope shortly to publish a full discussion of this most important subject.

### VERONAL AND BARBITURIC DERIVATIVES.

The enterprise of the organic chemist has supplied the medical profession during the last fifty years with a whole armoury of new synthetic drugs, many of which are of the highest value, but this rapid advance has introduced its own special problems. The general tendency is to produce drugs of ever-increasing potency, and the more potent a drug is for good the more dangerous it is when misused.

The potent galenicals in general use consist of a limited number of old-established drugs, and the medical profession is well acquainted with their advantages and disadvantages. There is, however, no limit to the possible number of synthetic drugs, and, in point of fact, new remedies appear every month. The drug houses owning the proprietary rights can be trusted to spread a knowledge of the advantages of any new synthetic remedy, but unfortunately there is no equally efficient method of spreading the knowledge of its disadvantages, and in actual practice it may take years for the medical profession to get adequate knowledge of the possible dangers of any new drug. The evils of this state of affairs are well illustrated by the case of the veronal group of hypnotics.

Veronal was discovered in 1902, and was soon found to be more potent as a hypnotic than any drug previously synthesized. It also, in no long time, became evident that it was a highly dangerous drug when taken in large doses. It is true that recovery has occurred after a single dose of 100 grains, but, on the other hand, death has followed doses as low as 15 grains. Reports in the medical press and from the coroners' courts have acquainted the medical profession with the possible dangers of veronal, but unfortunately the value of this knowledge is lessened by the fact that a crowd of veronal derivatives have been put on the market under names that fail to suggest any connexion with the original and best known drug. Veronal is di-ethyl barbituric acid, and has received the pharmacopoeial name of barbitone, but it is also sold under the names malonal and hypnogen. Barbituric compounds or derivatives are sold under the following names: medinal, propanal, luminal, dial, valisan, allonal, chineonal, and somnucetin. There may be others of which we have not yet heard. Speaking

quite generally, the veronal derivatives are, on the whole, more powerful, and therefore more potentially dangerous, than veronal itself, but the confused nomenclature makes it very possible that a doctor who has found veronal unsatisfactory may turn to an alternative drug, and only learn by bitter experience that it is practically the same thing under a new name.

We cannot see that any public interest is served by a system which allows a potent drug to be sold and advertised to the medical profession under a dozen different names. The procedure with each new veronal derivative is nearly always the same: the drug is given a fancy name, often no mention is made of its relation to veronal, and it is stated to be a potent hypnotic, harmless even in overdoses and incapable of habit formation. These statements are broadcasted to the medical profession, and it takes years to get the real truth established; by that time perhaps a dozen new drugs have appeared. In particular the commonly made statement that some brand-new hypnotic is incapable of habit formation is really an insult to the intelligence of the medical profession, for no safe judgement on this point can possibly be made until a drug has been in fairly widespread use for some years.

Veronal (barbitone) and the barbituric derivatives are potent drugs, peculiarly dangerous in overdoses, and capable of producing habit; hypnotics, moreover, are a class of drugs with which there is a special liability to indiscriminate self-drugging. We are therefore glad to learn that the Home Secretary is considering the advisability of restricting the sale of this group of drugs to the general public and, as already announced, is consulting the British Medical Association on the subject. Such legislation would have the incidental advantage of making clear to the medical profession which proprietary drugs actually belong to this particular group.

### MR. RUTHERFORD MORISON.

MR. RUTHERFORD MORISON of Newcastle is shortly to receive from those who know him best a tribute to the esteem and affection in which he is held. A letter on another page shows that a short time ago a meeting called by the Newcastle-on-Tyne Division of the British Medical Association appointed a committee to consider how best to recognize Professor Morison's services to the medical profession. The committee decided to present Mr. Morison with his portrait in oils, and to devote the balance of the amount subscribed to the formation of a medical library fund, the establishment of a scholarship or fellowship in research, or such similar object as Mr. Morison may approve. The first list of subscriptions, published as a postscript to the letter, shows that the replies will be very ready and from a wide field. We have no doubt that many who have not been Mr. Morison's pupils and not intimately associated with him in his surgical work, but who admire his qualities as a man and a surgeon, will wish to share in the tribute now to be paid. Mr. Morison graduated M.B. Edin. in 1875, became F.R.C.S. Edin. in 1879, and F.R.C.S. Eng. in 1890. He first entered general practice at Hartlepool, but his high competence, both as a surgeon and a pathologist, led to his appointment to the surgical staff of the Newcastle Royal Infirmary; his connexion with it was maintained when he retired from the active staff in 1913 by his appointment to be consulting surgeon. In the following year his old house-surgeons placed a medallion profile portrait on the wall of the operating theatre which he used when surgeon to the institution. His services to the School of Medicine in Newcastle-on-Tyne were so great that he may be said to

have made it. He was pre-eminent as a teacher, and allowed nothing to interfere with his duties in that capacity. One of his colleagues writes to us: "As a general surgeon he is without rival; he is a specialist in most things. He is a general stimulus wherever he goes, his usual plan being to make a controversial statement to start a discussion." With students his popularity was unbounded, and all looked forward to his visits to the Royal Victoria Infirmary, for everyone recognized his integrity, his optimism, and his energy. His generosity to those in distress is unbounded, particularly to his brother practitioners. Once, when this same colleague was attending a clinic at the Bellevue Hospital, New York, Dr. Stewart introduced him to the class as an old pupil of Mr. Morison's, and told the members that "there are two surgeons in the world who write their own observations, and only of their own observations—one is Rutherford Morison, the other is W. J. Mayo." In addition to being surgeon to the Infirmary he was professor of surgery in the University of Durham, and is now emeritus professor. Though he had retired from hospital practice, as we have said, in 1913, when the war broke out he resumed duty as honorary surgeon to the Royal Victoria Infirmary, and was also surgeon to the Northumberland War Hospital. It was during this period he devised the solid antiseptic "bipp," of which we had occasion to say only the other day that it was such an antiseptic paste as Lister sought; as is well known, it came into very general use in war surgery. It is one of the war innovations which have survived and will survive. Mr. Morison has not written very much, but has contributed from time to time a number of papers to our columns, all marked by originality and practical acumen, and all informed by his profound knowledge of pathology and immense experience. With the title *Surgical Contributions* he published in 1916 in two volumes a collection of his monographs, and his *Introduction to Surgery* is too well known to call for more than mention. He is always quick to recognize ability and energy. One of his late colleagues tells us that one of his characteristics was rapid decision and confidence in his decision; confidence if once given was rarely withdrawn. "Any man who took an intelligent interest in surgery or pathology could count himself fortunate beyond his fellows if he made the acquaintance of Rutherford Morison; this innumerable students and practitioners have found. Nothing was a trouble to him if it came in the course of surgery, and it was only necessary to mention to him an interesting pathological condition or some unusual surgical case for him to take an early opportunity of going with his colleague to see it. Morison's industry and thoroughness were splendid in themselves, but when added to something like an instinctive power of diagnosis they made the wonderful surgeon he is. The secret of Morison's influence as a teacher lay in his painstaking forethought about everything he had to do and to his worship of duty." In yet another direction Mr. Morison's services to the body of general practitioners in the North of England have been invaluable. In the late nineties, when the colliery doctors began a long (and ultimately successful) campaign for the improvement of their remuneration, he threw himself heart and soul into the movement. He went about using his great influence with the miners and their leaders, and gave up a great deal of time to the movement. He also subscribed handsomely, and never forgot he had been a general practitioner. One of the most important results of Mr. Morison's work then was to set an example to the consultants of the district which has been generally followed. In no part of the country can the general practitioners depend with more certainty on the active support of the consultants than in the North of England, and this can be distinctly traced to Mr. Morison's influence.

### THE MUSEUM OF AUSTRALIAN ZOOLOGY.

THE announcement that the Commonwealth Government has passed an Act to establish a Museum of Australian Zoology will be hailed with the greatest possible pleasure by men of science throughout the world. The title is to be noted: it is a museum of Australian zoology, and not an Australian museum of zoology. Macaulay's schoolboy did not know, but probably most schoolboys to-day do, that evolution in the island continent went along different lines from those of the rest of the world. Apparently the wrong road was taken, and it seems to be agreed that the whole indigenous fauna of Australia is only too likely to follow Tasmanian man to extinction. It would seem that the process cannot be arrested by the best wisdom of Australian statesmen, but whether this pessimistic view be wholly true or not there is clearly an obligation on Australia to preserve a full series of specimens. This is what the Australian Government and Parliament have, under the inspiration of Dr. Colin Mackenzie, decided to do. Comparative anatomy is one of the foundation sciences of medicine; the Australian fauna illuminates it in many places, and its study, though zealously prosecuted for more than one generation, still calls aloud for the work of many another. The nucleus of the national Museum of Australian Zoology is a collection—undoubtedly the greatest in the world dealing with the Australian fauna—which the Federal Parliament of Australia accepted from Dr. Colin Mackenzie last August. It is now established in Melbourne, but will eventually be transferred to the new Commonwealth capital at Canberra, which will then become the world's greatest centre for the study of the Australian fauna. Dr. Colin Mackenzie has been appointed its first director, with the title of professor of comparative anatomy, and he may be trusted to make every effort to render the collection complete. With the cordial approval of the Prime Minister and the Department of Home Territories of the Federal Government, he is now issuing an appeal all over Australia for specimens, drawings, and documents. The scheme seems to command unanimous approval in Australia, and when the bill was before Parliament it was supported by three medical men—Dr. Earle Page (Federal Treasurer), Sir Neville Howse, V.C., K.C.B., and Dr. Moloney, members of different parties in the House. The action of Mr. Stanley Bruce, the Prime Minister of the Commonwealth, in obtaining the Mackenzie collection for Australia may justly be compared with Pitt's far-seeing act in securing the Hunterian Museum for the British nation, where it has formed the nucleus of the great collection of the Royal College of Surgeons of England. The establishment of the Museum of Australian Zoology is a recognition that comparative anatomy is not merely an academic matter, but one of primary importance to medical science and to biology generally.

### PROGRESSIVE LENTICULAR DEGENERATION.

SINCE the appearance in 1912 of the original paper by S. A. K. Wilson describing the disease which he named "progressive lenticular degeneration," more than seventy cases of this condition have been reported, and F. M. R. Walshe has now contributed to a recent number of *Medical Science* a review of present knowledge about this disease. The characteristic symptom of progressive lenticular degeneration is the development of tremor and rigidity of the muscles, which is usually associated with dysarthria, dysphagia, spasmodic weeping and laughing, and a slight degree of dementia. Occurring in youth and early adult life, and varying in duration from a few weeks to several years, it is always fatal. The muscular tremor resembles that of paralysis agitans, but is not invariably present;

usually, however, it is the initial symptom, and remains prominent throughout the course of the disease. In a small number of cases defective articulation was the first symptom. Occasional silent laughter or weeping attacks occur, passing in slow waves across the patient's face, which is otherwise fixed and like a mask; saliva trickles from the angles of the open mouth. Until advancing rigidity renders the trunk and the limbs immobile no true paralysis occurs, and the tendon-jerks and abdominal and plantar reflexes remain normal in uncomplicated cases. The original lesions described by Wilson include bilateral degeneration and softening of the putamen and caudate nucleus, together with a profound degree of hepatic cirrhosis, which, however, does not give rise to biliary symptoms. A zone of greenish haze at the periphery of the cornea has been described in some cases, and is possibly present, though undetected, in others. German writers have described a "pseudo-sclerosis," which appears to be only an alternative and undesirable name for this condition; H. C. Hall has suggested as a better title "hepatolenticular degeneration." Walshe considers that the disease can no longer be regarded as a system disease of the corpus striatum; although there are indications that the liver is the seat of the primary pathological process, the nature of the pathogenic agent is as yet unknown. Wilson suggested that a toxin elaborated in the liver, and possessing a selective action upon the lenticular nucleus, was responsible for the cerebral lesion. Evidence in favour of this suggestion has been advanced by Barnes, who recently described a family of eight children; four showed signs of hepatic disease, and in two of these there was evidence of progressive lenticular degeneration. Although chronic manganese poisoning is known to be associated with a clinical picture resembling that of paralysis agitans, and with the occurrence of asymptomatic biliary cirrhosis, yet Walshe considers that the doctrine of the selective action of poison upon various components of the central nervous system is not gaining ground. Such obscure and variable factors as lymphogenous intoxications, and the existence of histo-chemical peculiarities in the nerve cells of the basal ganglia, have also to be taken into account.

#### INTESTINAL STASIS.

On November 22nd, 1924, we drew attention in a leading article to some experiments by Drs. Alvarez and Freeland on the passage of food through the bowel, the main teaching of which was that food residues are mixed up thoroughly in the caecum, so that the residue of any one meal will be represented in the faeces in decreasing proportions over a period of many subsequent days. The novel features of these experiments were the technique used and the conclusion that any unabsorbable remnant may take a much longer time to pass from stomach to anus than we have been accustomed to allow. Dr. J. C. Watt comments on this work in a letter which we publish to-day (p. 138). He has also sent us a copy of the pamphlet to which he refers, and, since this is a more detailed account of the thesis advanced in his letter, by shelling out the kernel of this treatise we shall enable our readers to weigh its substance and more justly to appraise Dr. Watt's notions. This pamphlet, entitled *A Study of Intestinal Stasis*,<sup>1</sup> is not a reprint of an article printed in a medical journal, as it appears to be at first sight, for the author tells us ingenuously that he has failed to get it accepted, and that one "editorial scrutineer" condemned it so heartily as "greatly to encourage" the author in publishing it. In addition to courage, the author must therefore be credited with a sense of humour. Nor is it a pamphlet available to the curious for a modest sixpence or a shilling. It bears

no reference to any vulgar coin, but, with splendid brevity, on the inner side of the cover carries the inscription, "First published April, 1922. Manufactured in Great Britain." Turning to the contents we find an invective and very sensible exposition of the doctrines of intestinal stasis on similar lines to those of Sir Arbuthnot Lane. Dr. Watt's first point is that constipation is essentially a pathological delay of the faecal stream which may be said to commence when the interval between evacuations is sufficiently prolonged to permit decomposition of faeces by bacteria to take place in the colon. We are driven to the conclusion that the only unconstipated ones among us are tiny infants who have not yet had the bad habit of only a single daily evacuation thrust upon them. The author passes on to consider the consequences of this intestinal stasis, and we find, as might be expected, that the list of maladies for which this prevalent sluggishness of the bowel is to blame is long and portentous. However, it is by no means exhaustive of the evils to which flesh is heir, and we can recollect many far less moderate incriminations of the colon. The remedy recommended for pathological dilatation of the caecum is the operation of amputation of the caecum, "not excision," as a footnote says, "but simple amputation immediately below the ileo-caecal valve." A case is described in which this operation was performed, and the patient appears to have benefited thereby. Dr. Watt takes great pains to explain in detail the mechanical principle on which the secondary stages of stasis are dependent. He likens the alimentary system to a river or a canal with a series of locks, the lock gates being the cardiac orifice of the stomach, the pylorus, the ileo-caecal junction, and the pelvi-rectal junction. Since the cause of alimentary stasis must be distal to the most distal stagnant part of the tubular system, it follows that the area referred to as the pelvi-rectal junction is likely to be the danger spot of the human frame. To this conclusion Dr. Watt leads his readers, and congratulates himself on the fact that he has reached the same conclusion as O'Beirne of Dublin, who in the year 1833 published a book entitled *New Views of the Process of Defecation*. The last pages of the pamphlet describe a new operation designed to relieve the obstruction at the pelvi-rectal junction. It is suggested that the last part of the pelvic colon should be stitched to the upper part of the rectum, and then through a transverse slit in the pelvic colon the intervening crest formed by the adjacent walls of the colon and rectum should be crushed with forceps. Finally, after withdrawing the crusher, the crushed septum should be divided with scissors and the "window" in the colon closed. The stages of this operation are made clearer by a diagram, and a feeling of responsibility compels us to warn surgeons not to embark on this operation trusting to the meagre description we have found space to give, but first to study Dr. Watt's opinions in the original. We presume that the pamphlet can be obtained from the printers; if not, no doubt from the author. It has been placed in the Library of the British Medical Association.

#### POSTURE AND REST IN MUSCULAR WORK.

REPORT No. 29 of the Industrial Fatigue Research Board contains two papers—one by E. M. Bedale, M.A., entitled "A comparison of the energy expenditure of a woman carrying loads in eight different positions," the other by Dr. H. M. Vernon on "The influence of rest pauses and changes in posture on the capacity for muscular work." These papers have a theoretical interest for physiologists, and a practical interest, not only for employers, but for manual workers. But we doubt very much whether the last named class would be disposed to take the pains

<sup>1</sup> London: John. Bale, Sons and Danielsson, Ltd.

<sup>1</sup> London: H.M. Stationery Office, or through any bookseller. 1924.  
2s. 6d. net.



necessary to understand these reports, or have been prepared by their previous reading and experience to do so; the whole thing would be like a foreign language. Perhaps some propaganda machinery exists for conveying the information to them; if not it should be called into being. There is nothing unexpected in either of the reports. The majority of sensible people, if asked the questions the experimenters have so laboriously studied, would have arrived at much the same conclusions. In saying this we do not wish to belittle the work, for it is obviously of considerable value to convert an opinion into a demonstrable fact, and doubtless there exist many employers who will pay more attention to a weighty report of the Industrial Fatigue Research Board than to mere general impressions. We do not suggest that they are wrong. The chief points of practical importance seem to be that if it is anyone's duty to carry a fairly heavy load, then the easiest way (the one demanding least physiological "cost," in the technical language) is to divide it into two equal parts and sling it from a shoulder-yoke. The other practical point is that if there is an opportunity for a rest pause in the course of industrial work the posture should be changed, even if the pause lasts only a minute. Thereby the circulation through fatigued muscles is promoted and fatigue diminished. Changes of posture during work may be even more refreshing than rest pauses. These are not the only opinions substantiated by this inquiry; they seem, however, to be those of widest interest. Something requires to be said about the form in which this type of report is presented to the public. The majority of such reports follow a stereotyped plan; they rarely make any attempt to be interesting, although the subjects with which they deal are often such as closely concern everyday life; there is seldom, if ever, any promise that the information they contain will be translated into practical benefit. We do not mean to imply that this is the fault of the authors of the reports; it may very well be that the department or the Stationery Office has a bed procrustean in breadth as well as length, but the net result is to make the conscientious reader wonder how many others will have patience to continue from cover to cover. We make the suggestion that editors of such reports should first explain in plain language why the investigations described were undertaken and the benefits which the new knowledge offers; this section should be written in an interesting way so as to encourage all sorts of people to read it. The remainder of the report, in smaller print, perhaps, should give an account of the details of the scientific experiments for the sake of the smaller number of readers who can only be convinced by the scientific demonstration, or who, having specialized knowledge, find entertainment therein.

#### THE EFFECT OF LEAD ON RED BLOOD CELLS.

THE interpretation of the change in the red blood cells, which is termed "punctate basophilia" or "stippling," has given rise to considerable controversy. It has been attributed to the occurrence of artefacts (due to the staining reagents used), to degeneration, and to regeneration of the cell protoplasm. Punctate basophilia has also been regarded as pathognomonic of lead poisoning. Dr. Cecil Price-Jones, in a review of the subject,<sup>1</sup> insists that it is not specific, but is common to all forms of anaemia in which the products of red cell destruction are retained in the body. The anaemia of lead poisoning, he says, is usually slight, and the red cells are little diminished in numbers, though there may be some alteration in shape and size. An increase in diameter has been observed by Malassez from the normal  $7.7\frac{1}{2}$   $\mu$  to  $9.9\frac{1}{2}$   $\mu$ . Leucocytosis is not often present, and the white

cell picture is lymphoid in type, showing a relative and absolute increase in the number of large mononuclear cells up to 16 to 24 per cent. Basophilic stippling of the red cells is sometimes observed, but not so frequently as was formerly supposed. This basophilia is often seen in diseases associated with anaemia, especially when there is retention in the circulation of the products of destruction of red cells, as in malaria, pernicious anaemia, and the anaemias secondary to toxic infections. In post-haemorrhagic cases it is less common, unless the haemorrhage has been severe; but in gastric haemorrhage, where the blood is digested and the products of blood-cell destruction are absorbed into the system, stippled cells are often found in large numbers. Basophilia rarely occurs in chlorosis, and never in aplastic anaemia. Dr. Price-Jones maintains that it is only, and always, associated with accelerated or exaggerated activity of the bone marrow. The researches of Pappenheim have thrown considerable light on the nature of these basophilic granules, and there appears to be abundant evidence that they have no connexion with the nucleus or with nuclear derivatives. Considering the morphology and staining reaction of the lymphoid parent cell, Pappenheim regards polychromasia and punctate basophilia as remains of the spongioplastic reticular ground substance, the varying sizes and positions of the granules and the degree of basophilia depending on the mesh and density of the spongioplastic network and of the position of its nodal points. McCord, Minister, and Rehm believe that in all cases of lead poisoning an excess of "basophilic substance" is present in certain of the red cells, and is distributed uniformly throughout the cell. They regard this basophilia as an indication of the precocious introduction of red cells into the general circulation. They have devised a method of estimating the amount of basophilic substance which aggregates the minute invisible basophilic particles into coarser masses which can be enumerated. They find that 66 per cent. of the blood examinations of healthy persons show a few of these aggregations, and that they are present in great numbers in a variety of diseased conditions, especially those involving anaemia. It is their experience that the majority of workers in lead quickly develop a higher basophilic aggregation count than is found in healthy persons; and they consider that if at successive examinations this count is found to be increasing, the workers should be submitted to lead eliminating or lead controlling treatment, even if no clinical manifestations of lead poisoning are present. Dr. Price-Jones lays stress on some new observations of Aub, Reznikoff, and Smith; they consider that the physio-chemical reactions of lead salts of red blood cells are chiefly surface phenomena resulting in increased cell fragility. They found that the red cell resistance to haemolysis was increased by treatment with lead chloride, and that the specific gravity of the cell was raised. Dr. Price-Jones concludes that the changes produced by lead depend upon its union with the inorganic phosphate of the cell; this is mainly a surface phenomenon; the very insoluble lead phosphate is precipitated in the cell membrane, changing its colloidal properties. Alternatively, the free acid formed when a lead salt unites with the phosphate may change the physio-chemical state of the colloids of the cell surface; such altered cells haemolyse less rapidly in diminishing concentrations of Ringer's solution; the cell surface shrinks and the cells break up more rapidly than do healthy cells. They lose their power of agglutination, and have a surface which is less sticky; they become hard, less elastic, and far more brittle than normal cells. These damaged cells break up rapidly in the capillaries, and the anaemia commonly seen in lead poisoning develops. This anaemia, which is rarely extreme, is associated with the appearance of basophilic granules in some of the red cells.

<sup>1</sup> *Medical Science*, December, 1924, p. 147.

## ACUITY OF HEARING.

Dr. H. J. BANKS-DAVIS chose acuity of hearing as the subject of his presidential address to the West London Medico-Chirurgical Society.<sup>1</sup> He related some observations of his own on the hearing of cats and of fishes. The hearing of cats was extraordinarily acute, so that the highest sound produced by Galton's whistles—42,000 double vibrations a second—was painfully audible to them. Two Manx cats in his possession during the war used to be aware of impending air raids many minutes before the warning signal was given. Fish, in Dr. Banks-Davis's opinion, heard sounds communicated to them by water through water, but not by air through water. Firing a gun in a direction parallel to the water's surface produced no noticeable effect on fishes; but they became disturbed at once when a stone was allowed to fall on the gravel of the river bed, or when the ground of the bank was stamped on, or a railway train passed. Bait "heavily flopped" into the water attracted trout from a tunnel in which neither scent nor sight could have guided them. An abbot at a monastery used to attract the carp for feeding by ringing a bell, until it was found that the footsteps of the procession had the same effect without the bell. Dr. Banks-Davis recalled the fact that many albino animals are congenitally deaf, as in the case of many, if not all, white cats with blue eyes, and many white bull-terriers, white rabbits, white mice, white elephants, and even some white horses. The acute hearing of deer is overshadowed by their abnormal sense of smell; but may not the close proximity of the camera to some of the African deer, as shown in films, cause some doubt whether the hearing of deer is really acute? Insects often "hear" by their antennae. Snakes have no properly formed auditory apparatus, but appreciate the vibrations of sounds and respond to them. In comparing human beings with animals, it was found that oto-sclerosis, which is common in women, is very common in cats. Many animals besides cats can hear sounds too high to be heard by man. Dogs are pained by high musical notes which may give pleasure to the human ear. Deafness such as that of boilermakers and artillerymen can be produced in animals; and if the noise is loud enough or sufficiently prolonged degeneration of the organ of Corti may occur. Dr. Banks-Davis's only hint of treatment for defective hearing was an expression of surprise that, while people readily resort to glasses when vision is defective, they resent artificial aids to hearing. It would be interesting to know in what proportion of cases of deafness benefit is obtained from artificial aids at all comparable to that obtained from glasses.

## THE VECTOR OF KALA-AZAR.

It has been known since 1903 that Indian kala-azar was caused by the protozoon *Leishmania donovani*. The parasite is normally intracellular, and is the resting stage of a flagellate. It consists of a small oval organism with two chromatinic bodies, giving it a very characteristic appearance. The forms are not common in the blood, although they do occur. In culture the parasites develop typical flagellate forms, which have been placed by some authors in the genus *Herpetomonas*—a simple flagellate with a free anterior flagellum and no undulating membrane such as occurs in the trypanosomes. These forms have been frequently found in the gut of insects. This fact has made it probable that the disease is transmitted by some biting insect, although so far it has not been possible definitely to implicate any form. Patton believed that it was transmitted by the bed-bug; but the more recent work of Knowles, Napier, and Smith<sup>2</sup> suggests that the sand-fly may be the intermediate host. If the present preliminary

account is confirmed it will be one of the most important discoveries of recent years in tropical medicine. It has been observed that the greatest number of new cases of kala-azar were reported during cold weather, so that probably the infection was contracted in the course of a few months before November; it was thought, therefore, that the most favourable time for investigation would be during that period. It was found that in Calcutta an endemic area existed, and that in the northern part of the city the disease fails to spread or establish itself. It was also known previously that the distribution of the sand-fly, *Phlebotomus argentipes*, in India appeared to coincide with that of kala-azar, and these insects were more numerous in the endemic than in the free area. It was ascertained that of the three species of sand-fly present in the city, *P. argentipes* was especially prevalent during October and November. Some significant experiments were conducted with this species; in eleven experiments in which 56 flies were fed on seven kala-azar patients, 25 were found to contain herpetomonad protozoa in the gut; while in over 800 controls not fed, and 46 fed on healthy persons, no herpetomonads were found. The authors conclude that *Leishmania donovani* passes into its flagellate form in the gut of *P. argentipes*. No experiments, however, have been performed to see whether the reverse is also the case, and the authors are most careful not to draw unwarranted or speculative conclusions as to transmission until the further work now in progress is completed.

## MEDICAL SOCIETY OF LONDON.

The syllabus for the second half of the 152nd session of the Medical Society of London has just been issued. Three general discussions have been arranged. The first, on February 8th, on the treatment of lymphadenoma, will be opened by Sir Thomas Horder, followed by Drs. Herbert French, N. S. Finzi, and Robert Knox. The second, on March 9th, on the fundus oculi in general medicine, will be opened by Mr. Ernest Clarke, followed by Mr. R. Foster Moore and Dr. James Collier. The third, on March 23rd, on oxaluria, will be opened by Mr. L. Batho Rawling, followed by Sir William Willeox. At the meeting on January 26th Dr. Castellani will read a paper on parenteric fevers; and on February 23rd Sir G. Lenthal Cheate will read a paper on the early stages of pathological hyperplasia in the breast, with special reference to cysts and their danger. The meetings of February 16th, March 4th, and March 16th are appropriated to the Lettsomian Lectures, by Sir Bernard Spilsbury, on wounds and other injuries. The concluding meeting of the session will be held on May 11th, when the annual oration will be delivered by Sir William Hale-White on the medical career of John Keats; a conversazione will follow.

The Right Hon. Sir Clifford Allbutt, K.C.B., Regius Professor of Physic in the University of Cambridge, has accepted the invitation of the Council of the Royal Society of Medicine to deliver the David Lloyd Roberts Lecture during the autumn session of this year.

We announced last week that the two conferences at Geneva on the Hague Opium Convention of 1912, which adjourned before Christmas, would resume work on January 12th. A formal meeting was held on that day, when the president announced that owing to the accident to the Marquess of Salisbury, the British first delegate, the proceedings would be postponed until Monday next, January 19th, when Viscount Cecil of Chelwood, who has been appointed in the place of Lord Salisbury, will be in attendance.

<sup>1</sup> West London Medical Journal, October, 1924.

<sup>2</sup> Indian Medical Gazette, December, 1924, pp. 593-597.

## THE LONDON RADIUM INSTITUTE.

When the London Radium Institute was opened in August, 1911; it was described in our issue of August 5th, 1911 (p. 302), as "complete"; but in this field of medical science, even more than in other medical research, it has been found

that the horizon has considerably enlarged with the passage of years. Gratifying advances in the technique and the applicability of radium therapy have necessitated expansion of the work of the Institute, and so the size of the present building is now nearly three times that of the original. Since 1911, 10,200 patients have been treated within its walls, and 4,500 others in their own homes or elsewhere, emanation applicators being prepared and distributed to hospitals and general practitioners throughout the United Kingdom. The total number of treatments to date is 103,000, no less than 60 per cent. of them gratuitous. This great act of public service, initiated by King Edward VII, and rendered possible by the generosity of the Earl of Iveagh and Sir Ernest Cassel, has been conducted on the lines of a charitable trust, no appeal being made for public support.

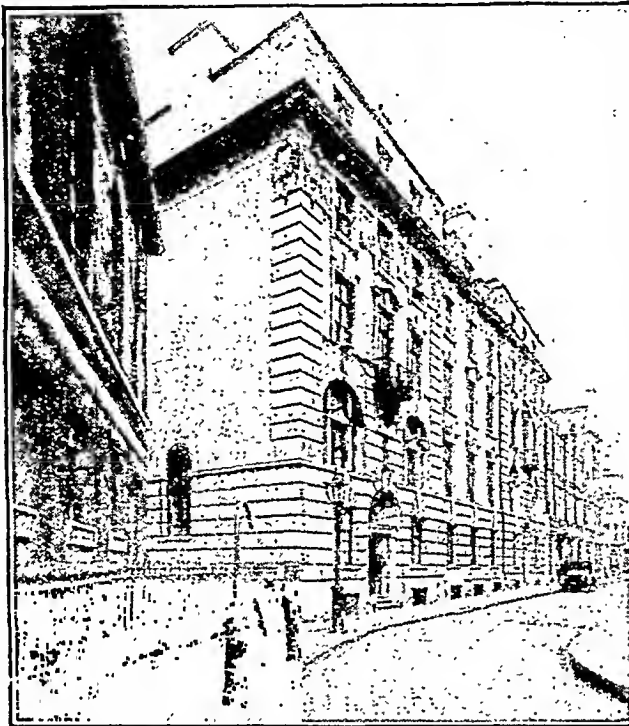
When the work of the Institute began external radiation was the only method of treatment. This was followed by tentative insertion of radium into such channels as the urethra, vagina, and oesophagus, with a view to dealing more effectively with new

Similar procedures are practicable in other localities, as, for example, in malignant disease of the bladder and of the uterus.

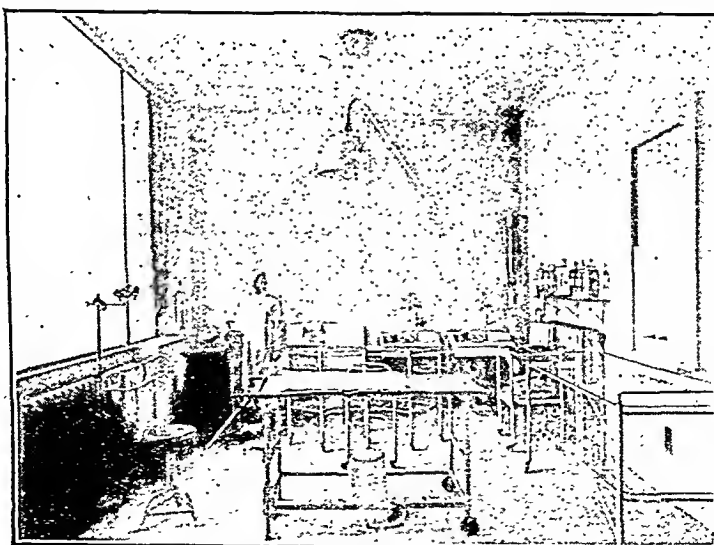
For patients able to pay for treatment in the Institute seven private bedrooms have been available for the last two years, but hitherto it was impossible to treat necessitous patients otherwise than as out-patients, or in their own homes, "surgery of access" being impracticable. It was therefore felt that an increase in the size of the Institute was urgently needed in order to accommodate these patients; and, as we recorded last week (p. 86), two new wards have been opened on the second floor, providing four cubicles for women and three for men. These wards form part of a self-contained unit with a small operating theatre for the performance of minor operations. Having a southern aspect, they receive all the sunshine available; and their architectural features are in keeping with the rest of the building. A well fitted theatre in the older part of the Institute is fully adequate for any of the more elaborate operations which may be necessary.

The Institute possesses what are probably the best equipped laboratories of their kind in the world; any form of apparatus required is constructed in its engineering workshop on the third floor, or the carpenter's shop in the basement. Tubes can be designed suitable in size and shape for any contingency. The chemical laboratories have been improved and are likewise complete in every respect. On the ground floor, which is devoted to diagnosis, the medical superintendent's consulting room, x-ray room, and a gynaecological examination room, are so arranged as to permit the simultaneous examination of three patients. On the first floor are situated the treatment rooms—seven in number—an operating theatre, and the seven bedrooms for private patients. The Institute at the present

time possesses as much as 6 grams of radium bromide. No operable cases of malignant disease except rodent ulcer are treated by radium at the Institute, unless the patients have declined operation, and every effort is made to



RADIUM INSTITUTE: FRONTAGE TO RIDING HOUSE STREET.



MAIN OPERATING THEATRE.

carcinoma of the larynx the radium rays could only be directed very imperfectly and their dosage regulated. The present procedure comprises tracheotomy, subhyoid pharyngotomy, and the direct needling of the growth.

persuade patients who have previously refused operation to give their consent. Radium treatment, however, although thus limited almost wholly to inoperable cases, has achieved very striking results; some of the patients who were first treated in 1911 are still living, the progress of their disease having been arrested. Radium is being employed in the treatment of a large number of diseases other than malignant, including keloids, naevi, tuberculous glands, lupus, rheumatoid arthritis, uterine fibroids, metrorrhagia, skin diseases, exophthalmic goitre, Hodgkin's disease, leucocythaemias, and spring catarrh. Great care is taken to select cases suitable for radium treatment; patients are only received through medical practitioners, and it is obligatory that a medical form, giving details of the exact nature and extent of the disease, shall be supplied before admission. The new wards are primarily intended for patients who are able to pay the cost of their food while in the Institute, the treatment being given free. No really necessitous patient, however, is refused admission if it is likely that radium treatment will be beneficial.

The present chairman of the committee is Sir Anthony Bowlby, who succeeded the late Sir Malcolm Morris. The late Sir Frederick Treves was chairman from 1909 to 1923. A considerable amount of research work—clinical, pathological, and physico-chemical—is in progress. This extension of the work of the Institute marks a distinct advance in the progress of radium therapy there. Beyond the great boon conferred by providing treatment for the poorer members of the community, the increased facilities for research work should open the way to still greater additions to our knowledge of one of the most potent of therapeutic measures.

## France.

[FROM OUR OWN CORRESPONDENT.]

### THE LATE PROFESSOR BERGONIÉ.

THE whole country has been deeply moved by the death of Professor Bergonié. He adds one more name to the long martyrology of the pioneers in x-ray work. The value of his work and the example of fortitude he leaves behind him mark out Bergonié as one of those heroes of whom the international medical fraternity must be proud. Death broke him down piece by piece, but his soul remained indomitable. Bergonié was professor of physics at the University of Bordeaux. He undertook the investigation of electro-radiology, and he determined to set this new branch of studies on a scientific basis. During the war he organized the whole system of hospitals for the treatment of wounded men by physiotherapy. He understood quickly enough that these methods were insufficient and that a thorough cure meant re-education and readaptation to work. To him were due the agricultural training centres. His last years were devoted to the fight against cancer. He knew his time was short when three years ago he had to submit to amputation of his right arm. With restless activity he created in Bordeaux the first anticancer regional centre, and pursued his mission in Lyons, Strasbourg, Montpellier, and Toulouse, with headquarters in Paris. He took the chair "for the last time" (as he said) in Paris three months ago. He then gave his opinion on the way the work should be carried on and expressed his wishes as regards his successor. A generous gift of one of his admirers allowed a new cancer hospital to be erected in Bordeaux. Bergonié was carried out of his home for the last time for the laying of the first stone; and there were gathered all his co-workers and colleagues from every French university. The Government had bestowed upon him the highest dignity in the Legion of Honour. The rule being that the insignia should be handed over to the new dignitary by one of the same rank in the order, it was Marshal Petain himself who made Bergonié Grand Cross of the Legion of Honour. As *becomes a fighter wounded on the field, full military honours were rendered when Professor Bergonié was carried home. He died a few days later. By his will he made a substantial gift to the anticancer organization, and expressed his desire*

that a post-mortem examination of his body should be made so as to control his clinical observations on himself and bring some light on the question of x-ray burns.

### STATE HEALTH INSURANCE.

The general meeting of the Union of Medical Syndicates has just been held in Paris. The principal subject to be discussed was, of course, the question of State health insurances. The very existence of practitioners being at stake, it is not surprising to notice the unanimity of our medical deputies in defending the interests of the profession at large. It is to be remembered that the new legislation has been accepted by the Chamber and will before long come before the Senate. The law is to be presented by Dr. Chauveau, a senator and a medical man, to whom befalls the difficult task of contenting both the *chère* and the *chou*! Hitherto practically all the social laws relating to medicine were carried under the understanding that the doctor was a philanthropist only too pleased to give his time and to get, after many years, an official *lettre de félicitations*, or maybe to insert into his buttonhole some blue or red, or red, white, and blue ribbon. The actual conditions of life, and the rate of taxation in particular, have put our services towards the community on a quite different basis. This is precisely what has not yet been understood by the promoters of an insurance system. We dimly understand that we shall have rough seas to weather, and a unique front of resistance has been formed by the union. The position is very much like that the British Medical Association had to face some years ago. How much some of us would wish to see that our present union should turn into a broad French Medical Association. At any rate, we have expressed our opinion in three very simple rules: (1) the patient shall have the right of choosing his own doctor; (2) the sacred rule of professional secrecy shall not be infringed; (3) fees to be per visit, with no so-called "inclusivo" agreements. No doubt I shall have to refer to this question in these columns more than once.

### PRIZES OF THE ACADEMY OF MEDICINE.

At the annual meeting of the Academy of Medicine the secretary, Dr. Souques, pointed out that eleven prizes out of fifty-five were not awarded for the simple reason that there were no competitors. These prizes consist of sums of money, former legacies, most of them memorials. The depreciation of our currency has made the value of these premiums rather negligible, the amount being insufficient in many cases to meet the secretarial expenses of the candidate. In some instances, too, the subjects proposed to investigators sound rather obsolete. For instance, there is a prize promised to the happy one who will provoke "thyroid tumour" by administration of substances extracted from water. Well, well, as my young friend said, there are years when you do not feel like working.

G. MONOD.

## Victoria.

[FROM OUR SPECIAL CORRESPONDENT.]

### SIR GEORGE SYME.

SIR GEORGE SYME, President of the last Australasian Medical Congress, resigned active practice in June, 1924. As a mark of the high esteem in which he has long been held by the medical profession in Victoria he was recently presented with his portrait, painted in oils by Mr. John Longstaff. The President of the Victorian Branch of the British Medical Association, Dr. J. W. Dunbar Hooper, made the presentation in the presence of a large gathering of medical colleagues and friends of Sir George, and he asked Lady Syme to accept a replica of the portrait. The Rev. Dr. Sugden, Master of Queen's College, Dr. Zivar of the Melbourne Hospital, and Dr. Murray Morton of St. Vincent's Hospital supported Dr. Hooper, and all expressed their appreciation of Sir George and Lady Syme in brief but admirably chosen words. Sir George, who was obviously touched by the graceful compliment, replied on behalf of Lady Syme and himself.

## THE NEW BUILDING OF THE VICTORIAN BRANCH.

The accommodation of the Victorian Branch of the British Medical Association in Melbourne has long been out of date, antiquated, and wholly insufficient for its purpose. The urgent need of new premises has been insisted upon by many past presidents and councils, and, with the war a thing of the past, it has at last been found possible to take action. After a long survey of possible sites it has been decided to rebuild on the present site. The old one-storied building has been demolished, and a new two-storied structure is now in course of erection. Dr. J. W. Dunbar Hooper laid the foundation stone of the new building immediately after the presentation to Sir George Syme. The new building, when completed, will provide adequate accommodation for the library, the Council and its committees, and the monthly scientific meetings of the Branch. Provision has also been made for the addition of a third story when required. After the new premises have been completed the war memorial of the Branch, temporarily housed in the anatomy department of the University, will be transferred to its proper quarters, and will there form a permanent and beautiful tribute to the memory of those members of the Branch who laid down their lives for King and country.

## THE MEDICAL SCHOOL OF THE UNIVERSITY.

The year 1924 has seen many changes in the medical school of the University. The magnificent department of anatomy, opened some fifteen months ago by the late Sir William Macewen during his visit on behalf of the British Medical Association, has been in permanent occupation for the whole of the last academic year, and has given the greatest satisfaction to all concerned. The evacuation of the old anatomy department has enabled the medical school library to be transferred to larger and more suitable quarters, and has also given much needed relief to the departments of biochemistry and pathology.

## DEAN OF THE FACULTY OF MEDICINE.

The serious and, it is feared, permanent breakdown in health of the professor of pathology and dean of the Faculty of Medicine, Sir Harry Allen, has been universally regretted, the more so on account of his long and honourable association with the medical school of the University. As it no longer appears to be possible to hope for his return to duty, the University Council has been compelled to take steps to appoint a new professor of pathology. The Faculty of Medicine has elected Professor R. J. A. Berry dean of the faculty.

## THE HOSPITAL SITE.

It has long been felt that the complete topographical separation of the medical school of the University from the clinical hospitals is not only anomalous, but detrimental to medical education, research, and the profession generally. An ideal site for hospital and medical school, known locally as the market site, of about fifteen acres, exists immediately west of the University, but the short-lived Labour Government of Victoria allocated this valuable site to the State Education Department, and did so without making any provision for Melbourne's most pressing necessity—additional hospital accommodation. In the new Government a medical man is now Chief Secretary of State, and his action in the matter is being awaited with considerable interest.

## England and Wales.

## WELSH NATIONAL MEDICAL SCHOOL.

We have referred on several previous occasions to the proposal to separate the Welsh National Medical School in Cardiff from the South Wales and Monmouthshire University College. A crisis appears to be developing now, and Cardiff is threatening to withdraw from the University of Wales and establish a university of its own. Since the establishment of the University of Wales in 1893, the University has retained some degree of central control over matters of finance and policy relating to its constituent colleges at Cardiff, Aberystwyth, and Bangor, and now at

Swansea. Special departments for agriculture exist at Aberystwyth and Bangor; Aberystwyth also has a law department, Swansea a school of metallurgy, and Cardiff its medical school. The recommendation of the Royal Commission of 1918, over which Lord Haldane presided, and to which we referred in our issue of July 19th, 1924 (p. 126), was based on a serious reason for separation. The college at Cardiff had applied to the Treasury for a substantial increase in its annual grant, and the Treasury, apprehending that such a grant would be taken as a precedent by other colleges, declared that it could not make a grant to a medical school belonging to a single college, though it might do so in the case of a national medical school. This ground for separation was shortly afterwards cut away when the Government decided to make additional grants to the universities and colleges of England and Wales on a new and purely arithmetical principle—according to them in the form of "pound for pound" equivalents to such additional local grants as the several institutions might obtain. The grants to the University of Wales and its colleges were pooled, and the delicate task of dividing them among particular institutions was transferred to a local body. The question of a special grant from the Treasury to the Cardiff medical school therefore lapsed, and Sir Isambard Owen, late senior deputy chancellor of the University of Wales, in a statement published in the *Western Mail* of January 9th, takes the view that the commissioners' recommendation on the subject may be considered to have lapsed simultaneously. At the present moment the proposed new charter of the college at Cardiff is being considered by the Privy Council; this charter would provide for the medical school remaining a constituent part of the college. Dr. J. G. Adams (Vice-Chancellor of Liverpool University) contributed to the *Western Mail* of January 8th an article setting out the case for opposing the suggestion to make the Welsh National School of Medicine an institution independent of the University College at Cardiff, and cites the precedents of such medical schools as those of Manchester, Liverpool, and Leeds in England, the twelve medical schools of London, the Montreal School of Medicine in Canada, and the medical schools of Sydney, Melbourne, and Brisbane in Australia. Sir Isambard Owen contends that the college at Cardiff originally established the medical school and provided for its needs. He believes that the more closely the management of any school of medicine is connected with the immediate locality in which it is situated the better its general progress, since a school of medicine is dependent for its very existence upon its relations with local authorities. The financial side of the question has a serious bearing on the issue, for should Cardiff eventually secede from the federal university, out of the £54,000 yielded by a penny rate from the whole of Wales in support of the University, over £33,000 is contributed by Glamorgan, Monmouthshire, Brecon, and the county boroughs of Cardiff, Newport, and Merthyr. One story is good until another is told. As we have on previous occasions pointed out, there is a strong body of opinion in favour of making the Welsh Medical School a national medical school with its headquarters at Cardiff, but directly related to the University of Wales.

## Ireland.

## PROFESSOR PURSER'S GIFT.

PROFESSOR JOHN MALLET PURSER has made a gift of £10,000 to be administered for the benefit of the School of Physic and the Schools of Experimental and Natural Science of the University of Dublin by a committee consisting of the heads of three of the scientific departments of the college. The Board of Trinity College, in gratefully accepting his most generous donation, has expressed to Professor Purser its desire that he should associate himself with the committee in the administration of his gift, and Professor Purser has consented. His connexion with the teaching staff of Trinity College dates from 1874, when he was appointed King's Professor of the Institutes of



Medicine (Physiology and Histology) by the Royal College of Physicians. He held this professorship until his resignation in 1902. Probably no man exercised a greater influence over the minds of generations of students in the school during these twenty-eight years. He not only was responsible for the teaching of physiology, but was, it is believed, the first man in Ireland to give formal lectures and conduct practical classes, not only in histology but also in modern pathology. During the years that he held the King's professorship he acted as physician to Sir Patrick Dun's Hospital. In 1917 Dr. Purser was nominated by the University Council, and appointed by the Board of Trinity College, to the Regius Professorship of Medicine, a position he still holds. This appointment gave the greatest pleasure and satisfaction to his many former pupils. His numerous friends and admirers, not only in Dublin but all over the world, hope he will continue to hold this high position for many years to come, and preside over the School of Physic in their old university, to whose services he has devoted his life.

## Scotland.

### THE WESTERN INFIRMARY, GLASGOW.

We have already mentioned that the Western Infirmary, Glasgow, is celebrating its jubilee, and then gave some account of the progress which has been made in the fifty years. The Board of Management has now issued, with illustrations, a short history of the institution, written by Mr. William Power. The Infirmary and the University buildings, closely adjoining at Gilmorehill, were erected simultaneously. Glasgow required additional hospital accommodation, and the situation was most convenient alike for the population rapidly extending along Clydeside and for the staffing of the new institution in its relation to the medical school. An important contribution to the building fund was, in fact, made from University resources. Early differences of opinion, perhaps jealousies, are wisely passed over in the history with no more than a hint, and are of no moment to-day. How rapidly an institution for healing develops and expands in modern times is strikingly illustrated by the recorded facts and figures noted in our previous article (p. 45). The wards have been quadrupled in number, and the indoor patients are five times as many as half a century ago. Then the medical staff consisted only of physicians and surgeons; now there are also gynaecologists, surgeons for the ear, throat, and nose, dermatologists, anaesthetists, and medical electricians. The first visiting physicians were Sir William T. Gairdner, Sir T. McCall Anderson, and Dr. James Finlayson. The first visiting surgeons were Sir G. H. B. MacLeod, Dr. George Buchanan, and Dr. Alexander Patterson. Not very long ago in these columns<sup>1</sup> a notice appeared of an admirable thumbnail sketch of these six men by the late Dr. Walker Donnic, published, alas, only posthumously by his widow, and then only for private circulation; but the work can be consulted in the library of the British Medical Association, and doubtless in other medical libraries; old students who have not chanced to see it will find that it recalls, both good-naturedly and incisively, the traits of the teachers at whose feet they sat so many years ago. Mr. Power's little history goes on to tell the story of the growth of the Infirmary, of its pathological department under Dr. Joseph Coats, its museum and laboratories, its x-ray department, kitchens and laundries, Samaritan Society, Lady Hozier Home, operating theatres, massage department, training school for nurses, and all the other activities carried on under the chairmanship of Colonel J. A. Roxburgh, D.L., with the aid of its medical superintendent, Colonel D. J. Mackintosh, C.B., and its matron, Miss H. Gregory Smith, R.R.C. The endowment fund now exceeds £250,000, and the capital or supplementary fund is about £60,000. Last year the maintenance expenditure, including that of the Lady Hozier Home, was fully £80,000, with the result, unfortunately not uncommon in such matters, that the

ordinary subscriptions, supplemented by the interest on endowment and capital funds, left a balance of £14,000 to be drawn from extraordinary receipts which ought to have gone wholly to increase the interest-bearing capital. Notwithstanding this, supporters of the voluntary principle of hospital maintenance may look with a large degree of satisfaction on the financial position of the Western Infirmary of Glasgow.

### EDINBURGH ROYAL INFIRMARY: SAMARITAN SOCIETY.

The annual meeting of the Edinburgh Royal Infirmary Samaritan Society was held on December 9th, 1924. The Hon. H. Dalrymple, president, in moving the adoption of the annual report, said that the society had for forty-six years carried on most excellent work in connexion with the various hospitals in Edinburgh. Among other things, it had recently helped some of those in hospital with arrears of rent. During the past year 335 new cases had been assisted in various ways, and the almoner and her assistant had paid 1,442 visits. The expenditure in the clothing department was £274, which was more than in the previous year, but this was due to the increasing number of requests made for clothing by patients in very poor circumstances. The subscriptions received during the year had amounted to £256. A motion was proposed by the Rev. Dr. Black to urge upon the public the need that existed for giving increased support both by annual subscriptions and by contributions of clothing. He said that the society discharged a very useful function in giving the extra bit of care which nobody else did, because the mere use of the Infirmary was not enough when the breadwinner of a family that was just managing to carry on was cut down. Councillor Harvey, in seconding this motion, referred to the splendid complementary work that the society was doing in the City Hospital by bridging the gulf that lay between sickness and complete restoration to health. A vote of thanks was proposed to the committee of management and other office-bearers by Mr. George Chene, F.R.C.S.

## NEEDS OF SCOTTISH HOSPITALS.

### OPENING OF PUBLIC INQUIRY.

AN inquiry at the instance of the Scottish Board of Health into "the extent and nature of the inadequacy of the present hospital and ancillary services in Scotland" was opened on January 6th, in the Board of Health Offices at Edinburgh. The Committee, which was appointed last summer, is under the chairmanship of the Hon. Lord Mackenzie, and consists of Mr. J. Addy, Edinburgh; Mr. John Birnie, Inverness; Dr. R. C. Buist, M.R.C.P. Ed., Dundee; Dr. A. K. Chalmers, F.R.F.P.S. Glas., medical officer of health for Glasgow; Mr. John S. Doeg, Aberdeen; Dr. J. R. Drever, Edinburgh, Secretary of the Scottish Branch of the British Medical Association; Dr. D. J. Mackintosh, C.B., M.V.O., LL.D., Glasgow; Mr. Niven McNicoll, Secretary of the Committee; Mr. Russell Paton, Edinburgh Royal Infirmary; Mr. James Robertson, Dumfries; Mrs. Elizabeth Shirley, Dumfries; Sir Norman Walker, F.R.C.P. Ed., LL.D.; and Mr. Joseph Wung, Bellshill, Glasgow, chairman of the Scottish Labour Housing Association. A further remit to the Committee was to make recommendations for the development and maintenance of these services to meet the needs of the community, and it covers in addition to voluntary hospitals the services of public health and Poor Law hospitals.

The chairman in opening the inquiry said that the first task was to make a survey of the hospitals in Scotland, and this to a large extent had been carried out during the past six months. It had been established that there was inadequacy, and the great problem which confronted the community was to be solved by a careful, comprehensive, and detailed study of the situation rather than by starting with theories and endeavouring to make these theories fit the facts. He had studied the pamphlet entitled *The Labour Movement and the Hospital Crisis*, and also the hospital policy of the British Medical Association, as well as the report by Lord Cavo's Committee and the report of Viscount Knutsford's address on April 28th, 1924. Those who were acquainted with the subject would recognize that

<sup>1</sup> March 1st, 1924, p. 334.

these were the protagonists of the various schools of thought. It would have to be considered whether the task before the nation was so enormous that no voluntary organization could tackle it alone, or whether the State alone could deal with it without voluntary aid. A full and complete health service was needed, one which was available for all who required it; and the efficiency of that service would depend upon the establishment of intimate co-operation and harmonious relationship between the various kinds of hospitals. They wanted to know how far the problem was one of actual shortage of something which was really needed for the welfare of the community, and how far it was simply a problem of reorganizing and grading existing accommodation.

The first witness examined by the Committee was Dr. A. E. Maynard, F.R.F.P.S., Governor of the Victoria Infirmary, Glasgow, who said that, speaking only for the city of Glasgow, he considered that the existing institutions were totally inadequate as regarded the number of beds required in the three large general infirmaries. The inadequacy might be measured by the following considerations: (1) partly by the long waiting lists; (2) partly by the fact that general practitioners were unable to gain admission for patients whom they recommended; (3) more especially by the staff, who were unable to admit patients whom they knew for various reasons should not be kept waiting for treatment; and (4) partly by the effect which delay in admission had on employers and insurance associations. Payments had to be made where immediate treatment of a comparatively slightly disabling complaint would admit of the employee returning to his work and benefiting by again earning full wages. Instances of this nature were innumerable. This witness also said that there was pressing need for a class of patients, who, by reason of their social position or their limited means, were not suitable for admission to purely charitable institutions, but who, at the same time, could not pay the larger fees required for entrance to private nursing homes. Provision could quite well be made in their voluntary institutions for this class on condition that expenses were covered by the patients' own contributions. Provision was also needed for the observation of disease at its earliest manifestations. He was of opinion that the present needs of the community could best be met by the adoption of two measures: (1) the building of convalescent or auxiliary hospitals at convenient distances from the parent institutions; and (2) the building of cottage hospitals in towns where the distance was too great for patients to be conveniently transported to the cities.

The next witness was Professor G. L. Gulland, C.M.G., of Edinburgh University, who said that, as regarded male wards in Edinburgh, the physicians found they could keep within a reasonable distance of their waiting lists, but that, as regarded female cases, the waiting lists were often six months in arrear, and the difficulty particularly applied to chronic cases. He thought there was need in the Edinburgh district for further auxiliary hospitals, but that it was desirable that most medical cases should pass through the general hospitals in the first place, that was to say until a diagnosis was made. He thought that the hospitals were too solidly built and that the ideal for a hospital was some temporary structure designed to last only thirty years. With regard to paying patients, he did not think that it would be suitable to treat paying and non-paying patients in the same wards. He thought, however, that the principle of a voluntary hospital consisted only in voluntary and independent management, and was not necessarily accompanied by gratuitous treatment in all the wards. In Edinburgh a departure from the gratuitous principle was about to be made in the matter of the x-ray department, and it was admitted that that was the thin end of the wedge. The Royal Infirmary of Edinburgh had also departed from the gratuitous position to a considerable extent by taking subscriptions from employees of all kinds, and he thought that opinion had changed and was still changing with regard to the admission of paying patients in voluntary hospitals. He thought that so long as independent management was preserved, the public would continue to subscribe and he thought there would be no disinclination by any class of persons to come into the Infirmary. The demand for hospital treatment was certain to increase on account of the rising standard of medical and surgical diagnosis, and this was also affected by the fact that many of the houses now built did not provide sufficient room for treating sick persons at home.

Sir George Beaton, K.C.B., K.B.E., of Glasgow, stated that he did not think that the fairly well-to-do middle classes were adequately provided for in nursing homes, and he suggested the establishment of paying hospitals or of paying beds in existing hospitals. He thought that the lower middle classes, including artisans, manual workers, and the poor, were not sufficiently provided for at present, and in order to ensure adequate hospital treatment there should be co-ordination of all the hospitals—voluntary, municipal, and Poor Law. He did not think the voluntary hospitals should be linked up with the Poor Law hospitals but with the health authority institutions. Each hospital should be absolutely independent of State or any other control in the management of the hospital. As to the cause that had brought about the deficiency in accommodation in voluntary hospitals, he held that the voluntary hospitals had not confined their work to the care of the necessitous sick poor for whom they had been established, but were now meeting the needs of the lower middle classes, artisans, and others. There had been a great influx of this class of patient owing to the disappearance of the prejudice

that formerly existed against entering a hospital, partly due to recognition of the advantages offered by the hospitals and partly due to the difficulty of obtaining home nursing. He believed that the organization best suited for the voluntary hospitals was the establishment of a Scottish Central Hospital Committee, which should have power to regulate the building of new hospitals and the extension of existing institutions, and also to raise a central fund for the benefit of all the voluntary hospitals in Scotland. He proceeded to elaborate this scheme, according to which Scotland would be divided into four districts, each having central hospitals with auxiliary recovery hospitals round them to allow of "evacuation." Each district would have clearing houses under a commissioner for the allocation of beds in the recovery hospitals. As regarded finance, all patients admitted to the voluntary hospitals should be under a certain income limit and should meet their individual maintenance charges. He thought that this system of maintenance by the patients—either personally or through the aid of insurance—would foster thrift, and it would preserve the voluntary character of the hospitals, which at the present day was very desirable. He did not think that nationalization of hospitals would be so efficient as the present system, and it would be more expensive.

Sir David Wallace, K.B.E., C.M.G., Vice-President of the Royal College of Surgeons, Edinburgh, said that during his period of connexion with the Royal Infirmary of Edinburgh there had been a great evolution in hospital accommodation and treatment, in regard, for example, to the number of branches of hospital work. The general voluntary hospital had thus a larger function to fulfil, and he anticipated that this would entail larger extra expenditure in the future. He believed that the voluntary principle was best for patients, for medical men, and for the community as a whole; and he thought congestion in these hospitals might be relieved by the introduction of auxiliary hospitals, which had worked well in the war, and which might be used in connexion with civilian hospitals. This principle had been introduced in Edinburgh in the Astley Ainslie Institution, where patients were sent from the Royal Infirmary. A great number of surgical cases merely occupied beds, and after operation patients really required only nursing and general attention, which could quite well be carried out in auxiliary hospitals, thus freeing beds in central hospitals. He thought that all hospital buildings should be of the simplest possible description, and that the principle of a monument to the architect in hospital construction should now cease. Many country houses were coming into the market and could readily be converted for use as auxiliary hospitals. With regard to Poor Law hospitals, he believed that if these institutions got the reputation of having competent men doing the work people would go to them without any thought of there being any stigma attached, and it might be best that the Board of Health should take them over.

#### Maternity Needs.

Professor B. P. Watson, F.R.C.S., Professor of Midwifery in the University of Edinburgh, expressed the opinion that in the Edinburgh district maternity hospital conditions were at present very inadequate, and it was impossible to keep patients in hospital longer than nine or ten days after delivery. He also thought that private patients were inadequately provided for in private nursing homes. He suggested that private wards should be attached to the large public hospitals, so that all the facilities of these hospitals should be available for the better class of patient. He referred to his experience in Toronto, Canada, where in the university teaching hospital, having a total accommodation of about 600 beds, 150 were intended for private patients, who not only met the charges for their hospital maintenance but paid their doctors' fees. These patients were accommodated in a separate building in the hospital grounds. From the running of the private wards there was a considerable surplus which went toward the maintenance of the public part of the hospital. Every patient, however, paid for maintenance, a principle which was general throughout Canada, and, if they could not pay individually, their municipality or district paid for them. This principle was followed throughout the United States also, and it worked exceedingly well. He thought that it ought to succeed in Scotland, and, if a private pavilion could be built in the grounds of the Royal Infirmary at Edinburgh it would be a tremendous benefit to the community. In answer to a question, the witness said that in the Edinburgh district the minimum for a new maternity hospital would be 200 beds.

Professor T. K. Monro, F.R.F.P.S., Professor of Medicine in Glasgow University, said that there were 1,200 persons on the waiting list of the Glasgow Royal Infirmary, and he thought that a temporary extension might be enough to clear off these cases. He did not think that the housing question had much influence upon the congestion in regard to hospitals. With regard to the type of case on the waiting list, there were seven to fourteen times as many surgical cases as medical cases waiting for admission. He believed in the maintenance of the voluntary system, and thought that if there were a State service there would be a great increase in the cost of running expenses.

Professor Archibald Young, F.R.F.P.S., Professor of Surgery in the University of Glasgow, said that the inadequacy of the present hospital provision was beyond dispute. As a hospital surgeon, he saw it particularly in the continual demand for admission, which it was almost impossible to meet. The question of inadequacy was somewhat complicated by the fact that a small cottage hospital could suffice for a large population in the country districts because many cases of all kinds sought, or were sent, for treatment to the large centres, where, they thought, they could get better treatment. The public was becoming more and more alive to the fact that in the modern hospital all kinds of treatment might be got on a scale that even the best equipped nursing home could not surpass, and the hospital patient of to-day, speaking generally, had a higher

level of facilities for diagnosis, as well as for treatment, than his supposed better class brother or sister. He thought that further hospital provision should take the form of extension of existing hospitals, partly in the form of provision of auxiliary hospitals or convalescent homes linked with the central hospital. He did not believe that any great advantage would be gained by an attempt at further co-operation between the various larger hospitals, nor did he think that the inadequacy problem would be materially affected thereby. The voluntary hospital was entitled to expect contributions from National Health Insurance funds, and the National Health Insurance scheme must continue these. The provision and maintenance of hospitals especially for insured persons was quite out of the question. He saw no essential objection to the acceptance by a voluntary hospital of funds derived from State grants. The witness thought that there might be co-operation between voluntary hospitals and Poor Law hospitals by linking up one voluntary hospital with one Poor Law hospital. He thought that the independent control of voluntary hospitals should be continued. On the question of payment by patients for their maintenance, the witness saw no objection to the principle, and, although he did not think that paying and non-paying patients should be treated in the same ward, he thought it might be economical to have them under the same roof and saw no objection to this.

The committee adjourned until January 13th. We intend to publish a report of its further proceedings in our next issue.

## Correspondence.

### RUTHERFORD MORISON TESTIMONIAL.

SM.—A largely attended meeting, representative of all branches of the medical profession, was held in Newcastle-on-Tyne on December 16th last, as a result of the subjoined resolution passed by the Newcastle-on-Tyne Division of the British Medical Association:

"That a meeting of the medical profession in the North of England be called as soon as possible to consider how best to recognize Professor Rutherford Morison's services to the medical profession."

At this meeting it was unanimously decided to issue an appeal to the profession for subscriptions—(a) to present Mr. Morison with his portrait in oils; (b) after defraying the cost of the portrait, to devote the balance to the formation of a Medical Library Fund, or the establishment of a Scholarship or a Fellowship in Research, or such other similar object as Mr. Morison approves. It is hoped to raise a sum of at least £2,000.

A General Committee was formed to further the object, together with an Executive Committee, who are:

Angus, Professor H. Brunton  
(Chairman), Newcastle.  
Anderson, Dr. J., Blyth.  
Anderson, Dr. P. V., Bishop  
Auckland.  
Arkle, Dr. J. S., Newcastle.  
Bolam, Dr. R. A., Newcastle.  
Bunting, Dr. T. L., Newcastle.  
Charles, Dr. J., Consett.  
Densham, Dr. H. B., Stock-  
head.  
Dickie, Dr. H., Morpeth.  
Dickie, Mr. W. S., Middles-  
brough.  
Dix, Dr. R. H., Sunderland.  
Don, Dr. J., Newcastle.  
Fairclough, Dr. W., Hexham.  
Hare, Dr. F. F. T., Durham.

Harland, Dr. G. R., S. Shields.  
Hudson, Dr. J., Newcastle.  
Mackenzie, Dr. W., Gosforth.  
Martin, Mr. A. M., Newcastle.  
Murray, Dr. Farquhar, New-  
castle.  
Ogden, Dr. O. W., Newcastle.  
Pearson, Dr. H. C., Darlington.  
Purves, Dr. Scott, Alnwick.  
Smallwood, Dr. R. H., Gates-  
head.  
Turner, Mr. G. Grey, New-  
castle.  
Walkinshaw - Osselton, Dr.  
Eleanor, Newcastle.  
Williamson, Dr. J. B., North  
Shields.

Attached is a list of the subscriptions which have been received or promised to date. Subscriptions may be sent to the honorary secretary and treasurer, Mr. R. J. Willan, F.R.C.S., 6, Kensington Terrace, Newcastle-on-Tyne.—We are, etc.,

H. BRUNTON ANGUS,  
Chairman.  
R. J. WILLAN,  
Honorary Secretary.

Newcastle-on-Tyne, Jan. 8th.

#### FIRST SUBSCRIPTION LIST.

£22 10s.—Mr. Hamilton Drummond (Newcastle), Mr. G. G. Turner (Newcastle), Mr. R. J. Willan (Newcastle).  
£25.—Professor H. Brunton Angus (Newcastle), Mr. A. M. Martin (Newcastle), Dr. J. W. Smith (Ryton).  
£21.—Dr. R. A. Bolam (Newcastle), Dr. James Don (Newcastle), Dr. James Hudson (Newcastle), Dr. D. F. Todd (Sunderland).  
£15 15s.—Dr. J. S. McCracken (Newcastle).  
£10 10s.—Dr. Baigent (Northallerton), Dr. R. H. Dix (Sunderland), Dr. Forsyth (Cramlington), Dr. Fox (South Moor), Dr. Giffon (North Shields), Dr. W. Mackenzie (Gosforth), Mr. N. Macley (Newcastle), Dr. Scott Purves (Alnwick), Dr. H. Smith (Darham).  
£10.—Dr. J. T. Dunlop (Newcastle), Dr. A. Smith (Ryton).

£5 5s.—Dr. W. Fairclough (Hexham), Dr. H. E. Gardin (Newcastle), Dr. T. W. Hay (Newcastle), Dr. D. W. Inglis (Hexham), Dr. J. F. Longbottom (Middledonagh), Dr. James McDonald (Bellingham), Dr. Marked (Alnwick), Dr. Moors (Broomhill), Dr. Gavin Muir (Newcastle), Dr. H. Carden Pearson (Darlington), Dr. E. F. Pratt (London), Dr. Stanley Rodson (Howlands Gill), Dr. Eleanor Walkinshaw-Osselton (Newcastle), Dr. J. B. Williamson (North Shields), Dr. Stanley Worthington (Newcastle).

£5.—Dr. H. Dickie (Morpeth), Mr. C. D'O. Grange (Harrogate), Mr. A. S. Percival (Newcastle).

£5 2s.—Dr. Monica Bell (Hunthausen), Dr. J. Galloway (Low Fell), Dr. G. H. Harbottle (Newcastle), Dr. E. E. Norman (Newcastle), Dr. J. Wormall (Darlington).

£2 2s.—Dr. J. (Sunderland), Dr. A. (Sunderland), Dr. A. (Sunderland).

£1 1s.—Dr. Bishop (Wylam), Dr. A. Brecken (Redcar), Dr. J. Brecken (Stockton-on-Tees), Dr. J. Crumbar (Cable Douglas), Dr. Percy (Bilmond), Dr. G. Hall (Stockton), Dr. Bruce Law (Sunderland), Dr. S. Lyle (Stockton), Dr. C. V. Miller (Stockton), Dr. A. T. Thompson (Darlington), Dr. L. M. Weeks (Newcastle), Dr. Ethel Williams (Newcastle).

10s. 6d.—Dr. G. Irving (Stockton), Dr. T. Kirk (Stockton), Dr. R. Manners (Stockton).

### IODINE IN EXOPHTHALMIC GOITRE.

SM.—With reference to Dr. Fraser's paper and your leading article on exophthalmic goitre in the *BRITISH MEDICAL JOURNAL* of January 3rd, it may be of interest to know that a Swiss committee is at present investigating the morbid conditions caused by iodine, especially in connexion with the prevalence of exophthalmic goitre. Medical practitioners have been circularized on the subject, and as a result more than 3,600 cases of the disease have been notified, a number far in excess of what was anticipated.

Here in the Canton Vaud all school children receive a tablet containing an iodine preparation once a week, and in the adjoining Canton Valais the salt sold in shops is impregnated with a small quantity of iodine, as preventives of goitre. There is now a suspicion that this use of iodine, in order to prevent ordinary goitre, may be a factor in the prevalence of exophthalmic goitre, and medical practitioners have now been asked to fill in forms giving a more detailed statement of the cases that have come under their observation.—I am, etc.,

Tour de Peilz, Switzerland,  
Jan. 6th.

W. G. MACPHERSON,  
Major-General, late R.A.M.C.

### THE PASSAGE OF FOOD THROUGH THE BOWEL.

SM.—I have read with great interest the leading article in your issue of November 22nd, 1924, entitled "The passage of food through the bowel," and I shall be grateful to be permitted to make the following remarks thereon.

In 1922 I published a pamphlet, *A Study of Intestinal Stasis* (London: John Bale, Sons and Danielsson, Ltd.), in which I recorded experiments essentially similar in character to those of Alvarez and Freedlander. But my interpretation of the meaning of the phenomena disclosed by experiment differs from that you tentatively ascribe to the work of Alvarez and Freedlander. I shall briefly tabulate my interpretation thus:

1. That the residua demonstrated in the intestinal tube—especially in the colon—are an index of defective (unphysiological) function on the part of the intestinal tube.
2. That this residual phenomenon varies in degree from a slight defect in apparently healthy people to a gross and serious defect in the subjects of clinically recognizable intestinal stagnation.
3. That the residua in the bowel, being stagnant, become putrefactive and infect the whole mass of the bowel contents.
4. That the only true test of perfectly physiological function on the part of the bowel is that the faeces shall be almost entirely inoffensive—that is, no residues are left.

I believe that the due consideration by the profession of this principle—that any degree of putrefaction, slight or gross, is a departure from true physiological function and therefore a state of disease—would lead to a great reconciliation of present opposing views regarding the influence of intestinal stagnation on bowel and other disease.

In my pamphlet I gave an x-ray record of that residue which I regard as the primary and most important of all—namely, residual faeces in the pelvic colon. I also indicate clearly that my observations are but a repetition of the experiments and observations of such investigators as Stephen Hales, Kampf, and O'Beirne: the same also applies to my interpretation of the observed phenomena.

The operation which I propose for relieving pelvic

colon stagnation was recently the subject of an article by Dr. J. A. Macewen of Glasgow (BRITISH MEDICAL JOURNAL, October 11th, 1924). Elsewhere I shall draw attention to the fact that the pelvic colon residue is commonly misinterpreted in textbooks as rectal retention of faeces.—I am, etc.,

JAMES C. WATT,  
Medical Officer, W.A.M.S.

Medical Department, Tarkwa, Gold Coast,  
West Africa, Dec. 11th, 1924.

### FREUDIAN DOCTRINE.

SIR,—The kind of discussion proposed by Dr. Ernest Jones in your issue of January 10th (p. 93), in which he comments on my letter published on December 20th, 1924, is very different from that which I suggested as desirable. Nor can I admit that a mere review of criticisms adverse to psycho-analytic theory and practice, especially when written by psycho-analysts, can be rightly regarded as scientific discussion. Dr. E. Jones maintains, in reply to my statement that no adequate discussion of psycho-analysis among well accredited medical and psychological authorities has as yet been held, that, in his opinion, such discussions have already taken place; and, among others, he cites one where psycho-analysis was dealt with at a meeting of the Royal Anthropological Institute. This, however, took place on the occasion of an address by the President of the Institute and a following paper read by Dr. Jones, on the relation of anthropology and psycho-analysis, of which no criticism was made and to which no subsequent replies were admitted.

I did not diverge materially, if at all, from the truth in what I wrote in my letter to you; and can repeat confidently my statement concerning the non-existence of any adequate criticism by leading psycho-analysts of the two books by Dr. Wollheimuth, D.Sc., and Dr. P. McBride (correctly identified by Dr. Jones).

Whether the contentions in these books and other less detailed criticisms that have appeared are sound or not, they cannot be ranked as merely the outcome of ignorance and rancorous abuse, such as Dr. Jones rightly regards the hostile comments he deems unworthy of notice.—I am, etc.,

London, W.2, Jan. 13th.

BRYAN DEXTER.

### TREATMENT OF PERFORATED GASTRIC AND DUODENAL ULCERS.

SIR,—In the JOURNAL of January 3rd (p. 12) Mr. Percival Mills raises an interesting and important point in connexion with the treatment of perforated gastric and duodenal ulcers. He considers that it is advantageous to perform gastro-jejunostomy at the same time as the perforation is sutured, and his statistics appear to show that patients so treated do better and have a shorter convalescence than those who do not undergo the short-circuiting operation. In this view he is supported by many surgeons, one of whom (Deaver) has published a very striking series of 56 perforated ulcers operated upon (in all but two with simultaneous gastro-enterostomy) with only 2 deaths; if these wonderful results were certainly due to the performance of the anastomosis it would be the duty of every surgeon to adopt that technique, but such results have to be scrutinized carefully because they are contrary to the experience of many surgeons. The results that Mr. Mills publishes are very creditable, but do not, in my opinion, show such a great difference from the average results at the present day. To ascertain the average mortality I have examined the notes of all cases of perforated ulcers admitted to St. Mary's Hospital during the five years 1920-24. (For the great trouble and care he took in collecting these data I wish to thank Mr. G. D. Robertson, F.R.C.S., very sincerely.)

It appears that during the five years investigated 67 cases of perforated ulcers were admitted, and that of these 17 died—a mortality rate of 25.5 per cent. Since this list includes three moribund and unoperated cases the mortality represents the maximum. I agree with Mr. Mills in considering it wise to include all cases, for in the favourable report of Deaver many moribund and inoperable or unoperated cases were not included in the series. The patients in the St. Mary's series were operated upon by

nine different surgeons, so that the results should be regarded as typical of present-day results. Some of the cases had gastro-enterostomy performed at the same time as the ulcer was sutured, others had not. Those who had the anastomosis performed certainly did better than those who simply had the ulcer sutured, but the time factor seems to have played an important part in producing this result. Of the 40 cases in which the time elapsing between perforation and suture is mentioned 24 underwent simple suture with 8 deaths; while of the 16 who also had a gastro-enterostomy performed only 3 succumbed. But the average lapse of time between the perforation and operation in the first group of cases was thirteen hours, whilst in the second it was only five and a half hours, so that the time factor alone would be sufficient to account for the more favourable results.

It is therefore clear that there is room for a very thorough investigation of the question. Such an inquiry should embrace the work of many surgeons at several hospitals, and sufficient details of cases should be given to enable an impartial judge to give an opinion. To form anything like a reasonable and impartial judgement we should be informed as to the age of the patient, the position of the perforation and whether the ulcer was acute or chronic, the time elapsing between perforation and operation, the amount of peritonitis and the degree of shock or toxæmia from which the patient was suffering. It is indicative of the uncertainty existing on the question that, whilst Mr. Mills is performing gastro-enterostomy more frequently, I find myself doing it not so often as formerly. I am fully aware of all the arguments that have been put forward in favour of the combined operation, and used to argue in its favour myself. I now think that it is only occasionally advisable, and agree with Mr. Mills that "considerable judgement is required to decide when to perform gastro-jejunostomy in these cases." The suture of a perforated ulcer has frequently to be done by those who have not a large experience of gastric surgery, and I consider it would be a pity if it were generally accepted that a gastro-enterostomy should be performed at the same time.—I am, etc.,

London, W.1, Jan. 5th.

ZACHARY COPE.

SIR,—Judging by Mr. G. P. Mills's paper, the question of the proper treatment of such catastrophes as perforation of gastric and duodenal ulcers seems to have been settled for surgical specialists. For the general practitioner surgeon the decision is much more difficult. Whilst he knows that he probably would save those sutured cases that die from hæmatemesis or secondary perforation by primary gastro-enterostomy, on the other hand the time he consumes in posterior gastro-enterostomy, and the prolonged etherization, would probably sacrifice a larger number of cases.

Whilst believing that suture and gastro-enterostomy is the correct treatment, I am of opinion that for the general practitioner surgeon simple sero-serous suture and over-sewing of omentum is the safest course. I have performed twenty to thirty such operations with three fatalities.—I am, etc.,

JOHN H. TONKING, M.B.Lond.

Camborne, Cornwall, Jan. 5th.

### ACIDOSIS AND ACETONAEMIA IN RELATION TO SEA-SICKNESS.

SIR,—Although I have been going to sea, off and on, for thirty-one years, I never associated acidosis and acetonaemia with sea-sickness until I held the appointment of surgeon to the steadiest ship I have ever been on, where there are comparatively very few cases of this complaint.

What drew my attention to it, I think, was the extraordinary number of cases in women in the middle or late stage of pregnancy, who, having ceased vomiting in the early months, commenced vomiting again after coming on board, and some cases of intractable vomiting in children, when the movements of the ship were so slight as to be out of all proportion to the illness of the patients. The children often had a previous history of cyclical vomiting. My investigations, covering a period of three years,

have shown me increased acid and acetone in the urine in all cases of apparent sea-sickness with the exception of two, which came under my notice only recently, and made me doubt the conclusion I had come to, that all cases of sea-sickness were due to or accompanied by acidosis and acetonaemia. It almost made me wonder whether these two cases were simple sea-sickness after all. In a great number of cases acetone can be detected in the breath of the patient. I should like to have the observations of other ship surgeons on the prevalence of acidosis and acetonaemia amongst cases of vomiting at sea. Although sea-sickness may not be due to these causes, the presence of acidosis and acetonaemia in such a very large proportion of cases seems worthy of thorough investigation. That the acetone present is not due to starvation is amply proved by the fact that some persons are sea-sick shortly after the ship sails—some even declare they are nauseated before the ship moves from the dock, and one patient declared that the mere walking along the dock before embarking was sufficient to cause a feeling of nausea. It would seem likely that the sympathetic system may act on one or more of the endocrine glands, possibly the pancreas, and so cause the fats to be broken up into these substances instead of carbon dioxide and water, as we know happens in diabetes. At any rate it is interesting to note that these cases respond very readily to intensive alkaline treatment (especially children); the worst cases have to be treated by high rectal injections, and when vomiting ceases, as it often does in an hour or two, the treatment is continued by mouth. It is almost like a conjuring trick to see a child, who has been lying in bed and vomiting everything ingested, up and about playing in a few hours. I have added glucose to these rectal injections, but clinically this does not seem to be a success, though theoretically it would appear to be indicated, and I have consequently discontinued it. For the rectal injections I use sodium citrate (1 drachm to a pint), repeated according to retention and results, and grape fruit and oranges or lemonade by the mouth when they can be retained, as they often are almost immediately. By the mouth sodium citrate is given, from a maximum dose of half a drachm every two or three hours downwards, according to retention, severity, and age (after vomiting has ceased or become less frequent following the rectal injections), often combined either with nux vomica or sodium bromide, according to whether the case is asthenic or sthenic as determined by the pulse. The former is, in my observation, far more frequently the case, and the patient also most often requires stimulating to counteract the depressing effect of the alkaline treatment; in milder cases a bismuth citrate mixture is effective.

In conclusion, these investigations have shown in my practice that more than 99 per cent. of cases of vomiting at sea, not due to an obvious organic lesion, have been accompanied by increased acidity and acetonaemia; the sickness clears up quickly under an intensive anti-acid treatment, and it would seem to follow that it is advisable to have any hyperacidity corrected before embarking.—I am, etc.,

B. SYDNEY JONES, M.R.C.S., L.R.C.P.,  
Surgeon, R.M.S. *Aquitania*.

Southampton, Dec. 15th, 1924.

#### THE RURAL PRACTITIONER AND MATERNITY.

Sir,—Appreciation is oftentimes greatly cheering, and I trust an abler pen than mine will record our thanks to Dr. Mottram for his very able, truthful, and convincing article in your issue of January 3rd (p. 41).

The troubles, trials, and difficulties that confront a rural practitioner are forcibly related, and from nearly fifty years' experience I can fully substantiate, and could find cases in support of, his statements. The paragraph on notification brought to my mind a case that occurred many years ago. In a small crowded cottage, with a family of eight children, one child, ill with diphtheria, developed acute appendicitis. There was no isolation or fever hospital or cottage hospital, and a general hospital was out of the question. The medical officer of health could render no

aid, but finally, after much trouble, the infectious hospital of one of our large towns admitted the case.

After the return of the child I was personally charged with the cost of maintenance, etc., for the period of detention. Fortunately for me the Poor Law authorities discharged this liability. The paragraphs on midwives and finance are clear and correct, and will be verified on many sides, and with Dr. Mottram's concluding remarks and suggestions most practitioners will be in agreement.

In later years the provision of two cottage hospitals in this district has already been a great boon, and will be more fully appreciated by the coming practitioners.

The increasing use of motors and their availability has simplified some of our difficulties, but in urgent cases we have still to make use of the larger hospitals situated fifteen, twenty-five, and thirty miles distant. May I be allowed to record my deep sense of gratitude to the authorities and staffs of the general and special hospitals (especially of Manchester) for their unflinching promptitude and willingness to accept and treat cases under all sorts of conditions and times? This kindness has extended over many years, much relief has been given, and very many valuable lives have been spared.—I am, etc.,

Tideswell, Jan. 5th.

THOMAS H. PARKE.

#### TONSILLECTOMY.

Sir,—Dr. Tawse, in the issue of the JOURNAL for December 27th, 1924, ventures to prophesy that "the unnecessary waste of blood by the guillotine method will be the direct cause of dissection being generally adopted by the laryngologists of the next generation." If Dr. Tawse can find time to visit the operation clinics of the great majority of the younger school of laryngologists attached to the staffs of the metropolitan hospitals, he will not be so sanguine of the likelihood of his prophecy being fulfilled. Indeed, any support he may obtain for his views will, for the most part, come from the older school of surgeons, who for one reason or another have never troubled to give the "reverse guillotine" method a fair trial. Dr. Tawse states that "some laryngologists have, partially or wholly, abandoned the guillotine in favour of dissection." I venture to doubt this statement. I have never met them.

I served my apprenticeship in the atmosphere of the dissection school associated with the name of G. E. Wagh, and to him the great credit must be given for describing in 1909 his technique for the dissection of tonsils, a method which will find its use even in the hands of the most skilled manipulator of the "reversed guillotine." I agree with all that Mr. T. B. Layton has stated, and I would like to add a quotation from an article of mine in the *Lancet* of January 22nd, 1921, on "A study of the indications for the removal of tonsils by the dissection or by the reverse guillotine":

"... If tonsils can be adequately removed by a simple, short operation, entailing less discomfort, less risk, shorter convalescence, and less expense to the patient, surely this operation should commend itself to the surgeon anxious to do his best for the patient."

May I in my turn hazard the prophecy that the next generation will, in still greater numbers than the present, continue to enucleate tonsils by the reverse guillotine method, and will only dissect them out when they are compelled to do so? Finally, may I express the pious hope that another and still better method will be evolved, which will put an end to party discussion and thus free your valuable space for more profitable correspondence?—I am, etc.,

London, W.1, Dec. 26th, 1924.

M. VLASTO, F.R.C.S.

#### WOMEN DOCTORS.

Sir,—As showing the glut in women doctors, the following figures may be of interest. To-day there were seventy-eight applicants for the post of junior resident medical officer (female) at the Children's Hospital, Sunderland; salary £100 a year.

Thirty-three held English qualifications, thirty-three Scottish, and twelve Irish. Of the English qualifications 10 were London degrees, 4 Durham, 2 Birmingham, 1 Sheffield, 7 Manchester, and 6 were London Conjoint diplomas. Of the 33 Scottish qualifications 3 were of



St. Andrews, 9 of Edinburgh, 13 of Glasgow, and 8 of Aberdeen. Of the 12 Irish qualifications 7 were of Belfast, 3 of Dublin University, and 2 of Irish Conjoint Colleges.

Forty-five out of the seventy-eight candidates had held previous public appointments, and many of them had held several.—I am, etc.,

Sunderland, Jan. 13th.

WM. ROBINSON.

## Obituary.

LILLIAS HAMILTON, M.D.Brux., L.R.C.P. and S.Ed.

At the present time, when the study of medicine is regarded as an accepted career for women, it is with admiration for the undaunted spirit of a pioneer that we record the death of Dr. Lillias Hamilton. The eldest daughter of Hugh Hamilton of Ayrshire, she was born in New South Wales, her mother's country. She was brought to England in childhood, and was educated at Cheltenham. It was due to some words of Miss Beale that Miss Hamilton determined on medicine as her career. She trained first as a nurse in the Liverpool Infirmary, and then studied medicine at the London School of Medicine for Women, and at Edinburgh University. She took the diplomas of L.R.C.P. and S.Ed. in 1890. She studied also in Brussels, Vienna, and Stockholm, and took the M.D.Brux. in 1890.

Dr. Hamilton went to India and established a private practice in Calcutta, where she was also physician in charge of the Dufferin Hospital. After an attack of cholera in 1894 she was obliged to take a rest, and made the journey to Kabul. During her visit there the favourite wife of the Amir (the late Abdur-Rahman) was ill and Dr. Hamilton was requested to attend her. She was then offered the post of court physician, which she held for four adventurous years. Some of her experiences of this time are given in her book *A Vizier's Daughter*, published in 1900.

The magnitude of her work in that isolated country, previously uninfluenced by Occidental ideas of hygiene, cannot be estimated. One of her triumphs was the compulsory introduction of vaccination for children. Her life there must have been one of inconceivable difficulty, constantly fighting against superstition, ignorance, and the jealousies of an Eastern court. But the pioneer spirit of Dr. Hamilton, who exhibited exceptional pluck and enterprise, was undaunted by the many and peculiar difficulties of her position. Her house in Kabul gradually became a hospital, in which she was helped by her sister, and later by an English nurse. Failing health obliged her to relinquish her appointment in 1898, when she returned to England.

For the next few years Dr. Hamilton practised in London. In 1902 she became warden of Stndley Horticultural and Agricultural College for Women, Warwickshire. Her great desire was to add to the number of careers open to women, and especially to give them healthy occupation. To this undertaking she gave generously, not only of her health and energy, but also of her fortune. After many difficulties, she was successful in seeing Stndley recognized as one of the two leading training schools of horticulture for women in this country. One of the students she trained is now principal. In spite of health so indifferent that years ago it would have entitled her to rest on her laurels, she remained warden of the college until last year. During the war she recognized the prior claim of medicine, and in 1915 went to Montenegro to take charge of a hospital, and remained there until the general retreat through Serbia.

Dr. Hamilton had travelled extensively, and had a wonderful facility in languages. Her versatility was well recognized among her associates, and her conversation was admittedly brilliant. Her forceful personality and her habit of looking at main issues rather than considering petty details had an invigorating effect on a community of women. Her students learnt far more than technical training from her leadership. Never sparing herself or others—for she considered work to be salvation—her generous understanding of human nature nevertheless made

her always ready to give sympathy and help to those in need.

Besides the book mentioned above Dr. Hamilton wrote *A Nurse's Bequest*, published in 1907, and *The Powers that Work in Darkness*, published in 1924. She died at Nice on January 6th.

FREDERICK LOCKHART, M.B., C.M.EDIN.,

M.D., C.M.McGILL,

Clinical Professor of Gynaecology, McGill University.

A REUTEN's telegram from Montreal, dated January 12th, announced the death of Dr. Frederick Lockhart, professor of gynaecology at McGill University. It appears that during a hunting trip in the St. Maurice Valley he was lost in the woods, and his legs were severely frostbitten; this eventually caused his death. Frederick Albert Lawton Lockhart received his medical education in the University of Edinburgh, where he graduated M.B., C.M. in 1889. In 1900 he received the degrees of M.D., C.M.McGill. He was professor of clinical gynaecology in McGill University, and gynaecologist to the General and Verdun Hospitals.

We are indebted to Sir ALEXANDER HOUSTON, K.B.E., M.B., D.Sc., Director of Water Examination, London, for the following tribute to Dr. Lockhart's memory:

Lockhart was at Merchiston from 1881 to 1884, and endeared himself to all his schoolfellows by his charming and sterling qualities which throughout the rest of his distinguished career attracted all and sundry with almost magnetic force. About that time Merchiston was rich in Scottish rugby internationalists (Campbell, Begbie, Anderson, Roland, Goodhue, and Neilson), several playing while still at school, and although Lockhart's abilities lay in other directions he had such an immense natural love of sport that the glamour of his school-fellows' athletic performances may well have stirred his ambitions profoundly, and led him to determine to add to the glories of his old school in a larger world. In those early days, and later at Edinburgh University, he was plodding rather than brilliant, but always he gave the impression of a man slowly but surely building up the foundations for a great career. He had a simple faith in his fellow creatures, and this, combined with a naturally unselfish disposition, goes far to explain the great influence he was destined to exert on medical and social activities in Montreal. After he graduated our ways gradually fell apart; our friendship was so great that, perhaps like most busy men, we thought it hardly necessary to keep it cemented by correspondence. Yet the years brought me news of him from outside sources from time to time of his great skill in the branch of the profession which he so much adorned, and frequently, as well, came the added information, so dear to his old friend, that his kindness and generosity to the poor and lowly was proverbial in Montreal.

When I went to Ottawa in 1913 to report, in conjunction with the late Sir Alexander Binnie, on the water supply, Lockhart begged me to break my return journey at Montreal and stay with him. It is a solace to me now to remember that I gladly acceded to his request, and to recall our last meeting, so full of happy reminiscences of our schoolboy and college days. I well remember the pride with which he showed me a fine specimen of that sporting fish, the black bass, which he had caught in one of the Canadian lakes, and I learnt that his greatest joy was to fish and shoot in these wild regions. Now, alas, he has had his last adventure, and the world is much the poorer.

Dr. EUGENE C. MCCARTHY died at Stalybridge on December 26th, 1924, aged 65. He was a native of Tyneside and studied medicine at Owens College, Manchester, graduating in 1892 M.B., Ch.B.Vict., with honours and distinction in obstetrics and gynaecology. Two years later he went to Stalybridge, where he built up a large practice and won the esteem and regard of all his patients. Amidst the claims of a very busy professional life he found time to take an active part in the public affairs of the district. For some years he represented the Dukinfield ward of the Ashton Board of Guardians, and was surgeon lieutenant in the old Stalybridge detachment of the 4th Battalion of the Cheshire Regiment. He was appointed a justice of the peace for the borough of Stalybridge in 1895, and was a member of the Hyde Division of the British Medical Association. Dr. McCarthy retired from practice about ten years ago. At the funeral the mayor and mayoress of Stalybridge were present, as well as representatives of the magisterial bench.

A FRESH course of post-graduate lectures (free to medical practitioners) was commenced at the Hospital for Sick Children, Great Ormond Street, W.C., on Thursday last, when croup was discussed by Dr. Pearson. On Thursday next, at 4 p.m., Dr. Frew will speak on tonsils and adenoids. The lectures will be continued on succeeding Thursdays at 4 p.m. up to and including April 2nd.

THE spring courses of lectures and demonstrations at the Royal Sanitary Institute (90, Buckingham Palace Road, S.W.1) start on January 26th, at 5.30 p.m., with an introductory lecture by Professor H. R. Kenwood, C.M.G. The course for sanitary officers begins on January 28th, and comprises the subjects for examinations of the Institute and the Sanitary Inspectors' Examination Board. The course for health officers and child welfare workers begins on January 30th, and is intended as a preparation for the health visitors' examination of the Royal Sanitary Institute. The course for meat and food inspectors begins on February 5th.

AT a meeting of past and present women students of St. Mary's Hospital, London, held on November 27th, 1924, it was decided to form an association, to be known as the St. Mary's Medical Women's Association. Its objects are those of a social club and a mutual aid society. Any woman from St. Mary's who may not have received notice of its formation is asked to communicate with the Honorary Secretary, Mrs. Bolton, East Wcald, Bishop's Avenue, N.2.

THE Royal Sanitary Institute will celebrate next year the jubilee of its foundation. It was founded in 1876 to aid in carrying out the provisions of the general Public Health Act of the previous year.

THE Central Midwives Board for England and Wales met on January 8th, with Sir Francis Champneys, Bt., in the chair. The Board dealt with a letter from the Ministry of Health suggesting a further alteration in the new rules as to training. It was decided that during the remainder of the year the usual day of meeting of the Board be the first Thursday in each month (except August and September).

THE King of Italy has conferred the Grand Cross of the Order of the Crown of Italy upon Dr. A. Castellani, C.M.G., physician to the Italian Hospital, London, and lecturer in the London School of Hygiene and Tropical Medicine.

THE Astor silver challenge shield, awarded annually by the National Baby Week Council for the most effective Baby Week campaign, has been won for 1924 by Leicester Health and Baby Week Committee. Hull and West Bromwich came next in order of merit, each receiving the same number of marks.

THE sum of £55,643 has been raised as the result of the recent dinner of the Lord Mayor of London at the Mansion House in aid of St. Thomas's Hospital.

AT the twenty-first congress of the Italian Society of Dermatology held at Padua recently papers were read by Professor Tommasi on the treatment of syphilis and by Professor E. Bizzozero on experimental cancer.

THE *Archivio Italiano di Otolologia, Rinologia e Laringologia*, which has hitherto been published every two months, has now become a monthly publication.

DR. C. LADAME has been appointed to the chair of psychiatry in the University of Geneva in succession to Dr. R. Weber, who has been made emeritus professor.

## Letters, Notes, and Answers.

Communications intended for the current issue should be posted so as to arrive by the first post on Monday or at latest be received not later than Tuesday morning.

The telephone number of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is Gerrard 2630 (Internal Exchange). The telegraphic addresses are:

EDITOR OF THE BRITISH MEDICAL JOURNAL, Aitiology Westrand, London.

FINANCIAL SECRETARY AND BUSINESS MANAGER, Aitology Westrand, London.

Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 4737 Dublin), and of the Scottish Office, 6, Rutland Square, Edinburgh (telegrams: *Associate, Edinburgh*; telephone: 4361 Central).

### QUERIES AND ANSWERS.

"P. A. R." asks for advice as to the best apparatus to help an ordinary case of senile deafness.

#### DERMATITIS EXFOLIATIVA.

DR. M. W. BROWDY (London) writes: I would advise "B. A." to give non-specific protein therapy a trial. Occasionally remarkable results are obtained.

#### INCOME TAX.

##### Subscriptions.

"A. W." holds a public appointment and is claiming deductions from the assessment on his salary in respect of subscriptions to medical societies and institutes and for maintenance of his professional library. The deductions have been refused, and "A. W." has given notice of appeal.

\* \* These expenses would be allowable if the profits were chargeable according to the rules of Schedule D; the question is

whether, as the revenue authorities contend, they are excluded by the stricter rule of Schedule E, under which the emoluments of a public office are assessed, which is as follows: "If the holder of an office . . . is necessarily obliged to incur . . . out of the emoluments thereof the expenses of travelling . . . or otherwise to expend money wholly, exclusively, and necessarily in the performance of the said duties there may be deducted the expenses so . . . incurred." The view taken by the authorities is that expenses of this kind are not "necessary," unless the appointing authority requires the officer to be a member of the society or institute as a condition of his retaining the appointment. This is a strict application of the word, but it must be admitted that it is difficult to qualify it. A judgement delivered within the past two months by the Master of the Rolls, in the case of *Ricketts v. Colquhoun*, contains observations which, although the expenses by "A. W." were in some ways dissimilar from those under discussion, suggest that the courts would apply this rule strictly—for example:

"It is the duty of this court to adhere closely and accurately to the actual words of Rule 9, which are of general application to all holders of offices which come within its ambit," and "I think the words 'necessarily obliged' are to be read as meaning this, that where an obligation is imposed upon the holder of an office which *ex necessitate* of the office compels him to make outlays . . . it is after you have fulfilled that condition that you first begin to consider what is the possible expenditure that may be deducted."

It will be seen that the trend of these observations is towards the Revenue point of view, and we do not think "A. W." is likely to succeed unless he can show that the appointing authority stipulates for membership, etc., and so can bring himself within the *ex necessitate* condition.

#### Arrears.

"A. K." received on December 24th, 1924, a demand for alleged arrears of tax for 1918-19, that being the first intimation received that any arrears were claimed. He asks: Is there any time limit in such cases?

\* \* An assessment to income tax for the year 1918-19 is invalid unless made by April 5th, 1922. If the assessment in question were made in time it is difficult to understand why "A. K." was not notified thereof before December 24th, 1924. We suggest that he should tell the collector that he did not receive any previous notice of the assessment, and that he wishes to be informed (1) when the assessment was signed by the Commissioners, (2) when the formal statutory notice was issued, and (3) to what address it was sent.

#### Assessment of Firm.

"C. C. E." bought a one-fifth share in a practice as from April 1st, 1924. The inspector of taxes refuses to allow him to deduct from his share of the firm's income tax assessment his own expenses subsequent to April, 1924.

\* \* This is correct. His liability is not direct but only as a member of the firm; it is the firm which is assessable on the past average profits of the practice, and only the expenses incurred in the years covered by the period of average can be deducted. It may be added that the acceptance of "C. C. E.'s" claim would lead in most cases to the double allowance of expenses incurred in such circumstances. He may, however, wish to hear in mind the fact that if from some specific cause (to be alleged and, if required, proved) the profits of the firm fall off in the year 1924-25, then the whole firm (not merely "C. C. E.") can claim to have the average assessment set aside and the actual net profits of the practice substituted.

#### Receipt of Rent for Rooms.

"L. A." refers to an answer given in our issue of December 13th, 1924, and supplies some further particulars. His account has been advised that the receipt of rent for unfurnished rooms should not reduce the amount previously claimed as representing the professional portion of the premises.

\* \* It is assumed that the premises form an undivided whole. "L. A." is entitled to deduct such a portion of his rent as is reasonable. We are of opinion that a claim to exclude consideration of the rent received for the subletting would not succeed on appeal. The obvious intention of the statutory provisions is to allow proper amounts for expenses, and unless the rent received is set against the rent paid before a proportion the result is to make an allowance which would be unreasonable. For example, on the ordinary 50 per cent. basis of division the claim would work out on that basis as follows:

Rent and rates paid . . . . .	£25 0 0
Proportion applicable to practice . . . . .	12 10 0
Rent and rates received from subletting . . . . .	13 0 0

It seems impossible to allege that it is reasonable to deduct £12 10s. when the house costs £25 only inclusive of the private portion of the premises.

## LETTERS, NOTES, ETC.

## MOTOR CAR INSURANCE.

THE secretary of the Medical Insurance Agency (429, Strand, W.C.2) asks us to say that the Agency has lately received inquiries about motor car insurance from three members of the British Medical Association who omitted to send their names and addresses, and he is therefore unable to send particulars. The first inquiry was from York for insurance of a 22-h.p. 1924 Chrysler car, value £550; the second was from Crumlin, Co. Antrim, regarding a 10.9-h.p. 1925 Galloway car, value £175; the third was from Belfast regarding an 11.9-h.p. 1917 Morris Cowley car, value £150.

## RAIN-BEARING WINDS AND EARLY PHTHISIS.

DR. H. BAZETT (Torquay), in the course of a letter on Dr. William Gordon's address and the correspondence which ensued, writes to congratulate Dr. Gordon on having established his conclusions, and suggests two reasons why west and south-west winds have a deleterious effect on phthisis. Dr. Bazett states that he went from Thorncombe, in Dorset, at an elevation of from 600 ft. to 800 ft., to Torquay. The chief effect he noticed of the change to the sea coast was the depressing effects of these winds. When warm they seemed to have the same effect as was produced inland by "thunder in the air"—headache, lassitude, and mental depression. The winds are frequently cold, and when this is the case the cold is exceptionally penetrating. His second point is that a large proportion of phthisical patients suffer also from bronchial catarrh, the symptoms varying in intensity with the amount of moisture in the air. Dr. Bazett suggests that the statistics of simple phthisis should be separated from those of phthisis complicated with bronchitic conditions. At Torquay, which is on a promontory exposed to sea breezes on three sides and presenting hills intersected by valleys, it is possible to obtain every variety of shelter and every modification from the relaxing air of the front to the highly bracing air of the hills.

## CAESAREAN CHILDREN.

A CORRESPONDENT, "O. H.," has sent us a letter he received from the rector of the parish in which he resides. The rector was called upon to baptize twins, a boy and a girl; the names given by the mother were Yvonne Julia and Henry Caesar. When registering the names the rector made a judicious inquiry as to the reason for their selection; the mother replied, "They are children of a Caesarean incision and I thought it ought to be remembered in their names." We had heard that Sir Francis Champneys, when at St. Bartholomew's Hospital, used to try to persuade the parents of children born by Caesarean section to have them baptized Caesar or Caesarina, according to sex, as a perpetual reminder. In reply to our question, he writes: "With how many I succeeded I have no idea. Such a thing as the name of a child would not have been recorded in the ward notes."

## COMPLETE TRANSPOSITION OF VISCERA.

CAPTAIN N. C. KAPUR, I.M.S., writes: Cases of complete transposition of viscera are not very common, so that the following details are of some interest. A Hindu boy, aged 8 years, attended the out-patient department of the Medical College Hospital, Calcutta, for kala-azar. Palpation of the abdomen revealed a tumour in the right hypochondriac region extending downwards and inwards to about the level of the umbilicus. This tumour had a splenic outline, and there was a distinct notch in its anterior margin. The liver was felt in the left hypochondrium and was slightly enlarged. The boy was admitted to hospital, and x-ray examination showed the heart on the right side of the chest. Skiagrams of the abdomen taken after a bismuth meal showed that the stomach was situated mainly on the right side of the abdomen, with its cardiac end under the right cupola of the diaphragm and the duodenal bulb on the left side of the middle line. The caecum and the ascending colon were found on the left side. The descending and the sigmoid portions of the colon were situated on the right side of the abdomen.

## POISONING BY POTASSIUM CYANIDE.

"J. B. S." writes: A recent case of poisoning reported in your issue of January 3rd (p. 56). I should like to ask what is the most effective treatment for poisoning by cyanides, and especially that available in surgery or home. Christison's Treatise on Poisons, fourth edition, page 778, quotes several authorities, including Orfila, giving chlorine and ammonia as effective antidotes, especially chlorine. I know that the ammonia bottle was kept in readiness in a manufacturer's laboratory for assistants who succumbed to transient but startling effects of prussic acid fumes. This would be about 1855. With respect to chlorine, of which Orfila says, "the most powerful antidote of all hitherto considered," this could be easily made in the surgery in a few minutes—for example, Burney Xeo's mixture. I used some years ago solution of chlorinated soda to estimate cyanides quantitatively by the temperature evolved; solutions are decomposed in ten seconds, as rapidly as ammoniacal salts, but the caustic effects after—should they be met by plenty of water? The antidotes of modern toxicologists, of "oxygen inhalation," also of "four grams of sulphate of iron and four of carbonate of soda in a glass of water," are rarely at hand; again, the cyanides of commerce should be alkaline enough, for they are rarely up to strength. Five cubic centimetres of solution of chlorinated soda (B.P.) I should expect, if of proper strength, to break up

four grains of pure potassium cyanide—perhaps eight grains of the commercial cyanide—in ten seconds, but what compounds are formed I do not know; the amount of tissue destroyed by the chlorine would be about equal to the chlorinated soda solution, in six minutes, of which two-thirds would be the first minute. I once left a chip box containing some rather pure pencils of potassium cyanide at my bedside, and was overcome by the fumes affecting me in the night; the sensation which impressed me most was that I had become free and could pass through the bedroom walls. I hope some expert will give us his experience and advice with respect to the best method of meeting cases of cyanide poisoning.

## WOMEN MEDICAL MISSIONARIES FOR INDIA.

IN the course of a letter on the need for women medical missionaries to volunteer for India, Dr. J. Walter Carr, C.B.E., F.R.C.P. (Consulting Physician to the Royal Free Hospital), writes: During the last few years many hundreds of women have qualified as medical practitioners. Now that the special conditions which existed during the war have passed away there are melancholy stories of forty, fifty, or even sixty women applying for a single one of the comparatively few posts which are open to them. In the near future hundreds more women who are now studying medicine all over the kingdom will be obtaining their diplomas. In these circumstances it is sad and surprising to learn that in India there are mission hospitals actually closed because no women doctors can be found to staff them. Among the recently qualified medical women surely there must be some who will respond to the pathetic appeal of these empty hospitals in the East. Years ago, when women were fighting their way into medicine, one of their chief appeals was that they would be able to give what it was impossible for men to render—help and service to women in the East. It would be strange and disappointing if, now that they have gained everything for which they were then striving, medical women were found unwilling to carry out the responsibilities they formerly said they were so anxious to undertake. We may be certain that our Empire in the East will last only so long as we use it, not for national aggrandisement, but for the benefit of the millions we have been called to rule and whose destinies we can largely influence.

Appended to Dr. Carr's communication is a note by Dr. Elsie Warren, D.T.M. and H. Cantab. (acting medical secretary of the Zenana Bible and Medical Mission), who states as follows: As mentioned by Dr. J. Walter Carr, wealth is not for medical missionaries. To other than honorary workers we had better say at once that we can only give a salary which is little more than a living allowance. Furnished quarters are provided and allowances for necessary travelling expenses, outfit, and language teacher. Doctors, as well as others, usually pay £12 a year towards the cost of a pension. If a worker should resign for other reason than ill health she is usually asked to refund part of her outfit and passage money. Good references are needed, and medical women need to know a little about missionary and theological difficulties before sailing. It is said, Dr. Warren continues, that the humbleness of youth helps some people to perform magnificent exploits! We try to avoid "squashing" any applicant for a post, and if (owing to her theological views) we should think her suitable for some other missionary society, though not for our own, we should say so, and offer to help her to get into touch with that society. Our work is interdenominational, and those who write to me at 33, Surrey Street, Strand, W.C.2, making a definite offer of service are asked to fill in forms of application. Some prefer to ask questions first and to see the committee later. Purlough becomes due after four or five years.

## IODINE IN GOITRE.

DR. R. R. COYLE (Glasgow) writes that he has for thirty years treated goitre with five-drop doses of tincture of iodine (B.P.) three times a day. He found this beneficial, but larger doses did harm.

## CORRECTIONS.

DR. EDWIN G. B. CALVERT asks that in his paper on "Chronic renal disease," published last week (p. 64), the following corrections, which he overlooked in proof, may be made: (1) P. 64, para. 5, line 4: "four-hourly specimens" should read "four hourly specimens." (2) P. 66, col. 2, line 4, should read "the former that have been investigated." (3) P. 66, col. 2, middle, should read "full cardiac defect," instead of defect.

THE tour to Timbuctoo which, as we announced a few weeks ago, had been arranged by the Citroën Company, has been cancelled, owing to unrest among the tribes.

THE receipt, and subsequent consumption, of two sample boxes of Player's "No. 3" Virginia cigarettes—one with cork tips and one plain—induces us to tell those of our readers who are victims to the habit that this is an agreeably mild and well made cigarette at a moderate price.

## VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 38, 39, 41, 44, and 45 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 42 and 43.

A short summary of vacant posts notified in the advertisement columns appears in the Supplement at page 43.

## An Address

ON

THE SPHINCTERS OF THE ALIMENTARY  
CANAL AND THEIR CLINICAL  
SIGNIFICANCE.DELIVERED BEFORE THE MANCHESTER MEDICAL SOCIETY,  
(OCTOBER 8TH, 1924)

BY

ARTHUR F. HURST, M.A., M.D. OXON., F.R.C.P.,  
PHYSICIAN AND NEUROLOGIST TO GUY'S HOSPITAL.

The sphincters of the alimentary canal play a very important part in digestion. Disturbances in their functional activity are not at all uncommon and give rise to a variety of symptoms of great interest.

In order to understand the nature and significance of these pathological disturbances in function an accurate conception of the anatomy and physiology of the sphincters is essential. Any one wishing to study the structure of the sphincters of the alimentary canal will, however, be disappointed to find how inadequately they are described in even the latest editions of the standard textbooks of human anatomy. Thanks to the work of Cunningham and of Symington respectively the pyloric and anal sphincters receive sufficient attention. But we get no clear idea of the anatomy of the cardiac and ileo-caecal sphincters, and indeed many authors entirely ignore the existence of one or both of them, whilst the pelvi-rectal sphincter is never mentioned.

The fundamental conception concerning the physiology of the sphincters depends upon the classical experiments of Bayliss and Starling<sup>1</sup> carried out in the laboratories of Guy's Hospital twenty-five years ago. They showed that peristalsis consists of a co-ordinated reflex, in which a wave of contraction, preceded by a wave of relaxation, passes down a hollow viscus. When this is extended to the action of sphincters it means that a sphincter should relax at the approach of each peristaltic wave. The conditions which modify this co-ordinated action will form the chief subject of my address to-night.

## THE CARDIAC SPHINCTER.

## (a) Anatomy and Physiology.

The point where the oesophagus joins the stomach is called the cardia, but much doubt has been expressed as to whether a cardiac sphincter exists at all. Poulton and Payne<sup>2</sup> have, however, clearly demonstrated that the lower end of the oesophagus in rabbits exerts a definite sphincter action. They also state that on cutting longitudinally through the cardia into the oesophagus after death in man the lower two or three inches can often be seen to have a thicker muscular coat than the part immediately above. From a radiological study of the act of swallowing in normal people and in patients suffering from achalasia of the cardia, we have come definitely to the conclusion that the last inch or more of



FIG. 1.—Stomach of stillborn infant, showing cardiac sphincter, a.s., with thickened circular muscle coat, and deep, pale, longitudinal rugae. D, Diaphragm, attached to centre of sphincter. P.S., Pyloric sphincter.

muscular coat and by the pallor and prominent longitudinal rugae of its mucous membrane (Fig. 1). When swallowing is not taking place, the postural tone of the circular muscle fibres of the cardiac sphincter is such that it has no

potential lumen, in contrast with the cervical and thoracic oesophagus, which have a potential lumen at least an inch in diameter, although when empty their walls collapse and so completely obliterate it. Consequently the sphincter offers a definite resistance to the passage of food, whereas the rest of the oesophagus offers no resistance at all.

The vagal and sympathetic nerve fibres which supply the oesophagus end in connexion with ganglion cells situated between the circular and longitudinal muscular coats, where they constitute a plexus, similar to the plexus myentericus of Auerbach in the intestines. Keith<sup>3</sup> has shown that this consists mainly of nodal tissue, similar to that of the auriculo-ventricular bundle in the heart, and only to a small extent of nerve cells and fibres. The nodal tissue reaches its greatest development in the part of the oesophagus immediately adjoining the stomach; this furnishes additional anatomical evidence for the existence of a specialized cardiac sphincter, though in adults there is often no obvious thickening of the circular muscle coat in this region, corresponding to that of the pyloric, ileo-caecal, and anal sphincters. The distinction is probably due to the fact that the function of the cardiac sphincter differs from that of the others in being concerned in the prevention of regurgitation of gas and fluid from the stomach into the mouth, and only to a very minor extent in the regulation of the onward passage of the contents of the oesophagus. It is consequently never called upon to resist a degree of pressure anything approaching that which the other sphincters are able to withstand.

When swallowing takes place the intrapharyngeal pressure rises; this propels the food into the oesophagus, along which it is actively conveyed by a peristaltic wave; our observations with the x rays fifteen years ago showed that this occurs almost as rapidly when a man stands on his head as when he is in the normal erect position. When the food reaches the extreme lower end of the oesophagus

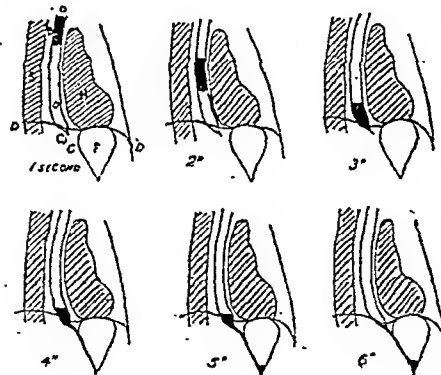


FIG. 2.—Diagrams of the passage of a bolus of barium-containing food (a) through the oesophagus (O), as seen with the x rays, in successive seconds after swallowing. S, Spine; H, heart; D.D., diaphragm; C.C., cardiac sphincter; F, fundus.

its progress can be seen with the x rays to be arrested owing to the resistance offered by the closed sphincter (Fig. 2). Immediately afterwards the sphincter relaxes and the food slowly trickles through it into the stomach, but even now the lumen of the sphincter is very much less than that of the rest of the oesophagus. The relaxation of the sphincter as each peristaltic wave travelling down the oesophagus reaches it is typical of the activity of every other sphincter.

Under normal conditions, when the whole of a meal has been eaten, the cardia remains closed and so prevents the regurgitation of food, gastric juice, and gas, which would otherwise occur as a result of the positive pressure in the stomach and the negative pressure in the thorax. The intragastric pressure always remains about the same, as the tone of the muscular coat of the stomach adapts itself accurately to the volume of its contents. When the pressure is suddenly raised as a result of rapid aerophagy or of the evolution of carbon dioxide after swallowing sodium bicarbonate, the resistance offered by the cardiac sphincter becomes insufficient and gas is expelled by the mouth.



(b) *Achalasia of the Cardia* (so-called *Cardiospasm*).

Nearly every pathological museum contains one or more specimens of an enormously dilated oesophagus with a greatly hypertrophied muscular coat. The condition is a remarkable one, for no obstruction at the cardia has ever been discovered after death to account for the dilatation and hypertrophy. In the absence of organic obstruction some form of functional obstruction must be present, as otherwise it would be impossible to explain why, in spite of the violent peristalsis which eventually leads to hypertrophy of its muscular coat, the oesophagus should be so greatly dilated and always filled with a large quantity of food and watery mucus.

Since Mikulicz<sup>1</sup> in 1882 first suggested that the functional obstruction is due to spasm of the cardia the condition has been commonly known as *cardiospasm*. It is obvious that if a spasm were present it would offer considerable resistance to the passage of a bougie, and that if a bougie had once passed through the contracted cardia it would be so firmly gripped that its withdrawal would require considerable force, just as spasm of the anal sphincter offers considerable resistance to the finger and grips it tightly when once it has passed into the rectum. But using a rubber tube filled with mercury instead of a rigid bougie, I found that it dropped so easily into the stomach that it was impossible as a rule to detect any resistance when the cardia was reached. With its end in the stomach it could be moved freely up and down and finally be withdrawn without the slightest drag upon it, such as the grip caused by spasm would produce. These observations afford good evidence that no spasm is present. The anatomical evidence is equally conclusive. It is obvious that spasm, continuing for as many years as patients with this condition may live, would give rise to hypertrophy, corresponding with the hypertrophied sphincter and which results from the spasm caused by a chronic anal ulcer. But a careful examination of many specimens has shown that the last inch of the oesophagus, the part within the abdomen corresponding with what I have already referred to as the cardiac sphincter, is not dilated and there is no hypertrophy of its muscular coat. I recently saw the most striking confirmation of this when my colleague, Mr. R. P. Rowlands, exposed the abdominal part of the oesophagus in a case of enormous dilatation of the oesophagus, which was presumably accompanied by great hypertrophy of its wall, as the condition had been present for seven years and we had often watched extraordinarily vigorous peristaltic waves passing down to the cardia. The part exposed was of normal diameter, and its wall, far from being hypertrophied, was remarkably thin.

Though as long ago as 1895 Rolleston<sup>2</sup> had suggested that the dilatation of the oesophagus might be due to a "failure in the co-ordinating mechanism by which the cardiac sphincter is relaxed in swallowing," the *cardiospasm* theory held undisputed sway until, in 1910, a consideration of the facts I have just described led me independently to the same conclusion.<sup>3</sup> I believe that the functional obstruction is due to the fact that the peristaltic waves which pass down the oesophagus in swallowing are not followed, as they should be, by relaxation of the cardiac sphincter. It is not spasm, but absence of relaxation, or *achalasia* (α, not; χαλᾶω, I relax), of the cardiac sphincter which causes the obstruction.

The resistance offered by the unrelaxed cardiac sphincter can be overcome by a pressure of about eight inches of water. Consequently when a meal is taken no food passes into the stomach until the contents of the oesophagus form a column eight inches high (Fig. 5). Then, whenever anything is eaten or drunk, the cardia opens and allows food to pass till the height is again eight inches, when it closes once more. The patient, after losing a great deal of weight, finally reaches equilibrium, as sufficient food passes into the stomach at each meal to keep him alive on a low level of metabolism. He learns to empty his oesophagus by a voluntary effort, which is quite distinct from vomiting, on going to bed, as liquid would otherwise regurgitate into his mouth, and sometimes also two or three times in the day if the accumulation gives rise to serious discomfort.

Very little is known as to how *achalasia* of the cardia develops. I believe some cases, especially those beginning after middle life, are strictly analogous to heart-block, being the result of degenerative disease, or, in rare cases, of syphilis, of the nodal tissue, which Keith has shown is so well developed at the cardiac sphincter. One patient of mine had talcs, and the *achalasia* of the cardia was probably analogous to the much more common tabetic disorders of micturition. Rolleston<sup>2</sup> and Looser<sup>4</sup> have each

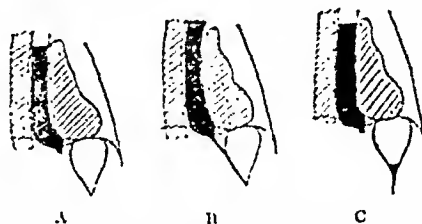


FIG. 3.—Diagrammatic drawings of oesophagus in achalasia of the cardia. A shows column of barium-containing food, 8 in. high, above closed cardia; B, after additional quantity of food swallowed, so that the taller column, being heavier, opens cardia and allows surplus to enter stomach; C, is return to condition of A after surplus food over the 8-inch column has entered stomach.

described a case following diphtheria; in these there may have been a vagal neuritis, the *achalasia* being analogous to what sometimes occurs in animals after division of both vagi. In one case degenerative changes were found by Kraus<sup>5</sup> in the vagi after death, and in another Pollitzer<sup>6</sup> found the vagi buried in a mass of enlarged glands. Most of the remaining cases are probably the result of some gastric or other abdominal disorder, which leads to reflex inhibition of relaxation of the cardia, corresponding with what often occurs at the pyloric and ileo-caecal sphincters. One of my patients had mitral stenosis and a very dilated left auricle, which may have been the source of the reflex *achalasia*.

I have found that the regular use of a large mercury tube (24 gauge) almost always gives great relief, and is often followed by permanent recovery. The patient learns to pass it on himself, at first keeping it in position for ten minutes before each meal, then gradually for shorter periods and less frequently, until finally he passes it only once a day, once a week, or only at long intervals whenever he feels that there is some slight return of obstruction. In the only case I have seen in which the mercury tube gave insufficient relief Mr. R. P. Rowlands divided the thin muscular coat of the entire cardiac sphincter longitudinally, and the result has been quite satisfactory, though the patient still has slight dysphagia. Treatment by forcible dilatation with Plummer's hydrostatic apparatus is painful, and has been followed on a few occasions by fatal peritonitis. We tried it twice without success before Mr. Rowlands operated on the patient already referred to.

(c) *Waterbrash and the Morning Sickness of Alcoholics.*

In the condition I have just described the cardiac sphincter never relaxes. I believe that *waterbrash* is also due to *achalasia*, but in this case relaxation is only inhibited at certain times. *Waterbrash* consists in the sudden evacuation of large quantities of watery alkaline fluid. The fluid is saliva which has been secreted in excessive quantities as a reflex result of the presence of excess of hydrochloric acid in the stomach—as, for instance, two or three hours after a meal in a patient with hyperchlorhydria associated with duodenal ulcer. The saliva is swallowed, but accumulates in the oesophagus, as relaxation of the cardiac sphincter is inhibited by increasing the acidity of the gastric contents, as Cannon<sup>7</sup> found experimentally in 1908. The evacuation of the fluid is not associated with nausea and is recognized by the patient as being quite different from vomiting; it is produced, in fact, by the same voluntary or semi-voluntary process as the evacuation of the contents of the dilated oesophagus in *achalasia* of the cardia. This explains the otherwise inexplicable fact that *waterbrash* is sometimes immediately followed by the vomiting of very acid and partly digested food, the alkaline

saliva having been separated from the acid food by the closed cardiac sphincter.

The morning sickness of alcoholics is also due to emptying of the oesophagus and not true vomiting. Mucus, secreted by the inflamed pharyngeal and oesophageal mucous membrane, accumulates in the oesophagus during the night; it is not actually swallowed, but trickles down, so that the cardiac sphincter does not relax. The colourless mucus first brought up is often followed by bile-stained fluid from the stomach, as the chronic gastric catarrh may cause actual vomiting.

### THE PYLORIC SPHINCTER.

#### (a) Anatomy and Physiology.

The pyloric vestibule is separated from the duodenal bulb by the pyloric canal, a channel about half an inch in length, which is normally closed by the tonic action of the well developed sphincter surrounding it (Fig. 4). Under

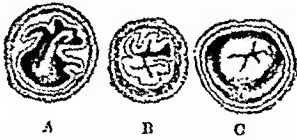


FIG. 4.—Three sections through the same specimen to show structure of pylorus. (After Symington.) A, Section through pyloric vestibule of contracted empty stomach. B, Section through pyloric canal. C, Section through duodenal bulb, showing pyloric orifice as seen from duodenum.

general anaesthesia and after death the sphincter relaxes, and the canal can no longer be clearly distinguished from the vestibule, except in infants; consequently our knowledge of the structure and functions of the pyloric sphincter under normal conditions has been derived to a great extent from radiological observations.

Until recently Cannon's theory of the "acid control of the pylorus" was universally accepted. Acid in the stomach was supposed to cause relaxation of the sphincter, whereas acid in the duodenum caused its contraction; thus the duodenal contents were prevented from becoming too acid, as no further chyme could pass the pylorus until that already present in the duodenum had been neutralized by the alkaline pancreatic and intestinal juices and bile. That the matter was not so simple seemed, however, to be clear from the fact that the stomach emptied itself at the normal rate or unusually fast in cases of achylia gastrica, in which there is no acid in the stomach to stimulate the opening of the pylorus. The recent investigations of Baird, Campbell, and Hern<sup>11</sup> at Guy's Hospital on healthy men with one tube in the stomach and another in the duodenum show that the acid control of the sphincter is only one of several factors controlling the activity of the pylorus. Carlson and Litt,<sup>12</sup> experimenting on anaesthetized animals, found that the introduction of sodium bicarbonate into the duodenum is as effective a stimulus to closure of the pylorus as hydrochloric acid, and that acid in the stomach had no effect at all. These observations do not prove that Cannon's conclusions from his radiological experiments on healthy cats were erroneous, but that his generalization was too sweeping.

The investigations of Thomas and Whealon<sup>13</sup> and of Carlson and Litt<sup>12</sup> have shown that the pyloric sphincter is supplied with both motor and inhibitory fibres both by the vagi and the sympathetic nerves, the character of the response to any stimulus depending upon the tone of the sphincter at the moment. The work of various other investigators proves, however, that the main effect of the vagus on the pyloric sphincter is to cause relaxation, and the main effect of the sympathetic is to cause contraction.

The pyloric canal opens under normal conditions on the approach of every peristaltic wave from the very beginning of digestion, before free acid has appeared in the stomach, until the last trace of chyme has been evacuated, whether this is very acid, as in constitutional hyperchlorhydria, or actually alkaline, as in constitutional achylia gastrica. In this way chyme is pressed through the still narrow canal into the duodenum at a uniform rate.

#### (b) Achalasia and Spasm of the Pylorus, and the Origin of Hunger Pain.

The presence of an ulcer in the duodenum frequently upsets the normal pyloric mechanism by giving rise to a

protective reflex, which results in the inhibition of the relaxation which should occur as each peristaltic wave approaches the sphincter. This does not happen until the later stages of digestion, as it is only when the gastric contents have become highly acid that they act as a sufficient irritant to the exposed nerve endings in the ulcer to cause reflex pyloric achalasia. The irritation by acid does not itself cause pain, as extreme hyperchlorhydria may occur in healthy people with no indigestion, and hyperchlorhydria is just as marked in patients with duodenal ulcer between their attacks or after the ulcer has healed as in the presence of a severe attack. Moreover, I have poured dilute hydrochloric acid of a strength greater than ever occurs in hyperchlorhydria into the empty stomach of normal people and of patients with ulcer without causing any pain.

The pyloric achalasia caused by a duodenal ulcer is at first intermittent, but after a time it becomes almost continuous. Consequently the evacuation of the stomach, which begins with the usual rapidity characteristic of the hypertonic gastric diathesis, in the absence of which a duodenal ulcer rarely if ever develops, becomes abnormally slow in the later stages of digestion. After a time the stasis becomes more marked owing to fatigue of the weakened muscular coat of the stomach, intervals of complete inertia alternating with periods of great peristaltic activity. At the same time the tone of the pyloric vestibule begins to give way, the resulting dilatation to the right of the middle line being in striking contrast with the hypertonic condition of the rest of the stomach, but later still the whole of the stomach becomes dilated. The dilatation and ptosis which may therefore occur in chronic duodenal ulcer are secondary, and are due to the loss of tone and delayed evacuation caused by the pyloric achalasia. If the stomach had been examined at any earlier stage, hypertonus and rapid evacuation would have been found, and these characteristics of the hypersthenic stomach gradually return under successful medical treatment.

The secondary delay and dilatation I have described as a sequel of achalasia have often been erroneously regarded as the result of pylorospasm. Although there is no doubt that in the early stages achalasia accounts for everything, when the inflammation round an active duodenal ulcer invades the pyloric canal spasm of the sphincter may actually occur. During periods of active peristalsis, when the x rays show that nothing is passing through the pylorus, it is still possible to squeeze some of the opaque meal into the duodenum by pressure on the stomach so long as the obstruction is due simply to achalasia. But sometimes nothing can be pressed through; in all probability spasm is then present.

It is important to remember that other conditions give rise to similar disturbances in the functional activity of the pylorus, so that the recognition of these disturbances does not by any means prove that a duodenal ulcer is present. The most common is a gastric ulcer, especially if it is situated in the near neighbourhood of the pylorus. But even a lesser curvature ulcer, situated a considerable distance away, occasionally produces so much disturbance in the activity of the pyloric sphincter that considerable stasis results and pyloric obstruction may be simulated. Disease of the gall bladder, and much less frequently chronic appendicitis, may give rise to reflex achalasia. The disturbances in gastric digestion which result are indistinguishable from those caused by achalasia secondary to a duodenal or gastric ulcer. These clinical facts correspond with the results of the experiments of Carlson and Litt, which showed that stimulation of any sensory visceral nerves may increase the contraction of the pylorus.

Observations with the x rays have proved that the hunger pain of duodenal ulcer occurs when the stomach is nearly empty and disappears when evacuation is complete. This corresponds with the only time that peristalsis can increase the pressure within the pyloric vestibule, as each wave then separates the contents of the small part of the stomach distal to it almost completely from the contents of the large part proximal to it. If the pyloric sphincter relaxes, the pressure spends itself in evacuating part of the chyme into the duodenum, the rest passing back as an axial reflux

stream (Fig. 5, A). But if the sphincter remains closed owing to the achalasia caused by the irritation of the ulcer by the very acid gastric contents two or three hours after a meal, it can only spend itself to a slight extent dynamically

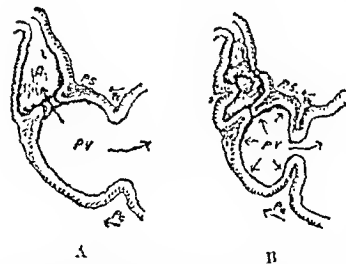


FIG. 5.—Section through pyloric vestibule (P.V.) and duodenal bulb (B) in normal man (A), and in a patient with a duodenal ulcer (B), showing how pain is caused in the latter by pyloric achalasia. P.V., Pyloric vestibule; B, Bulb; P.S., Pyloric sphincter (P.S.). S, Spasm in bulb caused by ulcer.

by producing an exceptionally active axial reflux stream (Fig. 5, B). Consequently the tension on the muscular coat of the extreme pyloric end of the vestibule is greatly increased. This is the actual cause of pain, the rise in tension on the individual muscle fibres being the adequate stimulus required to produce the afferent nervous impulse, which calls forth the sensation of pain as well as the corresponding segment of the rectus abdominis muscle. Our investigations several years ago proved that the mucous membrane of the alimentary canal is insensitive to tactile, thermal, and painful stimuli; that neither the normal mucous membrane nor the surface of an ulcer is sensitive to hydrochloric acid of a strength greater than that ever present in the stomach, either in health or disease; and that tension in the muscular coat is the sole cause of the sense of fullness and, when it is sufficiently intense, of the sense of pain.

The conditions responsible for the occurrence of achalasia of the pylorus, together with the fact that the tension in the vestibule can only be increased by peristaltic waves when the bulk of the gastric contents is very small, account for all the distinguishing features of the hunger pain of duodenal ulcer. They explain why it begins when the stomach is nearly empty, but differs from simple hunger in ceasing when evacuation is complete, and why relief is obtained by vomiting, and by all kinds of food or drink, which increase the bulk of the gastric contents and at the same time reduce the acidity of the gastric contents and so more or less overcome the achalasia. Sodium bicarbonate not only acts in both these ways, the evolution of carbon dioxide increasing the bulk of the gastric contents and the neutralization of hydrochloric acid overcoming the achalasia, but the sudden rise in the general intragastric pressure caused by the evolution of carbon dioxide at the same time stimulates the whole stomach to contract: the consequent further rise in intragastric pressure overcomes the resistance offered by the unrelaxed but not abnormally contracted pyloric sphincter, and forces some of the gastric contents into the duodenum. Simultaneously gas is forced through the cardia into the oesophagus, from which it escapes by belching. The pressure in the pyloric vestibule is thus relieved and the pain disappears. Many patients, not realizing that the gas has been produced by the action of the acid on the alkali, regard their relief as due to the sodium bicarbonate making it in some way possible for them to get rid of an accumulation of wind.

Other alkalis relieve the pain less completely and less rapidly, though they may neutralize the acid just as efficiently. In the case of magnesium oxide this is because no gas is evolved, and in the case of bismuth carbonate the carbon dioxide is liberated so slowly that it dissolves in the gastric contents as soon as it forms, so that there is no rise in intragastric pressure and no belching occurs.

When air is swallowed it acts in the same way as the gas given off by the action of acid on sodium bicarbonate. The patient misinterprets his discomfort and thinks it is due to flatulence. The repeated attempts he makes to bring up wind only lead to aerophagy. The sudden rise in intragastric pressure caused by the rapid swallowing of air stimulates the stomach to contract; this results in the noisy belching of air and the simultaneous expulsion of

chyme into the duodenum, as Meunier<sup>14</sup> has demonstrated by actual observations with the x rays. The relief that aerophagists always claim to get, which would otherwise be inexplicable, is in this way explained.

When pylorospasm is present it acts in exactly the same way as achalasia, as even extreme spasm of a sphincter does not by itself cause pain, as the tension on the muscle fibres themselves is the same whether they are contracted and short or relaxed and long.

When a gastric ulcer or disease of the gall bladder causes pyloric achalasia the pain produced is identical in character with that of duodenal ulcer. As the exciting cause is different, the time relations, the factors which give relief, and the history of the attacks are generally distinctive. These characteristics depend not on the way the pain originates, which is the same in each case, but on the different ways in which the achalasia of the pylorus is induced.

#### (c) Symptoms of Pyloric Obstruction caused by Achalasia of the Pylorus.

A year ago a man of 53 came under our observation with an eight years' history of recurrent pyloric obstruction; the pain and very severe vomiting always subsided with a diet of small dry meals. When his abdomen was watched after taking an ordinary mixed meal, the stomach was seen and felt to stand out from the surface of the abdomen as a firm mass, along which passed very powerful peristaltic waves. The evidence of pyloric obstruction seemed so clear that I asked Mr. Clayton-Greene to operate, although a previous exploration had revealed nothing abnormal. No organic disease was found, and the pylorus appeared to be perfectly healthy, but the wall of the stomach was definitely hypertrophied. In view of the absence of obstruction nothing was done, and the patient has remained perfectly well ever since by keeping strictly to small dry meals. It seems probable that this was a case of achalasia of the pylorus, and that if the dietetic treatment had not proved successful, a pyloroplasty would have given relief. It is, of course, a surgical law that no operation should be performed on the stomach in the absence of organic disease, but I think that the very rare cases like the one I have described, in which the clinical and radiological evidence shows that pyloric obstruction is present either continuously or intermittently, the question of pyloroplasty deserves consideration if careful dieting fails to give relief.

#### (d) Hypertrophic Pyloric Stenosis of Infants.

The pyloric obstruction present in the hypertrophic stenosis of infants, whatever may be its cause, results in abnormally vigorous peristalsis, and this leads to hypertrophy of the muscular coat of the stomach, particularly at the pyloric end, where the waves attain their greatest strength. The obstruction is primarily functional, as many, quite typical cases, in which definite hypertrophy of the sphincter has been recognized by palpation, have been cured completely by lavage and dieting, so that it is clear that the hypertrophy itself is not the cause of the obstruction. The obstruction must therefore be due either to achalasia or spasm of the pyloric sphincter. If achalasia were the cause, the violent peristalsis and the contractions of the stomach which can give rise to projectile vomiting would be sufficient to overcome it, and pressure over the stomach, when visualized with the x rays after an opaque meal, would cause some of the chyme to pass through into the duodenum, but this does not in fact occur. It is clear that the obstruction is due to something which produces a much more powerful resistance than simple absence of relaxation. The only possible explanation is spasm. If, as I believe, John Thomson is correct in regarding the spasm as primary, this would explain the development of hypertrophy of the sphincter, and it is the spasm which is overcome by successful medical treatment.

The cause of the spasm, which apparently originates at birth, as the symptoms often begin in the first week of life, and always within the first two months, is still quite obscure. It is always associated with hyperchlorhydria, and the condition is several times more common in boys than in girls. It therefore seems possible that the tendency to spasm of the pylorus is the expression in an extremely

exaggerated form of the constitutional condition which I have called the hypersthenic gastric diathesis, which manifests itself by hypertonus, hyperperistalsis, and hyperchlorhydria, and occurs much more commonly in men than in women. The diathesis is often present in several members of a family; this would explain the rare instances in which two and even three or four members of the same family have hypertrophic pyloric stenosis.

#### THE ILEO-CAECAL SPHINCTER.

##### (a) Anatomy and Physiology.

The valve-like structure which separates the ileum from the caecum was discovered in 1579 by Caspar Bauhin, who believed that it allowed the free passage of the contents of the ileum into the caecum, but prevented regurgitation in the opposite direction.

Though Mason Good<sup>15</sup> in 1822 described the ileo-caecal junction as a muscular structure, the function of which

was "to moderate the flow" from the small intestine into the colon and "to prohibit a regurgitation of the faeces" from the caecum into the ileum, his work was completely forgotten, and the separation of the contents of the small from those of the large intestine was still universally regarded as a result of the mechanical action of Bauhin's "valve" until 1903, when Keith<sup>16</sup> clearly demonstrated the existence of a strong ileo-caecal sphincter. His observations, and the more recent ones of Rutherford,<sup>16</sup> show that the sphincter is formed by the fusion of the circular and longitudinal fibres of the

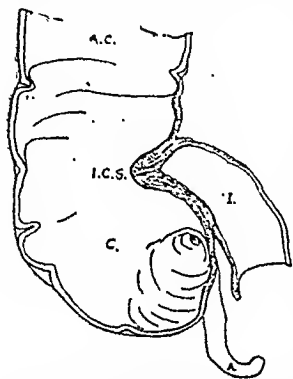


FIG. 6.—Section through end of ileum and caecum (after Spalteholz) to show structure of ileo-caecal sphincter. (After Rutherford.) I, ileum; C, caecum; A.C., ascending colon; I.C.S., ileo-caecal sphincter; A, appendix.

end of the ileum and those of the adjoining caecum, with the addition of some independent specialized circular fibres at its apex (Fig. 6).

Rutherford in 1914 made some important observations on the human ileo-caecal sphincter through a large caecal fistula. He found that it formed a smooth, scarlet, hemispherical papilla, about 1.8 cm. in diameter, which projected about 1 cm. above the pink and folded mucous membrane of the caecum (Fig. 7). The orifice was closed and formed a dimple in the centre of the papilla. During periods of activity a peristaltic wave could be seen through the relaxed wall of the caecum to traverse the end of the ileum at regular intervals. When it reached the caecum the orifice opened owing to relaxation of the sphincter, which at the same time caused the papilla to become larger and less prominent.



FIG. 7.—Appearance of papilla formed by the ileo-caecal sphincter in man, as seen from the interior of the caecum during life. (After Rutherford.)

About a drachm of fluid faeces, sometimes mixed with flatus, emerged. The sphincter then closed, and became again more firm and prominent. No sign of the fraenum described by anatomists was ever observed.

In 1904 Elliott<sup>17</sup> had demonstrated that the tone of the sphincter depended upon its sympathetic nerve supply, as section of the splanchnic nerves was followed by its permanent relaxation, with the result that the contents of the small and large intestines mixed freely with each other. On the other hand, direct stimulation of these nerves, or indirect stimulation by means of adrenaline, caused the sphincter to contract tightly at the same time as the movements of the rest of the intestine were inhibited. Stimulation of the vagi and pelvic nerves had no effect. Keith<sup>16</sup> has found that nodal tissue forming Auerbach's plexus is as remarkably developed at the ileo-caecal sphincter as it is at the cardia.

The main function of the ileo-caecal sphincter is to prevent the contents of the ileum passing too rapidly into the caecum. Alan Newton of Melbourne and I<sup>18</sup> found with the x rays that the barium-containing chyme reaches the end of the ileum an hour or more before any appreciable quantity enters the caecum, and that the ileum is often still full four or five hours after the last traces of barium have left the stomach. Consequently an accumulation of chyme occurs in the terminal ileum, where it actually remains for a greater period than in the stomach. During the whole of this time active segmentation, which leads to thorough churning of its contents, can be seen in the last few inches of the ileum, but there is very little peristalsis. It is evident that the ileo-caecal sphincter has exactly the same effect on the contents of the terminal ileum as the pyloric sphincter has on the contents of the stomach; it controls the onward passage of the chyme so that sufficient time may elapse for digestion and absorption of the food to be complete. This physiological ileal stasis is so well regulated that the chyme which reaches the caecum contains only very small quantities of nutrient material in solution.

The ileo-caecal sphincter relaxes each time a peristaltic wave passes down the last few inches of the ileum. Though these waves begin a short time after the chyme first reaches the ileo-caecal junction, they are at first very infrequent. As a result of the gastro-ileal reflex, which I first described fifteen years ago, active peristalsis occurs in the extreme end of the ileum, the sphincter relaxes, and chyme enters the caecum whenever food enters the stomach.

It was at one time thought that the ileo-caecal sphincter had an important function to perform in preventing the regurgitation of faeces from the colon into the ileum. But we now know that under normal conditions there is no anti-peristalsis in the proximal part of the colon, so that there is never any tendency for the contents of the caecum to pass back into the ileum. When, however, retrograde movement of the contents of the colon occurs in cases of obstruction, and after distension of the bowel with an enema, the sphincter is not capable of withstanding any considerable degree of pressure from the side of the colon, as the x rays show that part of an opaque enema given to normal individuals at no greater pressure than eighteen inches of water frequently passes from the caecum into the end of the ileum.

##### (b) Pathological Ileal Stasis.

So many ill results have been ascribed to ileal stasis that one requires a certain amount of courage to express a doubt as to whether it is ever of the slightest importance, except in cases of organic obstruction near the ileo-caecal junction due to a growth, tuberculosis, or definite adhesions the sequel of acute appendicitis. But in my experience intestinal poisoning is due far more frequently to the artificial diarrhoea produced by aperients than to intestinal stasis; the only form of intestinal stasis which gives rise to symptoms is that involving the caecum and ascending colon; and, if in exceptional cases this is associated with well marked ileal stasis, it is the colonic rather than the ileal stasis which is the more important. Cases of true small intestine poisoning, such as the streptococcal infection of the duodenum constantly present in Addison's anaemia, are secondary to gastric achylia and not to colon infection, and they are never associated with ileal stasis.

When ileal stasis occurs in the absence of organic obstruction, it is generally due to reflex achalasia of the ileo-caecal sphincter caused by chronic appendicitis, exactly corresponding to pyloric achalasia in duodenal ulcer. Kinks of the terminal ileum are doubtless interesting developmentally, but they are of no clinical importance, as they never lead to sufficient narrowing of the lumen to obstruct the passage of the fluid contents of the ileum, for peristalsis is wonderfully adapted for propelling the contents of a muscular tube round bends, whether they are normal flexures or so-called kinks. If a kink caused true obstruction it would not be seen with the x rays, because the distal segment would be empty. The so-called "controlling appendix" is never the direct cause of ileal obstruction; it may control the passage of faeces into the caecum by causing achalasia of the ileo-caecal sphincter, but only if it is chronically inflamed.

## THE PELVI-RECTAL AND ANAL SPHINCTERS.

## (a) Anatomy and Physiology.

In his *New Views of the Process of Defecation*, published in 1833, James O'Beirne drew attention to the important function of the flexure, formed where the morable pelvic colon joins the fixed rectum at an acute angle, which is best described, I think, as the pelvi-rectal flexure.

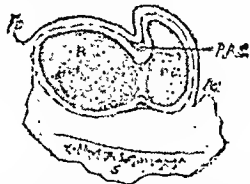


FIG. 8.—Frozen section through pelvi-rectal flexure, showing thickening of circular muscle layer forming termination of pelvi-rectal sphincter (P.R.S.). P.E., Pelvic colon; R., rectum; P.P., peritoneum; S., sacrum. (After Symington.)

O'Beirne from the results of digital examination of the rectum and of experiments with a rectal tube, that under normal conditions the faeces do not pass beyond the pelvi-rectal flexure, but collect in the pelvic colon until immediately before defaecation. I believe that this is due to the presence of a true pelvi-rectal sphincter, which resembles the cardiac sphincter rather than the pyloric and anal sphincters in depending upon its postural tone being sufficiently great to obliterate its lumen rather than upon any considerable development of a special band of circular muscle fibres. W. J. Mayo<sup>10</sup> has pointed out that the folds of mucous membrana are disposed in a longitudinal direction in the last two inches of the pelvic colon, in contrast with their circular arrangement in the remaining portion; this suggests that the lumen of the last two inches is normally obliterated owing to a sphincter action of the circular muscle fibres analogous to what I have described in connexion with the abdominal portion of the oesophagus (Fig. 9). The sphincter's action is considerably assisted by

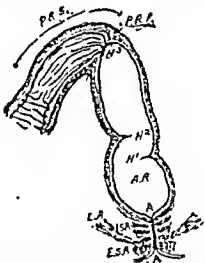


FIG. 9.—Diagrammatic section through last 3 inches of pelvic colon, rectum, and anal canal, showing pelvi-rectal sphincter (P.R.S.) with its longitudinal folds, ending at pelvi-rectal flexure (P.R.F.). A.A., Ampulla recti; A.C., anal canal, surrounded by internal sphincter ani (I.S.) and external sphincter ani (E.S.), and strengthened by levator ani muscles (L.M.). R., rectum; N., the three folds of Houston.

the very acute angle formed where the dependent pelvic colon joins the fixed rectum, especially in the erect position. The gastro-colic reflex which occurs when food enters the stomach results after breakfast in a wave of peristalsis passing along the distal part of the large intestine; the obstruction at the pelvi-rectal flexure is overcome, presumably as a result of relaxation of the sphincter, and the pelvic colon empties itself into the rectum. The sudden distension of the muscular walls of the rectum gives rise to a sensation in the perineum which is recognized as the call to defaecation. The observations recorded in my Gonstonian

## (b) Hirschsprung's Disease, the Megacolon of Adults, and Achalasia of the Pelvi-Rectal and Anal Sphincters.

The condition described in 1835 by Hirschsprung of Copenhagen, in which children, most often boys, from early infancy become progressively more constipated owing to the failure of the dilated and hypertrophied colon to empty itself, is much less rare than was at first believed. Several cases generally end fatally before the age of 8, but investigations with the x rays and the sigmoidoscope show that patients suffering from a milder form of the condition may grow up in sufficiently good health to lead normally active lives. One of my patients was, indeed, an Oxford rowing blue. It is remarkable how greatly dilated the colon may be without causing any protrusion of the abdominal wall, and how, as in three of my cases, a hugely dilated loop of pelvic colon may actually be situated above the liver without giving rise to any symptoms. There does not appear to be any clear distinction between the cases of megacolon in adults, who complain of nothing beyond a moderate degree of constipation, and the fatal cases of Hirschsprung's disease in young children. In the former the hypertrophy of its muscular coat has made it possible for the colon to overcome the obstruction at the pelvi-rectal flexure or anal canal sufficiently to prevent the accumulation of enough flatus and faeces to cause a dangerous degree of dilatation. In the latter the hypertrophy has not kept pace with the dilatation, and colon failure—analogous to heart failure in mitral stenosis—finally occurs with fatal results.

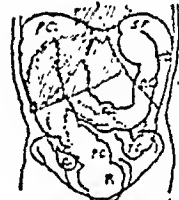


FIG. 10.—Composite drawing of a megacolon, due to anal achalasia in a woman of 43, made from radiographic observations after an opaque meal and an opaque enema. C, caecum; A.C., ascending colon; R.C., transverse colon; ascending limb of which passes to P.R., splenic flexure, outside P.R., descending colon, which merges into the hugely dilated pelvic colon, P.C.; this reaches above the liver, which is shown shaded, and finally joins R., the dilated rectum.

The lower limit of the dilated colon is with equal frequency at the pelvi-rectal flexure and at the sphincter ani. It has always been recognized that no organic obstruction is present in these cases, although the violent peristaltic contractions of the colon which can be seen through the thin abdominal wall and the hypertrophy of the muscular coat which results from this show that some functional obstruction must be present. The obstruction must, I believe, be due, in the cases in which the dilatation begins at the pelvi-rectal flexure, to achalasia of the pelvi-rectal sphincter, when, at the commencement of defaecation, a peristaltic wave passes down the pelvic colon and reaches the flexure in the process of emptying the pelvic colon into the rectum. In the cases in which the rectum is dilated a similar condition of achalasia affects the sphincter ani, which fails to relax when the peristaltic wave which should evacuate the rectum reaches it. In both varieties the condition of the colon is strictly comparable to the dilated and hypertrophied oesophagus, which, I have shown, is caused by achalasia of the cardia.

Anal achalasia never calls for surgery. It is quite easy to keep the colon empty by lavage, as a tube can always be readily passed through the sphincter. This should be done every day at first, then every two or three days, and finally, only if an accumulation appears to be forming. An attempt should be made at the outset to diminish the resistance offered by the unrelaxed anal sphincter by forcibly dilating it, in spite of the fact that it is never found to offer more than the normal resistance when a finger is inserted into the rectum, and that no hypertrophy of the sphincter is ever present, in contrast with that which follows the long-continued anal spasm caused by a chronic anal ulcer.

In pelvi-rectal achalasia also the colon must be emptied by daily lavage. But in some cases the water which reaches the dilated pelvic colon remains in it, and nothing is evacuated. An attempt should then be made, with the patient in the knee-elbow position, to manipulate a tube, through which water is running, past the pelvi-rectal



flexure. If this does not succeed, a sigmoidoscope must be passed and the rubber tube introduced through it. If this also fails, the abdomen must be opened. On pulling the distended colon upwards, a tube can be passed into it from the anus, and the bowel is then emptied. After this has been done it may be possible to pass the tube daily in the manner already described, as the obstruction originally caused by the pelvi-rectal achalasia is always increased by the kink produced by the greatly dilated pelvic colon where it joins the undilated rectum. If, however, this eventually becomes impossible, an anastomosis should be made between the undistended rectum and the terminal ileum, or, preferably, the under surface of the extreme end of the pelvic colon. It is, however, exceedingly difficult to do this, and it may even be quite impossible owing to the small size of the rectum and to its situation deep in the pelvis. In such cases nothing short of excision of the whole of the dilated colon is likely to give relief.

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## RADIOLOGICAL EXAMINATION IN ORGANIC DISEASES OF THE COLON: THE OPAQUE ENEMA METHOD.

BY

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THE clinical evidence presented in most cases of colonic disease is meagre, variable, and often unreliable.

The sigmoidoscope will give direct evidence if the lesion is within its reach, but unfortunately this does not often happen. At its best, this form of examination only covers the last few inches of the colon itself. On account of the low malignancy of the majority of cancerous growths of the colon, their early diagnosis is of great importance, and any method of examination whereby direct evidence may be obtained before operation is valuable.

The radiological examination, using some opaque fluid as the medium, if carried out correctly, will give reliable and definite information in diagnosing the presence of an organic lesion of the colon. It is, of course, not always possible to distinguish between certain types of lesion, such as tuberculosis and carcinoma of the gut, but the fact remains that by a radiological examination the disease may be detected and located, which is of considerable surgical importance.

The radiological methods at command are: (1) the opaque meal given by the mouth and followed through to the anus—at one time the only routine in use, and (2) the opaque enema. Both methods have their advocates, but those who have had the opportunity of examining a number of colonic cases will have no hesitation in deciding which of the two is the more reliable. I entertain no doubt that the opaque enema is the only practical way of making a detailed examination of the lumen of the large gut. It is, in fact, as valuable as the opaque meal in the detection of gastric lesions.

Advocates of the opaque meal examination may say that a colonic obstruction can be detected in this way, but this is certainly not correct in a number of mechanical obstructions due to new growths. At its best it is unreliable; I have seen cases of colonic carcinoma where there has been no delay or obstruction in the passage of the meal from

the mouth to the anus, and yet there has been complete obstruction to the opaque enema. The reason for this has not been satisfactorily explained, but the fact remains.

The two chief disadvantages attached to the opaque meal method are: (1) That the examination is prolonged; several days, even weeks, may be required before the colon clears itself, and the final result, even then, is unreliable. (2) The second disadvantage is that colonic haustiation or segmentation is very marked, the uneven distribution of the opaque salt rendering a detailed examination almost impossible.

The advantages of the opaque enema are that the examination is rapid, the whole gut being filled from rectum to caecum in a few minutes; that the almost complete absence of haustiation renders small filling defects of the lumen easily detectable; and that if the enema is properly administered there is practically no discomfort to the patient.

The disadvantages are few and insignificant, compared with the data obtainable. My colleagues say it is a "messy" job, but except for occasional accidents not a drop of the opaque substance used should escape outside the body. Excluding accidents, a "mess" is indicative of faulty technique. The alleged discomfort for the patient has already been dealt with. It is a curious fact that the large majority of patients display no concern whatever, even when the colon is fully distended from rectum to caecum. This is possibly due to the preparatory wash-outs.

## METHOD OF EXAMINATION.

Unless the opaque enema examination is carried out with careful attention to technical details it may lead to serious errors in diagnosis, discomfort to the patient, as well as to the operator, and its value as a diagnostic agent will be lessened.

## Preparation of the Patient.

As our object is to inject a foreign substance in an organ which normally is already full, a clearance of its contents is essential. In other words, the colon must be free of faeces. Anyone who has seen the opaque fluid obstructed by a hard mass of faeces will realize the importance of efficient clearance, as its appearance is remarkably like the obstruction of a new growth.

Castor oil is the most reliable aperient. This should be administered at least thirty-six hours before the examination, for unless the effect has passed off by the time operations begin there is a risk of the opaque enema being returned. Light diet follows the aperient. A plain water enema is administered the night before and a second on the morning of the examination. This procedure will ensure an empty colon. The medical man in charge of the case should fully realize the importance of this preliminary preparation indicated by the radiologist. Serious errors in diagnosis may otherwise be made.

## Apparatus.

A douche-can of the usual pattern, in which the outlet is about an inch from the bottom, is the most suitable. Any sediment that may collect can thus settle down without blocking the tube. I have tried several other patterns, but this type is the best. About four feet of thick-walled rubber tubing is attached to the can and to the end a Higginson's syringe is added, the valves of the syringe being removed, as they would soon become blocked. The use of the bulb of the syringe will be discussed later. The acorn-shaped rectal nozzle made in metal will be found to be the most suitable. It throws a shadow, so that its correct position can be verified before the injection takes place, and its shape renders it less liable to slip out.

The douche-can, which is placed about two feet above the patient, is now filled three-quarters full ( $1\frac{1}{2}$  pints) with the barium emulsion (Ranul No. 3) warmed to body temperature. The clip which is placed on the tube to control the flow is released and the emulsion run up to the nozzle; this excludes the air. The clip is now closed. The end of the nozzle only is smeared with a small quantity of vaseline. If the whole is lubricated there is a tendency for it to slip out during the injection. The patient, suitably attired, lies on his back, with a towel under the buttocks and a pad of cotton-wool under the sacrum. With nervous patients,

or where there has been any difficulty in retaining the preparatory wash-outs, it is as well to place a mackintosh under the towel. This, however, is not often necessary.

The nozzle should be inserted very gently, care being taken to see that it is pushed well home. Before commencing the flow of barium emulsion a glance is taken on the screen to ascertain whether the position of the nozzle is correct. The tip should be on a level with, or above the level of, the symphysis pubis, never below. This procedure will prevent accidental ejection, but will not necessarily prevent an accident that once happened to me when the nozzle was inserted into the vagina by an inexperienced nurse. The pad of wool, which is already in position under the sacrum, is now tucked firmly round the enema tube. This will keep it in position and incidentally prevent leakage. The clip can now be released and the filling of the colon commenced. The patient is instructed to say whether any pain or discomfort is felt during the examination. Very few experience any uncomfortable symptoms whatever if the injection is carried out gently and without haste.

The S-shaped pelvic colon quickly fills. A short delay may occur at the junction of the sigmoid and descending colon, due to a sphincteric action. Some delay may also be noted at the splenic flexure. In a normal case the colon should be completely filled in about five to eight minutes. In quite a number of cases the enema is seen to pass right through the ileo-caecal valve and occasionally the appendix itself is filled.

Pressure on the ball of the Higginson syringe is found to be of considerable value during the injection. Not only can the flow be hastened, but, what is still more important, any alteration in the colonic tension is at once conveyed to the hand. Experience enables one to become very sensitive to any alteration or variation of this colonic tension—so much so that it becomes possible to distinguish between the increased tension caused by muscular contraction, such as peristalsis or spasm, and that of obstruction by a new growth. In dealing with a difficult patient it is a wise precaution to glance occasionally at the anal region on the screen; a leakage of the emulsion will in this way be at once detected before any quantity escapes.

As soon as the caecum is seen to be fully filled the flow is shut off, the nozzle removed, and the pad of cotton-wool, used to prevent leakage, wrapped round it on removal. If this is done not a drop of the emulsion should escape during the examination.

Systematic examination of each section of the gut is now carried out, careful palpation being used where possible. It will be found necessary to turn the patient in various directions to obtain a clear view of the coils lying in the pelvis as well as when examining the flexures. In some cases even this procedure will not throw the pelvic coils clear of one another. I overcome this difficulty by injecting a few ounces of warm water; this dilutes the contents of the lower bowel, rendering the shadow less dense, and one coil can in this way be seen through the other.

Radiographs may be taken to illustrate any abnormal condition, but they rarely give any more information than what has already been obtained from the screen examination, where palpation has been utilized.

The patient is now allowed to discharge the colonic contents, and this is followed by a final *fluoroscopic* examination, which is specially important when there is a question of diverticulitis.

These technical details have been fully dismissed as the success of the examination and the attainment of its full diagnostic value depend on their observance.

#### MORPHOLOGY AND TOPOGRAPHY OF THE COLON.

##### Tone.

A considerable variation in tone occurs in the colon, similar to that seen in the rest of the intestinal tract. This is determined to a great extent by the mental attitude of the patient. Apprehension, for instance, may be present in this form of examination. The fear of being unable to retain the enema weighs heavily on some patients; the result, especially noticeable in females, is an abnormal increase in the general tone, amounting even to spasticity of

the colon during the examination. These cases require careful handling if the examination is to be carried to a successful termination.

I have already drawn attention to this variation of tone in respect to the stomach—it alters day by day, almost hour by hour. A hypertonic stomach to-day, in fact, may be a hypotonic stomach to-morrow, and this is equally true of the colon. It is noticeable that this tendency to hypertonicity occurs more frequently in the descending section. If it is purely a transitory condition the contracted lumen will relax before the termination of the examination, showing a fully filled gut. If of a more permanent nature, as is sometimes seen in spastic constipation, no relaxation takes place. A local spasm is of frequent occurrence, but the smooth symmetrical constriction, not infrequently altering its position, should not give rise to much difficulty in diagnosis. This condition may be found in any section.

##### Haustration.

One of the advantages of the opaque enema examination is that it does away with colonic haustration. The colon is filled out to its fullest extent like the inner tube of a tyre, any defect in filling being thus readily detected. This absence of haustration, however, is not necessarily present during the whole of the examination. Each section should be carefully examined, using palpation, while it is free of segmentation. Even if it is somewhat persistent, as may occasionally happen, the fact that it is symmetrical and not unevenly broken up, as is seen when an opaque meal has been administered, will render the examination satisfactory and accurate.

##### Topography.

Owing to the large variation in the position of a normal large gut, it is impossible to give any reliable landmarks. Probably the rectum and splenic flexure are the most constant in position, the transverse colon, hepatic flexure, and caecum being the most variable.

It may be of advantage here to describe the filling of a normal colon. The fluid rapidly fills the S-shaped pelvic colon, a short delay occurring at the sigmoid sphincter, as I call it. Although there is some doubt as to the existence of a muscular sphincter at the junction of the pelvic colon and sigmoid, radiologically there is without doubt a narrowing of this junction—usually most pronounced at the commencement of the injection; in any case a definite delay in the flow may be anticipated here. The descending colon readily fills. This is the narrowest portion of the colon.

The splenic flexure fills in its turn. This is usually high up under the costal cartilage; a deep breath, however, will bring it down within reach of the palpating hand. One is apt to get the impression that there is delay in the filling of this flexure. On investigation, however, this will not be found correct. The explanation is that this loop is being viewed end on, and also that the shadows of the two limits of the loop overlap one another, the column of fluid in the proximal side not getting clear of the distal limb for some six inches or more below the upper limit of the flexure. This condition can be verified by palpation.

The fluid now readily flows across the transverse colon as far as the ascending section; the caecum takes somewhat longer to fill completely. Early carcinomata of the caecum will be missed unless care is taken to fill it as completely as possible.

Frequently the fluid passes into the ileum and even into the appendix. This flowing into the ileum has hitherto been attributed to an incompetent ileo-caecal valve. I do not, however, think that this is correct in all cases. The valve was not designed to stop the back flow of a fluid such as is used in this examination.

##### Detailed Examination of the Fully Filled Colon.

Many puzzling defects will be noted during the process of filling the colon. The explanation is probably the result of spasm or local air-locks. In any case, it is wise not to give an opinion on a case unless the colon is completely filled. The caecum should be seen fully filled before commencing a detailed examination. The inflow, of course,

must be carefully watched, as much valuable information will probably be obtained during the passage of the opaque fluid. Many a puzzling defect noted while the colon is filling will have disappeared by the time the colon is filled to its fullest extent.

#### DEVIATION FROM THE NORMAL DUE TO CAUSES OTHER THAN ORGANIC DISEASE.

##### *Dilated Rectum.*

The pelvic section may be dilatable to an unusual degree. This may occur in cases of constipation. The dilatation, which may be considerable, is limited to the rectum and pelvic colon. In these cases there appears to be a complete loss of muscular tone, and nerve impulses are probably no longer sent out from this section, even when grossly overloaded. The whole colonic mechanism is thus put out of gear, and troublesome constipation may ensue.

##### *Extra Loops.*

The more common sites for extra loops are as follows:

1. Redundant sigmoid.
2. Descending colon—about the level of the crest of the ileum.
3. Both flexures.
4. Ascending section.

It would be an interesting study in comparative anatomy to ascertain whether any of these loops correspond to analogous conditions in the lower animals. In other words, are they of ancestral origin?

No special description is needed, except possibly of the redundant sigmoid, which occurs more frequently than the others. This extra loop may reach remarkable dimensions, extending up as far as the transverse section. Although congenital—possibly of ancestral origin—this extra looping does not cause symptoms, although I sometimes wonder whether it might not do so in some circumstances, as a number of patients in whom this condition is found, and who present themselves for this examination, complain of vague abdominal symptoms. No apparent obstruction, however, is noticeable in such cases.

While the degree of looping is variable, the indication of its presence is constant in position; for instead of the column of fluid following an outward direction after filling the pelvic colon, it is seen creeping upwards from the upper limit of the S, following the loop round and joining the descending section at its normal level.

##### *Jacksonian Membrane.*

This is a rare condition, due to the presence of a membrane in the region of the hepatic flexure. The membrane is stretched over the gut, flattening it out to a greater or lesser extent. It may be present without giving rise to symptoms. The smooth outline of a narrowed section of the gut in the region of the hepatic flexure, causing no great degree of obstruction, should easily differentiate it from a new growth.

##### *Enteroptosis.*

Only a general description will be given of the part played by the colon in this baffling condition. Considering its extreme frequency, it is surprising that not more is known of its cause. Let it be clearly understood that radiologists can only state the position of the various sections, the muscular tone, and the rate at which the contents pass through. The deductions must be left to the physician. It is possible to have an extreme degree of enteroptosis without any symptoms. In fact, the intestinal tract may be functioning perfectly normally, in spite of its low position. Therefore, the position of the organs is not necessarily the deciding factor in these cases.

There is another point. At what level does enteroptosis begin? To some radiologists every case examined has some degree of ptosis of the transverse colon; to others it is the hepatic flexure which offends. The whole subject needs revision—at any rate from the radiological point of view. We do not yet know to an inch on what level our organs

should be. I hope to return to this subject at some future time. Briefly, colonic ptosis may be classified as follows:

1. Caecal—so-called pelvic caecum.
2. Right half of colon down (single flexure).
3. Splenic "drag," due to the splenic flexure remaining high up in its normal position, thus taking the weight of a loaded right half of colon. This frequently gives rise to pain under the left costal margin and may be diagnosed as of gastric origin.
4. Ptosis of both flexures with, of course, the transverse colon.

The examination of suspected cases of enteroptosis by the opaque enema has certain advantages over the meal. In the first place, there is a saving of time, as the whole colon can be examined at one sitting. Several days may otherwise be necessary before the meal reaches its journey's end. Secondly, the functioning properties of each section can be more accurately gauged.

It is, of course, necessary to examine the patient in the upright and recumbent positions, palpation being used to see if it is possible to manipulate the gut into its normal position. In addition, an opaque meal is given to ascertain the position of the stomach to the colon.

If the patient now attempts to evacuate the bowel, a second examination will determine and locate the residue, giving an indication of its emptying powers.

##### *Adhesions.*

Fixation of sections of the gut that should normally be free, with or without narrowing of the lumen, indicates the presence of adhesions. Adhesions of the large gut are rare, and care should be exercised in their diagnosis, as frequently there is apparent fixation owing to muscular contraction of the abdominal wall preventing efficient palpation. The caecum is often difficult to manipulate on account of its low position in the pelvis. Raising of the buttocks and deep respiration will cause it to move up if not fixed by adhesions.

##### *Determining the Relation of Abdominal Tumours to the Colon.*

A tumour may be felt through the abdominal wall. Its relation to the large gut may be of considerable surgical importance. This is easily ascertained by rendering the colon visible by an opaque enema. Occasionally the tumour will be found to be so closely connected with it as even to alter its lumen, but unless this alteration gives the irregular stricture characteristic of a new growth it must be considered as a tumour originating outside the gut, involving it only as a secondary condition. A tumour in the left flank, diagnosed as a growth of the descending colon, was shown by this method to be pressing on the gut, flattening it out, but not part of it. A detailed examination proved the lump to be an enlarged low kidney—a hypernephroma. The surgical value of this information need not be emphasized.

##### *Pressure of Gall Bladder.*

Pressure on the gut in the region of the hepatic flexure of an enlarged gall bladder may sometimes be detected.

##### ORGANIC LESIONS.

The presence of the following pathological conditions can be determined by means of the opaque enema:

1. New growths.
2. Diverticulation.
3. Tuberculosis.
4. Polypus (rectal).
5. Benign tumours—adenoma, fibroma, lipoma.
6. Chronic ulcerative colitis.

##### *New Growths.*

Here the diagnosis is dependent on (a) obstruction, (b) distortion of lumen. In the very early stages, while the growth is small, and before it encircles the whole lumen of the gut, detection is very difficult, unless a section that can be easily manipulated is involved.

While these early new growths are the type most frequently missed by the opaque enema examination, patients rarely come for the examination until the disease is well advanced. In respect to the obstruction resulting

from the presence of a new growth it is of interest to note that the passage of an opaque meal given by the mouth may be quite unobstructed. In other words, there may be no delay whatever and yet the obstruction will be complete to the opaque enema. Various suggestions have been made to account for this phenomenon, but my impression is that a channel through the new growth is moulded—probably into the shape of a funnel—by the onward passage of faeces, a valve-like closure taking place when the enema is administered. In any case, it is rare for a colonic growth to be present without giving rise to definite obstruction to the passage of the opaque enema.

The first indication of this obstruction is the sudden increase in colonic tension—imparted to those who are able to appreciate it—through the rubber ball of the modified Higginson syringe already mentioned. The column of the barium fluid ends abruptly as it comes up against the growth. In other words, it is straight-faced. Gradually a small amount may be enticed through the stricture. Care must be taken at this stage not to use force, otherwise damage may be done or the enema may be returned. Once the emulsion has got through the narrowed section, the extent of the disease can be gauged. The narrowed channel is usually irregular and tortuous, similar to a new oesophageal growth. I smooth in outline, care should be taken to eliminate local spasm; at the same time it must be remembered that in some cases of annular growths the stricture may be smooth, but then it is permanent. Palpation here may be of considerable use, for although no actual tumour can be felt, the rolling of the suspected area of colon from side to side under the fingers will impart a definite sensation of thickening of the wall.

The most difficult section to examine is the pelvic colon and first part of the sigmoid. The coils tend to overlap one another and considerable ingenuity is necessary to disentangle the shadows, especially as palpation is not possible in this portion of the gut. Now, by injecting water, this difficulty may be overcome has already been described. A new growth involving the caecum may be overlooked or a wrong diagnosis of diseased colon may be made, unless care is taken that this portion is fully filled. There is a tendency to what I take to be an air-lock in this region, giving an irregular outline to the caecum. Palpation, however, will help it to fill to its fullest extent, but if this is unsuccessful the object will be achieved by turning the patient on to the face for a few minutes. Dilatation of the distal side of the obstruction is by no means unusual.

As previously mentioned, the opaque enema is the only satisfactory method of detecting the presence of narrowing or distortion of the gut, and the extent of the disease.

#### *Tuberculous Disease.*

Although a rare condition, tuberculous disease may be considered here owing to the fact that it closely resembles a new growth in its radiological appearances.

While tuberculous disease certainly causes narrowing and distortion of the gut, this is usually limited to one side, not involving, as with a new growth, the whole lumen. The proximal half of the colon is commonly implicated. The lesion is usually more extensive and the obstruction is seldom so complete as when caused by a new growth. The history of the case will also assist a correct interpretation of the findings. It is, however, by no means easy to distinguish between these two lesions. Differential diagnosis is also difficult between (a) adhesions, (b) actinomycosis, (c) abscess, and (d) extrinsic tumours.

#### *Colonic Diverticulation.*

This condition is more frequent than is generally supposed, but it does not necessarily give rise to symptoms unless inflammation supervenes. It is by no means uncommon in patients over 45. This pouching or sacculation of the colon is probably the result of some defect in the muscular coat, congenital or acquired. The diagnosis depends on the filling of these diverticula with the opaque fluid, and are either seen as bud-like projections, while the gut is fully distended, or as button-like shadows left behind after evacuation. They may be sessile or pedunculated, and are situated outside the limit of the gut. Examination immediately after evacuation may show a few of these sacculi, but

many more will be detected if the examination is made again in twenty-four hours.

I have found that diverticula may remain filled with the opaque fluid for several weeks after the enema, and this even after vigorous irrigation of the colon. What part diverticula play in intestinal toxæmia has yet to be established, but the fact that they may not be emptied even by repeated washings out of the gut at once raises the question whether some of the cases of chronic infection may not be the result of absorption from these diverticula, adding yet another source of infection to the already long list. Diverticula, in fact, may be looked upon as miniature appendices that may become chronically and occasionally acutely infected. A term is wanted to describe the condition when diverticula are present without inflammatory changes. The term "diverticulitis" implies inflammation. I suggest the term "colonic diverticulation."

In all suspected cases, or where the examination has revealed nothing abnormal, an examination after twenty-four hours is essential. Diverticula usually occur in the descending portion or sigmoid, although they may be found in any section of the colon and occasionally along its whole length. If there has been any inflammatory condition present (diverticulitis) it is rare for the opaque fluid to get into the particular diverticulum involved, as the opening into the gut is usually occluded. Other patent diverticula are, however, as a rule present, indicating the nature of the case. Residue in the colonic haustra should not be mistaken for diverticula.

#### *Benign Tumours.*

These are rare and the radiological differentiation almost impossible. Smooth defects in the outline of the lumen, not characteristic of a malignant tumour, may lead one to suspect the simple nature of the lesion. Polypi will cause a smooth defect if large enough, with little or no obstruction, the shadows cast by the gut in the region being rather mottled in appearance. Multiple adenomata give a similar picture.

#### *Chronic Ulcerative Colitis.*

The element of spasm is the main feature here. This leads to a spastic condition of the colon, usually of the descending portion, giving rise to an extensive narrowing of a considerable part of the gut. In rare cases the opaque fluid can be seen adhering to the ulcer surfaces themselves after evacuation. The presence of diverticula may cause symptoms of colitis, and care should be taken not to overlook this condition.

#### CONCLUSION.

While examination by the opaque enema has been employed for some years, I feel that a more extended use of this method could be made with advantage in this country. But it must be realized that the examination is beset with pitfalls for the unwary.

If careful attention be given to the technical details the method will prove to be rapid and accurate, and to cause minimum discomfort to the patient.

## CONCEALED ACCIDENTAL HAEMORRHAGE

BY

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IN addition to the relative rarity of concealed accidental haemorrhage there are several points in the following case of more than passing interest.

On January 1st, 1924, I was asked by her family doctor to see a well developed woman of 26, who was in the thirty-fifth week of her first pregnancy. Down to eighteen hours before I saw her she had enjoyed good health and the urine had been free from albumin. At 10 p.m. on December 31st, 1923, without any apparent cause she was seized with severe cramp-like pain in the epigastrium. An hour later she became faint and complained of a sensation of great fullness in the abdomen. She was carried to bed, and shortly afterwards felt sick and vomited without gaining any relief. Down to the time when I saw her every attempt at ingestion of food or to raise her head resulted in a recurrence of the faintness and vomiting. The bowels had not acted and she was unable to say if she had passed flatus. There was increased frequency of micturition. While the pain had continued without

intermission from the onset of the attack, she did not think it had differed in character after the end of the first hour. At no time had she any feeling of air hunger.

She lay in a dazed, apathetic condition, and was markedly pale, but of a fawny white rather than the ashy grey colour of secondary anaemia. The pulse was 108 and the temperature 98° F. The abdomen was greatly distended and gave a sensation of hard tenseness. This distension was chiefly localized in the upper segment and passed under the costal margins. No sounds could be heard on auscultation, nor could any movements be recognized on inspection or palpation. The tenderness she complained of could not be described as severe. No blood was found in the vagina, nor was there any staining of her clothing. The os was dilated (2 cm.), with distended membranes bulging through. Concealed accidental haemorrhage was diagnosed and Caesarean section recommended. This her husband agreed to, but requested that the uterus should be preserved if found possible. She was removed to Longton Hospital.

At 7.30 p.m. on January 1st, 1924, under a general anaesthetic, the abdomen was opened through a mid-line incision extending from 1 inch above the umbilicus to 1 inch above the pubes. A little free sanguineous fluid escaped from the peritoneal cavity. On attempting to centralize the uterus it was found impossible to insinuate the hand between it and the costal margins. The distension of the uterus was definitely limited to the body, which was of a slaty grey colour with purplish mottling, while the lower uterine segment, below the anterior peritoneal reflection which was raised to the level of the umbilicus, was elongated and showed neither grey coloration nor mottling. A longitudinal incision through the loose peritoneum over this segment exposed sufficient of it to permit a 5-inch incision into it without reflecting the bladder downwards. This incision was made in the long axis. No difficulty was experienced in extracting a well developed dead child of about 7 lb. by the presenting breech. The skin of the scrotum had desquamated, otherwise the child was in a good state of preservation. The placenta was free in the uterine cavity and was removed with three or four large dark blood clots. These clots collectively would have filled a half-pint measure. Simultaneous with the extraction of the child 1 c.cm. of pituitary extract was given subcutaneously and the uterus lifted out of the abdominal cavity. It remained flabby and toneless, and except while directly compressed there was a steady oozing from its cavity. After fifteen minutes' compression without satisfactory result gr. 1/100 ergotinine citrate was injected directly into the uterine muscle. This had the desired effect, and the uterus was preserved. The placenta was of normal shape and size, but four-fifths of the villi showed that they had been compressed. The remainder occupied an arc embracing a third of the periphery of the placenta. When the uterus was removed from the abdominal cavity, within a minute of giving pituitary extract, the intestines were seen collapsed and ivory white in colour; this persisted during the time the abdomen was open. The incisions in the lower uterine segment and in the peritoneum over it were closed separately with continuous catgut and the abdomen closed in layers.

Except for severe epigastric pain which lasted for two days convalescence was uneventful, and she went home on January 20th; the uterus had then contracted down to the size of a two to three months' pregnancy.

While concealed accidental haemorrhage is one of the rarest complications of pregnancy (1 in 15,000 or more cases), it is one of the most serious. In all but those in which the haemorrhage has been trivial the child must die *in utero*, and in those severer cases the uterine muscle is so damaged and its power of contraction and retraction so destroyed that the mother's life is endangered by the probability of post-partum haemorrhage, if not by conditions arising antecedent to the birth of the child.

To draw conclusions from one case can only be justified by the rarity of the condition, and by the hope that others will compare such conclusions with their own personal experiences. The condition has been attributed to toxæmia, trauma, emotional disturbances, and endometritis, and is commoner in multiparae. This case throws no light on the subject, but the date and hour of its onset are significant—10 p.m., December 31st.

Diagnosis offers no difficulty. The sudden onset of abdominal pain in a woman advanced in pregnancy, with marked collapse and with no "show," should suggest the condition. The tense hard swelling of the uterus, particularly in its upper segment, with inability to hear the foetal heart sounds, or uterine souffle, are sufficient to confirm the diagnosis.

The sequence of events following haemorrhage into the decidua basalis must depend on the amount of blood poured out of the ruptured vessels and on the increased intra-uterine pressure resulting. As long as the haemorrhage remains concealed between the placenta and membrane on the one hand and the uterine wall on the other the increased pressure acting through the liquor amnii tends to dilate the os to some extent, at the same time ballooning the uterus, and disseminating the fluid blood between

the bundles of uterine muscle. This sequence of events would contribute to a lowering of the intrauterine pressure if the haemorrhage ceased, but in reality it encourages further bleeding, with increased distension of the uterus and greater dissociation of muscle bundles until the intra-abdominal pressure is raised to or above that in the uterus; then the blood sinuses at the placenta site are subjected to compression which closes them and permits thrombosis to occur. It might be argued that such a state will occur earlier in a primipara or in a multipara with well developed and not overstretched abdominal muscles. Conversely, lax abdominal muscles will allow so great uterine distension that the peritoneum cracks and the dissociated muscle bundles are converted into actual ruptures permitting blood to escape into the abdominal cavity. Such cases have been described by Shannon and others. If this case can be taken as a criterion of what occurs in others, then the distension is limited to the uterine body, while the lower segment is merely stretched longitudinally and is otherwise not traumatized by the disseminating blood.

If the diagnosis could be made early, the ideal treatment would be to convert the concealed into an external haemorrhage, but as the first symptoms of concealed accidental haemorrhage arise from shock due to the rapid distension of the uterus, most cases are seen too late for this to be done without considerable risk. The firm application of an abdominal binder may assist in raising the intra-abdominal pressure and minimizing the haemorrhage.

To empty the uterus *per vias naturales* endangers the patient's life from post-partum haemorrhage, whereas if it is emptied through an abdominal hysterotomy opening the post-partum haemorrhage can be controlled by direct compression or by hysterectomy if other measures fail. If Caesarean section is performed the lower uterine segment operation appears to be more desirable than the classical method. It is the part of the uterus underlying a mid-line incision below the umbilicus; it is stretched longitudinally, and there is ample room without the necessity of reflecting the bladder downwards; it is not traumatized, at least to the same extent, as is the body; and if the uterus should become infected it is shut off from the peritoneal cavity.

The collapsed and ivory-white condition of the intestines is difficult to explain, especially as no reaction appeared during the twenty to twenty-five minutes the abdomen was open. The greatly increased intra-abdominal pressure, with irritation of the splanchnic nerves, may have had some influence in producing this state, or it may be a phenomenon of shock as described by some writers on that subject.

## A PROTEIN POISON THEORY:

ITS APPLICATION TO THE TREATMENT OF HEADACHE AND  
ESPECIALLY MIGRAINE.

BY

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ALL nitrogenous food, animal or vegetable, contains a potential poison. Whether untoward effects are produced or not depends entirely upon the metabolic efficiency of the individual in respect of the particular protein concerned. If the metabolic capacity of an individual is insufficient to deal with this poison, without undue reaction, manifestations are produced. These manifestations may occur in any tissue of the body, and are the symptoms of disease.

In chronic disease the reactions are so slight that they are not evident until the gradual replacement of the destroyed tissue cells by connective tissue interferes with the function of an organ. This explains the slow development of arteriosclerosis, nephritis, and other diseases of like nature. On the other hand, the manifestations may be sudden and severe, as in cyclic vomiting and migraine. Most acute manifestations show a certain periodicity, indicating a cumulative action of the poison. Other acute affections appear immediately after the ingestion of the poison, as



in the case of urticaria, angio-neurotic oedema, and the various food idiosyncrasies. Convulsions may be caused by protein ingestion, and, indeed, this is a very usual cause of convulsions in children.

My theory differs from that of anaphylaxis, which has been generally accepted to explain various food idiosyncrasies. In anaphylaxis a preliminary sensitization is required, while my theory maintains that the metabolism of the individual is inadequate. Such an inadequacy for the metabolism of nitrogenous food is most usually inherited, but further damage can be prevented by appropriate diet. The protein poison may act directly on the tissue cells of the mucous membrane or the skin, causing, for example, in the one case bronchitis or colitis, in the other such a disease as eczema. Or again, it may act indirectly, as, for example, through the endocrine or nervous system.

It is impossible in this short paper, which I wish to devote to migraine, to discuss fully the pathogenesis of protein poison manifestations, but since heredity plays such an important part in the etiology of migraine, this at any rate must be considered. The old French school represented by Trousseau, Bouchard, and Dieulafoy laid great stress upon what they called the lithaemic diathesis, and insisted on the close relationship and inheritability of gout, asthma, eczema, migraine, epilepsy, and lithiasis. They also noted the frequent occurrence of cancer in certain families which had this lithaemic diathesis. They failed to see, however, that the real basis of the heredity is a damaged protein metabolism in which protein poison manifestations can take place in any tissue or organ of the body, so producing the diseases which they attributed to lithaemic diathesis. The disease and its symptoms depend entirely upon the site of the manifestations. Each cell of the body is an individual chemical laboratory and plays a part in the general metabolism.

I consider it is quite justifiable to assume that the molecular arrangement of the cell structure, and the characteristics of the cell, upon which depends its ability to function properly, are inherited in the same manner as the general physical characteristics of the individual are inherited.

Migraine occurs in individuals who have inherited a damaged metabolism for nitrogenous foods, and I have chosen it as the subject of this paper because the remarkable results that I have obtained in its relief by the practical application of the protein poison theory have been so conclusive as to leave no doubt in my mind as to its truth and value.

Headache is one of the commonest forms of protein poison manifestation. The headaches caused by protein poison vary in severity from the mildest headache to the severest forms of typical migraine. The etiology of all functional headaches is the same. In migraine we have, however, the typical inherited insufficient protein metabolism. It is true that other causal factors, such as eye-strain, may act in producing headache, but they are secondary causes and are incapable of producing migraine if the essential cause is removed. It is quite easy to prove that protein poison is the essential cause of headache by letting a patient resume the articles of diet the omission of which caused the headache to cease. It is true, however, that some patients on a low protein diet will acquire a certain degree of tolerance for the very foods that formerly caused headache. Other patients, however, will never be able to take certain protein foods. It is most important to know that extracts from protein foods such as soups and gravies, and fruit extracts also, though they contain no protein, contain the protein poison and are very potent in causing headache; indeed, one reason why dieting has been unsuccessful in the past is because meat extracts and fruit and fruit juices have not been suspected.

I have found that skin tests are unreliable, and the quickest and best way to ascertain what foods are deleterious in each individual case is to commence with a diet free from protein, especially animal protein, and then to build up gradually a suitable diet therefrom.

The foods which I have found potent in causing headache are meat, fish, poultry, game, and extracts such as soups and gravies made from them; eggs, milk, and cheese; fruit and fruit juices; coffee, tea, chocolate, and alcohol;

and, among the vegetables, tomatoes and mushrooms. This at the first glance seems to leave nothing to eat but cereals, butter, and vegetables; and, indeed, this is the basic diet upon which to put a patient for a few weeks until his headaches are controlled. I use a diet of polished rice, butter, toast, a few green vegetables, and water.

Many patients show immediate improvement, but some are worse the first week—those who formerly had occasional headache having it continuously. This is especially true of immoderate coffee drinkers. The second week there is considerable improvement, and in the third week the majority of patients are distinctly better. In women there is usually a recurrence of headache at the first menstrual period, but after a month or two they have no more headache, not even at the menstrual period.

So soon as the headache is distinctly improved the diet should be amplified, at first with other vegetables, then by a small amount of meat once a day. Milk may be used in the cooking (many patients cannot take raw milk in any quantity) and different articles of nitrogenous food added from time to time until the tolerance for different foods is ascertained. Very few subjects of migraine can take meat soups, fruits, or eggs in any quantity. Sweetbreads, mushrooms, tomatoes, and chocolate usually must be banned entirely. With some it is necessary to omit a single article only, such as eggs. Every article of nitrogenous nature must be suspected until proved to be harmless in the particular case. The protein of cereals and vegetables is usually well borne.

It must be remembered that every food of nitrogenous nature has its specific protein. Some patients who cannot take beef can take lamb or chicken. I have had patients who were very susceptible to such proteins as unpolished rice, almonds, and peppermint. Some can take tea with impunity, but cannot take coffee; as a rule, however, most can take a fairly generous diet if certain particular proteins are omitted.

It is best that all sufferers from migraine should be on a fairly low protein diet. I believe also that the less carbohydrate and fat that is consumed the greater is the ability of the patient to metabolize protein. This may explain why some cases of migraine have been relieved by adopting a low carbohydrate or low fat diet; but I am convinced from my experience that the protein is the real causal agent of migraine.

I am well aware that the statements I make will seem somewhat dogmatic, but I am convinced of the truth of them. A single trial of this method in the most obstinate case of migraine will convince the most sceptical, and the success of his treatment will soon tempt him to apply the theory in other cases of functional disease, where it is chiefly applicable. Diseases in which organic change has already begun cannot be cured by diet, but the protein poison theory throws light upon their etiology and therefore suggests the possibility of preventing all the diseases of metabolism. It gives a new viewpoint in such serious diseases as nephritis, arterio-sclerosis, and even tumour growth.

## CANCER OF THE BREAST:

### RECURRENCE 31 YEARS AFTER OPERATION.

BY

F. J. STEWARD, M.S., F.R.C.S.,  
SURGEON TO GUY'S HOSPITAL.

I MAKE no apology for publishing a note of this case owing to its outstanding interest in its bearing on the age-long question, *When is cancer cured?*

I saw the patient a short time ago with Dr. James Bromley of Sible Hedingham. Her history was as follows:

Mrs. R., aged 81 years, was operated upon for cancer of the left breast thirty-one years ago by the late Sir Henry Bntlin. She had no further trouble until a few months before I saw her, when Dr. Bromley discovered three small hard nodules beneath the skin of the left chest in the immediate neighbourhood of the scar of the operation wound. These had slowly increased in size. During the

past two months some enlargement of the veins over the front of the left chest had appeared, and the patient complained of some degree of breathlessness and of pain in the chest.

When I examined her I found three hard nodules, as Dr. Bromley had observed. These were each about half an inch in diameter, were situated beneath the skin, and were not fixed either to the skin or to the deeper parts. These nodules were each close to the operation scar and were separated from one another by about an inch and a half. The front of the chest to the inner side of the scar was somewhat prominent, and a few dilated veins were to be seen. There was also some degree of dullness on percussion over the prominent area. The patient was rather breathless and looked ill, but not extremely so. She, however, died the same night.

There can be no reasonable doubt that the superficial nodules were carcinomatous, and that they had appeared quite recently, for Dr. Bromley was satisfied that they were not present much more than two months before my examination. There was certainly also a growth in the mediastinum, which had probably been present for some time, and which presumably caused the patient's death.

In spite of the interval of no less than thirty-one years there can be little doubt that the subcutaneous nodules and the mediastinal growth were directly connected with the original growth in the breast, and, if this is so, it would appear that carcinoma cells may lay dormant in the tissues for a period of upwards of thirty years, and for all this time give no sign, and then simultaneously, in at least four separate and distinct sites, once more become active.

What was the exciting cause of this fresh outburst of activity? Whatever it was, apparently it must have been general rather than local, otherwise the fact of four separate and independent foci becoming active at the same time cannot be explained, for, as regards the three subcutaneous nodules, as has already been mentioned, these were separated from one another by apparently healthy subcutaneous tissue, and were, moreover, all of practically the same size, and hence began to grow at the same time.

### DIAGNOSTIC VALUE OF THE SUGAR CONTENT OF THE CEREBRO-SPINAL FLUID IN ENCEPHALITIS LETHARGICA.

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So far back as 1917 it was observed by von Economo that the sugar content of the cerebro-spinal fluid was increased in many, if not in all, cases of encephalitis lethargica. During the past year I have examined a series of specimens of cerebro-spinal fluid withdrawn from patients provisionally diagnosed as suffering from encephalitis lethargica, and in all cases in which this diagnosis was finally confirmed the sugar content of the fluid was found to be increased.

The method employed for the estimation of this sugar content was that advocated by Maclean<sup>1</sup> for the determination of the sugar content of the blood: it was found to be satisfactory in over a hundred examinations of cerebro-spinal fluid in addition to those recorded in the accompanying table. By this method the figure for apparently healthy fluids was found to be within the range of 0.065 to 0.08 per cent., whilst, using Bang's microscopic method,<sup>2</sup> the average figure obtained was 0.072. Although it may be conceded that the method of Bang or Folin-Wu, or again the modification of the Benedict-Osterberg procedure used by Alpers<sup>3</sup> and others, would have given more accurate results, yet Maclean's method is nowadays so well known to many general practitioners, owing to the modern discoveries in connexion with the diagnosis and treatment of diabetes, and can be so easily performed with a reasonable degree of accuracy, that any considerable departure from the normal is readily appreciated.

It will be observed from examination of the accompanying table that in almost every case finally diagnosed as encephalitis lethargica the sugar content was definitely

increased above the normal, and that in no instance was there any diminution. Increased sugar values occur undoubtedly in certain other diseases, yet the absence of a decrease is, I think, a valuable point in diagnosing this condition from the group of other meningeal diseases, especially from tuberculous meningitis. The failure of 1 c.c.m. of cerebro-spinal fluid to reduce 0.25 c.c.m. of Fehling's solution would also probably be of value as a criterion in cases in which an estimation of the amount of sugar present was impracticable. Such a procedure, by excluding encephalitis lethargica, should be of considerable utility, whilst the indication in this way of a definite increase in the sugar content would go far towards establishing a positive diagnosis.

Table showing Sugar Content (percentages) of the Cerebro-spinal Fluid in Encephalitis Lethargica and Similar Diseases.  
(The initials are those of the patients examined.)

Encephalitis lethargica.		Other meningeal infections.			
S. A.	0.131	E. El.	0.056		
M. R.	0.112	H. W. T.	0.062		
E. H.	0.103	R.	0.047		
P. B.	0.101	A. B.	0.041		
W. D.	0.125	N. Ro.	0.067		
B. S.	0.130	N.	0.046		
I. N.	0.110	M.	0.062		
M. G.	0.100				
T. O.	0.125	Average sugar content = 0.054			
C. B.	0.100	Other conditions etiologically like encephalitis lethargica.			
W.	0.118				
M. H.	0.100				
P. G.	0.095				
M. K.	0.081				
Average sugar content = 0.112		R. A.		0.080	
Tuberculous meningitis.		E. J.		0.073	
		S. A. N.		0.074	
		F. B.		0.081	
		I. N.		0.075	
		C. H.		0.100	
Average sugar content = 0.050		G. G.		0.080	
Average sugar content = 0.050		Average sugar content = 0.080		* Uræmia case.	

In nearly every case of encephalitis lethargica in the series the eye sign described by Thorp<sup>4</sup> was present—a valuable diagnostic point.

REFERENCES.  
<sup>1</sup> Maclean: *Modern Methods in the Diagnosis and Treatment of Glucosuria and Diabetes*. H. Karger, Wien. *Mon. Wech.*, 35, 8, 1922. <sup>2</sup> Alpers et al.: *Arch. Neurol. and Psych.*, June, 1924, vol. 41, No. 6. <sup>3</sup> Thorp: *British Medical Journal*, 1921, vol. ii, p. 508.

### Memoranda: MEDICAL, SURGICAL, OBSTETRICAL.

THROMBO-ANGIITIS OBLITERANS.  
In view of the recent article on thrombo-angiitis obliterans, by Telford and Stopford (*British Medical Journal*, December 6th, 1924, p. 1055), the following case is of interest.

A carter (British), aged 43, had been subject for twelve months to pain in the right calf and foot after walking; the pain subsided on resting, but returned on further exercise. The condition worsened in cold weather. He first noticed change in the colour of his feet seven weeks prior to admission to hospital; there was no history of injury to the foot.

Examination revealed dry gangrene of the third toe and part of the adjacent toes, the gangrene extending half-way up the artery, extending to the apex of Scarpa's triangle; elsewhere in the limb no pulsation could be detected. Cutaneous sensation of the right foot was impaired, and there was marked wasting of the muscles of both lower limbs. There was slight oedema of the foot. His general condition was good; nothing abnormal was detected in heart, lungs, or urine; the Wassermann reaction was negative.

A supracalcaneal amputation was performed. The tissues of the stump were rather anæmic; hæmorrhage was practically absent; the popliteal artery was occluded by clot and was closely adherent to the surrounding tissues. Further dissection showed thrombosis of the anterior and posterior tibial vessels.

Microscopical examination yielded findings similar to those recorded in the paper referred to.

My thanks are due to Dr. J. F. Hodgson for permission to publish this case.

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## A CASE OF LEONTIASIS OSSEA.

THE history of the case is as follows: In September, 1918, a youth, aged 18, serving in the Royal Navy, fell on the left side of his face across a 12-pounder cannon; although he had pain in his jaw he did not go off duty. About a month later he had a fight with another sailor, and was hit on the jaw. He states that his jaw "felt loose" for about a week afterwards, otherwise he was in perfect health. He was demobilized in February, 1919, and on returning home his mother noticed that the left side of his jaw was slightly swollen. In 1921 he observed slight enlargement of both nasal bones.

I saw him for the first time in January, 1924. The bony protuberances in the left side of the mandible and in both nasal bones were well marked. About March a small growth of bone started on the right side of the mandible, and the patient had considerable pain in that region. I sent him to Mr. Bernard Goodwin, F.R.C.S., in October, who diagnosed leontiasis ossæ. In November, 1924, the patient had several attacks of severe paroxysmal pain over the left side of the face.



Leontiasis ossæ was first recognized by Virchow, and is characterized by hyperostosis of the facial and cranial bones. The pathology of the disease is unknown, though probably inflammatory in nature.

The onset is, as a rule, noticed in early life, from the tenth to the thirteenth year. The chief feature is the formation of masses of new bone on the jaws; in addition to causing deformity it may interfere with sight, smell, and the movements of the jaws. The disease is of long duration, lasting twenty to thirty years, and no treatment has proved of the slightest use. A somewhat similar affection is said to occur in monkeys.

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West Bromwich.

## CREOSOTE IN INFLUENZAL PNEUMONIA, CHRONIC INFLUENZA, AND ENCEPHALITIS LETHARGICA.

In February, 1922, a note of mine on the treatment of pneumonia with creosote was published in the *BRITISH MEDICAL JOURNAL*, in which I suggested that the dose of potassium iodide usually prescribed—namely, 10 grains—was too great, and advocated the following creosote and ammonia mixture:

R. Creosol.	...	...	...	...	m℥
Pot. iod.	...	...	...	...	gr. ij
Sp. ammon. co.	}	...	...	...	āā 3ss
Sp. rectificat.		...	...	...	
Ext. glycyrrhizæ liq.	...	...	...	...	ad 3j
Aq. chloroformi	...	...	...	...	

To be given every four hours.

The potassium iodide is to be omitted in the case of patients with profuse expectoration, and not more than 2 oz. of brandy, if any, need be given in addition.

Creosote has long been used for pulmonary conditions, such as tuberculosis, and we used to give it in capsules with an expectorant mixture. Whether it is of use in early cases of phthisis I do not know, for there are cases of unresolved influenzal pneumonia, or chronic influenza as we might call them, which rapidly yield to treatment with the mixture of creosote and ammonia, and which are very liable to be mistaken for phthisis. One of my patients was, I believe, having open-air treatment for tuberculosis. He had some consolidation at the right apex and slight fever, and he rapidly recovered on being put to bed and treated with this mixture. Another was a young woman at an institution for mental defectives, who had signs suggesting a diffuse tuberculous bronchopneumonia; she had had irregular fever for over a month, and her temperature fell to normal in about three days.

I do not know whether creosote has been used for early cases of encephalitis lethargica, which is supposed to have some connexion with influenza, but it has been given intramuscularly for leprosy (*BRITISH MEDICAL JOURNAL, Epitome*, April 19th, 1924, para. 323).

London, N.W.3.

R. RAMSDEN WADE, M.D., B.Ch.Oxon.

## CURE OF PRURITUS SENILIS BY THE USE OF A FLESH BRUSH.

ABOUT twenty years ago I noted in a French medical journal a letter on the value of flesh brushing in pruritus senilis. I happened to know at the time of the matron of a large nursing home who had for several years suffered severely from an intense and intractable pruritus senilis. I suggested she should try this treatment; its success was perfect: it gave immediate relief, and after a few weeks she was able to stop the treatment for intervals of many weeks. She was able to continue her work for several years afterwards.

It was long before I had another case; but it was attended by similar success. Since then it has been my sheet anchor in the treatment of this trouble. I have had a few failures, but they form only a small fraction of all the cases. The following quotation from a letter of a retired medical man is typical of what patients think of the treatment:

"After years of suffering and elaborate treatments this simple method has completely cured my wife. The simplicity of the treatment and the perfect cure can only be compared with the dipping in the river Jordan."

The treatment is as follows:

A brush resembling an ordinary bath brush but with soft bristles (a little stiffer than the bristles of a baby's hair brush) is used. The whole skin is thoroughly brushed down with it in a warm room every night, and later also in the morning if necessary. A large quantity of a whitish powder is removed from the skin. This powder consists mainly of horny epithelium. If the somewhat thinned skin of an elderly person with general pruritus is examined with a lens small refractive areas are seen glistening over the surface. Some of these may be semi-detached as a scale, others with edges separating and tilted up; the majority are flat and almost adherent. Fibres of the underclothing entangle these scales and the sense of itching is excited. The flesh brush removes the scales and cures the patient.

I do not know of any textbook in which this treatment is described. I have personally described it to many colleagues, who report to me its successes, and am publishing this note in the hope that it will prove of equal value to others as it has been to me in the treatment of these distressing if not serious cases.

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POISONING BY BITTERSWEET (*SOLANUM DULCAMARA*).

A boy, aged 8, was brought to us with a history of having eaten deadly nightshade berries ten minutes previously. There were no symptoms, eye or otherwise, to be noted, but the child was in a condition of nervous fright, owing to the disturbed frame of mind of his relatives. After the administration of ipecacuanha wine, and tickling the throat with a feather, a moderate amount of vomit was returned, mixed with what looked like broken-up raspberries. We obtained the plant next morning, with green and ripe red berries, and forwarded it to Kew Gardens. The Director of the Royal Botanic Gardens most kindly furnished the following report.

*Poisonous Properties.*

The plant contains the alkaloid solanin with a hot, bitter taste, dulcamarin a bitter principle, and the alkaloids solanidin and solanin.

Chesnut says with reference to this plant: The berry, though its taste is not remarkably disagreeable, is somewhat poisonous, and it has been shown that an extract of the leaves is moderately so. The plant has nevertheless caused some ill effect.

According to Schimpfky the berries have been used to poison dogs, and the juice of the fruit acts as a poison to rabbits.

Flückiger and Hanbury, in their *Pharmacographia*, make this statement with reference to dulcamara: Dulcamara is occasionally given in the form of decoction, in rheumatic or cutaneous affections; but its real action, according to Garrod, is unknown. This physician remarks that it does not dilate the pupil or produce dryness of the throat like belladonna, henbane, or stramonium. He has given a patient three pints of the decoction per diem without any marked action, and has also administered as much as half a pound of the fresh berries with no ill effect.

Johnson, in his *Medical Botany of North America*, refers to the use of the plant as follows: Bittersweet, in full doses, produces a certain amount of cerebral disturbance of a narcotic character, together with dryness of the throat, and sometimes an erythematous eruption of the skin, with a tendency to diaphoresis. It has been employed with benefit in a variety of cutaneous eruptions, in muscular rheumatism, and in chronic bronchial and pulmonary affections.

Lehmann states that it is a narcotic poison when given in large doses, even causing death in rabbits.

It will be seen from the above quotations that the plant is not a violent poison, and yet ill effects are probably produced by it under some conditions.

JOHN REID, M.D., D.P.H.

Ashford, Middlesex.

JOHN KENNEDY, M.B., F.R.C.S.I.

## Reports of Societies.

### THE CINCHONA ALKALOIDS IN MALARIA.

A MEETING of the Royal Society of Tropical Medicine and Hygiene was held on January 15th; the President, Sir PERCY BASSETT-SMITH, K.C.B., was in the chair. Lieut.-Colonel A. T. GAGE, C.I.E., I.M.S., librarian of the Linnean Society, read a paper entitled "A note from a cultural and commercial point of view on the use of cinchona alkaloids in the treatment of malaria."

Colonel Gage opened with an account of the commercial history of the production of cinchona bark and of cinchona alkaloids. The therapeutic properties of cinchona bark were discovered in 1638, and the reckless exploitation of the native trees led within a century to a shortness of supply of *Cinchona officinalis* in the Loja region of Ecuador, which was the original source of bark. Other sources of bark along the chain of the Andes were sought, but all valuable species tended to be rapidly exterminated by the native collectors. By the middle of the nineteenth century there was a serious shortage of bark, and the British and Dutch governments were compelled to introduce the cultivation of cinchona into their eastern dominions. Plantations were started in India early in the sixties of last century, but the trees cultivated were chiefly *C. succirubra*, a species of which the bark was poor in quinine but relatively rich in cinchonine and cinchonidine. By this date, however, quinine was in far greater demand in medical practice than were the bark preparations, and hence the serious shortage of quinine continued. The Secretary of State for India therefore ordered in 1865 that medical commissions should be appointed to determine the relative therapeutic efficiency of quinine as compared with the other cinchona alkaloids. The Madras Commission observed the results of treatment of about 3,600 cases, and concluded that ordinary quinine sulphate, chemically pure quinine sulphate, and quinidine sulphate possessed equal febrifugal power; that cinchonidine sulphate was only slightly less efficacious, and that cinchonine sulphate, though considerably inferior to the other alkaloids, was, notwithstanding, a valuable remedial agent in fever. Practically similar conclusions were reported by the other two commissions. These reports resulted in semi-official encouragement being given to the use of the alkaloids other than quinine, with the idea of substituting a cheaper product for the more expensive one. The inevitable consequence followed: the other alkaloids soared in price, and by 1875 had become more expensive than quinine. A policy of using mixed alkaloids was therefore adopted, and in 1874 cinchona febrifuge, a mixture of the total alkaloids of *C. succirubra*, began to be manufactured, and from then till 1887 was the sole product of the Indian factories. The policy of replacing *C. succirubra* on the plantations by species yielding higher quantities of quinine had been adopted, but it was not until 1887 that it was possible to manufacture quinine in India. Meanwhile the vast extension of cinchona cultivation in Java, India, and Ceylon had resulted in a production of quinine, not indeed adequate to the world's real need for it, but far in excess of the commercial demand. The price of quinine fell from £1 an ounce in 1878 to less than £1 a pound in 1890. This huge fall in the price of quinine almost killed the demand for the less attractive cinchona

febrifuge. The annual sale of the latter from the Bengal factory fell from 11,000 lb. in 1881 to a little over 1,600 lb. in 1912. Meanwhile the constitution of the cinchona febrifuge had been altered; before 1903 it represented the mixed alkaloids of *C. succirubra*, but after this date it represented a mixture of the residual alkaloids remaining after extraction of quinine from the barks of *C. ledgeriana* and its hybrid with *C. succirubra*, a certain amount of quinine being added to make it approximately similar to the original cinchona febrifuge. In 1913 an agreement was reached between cinchona planters to limit the supplies of bark, but the whole situation was changed by the war, which increased enormously the demand for quinine and forced up prices. This rise in price led to an increased demand for cinchona febrifuge.

The problem to-day was twofold. There was a relatively small population exposed to malaria and wealthy enough to pay for the best possible antimalarial remedy. On the other hand, there were large populations living in extreme poverty which were continuously exposed to malarial infections; for the relief of these the essential problem was to supply the greatest amount of efficient drug at the cheapest possible price. This latter class included the overwhelming majority of sufferers from malaria. About 90 per cent. of the world's supply of quinine came from Java, and was the product almost exclusively of *C. ledgeriana* and its hybrid with *C. succirubra*; these trees, moreover, were steadily replacing other species in India. In these two species quinine amounted to about one-half of the total alkaloids, and therefore quinine was much the most abundant cinchona alkaloid available. The other alkaloids at present might be cheaper, but their price would rise rapidly as soon as there was an increased demand. Any attempt to replace quinine by other alkaloids on a large scale would lead to serious economic consequences, for the supply of the alternative alkaloids would remain completely inadequate for many years until the cinchona plantations could be re-organized to meet the new demand. There was no reason, however, why the use of quinine should not be supplemented, and this might be effected by reverting to the cultivation of *C. succirubra*, and using its mixed alkaloids to form the original cinchona febrifuge. This species was robust, and yielded more bark than other species. If the alleviative campaign against malaria was to be continued and extended on a scale commensurate with the widespread foci of disease, two things seemed desirable: a much greater supply of therapeutic munitions at a much cheaper rate than at present available, and a great development of arrangements for placing those munitions within easy reach of the attacked.

Lieut.-Colonel CLAYTON A. LANE, I.M.S. (ret.), read a paper on certain aspects of the use of cinchona and its alkaloids in the treatment of malaria. He discussed the known facts concerning the absorption, distribution in the body, destruction, and excretion of quinine, and pointed out that they were completely ignorant of the way in which quinine caused the disappearance of malaria parasites from the blood. This action might be produced by quinine or by some metabolite of quinine. It was generally assumed that the action was exerted on the parasite in the extracorporeal stage, but no real evidence existed for this assumption. The recent work of Ricux tended to prove that quinine acts on the parasite in the intracorporeal stage. Their present ignorance of the elementary pharmacological facts as to the mode of action of quinine upon malarial parasites in the blood was a serious handicap, for such knowledge was essential in order to work out the most efficient method of administering the drug. As regards the choice of preparation of quinine for oral administration, it appeared that insoluble salts were absorbed as rapidly as soluble salts. There was a general belief that many varieties of tablets failed to disintegrate in the alimentary canal, and French writers had suggested that the sugar coating was in some way responsible for this insolubility. The value of intramuscular injections was a very vexed question. MacGillchrist's experiments on animals had proved that intramuscular injections caused a certain amount of destruction of muscle tissue, but clinical reports differed very greatly. The work of Seguin upon cases of general paralysis infected with malaria showed that it was

easy to eradicate malarial infection at an early stage with comparatively small doses of quinine. The work of Stephens in Liverpool and of Anderson in Macedonia showed that the season had a most important influence on the incidence of relapses in malaria, for these were far more frequent in the cold season. Investigators who compared the relative values of different methods of treatment should always bear in mind this important possible source of error. The work of Acton seemed to show that laevo-rotatory quinine was a specific against *P. falciparum*, whilst the dextro-rotatory alkaloids, such as quinidine, were specific for *P. vivax*. This question required very extensive and careful investigation, since any attempt to replace quinine by quinidine would necessitate extensive replanting in the cinchona plantations. The aid of the biochemist was imperative if progress was to be made in their knowledge as to the most effective manner in which the cinchona alkaloids could be used.

Mr. BERNARD HOWARD gave a short explanation of some practical difficulties associated with the preparation of quinine tablets. The acid salts of quinine absorbed moisture and formed a strongly acid solution; hence tablets of these salts must be given a moisture-proof covering. Tablets coated with pure sugar became discoloured very readily. The proposal to return to the use of mixed alkaloids was a retrograde step from the point of view of the chemist. It was almost impossible to fix a standard for the mixed alkaloids, and therefore, if the proposal was generally adopted, the danger of adulteration would be increased greatly.

Professor SWELLENGREBEL of Amsterdam mentioned that in Italy he had discovered quinine tablets with an insoluble coating. The intramuscular use of quinine had been tried very extensively in Russia, where it was used as a routine in order to economize quinine. Dutch experience had shown that malaria produced in general paralysis could always be cured by quinine, even when the patient had been allowed to have as many as twenty attacks of fever.

Sir DAVID PRAIRIE had been interested in all sides of the cinchona problem, and since he had been responsible for the production of the drugs, as well as their use, he had been keenly interested in their being used as efficiently as possible. He had always thought the amorphous alkaloids of cinchona were very important substances, although the chemist was inclined to ignore them. The various changes made at different times in the composition of cinchona febrifuge had raised steadily its content of amorphous alkaloids, and he believed that its efficiency also had increased. This fact was known to missionaries and native druggists, who preferred the cinchona febrifuge to quinine.

A visitor kindly explained the mystery regarding sugar-coated tablets. Tablets coated with pure sugar became discoloured very readily, but this was prevented by the addition of French chalk; consequently this insoluble substance was very frequently added, in varying proportions, to the covering of quinine tablets.

Sir LEONARD ROGERS recalled the amazing history of the treatment of malaria. About 1760 Lind and Clark established a treatment nearly as effective as that of to-day, for there were records of 500 cases being treated with bark with only two deaths. In 1804 Dr. James Johnson went to India for a few weeks, and on the basis of this experience wrote a book, which remained the standard textbook of tropical medicine for forty years. He taught that it was dangerous to give cinchona during fever, but that the patients should be treated with huge doses of calomel until salivation occurred. This treatment was followed universally and enthusiastically. One hospital in one month used 15,300 grains of calomel; the mortality was, of course, appalling. In 1837 a doctor was turned out of Calcutta for publishing the results of the mercurial treatment. In 1847 Dr. Haro happened to find Lind and Clark's old writings, and had the courage to revert to the use of cinchona during fever. He at once reduced the fever mortality in the Calcutta hospitals 92 per cent., and the rational use of cinchona was re-established.

Dr. W. H. MARTINDALE, Dr. HENRY, and others took part in the discussion, and Colonel GAGE and Colonel CLAYTON LANE replied to the points raised in the discussion.

## SCURVY.

At a meeting of the Section of Therapeutics and Pharmacology of the Royal Society of Medicine held on January 13th, with the President, Professor A. J. CLARK, in the chair, Dr. S. S. ZILVA and Dr. G. F. STILL read papers on scurvy.

Dr. S. S. ZILVA described recent progress in the study of experimental scurvy. He pointed out that the science of nutrition and diseases resulting from disordered nutrition had received much attention of recent years and had come into the province of several sciences. He proposed to deal with scurvy solely from the chemical point of view. The war had acted as an additional stimulus to the study of deficiency diseases, and the necessity of certain food factors in a diet, although suspected for nearly fifty years, had only been worked out in recent times. The term "vitamin," introduced by Funk in the course of his work on beri-beri, had been extended in use to cover several unknown principles, and it was with reference to vitamin C that Dr. Zilva spoke. He said that scurvy was not prevalent in this country and adult scurvy was almost unknown. Treatment had been successful before the discovery of the vitamin, and cases of scurvy were always associated with deficient diets despite the beliefs of a small school in an infective factor. Experiments showed that guinea-pigs deprived of fresh food developed scurvy within about fifteen days. If an antiscorbutic substance were added to the diet scurvy could be prevented. The basic diet employed in these experiments consisted of oats, bran, and autoclaved milk, and the antiscorbutic substances to be tested were added after ten to fourteen days of this diet, the animals being killed at the end of two months in positive cases and *post-mortem* evidence of scurvy sought for. The monkey also was a suitable animal, since substances could be given in great dilution and in smaller quantities owing to the larger capacity of the stomach. Despite certain chemical methods suggested for testing antiscorbutic substances, such as the reduction of ammoniacal solutions of silver nitrate in the cold, biological methods still remained the only trustworthy tests of antiscorbutic properties. Certain facts discovered by the examination of various substances for the presence of otherwise of these properties were of great practical importance. Experiments showed that when seeds germinated they acquired antiscorbutic properties; in the malting of barley, for example, these properties could be shown to be present early in the process of "steeping" before germination was visible to the naked eye. The chemistry of the antiscorbutic factor was fraught with difficulties: chemical isolation tended to produce more impurities than vitamin. Notwithstanding this, certain important facts as to the physical and chemical properties of this food factor had been ascertained. When antiscorbutic solutions were stored under ordinary conditions they lost this property. This was shown to be due to oxidative changes. Heating antiscorbutic solutions to over 100° C. failed to destroy their potency in the absence of air. Active solutions had been inactivated by the use of hydrogen peroxide, by the ozone produced by exposure to ultra-violet light, and by less drastic oxidizing methods such as aspiration of air through a solution. While the latter procedure destroyed 80 to 85 per cent. of the activity, the aspiration of carbon dioxide produced no such effect. It was found also that solutions of antiscorbutic substances were more stable in acid solutions. Solutions rendered alkaline and left for twenty-four hours became quite inactive, while if air were excluded no such inactivation occurred. These experiments were important for they showed that the best method of storing antiscorbutic substances was in acid solutions in exhausted ampoules, and such preparations made five months ago were still potent. The isolation of vitamin C had been attempted, starting with lemon juice. This was first decitrated, the sugar was then removed by fermentation, and the vitamin-containing portion precipitated by basic lead acetate. Ninety grams of lemon juice solids gave rise to 0.3 gram of active remainder, and further work was being carried out on this. The chemical properties of this remainder showed its most conspicuous property to be that of a



reducing agent. Ammoniacal silver nitrate was reduced in the cold and potassium permanganate was decolorized, but these reducing properties were no criterion of the antiscorbutic powers of any substance. Certain physico-chemical properties related to adsorption, and diffusion had also been determined.

Dr. G. F. STILL dealt with the clinical treatment of infantile scurvy. He said that the treatment of this disease had not been affected by the laboratory work on scurvy. Dr. Cheadle recognized infantile scurvy as a deficiency disease forty-seven years ago, and he then laid down lines of treatment which were followed to-day. Dr. Still's own observations extended over thirty-two years, and 134 cases had been seen during that period. The treatment he had adopted was as effective at the beginning as at the end of that series. In experiments on animals a vitamin-deficient diet was given and antiscorbutic substances added to this, but the physician had to change the whole diet of an infant with scurvy, and hence a certain amount of fallacy might enter into the estimation of results of treatment. It was usual to take the infant off the patent food on which it was generally being fed and to put it on to cow's milk which had been heated just to the boiling point. The majority of Dr. Still's cases were treated with potatoes, and, speaking as a clinician, he suggested that the laboratory worker would find the potato a potent source of vitamin C. The potato should be baked in its skin, the central part then crumbled and mixed with hot milk to the consistency of a medium cream. Three to 4 drachms of this cream should then be given three or four times a day, added to the first portion of the feeds. The earliest sign of definite improvement was taken to be shown by a diminished tenderness of the limbs; in an infant of 9 months who was given potato cream in doses of 4 drachms four times a day, tenderness had definitely begun to disappear at the end of twenty-four hours, and it had all disappeared in eight days. After three to four doses only of this cream marked improvement was often shown, but the time for total disappearance of the disease varied with the time after onset of the disease that treatment was commenced, and blood cells might be found in the urine after all other signs had been absent for days. Potato cream used otherwise than as a temporary measure during the acute stages was apt to upset digestion; it was therefore not suitable as a prophylactic substance. Next to potato cream, orange juice in doses of 2 drachms four-hourly was valuable, but less rapid in its action. Smaller quantities of orange juice would not cure acute scurvy. Grape juice was even less potent—the juice of four grapes twice daily failed to cure one case, and raw meat juice was less active still. Orange juice in sufficiently large doses tended to produce a troublesome diarrhoea. Here the laboratory worker could be of great assistance, for by the use of a specially prepared decitrated, concentrated juice which would retain its potency over a period of months there was not the same danger of exciting diarrhoea, and huge doses could be given in safety. To an infant of 8 months Dr. Still gave the equivalent of fifteen lemons in the twenty-four hours, and at the end of thirteen and a half hours, when only two doses had been given, improvement was definitely observed. Dealing next with the prophylaxis against scurvy, Dr. Still emphasized that there was only one sure method, and that was breast-feeding. In theory a mother whose diet was deficient in vitamin C might have a milk which failed to prevent the disease, but he had never met such a case. Certain patent foods were notorious in their scorbutic properties, principally those containing malted cereals; whereas plain dried milks, on the other hand, seldom produced scurvy. The failure to prevent scurvy when such patent foods were used—was usually due to an inadequate dose of antiscorbutic substances. One teaspoonful of grape juice in the twenty-four hours was often useless. Even larger doses would fail to prevent the disease; one infant who developed scurvy at 10 months had been given three teaspoonfuls of grape juice daily from the age of 2 months. Raw meat juice in doses of one or two teaspoonfuls two or three times a day was often insufficient, and the various meat extracts were useless. Cow's milk heated just to the boiling point seldom gave rise to scurvy, but it must be carefully ascertained that the milk had not been heated

before sale. After the age of 3 months antiscorbutic substances should be added to the diet of all artificially fed infants in doses of 2 drachms of fruit juice four times a day. While orange juice was the most popular in this country, tomato juice was widely recommended in America.

The discussion which followed was brief.

## DIATHERMY FOR GONORRHOEA.

A MEETING of the Section of Electro-Therapeutics of the Royal Society of Medicine was held on the evening of January 16th. The President, Dr. STANLEY MELVILLE, made a brief reference to the death of Professor Bergonié, and those present stood in silence for a moment in deference to his memory.

Dr. E. P. CUMBERBATCH read a paper on diathermy in the treatment of gonorrhoea. His attention was first attracted to this subject in 1913, when, in the course of the experimental treatment of arthritis by diathermy, he discovered that the gonorrhoeal form was particularly amenable. Further work had revealed the fact that diathermy was an effective remedy for gonorrhoeal infections in the testis and urethra of males and in the urethra and cervix of females. The gonococcus was an organism which was peculiarly vulnerable by heat. He thought that the curative effect of diathermy did not depend entirely upon the actual "cooking" of the organisms, but also to a considerable extent upon the stimulation of the tissues to produce antibodies. Since 1918 forty-two cases of gonorrhoeal arthritis had been treated, and in every case there followed abolition of pain, reduction of swelling, and increase of movement. In the absence of actual structural changes the joint became normal. Their cases had been carefully traced and results were permanent. In epididymitis and orchitis the only sign remaining after three treatments was some thickening of the epididymis. Sixteen cases of gonorrhoeal infection of the cervix and urethra had been treated, and in four cases only could gonococci be found in the discharges after treatment. Two of these cases were probably reinfections, and gonococci disappeared from the discharges of the other two after a further course of treatment. After treatment of the prostate and vesicles of males no gonococci could be found in the prostatic fluid expressed by massage and any metastatic manifestations cleared up. Seven cases of tubo-ovarian inflammation known to be gonorrhoeal had been treated, first by diathermy to the pelvis and then later to the cervix and urethra. The pain and swelling were reduced in every case. They were still investigating the effect of diathermy on the anterior urethritis of males, and though the results were promising they were not yet able to make any definite claims for this form of treatment. Dr. Cumberbatch quoted three cases in which the effect of diathermy had been dramatic. One of the cases, a male aged 38 years, had a gonorrhoeal infection of two years' standing, with iritis and infection of the plantar fascia, which completely crippled him. Within two months of the commencement of the treatment the man was able to walk seven miles.

Dr. C. A. ROBINSON described the technique employed by Dr. Cumberbatch and himself. The diathermy machine employed was capable of having the current turned on gradually and not in large steps. This was important, as a small difference in amperage might make the difference between no burns and burns. The indifferent electrode employed was a lead belt around the pelvis, and a stand was used for the urethral and cervical electrodes. The cervix being insensitive to heat or pain extensive damage might be done before the patient gave any warning. To obviate this the sensitive urethra was treated first and the current was turned on until the sensation of heat was just beginning to change to a sensation of pain. This point was reached when the temperature of the urethra was raised to rather less than 115° F., and ten minutes' treatment of the urethra was permissible without producing any ill effects. For the subsequent treatment of the cervix one half the amperage was employed, as this had been found to produce a temperature of approximately 115° F. in the cervix, while the temperature in the rectum was about 104° F. In the

treatment of the prostate and vesicles a rectal electrode was employed and the lead belt was placed around the waist, the current increased until pain was produced, and it was then reduced slightly. Although it was impossible to determine by thermometry the temperature produced, it was estimated by analogy that the temperature in the prostate varied from 114° F. on the aspect near the electrode to 108° F. on the further aspect. He considered this treatment preferable to prostatic massage, which could only deal with organisms on the surface of the ducts. Testicular lesions were treated by means of lead plates moulded to the surface of the scrotum in place of an electrode. Salpingitis had been treated by the ordinary method of treatment of the cervix when this could be tolerated, and in other cases by the use of a vaginal electrode. No accidents had occurred in any of their cases in spite of the use of crude instruments and ignorance in the earlier work. Dr. Robinson concluded by expressing the hope that this method of treatment, for which he foresaw a great future, would not be permitted to fall into the hands of quacks. The various instruments employed were exhibited.

Dr. ALASTAIR MACGREGOR, Mr. J. J. ABRAHAM, and Dr. AGNES SAVILL had all seen the work done at St. Bartholomew's Hospital and were convinced that it was an advance in treatment.

### MULTIPLE INFECTIVE ARTHRITIS.

At a meeting of the Section of Bacteriology of the Royal Society of Medicine held on January 14th, with the President, Dr. W. EDGEcombe, in the chair, a paper was read by Dr. VINCENT COATES on clinical types of so-called multiple infective arthritis.

Dr. Coates said that the object of his paper was to attempt a simple elastic grouping of certain forms of arthritis whose etiology was, as yet, little understood—namely, (1) periarticular fibrositis, bursitis, and synovitis, (2) atrophic arthritis, (3) multiple non-specific arthritis, (4) menopausal, and (5) villous arthritis. After a brief reference to the first group, which only rarely came within the scope of his paper, the speaker passed to the group described as "atrophic arthritis"—a description he preferred to its synonyms, "true rheumatoid arthritis," "the Poncet type," etc. The salient features of the type were:

- (1) It was of obscure origin and almost confined to young females.
- (2) No obvious infective foci were to be found either in the teeth, tonsils, intestine, or urinary system.
- (3) Atrophy was conspicuous in the bones in relation to the joints, the muscles, and skin.
- (4) In well established cases the joints presented a fusiform enlargement and were symmetrically affected. There was a tendency for the smaller joints to be first affected, and there was often glandular enlargement out of all proportion to the joint lesions.
- (5) A general metabolic disturbance comprising nervous apprehension, sweating, tachycardia, pigmentation, and trophic changes.
- (6) Secondary anaemia, sometimes with a relative or absolute lymphocytosis.
- (7) Lowered resistance of mucous membranes to infection.
- (8) Various biochemical anomalies, such as absent or deficient free HCl in gastric juice, decreased sugar tolerance, and lowered basal metabolic rate. In view of this it was probable that further biochemical research on these cases might prove more fruitful than bacteriological investigation.

Multiple non-specific arthritis simulated the atrophic type, but showed the following points of difference:

- (1) The origin was not always obscure, and the sex distribution more nearly equal; also it was not confined to young adults.
- (2) Infective foci were often found, and their removal improved the prognosis.
- (3) Atrophy, though present, was not conspicuous.
- (4) The joint lesions lacked symmetry, and the glandular enlargement, if present, was in proportion to the heat and swelling of the joint.
- (5) Signs of metabolic disturbance were slight or absent.
- (6) The secondary anaemia was accompanied by a polymorphonuclear leucocytosis at some stage in the disease.

- (7) Mucous membranes not so liable to infection.
- (8) The biochemical anomalies were less constant. This group was not so definite as the last, but probably included many types of joint disease.

Menopausal arthritis (the hypoglandular arthritis of the French) occurred in women of 45 to 55, and occasionally even at a later age. Patients suffering from menopausal arthritis presented coarse synovial crepitation, usually in the knees, or villous arthritis. Trauma, increase of weight, and vascular degeneration probably played an important part, but the role of infection was less apparent. The condition of dry synovitis might develop osseous changes or villous fringes, ending in a condition of osteo-arthritis.

Villous arthritis, in the speaker's opinion, was a reaction to trauma, sepsis, or endocrine disorder, and osteo-arthritis subsequent to infection or villous arthritis should be tabulated under those disorders. Dr. Coates went on to compare the clinical types of arthritis with those recognized by Strangeways<sup>1</sup> as a result of post-mortem examinations. He concluded that (1) the two atrophic types were the same; (2) Strangeways's adhesive type was probably "multiple infective arthritis"; (3) his "dry" type was probably early "menopausal arthritis"; (4) his "capsular" type was possibly a stage of "menopausal arthritis"; and (5) his "villous" type was that described by the speaker.

A discussion followed, in which Dr. C. W. BECKLEY, Dr. H. A. ELLIS, Dr. GEORGE HOLMES, and others took part.

### OPERATIONS IN RELATION TO DIABETES.

At a meeting of the Liverpool Medical Institution on January 8th Dr. R. J. MINNITT read a paper on some toxic conditions following ether anaesthesia and their successful treatment.

Dr. Minnitt described the symptoms after ether anaesthesia in the non-diabetic case as being less than, but comparable with, those occurring in the diabetic. A definite relationship existed between the hyperglycaemia associated with ether anaesthesia and the toxic symptoms which followed. He suggested that treatment for these should be upon the lines found so successful in the case of the diabetic, and drew the following conclusions from eight out of about thirty selected cases, graphic records of which were displayed:

1. That there is a definite rise in blood sugar varying with the length of anaesthesia.
2. That in the case where the blood sugar falls at the conclusion of the anaesthesia to approximately normal, and does not rise again, the patient suffers little, if at all, from toxic symptoms, such as vomiting, pallor, or acidosis.
3. In the sugar tolerance test performed upon a case before and after anaesthesia the blood sugar curve is so altered as to show that the efficiency of the pancreas is impaired.
4. Patients who exhibit toxic symptoms after anaesthesia have a simultaneous secondary rise in blood sugar.
5. Following the administration of insulin to patients with these toxic symptoms, when the blood sugar is reduced they recover.
6. The administration of insulin may have to be prolonged until the blood sugar is reduced, for it is not until then that improvement takes place.
7. The administration of insulin at the end of ether anaesthesia can mitigate the toxic symptoms or prevent them before they arise.

[Two graphic records of the slides shown are reproduced; one illustrates the results of the sugar tolerance test, and

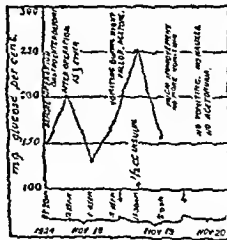


FIG. 1.—Post-anaesthetic hyperglycaemia and toxic symptoms reduced by insulin.

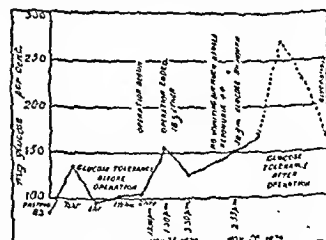


FIG. 2.—Glucose tolerance before and after operation for double hernia.

the other indicates the secondary rise in blood sugar after an anaesthetic, and the subsequent fall, with amelioration of symptoms, when insulin is administered. This research

<sup>1</sup> Proc. Roy. Soc. Med., November 12th to 14th, 1923.

work is being continued and will be published fully at a later date.]

Dr. H. S. PEMBERTON discussed the action of ether in producing hyperglycaemia of a maintained type. As Dr. Minnitt had shown, the carbohydrate tolerance was considerably diminished, so that the action of ether was probably not only glycogenolytic but was also directed against the islet tissue of the pancreas.

Mr. R. E. KELLY and Dr. J. C. MATTHEWS read a short note on the beneficial effects of insulin in diabetics requiring operations. Details of eight cases were given in which, before and after operation, the carbohydrate metabolism had been rendered more or less normal by the use of insulin. Of six patients with diabetic gangrene, four required amputation through the thigh, one patient with carcinoma of the breast, and there was one case of plastic operation on the face. No deaths occurred in the series. They considered that insulin made the operations safer, and that it certainly caused relief in the pain due to gangrene. They were also of opinion that under insulin treatment gangrene progressed much more slowly, and was consequently of a much drier type. The dosage of insulin must vary with the type of case; the difficulty of determining the dose of insulin immediately after the operation could be overcome by the examination of frequent catheter specimens or urine for sugar.

#### Radiology of the Stomach and Duodenum.

Dr. R. E. ROBERTS read a paper on the diagnostic value of x-rays in the examination of the stomach and duodenum. This was based on a survey of 319 consecutive cases in which the stomach and duodenum had been subsequently examined by the surgeon on the operating table. The direct and indirect evidence on which the radiological diagnoses were made was briefly indicated, the various points being illustrated by lantern slides. Of 47 cases giving radiologically normal findings only 2 showed any lesion at operation: in both cases the lesion was situated at the cardiac end of the stomach. In 54 cases where the surgeon found no lesion at operation, 9 had shown abnormal x-ray findings. Suggestions as to the possible explanation of these discrepancies were put forward. In 250 cases where a gastric or duodenal lesion was found at operation the pre-operative radiological findings could be arranged in tabular form as follows:

Gastric or Duodenal Lesions.

Operative Findings.	Number of Cases.	Pre-operative X-Ray Evidence.			
		Direct evidence.		Indirect evidence.	
		Site of lesion indicated precisely.	Site of lesion indicated within 2 inches only approx. indicated.	Evidence of abnormality present but not indicated.	No evidence of lesion.
Ulcer on lesser curvature of stomach, or on anterior or posterior wall	31	19	—	9	3
Organic hour-glass contraction of stomach	23	28	—	—	—
(a) Ulcer at or near pylorus with or without stenosis. (b) Simple pyloric stenosis	97	5	85	—	—
Malignant disease of body of stomach	11	10	—	—	4
Malignant disease of pyloric end of stomach	38	23	15	—	1
Syphilis of pyloric end of stomach	2	1	—	—	—
Duodenal ulcer or abnormality	43	28	7	—	6
Total	250	114	109	9	14
Percentage		45.6	43.6	3.6	5.6
					1.6

Diagnostic x-ray evidence of the lesions found at operation had thus been obtained in 232 (92.8 per cent.) of the 250 cases; 14 (5.6 per cent.) showed evidence which was not

diagnostic; whilst only 4 (1.6 per cent.) showed no x-ray evidence at all of abnormality of appearance or function of stomach or duodenum.

Mr. FRANK JEANS condemned opening the stomach, a procedure which might produce an ulcer not present before. He laid stress on a method of handling a doubtful portion of stomach or duodenum between the finger and thumb; this did no harm to the normal stomach, but produced minute ecchymosis on the peritoneum overlying an ulcer which could not be felt. The appearance was "Cayenne pepper on an oyster base"; it was a characteristic and a very helpful sign.

Dr. E. J. SERRIES had published a series some years ago in which the clinical diagnosis was compared, first, with the diagnosis made after scientific examination—chemical, bacteriological, and radiological; and secondly, with the ultimate diagnosis arrived at by operation or the subsequent development of the case. The scientific examination altered, added to, or modified the clinical diagnosis in more than half the cases. There were eight cases, just over 1 per cent., in which the diagnosis after scientific examination, including the use of x-rays, proved to be in error, but in all of these the advice given—namely, an exploratory operation—had proved to be wise. He and Mr. Maxey agreed that irregularities on the greater border, particularly near the cardiac end, sometimes gave rise to difficulty, which, however, generally disappeared on re-examination. The alteration of function was especially noticeable near the pylorus if carefully observed, particularly as Dr. Roberts had mentioned, an arrest of the peristaltic wave. He thought that direct evidence of lesion in the pyloric and duodenal regions would be obtained in a larger proportion of cases if patients were repeatedly examined in the prone position at different angles of rotation.

#### SCOPOLAMINE-MORPHINE NARCOSIS.

A clinical meeting of the Newport Medical Society was held at the Royal Gwent Hospital on December 17th, 1924, with the President, Mr. R. J. COULTER, in the chair.

Dr. REFUS C. THOMAS read a paper on scopolamine-morphine narcosis, popularly known as "twilight sleep." After giving a short history of the earlier work done, the technique recommended by Gauss was outlined, together with his own method of applying the memory test, which was characterized by him as being the essential feature in the success of the method. The effects of scopolamine-morphine on uterine contractions and the question of oligopnoea were dealt with, and the advantages of scopolamine-morphine narcosis over chloroform as an anaesthetic in labour pointed out. Dr. Thomas said that oligopnoea and post-partum haemorrhage were not encountered in any of his cases, and should not be feared provided that morphine was given only in the first dose and that the memory test was rigidly applied all through the labour, thus avoiding overdosage. The absence of shock to the mother during a prolonged labour was remarkable, and he put forward the suggestion that as the scopolamine circulated in the foetal blood also, the same anti-shock effect must also be credited in favour of the child, thus minimizing the danger to the child of shock during a prolonged labour, which he thought was undoubtedly a cause of death, either during or soon after labour, in many instances. In conclusion, he maintained that scopolamine-morphine narcosis was still not given its proper recognition. He attributed this to the many failures recorded, which he thought were due to Gauss's technique not being rigidly followed. By using the technique as outlined the mother had no idea that labour had been completed, and no harm was done to mother or child.

During the discussion which followed questions were raised as to the use of chloroform during scopolamine-morphine narcosis, the use of forceps, the question of dosage, and the indications of danger to the mother from overdosage, and the occurrence of oligopnoea. To these Dr. Thomas replied that chloroform was not needed in ordinary cases, but might be required in cases of internal version or high forceps extraction, but then only in very small amount; that forceps could be applied without chloroform

in most instances; and that the danger of oligæmæa and post-partum hæmorrhage were securely guarded against by the rigid use of the memory test, which also avoided overdose. At the same time he urged the great advantage of the method in cases of contracted pelvis, where a much longer time was required for the moulding of the head. In the ordinary way a labour such as this would be punctuated by continual requests on the part of both patient and friends to terminate the labour owing to their alarm at its long duration. Under scopolamine-morphine narcosis the patient did not suffer, and the labour could pursue a natural course without interference until the child was born.

Drs. BORD and CANDY showed a case of spleno-medullary leukaemia in a girl of 20 years. There was a history of five years' duration; anaemia was marked, and the spleen was enlarged to below the umbilicus. The case was making excellent progress under x-ray applications to the spleen and to the long bones. The red cells had shown an increase from two million to four and a half million, the leucocytes were showing a hopeful reduction, and the spleen was reduced in size. They hoped to report further progress to the society. They also showed a case of eventration of the diaphragm on the left side in a man of 45 years. X-ray examination had revealed that the stomach was displaced upwards with the lesser curvature alongside the border of the left ventricle of the heart. There were no gastric symptoms, and the condition was discovered accidentally during x-ray examination of the lungs for pulmonary symptoms.

Dr. T. MORRELL THOMAS showed a specimen of the lower end of ileum, caecum, ascending colon, and a few inches of the transverse colon, with a stricture at the hepatic flexure, which he had removed from a patient with chronic intestinal obstruction. The condition seemed malignant, but pathological examination by Dr. CATTO showed it to be tuberculous. Dr. Thomas laid stress upon the good results he had obtained in these cases by the double operation—the first to short-circuit the portion of bowel affected, and the second, about fourteen days afterwards, to remove the affected portion.

Dr. P. C. P. INGRAM showed a case of a very rare skin condition, which he described as epidermolysis bullosa.

### STREPTOTRICHOSIS OF SMALL INTESTINE.

At a meeting of the Section of Pathology of the Royal Academy of Medicine in Ireland held on December 5th, 1924, with the President, Dr. J. T. WIGHAM, in the chair, Sir WILLIAM WHEELER described a case of streptotrichosis of the duodenum and jejunum, and Dr. T. T. O'FARRELL demonstrated the specimens. The patient was a painter, aged 40; he had been ill for about four months, with vague abdominal pains, a temperature ranging from 99° to 101° F., loss of weight, loss of appetite, and gastric stasis. No hydrochloric acid was present in the gastric juice. There was tenderness and some rigidity over a wide area above the umbilicus. At one time during the four months his medical attendant noticed jaundice and found bile in the urine, but this symptom was very transitory. Shortly after admission to hospital the patient had a severe hæmatemesis.

The PRESIDENT thought the green colouring on the specimen must be due to bile, but in any case necrotic tissue in the lower part of the jejunum would show green colouring. The sharp line of division between the healthy and the affected parts showed that, though very serious injury had been done, the influence of the infection was strictly limited. An interesting feature of the case was the absence of any pus production.

Dr. J. W. BIGGER drew attention to the rarity of cases of streptothrix infection in Ireland; he had never seen a case like the one described. He thought that the streptothrix was usually a more spreading type of organism, which did not localize itself in granular form. He would not classify all such organisms as actinomyces, preferring to confine this term to organisms which grew in granular formation and produced clubs. It was interesting to note that this condition was not peculiar to people working with grain—a view which had been held for some time.

### Cryptogenetic Cerebral Haemorrhage.

Dr. V. M. SYKES showed specimens from a case of cryptogenetic hæmorrhage into the brain occurring in a boy aged 17.

Seven weeks before his death the patient had received a blow from a cabbage stalk on the right temple. Three days later he complained of frontal headache and vomited; after being in hospital for two weeks he went back to work, apparently well. A week later the headache and vomiting recurred, and he became stupid and drowsy. The day before his death he had several fits and very severe headache, the right arm and leg became spastic, a semi-comatose condition developed, and the temperature rose to 101°. In the evening the left arm was completely paralysed, the right arm partly paralysed, and both legs spastic, especially the right. No injury to the skin or subcutaneous tissues of the scalp was found; there was no fracture of the skull, the dura was normal, and there was no laceration of the surface of the brain. A large hæmorrhage external to the right internal capsule in the substance of the brain was accompanied by a large area of softening. This area of softening had opened into the anterior horn of the lateral ventricle, and both lateral ventricles contained recent blood. A recent hæmorrhage also extended outwards from the area of softening to the Sylvian fissure, and there was recent hæmorrhage on the under surface of the frontal lobes and base of the brain. The heart, blood vessels, spleen, and lungs appeared healthy; there was no sign of syphilis, and no hæmorrhages elsewhere in the body. Sections of the brain showed oedema of the brain substance and hæmorrhages round the small vessels. There was no sign of vascular disease or of tumour. The heart muscle showed some granular degeneration of the fibres, and the liver and kidneys slight parenchymatous changes.

The PRESIDENT suggested that there had been originally a congenital malformation of vessels, which might, with very slightly increased pressure, rupture. The appearance of the sections was striking, as there was blood round all the capillaries—apparently the result of the first hæmorrhage, as the cells were mostly decolorized.

Sir W. WHEELER drew attention to the increasingly large number of hæmorrhages into the brain which occurred in young children, both intradural and extradural. Recently he had seen in hospital a child, aged 9 years, who was stated to have fallen but did not seem to have been hurt, and later, passing into a state apparently due to cerebral compression, became comatose and died. At the necropsy extradural hæmorrhage from a ruptured middle meningeal artery was found.

Dr. O'FAHRELL referred to a case of acute lymphatic leukaemia, in which the cause of death had been cerebral hæmorrhage. The condition in this case, however, was mainly inflammatory. In these cases it was necessary to exclude the possibility of a tumour, leukaemia, or a syphilitic endarteritis.

Dr. SYKES, in reply, said there had been no history of previous brain trouble in his case. He thought it would be impossible to exclude definitely a brain tumour, but in the majority of these cases no trace of tumour was found. He had only seen the patient the night before death and so had no opportunity to get the blood examined, but the spleen was perfectly normal and there was no glandular enlargement. There was some granular degeneration in the heart muscle.

### Double Congenital Cystic Kidney.

Dr. D. DOUGLAS showed a specimen of double congenital cystic kidney in a stillborn child. The mother stated that this was her second child, and that the first had been similar. In this case the thymus was larger, the heart normal, and the lungs small and contracted; there was a certain amount of hydrocephalus, and the kidneys were enormous.

Dr. SYKES thought that in the majority of cases of cystic kidney cysts were found in the liver also; this would dispose of any embryological explanation of the condition.

Dr. C. M. WEST had had a somewhat similar case sent to him from the Rotunda Hospital which he was now investigating. In his case, however, only one kidney—the right—was cystic, and the ureter was as large as the aorta. The bladder extended up to the umbilicus, to which its apex was adherent. It seemed to him to be a case of cystic kidney combined with hydronephrosis, and he thought the condition was due to obstruction of the urethra.

Dr. O'FARRELL referred to a case in which both kidneys were found to be large and almost completely cystic throughout, yet the patient, a man, had lived to adult life: in this case there was also a cystic condition of the liver. He thought Dr. West's case was probably one of obstruction in the urethra. He referred to the difficulty of diagnosis in these cases; uraemia was usually the first symptom discovered.

Sir W. WHEELER said that patients suffering from congenital cystic kidneys often lived to adult life. He referred to the want of fusion between the mesothelium and Wolfian duct portions of the kidney, and the classification of tumours adopted in the Mayo clinic.

*Cylindroma of the Cheek.*  
Dr. O'FARRELL showed a specimen of cylindroma of the cheek.

The patient, aged 58, was admitted to St. Vincent's Hospital with "a lump on the jaw" which he had first noticed when it was the size of a small pea, about ten years ago; it had been growing slowly since, and on one occasion had been lanced. On admission a hard nodular mass, about the size of a hen's egg, was found on the right side of the face. The tumour involved a triangular area extending from the angle of the mouth to the root of the right ala nasi, and extended outwards and backwards to within 2.5 cm. of the lobe of the right ear. The new growth appeared to be divided into three lobules, of which the middle was the largest: it was not fixed to the bone or skin but extended to the mucous membrane of the mouth, which at this point was red and swollen but not tender. Many of the teeth were carious, particularly upon the same side as the tumour. The growth was removed by operation and the patient made an uninterupted recovery. To the naked eye the specimen was an encapsulated tumour, measuring  $5 \times 3 \times 4$  cm., it was more or less nodular on the surface, and at one point a cyst, about the size of a hazel-nut, was found. On section the tumour was irregularly lobulated, but for the most part the cells were arranged in columns, the centre of each column being in a condition of hyaline degeneration. Many small cysts, formed by dilated lymphatics, were found throughout the section. The specimen could be described as a cylindroma or a lymphoangio-endothelioma with hyaline degeneration.

The PRESIDENT thought these tumours were usually connected in some way with the parotid gland, and that they were really locally malignant, and likely to recur. Dr. SYKES asked if Dr. O'Farrell regarded this tumour as simple or malignant; under the microscope it seemed to be cellular in structure. Sir W. WHEELER said that if this tumour was malignant the prognosis was bad: he regarded any form of cancer of the cheek as extremely fatal. Dr. O'FARRELL said that the tumour had no connexion with the parotid; he did not regard ordinary mixed tumours of the parotid as malignant.

### PELVIC ADENOMYOMA.

A MEETING of the North of England Obstetrical and Gynaecological Society was held at Manchester on December 19th, 1924, Professor A. DONALD, the President, occupying the chair. Specimens and cases were shown by the PRESIDENT and by Drs. BLAIR BELL, FOTHERGILL, IVES, FLETCHER SLAW, and DOUGAL; and Dr. KENNETH BAILEY read a paper on the pathology of ectopic müllerianoma, more commonly known as pelvic adenomyoma or chronic adenomyositis.

Dr. Bailey said that there could be no doubt that the pelvic tumours met with in this disease were produced by the invasion of the various pelvic organs and peritoneal surface by endometrial tissue or Fallopian epithelium; and since there was a marked difference in the lesions resulting from the invasion of these two tissues, he proposed to classify the tumours under the headings of endometrial and Fallopian. It was noticeable that the effect of the invasion varied considerably with the organ affected—the uterus showed great activity and exhibited the characteristic stages of the lesion in their entirety. The course of the endometrial type of lesion could be divided into six stages. In the first stage a small deposit of endo-

metrial tissue, consisting of uterine epithelium and stroma, adhered to the surface of the ovary. In stage two the endometrium commenced to invade the ovarian tissue, producing a small haemorrhagic excavation or bleb, and, immediately beneath the surface, a pseudo-cyst containing active endometrium and extravasated blood. In the third stage a downgrowth into the ovarian stroma occurred, either in the form of a linear track containing a clump of active endometrium at its termination, or, when the invasion extended laterally as well, in the form of a wedge. In the process of invasion the glandular elements were preceded by masses of stroma. In the fourth stage degeneration commenced in the invading elements. The change was visible to the naked eye as a seam of chocolate-coloured fluid blood stretching into the ovarian tissue, and containing degenerated epithelial cells, phagocytes, and cellular debris. The fluid seemed to represent the retained product of the menstrual activity of the endometrium. Stage five was marked by the commencement of cavity formation in the ovarian tissue; and in stage six the ovary was transformed into a distended sac of the size of a Tangerine orange, containing chocolate-coloured fluid blood. In this stage the ovary was always found to be densely adherent to surrounding structures, the adhesions probably commencing around the orifice formed by the initial deposit. The tissue found in these blood cavities was considered to be endometrial because it was morphologically identical, concurrently with menstruation—occurring in the uterine cavity, and it could be shown on fairly strong evidence to be derived from the uterine cavity. Endometrial invasion of the uterine body from without exhibited essentially similar changes, limited, however, to the first three stages, the last stage being characterized by regressive changes in the misplaced endometrium. The glands became widely dilated and lined with cubical epithelium, were either empty or contained altered blood, and were surrounded with a thin zone of stroma exhibiting no invasive activity. The course of the Fallopian type of lesion was divisible into four stages, the first consisting in the deposition of a small mass of Fallopian epithelium on the surface of the ovary, the cells being columnar in form and ciliated. In the next stage invasion of the ovarian stroma commenced, a minute indentation lined with the invading cells being produced. No stromal bed was present such as occurred in the endometrial type. In stage three penetration of the ovarian stroma continued until one or more gland-like spaces were formed at short distances below the ovarian surface, lined with columnar epithelium and resting directly on the ovarian stroma. Rarefaction of the surrounding stroma was slight and resulted from extravasation of blood. In the fourth stage degeneration of the misplaced Fallopian elements commenced. Very little further penetration took place; the ovary was never deeply invaded and there was no excavation. Apparently the Fallopian epithelium was unable to invade the musculature of the uterine body, but evidences of such invasion were found beneath deposits on the ovarian ligament and wall of the Fallopian tube. In order to obtain evidence that the deposits were derived from the uterine and Fallopian mucous membranes Dr. Bailey examined the pelvic organs affected by the tumour and removed during menstruation. Free epithelial elements were found to be present in the uterine cavity and the lumen of the interstitial, isthmic, ampullary, and fimbrial portions of the Fallopian tube. Dr. Bailey suggested the name "müllerianoma" as being suitable for the disease.

In connexion with the sixth congress of the Far Eastern Association of Tropical Medicine, to be held at Tokyo from October 18th to November 7th, special reports on the prevention of beri-beri will be contributed by delegates from various governments. During the first week of September the general session of the International Conference of the fourth will also be held at Tokyo.

The twentieth Dutch Congress of National Science and Medicine will be held at Groningen from April 14th to 16th. The medical section is under the presidency of Professor C. F. A. Koch.



## Reviews.

### MONRO'S "MEDICINE."

AMONG the standard textbooks of medicine in the English language Professor T. K. Monro's *Manual of Medicine*, now in its fifth edition<sup>1</sup> and in its twenty-second year, has a deservedly established position as a clear and thoroughly sound book for students. It is somewhat on the lines of the late Dr. J. S. Bristowe's once well known treatise, and differs from the textbooks of Hilton Faggo and Osler in showing rather less of the personal touch so characteristic of these works, though there are footnotes to some of the eponymous diseases, such as Huntington's chorea, Parkinson's disease, and Graves's disease, giving dates or other brief information; as might be expected from such a famous bibliophile of Sir Thomas Browne, there is a reference to the Knight of Norwich in a footnote about malaria. Epidemic, or, as it is called, lethargic, encephalitis now appears among the specific infections, and five clinical types, including the myoclonic form and epidemic hiccup, are described; but in the brief notice of electric (Dubini's) chorea later in the volume no hint of its probable identity with the myoclonic form is given. Brief notes on the subjects of tularaemia and seven-day (saku) fever also appear for the first time.

The specific infections, among which rheumatic fever is included, occupy about a fifth of the volume, and are followed by the section on constitutional diseases, such as gout, diabetes, achondroplasia, chronic rheumatism and osteoarthritis, obesity, and deficiency diseases. After this the various systems, beginning with the cardio-vascular, are dealt with; in the discussion of the pathology of angina pectoris, after mentioning the explanations of coronary obstruction, Sir Clifford Allbutt's view of suprasigmoid disease of the aorta, and Professor J. A. MacWilliam's belief in ventricular fibrillation, the author adopts as a working hypothesis the late Sir William Broadbent's conception that angina is a defensive mechanism against excessive strain, or, in Sir James Mackenzie's phrase, "a reflex protective phenomenon." There are a number of polygraph and electrocardiographic illustrations provided by Professor Monro's chief assistant, Dr. George A. Allan.

Hodgkin's disease is placed among the diseases of the blood, whereas it might with perhaps more justification have been associated with the proved infective granulomata; in a footnote it is stated that cases had been described before Hodgkin's paper in 1832, but as in the later account of Thomsen's disease, in which a similar remark is made, the reader is tantalized by the absence of further information. The work of the Glasgow school is rightly mentioned in various places—for example, in the section on the ductless glands, in the references to digestion of the oesophagus during life and when discussing Gairdner's "gastric vescent." Dr. J. W. McNee's recent classification of jaundice is adopted by his former teacher, and reference is made to Hijmans van den Bergh's test for bilirubin in the blood serum as a means of differentiating obstructive hepatic from other forms of jaundice. Infectious jaundice is described among the specific infections, and rightly so as far as spirochaetosis icterohaemorrhagica is concerned, which indeed is the only form mentioned under the heading of infectious jaundice; but it may be suggested that it would be better to remove the heading and let spirochaetosis icterohaemorrhagica take its place, for there are other forms of jaundice due to infection. The new tests for renal efficiency are described and the diseases of the skin are epitomized.

In conclusion, it may without further analysis be confidently said that this is a well written, up-to-date textbook, such as would be expected from an experienced and conscientious teacher who knows what students need and how to supply them with the necessary information.

### ACUTE INFECTIOUS DISEASES.

THE reader will expect a work on *Acute Infectious Diseases*<sup>2</sup> by a skilled observer, based on a quarter of a century's experience in the hospitals of the Metropolitan Asylums Board, to be authoritative; and the reader will not be disappointed. Dr. J. D. Rolleston deals only with those diseases which are mainly or exclusively treated in isolation hospitals, so that what is said as to symptoms, treatment, prognosis, and so forth is the outcome of personal observation and study. Cerebro-spinal fever is the only disease discussed of the group of infections especially associated with the central nervous system; but whooping-cough, Vincent's angina, mumps, rubella, the so-called "fourth disease," and erythema infectiosum are all included. In the typhoid group the three paratyphoid fevers A, B, and C are briefly discussed in relation to their bacteriology, clinical features, and course. In dealing with typhoid fever itself, Dr. Rolleston refers to the experience of Jenner and Murchison, that diarrhoea characterized the great majority of cases, whereas in the present day, though the stools are loose with the pen-soup character, yet constipation is the rule except in severe cases, an enema being required every other day. The author considers that in most cases relapse in typhoid is probably not due to reinfection, but to a mobilization of the typhoid bacilli, which have remained inactive in the gall bladder or elsewhere, but return to the blood stream and then reinvade the intestine. That being so, then on the whole "mild attacks are more likely to be followed by relapses than are severe attacks, which seem to confer a greater degree of immunity upon the patient." Concerning the occurrence of the disease in the inoculated, he has found that the attack is generally much milder, shorter, and uncomplicated. Regarding small-pox, Dr. Rolleston makes one statement on a matter of great practical importance, which he would do well to reconsider. He writes, "The small-pox patient is infectious in all stages of the disease, even in the incubation period, before any symptoms have appeared." But the whole policy of surveillance of contacts is based on the view that in the purely incubation stage, before the primary fever has begun, the case is not infectious, and a man may be allowed to follow his employment until the period of invasion approaches, the date of exposure to infection being known. In reading Dr. Rolleston's excellent handbook this is the only point where we have found occasion for criticism, and even here the question arises whether the author has made his meaning clear, and, if so, on what experience his opinion rests. The work is thoroughly practical and up to date, and will be of the greatest use to practitioners and students.

### A TEXTBOOK OF PHYSIOLOGY.

THE reviewer's first thought on handling Professor Roaf's *Textbook of Physiology*<sup>3</sup> is, Can there really be a call for another textbook on this subject? The medical student, that object of the earnest solicitude of so many writers on biological subjects, seems so well provided already with guides to the intricacies of the science of life that one more book, we should imagine, would go unread. But Professor Roaf has dealt with his subject in a rather original manner. He views the living body under four aspects—the mechanical, chemical, regulative, and reproductive. From the point of view of the beginner this is a welcome departure from methods which have become stereotyped. It leads here and there to some curious results, as, for instance, when we find in the middle of the chapter on foods a description of Nicol's prism.

We heartily agree that it is wise to deal as early as possible with the mechanics of the body—the maintenance of the erect posture, the place of the centre of gravity, and the dynamics of walking and of equilibration generally. It is annoying to fail to find anything in a textbook of physiology that would throw light on the many problems that have to be solved by the student of orthopaedics. Hageraft's

<sup>1</sup> *Manual of Medicine*. By Thomas Kirkpatrick Monro, M.A., M.D. Fifth edition. University Series. London: Baillière, Tindall and Cox. 1925. (Demy 8vo, pp. xviii + 1033; 55 figures. 25s. net.)

<sup>2</sup> *Acute Infectious Diseases: A Handbook*. By J. D. Rolleston, M.A., M.D. Oxon. (Medical Books), Ltd. 1925. (Demy 8vo.

<sup>3</sup> *A Textbook of Physiology*. By H. E. J. M.R.C.S., L.R.C.P. London: Edward Arnold. 1925. (Demy 8vo, pp. viii + 605; 325 figures. 25s. net.)

excellent article in Schafer's large work is freely drawn upon, with all acknowledgements. Since Part I deals with bio-mechanics, we find included here the haemodynamics of the circulation and the muscular mechanism of breathing. This is a new plan, but it is perfectly logical and has much in its favour. Here too we find, justified by the same principle, a discussion of the heat and electrical phenomena of muscle. It is clear that these things can be studied without any reference to their underlying chemical bases, and this is an example of how to do it.

The excellence of the illustrations must be remarked on before any other feature of the book is noticed. There are 325 figures, the great majority of which cannot be praised too highly; only one of them—the photomicrograph of a section of the uterus—is indistinct. Professor Roaf never commits the mistake of describing a piece of apparatus which is not figured; but we fail to see the object of representing in the appendix just seven pieces of apparatus for use in the students' laboratory. The diagram of the events of the cardiac cycle on page 68 would, to some students, be worth the price of the book; it is certainly an instructional *multum in parvo*.

Professor Roaf has evidently experienced the difficulty common to all writers on physiology of deciding how much histology to include. While sympathizing with the trouble this subject always involves, we are puzzled to understand why the list of methods of staining tissues should be inserted just where it is—towards the end rather than at the beginning of this part. We are disposed to think also that the consideration of the lymph has been postponed too late a place in the book; the student cannot too early have a very concrete idea of the place and functions of the lymph in metabolism. We do not find a sufficiently full account of the functions of the cranial nerves. The physiology of these nerves is of the highest consequence to the student, far higher than the illusion of Zöllner's lines or of haploscopic vision. The subject of voice and speech is treated very briefly, and the vexed question of a speech centre is not wrestled with; and we have sought in vain for any reference to aphasia, anarthria, agraphia, and alexia. The omission of any reference to the muscular sense (kinaesthesia) is also unfortunate, and we would have welcomed much more on sleep and its relations to types of insomnia.

### THE LITERATURE OF PHARMACOLOGY.

The second half of the second volume of HEFFTER's handbook of experimental pharmacology<sup>4</sup> contains 1,400 pages; the first half of the second volume contained 600 pages and the first volume 1,300 pages, and the work is to be completed in three volumes. These figures give an idea of the scale of this work, which aims at being an encyclopaedia of pharmacology, and seeks to give an account of practically all the work that has been done in this subject. The book is international in character, for it was planned before the war, and scientists from most European countries have contributed. The following are the most important articles in the second half of the second volume, which is the portion under review.

Professor Cushny of Edinburgh contributes articles on atropine and ergot. Professors Dixon and Ransom have written five sections dealing with a large number of drugs, the most important of which are nicotine, pilocarpine, and physostigmine. Professor Starkenstein of Prague has written a monograph of 300 pages on the opium alkaloids, and gives a very full account of their chemistry and pharmacology.

The article upon adrenaline and allied bases, by Professor Paul Trendelenburg (150 pages), contains a very complete account of all the work that has been done upon the pharmacological action of these substances. Very little is said about the endocrine action of the suprarenal bodies, which alone is an enormous subject; but, even with this side of the problem in large measure omitted, the papers to which references are given number nearly 2,000.

Professor W. Straub of Munich has written 100 pages on the pharmacological action of the digitalis glucosides and

their allies. He has paid special attention to the action of these substances on the heart of the frog, and his analysis of the subject is illustrated chiefly from experiments of his own. The subject is treated strictly from the pharmacological standpoint, and consequently little is said about the action of digitalis on diseased tissues.

Other noteworthy articles are two by Professor R. Magnus of Utrecht upon purgatives and one by Professor E. S. Faust upon animal poisons. The volume contains also shorter articles dealing with cannabis indica, hydrastis, phlorhizin, saponins, bitters, tannins, and flix mas.

This summary shows that many of the most important drugs used in therapeutics are here dealt with. A general survey of the book creates chiefly a feeling of surprise at the enormous amount of pharmacological work that has been done during the last fifty years. The total number of references given must number nearly 15,000, and this in spite of the fact that most of the writers have confined themselves to the chemical and pharmacological aspect of the problems dealt with, and have said little about the therapeutic uses of the drugs described.

We cannot help feeling, however, that there is an awkward gap between the results of the colossal amount of work summarized in this volume and clinical medicine, for it is a long step from the action of a drug upon a healthy animal to its action upon the diseased human being. Unfortunately the reliable work that has been done to bridge this gap is scanty compared to the vast bulk of purely pharmacological research. The value of the work under review would have been greatly increased if more space had been devoted to showing the relation between the ascertained pharmacological actions of the drugs and their clinical uses. An accurate knowledge of the elementary pharmacological actions of drugs is, of course, an essential foundation for the understanding of the more complex problems of therapeutics; but still there seems a lack of proportion between the large amount of research in pure pharmacology and the scanty evidence available concerning the exact mode of action of drugs in disease. Controlled observations are, of course, extremely difficult to make in clinical practice, but remarkably few observations seem to have been made to determine the differences in the reaction to drugs of healthy and diseased animals.

The limitations of the book under review are perhaps unavoidable, and within its limits it will be found extremely useful by those who wish to obtain a full summary of the evidence concerning the purely pharmacological action of any particular drug.

### DISEASES OF CHILDREN.

The volume by Professor Nobécourt of Paris, on affections of the respiratory apparatus,<sup>5</sup> is described as the first instalment of a series of clinical studies, intended to be complementary to his *Précis de Médecine des Enfants*, which follows the usual lines of a systematic treatise of medicine. But in the present volume he does not describe types, but the individual sick children, relating the history and detailing the symptoms and signs of disease observed, the diagnosis reached, the treatment applied, and the progress and result of the disease; finally, the case is discussed in relation to the type of disease and to certain general principles of pathology and treatment that are illustrated by this individual and perhaps atypical example. Laryngitis in mesles; subacute and chronic bronchopneumonia and bronchiectasis in children; parapneumonia and metapneumonia pleuritis; the encephalo-meningeal reaction in pneumonia; the evolution of pulmonary phthisis in later childhood; whooping-cough and tuberculosis—these are some of the twenty chapters headings. This is a difficult kind of medical writing, in which success is achieved only by an experienced physician and teacher. But Professor Nobécourt has both these qualifications; and in this first volume he has done his work well, and will certainly make us look forward to a continuation of these clinical studies. They are the ripe fruit of long experience. *Ars longa*; or, in his own wise and

<sup>4</sup> *Handbuch der experimentellen Pharmakologie*. Edited by Professor A. Heffter. Second volume, second half. Berlin: Julius Springer. 1924. (Sup. roy. 8vo, pp. 599–1974; 184 figures. Dollars 20.75.)

<sup>5</sup> *Clinique Médicale des Enfants: Affections de l'Appareil Respiratoire*. Par P. Nobécourt, Professeur de Clinique Médicale des Enfants à la Faculté de Médecine de Paris. Paris: Masson et Cie. 1924. (Cled 8vo, pp. xi + 348; 54 figures. Fr. 22 net.)

modest words, "Ces études, il ne les achèvera jamais; il devra les poursuivre aussi longtemps qu'il pratiquera la médecine."

A short and clear monograph on bronchopneumonia in the infant<sup>6</sup> has been published by Dr. JUAN MEYER of Paris, based on personal investigations, both clinical and scientific. While the whole scope of the subject is reviewed, special attention has been devoted to certain aspects, especially to the factors of anoxaemia and dehydration. The dehydration indicates the varying degree of poisoning of the tissues, and in certain cases is the predominant factor. The author describes his method of measuring the daily loss of water: this is done by two weighings of the infant at the interval of one hour, and from this is derived by calculation the amount of water lost in twenty-four hours from the skin and in the expired air. Two severe types of bronchopneumonia are thus differentiated—a diminished loss of water, leading to a grave condition of anoxaemia; and an excessive dehydration with rapid loss of weight and a grave toxic condition. In a careful though brief review of methods of treatment, both old and new, the capital importance of daily warm baths and of abundant pure air is insisted on. Among more modern methods the value of serum therapy and of oxygen administration is discussed. Large doses of antipneumococcal serum are advised, and the author's own method of administering oxygen is described. While no very definite results are claimed, Dr. Meyer believes that some desperate cases can be saved by these means. He is to be congratulated on the clear account of his investigation, on his scientific methods, and on the cautious reserve of his conclusions.

Professor E. SUÑER of Madrid has secured the translation into French by Dr. MATHÉ of some lectures on digestion and nutrition in infancy. They profess to deal with the physio-pathology of the digestive apparatus in infancy,<sup>7</sup> but are more concerned with physiology than with pathology, and the slender volume gives only an incomplete and general sketch of a large and complicated subject. The author, however, is acquainted with his subject, and also with the oceanic literature which has been poured out over it; and in his seven chapters he succeeds in giving a clear and reliable account of some aspects of digestion and nutrition in infants without encumbering his pages with many facts, theories, or names of individuals. To change the metaphor, it may be said that in this bareness and generality of statement he relieves the subjects of the mountainous accretions that have been piled on it by the patient labours of the chemists and medical theorists. A brief account of the digestive ferments of the alimentary tract, the bacterial flora in both normal and abnormal conditions, the constitution of the albuminoid molecule, the significance of basal metabolism and of calorimetric methods, some points about mammary secretion and the management of breast-feeding, and a short sketch of the various theories of the dyspepsias of infancy, are the chief contents of the book. It is a casual but thoughtful commentary upon some aspects of that formidable subject known as "infant feeding."

The book on infant therapeutics in daily practice,<sup>8</sup> by Dr. K. BLÜHORN of Göttingen, deals in less than two hundred pages with the commoner diseases of infancy, and with the dieting of healthy infants. Indeed, the latter subject and the disorders of digestion occupy about one hundred pages, so that the space left for other diseases is very limited. Condensation is, in fact, carried to a dangerous degree; the book is neither a sufficient introduction to nor a safe and adequate presentation of the important subject with which it deals.

<sup>6</sup> *La Broncho-Pneumonie du Nourrisson*. Par le Docteur Jean Meyer. Interne des Hôpitaux. Paris: Amédée Legrand. (Roy. 8vo, pp. 183; 2 plates.)

<sup>7</sup> *Physiopathologie de l'Appareil Digestif du Nourrisson*. Par Enrique Suñer, Professeur de Clinique Infantile à la Faculté de Madrid. Traduction du Dr. Mathé. Paris: Masson et Cie. 1924. (Med. 8vo, pp. iv + 92. Fr. 10 net.)

<sup>8</sup> *Sauglingsheilkunde der täglichen Praxis*. Von Professor Dr. K. Blühorn, Göttingen. Berlin and Vienna: Urban und Schwarzenberg. 1921. (Cr. 8vo, pp. viii + 180. 3.75 Swiss francs.)

## MAGIC AND MEDICINE.

THE first two volumes of Canon JOHN ROSCOE's report of the Mackie Ethnological Expedition to Central Africa were reviewed by Sir Arthur Keith in our issue of August 18th, 1923. The third and last volume has now been published.<sup>9</sup> It deals with the Bagesu and other tribes living on the slopes of Mount Elgon, a hilly country to the north-east of Lake Victoria, and also with sundry peoples near the Ruwenzori range and Lake Edward. All these tribes live within the area of the Uganda Protectorate; and as the country is brought into a more settled state by the British Government, the former mode of life of the natives ceases and many of their customs disappear. The origin of these pastoral people of the lake region is still a mystery, though there can be little doubt that they were immigrants from the north-east, and were associated in the remote past with the dwellers in Egypt. A record of their habits of life while still unaltered by the advance of civilization is important for the solution of the mystery, and Canon Roscoe's notes will be of value to future workers. A general description is given of the various tribes, with an account of their religion, their occupations, the customs connected with birth, initiation, and marriage, the procedures in sickness, death, and inheritance, and their language. The Bagesu tribe on Mount Elgon is one of the most primitive of the negro tribes of Africa; it consists of numerous small clans, all at enmity with one another. As, however, they enforce clan exogamy, an armistice takes place once a year after the harvest; all weapons are stowed away, and the people wander from village to village singing, dancing, and drinking beer, while the young men and women who are ready for marriage choose their mates. The religious beliefs of most of the tribes described are vague; but many believe in a creator, though they do not often trouble him with requests. The belief in spirits is widespread, and some races have gods of plague or small-pox. Magic is largely practised, and ghosts are propitiated. Sickness is often attributed to the action of ghosts, and the medicine man is called in to find out whether the illness is due to malevolent or to dissatisfied friendly ghosts. The decision is arrived at by inspecting the organs or entrails of birds and animals which have been sacrificed to the ghost. At the same time more rational treatment is often carried out, as amongst the Busoga; by them a patient with small-pox is isolated and nursed by someone who has had the disease. The nurse pricks the pustules and sponges away the pus. Bleeding and treatment by herbs are used in many forms of illness; in abdominal troubles an enema of hot water may be given and the patient carried outside the hut to defaecate. In some tribes very little attention is given to the sick person; if he cannot eat his food he goes without, his wife going out to work in the field as usual. The ceremony of initiation seems to involve in some tribes very extensive circumcision, both in the male and female. Some of the tribes practise cannibalism; and the Bagesu appear to eat their dead in order that the ghost may not be detained in the vicinity of the place of death and cause illness to the children of the family.

Canon Roscoe's work is a valuable contribution to the ethnology of Central African people; he is to be thanked especially for having observed and placed on record manners and customs which are fast disappearing.

## NOTES ON BOOKS.

THE *University of Pennsylvania Bulletin*<sup>10</sup> has reprinted *Contributions from the William Pepper Laboratory of Clinical Medicine*. They are records of fine and painstaking work in the clinical laboratory, and include a notable paper in which the functional and anatomical findings in a series of cases of renal disease are compared by Dr. Alfred Stengel and others. The conclusions briefly are: (1) that cases clinically and histologically renal arterio-sclerosis present to the naked eye considerable variations; (2) that cases with high blood

<sup>9</sup> *The Bagesu and other Tribes of the Uganda Protectorate*. The third part of the report of the Mackie Ethnological Expedition to Central Africa. By John Roscoe, M.A. Cambridge: The University Press. 1924. (Demy 8vo, pp. xiii + 205; 32 plates. 20s. net.)

<sup>10</sup> Philadelphia: Press of the University of Pennsylvania. 1923. (Imp. 8vo; illustrated.)

pressure show some fall in pressure before death and that the diastolic pressure falls proportionally to the systolic pressure; (3) that cases of acute nephritis show rather pronounced impairment of all the renal functional tests. Another clear and valuable contribution is on the laboratory as an aid in the treatment of diabetes. This is from the pen of Dr. Leon Jonas, who deals particularly with tests designed to determine the severity of a case and also to act as guides in treatment. He emphasizes the need of using methods which have passed out of the experimental state, and the great value of laboratory work. In addition to these there are papers dealing with the chemistry of acidosis and the treatment of auricular fibrillation by quinidine sulphate. The publication is well printed, the illustrations are good, and both the medical consultant and the laboratory worker will find it perusal valuable.

The third edition of *Lang's German-English Dictionary of Terms Used in Medicine and the Allied Sciences* has been edited and revised by Dr. M. K. MEYERS. Over 4,000 new terms have been incorporated, and this edition contains approximately 53,000 definitions. The volume is well bound and clearly printed, and will be very useful to those engaged in the task of translating German medical publications.

The second edition of the textbook of infectious diseases,<sup>12</sup> by the late Professor G. JOCHMANN of Berlin, who died of typhus contracted from Russian prisoners of war in January, 1915, has been published on the occasion of the centenary of the foundation of St. George's Hospital, Hamburg. Professor HEGLER of that city, whose knowledge of infectious diseases was gained not only in Germany but also in the Balkans and Mesopotamia during the world war, in addition to studying the work to general revision has added new chapters on epidemic encephalitis, Weil's disease, trench fever, and trichinosis. The chapters on malaria and blackwater fever have been revised by Dr. NOCHT, and those on varicella, variola, and vaccination by Dr. PASCHEN, who has added a new chapter on herpes. The work, of which the first edition was published in 1914 shortly after the outbreak of the war, has one remarkable feature—namely, that it is said to be the first textbook of infectious diseases published in Germany. Professor Jochmann was well qualified for the task as he had had fifteen years' special experience of this—first at Hamburg, then at Breslau, and lastly at the Rudolf Virchow Hospital in Berlin, where he had been director of the infectious diseases department for eight years before his death. The work is divided into four parts. The first deals with those diseases in which infection of the blood is the predominant feature; under this head are included the enteric group, botulism, varieties of septicaemia, including puerperal fever, acute miliary tuberculosis, Malta fever, plague, relapsing fever, malaria, and blackwater fever. The second part is devoted to the discussion of conditions in which the affection of a definite organ or system determines the character of the disease, such as the various forms of sore throat (including diphtheria), mumps, whooping-cough, influenza, tetanus, dysentery, cholera, cerebro-spinal fever, and acute poliomyelitis. In the third part the acute exanthemata are considered, and the fourth part deals with diseases common to man and animals, such as anthrax, glanders, actinomycosis, rabies, foot-and-mouth disease, and trichinosis. An appendix contains a description of methods of disinfection, an enumeration of the infectious diseases notifiable in Prussia, and a short list of the literature (almost exclusively German) on infectious diseases. The work, which is interspersed with numerous excellent illustrations, many of them in colour, will no doubt fill a gap in German literature.

A little book, entitled *Chronicles of an Army Surgeon*,<sup>13</sup> consists of rough diaries in which the author records his experiences of thirty-five years' service in the A.M.D. and R.A.M.C., from 1871 to 1905; of ten years, 1905 to 1915, spent in retirement; and of three years' further home service, 1915 to 1918, during the great war. The diaries seem to have been published as originally jotted down, initials and abbreviations of words being used repeatedly on every page; many of the contractions will probably be unintelligible to a civilian. Had the author, instead of publishing his rough diaries, rewritten the whole in narrative form they might have proved an interesting record of service.

<sup>11</sup> *Lang's German-English Dictionary of Terms Used in Medicine and the Allied Sciences*. Edited and revised by Milton K. Meyers, M.D. Third edition, enlarged. London: J. and A. Churchill. 1924. (Med. 8vo, pp. 615. 28s. net.)

<sup>12</sup> *G. Jochmanns Lehrbuch der Infektionskrankheiten für Ärzte und Studierende*. Zweite Auflage. Unter Mitwirkung von Dr. B. Nocht und Dr. E. Paschen. Neu bearbeitet von Dr. C. Hegler. Berlin: Julius Springer. 1924. (Sup. roy. 8vo, pp. xi + 1077; 464 figures. Paper, 12.90 dollars; bound, 15.60 dollars.)

<sup>13</sup> *Chronicles of an Army Surgeon*. London: John Bale, Sons, and Danielsson, Ltd. 1924. (Cr. 8vo, pp. 72.)

## PREPARATIONS AND APPLIANCES.

### "Soloiz" Urine-Sugar Test Case.

Messrs. BURROUGHS WELLCOME and Co. have put together a very convenient little case of materials for enabling diabetics who are under insulin treatment to keep watch on the sugar reaction of their urine. The reagents used—alkaline citrate and copper sulphate—are in solids. These are dissolved in water which has been heated in a graduated test tube, two of which are supplied in the case. Heat is obtained by burning a solid of hexamethylene-tetramine (hexamine) on a small sheet of asbestos; a solid of this substance will burn for three minutes with a smokeless flame. From a medicine dropper with rubber bulb four drops of urine are added to the solution in the test tube. Gentle boiling for two minutes will reveal the presence of sugar in amounts as low as 0.1 per cent. The case affords a very handy and simple method for testing the presence of sugar in the urine. We are informed that its price to the medical profession is 5s. 5d.

### Cereal Meal.

A cereal food prepared by Messrs. S. Guiterman and Co. (35 and 36, Aldermanbury, London, E.C.2) has been brought to our notice. It contains bran, flax seed, and agar-agar. It is said to act as a corrective of constipation by virtue of the mechanical action of its ingredients, and to be congenial in use because of their demulcent properties. We have examined the product analytically. Its composition agrees with the proprietors' description. Singly, the components have long been known for their specific qualities and have been held in favour in the curative lore of family tradition; being associated together in chosen proportions their beneficial effects may not improbably become enhanced. When cooked according to the directions it yields a porridge which is not unpalatable. A food of this nature deserves to be tried by the public.

## A POSSIBLE METHOD OF INCREASING THE SUPPLY OF BREAD.

BY  
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In the present state of the country, with its widespread unemployment and poverty, with the cost of living again rising, and with the price of bread again going up, it behoves us to consider very carefully any steps which can be taken to enable the poor more easily to procure the necessary nourishment for themselves and their children. The most important food of the poor man is bread. The position of bread in the national dietary cannot be better stated than in the words of the Food (War) Committee of the Royal Society:

Bread is the prime foodstuff of the working classes, and it is by the consumption of bread that the mass of people are enabled to produce their daily output of work. . . . The poorer the individual or family, the greater is the actual consumption of bread, as well as the proportion it bears to the total dietary. While among the middle classes bread supplies less than one-third of the energy of the total food they consume, with the poorer families of the working classes bread alone has to furnish more than half of the energy of their dietary. Practically no other food is as cheap as bread; that is, no other food generally available will enable a man to do as much work for the money he spends on food as bread will. The poor man is unable to replace deficiencies in bread by other foods, because all other foods he is accustomed to use will cost him more. As a matter of experience it is found that as bread and other foods rise in price, the poor man actually buys more bread than before, because it remains still the cheapest food available to him.

In 1916 the Food Committee pointed out that by raising the standard of milling from 70 to 80 per cent.—as was afterwards done—there would be a gain of 597,000 metric tons of home-produced flour, provided that the amount of wheat remained the same.

A few words of explanation may here be given. At present the object of the miller is to produce a fine white flour which will, when baked, yield a white bread. To secure this he has to eliminate from the wheat as much as possible of everything except the starch-rich endosperm containing the gluten required for forming a dough. This means that only about 70 per cent. of the wheat goes into flour and the remaining 30 per cent. of offal is sold as food for pigs. This contains a large proportion of the proteins, fats, and ash of the grain, and is a material of high nutritive value. The difference between a flour made from the entire grain milled to 100 per cent. and one milled to the usual 70 per cent. is shown in a table given by Sherman.

	Protein.	Fat.	Carbo- hydrate.	Calories per lb.	Ca.	P.
Flour entire ... ..	11.8	1.9	71.9	1630	0.031	0.238
High and medium grade flour	11.4	1.6	75.1	1610	0.02	0.072

The amounts of proteins and fats and the amount of calcium and phosphorus are thus decreased in the finer flours, while the proportion of starch is increased. As regards the bread made from these flours, Sherman gives the following figures:

	Protein.	Fat	Carbo- hydrate.	Calories.	Ca.	P.
Whole wheat ... ..	9.7	0.9	49.7	1113	0.05	0.175
Average white flour ...	9.2	1.3	53.1	1182	0.077	0.093

These figures are somewhat higher than those given by Plimmer on account of the smaller proportion of water. His mean is: Protein 7.2, fat 0.2, carbohydrate 48.1, calories 1036.9. The usual analytical methods for the determination of the fat in breads give unreliable results, as has been shown by Cornack working in the laboratory.

In considering the advantages or disadvantages of raising the standard of milling from 70 to 80 per cent., the Committee had to consider whether it would lead to any serious decrease in the digestibility of the bread. The experiments upon the digestibility of bread then available were very inadequate, and in its calculation the Committee adopted figures which a later and much larger series of experiments showed to be too low. In fact, the result of these later experiments was to indicate that the digestibility of the bread from 80 per cent. flour is as good as that from 70 per cent. flour.

The only loss which has to be considered in this higher grade milling is the offal which is usually fed to pigs, to be used in the form of pork or bacon as human food. As the Committee pointed out, this is a most wasteful method of utilizing the energy of wheat, since the pig uses most of the energy and stores only a small proportion in its body, while a man can use about 96 per cent. of the energy in bread. Hence bread is a much more economical source of energy than pork or bacon. An addition of nearly 10 per cent. to the bread supply of the country would undoubtedly reduce the price.

The Food Committee further considered the question of the possibility of a still higher standard of milling—to 90 per cent. It found that the bread prepared from such flour was "light brown in colour and had a slight flavour of bran." It was quite palatable. In order to determine the actual gain or loss which the use of such bread would involve, a series of experiments upon its digestibility were carried out in Cambridge, London, and Glasgow, on twelve subjects, varying in age from 17½ to 46. The diet consisted mainly of the bread to be tested—800 grams being consumed daily. Weighed quantities of cheese, butter, potted meat, fruit jelly, milk, sugar with tea or coffee made up the diet. Throughout the experiment these other foods remained unchanged. During ten days bread from flour milled to 80 per cent. was used; the subjects then returned to an ordinary dietary; then for ten days they ate the bread from flour milled to 90 per cent. No such extensive series of experiments upon the digestibility of bread have so far been carried out. The results made independently at the three centres were extraordinarily consistent and gave confidence in their acceptance.

The following table shows the digestibility of the two breads:

	80 per cent. Bread.	90 per cent. Bread.
Energy ... ..	95.14 per cent.	94.5 per cent.
Proteins ... ..	89.4 per cent.	87.5 per cent.

The digestibility was only about 2 per cent. less in the 90 per cent. flour, so that nearly all the gain of 10 per cent.

is available, except again for the loss of offal. Thus, if necessary, an increase of nearly 20 per cent. in the bread supply might be secured.

There is yet another ray in which the insufficient supply of wheat might be supplemented—namely, by admixture of flours made from other cereals—barley, maize, oats, rye, or from soya bean. The most abundant of these in the world's supply is maize, and at the instigation of the Food Committee experiments were carried out upon bread made of wheat flour milled to 80 per cent. with a 20 per cent. admixture of maize flour. These showed that this bread was quite palatable, and that its digestibility was about the same as that of bread made from 80 per cent. wheat flour.

A series of prolonged observations were also made upon the inmates of various institutions, who voluntarily took the bread in place of the despised "war bread" without knowing its nature, and who were generally loud in its praise, many expressing regret that the supply could not be continued. All sorts of symptoms—of course, ascribed to the "war bread"—disappeared under its use!

Although the adoption of the higher standard of milling with or without an admixture of flour prepared from cereals other than wheat would undoubtedly increase the bread supply of the nation and reduce its cost, the vested interests of millers and bakers and the prejudice of the public in favour of whiteness of their bread are probably too powerful to allow of its adoption. The duty of the scientist has been discharged when he has shown how an economy may be effected. It must rest with the people of the country to decide whether it shall be carried out. The medical profession is in a position to give to the public the assurance that they would suffer in no way from the use of breads made from flours prepared as suggested.

*Note.*—The report by the Food (War) Committee of the Royal Society on the Digestibility of Breads, 1918 (3206), may be consulted. As anticipated, the millers have already shown their hand. The *Miller* of January 5th contains one of the familiar protests against any change in the mode of preparing flour.

## ROYAL COMMISSION ON LUNACY AND MENTAL DISORDER.

### BRITISH MEDICAL ASSOCIATION EVIDENCE.

At the meeting of the Royal Commission on Lunacy and Mental Disorder on January 14th, the Right Hon. H. P. MACMILLAN, K.C., presiding, the Memorandum of Evidence on behalf of the British Medical Association, which was published in the *SUPPLEMENT* of January 17th (pp. 29-36), was presented by Dr. R. Langdon-Down, who was accompanied at the witness table by Dr. J. W. Bone, Dr. F. H. Edwards, Dr. C. O. Hawthorne, Dr. B. W. G. Masterman, Dr. Christine Murrell, and Sir Jenner Verrall, with Dr. C. Comtenay Lord, Assistant Medical Secretary.

The Chairman said that the Commission had received from the British Medical Association a valuable Memorandum, and the Commission proposed that the Memorandum should be incorporated in its proceedings. He and his colleagues recognized that it was the considered representation of the views of the Association, and they thought it should be preserved in the form in which it had been drawn up, obviously with great care. It was recognized that the Association spoke authoritatively for the profession throughout the country. In paragraph 8 the position with regard to mental disorders was stated in a very useful way. Mental ailments differed from physical ailments in the respect that the former might involve a legal aspect consequent upon the restraint imposed on the liberty of the subject, but there were varieties and degrees of mental ailment which did not necessarily involve restraint. He inferred from the Memorandum that it was the view of the profession that the element of compulsion in the treatment of mental disease was really necessary only in cases where the patient was unwilling to be detained and unable to co-operate in his own treatment, and that the extreme measure of the compulsory order should be the last resort rather than the first. From the evidence there had been a progressive development in the conception of mental disease and its proper treatment, but the profession apparently believed that the time was ripe for a further advance.

Dr. Langdon-Down: It must be admitted that medical knowledge in these matters has tended to lag behind medical advances in other fields, not on account of any neglect on the part of the profession, but due to the circumstances which hedge round this question.



The Chairman: In this matter the lawyers and the doctors are not in their usual conflict, as they are over criminal responsibility, for instance. We are both in pursuit of the best way in which cases can be dealt with with the minimum of interference and the maximum of medical benefit.

A discussion took place on the question of terminology, and the Chairman said that he had been much impressed by the phrase "person of unsound mind," which was the phrase selected by the Association as the best description of the persons concerned. Did the Association desire the expression "asylum," which had unfortunate associations, to be abolished? Dr. Langdon-Down said that the views of his colleagues were not very pronounced on this point; whatever term was chosen would attract to itself unhappy ideas.

The Chairman said that he would like some help on the question of mental deficiency, although this was not strictly within the reference of the Commission. He was puzzled when he read the definition in the Mental Deficiency Act of 1913, for it seemed to him to cover a number of things which might well be called mental disorder. Dr. Langdon-Down said that the unfortunate thing about the Mental Deficiency Act was that it endeavoured to set up a medical classification of these patients. The thing to incorporate in an Act of Parliament was not a scientific classification of mental disorder, but a practicable one.

Sir Humphry Rolleston was doubtful of the term "mental abnormality" which the Association had used at the beginning of its scheme of nomenclature. It seemed to him that "mental disability" was preferable, because "abnormality" did not suggest necessarily a pathological condition. Dr. Langdon-Down said that the governing phrase so far as the matter before them was concerned was one of the two derivations from "mental abnormality"—namely, "mental disorder."

Several questions were asked by the Chairman and Earl Russell about the Association's opinion with regard to judicial investigation into the circumstances of a case before certification. Dr. Langdon-Down said that he and his colleagues did not feel that they could usefully advise the Commission on the duties of the justice.

The Chairman: You are quite right in saying that the legal machinery is not your province, but the welfare of the patient is your province. Certain kinds of judicial investigation would undoubtedly be prejudicial to the patient, and I confess that I view with alarm the procedure of cross-examination in the presence of the patient.

Dr. Langdon-Down: I think it all comes back to the discretion of the justice.

The Chairman: But do you think that in the existing code there are sufficient directions to the justice in the exercise of his discretion?

Dr. Langdon-Down: There are other codes besides the law, and I would rather rely on them and on the public attitude towards this matter than on what the law precisely lays down.

The Chairman: One must remember that this jurisdiction is confined to a body who—I say nothing in their disfavour—are certainly very miscellaneous, and whose capacity is very varied, and many of whom must have little ability for discharging judicial functions.

Dr. Langdon-Down: We are anxious to assist, but we feel that these legal difficulties are beyond our ken.

Sir David Drummond: Would not the difficulty be overcome if special justices were appointed?

Dr. Langdon-Down: We considered that, but we felt that anything which added to the difficulty of getting easy access to the justice would be unfortunate. I would suggest that there should be some method of training justices. This is already done to some extent by the Central Association for Mental Welfare.

The view of the Association that there should be two medical certificates in every case was discussed. The Chairman pointed out that it would involve considerable additional expense.

Dr. Langdon-Down: There might be 15,000 such certificates a year. Does that represent an impossible expenditure? In some cases it is very necessary that there should be two medical certificates, and how are you to make exceptions? I think it is an unreasonable responsibility to put upon the doctor that one certificate should suffice in a given case.

The Chairman: I cannot see why two certificates should be required in a private case and only one in a pauper case. The difficulty in diagnosis does not depend on class distinction.

Dr. Langdon-Down: The distinction belongs to the last century. Two doctors must not consult together in also.

back into the question of this double certificate it is interesting to inquire what it is that people were anxious to guard against. Apparently they feared the possibility of collusion between the doctors for the framing of an opinion which was not their real professional opinion, but had some ulterior object. What would be that object?

Dr. Langdon-Down: It is difficult to say.

The Chairman: Sir Humphry Rolleston has pointed out that the British Medical Association does not support the suggestion that the second certificate should be signed by specially approved practitioners. Do you think there is any necessity for exacting that the medical practitioner on whose evidence the justice proceeds should have some special qualification?

Dr. Langdon-Down: We have very carefully debated that question, and we think not, but we are of opinion that the usual medical attendant should be one of the certifying doctors. If you are going to lay down some distinctive qualification, what is your test to be? Any rigorous test, such as a special qualification in psychological medicine, would add to the difficulties of the situation, because it would restrict the number of men available. Is the specialist going to be a greater safeguard than the general practitioner? Is he more likely to detect insanity? It has been said of the specialist that he is very apt to see the disease in which he specializes. We do not believe in these compartments in the profession.

The Chairman: After all, the giving of a certificate is in a sense an act of diagnosis, and when large issues are involved one would have thought the specialist's diagnosis to be most valuable. When issues of life and death are at stake—as, for example, in a murder case in which the defence of insanity is urged—it is not the general practitioner who is brought in, it is the specialist. The specialist is prone to find his specialty simply because he has seen so many more manifestations of it than the general practitioner has seen, and so he gets into the habit of expecting it to turn up, and he may be right. Does the curriculum of the medical student include a sufficient course of training in this branch of medicine?

Dr. Langdon-Down: I think in most cases, yes; I believe it is a necessary requirement.

The Chairman: One would like to be assured that the existing training of the general practitioner is sufficient to equip him to discharge this duty without specialist training.

Dr. Edwards here gave some account of the compulsory instruction, clinical and theoretical, in insanity, which led the Chairman to remark that apparently the usual course included only twelve theoretical and twelve clinical lectures, which was not what they would call in Scotland a half-course. He asked that information might be furnished to the Commission from the university calendars and elsewhere as to the precise nature and volume of this instruction given and required.

Sir H. Rolleston: Is there not a great difficulty at the present time in getting general practitioners to certify at all?

Dr. Langdon-Down: Not on the ground that they distrust their own capacity, but they are sensible of the risks they run.

The Chairman: In view of recent proceedings in the law courts there may be a tendency on the part of the medical profession to refuse to certify because of the legal consequences of improper certification. The criterion of immunity is that the doctor shall have acted in good faith and with reasonable care. I appreciate the point in the Memorandum as to the question of onus. Is it upon the doctor to prove his good faith and reasonable care, or is it upon the person bringing proceedings to prove that these have not been exercised? I gather that the view of the profession is that the protection is inadequate?

Dr. Langdon-Down: Yes.

The Chairman: Of course, the doctor has no responsibility for the correctness of his diagnosis, only that it shall have been made with skill and care. But you would not have the medical man absolved from answerability for exercising his professional skill in good faith in the matter of these certificates as distinguished from his ordinary responsibility when he diagnoses any case?

Dr. Langdon-Down replied that he thought there was more than one distinction between the two cases. The case of the doctor who gave testimony which might lead to certification was similar to that of a witness in a court of law. Another distinction was that he was submitting the evidence to an outside body, and the outside person was at liberty to call in somebody else. He added that the medical profession had no desire to underestimate the responsibility of the doctor. The profession was ready to run risks, because they were all aware of the great distresses caused in family life by these disorders of the mind. But in the principal evidence (Appendix A, SUPPLEMENT, January 17th, p. 34) the Association had put forward considerations which supported the claim that the certifying practitioner should enjoy the immunities of a witness.

The Chairman: Figure the case of a doctor who is quite reckless in the matter, and has chosen to write down about a patient things which really will not hold water; yet these, presented to the justice, may be most convincing.

Dr. Langdon-Down: You are supposing something worse than carelessness.

The Chairman: Well, take a case which is no more than ordinary carelessness but which, in ordinary practice, would expose the doctor to an action. Is he to be protected against carelessness in the case of insanity when he would not be protected against similar carelessness in the case of diphtheria?

Dr. Langdon-Down: The question at issue is really as to the honesty of the doctor. To prevent unfortunate results in such cases as you have mentioned, of course, there is the initial safeguard of the second certificate.

The Chairman: It ultimately depends upon the reliability of the medical profession. Unless you can trust the professional man concerned, the system will break down. But in asking that the certifying practitioner should enjoy the immunities of a witness you are asking for a considerable alteration in the law. At the same time, if the law as recently interpreted does deter the medical profession from doing their duty then some redress must be accorded, for no one else can perform their functions.

Dr. Langdon-Down: If the law as recently interpreted is to stand it would deter medical men undoubtedly. After the first verdict in the Harnett case the Association office was flooded with letters from practitioners asking for guidance.

The Chairman: It does seem quite wrong that a doctor, because he has played his part in the execution of the law relating to lunacy, should on that account be put in the dock, so to speak, to justify himself, rather than that the person attacking him should have to prove that he had done something wrong. But it is a much greater thing to ask that in this particular professional duty the doctor should have an immunity which would absolve him from all possibility of action. I do not know that we can carry this topic further. We have your views upon it.

A number of questions were then asked on the British Medical Association's proposals with regard to voluntary boarders and temporary boarders. The Chairman asked if the Association approved the general proposals of the Mental Treatment Bill. Dr. Langdon-Down replied that it did, in the main. The Chairman then invited the views of the witness as to the present procedure whereby a person who needed immediate attention on account of his mental condition was taken to the workhouse and thereby became technically a pauper. Dr. Langdon-Down said that his committee had hesitated to recommend anything involving extremely costly measures. The ideal would be to have special receiving houses, but, except in very dense populations, such houses could hardly be maintained when they would receive perhaps only two or three cases a year. Another procedure might be to send such cases directly to the asylum.

The Chairman: In our desire to avoid pauperization may we not jump to the other extreme and run the risk of the stigma of asylum residence?

Dr. Langdon-Down: If the accommodation and arrangement of workhouses were better the objection to these institutions would not be so great.

The Chairman: I cannot but feel that some intermediate institution is the ideal—neither a workhouse nor an asylum. The wards of the ordinary hospital might be used. Why should not the man who has suddenly had a mental attack, perhaps in the street, be taken to St. Thomas's or St. George's, in the same way as a man with a broken leg?

Dr. Langdon-Down: I think that is a thing much to be desired.

The Chairman: If one had a free hand it would be a very attractive proposition to use the general hospital for these cases of mental breakdown. The management of the hospital, of course, might not wish to have these troublesome and possibly rather noisy patients in the general ward, and a separate section would have to be provided. The hospital authorities would also have to be armed with powers of compulsory detention. But there is something very attractive in the idea of utilizing the general hospitals, because this would help to break down the distinction between mental and physical illness.

Dr. Masterson here gave some account of the provision of infirmaries in London, and said that if the stigma could only be removed the accommodation in the larger infirmaries of London for lunatics was just what was wanted.

The Commission had not concluded its examination of the Association's evidence at the usual hour for rising, and it was agreed that the witnesses should again meet the Commission at a later date, the Chairman remarking that he did not want to get through this evidence too quickly because of the many topics presented in the Memorandum which opened up useful discussion.

#### *Allegations of Ill Treatment.*

At the opening of this fortnightly session on the previous day (January 13th) the Chairman announced that the Commission, besides hearing evidence by way of exposition and criticism, had thought it right to undertake the judicial investigation of a few specific cases of alleged wrongful detention or ill treatment selected by the National Society for Lunacy Reform, as illustrative of their general criticism. These cases related, not to matters of opinion, but to specific issues of fact, and serious allegations against particular individuals were involved. The Commissioners had decided that in the hearing of these cases both the persons making the allegations and the persons answering them should give their evidence on oath. While it was obvious that only a small number of test cases could be investigated in detail in this manner, the Commissioners had expressed their willingness to receive and consider statements in writing by any persons who desired to bring before them information that might assist their deliberations, whether relating to particular cases or of a general character.

#### *A London County Mental Hospital.*

Dr. G. F. Barham, Superintendent of the London County Mental Hospital, Claybury, was the next witness. He gave figures relating to the numbers of patients and staff.

At the present time, he said, 2,282 beds were occupied. The nurses were in the proportion of 1 to 4.8 patients. Asked whether there had been any complaints with regard to the treatment of patients by nurses, the witness said that he did not think that during the last two years he had had occasion to suspend any attendant pending investigation. Three years ago he had occasion to inquire into a case of alleged ill treatment, but the evidence was not sufficient to support it. He could only recall one case nurse—had had to be dismissed on account of ill treatment. He could not imagine that a patient could be ill treated and fail to bring his grievance to his (the superintendent's) notice. Many

patients, of course, were unhappy and disgruntled and made groundless complaints constantly. He had letters daily from such patients, frequently desiring to be removed from one ward to another, which was always done, if possible. The Chairman said that the Commission recognized that the duties of nurses in mental asylums were of a peculiarly onerous and difficult character, and many patients were unable to appreciate that things were being done for their own good. The atmosphere was abnormal altogether, and the qualification for such work must be the possession of an equable and placid temperament. The witness said that he favoured to some extent the employment of women nurses on the male side. The influence of a woman in the ward was readily seen; the ward became phasanter and brighter, and women were naturally better nurses than men.

A large part of this evidence concerned the conditions of nursing, service at Claybury and also the occupations and dietaries of the patients. The witness advocated some scheme of co-operation between the mental and general hospitals whereby there could be an interchange of staff from time to time. At present such interchanges must be only voluntary, and the general hospitals were loath in many cases to take nurses from mental hospitals. The Chairman commented on the dietary at Claybury, questioning the arrangement whereby the last meal of the day was at 5 o'clock, with nothing until breakfast next morning unless the patient reserved something from his last meal.

Dr. Barham went on to say that he himself did not necessarily see all fresh patients as soon as they arrived, though one of the doctors did, but he saw every new case within a few days of arrival. Such cases were received into special admission wards, highly staffed. Asked as to the effect on a sensitive and educated patient of association with noisy patients, Dr. Barham said that he had quiet reception rooms, and he would not subject a patient to such an association. Shrieking, however, was much less frequent in a mental hospital than was commonly supposed. He described the treatment undertaken at the hospital, and said that as soon as one of the doctors thought the patient was becoming convalescent his, the speaker's, attention was drawn to him or her, and he gave such patient his personal oversight. It would be very helpful if the administrative functions of the head of such an institution could be separated from the medical functions, but he was strongly convinced that it was impossible. Much of his routine administrative work he was able to delegate. The After-Care Association was of great value in solving the problems attaching to these patients when, on discharge, had no home to go to. In 1924 the number of patients discharged was 124, of whom 126 were discharged recovered, 32 relieved and sent to the care of friends, and 13 on trial. Twelve patients sent out on trial relapsed. He was convinced that a very considerable number of incipient cases, if given early rest and appropriate treatment, would escape certification. Asked about the effect of the stigma attaching to a mental hospital, the witness said that under the clinic system the mental department of a general hospital might come to be known as the "mad ward." Asked by Mr. Micklem whether he thought it wise to have such large establishments as that at Claybury, Dr. Barham said that he hoped that future institutions would not be built so large, though the Claybury hospital was not out of hand. A hospital for about 1,000 patients was more suitable.

#### *The Mental After-Care Association.*

Miss Vickers, secretary of the Mental After-Care Association, gave an account of the history and activities of that body. She said that last year the association was brought into touch with cases from 117 mental institutions, and relieved 1,176 patients. With regard to complaints, speaking as one who had personally interviewed over 7,000 patients, Miss Vickers said that these were few and trivial. Probably not more than 4 per cent. of the patients made complaints, and only a very small proportion of the complaints related to actual ill treatment.

#### *Evidence on Oath.*

On January 17th the Commission held the first of a series of special sittings to take sworn evidence with regard to improper detention or ill treatment in asylums. The witnesses are being brought forward by the National Society for Lunacy Reform. The witness who was examined at this sitting was Mr. Hugh Wilson Holman, who answered questions put to him by Mr. W. Stewart, of the society in question. Counsel for the medical practitioners concerned and for Ticehurst Mental Home were Mr. Dickens, K.C., Mr. Croome Johnson, and Mr. Somerville, the last named instructed by the London and Counties Medical Protection Society.

Mr. Holman's statement was that, following on pneumonia, when he was treated in the house of a doctor, he was wrongly certified and sent to an asylum. He described his unavailing protests to a local magistrate and to the Board of Control. After being more than two months in the asylum he escaped, and was recaptured and placed in the refractory ward. Later he was transferred to Ticehurst, where he had only a cursory examination. He eventually escaped and hid for a fortnight, and afterwards, through his solicitors, took steps to obtain redress. On representation to the Master in Lunacy his estate was released.

Mr. Somerville pointed out that the case of Mr. Holman had been tried at the High Court, and Mr. Justice Sankey had said that not only were the authorities at Ticehurst not negligent, but they would have been negligent had they released the patient, under the circumstances.

The Chairman of the Commission admitted the difficulty of dealing with concrete cases. The Commission would not announce a decision in a particular case, but the evidence adduced would form part of the material on which it would base its report.

# British Medical Journal.

SATURDAY, JANUARY 24TH, 1925.

## THE SPHINCTERS OF THE ALIMENTARY CANAL.

At the present moment a well known London hospital is enforcing its appeal for public support by illustrating in pictorial fashion the aids which to-day it offers to the diagnosis and treatment of disease compared with those available a hundred years ago. These striking posters are designed to prove to passers-by that the sick are fortunate to be seeking relief in the twentieth rather than in the corresponding period of the nineteenth century. They remind the passing physician also of the debt that medical science owes to the physiologist, the pathologist, the biochemist, and the radiologist.

Two articles which we publish this week exemplify some of the benefits which physiology and radiology respectively have conferred on the study of diseases of the intestines. Dr. Arthur Hurst's address, delivered before the Manchester Medical Society, on the sphincters of the alimentary canal and their clinical significance, is based on physiological researches, which, when applied to clinical medicine, quickly explained certain disorders which could never have been properly understood or intelligently treated through any other manner of approach. Those classical researches of Bayliss and Starling, whereby they proved peristalsis to consist of a co-ordinated reflex—a wave of relaxation followed by a wave of contraction—laid the foundation for the physiological study of disorders due to irregular behaviour of the sphincters situated at the cardiac and pyloric orifices of the stomach, the ileo-caecal junction, and the recto-sigmoidal junction.

For many years anatomists persisted in an obstinate incredulity with regard to the existence of sphincters at the cardiac end of the stomach and at the pelvi-rectal junction, and they encouraged mistaken views about the ileo-colic sphincter, which often is still inaccurately referred to as a "valve." A valve differs fundamentally from a sphincter. The valves of the veins and of the heart are constructed to present an impassable barrier to the backward passage of the blood. The sphincters of the alimentary tract have no such valvular architecture; they have, however, a certain resemblance, in function only, to the safety-valves of high-pressure boilers, which allow of an escape of steam when a dangerous pressure is reached. But this figure of speech gives a very imperfect idea of the function and behaviour of sphincters. When working properly the sphincters of the alimentary tract open in advance of the oncoming wave of peristaltic contraction, and thus permit the passage of food, chyme, or faeces; thereafter they close immediately, but not in such a manner as to forbid all possibility of return should this be necessary in the interest of the organism. Thus, when called upon to act, they encourage onward movement and discourage backward. The swing doors at the threshold of a place of entertainment are opened invitingly by an obliging custodian, but if, after having been tempted inside, the entrant finds the demands of the pay-box beyond

his purse, he may escape by the same route through which he entered, though he is likely to be met with less civility on his return: he will have to push the swing doors back with his own energy.

The essential characteristic of the sphincters as compared with the remainder of the alimentary tract is that the lumen of the bowel is closed at the sphincters, whereas elsewhere it is open or potentially open. This provision of nature confers certain advantages, and these vary slightly at the different sites. Thus, the cardiac sphincter offers an obstacle to the regurgitation of the stomach contents back into the oesophagus, though by no means an insuperable obstacle, as the acts of vomiting and eructation testify. The pyloric sphincter serves to hold the stomach contents, and by its ordered relaxation to ensure their timely evacuation into the duodenum. The ileo-caecal sphincter prevents the too rapid passage of the contents of the ileum into the caecum; it also guards the return of material from the caecum back into the small intestine, but certainly not in the manner which the misapplied term "valve" would suggest, for both Dr. Hurst and Dr. Gilbert Scott give examples of conditions under which material from the colon may re-pass this portal. The pelvi-rectal sphincter checks the forward passage of faeces which collect in the pelvic colon until immediately before defaecation.

Irregular behaviour of any of these sphincters results in grave disturbance to health. At the cardiac orifice of the stomach failure on the part of the sphincter to relax in advance of the contracting wave of peristalsis (achalasia of the cardia) results in an accumulation of food in the oesophagus, leading to hypertrophy of its walls and dilatation of its lumen. Reflex irregularity of the pyloric sphincter follows upon gastric or duodenal ulceration, and may be found also in disease of the gall bladder and appendix. The way in which this irregularity arises and the manner in which it may be relieved are well described in Dr. Hurst's paper. Similarly, reflex achalasia of the ileo-caecal sphincter may be caused by chronic appendicitis, and may lead to ileal stasis. Congenital hypertrophic dilatation of the colon (Hirschsprung's disease) and the megacolon of adults may be due to achalasia of the pelvi-rectal and anal sphincters.

Perhaps it is because the word "sphincter" means something which draws close or binds tight, and therefore occludes, that the conception of a sphincter acting as a pathological obstruction to the forward passage of faeces has taken such deep root in the literature of intestinal stasis. A more critical consideration of their physiological function shows at once that they each render a useful service, which, if dislocated, leads to grave inconvenience if not disease. Except in those cases where the sphincters themselves are the seat of disease, the muscle bands yield before gentle and persistent pressure, and place no true obstruction in the path through the bowel of the food residues.

Dr. Gilbert Scott's paper on the technique of radiological examination of the colon gives an account of the contribution to the study of intestinal disease made by another subsidiary science of medicine. His opening sentence, "The clinical evidence presented in most cases of colonic disease is meagre, variable, and often unreliable," has a contentious ring about it, but it is not followed by the extravagant pretensions for some esoteric system which this type of introduction usually leads us to anticipate. If the conclusions of this radiologist be analysed, we find his claims to be moderate; radiological examination often supplements clinical evidence in a useful way, but can never

supersede it, and frequently has little help to bring. The information which it offers must be weighed by the clinician side by side with facts gleaned from other sources. Thus, in speaking of enteroptosis, Dr. Scott remarks: "Let it be clearly understood that radiologists can only state the position of the various sections, the muscular tone, and the rate at which the contents pass through. The deductions must be left to the physician."

There are three main types of organic lesions of the colon in the diagnosis of which help may be sought from the radiologist—new growth, inflammatory lesion, and diverticulation. Unfortunately, the x-ray oracle cannot be expected to answer the most important question concerning a new growth—namely, is it simple or malignant? Nor are the radiological appearances very reliable in the early stages of a cancer before other signs appear, for Dr. Scott admits that "in the very early stages, while the growth is small, and before it encircles the whole lumen of the gut, detection is difficult." Radiological examination has its greatest field of service in the diagnosis of tumours of those regions of the colon which are beyond the reach of the sigmoidoscope.

In such inflammatory diseases as tuberculosis and chronic ulcerative colitis x-ray examination may occasionally add to that "meagre" stock of evidence which Dr. Scott considers the physician may draw from the clinical store, but it is only in exceptional cases that he is greatly enriched by the radiological contribution. On the other hand, in the diagnosis of diverticulation the radiologist has a much more important office, almost indispensable. The way in which the opaque enema method may be used for the diagnosis of this deformity—a commoner one than formerly supposed—is well described in Dr. Scott's paper. It is important to bear in mind that diverticulation of the colon does not necessarily lead to illness; it is only when these little pouches become inflamed or obstructed that they cause trouble. It appears that the opaque enema method has many advantages over the opaque meal given by the mouth in the diagnosis of diseases of the colon, and deserves a greater popularity.

### PHYSICAL TESTS FOR MOTORISTS.

In the United States—no less, perhaps even more, than in this country—there is much concern about the increase in the number of casualties due to motor cars, but in neither country does it seem to be known how far the increase is out of proportion to the change in the conditions of traffic brought about by the popularization of the motor car. The American Medical Association, at its annual meeting in Chicago last June, had before it a report of a committee appointed to consider the adoption of physical standards for drivers of motor vehicles. The report<sup>1</sup> was read to the Section of Ophthalmology, but it is significant that in considering the subject and making recommendations the committee went far beyond the question of eyesight. It dealt also with defects of the limbs, with hearing, with the action of the heart, and with the mentality of the applicant for a licence to drive.

The committee was evidently greatly impressed by the present state of things. It began by expressing the opinion that "the appalling increase in the number of casualties from motor vehicles throughout the United States makes it imperative that everything possible be done to lessen this evil." The members describe

themselves as "physicians cognizant of the harm that may arise from the operation of such vehicles by those physically unfit for such a dangerous operation." The committee urged the medical profession in the United States to "insist on the passage of laws in each State with a view to restricting the granting of licences to such persons as may submit themselves to physical tests at the hands of properly qualified medical practitioners."

In the opinion of the committee, every driver of a motor vehicle should be required to produce to the motor licensing board a certificate showing: (a) that he has no disqualifying defects of either legs or arms; (b) that his vision is at least 20/50 in one eye and at least 20/100 in the other, with or without glasses; (c) that he has not double vision; (d) that he can hear a low spoken voice at 5 ft.; (e) that his "mentality is adequate," and his "heart's action reasonably healthy." It was proposed that the licence should be renewable annually, but that a new medical certificate should be required only every three years, the applicant making a sworn statement in the intervening years that to the best of his knowledge there had been no change in his physical condition. The applicant should pay the cost of his medical examination, the amount being fixed by the motor board in each State. The committee thought it desirable that tests for sight and hearing should be made by ophthalmologists and aurists, and for the other parts of the body by "internists" and surgeons; but it was decided that such specialization was impossible because of the vast number of applicants for licences, and the need for simplicity in tests and reasonable cost to the would-be driver. As "it goes without saying that each examiner must consider himself bound in honour to adhere implicitly to the dictum of the standards," the committee goes on to say that there must be no deviation therefrom at the importunity of the candidate. But (it continues) the doubts and difficulties of examiners would be relieved by the appointment in each county of each State of a board of physical licensure, composed of two general practitioners or surgeons and one ophthalmologist, which should meet at stated intervals and have the final decision in all cases. The fees of the members of these boards also should be paid by the applicants, unless salaried officers should be appointed by the State departments.

The committee thought that some people might regard the visual tests as insufficient, and might think that colour blindness should disqualify. But the committee came to the conclusion that it was the minimum amount of sight with which a motor vehicle could be driven with safety which needed to be determined, and it adopted a degree similar to that used as a standard for soldiers. Insistence on a visual field test was undesirable, and it was doubtful whether general practitioners and surgeons could be depended on to make such a test with sufficient accuracy. Colour blindness would disqualify 3 per cent. of all males, with the result, the committee thought, that there would be a popular and speedy rejection of all physical tests! However, the committee consoled itself with the thought that even the colour-blind person would probably be conscious of the difference in intensity of a red tail light as compared with a white light, and that no harm might be done. In fact, the committee felt that in order to ensure universal adoption of a physical test it would be a mistake to demand too much of either applicant or examiner. Therefore it insisted on simplicity and the avoidance of unessentials.

<sup>1</sup> Journal of the American Medical Association, December 27th, 1924, p. 2094.



The report was drawn up evidently by men who were earnest in the cause of public safety and experts in their own branch of practice. On the other hand, it would appear that none of them can have been expert on the other side of the question—motor driving; and their earnestness would seem to have led them astray from the paths of common sense. Such men, when faced with a difficulty, are always liable to shirk the issue by calling upon the State to increase bureaucratic control, regardless of arguments on the possible futility and costliness of the procedure. Nevertheless, as the dangers of the streets are becoming urgent in this country as well as in the United States, and as changes of varying utility and comfort frequently result from the persistent agitation of enthusiasts, it is well to examine carefully the proposals of the American committee, and to discuss the lines upon which the dangers of the public can be lessened. The standards of efficiency proposed by the committee appear to be very sketchy, and some dangerous conditions in motor drivers seem to have been overlooked. No doubt in a "dry" country it would be improper to suggest the danger of alcoholism, notwithstanding the committee's exclusion of double vision in a driver; but in this country quite a number of accidents occur through drunken drivers. How is a medical examination to exclude a tendency to alcoholic excess or an inability to "carry" even a small amount of liquor? Again, which of the standards suggested by the committee covers the existence of epilepsy in the applicant; and unless the examiner observes an actual fit, can he exclude the possibility of its occurrence? It is doubtful whether it is possible to define a disqualifying defect of legs or arms. We have known a driver, one of whose arms was crippled by infantile paralysis, who was quite able to drive at Brooklands; and with mechanical aids a leg can be dispensed with. Whether hearing is necessary in a driver must depend upon his other senses, such as vision, and upon his care in driving. A standard of vision can be no easy matter. It is not the distance at which test type is read that is important, but the rapidity with which an obstruction can be recognized. Many people with normal vision may almost be said to suffer from partial night-blindness when driving in the dark. Mental adequacy for driving is surely quite impossible to define; and a phrase such as "heart's action reasonably healthy" can only have been dictated by inability to lay down a standard. We cannot help thinking that the proposal for a compulsory medical examination of all motor drivers is impracticable. It is hardly possible to lay down any satisfactory standard; comparatively few people could be ruled out under any kind of physical examination; the physical test would miss some of the more likely causes of danger to the public, such as epilepsy and alcoholism; the variability of standard in the hands of a host of examiners would lead to frequent complaints of injustice; and the numbers of people required to submit themselves to periodic medical examination—there must be between a million and a million and a half licensed drivers in this country—would render examination of any real value almost an impossibility.

But the danger exists, and those who suffer from it are entitled to ask what can be done to reduce it. It may be that the difficulties of the matter are such that the simplest solution is, not to ask the Government to assume further control over the lives and activities of citizens, but to urge a return to one of the more primitive functions of government—that of punishing the wrong-doer. If it were an offence for any person

to drive a motor vehicle when unfit to do so, the onus of proving his fitness would be placed on any driver who endangered the lives of others and by his conduct suggested that he was not fit. In this way the plea of neurasthenia and shell shock, which is so often raised when drivers are summoned for being drunk while driving, would be eliminated. For the neurasthenic is as little entitled to undertake what the American committee describes as the "dangerous operation" of driving a motor vehicle as is the alcoholic or the epileptic. The millennial eliminator of all human troubles will doubtless describe this solution as mere passivity, and will call attention to the sufferings of those who are damaged before the unfit is brought to book. But it is, in our opinion, doubtful whether better results would be obtained by more active measures; and our solution seems at least more likely to foster a spirit of independence and self-reliance in the community. It might not be a bad thing, however, to require from every applicant for the issue or renewal of a driving licence a signed declaration that to the best of his belief he has no defect or disease which makes him unfitted to drive a car or motor cycle. This would indicate upon whose shoulders the legal burden rested.

#### R.A.M.C. MEMORIAL ROLL.

Very nearly a year ago we gave an account of the pages of the Golden Book, or Memorial Roll, of the Royal Army Medical Corps, then on view at the Victoria and Albert Museum, South Kensington. The 270 pages of lambskin containing the names of the officers and men of the R.A.M.C. who fell in the war of 1914-19 have now been bound, and the folio will shortly be deposited in the Chapter House of Westminster Abbey. The writing and illumination are the work of Mr. Graily Hewitt and his six assistants. The Roll is alphabetical; the names are in black lettering, the rank and the date of death in red; initial letters in gold indicate distinctions won. Illuminated sentences from the parable of the Good Samaritan, at the beginning of each alphabetical division, link together the whole design. We have now received from Major-General C. E. Pollock, C.B., C.B.E., D.S.O., honorary secretary of the R.A.M.C. War Memorial Fund, a copy of the printed *Roll of Honour* which has been prepared for the relatives and friends of those whose names are inscribed in the Golden Book, numbering 743 officers and 6,130 warrant officers, non-commissioned officers, and men. Following the arrangement of the original manuscript, the names and brief particulars are printed in alphabetical order. The many Territorial, and temporarily commissioned medical officers are indicated thus: (T.F.) and (Tp.). These and such other abbreviations as "k-in-a" and "d-of-w" for killed in action and died of wounds, though self-explanatory, might perhaps with advantage have been explained in a note at the beginning or end of the volume. The printing, carried out by the Chiswick Press, is good and clear on substantial paper, and the black and red typography of the title page forms an excellent example of the printer's art. We like also the simple binding of dark blue, with lettering and R.A.M.C. crest in gold. The two illustrations, reproducing in black-and-white the title page and a single sheet, give a very imperfect idea of the beauty of the original work. General Pollock asks us to state that the volume can be obtained from Charles Whittingham and Griggs, Ltd., 20, Took's Court, Chancery Lane, E.C.4, or at the bookstall, Westminster Abbey. It is being sold below cost price at 2s. 6d. in order to place it within the reach of everyone. Single copies will be sent by post on receipt of an addressed



label and sixpence for postage; parcels of twelve will be sent carriage free. Many of our readers will undoubtedly wish to possess copies of this *Roll of Honour*.

#### GOLD TREATMENT OF TUBERCULOSIS.

WE have already on two occasions (November 8th, 1924, p. 870, and November 22nd, 1924, p. 961) given particulars with regard to Professor Holger Moellgaard's new method of treating tuberculosis. The well known difficulty of securing penetration of the lipid envelope of the tubercle bacillus is thought to have been solved by "sanoerysin," which is described as an inorganic compound of gold and sodium. It is believed to combine with the bacilli, and so to render possible the bactericidal action of the gold component. Intravenous injection has been recommended, but intramuscular injection has also been found suitable. The sanoerysin appears to remain in the body for four to six days after injection, and to be capable of bactericidal activity to the end of this period. From the results of experiments on animals, Moellgaard believes that the remedy has no bad effect on the blood vessels, the blood corpuscles, or on the organs of the body. Blood pressure and respiration were not affected, and the kidneys were injured only if large doses were suddenly administered. Reactions occurred when the remedy was injected into tuberculous animals, and Moellgaard's next step was the preparation of a serum containing antidotes to these reactions but not interfering with the bactericidal effects. Dr. Secher of the Bispebjerg Hospital, Copenhagen, has given an account of nearly 300 patients in various stages of the disease, and has discussed the dose which should be used in man. The treatment, he says, is not agreeable, but by means of it the duration of lesser degrees of tuberculosis was much shortened, and in the more chronic cases good results were obtained if there remained a sufficient amount of tissue with vital energy. In some cases of rapid phthisis complete arrest resulted, and this happened also in some cases of miliary tuberculosis. Dr. Secher uttered the warning that in these more severe forms of tuberculosis the treatment was always extremely dangerous; it provided a last chance for the patient which might fail, and in that event might accelerate death. Early cases of glandular and pulmonary tuberculosis in children were treated with excellent results, but the later stages were less amenable. Local application of the remedy in surgical tuberculosis had proved beneficial. It is reported that special laboratories for the production of sanoerysin have been established under Professor Moellgaard's direction, and that he has transferred the right of production to a company termed "The Danish Chemo-Therapeutic Company," with a factory and laboratories in Copenhagen. The whole of the manufacture, from the solution of gold in acid to the packing of the sanoerysin powder in small sealed glass vessels, is performed under strict aseptic conditions. For the supply of the British Isles and of all countries outside Europe the company is arranging to co-operate with Messrs. Parke, Davis and Co., of London and Detroit. Issues in this country are at present limited to a few selected hospital centres at which trials arranged by the Medical Research Council are in progress, and Professor Moellgaard does not propose to make the material available for general use until satisfactory results of these trials have been reported.

#### THE USE OF CINCHONA ALKALOIDS.

THE discussion on the mode of employment of the cinchona alkaloids reported on page 159 is of peculiar interest, because so many different aspects of the subject were considered. As Lieut.-Colonel Gage pointed out, there are two distinct problems involved in the choice of antimalarial

drugs. The first and easier problem is to find the best possible method of treatment for the minority of sufferers from malaria to whom the actual price of the drug is unimportant; while the second and more difficult problem is to find a means to make antimalarial remedies available for those vast populations which live in extreme poverty in malarial districts in the East. This second problem requires the supply of large quantities of an efficient drug at the lowest possible price. Catering for the needs of the first and smaller class is naturally the more attractive commercial proposition, and up till now the aim of the planters has been to grow trees whose bark will yield the maximum amount of quinine. It appears possible, however, that a cheaper but equally efficient remedy might be obtained by growing trees whose bark would yield less quinine but a larger amount of total mixed alkaloids than those species of trees which are chiefly planted at present. Apart from the question of cost, the problem as to which is the best possible preparation cannot be regarded as finally settled, since Acton concluded that quinine was less effective than the dextro-rotatory alkaloids in cases of benign tertian fever, and the amorphous alkaloids have been highly commended by various workers. The cinchona alkaloids are required on such a vast scale that it is really an urgent imperial problem to answer the questions set out above as accurately as possible. As Lieut.-Colonel Clayton Lane pointed out, what we need is accurate knowledge of the manner in which the cinchona alkaloids kill malaria parasites. At present we know that when these alkaloids are given in adequate doses the malaria parasite disappears from the blood, and in favourable cases is eradicated from the body; but this represents nearly the whole of our essential knowledge. We do not know whether the drugs kill the parasites directly or by some secondary action; we do not know whether the parasites are killed in the intracorporeal or the extracorporeal stage; and, finally, we do not know whether the intensity of the action depends on the maximum concentration of drug produced in the blood or on the length of time during which the drug is present in the blood. There are a dozen problems which need solving, and which can only be solved by systematic pharmacological and biochemical research. The need for establishing therapeutics on a firm scientific basis was well exemplified by the tragic history referred to by Sir Leonard Rogers. The hasty and inaccurate conclusions drawn by one writer a hundred years ago as to the effects of cinchona sufficed to overthrow a perfectly sound therapeutic treatment of malaria, and to substitute for forty years a practice which was homicidal in its results. The obvious need is for a combined research organized on a large scale to ascertain as exactly and as carefully as is possible the mode of action and comparative efficiency of the cinchona alkaloids. Only when such information is available will it be possible to state with confidence the best policy to be followed in regard to the production of these drugs.

#### TOXIN-ANTITOXIN AND ANATOXIN.

THE use of toxin-antitoxin in antidiphtherial inoculation has sometimes been accompanied by severe reactions, and in our issue of December 6th, 1924 (p. 1064), we drew attention to the work of G. Ramon at the Pasteur Institute, where he has prepared a new product termed "anatoxin," which he believes to be both efficient and innocuous as an antigen. Ramon has now published a detailed account of his investigations.<sup>1</sup> He found that when antidiphtherial serum was added in varying proportions to diphtheria toxin a gradually increasing opalescence appeared, and after a few hours at ordinary room temperature a definite flocculation became evident. This flocculation invariably appeared

<sup>1</sup> *Paris Medical*, December 6th, 1924, p. 480.

first in the tube in which toxin and antitoxin most nearly neutralized each other; and, according to him, it is a specific reaction depending on the interaction of an antigen and its antibody. Ramon found, moreover, that a toxin which had lost some of its toxicity by exposure at room temperature or other means might still retain its flocculating properties unimpaired. In the course of immunizing a series of horses for the production of antidiphtherial serum, Ramon realized that the antigenic value of a toxin did not depend on its toxicity, but was in close relation with its power of flocculation. This would appear to be a point of considerable practical importance, for it not only led directly to the discovery of Ramon's "anatoxin," but also established a simple means of titrating *in vitro* an antigen or its antibody. He found that the less "anatoxin" required to cause flocculation in a given quantity of antiserum, the greater was the antigenic power of that "anatoxin." By adding three or four parts of formol to 1,000 parts of diphtheria toxin and incubating the mixture at 40° C. for one month, he discovered that the toxicity of the product had almost disappeared, while its flocculating and antigenic powers were unaltered. To this new product he gave the term "anatoxin." Other methods of producing "anatoxins" have been devised, but this is the quickest and most certain. Ramon describes diphtheria "anatoxin" as being a stable substance, unaffected by a temperature of 70° C., or by being kept for twelve months in an ice-chest or at room temperature. For prophylaxis two injections of 0.5 c.cm. and 1 c.cm., at an interval of eight to fifteen days, produced immunity in 90 to 95 per cent. of his cases in five to six weeks, and in 100 per cent. in two months. The optimum age for human immunization is given as 2 to 5 years, and it is believed that in the majority of cases the immunity will persist throughout life. For therapeutic purposes Ramon thinks that "anatoxin" may be preferably mixed with antitoxin; its value was most evident in the treatment of carriers, and in the prevention of the sequelae or late complications of diphtheria. It permits of the hyperimmunization of horses. Serums of higher titre were obtained with considerable economy of time and material, and with no risk to the animal. Dujardin-Beaumetz and Mallerbe are reported to have had encouraging results in the treatment of ozaena with diphtheria "anatoxin" used in a similar way. Working on the same lines Descombes has produced a tetanus "anatoxin." The special value of this latter "anatoxin" will probably be prophylactic for man and animals, and an excellent antiserum appears to have been obtained by immunizing horses with it. Weinberg and his co-workers have similarly converted *botulinus* toxin and the toxin of gas gangrene into their corresponding "anatoxins," and with them have obtained from horses antisera of high titre. Ramon is at present working with Dumas in the preparation of a dysentery "anatoxin" and an "anatoxin" for abrin and cobra venenes.

#### THE FOUNDER OF THE IRISH COLLEGE OF PHYSICIANS.

To celebrate the three hundredth anniversary of the birth of John Stearne (1624-1669), the Royal College of Physicians of Ireland held a reception on November 26th last and listened to a scholarly address<sup>1</sup> of great literary distinction dealing with their pious founder's life and activities delivered by the Registrar, whose numerous essays on the same lines mark him out as the author to provide us with a complete history of the Irish College of Physicians, as a companion volume to his *History of the Medical Teaching*

<sup>1</sup> John Stearne, M. and J.U.D. An Address delivered in the Royal College of Physicians of Ireland on the Three Hundredth Anniversary of his Birth, November 26th, 1924, by T. Percy C. Kirkpatrick, M.D., D.Litt., Fellow and Registrar, R.C.P.I. Dublin: Printed at the University Press, 1925. (Pp. 23; 1 plate.)

in Trinity College, Dublin, and of the School of Physic in Ireland (1912). His address recalls another on the same subject given by Dr. Mahaffy on the occasion of the bicentenary (June, 1912) of Trinity College, and it may therefore truly be said that Stearne has been fortunate in his biographers—T. W. Belcher (1865), Mahaffy, and T. Percy C. Kirkpatrick. Stearne entered Trinity College at the tender age of 14½ years, and became a scholar in 1641; but the times became so troublous that the Provost sought refuge in England, and among others Stearne followed his example; in 1642 he entered Sidney Sussex College, Cambridge, where he almost immediately took the B.A. degree, proceeding to the M.A. in 1646; in the intervening four years, the happiest part of his life, he probably read deeply in classics, the philosophical works of the ancient fathers of the Church, and medicine. Francis Glisson was Regius Professor of Physic (1637-1677); Wharton of Pembroke and the *Adenographia* and George Ent of his own college were then associated with the University. About 1649 the times again obliged him to move, and on this occasion he went to Oxford, where he turned in his distress first to Stoic philosophy and then to peace in Bedfordshire. But in 1651 he was admitted a Fellow of Trinity College, Dublin, becoming a Senior Fellow in the next year and professor of Hebrew in 1656; as he was also professor of medicine and perhaps lectured on law, he is a typical example of the all-round excellence of a Fellow of Trinity. His seventeen years of residence were extremely busy and saw much productive work; he wrote six books in Latin, all on philosophico-theological subjects and not dealing primarily with medicine; his erudition was great, but originality—in those days a dangerous property—was not obvious in his writings. As a medical practitioner he followed Hippocrates rather than Galen, being an ardent supporter of physical therapeutics, and an enthusiastic advocate of the use of cold water, tobacco (chiefly by chewing), opium, and the smell of freshly dug earth, which, Dr. Kirkpatrick slyly adds, may also "explain the benefit which some golfers believe that they obtain from the pursuit of the game." In 1661 Stearne set about founding the College of Physicians, obtaining a Royal Charter from Charles II in 1667, and was nominated President for life.

#### THE DRAMA IN CIVILIZED LIFE.

At the social evening of the Royal Society of Medicine last Monday evening, January 19th, Miss Lena Ashwell (Lady Simon) addressed a large audience of Fellows and their guests on the subject of "The drama as a necessity of civilized life." Introducing Miss Ashwell, the President of the society, Sir St. Clair Thomson, described the arts as holding the same position in mental well-being as vitamins held in relation to bodily health. Miss Ashwell's address was an able development of this theme. During the late war the national importance of the drama was recognized, though tardily, by the military authorities, and she had herself been authorized to organize concert parties, which went to France, Egypt, Palestine, and other areas. The success of these parties afforded a proof of the real interest taken by the mass of the population of this country in the drama, yet the theatre was now rapidly losing ground to its unworthy competitor, the cinema. While this country possessed the richest dramatic literature of any nation since the time of the ancient Greeks, it was only rarely that good plays could be seen even in the large provincial centres. This was partly due to the taxation of the theatre as a luxury, so that good plays were generally attended by financial loss to those producing them. It would be a national calamity if the drama were allowed to die out in this country, and its place taken by films of transatlantic origin, the influence of which was often

deplorable on account of the unreal and vicious aspects of life which they portrayed. During the evening Sir T. M. Legge exhibited several specimens of fifteenth-century stained glass recovered from a scrap-heap. These had evidently come from a church in East Anglia, and the faces of saints and the Madonna had been iconoclastically defaced in Cromwellian days. Similar glass was to be seen in the Church of St. Peter Mancroft, Norwich.

#### "E.R.A."

A VERBATIM report will be found at page 179 of a joint meeting of the Sections of Medicine and Electro-Therapeutics of the Royal Society of Medicine, to which Sir Thomas Horder communicated the results so far obtained from an investigation, conducted by a small committee of which he was chairman, into the electronic reactions of Abrams, with special reference to the emanometer of Boyd. The full text of this committee's preliminary report, advance slips of which we have seen by the courtesy of Sir Thomas Horder and Dr. Heald, is accompanied by two appendices containing reports of experiments made chiefly at Glasgow with Dr. E. W. Boyd's emanometer. It is a considerably longer document than the address delivered, but the address appears to contain all the essential points. The other members of the committee were Dr. C. B. Heald, medical adviser to the Department of Civil Aviation, Lieut.-Colonel Lefroy of the Air Ministry, Mr. Whately Smith, employed as a physicist by the same Ministry, and Mr. M. D. Hart, employed as a physicist at the War Office. The committee later on had the co-operation of Mr. E. J. Dingwall, M.A., a research officer to the Society of Psychical Research, and was able to command the whole-time services of Mr. Anson, recommended by the authorities of Faraday House as well qualified to undertake original work in experimental physics. After some introductory remarks, Sir Thomas Horder gave a demonstration of lantern slides and apparatus in order to show the conditions under which the investigations were conducted, and then proceeded to his main address, which we print verbatim. Some copies of the full report were made available among the audience, which filled the Barnes Hall of the Royal Society of Medicine; it would appear that certain reporters of lay newspapers secured copies. Judging from the articles published in these newspapers on the day after the meeting and subsequently, the impression they gathered was that the investigations of the committee could be held to justify the continued use of "E.R.A." methods in medical practice. This, however, does not seem to us to be the conclusion that can legitimately be drawn from Sir Thomas Horder's communication. The conclusions arrived at by the committee, he said, leave the position of the practising electronist as scientifically unsound and as ethically unjustified as it was before; they give no sanction for the use of "E.R.A." in the diagnosis or in the treatment of disease. What we have for convenience termed "the full report" contained a criticism of this JOURNAL which was not embodied by Sir Thomas Horder in his address to the Royal Society of Medicine. The exact status of the full text is not clear to us. The full text, we gather, is to be considered as of the nature of a preliminary communication, and there is as yet no statement that it has been or will be published. We therefore refrain from any comment on this and other sections of the full text, which we must still regard as confidential from our point of view. We cannot undertake to publish replies from individual practitioners of "E.R.A." to the collective communication which has now been received by the Royal Society of Medicine: any reply by them should be a collective reply from some committee or society they recognize as representative of their views.

#### MEDICINE IN JUGO-SLAVIA.

THE last fifty years have seen remarkable progress in the teaching and practice of medicine in some of the associated countries included in the post-war State of Jugo-Slavia. After a long period of lethargy, due to social and political reasons, the national life of Croatia began to awake, and numerous literary and social societies were established between 1860 and 1870. In 1874 the Croat University at Zagreb was founded, and included among its more important scientific societies was the Medical Association of Croatia and Slavonia. For the last fifty years this association has been the centre of medical science in the country, and its activities have given birth to much hygienic legislation and progress in knowledge. The association was from the start the sole representative organization of medical practitioners in the two countries. Various congresses have been held dealing with a large variety of subjects, and in 1877 the official journal of the association, the *Liječnicki Vjesnik*, appeared for the first time. One of the first aims of the association was the organization of a faculty of medicine at the Croat University of Zagreb—an ideal realized in 1917. In 1923 the association created a body to deal with the many and varied social interests of its members. The jubilee of the foundation of the association occurred last year; in connexion with this the *Liječnicki Vjesnik* has published a special commemorative number, which includes sixteen medical contributions in English, French, or German. The general intention of this special number is to demonstrate the present position of the various departments of medicine in Jugo-Slavia.

#### INFLUENZA.

THE deaths attributed to influenza are becoming more numerous. In the week ending January 10th, 124 were registered in the great towns—an increase of 24 over the return of the previous seven days. No city but London, with 28, recorded more than 10 deaths, but Bolton returned 9, Manchester 6, and Salford 5. Twelve months ago there was a similar increase, and there is no reason to apprehend that the present re-emergence is a formidable one. Clinically there has been a good deal of "influenza" this autumn, but, we understand, of mild type. Cases of tonsillitis seem to have been very numerous in some London suburbs.

#### THE HALF-YEARLY INDEXES.

THE usual half-yearly indexes to the JOURNAL and to the SUPPLEMENT and EPILOGUE have been published; they will, however, not be issued with all copies of the JOURNAL, but only to those readers who ask for them. Any member or subscriber who desires to have one or all of the indexes can obtain what he wants, post free, by sending a postcard notifying his desire to the Financial Secretary and Business Manager, British Medical Association, 429, Strand, W.C.2. Those wishing to receive the indexes regularly as published should intimate this desire.

A TELEGRAM from the correspondent of the *Daily Mail* in Melbourne announces that Major-General Sir Neville Howse, V.C., K.C.B., Director of the Australian Army Medical Service, has been appointed Minister of Defence in place of Mr. E. K. Bowden, who has resigned for reasons of health. Sir Neville Howse served in South Africa (1900-2), was P.M.O. to the Australian naval and military expedition to German New Guinea and the Pacific Islands (1914), and was D.M.S. of the Australian Force during the war, including the expedition to the Dardanelles. In 1923 he was Australian representative at the League of Nations Assembly.

## THE ELECTRONIC REACTIONS OF ABRAMS.

COMMUNICATION TO THE ROYAL SOCIETY OF  
MEDICINE BY A COMMITTEE OF WHICH  
SIR THOMAS HORDER IS CHAIRMAN.

A JOINT meeting of the Sections of Medicine and Electro-Therapeutics of the Royal Society of Medicine was held on January 16th, when a preliminary communication concerning the "electronic reactions of Abrams," with special reference to the "emanometer" technique of Boyd, was presented by Sir Thomas Horder. The communication was a report of a small investigating committee consisting of: Sir Thomas Horder; Dr. C. B. Heald, medical adviser to the Director of Civil Aviation; Major H. P. T. Lefroy, head of Wireless Research at the Air Ministry; Mr. M. D. Hart, engaged on physical research on behalf of the War Office; and Mr. Whately Smith, engaged on similar research at the Air Ministry. Sir Thomas Horder acted as chairman of the Committee. Copies of the extremely bulky report, which formed the basis of Sir Thomas Horder's remarks, were distributed to a number of those present.

Dr. ROBERT HUTCHISON (President of the Section of Medicine), who occupied the chair, said that there was some doubt amongst the members of the council of the Section concerned whether Abrams's phenomena were worthy of discussion at all, and that for obvious reasons; but it was finally decided—and he thought rightly—that it would not be becoming of such a society to reject purely on *a priori* grounds a communication which dealt in a perfectly scientific spirit with a set of phenomena which, to say the least, had excited very considerable interest. This was in the nature of a preliminary communication. It was not designed to be complete and final, and therefore it was a question whether it could profitably be followed by any general discussion, which must, if it took place at all, take place on a later date.

### SIR THOMAS HORDER'S INTRODUCTORY REMARKS.

Mr. President, Ladies, and Gentlemen,—In the first place, Dr. Hutchison, I desire, both for myself and my colleagues, to thank you and your fellow members for giving us this opportunity of bringing the communication before you. In affording this opportunity to us you have shown no little courage, since you have risked the censure of those—and they are neither few nor unsubstantial—in whose nostrils this subject has an odour which is quite unavoury. I can only hope, Sir, that you will not regret your decision, but it will rather redound to the credit of both of these important branches of our society.

I spoke of my colleagues, and I hasten to say that I am not standing here this evening on my own behalf. I am here to represent a small committee of investigation, whose joint views I am entrusted to express as adequately as I am able to do. For what I say, therefore—assuming I do not stray too far from the context of the communication which is in fact a report of a committee—I do not accept all the responsibility. By the same token I cannot, even if I wish—and I do not—claim more than one-fifth of any credit which may be due to us. Nor again, if you disapprove of our work, need I feel the onus of more than one-fifth of your censure. The names of this small investigating committee, and their claims to fitness for such work as has been attempted, will be found in the body of the communication, Section 4. I also see that the names appear without detailed qualifications as to fitness on the front page of the galley sheets you have before you. The genesis of this committee is also sketched in the same section, and its varied interests are mentioned. For myself, I have held the honourable chairmanship of the committee, but, apart from this, my own contributions are small in comparison with that of my colleagues. Since three of those are laymen, it fell to either Dr. Heald or to myself to make this communication. My position as chairman made it easy for Dr. Heald to escape the task with which I find myself faced.

I will not take up your time by advancing all the reasons which led us to choose the Royal Society of Medicine as the

body before whom this report should be brought. I will only mention three of those reasons, but I would like to dilate upon the third. In the first place, it is to be noted that it was in the field of medicine that the electronic reactions of Abrams, which I shall call "E.R.A." for short, originated. In the second place, it is common knowledge that the electronic reactions of Abrams have become established as methods of diagnosis and treatment in the practice of a number of registered medical men, even to the exclusion of more recognized methods. Thirdly, we feel strongly that it is high time that the various questions surrounding such practice should be ventilated before an unprejudiced tribunal such as this society; and since neither coaxing nor baiting, nor even sincere invitation, has induced the practising electronists of this country to tell us exactly what they are doing, so that just criticism may be offered on the one hand and justification pleaded on the other, it seems only right that we who are not electronists should ventilate the matter for them. It may be advanced that there is already a Society of Electronists where these questions are debated, but may we not know something of its business, its aims, and its transactions? Is it conceivable that medicine can be advanced by masonic methods of this kind?

Now, there does seem to be a stirring of the waters; to change the metaphor there are signs of a manœuvring for position. Indirectly a plea has been entered for recognition, and an amazing sentence was to be read in a letter from an electronist in a medical journal last week. "Now," he says, "that the subject is receiving a greater measure of consideration than before, it seems only right and fair that the position of genuine Abrams workers in this country should be properly appreciated." We are not offered any definition of what "a genuine Abrams worker" may be. I venture to say that if the definition includes any such notion as seeking after proof with a sense of responsibility to medicine and to the public, it is quite true that no Abrams worker has yet had the appreciation he deserves.

### Demonstration.

Sir Thomas Horder then went on to show on the lantern screen certain diagrams and pictures of the apparatus. The wiring of Abrams's apparatus is shown in Fig. 1, reproduced on this page, and that of the Boyd apparatus in

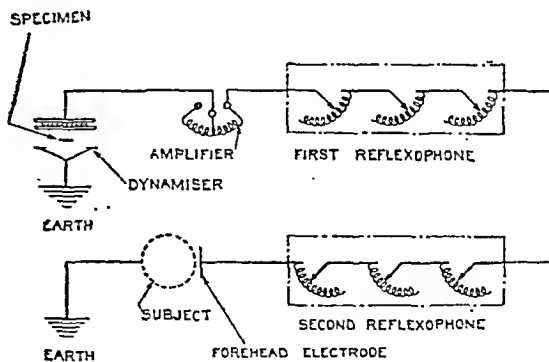


FIG. 1.—Abrams's Apparatus.

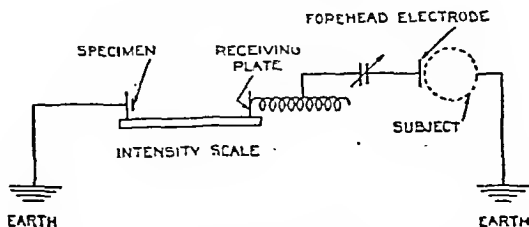


FIG. 2.—Boyd's Apparatus.

Fig. 2. Sir Thomas Horder said he supposed a good many of those present were as ignorant of the Abrams method and technique as was the editor of a certain card, who converted the word "electronic" into "electro-tonic," so that if that editor were present that evening at least one of the audience would start at scratch! Neither

he, nor perhaps his colleagues, were prepared to say that "electro-tonics" might not be as near the truth as "electronic." As a matter of fact, as he thought the audience would conclude at the end of the meeting, they all stood at scratch in regard to this question.

The diagrams showed the series of instruments used in the Abrams technique. They were called—not (Sir Thomas Horder said) that the name appeared to mean anything—the "dynamiser," in which the specimen of blood was placed for examination, the amplifier, and two so-called "reflexophones," from the end of which a flex ran to the forehead of the subject. Another picture showed that, attached to the "dynamiser," there were a couple of metallic contacts connecting with a piece of filter-paper containing the drop of blood, and then, in series with the amplifier, two "reflexophones" with wires to the forehead of the subject. Other lantern slides illustrated the Abrams technique, with the very simple so-called "reflexophones," a single instrument without the amplifier, representing the Abrams method reduced to the simplest possible terms. As to how much simpler these terms might be nobody knew. Ho would forgive those who had been a little flippant about the gadgets connected with this technique, because it was very difficult to be serious; one did not even know whether perhaps the coal-scuttle or a pair of tongs might not replace them, or, in fact, whether any instrument was really necessary at all. Ho handed round in the meeting an example of the so-called "resistance box," which might have been in the hands of the late Albert Abrams himself. There were a number of studs, with a revolving contact-maker, but whether it acted as a resistance box or, as Boyd thought, as an inductance was a matter of dispute.

Another slide showed the interior of one of these "reflexophones" or so-called "resistance boxes." These boxes were sold or leased at very high prices to the early disciples of Abrams, who signed a contract that they would not open the box to see what was in it. Therefore (Sir Thomas said) one might very well compliment Dr. Boyd on his ingenuity in x-raying the instrument from the outside, thus getting a very definite and exact idea of what it contained. Sir Thomas Horder then illustrated various applications of these instruments as introduced in the evolution of the technique in the hands of Dr. W. E. Boyd of Glasgow. One of these was a new experimental coil wound for inductance; Dr. Boyd started with the idea that it really acted as an inductance and not as a resistance at all, and naturally ho constructed his own inductance on scientific lines. The intensity scale, as it was called, was also illustrated on the screen, with the specimen (in this case a chemical substance in a glass bottle) and the so-called "receiving plate," which could be moved nearer to or farther from the specimen. The next picture was the "lay-out" of the Boyd apparatus. As soon as Dr. Boyd discovered that a really essential part of the experiment, in order to get any consistent results at all, was very careful screening of apparatus and subject, and of operator also, he elaborated his apparatus accordingly. Other slides showed the evolution of the technique on the Boyd lines, in respect of the screening, not merely of the apparatus used, but also of the subject and the operator. The effort to replace the human abdomen as a detector, by instruments which could give, by a graph or some other method, an indication of something happening, had hitherto failed. The percussor, therefore, and the percussed were still essential parts of the "lay-out," and the lantern slides showed a boy percussing his colleague with his arms put through a flexible copper gauze screen. Other phases of the experiment were also illustrated. The final picture showed the apparatus in its present form—a form which had been evolved subsequent to the experiments to be described later, and which had not even been seen by his colleagues on the committee.

#### EXPERIMENTS WITH THE APPARATUS.

Sir Thomas Horder then proceeded with the communication proper. He said:  
In proportion to the results obtained, it may be thought that this report is unnecessarily prolix. The present investigators have not found it so simple as might be thought to justify in a few words the important conclusions which they have drawn from their evidence. In his presidential address

before the Pathological Section of this society this year, Professor Clark spoke of the Abrams technique as "one of the most glaring examples of quackery, and said that the claims appear to be of such a nature that their truth or falsehood could be demonstrated in a few hours' test. Well, I shall not offer any apology for so conspicuous an absence of facility on the part of my committee; I will rather content myself with the reflection that it was not for want of experience that our fathers conceived the truth as lying at the bottom of a well, and that much of what lay on the top of it was what Professor Clark calls falsehood.

This communication is concerned with the procedure and results of an investigation of which the object was to determine, as conclusively as might be practicable, whether there be any valid basis for the claims put forward in respect of the so-called "electronic reactions" of Abrams, or of any analogous technique allied thereto or developed therefrom.

The conclusions which have been reached, and the considerations which led to them, will be discussed below, but before proceeding to this main body of the communication four important points must be emphasized. First, it has been found necessary to refer in some detail to certain earlier comments and so-called investigations. For other wise it would have been impossible properly to justify all the views here expressed, adequately to anticipate inevitable criticism, or even to explain the discrepancies between the results of this study and those of previous investigators. Second, it must be clearly understood that this inquiry has been confined exclusively to what may, for convenience, be termed the "diagnostic" aspects of the techniques concerned; that is to say, no attention whatever has been paid to the "oscilloclast" and "electro-bioscope," or to similar contrivances. Third, it is essential that a clear distinction be preserved between these two pieces of apparatus. It is commonly but erroneously supposed that the instrument of Boyd is no more than a minor variation on that of Abrams, whereas it appears actually to be a design de novo based on a different conception of the phenomena involved. Fourth, as will be seen later, certain important experiments were carried out in which homoeopathic drugs happened to be used as test substances. The present investigators wish specifically to emphasize that acceptance of the results of such tests does not involve recognition of principles or clinical methods.

It may also be noted here that for various reasons none of the investigators has himself mastered either of the techniques concerned, so that it has been necessary, as it would in any case have been desirable, to rely for tests and experiments upon the work of exponents who are familiar with them. The investigators wish to take this opportunity of thanking all those who have given demonstrations or collaborated in the work, and of expressing in particular their gratitude to Dr. W. E. Boyd, who has not only given them the fullest facilities for investigation, but has willingly submitted to the imposition of the most rigid control during crucial tests.

I do not propose to overburden this communication, which in any event must be somewhat lengthy, with an extended account of the career of Dr. Abrams, or of the details of his various instruments and methods. Not only are these facts largely irrelevant to the main issue involved, but they are already widely known and reasonably accessible, so that it will be sufficient to record that Abrams was born in 1863, obtained his medical degree at Heidelberg in 1882, practised for many years in San Francisco, founded in 1910 a mode of treatment known as "spondylotherapy," and introduced his so-called "electronic reactions" in 1916. Ho died in 1924.

It is scarcely surprising that claims of this character were in general received both by the medical profession and by lay critics with a scepticism tantamount to hostility. None the less a certain number of practitioners obtained, by sending specimens to Abrams for diagnosis, results which persuaded them that some at least of his claims were not wholly unfounded, and the technique accordingly spread until at the present time there are, it would appear, many hundreds of exponents of his diagnostic and curative methods in the United States of America alone. It is true that of these adherents all too large a proportion are of,



the variety known as "advertising specialists," but there has always been, and still is, a certain reputable minority who, whether they have adhered to the original Abrams apparatus, or, like Dr. Boyd, have devised conspicuous modifications, have sought patiently and sincerely to elucidate the problems involved and to eradicate such errors as they have encountered. This fact, taken in conjunction with the importance of the issues at stake, should have sufficed to ensure for the technique a judicial and painstaking investigation and to save it from the bigoted and *a priori* condemnation in which, actually, critics almost exclusively indulged, and of which alone the majority appear capable.

It would be idle to deny that Dr. Abrams constantly put forward the most startling claims on the slenderest evidence; that he persistently evaded test conditions; that he expressed himself in a jargon characteristic of charlatanism; or that he had no scruple in selling or leasing to others, at high charges, apparatus crudely constructed and at best imperfectly developed. But all this, although indicating an unfortunate lack both of scientific method and of scientific conscience, is no justification of the manner in which the subject has been handled by critics. For the possibility should not have been forgotten that Dr. Abrams might, in fact, have lighted upon a discovery of genuine scientific importance, and yet have elected to exploit it to the utmost for immediate advantage in preference to entering upon a prolonged, laborious, and financially unprofitable research.

Historically, a close parallel may be found in the case of Mesmer, who unquestionably discovered—or rediscovered—phenomena of the utmost interest, but by his thaumaturgic ritual, preposterous terminology, and imperfect methods so vitiated his own case that it was only after many years of labour by such men as Braid, Esdaile, Elliotson, Bernheim, and Charcot that the principles of hypnotism and suggestion were established as scientifically valid. It seems probable that the sequence of events in the present case has been closely similar, and it is at least certain that the methods of criticism hitherto employed have served mainly to create an atmosphere of bitterness and suspicion without contributing in any proportionate degree to the settlement of the issue. It is, indeed, not at all surprising that the ineptitude displayed has so alienated the sympathies of electronic practitioners that they have frequently refused to submit to the "tests"—so called—which have been suggested, although on the other hand their omission, speaking generally, to recognize the limitations of their methods or to suggest fair trials is greatly to be regretted.

Much space has been occupied in various periodicals and elsewhere by articles and commentaries dealing with the Abrams technique, but it is neither necessary nor desirable to consider here more than certain representative examples. Such matter as the sensibly non-committal articles in *Truth*, the eulogies of Mr. Upton Sinclair in *Pearson's*, and the quasi-technical propaganda of the so-called "Electronic Research Laboratories," may legitimately be omitted altogether, for they have no bearing on the fundamental issue as to whether the claims of Abrams have been completely refuted or in some degree substantiated. Such evidence as is available is to be found, rather, in accounts of tests as in the *Scientific American* and in the *Journal of the American Medical Association*, or in the attacks of the *Dearborn Independent* and the *BRITISH MEDICAL JOURNAL*.

In the second category, pride of place must unquestionably be given to the *Scientific American*, the staff of which appear to have been unique in conducting a bona-fide investigation of the merits of the case on a scientific and experimental basis. The responsible committee seems to have made prolonged and sincere efforts to apply fair tests capable of yielding convincing results, but they complain that they have been much hampered by the evasions of electronic practitioners or by their reluctance to submit to experimental control. The results obtained were uniformly negative, and the verdict of the Committee was as follows:

"This Committee finds that the claims advanced on behalf of the electronic reactions of Abrams, and of electronic practice in general, are not substantiated; and it is our belief that they have no basis

in fact. In our opinion the so-called electronic reactions do not occur, and the so-called electronic treatments are without value."

It was, perhaps, unfortunate that the first test undertaken should have consisted in the attempted identification of pure cultures of micro-organisms, for, in spite of the approval of the practitioner concerned, it is at least possible that the technique when applied to diagnosis from specimens of diseased blood operates by virtue, not of the micro-organisms themselves, but of certain products of the interaction which might be lacking in a pure culture. It seems probable also that the Committee might have obtained more positive results if they had concentrated on very simple tests of a "Yes or No" character instead of the more elaborate problem of localizing diseased teeth or the somewhat complex "blood-selection" test described in the issue for June, 1924. It is interesting to note, in this latter connexion, that the results actually obtained were considerably worse than would be expected if pure chance were alone responsible. The Committee appear to have regarded this as specially strong evidence against the technique, whereas it actually suggests that some cause other than chance was operative—that is, that the apparatus was in some fashion working, though not in the way that was intended. Other factors which may have vitiated the experiments will be indicated later.

It should consequently be evident that at the time when the present inquiry was initiated there had arisen a serious need for a more enlightened and searching investigation of electronic techniques than had previously been accorded to them. On the one hand, it was clearly in the public interest that a question of such importance should be settled as speedily and as conclusively as possible; on the other, it was not less clear that the polemical methods so far adopted by the critics and the consequent diffidence displayed by the electronists were calculated indefinitely to retard any such result.

#### *The Prima-facie Evidence.*

I will turn now to the *prima-facie* evidence, with which I will deal somewhat briefly. Reference has been made in the previous section to what may be described as the *prima-facie* evidence—that is to say, to those incidents and evidential items which collectively persuaded the present investigators that the claims of electronic practitioners were not necessarily all ill founded and that the inquiry was, in spite of disappointments, worth pursuing; but it must be understood that it has been collected over a considerable period of time, and that while some parts were obtained before ever serious investigations were initiated, others are of comparatively recent date, and contemporary with certain stages of the fuller research.

It will not be necessary, for the purposes of this section, to describe the many tests and demonstrations which yielded negative results, for it is naturally to be expected that a technique of this kind would fail whenever conditions happened to be unfavourable; whereas the object of the inquiry was to ascertain whether the methods concerned ever yielded successful results which could not reasonably be attributed to pure chance, ingenious guess-work, or deception. It will therefore be sufficient to cite a few of those more successful experiments which encouraged the investigators to believe that delicate, or indeed erratic, as the electronic techniques might be, there still existed some genuine foundation for the claims made on their behalf.

For this purpose three cases of special interest have been selected, mainly on the grounds that they were of a sufficiently concrete nature to admit of reasonably succinct description; but it must be remembered that in addition to these there was encountered from time to time a large amount of more or less impressive evidence albeit of a somewhat indefinite character.

The first notable experiment was conducted in September, 1923, as follows: A certain demonstrator was given six specimens of sputa on filter-papers placed in different envelopes (numbered according to a key by Dr. Heald), and was told that these six specimens constituted three pairs of which one pair was taken from Dr. Heald and another from Dr. C. H. S. Taylor of Cambridge, while the third pair was blank. The problem was to pair the specimens correctly. This the demonstrator successfully achieved, and, in addition, by comparing the "reactions" given by these specimens with those from known specimens, he correctly stated which pair was from Dr. Heald and which from Dr. Taylor. It

is easily seen that the chance of this being effected by accident is equal to  $1/5 \times 1/3 \times 1/2$ , or 1 in 30; for if one specimen be taken to start with, it can be associated as a pair with any of the remaining five, of which alternatives only one will be right; similarly there are three ways in which the remaining four specimens can be paired, while the final discrimination can clearly be done in either of two ways. Thus, then, may be considered a very successful demonstration.

The second experiment to be considered was of a somewhat different character. It will be remembered that in the Royd "emanometer" technique the specimen is carried in a sliding holder, the distance of which from the fixed receiving plate of the instrument can be varied and measured in centimetres on a suitable scale. I have here the actual instrument with the receiving plate, and this gap can be measured accurately. It is claimed that the "intensity" of the "emanation"—of course I cannot read the inverted commas, but by "intensity" we know very little of what is meant, and by "emanation" we know still less, but one has to choose some words in order to get on—can be estimated by noting at what value of this distance the reaction disappears, as the sliding holder is moved away from the receiving plate, or reappears as it is moved towards it. It was considered that if the reactions were of a genuinely physical character it should be possible for the operator correctly to identify the point on the scale at which a specimen began to record (that is, to obtain a reasonably consistent series of "intensity readings") even if the holder were moved by some other person in such a way as to be invisible to him.

Another demonstrator kindly consented to carry out some tests on these lines, and two sets of experiments were accordingly made. The procedure was substantially as follows: the demonstrator, having obtained a satisfactory reaction on some convenient "wave" from the specimen in question, proceeded to determine its "intensity" in the manner indicated above, and the scale reading denoting this "intensity" was recorded. We will say that the specimen is a certain distance from the receiving plate. The experimenter then placed the slider in some other position and, under the demonstrator's direction, moved it nearer to or further from the receiving plate until the demonstrator considered that it was in the same position as before (that is, was showing the original "intensity reading"). The actual position on the scale was then noted and the procedure repeated. Screens were so arranged that the slider was always invisible except to the experimenter, and he took pains to vary its position at the beginning of each trial in an arbitrary fashion and not to afford any clue by his movements, etc., which might be helpful to the demonstrator.

Then follow the records of five of these series. You will see the actual figures in centimetres in which the administrator replaced the specimen after it was displaced by the experimenter.

It is clear that with this form of test it is difficult to assess with precision the chance of the operator obtaining the observed results by accident. It is, however, evident by inspection that the values obtained under test conditions group themselves in every series (except in the third, when the subject was obviously fatigued) reasonably closely around the "correct value" as previously determined by the demonstrator.

The mean error of all trials is 5.78 cm., or, if we exclude cases in which the trial may have been vitiated by the fatigue of the subject, about 4.32 cm. The demonstrator never claimed to work to finer limits than *plus* or *minus* 5 cm., so we can conveniently take this range as a standard. If we consider any test result within 5 cm. of the previously determined intensity as "right," and anything outside this limit as "wrong," we find that the demonstrator obtains twenty-six successes to eighteen failures, or—with the same reservation as before—twenty-three successes to twelve failures. Now the scale is about 55 cm. long, so that the chance of any "test" intensity being, by accident, within 5 cm. of the previously determined value is about two-elevenths. If pure chance alone were at work, therefore, we should expect the demonstrator to produce an average of about two successes in eleven trials, whereas he actually succeeds rather more than six times in eleven according to the less favourable computation, or rather more than seven times on the more favourable.

The last of the definite experiments to be recorded is somewhat similar in type to the foregoing, inasmuch as it was not a matter of diagnosis or of identifying specimens, but of testing a purely technical point which the exponents of the technique regarded as established. It is believed by Dr. Boyd and his colleagues that if an earthed metal plate be interposed between a specimen and the receiving plate of the apparatus, the reactions due to the former will be cut off. That is to say, if the metal plate be placed between them the reaction obtained by the experimenter will cease or disappear. This alleged phenomenon appeared to offer a simple means of testing the physical basis of the technique; for it is easy to arrange a screen of this kind in such a way that its position cannot be directly observed by the demonstrator, who, none the less, should be able to say whether or not it is screening the specimen. The Committee was fortunate in being able again to secure the collaboration of the second demonstrator in these tests.

An earthed metallic screen was arranged so that it could be moved by the experimenter into—or away from—its effective position without the demonstrator being able to determine the sense from a suitable specimen the experimenter adjusted the screening to one of its alternative positions and asked the demonstrator to say whether the specimens were or were not screened; he repeated the manoeuvre a number of times, varying the "screened" or "unscreened" positions in the usual arbitrary manner.

Four series of tests were carried out. In the first series twelve trials were successful and eight were failures; in the second, ten were successful and two were failures; in the third, eight successful

and four failures; in the fourth, sixteen successful and four failures. Total: forty-six successes and eighteen failures out of sixty-four trials. Actually the chances can be shown to be about 1 in 3,038, or "odds of 3,037 to 1 against."

### The Nature of the Problem.

So much for the *prima-facie* case. I now turn to the nature of the problem.

It is easy to condemn a novel and somewhat fantastic technique on *a priori* grounds, and it is not difficult to establish a *non* discovery—even in the face of hostile criticism—if its phenomena can be easily reproduced and explained in terms of accepted scientific principles. But if in addition to their strangeness the phenomena be erratic and difficult to demonstrate, and if their causes be in a high degree obscure, then special precautions must be taken in order to ensure a convincing outcome for the investigation. This was essentially the position which confronted the present investigators, and it will be desirable to give a few words in explanation of the reasons which determined their plan of action.

The study of such phenomena as the so-called "E.R.A." here considered falls naturally into three distinct phases or aspects which may be referred to as demonstration, explanation, and interpretation respectively. In other words, there arises, first, the question of whether the phenomena under consideration occur at all; second, that of why they occur; and third, that of what significance they may possess.

Now, the first aspect is of paramount importance in the earlier stages of an investigation of this kind; for provided it be shown beyond reasonable doubt that new phenomena exist, there is not likely, in these days, to be any difficulty in ensuring an adequate study of their causes and their significance. But although this be true there is no doubt that a demonstration supported by a reasonable explanation is likely to be more convincing and more readily accepted than a bare asseveration of facts which, however well these may be evidenced, must stand alone on their own merits. It was accordingly decided to conduct, in the first instance, a series of essentially physical experiments in order to determine whether the "reactions" (that is, the changes in the percussion note and the concomitant effects apparent only to the operator) were accompanied by any changes (for example, in the electrical condition of the skin) which could be detected by physical apparatus of an ordinary type. And it was decided also to leave temporarily on one side all questions of the manner or degree in which the reactions, if any, might be correlated with disease or with any other physiological conditions of the persons from whom specimens might have been taken. It was thought that some relatively gross effects—similar, for example, to the change in skin resistance associated with the psychogalvanic reflex—might be discovered, and that these would not only enable the existence of the phenomena to be demonstrated beyond cavil, but would also point the way towards the elucidation of their origin. Even in the event of experiments on these lines yielding negative results, the labour involved would not, it was decided, have been wasted.

It was felt that in order to prosecute to the best advantage that essentially physical branch of the inquiry, to which reference has just been made, it would be desirable to employ the whole-time services of a trained physicist. Accordingly Mr. H. St. G. Anson, who was recommended by the authorities of Faraday House as being exceptionally well qualified to undertake original work in experimental physics, was engaged. Mr. Anson's experiments, conducted partly in London and partly with Dr. Boyd in Glasgow, extended over a period of some five months. It will be sufficient to remark here that his work was concerned chiefly with two main points—namely, first, an attempt to obtain instrumental evidence of some change in the electrical condition of the subject's skin concomitant to the variation of the percussion note, and second, to obtain graphical records of this acoustical phenomenon.

Mr. Anson experimented with a great number of electrometers, voltmeters, rectifiers, amplifiers, and galvanometers in various combinations; but he invariably found that if the sensitivity of the apparatus were relatively small no effects could be detected; while if it were great the

ordinary "skin effects" and changes of potential difference due to percussion were such as to mask completely any effects which might have been produced by the "electronic" reaction proper. These experiments consequently led to entirely indeterminate results, so that any detailed account would be out of place in this context, although it is hoped that they may prove of value in subsequent investigations into the physical nature of the phenomenon which it is hoped to undertake in due course.

### The Crucial Tests.

I now pass to the second phase—the crucial tests.

In view of the negative results obtained from the experiments just mentioned, the investigators decided temporarily to abandon this line of work and to concentrate for a time on the fundamental problem of whether any genuine phenomena occurred at all—without regard to the nature of such physical mechanisms as might be involved. Tests for this purpose, in addition to being as economical as may be practicable—in respect of both time and labour—and capable of reproduction if desired, should conform to the three main requirements following:

- (i) They should give the fairest possible chance to the exponents of the technique.
- (ii) They should anticipate all valid criticism on the score of control.
- (iii) They should be capable of yielding results which leave no room for differences of opinion.

The first of these difficulties demands that no restrictions whatever be laid upon the exponents except such as be necessary to secure the second; in general the simpler tests are preferable to the more elaborate, and the type of test selected should be such as to secure the full approval and confidence of the exponents. In particular, all processes of sterilization of apparatus, special packing of specimens, use of known specimens as controls, together with collaboration by two or more exponents, and any desired amount of retesting or checking, are not only perfectly legitimate but are to be encouraged in the best interests of the test.

In order to satisfy the second condition it is necessary and sufficient so to organize the procedure that the exponents of the technique cannot possibly obtain correct results save by the bona-fide use of the apparatus, or by that operation of pure chance which is covered by the third proviso. In other words, the test conditions must be such as to exclude fraud (whether witting or unwitting) together with self-deception. The precautions adopted by the investigators in this connexion will perhaps be considered excessive in some quarters, and must often have appeared both irksome and superfluous to those who were subjected to them. But apart from deliberate trickery, the literature of psychopathology contains so many cases of elaborate deceptions perpetrated by apparently reputable persons; that no investigation of this kind would be of value in which such possibilities had not received the most careful consideration.

The third condition can only be satisfied by so devising experiments as to yield *quantitative* results. This point is highly important, for it offers the only possibility of avoiding controversy as to the actual value of the results obtained.

In view of these considerations, it was decided to rely exclusively on tests of such a character that the value of the results obtained could be unequivocally computed by mathematical methods, and to persevere with a series of such tests until it became apparent that their general tendency was either towards results reasonably attributable to chance alone or else towards figures which could not rationally be ascribed to such causes.

The first test of this kind was carried out in London in May, 1924, with the co-operation of Dr. W. R. McCrae, assisted by Dr. Boyd. It took the form of an attempt to separate correctly twenty pairs of specimens of sputa taken from two patients chosen and approved by Dr. McCrae. Twenty specimens were taken from each patient by Dr. Heald and Mr. Whately Smith, and were arranged by them in pairs and numbered according to an arbitrary key. Each pair contained one specimen from each patient, but there was nothing to indicate which was which. Control specimens were taken by Dr. McCrae. The outcome of the test was unfavourable to the technique, for of the results returned by the exponents eleven only were correct, while nine were wrong; which is just the kind of result which would be expected if chance alone were operative. In a memorandum addressed to the investigators,

Dr. Boyd ascribed this failure to two main causes—namely, first that the screening arrangements then available at Dr. McCrae's laboratory were insufficient to ensure complete freedom from "contamination," and secondly, that the time required for examining, checking, and rechecking forty specimens was so great that many of them became stale before they could be dealt with—a tendency liable to be aggravated by the necessity for avoiding undue fatigue on the part of operator and subject.

Dr. Boyd also expressed a desire that further tests of a slightly different character, but equally conforming to the requirements of the investigators, should be carried out in his own laboratory at Glasgow. To this suggestion the investigators willingly agreed, and on June 6th, 1924, Mr. Whately Smith visited Glasgow for the purpose. His full report is given in Appendix I, and the following quotation and abbreviated account of the tests is given here merely to show the kind of results obtained and the type of procedure adopted.

The first test consisted in discrimination between two apparently identical substances which were presented by the experimenter (Mr. Whately Smith) in such a way as to be indistinguishable by visual or other normal methods. Of twenty-five successive trials all were successful; the chance of this result being obtained by accident is 1 in 33,554,432.

Mr. Whately Smith says: "After inspecting the laboratory and apparatus the first test was attempted. From a group of about a dozen sterilized bottles and corks I selected two closely similar examples of each. One bottle was filled to a depth of about 1/4 in. with a white granular substance believed to be 'active,' the other to an equal depth with a substance of identically similar appearance alleged to be 'neutral.' The corks were inscribed 'sulphur 10 m.' and 'blank' respectively, in small characters. I satisfied myself by personal trial that it was utterly impossible for either the 'operator' (Colin Campbell) or the 'subject' (James Watson)—two Gallowgate boys—to distinguish the bottles visually when placed in position on the shelf just inside the hatch. This was due to (a) the very dim light illuminating the bottles when in position; (b) the several thicknesses of copper gauze which in each case obscured the view; and (c) the close similarity of the bottles themselves."

I have here a model of the actual laboratory in which these experiments were conducted, and I think it is so constructed that it is Dr. Boyd's laboratory, as it were, with the roof off, and if I turn it up—and you will remember the fact that the roof is now facing you, you will get an idea of the conditions under which these experiments were undertaken. It shows the outer room in which the experimenters stand with various bottles and drugs and sterilizing apparatus at hand. There is a small hatch which is covered by a copper plate running on a pulley. That is the only communication between this outer room and the copper screen or lined compartment in which the operator, the percussor, and the subject are placed. Just inside this small hatch there is a shelf, and the specimen—that is to say, the bottle containing sulphur or containing a substance which is inactive—is placed on that shelf just beyond a sheet of copper so arranged as to prevent any sight on the part of either of these boys of what is happening, as, for instance, which bottle is placed and when it is placed.

The emanometer is standing on a small table, the receiving plate facing the specimen on the shelf; the other end of the emanometer projects under this copper screen so that it can be adjusted or tuned as it were by the left-hand subject, and then we have the arrangement which I showed you on the lantern slide, the boy percussing his colleague with the arms put through the flexible copper gauze. The walls of this small room are covered with sheet copper or copper gauze, there is a copper screen, and a small hole for observation purposes. That is a model of the actual laboratory where these tests were carried out.

Mr. Whately Smith continues: "Dr. Boyd, Miss C. (his secretary), and myself then withdrew to the outer office, and I inserted the two bottles 'S' and 'B' alternately through the hatch until the operator professed himself as satisfied with the tuning and as prepared to discriminate between the two substances."

The tests then proceeded, and Mr. Smith says: "For each trial I raised the sliding panel of the hatch, inserted a bottle, dropped the hatch, and waited for the operator to say whether the reaction obtained was 'dull' (corresponding to the 'active' substance) or 'clear' (corresponding to the 'neutral' substance). The decision was practically always given within a second of dropping the panel; and on several occasions even before I had fully withdrawn my hand; I found it, in fact, difficult to keep pace with the operator. While this was going on, Dr. Boyd and his secretary were, for the greater part of the time, just outside the room in which I was working, but continuously within sight. I was careful to vary the order in which I presented the bottles, and also to shuffle them frequently, so that no possible observation of my movements by operator or subject could furnish any clue as to which bottle would next be presented. After certain trials the operator asked, and was allowed, to check the two substances—that is to say, first the one and then the other was presented, and he was told which was which. After trial 10 the subject went out and washed in order to remove possible contamination."

The fifth and last test was a screening experiment conducted on much the same lines as that already mentioned in an earlier section. Of sixteen trials all were successful, and the chance of this being due to accident or guess-work is 1 in 65,536. We attempted to identify one substance from five others. The chance of these results being achieved by accident was 1 in 7,000 odd. The next one, the screening experiment, which is the crucial test, corresponding to those in that *prima-facie* list which I gave you, was done under much stricter conditions.

Then there is a summary of the success achieved with the chances of accidental success. The drug discrimination gave that a very large probability against the result being accidental. Then the screening experiment shows a still higher probability against chance.

It was quite clear from these figures that the results obtained, whatever their true origin, could not reasonably be ascribed to the operation of chance alone. The only alternative to accepting the apparent phenomena as genuine was to assume either that Mr. Whately Smith's report was grossly inaccurate or else that he himself had been deceived by trickery—possibly pathological—on the part of Dr. Boyd or his assistants. Both these possibilities appeared to the investigators to be exceedingly remote. It was, however, represented that an issue so important as this should not be allowed to depend on the unsupported testimony of any single observer, and the desirability of conducting a repetition of the tests described in order to confirm or refute these results as conclusively as possible was strongly urged. It was further pointed out that although the other investigators could deal adequately with the question of accurate reporting, it would be advisable to enlist expert assistance with respect to the possibility of fraud, on the ground that no one who does not possess specialized knowledge of a high order is competent to express an authoritative opinion on such matters.

The investigators accordingly approached Mr. E. J. Dingwall, M.A., and invited his co-operation in this aspect of the work. Mr. Dingwall is research officer to the Society for Psychical Research, and has made a special study of the methods of deception and prestidigitatory technique associated with such matters as spurious "clairvoyance," "billet reading," "spirit photography," and similar performances in which chicanery is frequently encountered, and of all of which he possesses a world-wide experience. In the opinion of the investigators he represented the highest available authority on the subject, and they considered that although, strictly speaking, the only way of excluding trickery absolutely would be to repeat the tests in person, using specially constructed apparatus and independent subjects, yet if an expert of Mr. Dingwall's calibre failed to detect any suspicious indication, they need feel no further uneasiness on this score, especially in view of the considerable bulk of collateral evidence with which they were already acquainted. Mr. Dingwall kindly consented to act as consultant in this matter, and in due course accompanied Dr. Heald, Mr. Whately Smith, and myself to Glasgow on August 29th, 1924.

A full account of the proceedings on this occasion is given in Appendix II. The tests conducted were substantially identical with those performed by Mr. Whately Smith in the course of his earlier visit, and the degree of success attained by Dr. Boyd was not less impressive. Mr. Dingwall carefully noted the arrangements and procedure and made certain suggestions as regards screening, etc., all of which were duly carried out without reacting in any way adversely on the success of the tests employed. It would therefore appear that, subject only to the theoretical reservation made above, all possibility of deception may safely be regarded as eliminated. The other investigators were entirely satisfied with the conditions of the tests and demonstrations given, and formed the opinion that no more convincing exposition of the reality of the phenomena could reasonably be desired.

I will now pass to the conclusions to which the Committee have been led.

[Sir Thomas Horder then read the following conclusions and "afterword" which appear in the report.]

#### Conclusions.

In view of the general considerations and concrete evidence cited in this paper, the signatories consider that the following conclusions are justified:

(1) That certain substances, when placed in proper relation to the emanometer of Boyd, produce, beyond any reasonable doubt, changes in the abdominal wall of "the subject" of a kind which may be detected by percussion. This is tantamount to the statement that the fundamental proposition underlying, in common, the original and certain other forms of apparatus designed for the purpose of eliciting the so-called electronic reactions of Abrams, is established to a very high degree of probability.

(2) That no evidence justifying this deduction is yet available from the work of those who practise with the apparatus as yet designed by Abrams himself.

(3) That the phenomena appear to be extremely elusive, and highly susceptible to interference, so that in order to obtain reliable results it is necessary to take the most elaborate precautions, particularly as regards the elimination of effects due to irrelevant objects.

(4) That it would be premature at the present time even to hazard in the most tentative manner any hypothesis as to the physical basis of the phenomena here described.

It is impossible to emphasize too strongly that nothing in this Communication is to be taken as implying that any correlation of those changes in the abdominal wall, referred to in Conclusion (1), with pathological conditions has yet been shown, or *a fortiori*, that any justification—physical, pathological, nosological, or clinical—exists for the direct use of either the Abrams or Boyd apparatus in diagnosis or treatment.

#### Afterword: The Bearing of these Conclusions upon Medicine and Medical Practice.

Seeing that the electronic reactions of Abrams had their inception in the field of medicine, this Communication will scarcely be complete without a reference to the question which will immediately be asked by many who read it: "What relevancy have the facts now demonstrated to the diagnosis and treatment of disease?" The electronic practitioner will probably answer, "A great deal"; though he may protest that the demonstration has been entirely redundant; or, less ungracious, he may accept the demonstration as merely helping to establish further the claims he has already made. But in reality the answer must clearly be that the conclusions in this Communication, as they now stand, are not in the slightest degree pertinent to the diagnosis or treatment of disease in any practical sense. That is not to say that they may not possess all sorts of potential bearings upon both of these things. But until the research is taken much further, and until either the explanation, or the significance, of the facts recorded shall be forthcoming, the application of the Communication in the field of medicine is nil. At present there is no known correlation between the phenomena described and the fundamental facts of pathology, so that the value of this Communication to the practising physician can only be negative.

As already stated, the present investigators have concerned themselves solely with the establishment, to their satisfaction, of certain basic facts. In view of the urgent need of an answer to the question "Does anything happen?" they are satisfied for the moment with being able to say in effect, "Something does happen." Both the explanation and the application of the facts established await further investigation. Which of these will come before the other it is impossible to say, but until one of them arrives the mere statement of the phenomena here described gives no sort of sanction to any practitioner for using the Abrams method in practice. He may, of course, find a legitimate sanction elsewhere; for example, he may show results so consistently good as to justify him in continuing to use the Abrams apparatus in his daily work. But there is no evidence that even the most adept exponent obtains results so consistent as to justify him in doing more than experiment privately with the method. The present investigation clearly suggests one reason, and in itself a sufficient reason why the electronist's results cannot but be inconsistent—namely, the absolute necessity for efficient screening as proved by Boyd. That it has not been found by electronists generally that such screening is imperative in order to eliminate errors, is in itself a damning proof that the haste with which the method has been carried into the consulting room has prevented any proper investigation of its limitations or of its potentialities.

It seems probable that such developments as may take place on the clinical side are most likely to proceed from the methods initiated by Dr. Boyd, and still in process of elaboration by him.

\* This word is exclusively used herein to refer to those who rely upon the apparatus and technique as designed by Abrams himself.



By the term "consistent results" is meant not the conformity of the electronist's diagnosis with the clinical and pathological facts of the case—concerning which reference will be made later—but some reasonable degree of conformity as between the results obtained by different electronists working upon the same material; and as between the results obtained at different sittings held by the same electronist, equally working with the same material. But this reasonable degree of conformity has been conspicuously absent in both cases. In the various efforts made by individual members of the present Committee to obtain evidence of "something happening" by submitting tests of a simple kind to electronists willing to co-operate in this fashion—tests which it has not been thought necessary to specify in detail in this Communication—lack of consistency has been very striking. On more than one occasion the electronist has admitted the discrepancies in his own results, and has on this account considered them unreliable and therefore to be disregarded.

There are in the hands of the Committee details of experiments, carefully devised with a view to testing consistency of results, and submitted to exponents of the Abrams method but with conspicuous failure. All account of these experiments has been omitted from this Communication at the express request of the practitioner who was chiefly concerned "pending further research." These belated misgivings may have been prompted by the knowledge of the imminence of a report of experiments carried out in such a way as to yield unimpeachable results. Here was an opportunity for some electronist, from whom the saving grace of the scientific spirit has not wholly departed, to come forward and acknowledge publicly the glaring inconsistencies which inevitably and constantly face him in his daily practice. But the opportunity has been missed. To turn king's evidence is never popular and oftentimes unprofitable.

When electronists have been asked for an explanation of such inconsistencies as those referred to above they have sometimes attributed them to lack of expertness in their use of the method and sometimes to new and startling discoveries as regards fallacies of dimensions so large that their very existence would seem, to any unbiased mind, to throw the whole thing back into the melting pot. But neither the modesty which may be supposed to dictate the first explanation, nor the fallacies referred to in the second, would appear to induce any such hesitation in actual practice. The practising electronist is not in the habit of prefacing his diagnosis by declarations of his own lack of skill, nor by any reference to such confusing facts as (for example) that unknown factors cause the same "reaction" to be given by a carcinoma of the oesophagus and by pulmonary tuberculosis, or by simple gastric ulcer and by cancer of the stomach. No doubt any such prefaces, if systematically adopted, would quickly dispose of electronic practice altogether!

It is obvious, therefore, that there is, at present, no proper sanction for the use of the electronic reactions of Abrams on the ground of consistency of results, whether as between different workers or as between the results obtained by the same worker at different times. But even supposing that such glaring discrepancies can be eliminated by proper attention to technical points such as the screening which Boyd finds so essential, and by the substitution of the Boyd apparatus for that of Abrams, sanction will still be lacking so long as there exists no demonstrable correspondence between the "reactions" found and known pathological states. For patients do not suffer from "reactions"; they suffer from anatomical and physiological disturbances. If it should be claimed by the electronist that the establishment as criteria of his "reactions" is of greater moment to the patient than is the recognition of tissue changes and of the dysfunctions of organs, then the onus lies with the electronist of stating adequate reasons why the whole criteria of disease, as built up by the sciences of morbid anatomy and morbid physiology, should be revolutionized in this manner. This onus has never been accepted.

There is one other thing which may justly be regarded as a condemnation of electronic practice: electronists have

been hard at work for some ten years; they have "diagnosed" and "treated" thousands of patients; yet no contribution to pathology, which is the bed-rock of medicine, has been made by any of them. Surely this is a significant fact, when it is remembered how epoch-making are the claims made on behalf of E.R.A.

To sum up. The conclusions arrived at in this Communication leave the position of the practising electronist as scientifically unsound and as ethically unjustified as it was before. They give no sanction for the use of E.R.A. in the diagnosis or in the treatment of disease. Nor does there appear to be any other sanction for this kind of practice at the present time.

#### CHAIRMAN'S CLOSING REMARKS.

The CHAIRMAN (Dr. Robert Hutchison) said: I should like to thank Sir Thomas Horder in your name for his valuable communication, and particularly for the very lucid way in which he has presented it. As I said at the beginning, it is not proposed to hold a discussion immediately on this Communication; there is hardly time now, even if it were desirable on other grounds. On the other hand, if there is a general desire on the part of those present that at some later date a discussion should take place the officials of the Section will be glad to arrange one. I will therefore ask those who would like a discussion to hold up their hands. (A vote was then taken, and about a dozen hands were held up in favour of continuing the discussion.) There does not appear to be any very urgent desire for a discussion, so I think at the moment we had better leave it unsettled as to whether there should be a discussion or not.

### SMALL-POX IN ENGLAND AND WALES IN 1924.

#### I. PREVALENCE.

The Registrar-General's weekly returns of notifications of infectious diseases covering the year 1924 are now complete. As each year includes one day (and in leap years two days) more than fifty-two weeks, a total of weekly returns never exactly represents a calendar year, and once in a while a year has to be regarded as containing fifty-three weeks so as to include the lost days. That is the case for 1924, which for weekly statistical purposes began on Sunday, December 30th, 1923, and ended on Saturday, January 3rd, 1925.

In the year so defined the total notifications of small-pox were 3,784.

The following are the notification figures for the past fourteen years:

Year.	Cases.	Year.	Cases.
1911	289	1918	63
1912	121	1919	311
1913	113	1920	280
1914	65	1921	336
1915	93	1922	973
1916	159	1923	2,504
1917	7	1924	3,784
	847		8,251

The striking diminution from 1911 to 1917, and the still more striking increase of prevalence since 1917, are shown in this table. In the second seven years the cases are nearly ten times as numerous as in the first.

As regards seasonal distribution the notifications for the four quarters of the two years 1923 and 1924 were:

	1923.	1924.
First quarter	550	1,005
Second quarter	707	1,195
Third quarter	662	643
Fourth quarter	565	943*
Total	2,504	3,784

\* Fourteen weeks.



In 1924 the disease has prevailed chiefly in the Midlands and the North of England. Wales and the southern counties have been practically free from it; Derbyshire, Notts, Northumberland, Cumberland, the North and West Ridings of Yorkshire, and the counties of Gloucester and Leicester have all been involved. In the borough of Chesterfield there were 528 notifications, and in the Chesterfield rural district 218. In the borough the cases were mainly in the first half of the year, the last fourteen weeks having furnished only 19. In the rural area around it, however, the numbers rather increased than diminished in the course of the year. Other rural districts of Derbyshire considerably affected were Blackwell and Swadlincote. The county borough of Derby had no cases in the first quarter of the year, but there were 52 in the second quarter, 45 in the third, and 127 in the remaining fourteen weeks—a total of 222 in the year. The prevalence was very irregular in the latter part of the year, ranging from a single notification in the forty-second week to 37 in the forty-fifth.

Middlesbrough in the North Riding of Yorkshire had 485 cases, and the last fourteen weeks of the year contributed 169 to that total. In Cumberland the boroughs of Workington and Cockermouth had respectively 104 and 67 cases, almost all in the first half of the year. In Northumberland the urban district of Ashington had 301 cases in the fifty-three weeks, mainly in the second and third quarters of the year. In the county of Notts several places, especially Hucknall and Kirkby-in-Ashfield, Basford, and Mansfield, have been attacked. In Coventry some cases occurred, but nothing to call an epidemic developed.

The largest provincial cities in England, say the half-dozen towns with more than 300,000 inhabitants—Birmingham, Liverpool, Manchester, Sheffield, Leeds, and Bristol—with a total population of nearly four million, remain remarkably free from the disease, though they include ports where there is continual risk of introduction of infection. The same remark applies to London. In the third quarter of 1924 there were 3 cases—one each in Chelsea, Kensington, and St. Pancras—but no epidemic resulted. In the same quarter of the year there were 10 cases in Willesden.

### III. FATALITY.

The following is a statement of deaths from small-pox in the fourteen years 1911-24:

Year.	Deaths.	Year.	Deaths.
1911 ... ..	23	1918 ... ..	2
1912 ... ..	9	1919 ... ..	28
1913 ... ..	10	1920 ... ..	30
1914 ... ..	4	1921 ... ..	5
1915 ... ..	13	1922 ... ..	27
1916 ... ..	18	1923 ... ..	7
1917 ... ..	3	1924 ... ..	13
	80		112

The total cases in the fourteen years having been 9,098 and the total deaths 192, the fatality rate was 2.1 per cent. In the last seven years the rate was only 1.3 per cent. These are very low figures compared with earlier times, and even so they are not based entirely on the prevalent mild type of the disease. In Bristol, for example, in 1915 infection introduced from Spain gave rise to an outbreak of 32 cases with 7 deaths. In London, in 1922, of the 27 deaths 20 occurred in an outbreak of 65 cases, including those at the Poplar workhouse, and in the 10 cases at Willesden in 1924 there were 3 deaths.

Without reference to the wide differences between the case mortality of the vaccinated and unvaccinated, or between the mild and severe types of the disease, but taking the whole facts in their broadest aspect, there has been, ever since the European pandemic of 1870-73, a persistent though irregular decline in the death-dealing power of variola. What the future has in store in that respect it is quite impossible to prophesy, or even to guess. There is no good evidence that the mild type is becoming more severe, but rather the contrary. The old small-pox, however, may return any day, and the country must remain ready to meet the situation if it should arise. It is too soon yet to assume that we are rid of the danger.

## England and Wales.

### LEEDS HOSPITALS.

On January 16th Princess Mary visited Leeds for the annual distribution of prizes to the nursing staff of Leeds General Infirmary. In the absence, through illness, of Sir Arthur Stanley, the Vice-Chancellor of the University, Dr. J. B. Baillie, gave an account of the work of the past year, mentioning that three infirmary nurses had qualified as medalists. A four years' course had been recently introduced for nurses in connexion with the Infirmary. Their teachers were professors in the school of medicine, the nurses attended University classes, and the University itself granted the diploma for nursing. No other university gave a diploma to nurses, and this scheme placed nursing on a scientific basis. A contract for £130,000 has now been arranged in connexion with the process of transferring the Leeds War Pensions Hospital from Beckett's Park to Gledhow Grove. A total expenditure of £166,000 was sanctioned, but the cost of completely furnishing the hospital will probably amount to £200,000. The existing mansion on the estate will be preserved for administrative purposes, and new buildings will be erected between it and Harehills Lane. These new buildings will occupy a frontage of almost 600 feet, and will include a one-storied building for twenty officers, and two men's wards, two stories high, each capable of taking sixty-four beds. A recreation hall, 130 feet long, will be built; also a third-ward, a two-storied nurses' home, various workshops, a dispensary, a gymnasium, and kitchens. The buildings will be of brick, with slight stone facing, resembling the new buildings of the Leeds Infirmary.

### A CORONER'S CLASSIFICATION OF HIS INQUESTS.

Addressing a jury recently, Dr. F. J. Waldo, coroner for the City of London and Borough of Southwark, said that during last year he had held 541 inquiries, 48 more than in 1923. He had only dispensed with a jury in 111 "natural deaths." In all death inquests—save 11—he had ordered a full post-mortem examination by a competent medical practitioner, and, in special cases, at the hands of an expert independent pathologist. Among the inquests held were one case of murder and 29 cases of suicide. As most of his cases were drawn from large general hospitals, such as those of St. Bartholomew's and Guy's, a large majority of inquiries held before him were violent as opposed to natural deaths. A record number of 63 public inquiries by a jury (27 in the City and 36 in Southwark) had been held before him into traffic fatalities, as compared with 42 in the previous year. There were only 11 sudden and violent deaths, accelerated by the administration of anaesthetics given for necessary operations—the same number as last year. Of these inquests, 2 were held in the City and 9 in Southwark. There had been a big reduction in the number of inquests held on babies found suffocated in bed with their parents or guardians owing to the want of a cot or cradle. These deaths numbered two only—a record—and in one of these two cases (both in Southwark) there was no room for a cot owing to mother, father, and five girls and boys, ranging in age from 13 years to 3 weeks, having to sleep in one tiny room. Prior to his entering office in 1901 these deaths used to number 30 and more in a twelvemonth.

### CANCER RESEARCH IN MANCHESTER.

In Manchester, last summer, Dr. R. Veitch Clark, the medical officer of health, invited a number of medical practitioners and others interested in cancer research to form a committee, and several meetings have been held. This committee is now being enlarged by the addition of representatives of all the hospitals, the University, and other public bodies concerned; the Manchester Public Health Committee is co-operating actively. Certain lines of investigation have already been drawn up and proposals made to centralize the available funds; researches are being planned from geographical, industrial, and medical standpoints.

## SPECIAL SCHOOLS FOR DEFECTIVE CHILDREN.

The Board of Education has issued a circular<sup>1</sup> to local education authorities on the provision of special schools. There are in England and Wales some 150,000 defective children—blind, deaf, and physically and mentally defective; for these there are not more than 41,000 places in special schools. The obligation on local authorities to make this provision is of recent date (1914 and 1918); this, the war, and money difficulties account for the deficiency. The Board thinks that there is now no reason why the legislative provision should not be brought into being. It aims at the prompt ascertainment of all the children affected and for whom there is now no educational provision, and the speedy provision of proper facilities. From returns of defective children in the possession of the Board index figures for all areas will be provided, and should the returns of local areas be widely different from the index figure it is suggested there is ground for special inquiry. The Board prescribes no rigid order of priority in the types of schools needed; but it suggests that those for blind and deaf should come first, for the numbers concerned are comparatively small; then should follow a good orthopaedic scheme; next provision for the mentally defective; and, finally, open-air schools for the pre-tuberculous child. Provision for the mentally defective is the most difficult; but it is suggested that certain steps can be taken with little cost as a basis of a complete scheme—namely, a correct list of the children, notification of suitable cases under the Mental Deficiency Act, and supervision of children for whom no special schools exist.

## Ireland.

## MEDICAL REFEREES IN THE FREE STATE.

In connexion with the conditions of appointment of medical referees under the Insurance Act a meeting of the Cork borough medical practitioners expressed very strongly their dissatisfaction with the conditions of service, especially in the following respects: (1) the salary is altogether inadequate; (2) provision should have been made for a higher age limit than 45 years; (3) preferential treatment in making the appointments for medical men who had served in the Army Medical Service of the Free State was considered particularly objectionable, as during the recent troubles in Ireland the wounded were mainly treated by civil medical practitioners without remuneration. The Irish Medical Committee was informed during the week by the National Health Commission that the personnel of the Selection Board appointed by the Civil Service Commissioners to review applications for the positions of medical referees is as follows: Dr. Maguire, National Health Insurance Commissioner; Dr. C. Dickson, chief medical officer to the Civil Service Commission; and Colonel T. O'Higgins, Director of Army Medical Services. It appears that a recommendation by the Insurance Commission that the Irish Medical Committee should be invited to nominate two of its members to act on the Selection Board was turned down by the Civil Service Commission. It is now nine years since the British Government had agreed to appoint whole-time medical referees at much higher salaries, and that Government was also prepared to accept the proposal that representatives of the Irish Medical Committee should have a voice in the selection of the medical referees. The idea was that these medical referees, in the discharge of their duties, would be continually coming into touch in a consultant capacity with members of the profession generally, and that by giving the profession a voice in their selection it would be only approximating matters to the customs that work satisfactorily in private practice. In this respect and in the matter of increased remuneration the Insurance Commission was prepared to a considerable extent, in the circumstances, to meet the claims put forward by the representatives of the profession, and did actually in these respects make certain recommendations, which were turned down by the Civil Service Commission and the Department of Finance. There is a strong

and growing feeling amongst the profession in the Free State that several of the Government departments are acting towards it in a very unsympathetic manner. The rejection by the Civil Service Commission of the proposal of the Insurance Commission to include representatives of the Irish Medical Committee on the Selection Board for the recommendation of medical referees is considered offensive, even altogether apart from the constitution of the Free State in regard to vocational privileges. The salaries which are being directed by the Local Government Department to be paid in recent appointments in tuberculosis and mental hospitals are so low that the members of the local authorities protest against them, and point out that the remuneration offered is lower than that paid to the attendants and porters. It is believed at the moment that there is not a medical administrator in the Ministry of Local Government in receipt of £1,000 per annum including bonus. The salaries of medical inspectors are what they were fixed at almost fifty years ago—namely, an initial salary of £500 per annum, reaching after seven years a maximum of £700 per annum. There are only six medical inspectors in the Local Government Department engaged in inspection work under the Medical Charities Acts. These inspectors, to qualify for their appointments, should have spent seven years in practice and have a diploma in public health or sanitary science. To obtain a diploma in public health under the old regulations meant a six months' course and involved a cost of from £400 to £600 for practitioners, who had to leave their practices to study for it. This sum, added to £1,500—the amount estimated that it costs a man to get a registrable qualification to entitle him to practise medicine—means, in addition to other things, that to become a medical inspector in the Irish Local Government it will cost him for his professional attainments about £2,000. For this outlay, in addition to his numerous important duties with regard to public health and other work, the Free State Government thinks he is amply rewarded with a salary of from £500 to £700 with bonus. Nevertheless, the same Government pays a trade inspector £1,000 and bonus per annum, and head clerks each receive £700 to £850 with bonus. The cost of the education and the training of each of these officials need not have exceeded £25 altogether.

## Scotland.

## PROFESSOR MATTHEW HAY.

PROFESSOR MATTHEW HAY, M.D., LL.D., was presented with his portrait in oils, by Mr. Charles Sims, R.A., at a meeting in the Aberdeen Art Gallery on January 14th. The portrait represents Professor Hay seated in academic robes. The frame of the picture bears the inscription "Matthew Hay, M.D., LL.D., Professor of Forensic Medicine from 1883, Medical Officer of Health for the City 1888-1923. A civic and academic tribute, 1925. Painted by Charles Sims, R.A." The ceremony, over which Sir George Adam Smith (Principal of Aberdeen University) presided, was attended by a large company of university and civic authorities. The presentation was made by Lord Provost Meff, who said that the city desired to be associated with the University in honouring one who had done so much to raise the two bodies to the high position they occupied to-day. Professor Hay had come to Aberdeen in 1883 to succeed Dr. Francis Ogston in the chair. From 1888 onward he had been medical officer of health for the city and had raised its health department to a level which had made it a model of method and efficiency, and had given it an enviable status among municipalities. One of the first tasks undertaken by Professor Hay when appointed M.O.H. was the re-organization of the City Hospital. He had known how to win public confidence for the institution; it was to-day one of the most modern of its kind in the country. The portrait now presented, after being exhibited in the Art Gallery for a short time, would find a permanent place within the University. He also presented to Professor Hay a replica for his own keeping. The Principal, in accepting the portrait for the University, paid a warm tribute to Professor Hay's great services to it. He had been loyal to all

<sup>1</sup> Circular 1249, January 12th, 1925, Board of Education, London, S.W.

the faculties, had never spared himself, and had been an example of unselfishness, devotion, and courage to all who worked with him. In particular he had rendered great services to the financial department, and it was due to him that the finances were in a very healthy condition. The University would pass the portrait on as the monument of a man who had adorned the University by scientific eminence and had contributed more largely than any man of his generation to its usefulness and efficiency. Professor Hay, in returning thanks, said the honour done to him was greatly enhanced by the fact that both town and gown had shared in its bestowal. He said that universities, like other social and educational services, had profited greatly in recent years by the much more liberal view taken by the Government of its obligations towards the support of higher education, although much was still being left to private benefaction. There therefore remained great opportunity for private benefactions, especially for the provision and extension of buildings and for the elevation to chairs of some of the now very numerous lectureships. It was gratifying to observe how greatly laboratory research had grown in the universities within the last forty or fifty years, and a university should cultivate and encourage the spirit of research both within and without its walls. Before the end of the ceremony the Principal presented a silver tea service to Mrs. Matthew Hay.

#### SIR HAROLD STILES.

The resignation of Sir Harold J. Stiles, Professor of Clinical Surgery in the University of Edinburgh, has been tendered to the Secretary for Scotland and accepted. The resignation will take effect at the end of the present term in March, and at the same time as he relinquishes his chair in the University Sir Harold Stiles intends to retire from private practice. It is understood that he has been induced to give up his professional and University duties nearly three years before reaching the retiring age limit on account of feeling that the strain of so much operative work, teaching, examining, and administrative business connected with the University is proving too exacting, and no one can deny that he is right to take things easy while still in good health and capable of enjoying life. Sir Harold Stiles has had a strenuous and successful career, and has proved a popular and acceptable university teacher, being the fortunate possessor of an extremely lucid power of exposition. His orthopaedic work at Bangour Hospital during the war was specially valued by his professional colleagues, and earned for him the honour of knighthood. In 1886 his original work in cancer research secured for him the award of the Walker prize given quinquennially by the Royal College of Surgeons of England, and the prominent part that he took in drawing the attention of the public and of medical men to the importance of milk in relation to tuberculosis is well known. He was appointed Clinical Professor of Surgery to Edinburgh University in July, 1919, and he is at the present time President of the Royal College of Surgeons of Edinburgh and has been President of the Association of Surgeons of Great Britain and Ireland.

#### PROSPECTIVE ANNEXES TO EDINBURGH ROYAL INFIRMARY.

At a meeting of the Edinburgh Merchant Company held on January 15th, the Master, Mr. M. A. T. Thomson, presiding, a report was presented by Mr. Henry Darling, LL.D., representative of the company on the board of managers of the Royal Infirmary. It referred to various matters, such as the development of the ear and throat department, the new radiological department, and the Rockefeller laboratory, which have been fully described in recent issues of the *BRITISH MEDICAL JOURNAL*. In these various additions and extensions an outlay of £104,000 was involved, and the managers already had or knew where they could get the money. The managers, however, had now on hand a more extensive scheme which intimately concerned the Merchant Company in the acquisition of the site, buildings, and surrounding ground of George Watson's College. Among other purposes this space would be utilized by the infirmary for more adequate residential quarters for the nursing staff, and also for a new and up-to-date maternity hospital. For the latter purpose an

appeal to the public for £250,000 would eventually be made jointly by the Royal Infirmary and the Maternity Hospital. The present maternity hospital would be converted into a maternity and child welfare centre. Closely associated with the infirmary, and in its immediate proximity, there would also be erected the contemplated but hitherto deferred Lister Institute for research, and there would also be an institution for the care and cure of cancer, as provided for under the Melville trust.

#### THE FUTURE OF SURGICAL TEACHING IN EDINBURGH.

Professor D. P. D. Wilkie, M.D., Ch.M., who was appointed to the chair of surgery in Edinburgh University last summer, delivered an inaugural address on the future of surgical teaching in Edinburgh in the Melville Hall on January 13th. Principal Sir Alfred Ewing, who presided, said that the chair of surgery would be occupied in future as nearly as possible on a whole-time basis. Professor Wilkie at the outset of his address paid a tribute to Professor Caird and Sir Harold Stiles, to whose teaching he had owed much, and referred to the distinction of his predecessors in the chair, the late Professor Alexis Thomson, and Mr. Alexander Miles who had acted as interim professor. He believed that there were three main functions of a school of surgery. In the first place it must provide teaching for the undergraduate in the science of surgery and must train him in the application of the science to human suffering; secondly, it must provide more advanced training for those who meant to devote themselves specially to surgery; and thirdly, the energy of a surgical school must rest to a large extent on the spirit of research and inquiry which pervaded its departments, stimulated its teachers, and fired the imagination of its students. Lectures should not be a condensed substitute for the textbook. It should be the endeavour of teachers to crystallize their knowledge on the principles of their subject. Students should persistently demand proofs of all they were taught, and it would be his endeavour to teach largely by demonstration. There was a necessity for junior posts on the hospital staffs with sufficient emolument not to deter anyone with brains from a practical training in surgery. As to post-graduate teaching, it was surely possible, by co-operation and adjustment, to provide some organized scheme of clinical instruction. Speaking of experiments on animals, Professor Wilkie referred to the necessity for constant practice in inquiry, and held that only by control experiments on the lower animals could we hope to gain that accurate information upon which all science must be based. Nobody could tell where the next great advance in surgery would come, and the field for research was constantly widening. The surgery of the heart, for example, was no longer confined to occasional dramatic attempts to remove a bullet or stitch a stab wound; but experience had demonstrated that there was a possibility of direct surgical interference in cases of valvular disease of the heart, and further research was necessary to bring that discovery within the bounds of safe surgical practice. In regard to cancer, any new idea that might help in solving that problem must be fostered and encouraged. The future of surgery in Edinburgh would depend on the research work of the younger surgeons and this should be endowed so that younger men would be free from financial cares. It had been said that the discoveries of Pasteur saved enough money to pay the French indemnity in the Franco-Prussian war, and in the same way it could be said that in the saving of life and limb the work of Lister had meant in this country alone double the cost of the great war.

#### ROYAL COLLEGE OF PHYSICIANS ANNUAL DINNER.

The annual dinner of the Royal College of Physicians of Edinburgh was held on January 16th in the hall of the College, when Professor G. Lovell Gulland, C.M.G., President, was in the chair. After the loyal toasts, "The Imperial Forces" was proposed by the Vice-President (Dr. J. Craufurd Dnlop) and acknowledged by Rear-Admiral Sir Reginald Tyrwhitt, Commanding Officer, Coast of Scotland; "Our guests" was proposed by Professor G. M. Robertson and acknowledged by the Right Hon. Sir John

Gilmour, Secretary for Scotland; "The Scottish Universities" was proposed by Dr. Claude B. Ker and acknowledged by the Right Hon. Sir Henry Craik; and finally, "The Royal College of Physicians and its President" was submitted by the Marquess of Linlithgow and acknowledged by the President.

#### PREVENTION OF INFECTIVE JAUNDICE.

The regulations of the Scottish Board of Health for dealing with spirochaetosis icterohaemorrhagica are to continue in force until the end of 1925. The disease is to be notified by practitioners or attendants to the local officer of health, a fee of half a crown being paid for each notification. The Board has made arrangements for the examination of specimens in the pathological laboratory at the Royal Infirmary of Edinburgh.

#### NEEDS OF SCOTTISH HOSPITALS.

(Continued from page 138.)

The Hospital Services (Scotland) Committee appointed by the Scottish Board of Health to inquire into the inadequacy of hospital services in Scotland resumed its sittings on January 13th, under the chairmanship of the Hon. Lord Macenzie. General practitioners from various districts and members of the staffs of district hospitals were examined last week.

Dr. Cromie (Castle Douglas) emphasized the growing necessity in medical cases for other and better forms of treatment than bottles of medicine. He said that in the counties of Kirkcudbright and Wigton there were 31 beds in general hospitals for a population of over 60,000. It was true that most of the surgical work was done in Dumfries, Ayr, Glasgow, and Edinburgh, but the hospitals in these centres were admittedly overcrowded, and the early treatment of cases difficult. Factors which would tend to diminish the demand for hospital treatment were improved housing and an improved system of home nursing. He believed it would be a mistake to support hospitals from the rates, as this would destroy the voluntary principle.

Dr. G. R. Livingston (Dumfries) said that there was a shortage of hospital accommodation in the three south-western counties, and that there had been an enormous increase in the work done in the Dumfries Hospital during the last twenty years, so that the accommodation did not now meet the demand. To take paying patients would require a new hospital, and it was felt that the accommodation that convalescent wards would be a great advantage. He stated further to payment by patients if the accommodation could be provided.

Dr. P. F. McFarlan (Stirling) said that in Stirling Royal Infirmary the present accommodation was insufficient for the demand, and further provision was necessary, particularly for medical cases. The work in the Infirmary was increasing and would undoubtedly increase more rapidly with a larger and more fully equipped institution, and he did not think that increased housing or home nursing facilities would decrease the demand for hospital treatment. He thought that in a country town it was inadvisable that the public health authority should provide separate hospitals for general illnesses, but he thought that, if there was full co-operation between the public health authorities and the voluntary hospitals, the latter had a right to expect financial help both from the State and from the local rates.

Dr. A. E. Hunter (Falkirk) said that the present accommodation in Falkirk Infirmary was inadequate, especially in the surgical department. So far as this infirmary was concerned, he thought that either a new hospital or extension of the present one was preferable to auxiliary hospitals. In this district housing was impracticable from the home nursing point of view, he thought treatment was the only remedy. He thought that there should be more accommodation in existing hospitals, both for medical and maternity cases, and even better housing conditions would not help this problem.

Dr. Alexander Trotter (Perth) said that hospital accommodation in this area was inadequate, the average waiting list being 30 for 150 beds at the Royal Infirmary, and there was need that further provision should be made for convalescent and for chronic and incurable cases. This infirmary received paying patients, who were accommodated in private wards off the large wards, and the demand for this was likely to increase in the future. He thought that better housing and better home nursing would reduce the greater amount of illness, but the relief to the hospitals would be pressure on the medical side than on the surgical side, where the functions of the Poor Law should be abolished. The outdoor cases should be treated through the National Insurance Act, and the Poor Law hospitals should be taken over by the local authorities. He was in favour of the continuation of the voluntary principle, and saw no objection to hospitals receiving paying patients.

On January 14th the Committee examined witnesses from the Highland area.

Dr. J. B. Simpson (Golspie), speaking for the county of Sutherland, said that hospital accommodation for surgical cases was fairly

adequate. With regard to medical cases, he was not so sure, but on the whole he might say that the present provision met the present demand. Any additional provision that might be required should be made by the extension of existing hospitals. He thought that medical practitioners in the country could render large assistance in reducing their waiting lists if the selection of cases for these hospitals was carried out with due care and appreciation of the treatment required by the patients. From a financial standpoint also he believed that the contributions from the northern Infirmary were totally inadequate in proportion to the number of cases treated in the south.

Dr. K. Campbell (Oban) contended that the present provision for treatment of illness in his area was inadequate, particularly with regard to accommodation for chronic and maternity cases. Operations were carried out by the operating surgeon, who visited the hospital once a month. Dr. Alexander Asher (Thurso) said that in the county of Caithness, with a population of about 28,000, there were two hospitals, which he did not consider met the present demand with regard to equipment, although he considered that the available buildings might be made to do so. He thought that the deficiency chiefly extended to surgical and maternity cases.

Dr. T. F. Dewar, Medical Officer of the Scottish Board of Health, was examined with regard to the hospital facilities for the sick poor in Scotland. He said that poorhouses had been built all over Scotland, the total number being between sixty and sixty-five, and from time to time the accommodation set apart for the sick in these poorhouses had been improved or extended. In a few cases buildings of entirely modern type had been recently erected, but for the most part, the accommodation provided for the sick in the same as it was in the middle of last century. He thought that there would be great, if not insuperable, difficulty, both structural and administrative, in the way of utilizing this accommodation for the general sick of a locality without relation to the legislation regarding the poor in Scotland took place, the structural difficulty would remain, and it was not easy to see how general hospital provision of the country. In a number of instances, however, such as the poorhouse hospital blocks at Paisley, Govan, Craiglockhart, and Dundee East poorhouses, the arrangement of the buildings was such that the structural separation which already existed might be followed by complete administrative separation. With regard to these Poor Law hospitals, probably they were in all essential respects admirable and were ready for conversion to general hospital purposes. He did not think that at the present time in the eastern section of Scotland there were beds in Poor Law hospitals which could be utilized for general hospital purposes with advantage.

The Committee continued its sitting on January 15th, when five witnesses were examined.

Dr. G. Dick (Wick), giving evidence from the public health point of view, stated that housing was an important factor in crofting counties. In the burgh of Wick, where a maternity and child welfare scheme had been in operation for four years, the health visitor reported that in about 20 per cent. of cases of notified illness the home conditions were not suitable. Home nursing facilities were, therefore, not likely to modify the demand for hospital accommodation. This witness proposed a central hospital for the northern counties fully equipped for special diagnosis, treatment, and investigation, with local cottage hospitals as clearing stations, and he thought that State grants and assistance from local authorities would be necessary. He also approved of the suggestion that a hospital ship should be brought into use for the outer islands and Orkney, particularly to serve the fishing population and places which were inaccessible by land, such as in the north-west of Sutherland.

Dr. J. Pender Smith (Dingwall) said that the number of hospital beds in his area was fairly adequate. He suggested that in remote districts, for purposes of operation, conditions might be improved by establishing a district nurse's house, with operating room attached.

Dr. A. L. Tuke (Dunfermline) said that the Dunfermline Hospital had already been extended three times, and was overcrowded still, the present provision not even approaching the demand. There was no accommodation, unfortunately, for people able to pay a moderate fee, and such accommodation would supply a greatly felt want.

With regard to maternity cases, there was a maternity home at Dunfermline where 162 cases were dealt with last year, but this did not suffice for the needs of the situation. He thought that insurance companies might give ample contributions, these contributions largely depending upon how much these societies utilized the hospitals, but he did not approve of maintaining special hospitals for insured persons, as this would immediately bring about a class distinction, which would be a bad thing. Nor did he approve of local rates for hospital purposes, which would interfere with voluntary effort and independent management. He saw no insuperable objection to co-operation with regard to Poor Law patients. At Dunfermline the existing Poor Law hospital had been used as a V.A.D. hospital during the war, and would make an excellent medical hospital where other activities such as maternity, child welfare, etc., could be carried out. He estimated that for the medical needs of the district 120 beds were necessary.

Dr. J. Mackenzie (Inverness) said that the hospital buildings there were opened in 1804 and were out of date, but there was ample ground for extension. About sixty beds were required, as well as new equipment. The greatest need in this area was for surgical beds, and there was also need for providing treatment for venereal disease and for maternity cases. An increasing demand for some kind of provision for paying patients was also being

experienced. He thought that by voluntary subscription enough could be raised to maintain the extended hospital.

Dr. J. Laurie (Greenock) said that the accommodation in Greenock Infirmary was inadequate, especially as regarded the admission of female cases. There were two separate wards for paying cases, and this provision worked admirably. This witness was in favour of voluntary management and of the sick poor being taken out of the realm of the Poor Law.

The Committee adjourned until January 20th, and will take evidence from the representatives of the boards of management of several general voluntary hospitals.

## Correspondence.

### TREATMENT OF PERFORATED GASTRIC AND DUODENAL ULCERS.

SIR,—I agree with Mr. Zachary Cope that a short-circuiting operation should not be accepted as a routine procedure for the treatment of perforated gastric and duodenal ulcers. At the same time in my experience those patients in whom it has been performed successfully have definitely a more uneventful and straightforward convalescence than those in whom the perforation only has been closed.

It is well to bear in mind that the operation for a perforated ulcer is essentially a life-saving operation when a particular catastrophe has to be dealt with and does not necessarily call for curative measures for the cause itself. In those patients, though, who are operated on early and the general condition easily permits of it, in my opinion a gastro-enterostomy should be performed when the ulcer is situated in the pyloric region; but if there is the least doubt in the surgeon's or anaesthetist's mind that the extra time and manipulation may produce a risk it is far better to do the least possible. It is surprising how seldom a complete mechanical obstruction is produced by the actual closure of a perforation, though of course it does occasionally occur.

During the summer months of last year I operated on nine cases of perforated duodenal ulcer at the Willesden General Hospital (seven were admitted direct from the Empire Exhibition at Wembley), with one death in a man of 58 who was almost in *extremis* before operation. The others, seven men and one woman, all between 30 and 40 years of age, were operated on at intervals after the perforation varying from four to eight hours, and in each case when the perforation had been closed posterior gastro-enterostomy was performed. With one exception they were discharged from hospital within four weeks of the operation in good condition; the exception was a man who had been badly gassed in the war and developed severe post-operative bronchitis; he burst open his wound, but eventually recovered.

From these and previous cases my impression is that if the operation is done within eight hours of the perforation, in the majority of cases gastro-enterostomy may safely be performed, but that after this interval the risk is greatly increased, since the peritoneum about this time becomes definitely infected, with consequent absorption and paresis of the gut.—I am, etc.,

London, W., Jan. 16th.

F. D. SANER.

SIR,—I feel that Mr. Zachary Cope, in his letter published in your issue of January 17th (p. 139), has not quite understood the purport of my paper. The routine treatment in the past of perforated gastric and duodenal ulcer has been suture and drainage only, involving the possible need for a gastro-jejunostomy later. I wished to show (1) that in skilled hands it was possible for an immediate gastro-jejunostomy to be performed in about 50 per cent. of all cases without increasing the gross mortality of the series, and (2) that by so doing the ultimate results were improved. The prime duty of the surgeon in operating on a grave abdominal emergency, such as a perforated ulcer, is to save the patient's life, and if he feels that to perform a gastro-jejunostomy is to add materially to the operative risk he should not do it. My own experience was to perform the operation in seventeen cases before I lost one, and this was an exceptional and rather misleading case.

The series quoted by Mr. Cope, with a gross mortality

about the same as my own, includes sixteen cases of immediate gastro-jejunostomy with three deaths. I will freely admit that, had my own experience been so unfortunate, I should have felt that I was taking unjustifiable risks, and, like Mr. Cope, I should have performed the complete operation much less frequently. But, after all, a surgeon must be guided by his own results, not other people's, and the problem is really that of a careful selection of cases.

With Dr. Tonking's letter I entirely agree, and I should like to congratulate him on his excellent results.—I am, etc.,

Birmingham, Jan. 15th.

G. PERCIVAL MILLS.

### POSTURE AND REST IN MUSCULAR WORK.

SIR,—In a review of Report No. 29 of the Industrial Fatigue Research Board on the effects of posture and rest in muscular work (p. 130 of the JOURNAL) you state that the papers contained in the report have a practical interest, not only for employers, but for manual workers. At the same time you doubt whether the latter would take the trouble to understand the reports, and you point out further that the reports of the Board in general "rarely make any attempt to be interesting, although the subjects with which they deal are often such as closely concern everyday life; there is seldom, if ever, any promise that the information they contain will be translated into practical benefit." You then suggest that the editors of such reports should describe, in an interesting way, why the investigations were undertaken and the benefits which the new knowledge offers.

I am writing to point out that your suggestions are already carried out to a large extent in the annual reports of the Board, which summarize in general terms the detailed information embodied in the individual reports. In addition, the reports usually include articles on various topics of current interest, written by the senior investigators, though I cannot guarantee that they, or the summaries mentioned, attain the degree of lucidity and interest which you demand. With regard to your doubt whether the information contained in the reports of the Board is ever translated into practical benefit, may I refer you to the *Journal of the National Institute of Industrial Psychology*, where you will find several articles describing the application of results obtained by the Board's investigators to actual practice in factories—for example, the utilization of certain methods of motion study in the packing of chocolates, and the hewing of coal in coal mines?

At the same time, it must be admitted that the average British employer is very slow to avail himself of the information adduced by the Board's investigators. The British race, taken as a whole, is a very conservative one, and will not be hurried in adopting fresh ideas; but we are confident that it is only a question of time before the usefulness of our work will receive more practical recognition. The collaboration of the National Institute of Industrial Psychology with the Fatigue Board will hasten this process considerably, for the investigators of the Institute, who are usually engaged in carrying out inquiries of immediate practical utility at the request of various employers, are well acquainted with the Board's reports, and are always very ready to translate their information into practice.—I am, etc.,

Oxford, Jan. 17th.

H. M. VERNON,  
Investigator for the Industrial Fatigue  
Research Board.

### WET WINDS AND EARLY PHTHISIS.

SIR,—It is with diffidence and regret that I must continue to oppose Dr. Gordon's conclusions on this subject (November 29th, 1924, p. 983). If they were true, sufferers would benefit and our work be greatly simplified.

1. I do not wish to enter verbal side-tracks; if Dr. Gordon prefers "conclusion" to "hypothesis" we will adopt his choice. "Belief" might be an even better word.

2. The same remark applies to the word "axiom" in reference to sheltered areas; but we must then regard Dr. Gordon's statement as one of the *obiter dicta* of great men, for no evidence whatever is adduced, or quoted, in support. He writes:

"As regards shelter and exposure I have found in long practice that 100 feet of altitude shelters half a mile to the leeward of it well and a further half a mile fairly."



I have made no anemometric experiments to disprove this, but my work necessitates lunch in the open all the year round, and I am frequently driven to seek shelter from wind. Now there may be sheltered spots on the leeseide and in close contact with an ordinary hill, but most of these are due to some further modification of the land, and to say that 100 feet shelters well for half a mile is untrue. A 10-foot wall affords better shelter than a hill, but even then I would anchor as close as possible to its base, not 88 yards away, or even 5 feet, if nearer approach were possible.

3. *Malleable Statistics*.—Other observers (Drs. Adkins and Date), investigating independently Dr. Gordon's decisions about shelter or exposure, but with no knowledge of the patients' fate, differed from him in 58 per cent. of 113 cases. Dr. Gordon's remark about Torquay illustrates again the scope for difference of opinion; so perhaps the word "malleable" is justified.

4. *Mauvaise Plaisanterie*.—I must again confine myself to personal experience. At Dr. Gordon's suggestion Devon T.O.s prepared statistics of the results of treatment in early phthisis. He then wished to enter on a rather low scale map the result and position (sheltered, exposed, or undetermined). This seemed to me most unsatisfactory, and foreseeing, but hoping to avoid, the present controversy, I wished Dr. Gordon to enter my cases himself. He insisted, however, on my being present to assist, and drove over with the list to my hospital at Torquay. He then marked the map in my presence and there seemed to me no doubt that what I have named "sub-conscious moulding" took place. Dr. Gordon was inclined to make me co-responsible for the result, but I was unwilling. Had I agreed, or not actively disagreed, I should have been classed as an "able collaborator" and not, alas, merely a "mauvais plaisant."

Dr. Gordon writes wisely and well. In the paragraph on "approximate isolation of influences" and elsewhere, it appears as if every scientific precaution was being taken; but a careful reading of the paper does not confirm this, and before we commence to base practical measures on these conclusions further investigation, as suggested in my previous letter, is surely necessary.

Opinions differ widely as to the influence of climate and meteorology on disease. The subject merits careful investigation (perhaps it should be included in the collective work of the Joint Tuberculosis Council), and if Dr. Gordon stimulates others to undertake this his work will be well worth while.—I am, etc.,

Paignton, Jan. 10th.

E. WARD.

#### THE RURAL PRACTITIONER AND MATERNITY.

SIR,—I am tempted to break a long-established rule of abstinence from epistolatory discussion by noting in your issue of January 3rd (p. 41) a complete misstatement by Dr. Maurice Mottram of some remarks of mine made at the recent discussion at the Royal Society of Medicine on puerperal sepsis. I shall so far observe my rule as to abstain from any further discussion of the matter, merely quoting in parallel Dr. Mottram's account of what I said and the report published in the *Proceedings of the Royal Society of Medicine* for January, 1925.

Dr. Mottram.

Dr. Stevenson blames the doctor and absolves the midwife. This is a very serious charge and appears to be based solely on his interpretation of certain figures.

*Proceedings.*

It would be a point of general utility to know in whose practice these deaths occurred, whether it was in the practice of doctors or of midwives; it could be easily determined by a tabulation of available records. About four years ago he noticed that at that time, when the proportion of cases attended by midwives could be held to have declined, owing to the return of practitioners from military service to their civilian duties, there was a sudden and very appreciable rise in the mortality from puerperal fever. He would be content with merely stating the fact, and suggesting that it constituted a further reason for making the tabulation he urged.

The quotation from the *Proceedings* shows that I carefully refrained from any attempt at apportionment of the responsibility for the present state of affairs. If Dr. Mottram regards the mere statement, without comment, of

a definite fact, open to anyone to verify for himself, as blame of the doctor and absolution of the midwife, I can only surmise that he feels the facts of the case to be against him. I am by no means sure that they are, and should like to see the question settled by obtaining the record suggested.—I am, etc.,

London, W.C.2, Jan. 14th.

T. H. C. STEVENSON.

#### NOTIFICATION OF PUERPERAL SEPSIS.

SIR,—The discussion on the "Notification of puerperal sepsis," at the Royal Society of Medicine, published in this month's *Proceedings*, brings out two points: (1) a difficulty in defining puerperal sepsis; (2) evidence of a disinclination on the part of doctors to notify such cases early, and sometimes not until a fatal termination ensues. As to the nomenclature, I would suggest, as was done by the late Herbert Williamson, "puerperal fever" or "pyrexia" as implying nothing more than fever during the puerperal period, and I would make notifiable a temperature over 100° F. persisting for twenty-four hours. It should be a rule that a temperature chart should be kept with morning and evening record for six days, and once a day after until the tenth day. At the end of ten days it should be the statutory duty of the doctor or midwife to post the chart to the medical officer of health in every case, just as notification of birth has to be sent to him within thirty-six hours. The M.O.H. would thus have an enormous amount of statistical information at hand and evidence of any pyrexia. The knowledge that this record would reach the M.O.H. eventually would be an incentive to the doctor or midwife to notify pyrexia cases early, for if they had not done so an inquiry from the M.O.H. when the chart of such a case came to hand would at once show up the delinquent.

Early notification means early treatment and hope of recovery; late notification and postponed treatment, too often death. Co-operation between the doctor and M.O.H. should follow notification, and assistance in the form of nurses and food and specialist's advice, when wanted, would be forthcoming. Removal of such cases should be a matter of agreement between the patient, doctor, and M.O.H. Ample accommodation would be found for such cases in the general or special hospitals up and down the country. Maternal mortality demands that these cases should be notified, and I am convinced that by insisting on temperature records being sent in, in both normal and abnormal cases, early notification will follow with its good results, and will eventually be welcomed both by the patient and doctor or midwife.—I am, etc.,

Ipswich, Jan. 12th.

JOHN GUTCH, M.D.

#### FREUDIAN DOCTRINE.

SIR,—It is with unalloyed pleasure that I read Dr. Ernest Jones's letter in your issue of January 10th (p. 93) approving of Sir Bryan Donkin's proposal for a discussion of the above, and trust that it will be brought about.

Dr. Jones charges Sir Bryan Donkin with being misinformed about past discussions, and refers to various records. It appears to me that Dr. Jones does not answer Sir Bryan Donkin. Sir Bryan Donkin means discussion of the fundamentals, the foundations of the psycho-analytic doctrines, whilst Dr. Jones refers to discussions on psycho-analytic papers which take the foundations for granted.

Dr. Jones speaks of the Medical Section of the Psychological Society as the "most appropriate body of all" for such discussions! This is almost as bad as if we left an inquiry into the price of coal to the coal merchants! The Medical Section of the British Psychological Society is ruled, if not dominated, by psycho-analysts. There could not, in my humble opinion, be a less appropriate body for an impartial inquiry.

When my book, *A Critical Examination of Psycho-analysis*, appeared at the end of 1923 an eminent psycho-therapist, head of a well known hospital for functional nervous disorders, who had congratulated me on my exposure of the Freudian fallacy, approached the Medical Section of the British Psychological Society with the view of discussing the question. After consultation in committee, I am informed, such discussion was declined.

Whilst it is quite true, as Dr. Jones points out, that a critical notice by J. C. Flügel of more than eight pages was published in the *British Journal of Medical Psychology*, he omits to state that a rejoinder by me, refuting every point of Flügel's criticism, was declined by the editor, again after consulting his colleagues. My rejoinder received ultimately the hospitality of the *Journal of Mental Science*.—I am, etc.,

Shortlands, Kent, Jan. 14th.

A. WOULGEMUTH.

### WOMEN DOCTORS.

SIR,—It is encouraging to those interested in medical education to be informed by Dr. Robinson (January 17th, p. 149) of the efforts made by the more recently qualified women to gain special hospital experience in the diseases of children.

It is to be regretted, however, that their opportunities of obtaining resident appointments are still limited. Some of the medical schools enumerated, while giving equal opportunities to men and women as far as graduation, do not realize their further responsibilities, and have made no effort to throw open to their women graduates the resident posts in their own hospitals. This is manifestly unfair, and when choosing a medical school for their daughters parents should make careful inquiries respecting post-graduate opportunities.

Whether the woman graduate chooses a career in general practice, in maternity and child welfare, or missionary work, either abroad or in the slums of our great cities, a resident hospital appointment is invaluable, and to those desiring to specialize indispensable.—I am, etc.,

FRANCES IVENS,

President of the Federation of  
Medical Women.

Liverpool, Jan. 19th.

SIR,—I am sure that medical women will be grateful to Mr. W. Robinson for his letter in giving some figures—that is, 78 women doctors as applicants for a junior post at the Children's Hospital, Sunderland. His letter draws attention to such a serious state of affairs that the widest publication is necessary in order to secure a remedy. I refer to the fact that, owing to the few hospital posts (junior, senior, or honorary) now open to well qualified medical women, it naturally follows that when one post is available there will be a greater number of women candidates than a similar post when male applicants are required.

I think one may safely say that ninety-nine out of a hundred posts as house-physicians and house-surgeons are regarded as the strict preserve of the young male doctors, owing to the policy pursued and fostered so carefully by the selection committees of voluntary hospitals up and down the land to exclude all women doctors.

During the war there was a greater influx of both sexes of medical students to supply the needs of the nation, and the maximum was reached in 1919. In 1924 there came out a maximum of qualified men and women doctors from the medical schools.

But even with this increase the proportion of the newly qualified is about one woman doctor to five men. The total number of registered medical women is somewhere about 2,000 in Great Britain and the medical men registered are about 25,000. It is also true that the numbers of medical students (men and women) entering the schools are returning to the pre-war level. What is really needed is fair treatment for women from the selection committees so that there is an increase in proportion of all hospital posts that are open to women. I do not ask for hospital posts for all women in the same way, as equally qualified men do not get hospital posts.

While on this question, why is it that there are so few hospitals who have appointed women doctors in charge of beds on to the honorary staffs, yet the numbers of women and children to men patients to be treated are as 3 to 1 of all patients? Pure prejudice on the part of the male colleague, I fear, must be the answer. Public opinion has always been on the side of the woman doctor. Hence she must be allowed the same facilities to equip herself as her male colleague.

With the changes that must necessarily come over hospital management and finance, the methods of appointment must also change. I am sure the day will come when the hospital

patient will have the right of access to the services of a woman doctor. Every hospital which relies on an appeal to the public for support will have to see that a proportion of the honorary staff are women.

I am, of course, quite aware that the letter of Mr. W. Robinson is meant as a deterrent and warning to parents and intending medical women candidates as threatening future unemployment. Let me tell them to take no heed of such "Partingtons," for the public needs, and demands, medical women in many and ever-widening spheres. Our movement has too strong a hold to be pushed back, much as the reactionary would like it.—I am, etc.,

MAUEL L. RAMSAY, M.D.,  
F.R.C.S. Edin.

Plymouth, Jan. 12th.

### THE ELECTRONIC REACTIONS OF ABRAMS.

SIR,—I can only speak for myself, but I imagine that a number of other Fellows of the Medical and Electro-Therapeutical Sections of the Royal Society of Medicine would agree with me that the Communication of Sir Thomas Horder of January 16th must certainly rank as one of the most extraordinary and tantalizing communications that has ever been presented before a scientific society. As there was no time left for discussion, and discussion at a later date was not at present desired by those at the meeting, I can only hope that you, Sir, will allow a few comments through the columns of the *JOURNAL*.

Sir Thomas Horder disclaimed responsibility for the report except for a fifth share. But while, on the one hand, he emphatically declared for the final deposition as false gods of the oracular Abrams's boxes, his acute diagnostic instinct might have warned him that the effect on the lay public and on "electronists" of the encouraging gesture he made on the other hand in disclosing the 100 per cent. accuracy of certain incompletely described physical tests with Dr. Boyd's modifications, would only be to confirm in the minds of many of the public the rightness of their view that there still "may be something" in the original Abrams's boxes: and so, indeed, the *Morning Post* to-day (Saturday) interprets his committee's report.

One can only wish publication of any report had been delayed till further detailed announcements could be made with regard to the possible scientific or medical uses or not of Dr. Boyd's apparatus, or else that at least more information had been given as to the nature of the tests and responses in Dr. Boyd's almost magical copper-gauze lined cabinet. A 100 per cent. accuracy is almost too good to be true in most scientific work: it suggests that some simple solution for the cause of the phenomena must be there, to be found if only we can trace it. I shall only suggest briefly a few matters as to which I should have liked to have had information vouchsafed before a scientific meeting.

1. The nature and origin of the substances used in the tests. What was used besides "sulphur"? What proof, for example, was there that there was no radium present in the "active" substance? In more detail we should have heard how the "substances" were presented to the recording complex of apparatus and boys.

2. What the copper-gauze screen was supposed to shield the apparatus from: Were any experiments made to test whether, for example, wireless waves were reduced in amplitude in the cabinet, or neighbouring potentials of electric fields, such as those in the electric lighting circuits, were diminished or abolished? In short, what were the physical differences between the outer room and the inside of the screened cabinet?

3. Scientific experiments and results (with the rarest possible exception) can be duplicated at other times and in other places. Would Dr. Boyd be willing to submit his work to a London committee in London? The copper-gauze can be duplicated; are the Glasgow boys essential?

4. What interpretation does Sir Thomas Horder give for the epigastric percussion sign? He acted as what may be called the medical referee of the committee, and some attempt at explanation might have been expected from him at a medical gathering, of his findings on the boy, and his personal sensations when acting as indicator. The epigastric note on percussion depends obviously on two factors: (1) the contents of the stomach, transverse colon, etc., and (2) the thickness or rigidity of the abdominal wall. With

rigid rectus muscles the tympanitic note is masked, and the note is "duller." Now if the boy whose epigastrium is percussed has an abdominal wall contraction when the "active" substance is presented, he must have that (1) voluntarily, or (2) involuntarily, as a result of some sign or sensation—for example, when an electric current passed from his forehead electrode to the earthed plates on which he was standing. Now as currents as small as 10–12 ampère can be measured by Einthoven and Paschen galvanometers, and even smaller currents can be accurately estimated by almost infinitesimal differences of potential by quadrant electrometers and electroscopes (currents much smaller than those potential changes continually taking place at and near the epigastrium owing to the heart's contractions), it seems strange that physical measurements were not made, or at least were not given, of the probable current changes; also their differentiation from those detectable by the electrocardiograph. Indeed, with the refinements of scientific apparatus now available, it would seem difficult to realize what useful purpose the boy and his epigastrium can serve as an indicator! Is the boy as a "medium" or indicator more sensitive than a modern electrometer to potential differences? For Dr. Boyd's use of an "inductance" suggests that potential differences are at work in the production of his results.

In short, the whole position, from the point of view of those (especially of the Electro-Therapeutical Section, who were invited to the meeting, but were unable to express any opinions) who are more familiar with electrons and of electrical apparatus and measurements, was left most unsatisfactory, if not ridiculous. The whole matter seems to be as yet of no medical interest, yet medical developments were hinted at; so I can only suggest to Sir Thomas Horder and his committee that it might be well to allow a full and unbiased investigation to be conducted by a representative committee of, say, physicists such as Professors Sidney Russ and F. L. Hopwood, or physiologists who are familiar with physical experiments in medical subjects: then one may hope Dr. Boyd's vaunted advance on Abrams's methods will be removed from the atmosphere of thaumaturgy in which I for one felt the subject was left by the Communication to the meeting on Friday.—I am, etc.,

London, W.1, Jan. 17th.

J. H. DOUGLAS WEBSTER.

### THE NURSING DIFFICULTY IN THE SMALLER HOSPITALS.

SIR,—Dr. Nason's letter in your issue of December 27th, 1924 (p. 1214), very effectively expresses the fear that serious difficulty will shortly arise in obtaining probationers to be trained in the smaller hospitals now that the regulations of the General Nursing Council for qualifying for the *Nursing Register* have come into force.

His statement that "many of the most satisfactory nurses now employed throughout the country have been trained, and well trained, at these smaller hospitals" cannot be denied, and, indeed, it could hardly be otherwise.

I have for the past eighteen years been a member of the honorary surgical staff of a small hospital in one of the remote districts of England, ten miles from Land's End, and have consequently had some years of experience in the practical training of nurses suitable for small hospitals. In the hospital to which I refer the number of beds is nominally twenty-eight, but the average daily number of in-patients in hospital is forty-two. The total of in-patients for last year (1924) was 526, and the number of operations performed was 558, including 110 cases of appendicectomy (with three deaths), 10 of hysterectomy, 6 of hysterectomy (subtotal and total), 2 of gastro-enterostomy, 2 of prostatectomy, numerous laparotomies, 7 Caesarean sections, and 40 cases of tonsils and adenoids.

The nursing staff numbers twelve, including the matron, and the complete staff, including the matron, has been trained in the hospital. There is no house-surgeon. The nurses attend lectures delivered by the honorary medical staff, and are capable of passing the ordinary written examinations set to nurses in large hospitals.

The above figures speak for themselves in demonstrating the usefulness and certainty of the continuance in existence of the smaller hospitals, as also does the significant fact that both matron and nurses have all been

trained in the hospital, which shows how the small hospitals in remote districts have long since met and solved the problem of the nursing difficulty.

It cannot be denied that the surgical nursing experience in such a small hospital is, to say the least, considerable and varied, and medical experience is obtained by the cases of enteric fever and pneumonia which are admitted for treatment.

The individual responsibility and experience developed by a third year nurse in our small hospital is the outcome of her training in the wards (especially on night duty in charge of operation cases), in the casualty department, in the operating theatre, x-ray, and electrical departments. That she becomes a much more all-round, self-reliant, and valuable nurse than one trained in a large hospital has been the experience of the medical staff. In fact the nurse trained in a large hospital, with its environment of house-surgeons and students, has not, as a rule, the adaptability necessary to the requirements of the small hospital, and in many cases finds herself unwanted owing to her unsuitability. Affiliation arrangements with large hospitals have proved unworkable, and distasteful to the third year nurses who have tried them, owing to the fact that the large hospital usually treats them as newly entered probationers.

Dr. Nason's apprehensions as to the continuance of the supply of probationers of the right stamp for the small hospitals owing to the new regulations are not unfounded. But the certain demand of the small hospitals for probationers, their capability to train them for their own needs, and the certainty of the nurses when trained, although non-registrable, being able to earn their livelihood in, and in connexion with, the small hospitals, leaves no doubt that the supply of at least the present standard will continue.

The regulations of the General Nursing Council were probably aimed in their intention at putting a stop to the existing pernicious practice of allowing nursing homes to take untrained girls and send them out after a few months of so-called "training" in the nursing home to earn full nursing fees for the benefit of the home. One can hardly conceive that the General Nursing Council seriously contemplated penalizing the nurses trained in a small hospital.

It behoves the medical staffs of the small hospitals to unite with the nurses trained in them to bring pressure to bear on the General Nursing Council to reconstruct their regulations so as to recognize the claim to admission to the *Nursing Register* of the nurses trained in small hospitals, which is as undeniable as their efficiency is demonstrable. Surely the whole difficulty could be met by the General Nursing Council instituting a State examination for nurses, the passing of which would entitle the nurse to have her name placed on the *Nursing Register*, provided she had been trained in a bona-fide hospital, irrespective of the number of beds it contains.—I am, etc.,

E. C. EDWARDS.

Honorary Surgeon, West Cornwall  
Hospital, Penzance.

January 6th.

### HOSPITAL APPOINTMENTS.

SIR,—A relative of mine was recently a selected candidate for the post of house-surgeon at a hospital in a fashionable town on the south coast. The candidates were informed that the man appointed would be required to sign an agreement that he would not practise in the town for a period of five years under a penalty of £500. Needless to say, the advertisement of the vacancy did not mention this rather important proviso.

Several thoughts occur to me.

1. If the house-surgeon broke his agreement, who would take the £500?
2. Could the penalty be legally enforced?
3. Is such a proviso for the benefit of the honorary staff or the hospital?
4. Is the staff afraid of competition?
5. Does the committee think such a proviso improves its chance of obtaining the best house-surgeon?
6. Is this a modern innovation or a relic of the past?

Personally I cannot understand the lay members of the committee agreeing to such a handicap.—I am, etc.,

January 16th.

A HOSPITAL SURGEON.

## Obituary.

### CLEMENT DUKES, M.D., F.R.O.P., M.R.C.S.,

Consulting Physician to Rugby School.

We regret to announce that Dr. Clement Dukes died at his residence in Rugby on January 18th, at the age of 79. The son of the Rev. Clement Dukes, he was born in London in 1845, and became a student at St. Thomas's Hospital. He obtained the M.R.C.S. diploma in 1867; in 1869 he graduated M.B., B.S. Lond., with honours and a gold medal, and proceeded M.D. in 1876. After holding appointments at St. Thomas's Hospital, Great Ormond Street Hospital, the City Chest Hospital, and Moorfields Ophthalmic Hospital, he succeeded Dr. Farquharson as medical officer of Rugby School in 1871, and served under four head masters. When he retired from this post in 1908 he was appointed consulting physician to the school. During those thirty-seven years he acquired a world-wide reputation as a pioneer in promoting the health of public schoolboys, and as an authority on the hygiene of adolescence. His book *Health at School* is now in its fourth edition, and his *Essentials of School Diet* in its second edition. He also contributed articles on school health to *Morris's Book of Health*, and on the hygiene of youth to *Allbutt's System of Medicine*.

Dr. Dukes also won a well deserved reputation as a specialist in skin diseases. He contributed articles on scarlet fever and rubella to the *Encyclopaedia of Medicine*, and in 1900 he published in the *Lancet* an article entitled "On the confusion of two diseases under the name of rubella (rosé rash)." In this article he suggested that under the term "rubella" two etiologically and pathologically distinct infections were included. To the new disease thus brought to light he attached the title "the fourth disease," in consequence of its resemblance to scarlet fever, measles, and röteln. His conclusions attracted wide interest and were the subject of much discussion. He was awarded the Howard medal of the Royal Statistical Society in 1884; in 1911 he obtained the Bisset-Hawkins medal of the Royal College of Physicians, and he received the silver medal of the French Society of Hygiene. His other offices included those of justice of the peace for the county of Warwick, honorary consulting physician to the Hospital of St. Cross, medical referee to the Workmen's Compensation and Mental Deficiency Acts, and he had held the rank of surgeon colonel (V.D.) of the South Midland Brigade and the 2nd Volunteer Battalion of the Royal Warwickshire Regiment. He was chairman of the Northamptonshire Division of the British Medical Association in 1906, and president of the South Midland Branch in 1912.

Dr. NOEL STUART WHITTON died at his residence, Clyde Road, Fendalton, Christchurch, N.Z., on November 28th, 1924, after an illness of ten days' duration. He was born in Oamaru, N.Z., on December 9th, 1890. He was educated at Waitaki High School, and subsequently at Otago University, where he graduated M.B., Ch.B. in 1915. After spending a few months as house-surgeon at Hamilton Hospital he came to England, where he joined the R.A.M.C. In October of the same year he went to France as surgeon to the 9th Sussex Regiment. In France he was present at the battle of Loos and several subsequent engagements. He gained the Military Cross and was twice mentioned in dispatches. Subsequently he served in Mesopotamia and Palestine. He returned to New Zealand at the conclusion of peace, and joined the staff of the Christchurch Hospital as house-surgeon. A year later he again went to London for a post-graduate course; on his return to New Zealand he was appointed assistant surgeon to the Christchurch Hospital in the ear, nose, and throat department. In 1922 he married Miss Enid Taylor. He leaves a widow and one son. He was a member of the Canterbury Division of the British Medical Association.

We regret to record the sudden death, on January 10th, of Dr. PHILIP PREBBLE, a much respected Lancashire practitioner. He was a native of Blackburn, and studied medicine at the Universities of Aberdeen and Manchester. He

graduated M.B., C.M. Aberd. in 1895, and soon afterwards returned to Blackburn. He was physician to the Blackburn and East Lancashire Royal Infirmary and medical officer and public vaccinator for the third district of the Blackburn Union. Dr. Prebble had shown great interest in the work of the British Medical Association, which he joined immediately after graduation. He was a member of the Lancashire and Cheshire Branch Council for 1907-13 and from 1917 to 1923, the representative of the Division in the Representative Body for 1910-12 and again for 1919-23, and chairman of the Blackburn Division in 1914. He was also the representative of the town council on the Blackburn Insurance Committee. At the meeting of the Blackburn Insurance Committee on January 13th a vote of condolence with the relatives was passed. The funeral, which took place at Mellor on January 15th, was attended by many members of the profession and of representatives of the various bodies with which Dr. Prebble had been associated.

## Medico-Legal.

### REX v. BATEMAN.

An application for leave to appeal has been lodged in the case of Rex v. Bateman, one of the grounds being misdirection of the jury by the judge. The hearing will take place in a fortnight's time.

## Universities and Colleges.

### UNIVERSITY OF CAMBRIDGE.

At a congregation held on January 16th the following medical degrees were conferred:

M.D.—G. W. Theobald.  
M.Chir.—E. P. Brockman.  
M.B., B.Chir.—J. B. Leather, A. A. Lees, D. V. Snowman.  
M.B.—H. W. H. Holmes.  
B.Chir.—J. Gray.

\* Admitted by proxy.

### UNIVERSITY OF GLASGOW.

At the meeting of the Glasgow University Court on January 8th the Principal, Sir D. MacBrayne had off engineering, medicine is to be Scholarship in Med. tenable for three years also announced that Mr. MacBrayne had intimated his intention to give a donation of £1,250 to the Royal Infirmary for the endowment of a bed in the Infirmary in memory of his son, Lieutenant John Burns MacBrayne, 17th Highland Light Infantry, who was killed in the war.

### UNIVERSITY OF ST. ANDREWS.

A GRADUATION ceremonial was held at St. Andrews on January 16th, when the following degrees and diplomas were conferred:

M.D.—L. H. Henderson, J. Singh.  
Ch.M.—T. J. Mitchell.  
Ph.D. (Faculty of Medicine).—G. R. Ross.  
M.P.

D.P.H.—A. J. Campbell, G. G. Buchanan, W. M. Cumming, Olive M. Whyte.

## The Services.

### NAVAL MEDICAL COMPASSIONATE FUND.

At the quarterly meeting of the directors of the Naval Medical Compassionate Fund, held on January 20th, when Surgeon Vice-Admiral Joseph Chambers, C.B., C.M.G., Medical Director-General of the Navy, was in the chair, the sum of £60 was distributed among the several applicants.

### DEATHS IN THE SERVICES.

Lieut.-Colonel Louis William Swabey, R.A.M.C. (ret.), died at Bath on January 10th, aged 68. He was born in Canada, and was the son of the late Rev. Henry Birchfield Swabey. He was educated at St. George's, and took the M.R.C.S. in 1879 and the L.R.C.P. Ed. in 1880. He entered the army as surgeon on February 5th, 1881, became lieutenant-colonel after twenty years' service, and retired on February 5th, 1911. He served in the Egyptian war of 1882, receiving the medal and the Khedive's bronze star, and in the Sudan campaign of 1885, at Suakin, receiving a clasp. He also rejoined for service in the late war, from August 15th, 1914.

## Medical News.

A MOORFIELDS Research Scholarship, value £50 per annum, tenable for one year, but renewable for a further period of twelve months, has been initiated by the Medical Board of the Moorfields Eye Hospital, City Road, E.C.1, as a continuation of the Lang Clinical Research Scholarship at the hospital, which has now lapsed. Applications, and if possible suggested subjects for research, should be sent to the Honorary Secretary, Medical Board, at the hospital by January 31st.

WITH the view of encouraging original research in sanitary science the Grocers' Company offers scholarships, each of £300 a year, tenable for one year, but renewable for a second or third year. An allowance is also made to meet the cost of apparatus and other expenses in connexion with the work. Applications to be sent before April 1st to the Clerk of the Grocers' Company, Grocers' Hall, E.C.2, from whom forms of application and further particulars can be obtained.

THE Fellowship of Medicine announces that Sir Humphry Rolleston will deliver a lecture on the medical aspects of gall stones, on January 30th, at the Royal Society of Medicine, at 5.30 p.m. A combined course in diseases of children has been arranged by the Paddington Green Hospital, the Victoria Hospital, and the Children's Clinic, to begin on February 2nd. A four weeks' course, starting on February 2nd, will be held at St. John's Hospital for Diseases of the Skin. A comprehensive course at the London Lock Hospital will extend from February 2nd to 26th. Eight clinical demonstrations on tropical diseases will be given twice a week at the School of Tropical Medicine by Dr. Low and Dr. Manson-Bahr from February 3rd. The course in gynaecology at the Chelsea Hospital for Women, due to begin on February 2nd, has been postponed until March 16th. Copies of the syllabus of the above courses and the *Bulletin* of the Fellowship may be obtained on application to the secretary at No. 1, Wimpole Street, W.1.

THE North-East London Post-Graduate College is holding a special intensive post-graduate course from February 16th to 28th. The course will include demonstrations of clinical and laboratory methods used in the diagnosis or treatment of disease, and afternoon demonstrations of groups of selected cases, clinics in the wards and out-patient departments, and, at 4.30, a clinical lecture. The lecturers will be Mr. James Sherren, Dr. H. W. Barber, Dr. P. Manson-Bahr, Mr. H. D. Gillies, and members of the teaching staff. On the Saturday mornings there will be demonstrations on the early diagnosis of the infectious fevers, at the North-Eastern Fever Hospital, by Dr. F. Thomson, and on mental diseases, at the L.C.C. Mental Hospital, New Southgate, N., by Dr. S. J. Gillan. The fee for the course is 3 guineas, or 2 guineas for either week. Names should be sent to the Secretary of the Fellowship of Medicine (1, Wimpole Street, W.1), or to the Dean, Dr. A. J. Whiting (19a, Cavendish Square, W.1), by February 13th.

THE anniversary dinner of the Medical Society of London will be held at the Grand Hotel, Trafalgar Square, on Wednesday, March 11th, at 7.30 p.m.

A MEETING of the section of the Royal Microscopical Society formed to deal with the industrial applications of the microscope will be held at the house of the Society (20, Hanover Square, W.1) on Wednesday next at 7.30 p.m., when Professor R. Stenhouse Williams, M.B., will preside and deliver an introductory address on the fundamental importance of the microscope to the dairy industry. A series of communications bearing on the general subject will be made.

THE next meeting of the North-Western Tuberculosis Society will be held on Thursday, January 29th, at 3.15 p.m., at the Public Health Laboratory, York Place, Manchester, when Professor Topley will read a paper on infection and resistance in tuberculosis. Medical practitioners interested are invited to attend.

THE Red Cross Society of Russia announces that the third All-Russian Congress on Malaria will be held in Moscow, from February 3rd to 8th next. The questions to be considered include the transmission and epidemiology of malaria; the fight against malaria in Russia; and various scientific questions relating to malarial research. Inquiries should be addressed to the Sanitary Epidemiological Department, Narkomsdrav Moscow, Maly Teberkassky Perenkoi, Moscow.

MESSRS. OGILVY AND CO., scientific instrument makers, have removed their offices to 20, Mortimer Street, London, W.1, where special arrangements have been made for the demonstration of instruments.

THE income from all sources of the Metropolitan Hospital Saturday Fund for 1924 showed an increase of over £6,000 on the previous year's total of £100,765. The business house, workshop, and factory collection amounted to £79,583.

THE subject of the four lectures on physics to be given at Gresham College, Basinghall Street, London, E.C.2, by Sir Robert Armstrong-Jones during this term is the bodily senses and their mental representation. The lectures will be given on Tuesday, Wednesday, Thursday, and Friday next week at 6 p.m. on each day. Admission is free.

DR. J. WRIGHT HILL of North Woolwich, on the occasion of his retirement, has received from his friends and patients in the district a wireless set and other gifts in appreciation of his services during the past thirty-eight years.

THE Chapter-General of the Grand Priory of the Order of St. John of Jerusalem in England has authorized the publication of a summary of the more important activities of the Order in connexion with the Wembley Exhibition. An account is given of the investiture by the King in June, the annual general assembly, the annual commemoration service, and the conference of overseas representatives, which were held on the previous day. The publication is illustrated by photographs and an etching of St. John's Gate, Clerkenwell, by Mr. W. Monk; and includes a short article on first aid at the British Empire Exhibition, and a summary of an article dealing with the history of the Order, which appeared in the *Times* in connexion with these events. The publication can be obtained from the Chancery of the Order, St. John's Gate, Clerkenwell.

WE are asked to announce that the sixteenth international course of lectures on medicine will be held in Vienna, from February 9th to 21st, and will deal with the diseases of the digestive organs and their therapeutics. A special course of clinical work will follow from February 23rd to 28th. Inquiries should be addressed to the secretary, Dr. Kronfeld, Wien IX, Porzellangasse 22.

THE December issue of the *Revue d'Hygiène* is devoted to the proceedings of the eleventh Congress of Hygiene, held in Paris from October 21st to 24th, 1924, when papers were read by Dr. E. Dufestel on instruction in hygiene in elementary schools, by Dr. F. Humbert on the part played by the Red Cross in the teaching of hygiene in various countries, by Dr. Salmon on public health in England, by Dr. Montreuil-Strauss on instruction in sex hygiene, and by Dr. P. Kovindjy on the role of the doctor in physical education.

## Letters, Notes, and Answers.

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the BRITISH MEDICAL JOURNAL alone unless the contrary be stated. Authors desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Financial Secretary and Business Manager, 429, Strand, W.C.2, on receipt of proof.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—not necessarily for publication.

ALL communications with reference to advertisements as well as orders for copies of the JOURNAL should be addressed to the Financial Secretary and Business Manager, 429, Strand, London, W.C.2. Attention to this request will avoid delay. Communications with reference to editorial business should be addressed to the Editor, BRITISH MEDICAL JOURNAL, 429, Strand, W.C.2.

Communications intended for the current issue should be posted so as to arrive by the first post on Monday or at latest be received not later than Tuesday morning.

THE telephone number of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is Gerrard 2630 (Internal Exchange). The telegraphic addresses are:

EDITOR of the BRITISH MEDICAL JOURNAL, Aitiology Westrand, London.

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), Articulate Westrand, London.

MEDICAL SECRETARY, Mediscern Westrand, London.

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 4737 Dublin), and of the Scottish Office, 6, Rutland Square, Edinburgh (telegrams: *Associate, Edinburgh*; telephone: 4361 Central).

## QUERIES AND ANSWERS.

STRUCTURE AND COST OF A TEMPORARY WARD.

"W. A. M." writes: A cottage hospital is being built, but the scheme proposed cannot now be carried out owing to the lack of funds. The hospital consists of one floor only, and the addition of a children's ward would make the building complete. "W. A. M." asks for advice as to the best form of construction for a temporary ward for six beds, and a rough estimate of the cost.

TREATMENT OF TUBERCULOUS MESENTERIC GLANDS.

"P." asks for information as to the action of ultra-violet rays or injections of sodium morrhuate on tuberculous mesenteric glands.



## EPILEPTIFORM FITS.

Dr. CECIL E. REYNOLDS (Los Angeles) writes: I have just read "H. C. B.'s" inquiry in the JOURNAL of November 8th, 1924, asking advice for the treatment of epileptic fits of almost daily occurrence in a child of 5. He does not describe the attacks, nor state which way the head and eyes deviate at the beginning and during the attack, nor whether the fit begins with tonic emprostotonus, opisthotonus, or pleurothotonus. Generally speaking, in a case of this kind, if the stools have been found negative for parasites and ova, a subtemporal decompression reveals great excess of subdural and subarachnoid fluid, and sometimes cures the patient. If this does not suffice, but has definitely established a diagnosis of external hydrocephalus, a two-stage suboccipital decompression will probably cure. Many of these cases follow acute fevers, such as tonsillitis, measles, and whooping-cough. May I refer "H. C. B." to my communications in the BRITISH MEDICAL JOURNAL of July 16th, 1921, and June 17th, 1922, recording similar cases which defied all medical treatment and were progressing to death. The patient described in July, 1921, is still perfectly well, as also two previous and several subsequent patients. In 1921 I suggested this was a rare cause of seemingly "idiopathic" epilepsy, but now I know it is common. Operation is the only recourse. The fluid must be allowed to drain into the tissues very slowly, and as little lost at operation as possible; sudden release is very dangerous. It is safer merely to prick the dura at the first operation, when fluid is seen to spurt out six inches or more. It can then be fully opened five days later and the dura tucked under the muscles to act as a drain; no catgut should be used, only fine silk. Diagnosis may be impossible before the fluid is found when operating, but spinal puncture may give a clue both by its pressure and by the temporary benefit produced; this, however, is very deceptive. In external hydrocephalus the fit usually begins with tonic emprostotonus, and is followed by clonic jerking of the head and eyes to the right in right-handed and to the left in left-handed children. This is not nearly so constant in internal hydrocephalus. Between the fits the earliest physical sign is a slight alternating internal strabismus, and later a slight weakness of that side of the mouth innervated by the more highly educated hemisphere. Any tendency to turn in one foot in walking should be noted.

## INCOME TAX.

## Licence for Male Servant.

"B. A.'s" chauffeur is wholly employed in connexion with his medical practice; is he liable to the male servants' tax of 15s.?

\* \* In the circumstances quoted the chauffeur is not, in our opinion, employed in a personal, menial, or domestic capacity, and no licence duty is payable.

## LETTERS, NOTES, ETC.

## RADIUM THERAPY IN MALIGNANT DISEASE.

In our review of the annual report of the Medical Research Council last week (p. 124) the statement made with regard to the British Empire Cancer Campaign was confused. In order to put the matter right the best course will perhaps be to quote in full the paragraph from the section of the report headed "Radium Therapy in Malignant Disease."

"Important aid is now being brought to the work by two allocations of funds by the British Empire Cancer Campaign. One of these is for the purchase of a further five hundred milligrams of radium salt to enable the investigations to be extended in certain urgently desirable directions. The other is for the initial and current cost of an emanation service to be established at the Middlesex Hospital in connexion with the radium already supplied by the Council. For this purpose about a gram of radium salt lent by the Council is being placed in solution to provide a source of emanation for use at the different centres supplementing the treatment by use of the radium salt itself."

## THE MOTOR DRIVER'S REGISTRATION BOOK.

THE Automobile Association recently brought to the notice of the Home Secretary the conviction of a motorist by the Ouse and Derwent Bench on two charges—(1) failure when on the road to produce his registration book upon the request of a police officer, and (2) the omission of the make and horsepower of the car from the licence affixed to the car. As regards the first charge, the registration book itself states: "Keep it in your car, and place it not on the car." As regards the second charge, the licence affixed to the car was in the form issued to the motorist by the particular licensing authority, and the fact that certain words had been omitted was clearly no fault of the motorist. Nevertheless, in each case the motorist was fined £1. The Automobile Association is now informed by the Home Secretary that he has recommended the remission of the fines imposed. We should think so!

## SURSUM CORDA.

Dr. GEORGE C. STEWART (Falkirk) writes: If any of your readers is suffering from mental distress from any cause I can heartily recommend to him Mr. Selwyn Image (who is of Thomas Bewick, recently deceased) found so efficacious—namely, a reading of that book. It breathes the very spirit of homely common sense and sound mental health, and the woodcuts are a perpetual joy. Although Bewick's father refused medical attendance during his last illness, and threatened to throw any drugs which his son offered to

send him behind the fire, Bewick himself considers that he was fortunate in having been intimate with members of the learned professions, and pays a true tribute to our profession when he writes—"On taking a comparative survey of the whole, I cannot help giving a preference to medical men; for, besides their learning and attainments in common with other professions, they appear to me, generally, to be further removed from prejudice, more enlightened, and more liberal in their sentiments than the other labourers in the vineyards of science and literature." While the profession maintains this position in the opinion of hard-headed, cultivated men of the Bewick type (the best English yeoman class), we need not fear the machinations of any Government.

## ANTE-OPERATIVE SKIN DISINFECTION.

SIR JOHN O'CONOR, K.B.E., M.D. (Buenos Aires), writes: The recent correspondence about the danger of picric acid inspires me to beg leave for space to pay tribute of homage to tincture of iodine (I.P.), which (apart from abdominal work, in which I found it a grave peritoneal irritant) has afforded me most gratifying results. After many years' hospital experience I can, in all sincerity, testify that in all neck and breast operations, in bone and joint surgery, as well as in serotal, vaginal, and rectal procedures, tincture of iodine pigment is an ideal method of skin disinfection, and does not, if employed as sole chemical, excite any subsequent skin irritation once in every three hundred cases. If it is used in conjunction with any other chemical, notably mercury, anything may happen, consequently whenever an operation case goes septic care must be taken to remove all visible iodine (with alcohol) before employing any fomentation or other chemical disinfectant. For abdominal skin disinfection I have only one formula. The skin of the part is gently scrubbed and washed with sterilized nail brush, soap, and hot water for ten minutes, then washed with alcoholic perchloride of mercury lotion (1 in 1,000) for five minutes, covered with sterilized lint wrung out in aqueous "perchloride" lotion (1 in 3,000, wool, and bandage. When the latter are removed, on the operation table, a final wash is given with alcohol mercurial lotion.

## TUBERCULOUS DISEASE OF THE STERNUM.

Dr. B. R. CLARK (Forster Green Hospital for Consumption, Belfast) writes with reference to the memorandum by Dr. Johnson (BRITISH MEDICAL JOURNAL, January 10th, p. 71): I cannot find any evidence of tuberculosis either in the clinical report or in the post-mortem findings. The history, signs, symptoms, and post-mortem changes of Dr. Johnson's case seem to me to suggest pyaemia rather than tuberculosis.

## BRIGHTER BIOCHEMISTRY.

THE second annual issue of *Brighter Biochemistry*, the illustrated journal of the Biochemical Laboratory, Cambridge, calls to mind a tag from *The Pirates of Penzance*: "Oh! hero is love, and here is truth, and here is food for joyous laughter!" The "love element" is certainly buried as deep as the more abstruse words in a cross-word puzzle, but Fig. 2 indicates the difficulty of separating the affinity-loving A and B particles—a task described as "thermodynamically impossible." A certain antimetaphysician bias is discernible in the ballad about Jane "who had no bacteriological technique, and so perished miserably," and in the tragedy of Cuthbert, who worked next door to "a most untidy feckless maid," who mixed such labels as "saccharose puriss" and "KCN." Under the heel of "truth" must be classed the editorial "and also perhaps the opening poem, or occupies a page in my theme: 'I write to say I will not write.' The third ingredient, 'joyous laughter,' is supplied in abundance, even though the high spirits of Cambridge biochemists are sometimes expressed in language too highly technical for readers of an older generation. But most of us can appreciate the humour of such a poem as that beginning—

I cannot synthesize a bun  
By simply sitting in the sun;

and ending—

There is a certain  
Faintly  
Can most effective synthesis.

We understand that *Brighter Biochemistry* may be obtained from the Editor, Biochemical Laboratory, Cambridge, for 2s. 6d.

## ERRATA.

MR. W. H. KELSON asks us to correct certain slips in the abstract of his paper on "Some osseous growths of the nasal and adjacent bones," published in the JOURNAL of December 27th, 1924 (p. 1197). The word "profuse," qualifying osteitis, should be "diffuse," and the word "boneless," applied to the swelling described by Douglas Guthrie, should be "bony." Mr. Kelson's case was shown in 1908 to the Laryngological Society of London, not the Royal Society of Medicine; and the diagnosis of Westmacott's eight cases, described in 1913 as being "osteitis fibrosa," should be attributed to Professor Knaggs, not to Westmacott.

## VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 34, 35, 38, and 39 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 36 and 37.

A short summary of vacant posts notified in the advertisement columns appears in the Supplement at page 48.

# Lectures ON THE SYMPATHETIC INNERVATION OF STRIATED MUSCLE.

BY  
THE LATE JOHN IRVINE HUNTER, M.D., CH.M.,  
CHALLIS PROFESSOR OF ANATOMY IN THE UNIVERSITY OF SYDNEY.

## EXPLANATORY INTRODUCTION

BY  
G. ELLIOT SMITH, M.D., F.R.S.\*  
PROFESSOR OF ANATOMY, UNIVERSITY COLLEGE, LONDON.

[When Professor Hunter arrived in England last November he was invited by the University of London to give three advanced lectures in anatomy, which were to have been delivered in the second week of December: but the large audience that assembled to hear the first lecture were informed of the grave illness to which he succumbed two days later (see *BRITISH MEDICAL JOURNAL*, December 20th, 1924).

He had been looking forward with the keenest interest to the delivery of these lectures, because they would have provided him the opportunity for clearing away the misunderstanding of his work and for demonstrating the adequacy and reliability of his evidence and the inferences he had drawn from it. In particular he was anxious to explain the scientific principles that should guide the surgeon in the selection of patients for the operation that he had devised (in collaboration with Dr. Norman Royle) for the relief of certain patients subject to spastic paraplegia—namely, those whose voluntary control of muscular actions was unimpaired except for the interference resulting from an exaggeration of what Sherrington calls "plastic tone"; and it had been his intention to describe the surgical procedure in so far as the reasons for the choice of the rami to be cut were concerned.

In the third lecture he proposed to discuss the discordant conclusions that had been drawn by different physiologists and surgeons respectively from their experiments (especially in the cat) and operations on the sympathetic in human patients, and to give the explanation of this apparent lack of consistency.

Finally, he intended to deal with the wider scientific bearings and the physiological, pharmacological, and chemical.

This much the compiler of these reports gathered in conversation with Hunter, who, unfortunately, had not prepared any manuscript of the three lectures he had intended to give. It had been his intention, as was his usual custom, to speak without notes, and apart from these conversations and the large series of lantern slides and cinematographic films, he has left nothing in the form of lectures. Yet the subject is so important in its scientific bearings, and the need for some explicit guide to surgeons is so urgent, that the attempt has been made to do what Hunter had intended to do, and to publish the reports.

The compiler has done nothing more than select passages from Hunter's published and unpublished works and endeavour to give a connected and consistent account of his results. In addition to the three memoirs published in the *Medical Journal of Australia* (January 26th, June 14th, and September 27th, 1924), in *Brain* (August, 1924), and in *Surgery, Gynecology and Obstetrics* (December, 1924), the compiler has in his hands the manuscripts of three unpublished memoirs of Hunter's on this subject, as well as the shorthand reports of discussions in which he took part at Brooklyn and Philadelphia in October. Moreover, Hunter had intended to make use of the information provided by Orbeli and his collaborators, of which an account was given by Dr. W. Horsley Gault in the *BRITISH MEDICAL JOURNAL* of September 20th, 1924 (p. 533).

\* By whom the lectures were delivered at University College, London, January-February, 1925.

While the statements made in the following pages are Hunter's, any faults of arrangement or of literary form are to be attributed to the compiler. Discussing the problem which Hunter sets out to solve in these lectures Pechlaring<sup>1</sup> twelve years ago wrote: "The most direct investigation of the mechanism of muscular contraction will be afforded by microscopic study: but, unfortunately, we must wait for a happy inspiration to reveal the road to follow." The compiler of these lectures is convinced that Hunter has got the "happy inspiration."]

## LECTURE I. THE DUAL INNERVATION OF STRIATED MUSCLE.

In his classical memoir on postural activity of muscle and nerve Sir Charles Sherrington<sup>2</sup> makes the statement that: "The existence in various invertebrata of muscles separately differentiated for execution of movements and for maintenance of posture respectively seems without parallel in the skeletal musculature of vertebrates. In the latter, one and the same muscle is used for the two purposes, though some muscles are predominantly concerned with the one, some with the other function." Discussing the same subject, the late Sir William Bayliss was frankly sceptical. Thus, in his *Principles of General Physiology* he says: "It is not easy to understand how two fibres of different function and different innervation could coalesce with retention by the combined cell of both kinds of innervation." The chief aim of these lectures is to justify Bayliss's attitude of scepticism by showing that no such coalescence does in fact occur, for the muscular tissues of vertebrates are at least as highly differentiated in structure and function as those of invertebrates.

In his discussion of the sympathetic innervation of striated muscle that led to this expression, Bayliss admits that "two kinds of function are performed by two separate kinds of muscle fibres, as in the auricle of the tortoise, or by separate muscles, as in the mollusc"; yet he goes on to express the commonly accepted view in these terms: "But in other cases, as in the vertebrate bladder or in that of voluntary muscles, the same fibres undertake both functions, so far as can be made out." I shall first give reasons for the conclusion that the same fibres do not undertake both functions.

The evidence in support of this conclusion is provided (a) by the appreciable structural differences in the two kinds of fibres in striated muscles; (b) by different modes of innervation of the thick and the thin fibres; (c) by the totally different effects produced by cutting the medullated (somatic) and the non-medullated (sympathetic) nerves passing respectively to the thick and the thin fibres; and (d) the interpretation of the effects of stimulation of the sympathetic or the influence of adrenaline, veratrine, etc., such as Oliver and Schafer (1895), Cannon and Nieu (1913), Cannon and Cattell (1916), and Orbeli and his collaborators (1922-24), amongst others, have recorded.

## THE ANATOMICAL EVIDENCE OF TWO DISTINCT KINDS OF STRIATED MUSCLE FIBRES.

Forty years ago Ranvier called attention to the differences in structure in red and white muscles, and since then he and many others have examined the evidence more fully and correlated the anatomical facts with differences in function of the two types of muscle. In his *Textbook of Microscopic Anatomy* Sir Edward Sharpey-Schafer has summed up the evidence so clearly that I cannot do better than quote his statement:

"In the rabbit, as pointed out by Ranvier (1837 and 1889) and Krause, certain of the voluntary muscles present differences in appearance and mode of action from the rest. Thus, while most of the voluntary muscles have a pale aspect and contract energetically when stimulated, some . . . are at once distinguished by their deep red colour, as well as by their slow and prolonged contraction when stimulated. When subjected to microscopical examination it is found that in the red muscles the fibres are more distinctly striated longitudinally and the transverse striae are more irregular than usual. The muscular fibres are generally finer (thinner) than those of the ordinary muscles, and have a larger amount of sarcoplasm. The nuclei are more numerous and are not confined to the inner surface of the sarcolemma, but occur scattered in the thickness of the fibre as well. There is also a difference in the blood supply of the two kinds of muscle. . . .

"A similar difference between red and pale muscles may be also seen in the rays amongst fishes. In other animals the distinction is not found as regards whole muscles, although it may affect individual fibres of a muscle. This is the case, as shown by Klein, in the diaphragm, in which in many of the fibres there are numerous nuclei, and these are imbedded in protoplasm (sarcoplasm), which forms an almost continuous layer underneath the sarcolemma. The distribution of the two kinds of fibres in different muscles has been especially investigated by Gruetzner (1884)."

The contrast between the structure, mode of innervation, and functions of the two types of muscle, as well as the striking differences in their respective liability to fatigue, have been emphasized by many other investigators; and I might mention the memoirs of Dr. John Hay<sup>5</sup> and Dr. Ffrangcon Roberts<sup>6</sup> as important contributions to the evidence and interpretation of this interesting fact.

These records establish quite definitely the fact that there are two kinds of striated muscle, distinguished by contrasted morphological and physiological properties. But it is important not to confuse red and white muscles with the thin and the thick fibres respectively. While it is established that the sluggish red muscle is composed mainly of slender fibres innervated mainly by fine nerve fibres, and the briskly reacting and easily fatigued white muscle of thick fibres innervated by large medullated fibres, it yet remains to be decided whether or not all striated muscles are composed of both kinds of fibres—obviously, of course, in very different proportions in the various muscles.

It is right that some reference should be made here to Gruetzner's insight when, in 1887, he put forward his brilliant suggestion as to the real meaning of the work of Ranvier and his collaborators. Gruetzner attempted to correlate the physiological phenomena exhibited by skeletal muscle with the then recent developments in knowledge of the histology of muscle. He developed the idea of an "intrinsic support" within the muscle, enabling one contraction to be superposed upon another. He put forward the view that some muscle fibres were responsible for the contractions and others for the "intrinsic support." If some muscle fibres are supplied by somatic nerves and the remainder by sympathetic nerves only, the general principle of the functional duality theory of Gruetzner would, in the light of the experimental analysis undertaken by Royle and me, be established.

#### DIFFERENCES IN THE INNERVATION OF THE TWO KINDS OF STRIATED MUSCLE FIBRE.

It was Kulchitsky's demonstration<sup>7</sup> of the fact that "the medullated and non-medullated fibres never terminate in the same muscle fibre" that impelled me to investigate by experiment the influence of the non-medullated nerves, which Boeke had clearly proved to be sympathetic, upon muscular function. During the year 1922 I was fortunate in being able to work with Professor Kulchitsky at University College, London, and to be permitted to take back to Sydney (early in 1923) some of his beautiful preparations of the endings of the medullated and non-medullated nerves in striated muscle, the description of which he did not publish until a year later. When I returned to Australia Dr. Norman Royle (with whom I had previously collaborated in an experimental investigation of the effects of transverse lesions of the goat's spinal cord) consulted me with reference to the inadequacy of the surgical operations to relieve spastic paraplegia. We studied Kulchitsky's preparations of nerve endings and the review of the present state of our knowledge by our former master, Professor J. P. Wilson,<sup>8</sup> and decided that, as certain of the muscle fibres were innervated solely by the sympathetic, some definite effect ought to be produced by cutting the sympathetic nerves going to limb muscles.

Hence we devised the series of experiments, and eventually the surgical operations which I shall discuss in the second and third lectures. But before doing this it is essential that I should consider the problem of the nerve endings, which is a matter of fundamental importance in this inquiry.

It has already been mentioned that as early as 1824 Ranvier called attention to the fact that there are two kinds of striated muscle fibres—one slender and rich in sarcoplasm with irregular transverse striae, the other thicker and much more energetic. Five years earlier (1879) Tschirner had recorded that the thinner fibres are innervated by non-medullated nerves with grape-like endings, whereas the thick fibres are supplied by medullated nerves with end-plates such as Kuhne had described. This important discovery attracted little attention because Tschirner supposed the fine muscle fibres with their non-medullated nerves were merely embryonic forms of the larger fibres with medullated nerves.

In 1902 Perroncito confirmed Tschirner's observations that the different kinds of nerves (medullated and non-medullated respectively) were not supplied to the same muscle fibre. But since then Boeke has put forward the claim that both kinds of nerve may end in the same muscle fibre; and for more than ten years experimenters and morphologists have been trying to harmonize the facts of their fields of investigation with Boeke's statement.

Before giving the reasons for dissenting from these views, which are opposed to the observations recorded by Tschirner, Perroncito, Kulchitsky, and others, reference must be made to Boeke's important demonstration of the fact that the non-medullated nerve fibres proceeding to striated muscle are really sympathetic. By the application of the experimental method to the elucidation of morphological problems he was able to show that the non-medullated nerves in question are the terminal portions of grey rami communicantes which arise in the thoracic-lumbar ganglia of the sympathetic cord. Boeke found in cats that three weeks after section of the nerves to certain of the eye muscles near their origin from the brain stem,

many non-medullated fibres had resisted degeneration. He rightly concluded that these were sympathetic fibres from the cervical sympathetic chain which had been transferred to the eye muscle nerves distal to the point of experimental section of these nerves. Boeke performed the converse experiment of removing the superior cervical ganglion, but, beyond the fact that he was able to record the impression that the non-medullated fibres were fewer in number at the end of two weeks, this experiment was unsuccessful. Agdnhr, on the other hand, after removal of the ganglion stellatum in a cat, was able to find, on killing the animal six days later, the remains of degenerated non-medullated nerves supplying skeletal muscles of the fore limb. It must be accepted, therefore, that some at least of the non-medullated fibres found supplying skeletal muscle take their origin from the vertebral ganglia of the ganglionated sympathetic chain. To employ the terminology of Langley, who confines the term "sympathetic" to the thoracic-lumbar outflow, the skeletal muscles receive post-ganglionic non-medullated fibres of the sympathetic nervous system by way of the grey rami communicantes. In addition, of course, this muscle receives the ordinary cerebro-spinal nerve fibres of somatic origin. In this sense skeletal muscle has a double innervation.

But if Boeke and Agdnhr have rendered this great service of establishing the origin of the sympathetic fibres to striated muscle—a discovery which necessitates a new orientation of our ideas of the sympathetic and stultifies the definition of the sympathetic system still found in all

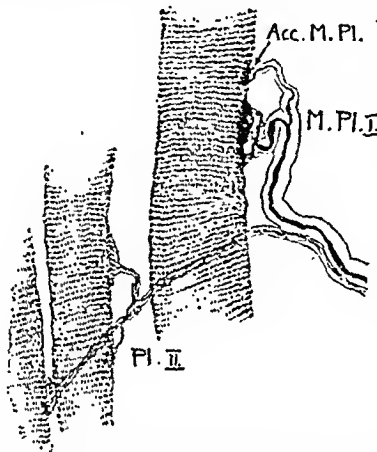


FIG. 1.—To illustrate Kulchitsky's demonstration of the dual innervation of striated muscle—large fibres innervated by medullated nerves ending in muscle plates (M. Pl. I and Acc. M. Pl.) and slender fibres innervated by non-medullated (sympathetic) nerves with so-called "grape-like" terminations (Pl. II).

our textbooks—they have also introduced an element of discord by their claim that both kinds of nerve end in the same muscle fibre.

Limitations of space make it impossible to give an adequate account of my reasons for rejecting the opinion of Boeke on this matter. In collaboration with my colleague, Dr. Oliver Latham, I have carefully examined the mode of ending of the nerves proceeding to the limb muscles of the goat and fowl, the animals used by Dr. Royle and myself in our experimental work. A full account of our results will soon be published; all I need say at present is that in no case were we able to discover a muscle fibre receiving both kinds of nerve fibres. In this respect our results confirm those previously obtained by Kulehitzky and the pioneers Tahiriev and Perroncito. Kulehitzky is not willing to admit that any of the grape-like endings of the non-medullated nerves are hypolemmal, whereas Tahiriev says they are definitely hypolemmal. Latham was able to show that there are two kinds of nerve endings on the slender muscle fibres—those of the efferent nerves, which are the grape-like hypolemmal terminations, and others, presumably afferent, epilemmal endings. It is interesting to note, in confirmation of these claims, that Agduhr states that he has Bielschowsky preparations to demonstrate that in addition to hypolemmal terminations, "there are also epilemmally situated sympathetic terminal plates in the limb musculature." It is evident, therefore, that efferent (hypolemmal) and afferent (epilemmal) sympathetic nerve endings are distinguishable from one another. In the next lecture I shall demonstrate the experimental proof of the existence of both afferent and efferent fibres from the sympathetically innervated muscle fibres.

In collaboration with Mr. R. E. Murray, B.Sc., of the University of Sydney, I have made a critical examination of the evidence cited by Boeke and Agduhr in support of their claim for the double innervation of individual muscle fibres. Our memoir on this important issue is ready for publication with a series of illustrations. At present I shall quote merely certain passages from the full statement. Boeke established the existence of a plexus of non-medullated nerve fibres supplying skeletal muscle, which appeared to be quite independent of the ordinary medullated nerve fibres. He termed this system of fibres together with their terminations on striated muscle fibres "accessory," and in 1913 suggested that this system was sympathetic or autonomic in character. He supplemented his morphological researches by experimental investigations, which he summarized in 1917 in an extensive memoir. See also his London lecture published in *Brain* (1921). This work proves beyond doubt the validity of his contention that the extrinsic striated muscles of the eye are innervated by sympathetic as well as by the cerebral motor nerves. But at the same time his results raise a doubt whether he is right in describing all the fibres and endings which he originally termed "accessory" as being sympathetic in origin.

The most striking result which points to the improbability of Boeke's contention is provided by the fact that a marked difference in the histological picture of the nerve supply to the extrinsic muscles of the eye is to be seen after section of the cerebral motor nerves to these muscles, according to the time after the operation at which the examination of the muscle is made. In some cases he allowed a short period for degeneration (three to five days), and in others a longer period—for example, three weeks. After a short period specimens stained by the Bielschowsky method revealed that all the medullated fibres and their associated end-organs were undergoing degeneration. But the non-medullated "accessory" system was so well represented that apparently at least one "accessory" nerve ending was to be seen on each muscle fibre. In similar preparations of material in which degeneration had proceeded for the longer period, however, the greater number of these non-medullated nerve fibres which resist degeneration altogether are derived from sympathetic communications to the motor cerebral nerve which join the nerve distal to the site of section. On the other hand, the degenerated fibres and terminations of the

"accessory" system of Boeke obviously belong to another category. Boeke's explanation of the failure of these fibres to resist degeneration is that they are cranial autonomic in origin; but, as Wilson points out, he does not indicate in which ganglion the cells providing these non-medullated fibres are situated. Wilson also calls attention to the fact that, in any case, the section of the motor cerebral nerve is close to the brain stem, and the ganglion should remain uninjured, and therefore degeneration whether Boeke has established beyond doubt that the point of degenerating fibres are actually non-medullated rather than finely medullated fibres whose sheaths have already suffered degeneration. Nor does Boeke's converse operation of removing the superior cervical sympathetic ganglion establish that all the "accessory" fibres are sympathetic in origin. For the entire system did not disappear, though Boeke thought the fibres were fewer in number.

These anomalies in Boeke's interpretation of the origin of the "accessory" system undermine his contention that every individual muscle fibre receives both a sympathetic and somatic nerve ending, for any given case cited by Boeke may well be an example of two somatic endings, and not of double innervation in the sense in which that term is used in this lecture.

In later experiments by Boeke and Dusser de Barenne (upon the double innervation of the intercostal muscles of the cat) no mention whatsoever is made of the relation of the somatic and sympathetic endings to each individual muscle fibre. This work proves only that the intercostal muscles as a whole receive both sets of nerves.

In this respect the evidence of Agduhr is of great importance. This author investigated experimentally the result of partial denervation (somatic or sympathetic) of the muscles of the fore limb of the cat. After removal of the ganglion stellatum he succeeded in observing in Bielschowsky preparations of the brachial musculature, secured six days after the operation, the remains of degenerated non-medullated nerves. He also cut the last four cervical and the upper two thoracic nerves in the intervertebral foramina between the spinal ganglia and the point of divergence of the white ramus communicans. He killed the animal, the histological investigation of which is described in detail, five days after the operation; but he records finding similar appearances after a period of ten days. He observed that all the medullated fibres (motor and sensory) had undergone degeneration. On the other hand, many non-medullated fibres were seen to be intact; they were lying along blood vessels and were partly bound up with degenerated medullated fibres.

The point of interest in the present discussion is that Agduhr describes a single muscle fibre which shows two hypolemmal end-plates upon it. One of these is degenerated and therefore the termination of a somatic nerve fibre. The other receives a non-medullated nerve fibre. In consequence of this Agduhr describes this as an instance of a single muscle fibre receiving both a somatic motor and a sympathetic termination. He records, however, that the plate regarded by him as being sympathetic in origin had a large extension on the muscle fibre, and on account of this approached in character the somatic motor terminal plates. Further, he states that the distance of the two plates from one another is "such as one finds in a spinal plurisegmental innervation of the separate muscle fibres." If we add to these considerations the short period of degeneration allowed in the specimen figured by Agduhr (five days), in the light of the fact that Boeke found that non-medullated fibres may be seen for a considerable period when actually undergoing degeneration, no proof is provided that the muscle fibre described is actually innervated by both somatic and sympathetic nerve endings. It is possible that the second plate is the ending of a non-medullated collateral of a medullated fibre rather than an independent sympathetic termination.

Kulehitzky, whose careful work stimulated the present investigation, has described, for instance, such additional plates provided by collaterals. Dr. Oliver Latham of Sydney has found a beautiful example of a non-medullated collateral of a medullated nerve fibre ending hypolemmally



in precisely the same way as the fibre which is figured by Agduhr. This collateral arises at a considerable distance from the site of termination of the medullated fibre, and the distance between the two plates is comparable to that which separates the endings in Agduhr's preparations.

Thus the contention of Boeke and of Agduhr that each muscle fibre receives a double innervation cannot be confirmed; nor does it agree with the evidence of other observers. Obviously the experimental method should afford evidence to settle the question whether individual muscle fibres are innervated by both somatic and sympathetic nerves. For this reason the muscles of the hind limbs of some of the goats employed by Dr. Royle for excision of the lumbar sympathetic chain on one side were histologically examined. The normal side was used for control. The preparations from the operated side showed in transverse section a number of small muscle fibres which were in marked contrast to the fibres of average size in the same preparation which were apparently normal. These diminutive fibres were too numerous to be accounted for as the conical or pointed terminations of normal muscle fibres. Further, the connective tissue (endomysium) between the individual muscle fibres has increased in amount. This was specially noticeable in a preparation secured by killing the animal six months after performing the operation.

Conversely, the somatic innervation may be removed and the sympathetic nerve supply to the striated muscle left intact. The wing of the domestic fowl readily provides a preparation of this kind. Both the anterior and posterior nerve roots of the lowest three cervical nerves were severed without injury to the cervical sympathetic ganglia or the white ramus communicans which emerges at the level of the first thoracic segment. In this way the wing was deprived of the major part of the somatic nerve supply. Seventy days later the bird was killed. Post-mortem examination revealed that the operation had been successfully performed and the cervical sympathetic trunk was found intact. On microscopic examination large numbers of degenerated medullated nerve fibres were found in a preparation from the flexor muscles of the forearm. These muscles when stained in haematoxylin and cut in transverse section showed a marked contrast to the corresponding muscles from precisely the same point of the normal wing, which were treated in exactly the same manner. The individual muscle fibres of the normal muscle showed remarkably little variation in size throughout the preparations. The muscle of the wing from which the somatic innervation had been removed was in marked contrast to this. Many of the fibres were normal in size or slightly larger than the largest fibres of the normal muscle. These appeared in groups, and some fasciculi were entirely composed of them. Other fibres showed a marked diminution in diameter to approximately 33 per cent. of that of the muscle fibres of average size. These also occurred in groups, and in some cases they formed entire fasciculi. Other fasciculi were made up of groups of both normal and diminutive fibres lying in juxtaposition. The connective tissue of the muscle was increased in amount; a few masses of young connective tissue cells were in evidence between the bundles, and the endomysium was slightly more developed than in the control specimen.

It is firmly established that diminution in the size of all the muscle fibres follows complete denervation. The work of Willard and Gran on white mice may be cited as evidence of this. The leg muscles on one side were deprived of their innervation. The corresponding muscles of the other side were used as a control. Specimens were investigated showing atrophy of from three to sixty-three days' duration. These authors found a progressive decrease in fibre diameter, this change being unaccompanied by any change in the number of fibres. They describe the decrease in diameter as being "up to 68 per cent." During the period under observation there was no connective tissue proliferation between the muscle fibres. The difference in the findings of Willard and Gran and our observations in regard to the proliferation of connective tissue is no doubt accounted for by the fact that a partly denervated muscle is not entirely inactive. In the case of sympathetic

denervation, which removes plastic tone, increase of fibrous tissue no doubt renders the muscle more efficient in maintaining a position imposed by active movement or by selective reflex activity. When contractile tone is removed by somatic denervation only a very slight increase of connective tissue occurs over a period of sixty days. The support of the wing during this period had therefore been provided practically entirely by the healthy muscle fibres which exhibited plastic tone.

The conclusion can be drawn from the experimental facts that partial denervation—somatic or sympathetic—affects some fibres and not others. This confirms the evidence obtained from a study of gold chloride preparations. On the basis of innervation, therefore, skeletal muscle is found to consist of two sets of fibres. In the experimental preparations the fibres of each set tend to occur in groups. This is in accordance with the findings of Latham in gold chloride preparations of the skeletal muscle of the domestic fowl and goat, that a considerable number of fibres, either receiving the endings of only non-medullated fibres or of only medullated fibres, tend to occur in

proximity to one another. Even in teased preparations a group of as many as seven muscle fibres may receive non-medullated fibres, while no terminations of medullated endings may be visible in the same field. Such an appearance may have been a source of error in the past in suggesting that every muscle fibre receives a sympathetic innervation. The possibility arises, therefore, that the mode of innervation of skeletal muscle is that any individual muscle fibre receives one motor nerve ending—somatic or sympathetic as the case may be—and not both motor endings, and that each type of muscle fibre occurs in groups.

As an instance of the presence of a single type of motor innervation it may be recalled that the muscle fibres of muscle spindles receive sympathetic motor terminations. The existence of a double motor innervation to these muscle fibres, although suggested by Perroneito, has not been confirmed. Recently, on the other hand, Agduhr has found sympathetic terminations on these intrafusal fibres in the limb muscles of the cat. Kulchitsky and Dart have found these endings in relation to the fibres of the muscle spindles of the python. Dart is in error in regarding the fibres as being finely medullated, but he shows clearly that the endings are associated with diminutive sole plates. This

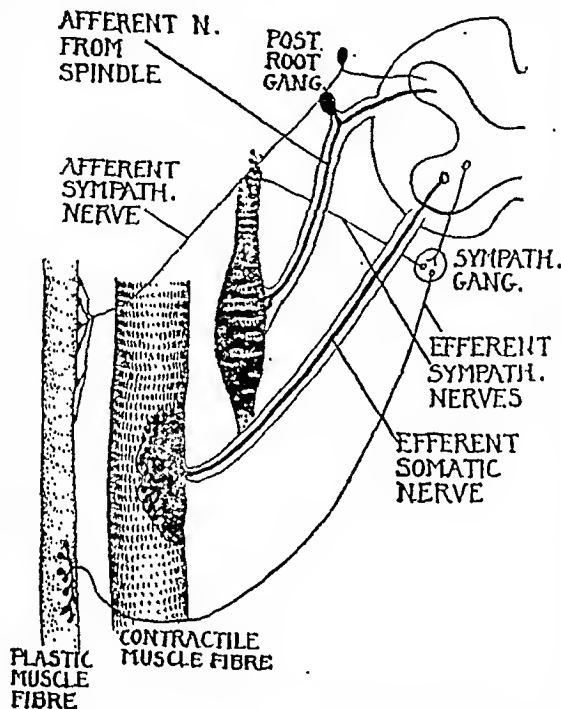


FIG. 2.—Diagram to indicate the three constituent elements of striated muscle, slender fibres, thick fibres, and muscle spindles, and their innervation. The afferent sympathetic fibre from the spinal cord to the muscle is not connected to posterior root ganglion; the afferent fibre is not connected to posterior root ganglion by an efferent non-medullated nerve.



type of ending has already been described in this lecture as being sympathetic efferent in character. The intrafusal fibres seem, therefore, to have a single efferent innervation which is sympathetic in origin. This is in itself a point of great importance, for it suggests that other fibres may be similarly innervated.

I suggest, therefore, that the skeletal muscle of vertebrates consists of two sets of muscle fibres disposed in groups each with its own specific innervation, and, consequently, its own specific function, the experimental investigation of which will be discussed in the next lecture. I shall then endeavour to establish the proof of the following claims. The fibres receiving somatic nerve endings are concerned in shortening as the result of voluntary and of reflex activity, and in isometric contraction during the continuation of the voluntary movement and for what Langelaan<sup>1</sup> calls "contractile tone." They are comparable to what Sherrington calls the "movement muscles" of invertebrates. Other fibres, innervated by the sympathetic system, are first inhibited and then lengthened and shortened during these processes, and remain at the new length passively imposed upon them. In other words, these fibres exhibit what Sherrington has called "plastic tone." They are comparable to the "fixing muscles" of invertebrates. During movement these fibres aid in supporting the weight of the part. At the termination of movement they take part in maintaining the position attained as the result of the movement.

Further, some of the "fixing muscle" fibres appear to be included within a sheath to form the special sense organs (muscle spindles) which transmit afferent impulses to the central nervous system by means of somatic sensory fibres. The degree of lengthening and shortening imposed upon these intrafusal fibres is maintained by the influence of their sympathetic innervation. Epilemmal sympathetic endings found on other fibres that receive also a sympathetic motor innervation probably constitute in a similar way sympathetic proprioceptor organs.

All the evidence related above in regard to the exact mode and the function of the double innervation of skeletal muscle indicates that the differentiation of muscles into "movement" and "fixing muscles," which is so apparent in some invertebrates, is not lost in vertebrates. These two muscle systems of invertebrates are represented as small skeletal groups which mingle together to constitute the skeletal muscles of vertebrates.

From the standpoint of physiology the existence of such an arrangement would readily account for the marked similarity in the behaviour of the "catch" mechanism of invertebrates and the activities of skeletal muscle in maintaining posture. In reviewing the points of comparison between the two processes, Bayliss recalls the suggestion of A. V. Hill that a more efficient mechanism of maintaining a weight must be exhibited under natural conditions than that displayed by the sartorius muscle of the frog when its nerve is stimulated by induction shocks. He compares also the process of inhibition of the "catch" mechanism (von Tscholl) with that of the tonic contraction of skeletal muscle during decerebrate rigidity (Sherrington); and he calls attention to the existence of an extremely low rate of metabolism during the activity of the "catch" mechanism (Parnas, Bethe) and of skeletal muscle in the state of decerebrate rigidity (Roaf, Lovatt Evans). If separate muscle fibres exist in vertebrate skeletal muscle for the fixation of posture and for active and reflex shortening and for isometric contractions of the muscle, the differences in manifestations of these activities of inhibition during the groups will be readily comprehended.

From the pathological standpoint this view introduces a line of attack to relate the symptomatology and pathology of such diseases as myotonia atrophica, the muscular dystrophies, and myasthenia gravis. In poliomyelitis it has long been known that sometimes the sympathetic ganglia partake of the degeneration found in the lower somatic motor nerve system. Such cases are, no doubt, those in which the tone of the muscle affected is completely lost. In other cases, in which there develop rapidly structural deformities due to the tendency for the limb to remain fixed in posi-

tions imposed upon it, the sympathetic innervation probably remains intact. Further, according to this conception, the operation of sympathetic ramisection for spastic paralysis consists in removing the nerve supply to the fixing muscle fibres only. All the movement fibres remain entirely unaffected. This, no doubt, accounts for the efficiency of the partly denervated muscles after long periods of time—for example, twelve months. On the other hand, according to the prevailing theory of the existence of the double innervation of each individual muscle fibre, the operation would entail partial loss of the nerve supply of each fibre of the muscle; or, more precisely, that the sarcoplasm of each muscle fibre is deprived of its nerve supply. This is unlikely in view of the unimpaired activities of reflex and of active shortening of the muscles which remain for long periods after the operation.

- REFERENCES.—<sup>1</sup> Nederl. Tijdschr. v. Geneesk., September, 1913. <sup>2</sup> Brain, 1915, p. 205. <sup>3</sup> Fourth edition, 1924, p. 546. <sup>4</sup> Quain's Elements of Anatomy, vol. ii, Part I, 1912, p. 190. <sup>5</sup> Liverpool Med. Chir. Journ., September, 1901, p. 431. <sup>6</sup> Brain, 1916, p. 295. <sup>7</sup> Journ. of Anat., January, 1924, p. 160. <sup>8</sup> Brain, 1921. <sup>9</sup> Ibid., 1915, and 1922. For full bibliographical references see Surgery, Gynecology and Obstetrics, December, 1924, pp. 741-743.

## PER-URETHRAL OPERATIONS FOR PROSTATIC OBSTRUCTION.

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The introduction of suprapubic prostatectomy in 1901 led almost immediately to the abandonment of the various palliative methods of treatment that had previously been tried with indifferent success. Since that time prostatectomy has grown in popularity, so that nowdays it is regarded by many surgeons as a routine method of treatment to be carried out in all cases of enlargement, except where some special contraindication exists. With improved technique the mortality of the operation has steadily diminished, so that patients who thirty years ago would certainly have been condemned to catheter life are now subjected to operation. But great as has been its success, prostatectomy must still be regarded as a serious operation, and one that, even in the hands of the most competent, is attended by a comparatively high mortality rate. In view of this and of the fact that there must exist cases in which prostatectomy is unjustifiable, it may not be out of place to describe certain less drastic procedures which, in suitable cases, give excellent results.

### Objections to Partial Removal of the Prostate.

Three criticisms are usually levelled against any operation that fails to effect a complete removal of an enlarged prostate: first, that the treatment is likely to fail in its object; second, that even when it succeeds the results are temporary; and third, that as an apparently innocent prostate may microscopically show malignant changes it is unwise not to remove it. The first two of these objections will be discussed more fully later. Suffice it for the moment to state that the whole success of partial operations on the prostate depends on a judicious selection of cases, and that failures are generally due to an ill advised attempt to tinker with a large prostate that is amenable only to total enucleation.

With regard to the third objection, as long ago as 1900 Albarran and Hallé called attention to the fact that a certain number of prostates which clinically appeared to be examples of innocent enlargement showed malignant changes when examined microscopically. This observation has since been confirmed and a figure approximating to 14 given as the percentage of cases in which these changes are found. From this it has been argued that as it is impossible to be sure that an enlarged prostate is pathologically innocent the wisest procedure in all cases is to carry out total prostatectomy. This argument for the wholesale removal of enlarged prostates would be unanswerable but for two facts—the first, that total prostatectomy itself has

a very high mortality rate; the second, that even if a prostate showing malignant changes be enucleated the patient runs a very considerable risk of a recurrence at some future date.

In balancing risks, therefore, it is necessary to remember that the diminished likelihood of future malignant trouble may in certain cases be more than neutralized by the immediate risk of prostatectomy. Exactly what that risk is depends on a great many factors, but at a large general London hospital I find that the mortality rate of prostatectomy for simple enlargement during the years 1914 to 1923 works out at 22 per cent. This is undoubtedly high when compared with the figures given by genito-urinary experts, but even the more favourable figures show that the death rate is above 5 per cent. It is therefore impossible to lose sight of the fact that prostatectomy must even nowadays be considered a dangerous operation. It is still more difficult to estimate the amount of protection from future malignant trouble afforded by total removal of the gland, but in this connexion it is interesting to note that of the five clinically innocent but pathologically malignant prostates recently removed by R. H. J. Swan two recurred in spite of the complete prostatectomy. It would therefore seem probable that too much emphasis has been laid on the argument that it is wise to remove all enlarged prostates simply on account of the risk of their being malignant, and, that being so, it is illogical to condemn offhand all partial prostatectomies. Since failure to obtain satisfactory results from partial operations is generally due to faulty selection of cases, it is important to consider what forms of prostatic obstruction are suitable for such treatment. First amongst these suitable cases is that which is generally known as the prostatic bar.

#### Prostatic Bars.

It has long been recognized that there are patients who have all the symptoms commonly associated with prostatic obstruction and yet in whom rectal and even cystoscopic examination fails to reveal any enlargement. This condition has been termed variously, sclerosis of the internal sphincter, contracture of the vesical neck, or, in French, "prostatisme sans prostate," but the mechanism underlying the obstruction is the same. The symptoms resemble closely those due to prostatic enlargement—namely, frequency and urgency in micturition, difficulty or delay in starting, gressive diminution in the force and calibre of the stream, and an increasing amount of residual urine, but not infrequently these begin earlier in life than is usual with general enlargement of the prostate.

The diagnosis rests chiefly on an examination of the posterior urethra and vesical neck, the cause of the trouble being found in a bar formation which affects either the posterior vesical lip or the floor of the prostatic urethra, and by its presence obstructs the outflow of urine. Our knowledge of this form of prostatic obstruction has been considerably added to by the work of Alexander Randall, who, in a series of 300



FIG. 1. — Sagittal section through a prostate showing a common type of fibrous bar, with thickening of the posterior lip, increase in the distance between the vesical orifice and the verumontanum, and a diminution in the distance between the orifice and the verumontanum. The dotted line marks off the area removed by operation.

sagittal section there is a diminution in the distance between the vesical orifice and the verumontanum, and an increase in that between the vesical lip and the perivesical tissue. It is undoubtedly due to an increase in fibrous tissue following some old-standing inflammatory process such as a chronic prostatitis. The second type described by Randall is similar to the first, except for the fact that the bar projects upwards so as to encroach

on the trigone rather than forwards towards the prostatic urethra. In the third and fourth types the bar is glandular, being due to hypertrophy of the submucous glands of the posterior commissure in the one case, and of the glands of Albarran in the other. In none of these cases is the enlargement of the bladder, trabeculation, etc., as associated conditions shows that a definite degree of obstruction exists.

However, it may be urged that even if prostatic bars of this nature exist they are so rare that, from the point of view of the practical surgeon, their importance is negligible. I cannot agree with this criticism. It has been my experience that the more careful the preliminary investigation of patients presenting themselves for prostatic obstruction, the more important does this type of case appear. How frequently has one seen a bladder opened in the expectation that a prostate suitable for enucleation would be found, and in place of this a small fibrous gland discovered which could only be removed piecemeal by scissors and forceps! Most surgeons have memories of struggles with the "small fibrous type of prostate," and not a few of their patients have been returned to bed unrelieved of their obstruction. It is difficult to find figures that will give an accurate idea of the commonness of such cases, but probably the most comprehensive are those obtained from Randall's post-mortem investigation. Out of 158 subjects showing prostatic abnormalities after death, 33.5 per cent. were examples of bar formation. As Randall's findings are very instructive in showing the relative frequency of other forms of prostatic enlargement his figures are appended:

Relative Frequency of Various Forms of Prostatic Enlargement (Randall).

800 Necropsies.	158 Prostatic Abnormalities.	
	Number.	Per cent.
Lateral lobe hypertrophies alone ...	42	26.7
Median lobe hypertrophies alone ...	22	14.0
General trilobar hypertrophies ...	3	1.9
Anterior lobe ...	8	5.0
Carcinoma ...	1	0.6
Sarcoma ...	8	5.0
Median bar—fibrous ...	13	8.2
Median bar—glandular ...	18	11.4
" " not classified ...	14	8.9
" " small and non-obstructive ...	158	

But the proof that bar formations are of frequent occurrence does not rest on post-mortem findings alone. J. R. Caulk, who has made a special study of this condition, reported in 1921 that of the cases consulting him for obstructive symptoms, 20 per cent. were examples of bars, and since that time, with a better understanding of the condition and improved methods of examination, he has found a considerably higher rate of incidence. My own observations, so far as they go, are in harmony with Caulk's.

#### Young's Punch Operation.

In 1909 H. H. Young devised an endoscopic tube by means of which prostatic bars could be removed through the urethra under local anaesthesia. Although the early instrument was in the form of a urethroscope, it was soon found that the operation of punching out an obstructing bar could be carried out efficiently without visual observation, and the original apparatus was abandoned in favour of one of simpler design (Fig. 2), consisting of an outer sheath with a window and an inner tube with a sharp cutting edge. It is employed as follows.

The bladder is distended with fluid and the instrument introduced with the inner tube pushed home so as to close the opening in the sheath. The instrument is then withdrawn with the opening uncovered so that on reaching the urethra it engages the prostatic bar, an event that is signalled by the sudden stoppage of the fluid escaping from the bladder. The operator then pushes home the inner cutting tube and excises a small fragment of

tissue. As a rule more than one cut is necessary, the foregoing proceeding being repeated, and two or three fragments removed in turn.

Since the introduction of this instrument various modifications have been made by different workers. The chief criticism levelled at Young's punch operation has been that it is liable to be followed by haemorrhage. However, although this is usually fairly brisk for a short time after operation, it does not often occasion any real anxiety. Personally I have not encountered difficulties in this direction, and my reason for abandoning Young's operation in favour of other procedures is that I have been dissatisfied with the small amount of tissue that can be conveniently removed by this method.

#### *The Cautery Punch.*

Four years ago J. R. Caulk introduced a punch in which the inner cutting tube acted at the same time as an electro-cautery, thereby reducing the risk of haemorrhage and increasing the amount of tissue removed by the operation.

In his instrument the cutting is done by a circular platinum knife, carefully insulated from the rest of the instrument and heated to a dull red heat by a suitable electric current. It has been found unnecessary to provide water cooling for the outer tube since the whole of the burning operation can be carried out within the space of five or six seconds, and very little general heating occurs. In dividing the bar the inner tube is given a rotary motion, and should it be considered advisable to increase the action of the cautery the tissue may be resected by pulling backwards the blade at half heat.

It is of the greatest importance in using Caulk's instrument to employ the right form of current, and reliable results can only be obtained by using an alternating current of about 10 volts and 150 amperes. This unfortunately limits the utility of the instrument, for the current available in different localities varies considerably, and will have to be modified in certain cases by the use of cumbersome and costly transformers. At any rate, after having made various efforts to overcome these electrical difficulties in London, I came to the conclusion that they constituted a serious objection to what was otherwise an excellent weapon, and I discarded Caulk's cautery punch in favour of the instrument described in the next paragraph.

#### *The Diathermy Punch.*

The instrument described below has been constructed for me by Mr. Schranz of the Genito-Urinary Manufacturing Company, to whose ingenuity in design I give full credit.

In external form it resembles the Young punch, but the sheath is constructed of bakelite—an excellent insulating material allied to vulcanite—with a metallic lining. This lining only comes to the surface at the edge of the window situated below the beak; elsewhere it is insulated from the urethra by the bakelite covering. (See Fig. 2.)

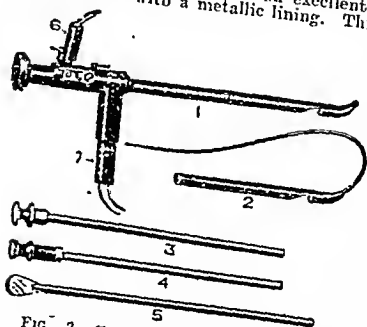


FIG. 2.—(1) Sheath with attachments—apparatus; (2) diathermy inlet and outlet tubes; (3) obturator; (4) punch.

into a posterior urethroscope of the Guérin type. Under guidance of the eye the punch is now withdrawn until the beak is seen to engage the window. Once it is in position the instrument is held firmly and pressure exerted on the bar by slightly raising the proximal end. Connection is then made with the source of diathermy current. Immediately the current is turned on the inner metallic layer of the sheath becomes a urethral electrode, but owing to the insulation conferred by the bakelite covering the only point of contact with the urethra is the edge of the window engaging the bar. From this edge can be observed to spread a line of coagulation which within ten or fifteen seconds whitens the whole area of prostate engaged. By maintaining continuous irrigation the process of diathermy can be carried out under complete ocular control, the current being turned

off when it is judged that a sufficient depth of tissue has been destroyed.

In order to remove the wedge of destroyed tissue and thus obtain immediate benefit without waiting for the separation of sloughs, the telescope and lighting system is withdrawn and an inner tube, resembling that used in the Young punch, inserted. By pushing this home and giving it at the same time a slight rotatory movement, a core of destroyed tissue about 2 cm. in length and 0.5 cm. in diameter may be removed. This does not, however, constitute the whole amount of prostatic tissue destroyed by the operation, the full benefit of which will only be obtained at a later period when the sloughs have separated. The telescope and lighting system may then be reintroduced, the area of operation inspected, and a decision arrived at as to whether any further fulguration is required. If the operator is satisfied with the amount of tissue dealt with, the bladder is emptied, the obturator inserted, and the instrument withdrawn.

It is obvious that the diathermy punch briefly described above offers many advantages over both Hampton Young's and J. R. Caulk's instruments, the chief of these being the avoidance of all possibility of haemorrhage by the use of diathermy, and the fact that the whole operation is conducted from beginning to end under the guidance of the eye. The use of the inner punching tube gives the same immediate advantages conferred by Young's instrument, and besides this there is the diathermy action, which adds so much to the efficacy of the operation, and which is absent in Young's procedure. It is, indeed, not unusual for a patient with complete retention to empty his bladder a few hours after treatment with the diathermy punch and for his stream to improve still further with the subsequent separation of sloughs. Minor improvements are still being made in the instrument.

#### *Fulguration of the Prostate.*

As an alternative to the punch operation prostatic bars may be dealt with through a posterior urethroscope carrying a diathermy electrode. This form of treatment has been championed in France by Luys, and in suitable cases gives good results. In England the method has on the whole been neglected, and for this reason no apology will be offered for dealing with it at some length.

Any good operating posterior urethroscope may be used for the purpose of fulguration. My own practice is to employ two instruments—a direct-vision endoscope of the Guérin or Joly type and the new prismatic operating cysto-urethroscope made by Wolfe. With the former I map out my field of operation, since it gives a clearer idea of the topography of the posterior urethra and of the mechanics of the obstruction than does the prismatic instrument. Having achieved this, I discard the direct-view urethroscope in favour of the Wolfe cysto-urethroscope, which has the great advantage of permitting the use of a larger electrode (No. 8) than the Guérin instrument, and of thus shortening the time consumed by the operation.

A current of from 500 to 2,000 milliamperes is used, and throughout the whole operation a copious stream of fluid is kept circulating through the instrument in order that a clear field of vision may be maintained. The position of the patient, the general arrangements of the theatre, and the preliminary stages of the operation are the same as for a cystoscopy. A general anaesthetic is as a rule required, but in certain cases where this has been inadvisable I have operated under local anaesthesia, the prostate being infiltrated with novocain through a needle mounted on the end of a urethric catheter. In any case, once the instrument has been introduced and fulguration started only light anaesthesia will be required. Special arrangements must be made to allow of continuous irrigation throughout the operation, and for this purpose a large-sized irrigator should be used and kept filled. In those cases in which a preliminary suprapubic drainage has been carried out there is, of course, no danger of overdistension of the bladder, and all that is necessary is to attach a length of rubber tubing by means of a glass connecting piece to the suprapubic operating table. In all other cases, however, the operator will have to keep an eye on the condition of the bladder throughout the operation, and at intervals evacuate.

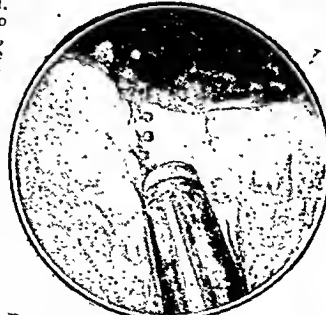


FIG. 3.—Fulguration in a case of obstruction due to bar formation. In addition to the bar there exists a minor degree of enlargement of the right lobe.

It is usually more convenient to start fulguration at the bladder neck and to work towards the urethra. The method

is the same as in dealing with bladder growths, and the chief difficulties likely to be encountered are those associated with keeping a clear field and with recognizing the exact position of the operating electrode. Obscuring of the visual field may be due to blood, debris from the destroyed tissue, and bubbles of hydrogen given off at the electrode. The first two obstacles to clear vision are removed by irrigation, and the third by rotating the instrument so that the bubbles may escape to the upper part of the field. The time required to complete the operation depends on the amount of prostate requiring removal, the strength of current, and the calibre of the electrode; it may be as much as an hour where a large amount of tissue has to be dealt with. In the simplest type of prostatic bar all that is necessary is to cut a channel through the ridge so that the level of the bladder neck is flush with that of the urethra, and to widen and deepen the channel sufficiently to provide a free exit for the urine. When some lateral enlargement is associated with the bar formation it will be necessary to deal with this as well (see Fig. 3). As in the case of the bar, the portion of the lateral lobes nearest the bladder should be attacked first, the optical end of the instrument being raised so that the electrode lies in the lower part of the cleft between the enlarged lateral lobes. Energetic treatment of the adenomatous masses will be necessary if the result is to be satisfactory. Both sides should be attacked at the same sitting, each portion of the obstructing lobes being brought in turn under treatment from the level of the bladder neck outwards towards the verumontanum. Where more than a slight degree of enlargement exists several sittings may be required.

Very little after-treatment is necessary, and it is not my practice to tie in a catheter. A most remarkable point is the complete absence of pain or haemorrhage, or indeed of any other complication, after this operation. What little bleeding there is at this early period is usually due to the trauma of instrumentation, and ceases within a few hours. Most patients are able to get up and, if necessary, to leave hospital or nursing home the day following the operation, and their discomfort is certainly not greater than that commonly experienced after a cystoscopy. An alteration in the stream is not usually noted for four or six days, but as sloughs begin to come away an improvement occurs. The separation of these sloughs may be encouraged by posterior irrigation according to Janet's method. In those cases in which more than one sitting is required an interval of three to four weeks should be allowed between operations so as to allow time for the separation of the sloughs and the subsidence of the reaction. The procedure at the second or third operation is exactly similar to that of the first, and as a rule it will be found that the work is considerably easier than on the previous occasions. In the majority of my own cases two sittings have been sufficient.

#### SUMMARY AND CONCLUSIONS.

It has already been stated that the methods of treatment described in this paper are only to be regarded as a substitute for prostatectomy in certain types of case, and that diathermy or punch operations, used indiscriminately, are bound to lead to disappointment and failure. The type of case for which these methods are eminently suitable is the prostatic bar, but fulguration may also be used against the lesser degrees of glandular enlargement when for one reason or another prostatectomy is difficult or dangerous. If, however, the prostate be considerably enlarged the results obtained will in all probability be incomplete and transitory. Fulguration may also be employed, but with less certainty of success, in cases of post-operative obstruction, and in cases of malignant disease of the hard sclerotic kind.

For the sake of convenience the conclusions reached in the foregoing paper will be tabulated as follows:

1. Total prostatectomy, in spite of a fall in mortality, must still be regarded as a serious operation and one that in many cases is attended with very considerable risks.
2. The arguments for removing all enlarged prostates as a precautionary measure against malignant disease are not entirely sound, since enucleation of a gland showing malignant changes is no guarantee against recurrence, and

the immediate risk of a prostatectomy may in some cases be greater than the remote risk of malignancy.

3. Treatment by punch operations and by fulguration is of the greatest use in certain types of obstruction. These procedures are particularly suited to cases of prostatic bar, and of minor enlargement where enucleation, owing to the existence of complications, would be difficult or dangerous.

4. Success in the use of these minor operations depends on the exercise of a nice discrimination in the selection of cases. For this reason the very greatest care and thoroughness must be employed in the preliminary investigation. Otherwise the results will be uncertain and short-lived.

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## THE SURGICAL TREATMENT OF CHRONIC ULCERATIVE COLITIS.

BY

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THE medical treatment of chronic ulcerative colitis has, in my experience, proved extremely unsatisfactory. The ordinary intestinal antiseptics by the mouth are practically useless, and the great difficulty is to determine when active surgical interference should be decided upon. There is no hard and fast line in determining when cases of colitis reach the chronic stage.

There is no doubt that a large percentage of Indian troops are "carriers" of dysentery, especially of the amoebic form; in peace, when they are comfortably housed in cantonments where they have their normal rations and are not exposed to hardships and fatigues, they suffer little or no inconvenience. The same men under field service conditions, when their rations vary in quality and quantity, usually for the worse, and especially when they are exposed to cold and wet weather, soon manifest symptoms of colitis.

My own experience of these cases has been gained under field service conditions on the north-east frontier of India, 1911-13, and in Mesopotamia during the recent war. During the operations on the north-east frontier post-mortem examinations in cases of colitis revealed the intense and extensive ulceration of the large intestine which can occur; the conditions impressed me with the utter hopelessness of medical treatment. It must be remembered that Indian troops are far more susceptible to scurvy than European troops; in my experience of active service, it takes about three months from the beginning of a campaign for the disease to show itself. The presence of scurvy or of a tendency to it is a very serious complication in cases of colitis and seriously aggravates the condition.

During the recent war (1914-18), while acting as surgeon to an improvised hospital for Turkish prisoners in Mesopotamia, and later as civil surgeon of Baghdad, an opportunity arose of observing a large number of cases of colitis; the majority were chronic and were complicated by scurvy. The combination of these two diseases made the colitis extremely intractable, and in consequence large numbers died.

While in Mesopotamia I performed appendicostomy for intractable ulcerative colitis in ten patients—Turks, Arabs, and Indians. They were all extreme cases, and all were complicated with scurvy in its various stages. The operations were performed under chloroform, and owing to the emaciated condition of the subjects the appendix was easily and rapidly approached in all cases. In the first two cases the appendix was not opened for two days, but in the remaining eight it was opened at the time of the operation, and lavage carried out at the same time, the wound being sealed with collodion. After a few irrigations of the large intestine the patients began to show remarkable improvement. The cachectic appearance due to the intestinal auto-intoxication disappeared and the general condition improved



beyond all expectations. All these cases were operated upon under very adverse conditions; there were no nurses or trained attendants to help, and there was great difficulty in obtaining fresh food and milk.

The immediate results were excellent, but it became obvious that lavage had to be persisted in for prolonged periods to maintain these results, and great care had to be taken with regard to diet. Any indiscretion in diet brought on a recurrence of the symptoms. In practically all cases ensoi was used until the washings were clean, and then ordinary saline solution. The main factor was the quantity used, several pints at each lavage being essential. I found that the introduction of a rectal tube for the evacuations was a great relief to the patient.

I regret that I am unable to give the after-history of these patients as they were transferred to other hospitals, and in those days, owing to the scarcity of medical staff, no accurate records could be kept. The immediate results in all cases were excellent, and this method of treatment impressed me as being the only rational procedure. Later on I had an opportunity, while surgeon to the Bowring Hospital, Bangalore, of observing and treating a case in more advantageous circumstances.

Nallandi, aged 34, was admitted to hospital on June 26th, 1920, suffering from chronic dysentery. He had had an attack of dysentery in February, 1920, from which he recovered; in April, 1920, he was operated upon for haemorrhoids at another hospital.

**Condition on Admission.**—He was extremely emaciated and anaemic, with sunken abdominal walls. There was extreme tenderness over the left iliac region. The liver and spleen were normal in size. The motions numbered about fifty daily; they consisted of blood-stained mucus and little faecal material. Microscopical examination showed *Entamoeba histolytica* and cysts to be present.

On June 28th an ipecacuanha bolus was divided into two parts—one was given at 5 a.m. and the other at 2 p.m., preceded by an opium draught. Stools during the twenty-four hours numbered thirty-five. The next day emetine, grain 1/2 bis in die, was given, and the stools became less frequent and less bloody.

On July 1st the patient was examined, under chloroform, with two large ulcers, oval in shape with well defined edges, the bases covered with mucus; the intervening mucous surface was reddish and granular in appearance and was covered with mucus. The emetine injections were continued up to July 6th. By this time the stools were less frequent, but the general condition of the patient was much worse.

On July 7th he was operated upon with a view of doing an appendicostomy. The appendix was found to be atrophied and useless for this purpose, so a valvular caecostomy was done, a No. 12 rubber catheter being introduced and the bowel washed out with saline solution at the conclusion of the operation.

On July 12th the patient was doing well: the stools numbered two daily; there was no blood or mucus; temperature normal. On July 19th the general condition began to improve, the septic appearance vanishing and diet being gradually increased with solids—oatmeal and biscuits. Injections of emetine, grain 1, were commenced on July 30th and given for five days as a precaution. The bowel was washed out twice daily.

By this time the patient was practically on a full diet. Three days after the irrigation ceased the fistula was almost closed, and the patient was discharged cured on December 28th, 1920, having increased over 2 st. in weight. A final sigmoidoscopic examination showed all the ulcers healed.

#### CONCLUSIONS.

Cases of colitis persisting over two or three months without intermission and with profound emaciation and anaemia which do not respond to medical treatment should be handed over to the surgeon. When they reach this stage they are invariably examples of mixed infection, whatever the organism that caused the primary infection may have been. In severe cases the large intestine may be likened to an abscess or bag of pus.

In all chronic cases a sigmoidoscopic examination should be made. In the case recorded above sigmoidoscopic examination showed the existence of extensive ulceration of the lower bowel and confirmed the diagnosis of chronic ulcerative colitis.

The only rational treatment, when the diagnosis is confirmed, is frequent irrigation of the large intestine, either through an appendicostomy or a valvular caecostomy, with ensoi solution until the washings are clean; after that, with large quantities of warm saline for prolonged periods. Valvular caecostomy is particularly mentioned, as the closing of an ordinary caecostomy may be difficult later, besides being unpleasant for the patient and for those associated with him.

## ENTAMOEBAE AS AN ETIOLOGICAL FACTOR IN MULTIPLE ABSCESES.

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D.T.M. AND H.,  
AND  
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MULTIPLE deep abscesses are of frequent occurrence in Nigeria. There are two main clinical types: (a) those which affect the muscles of the limbs, and (b) those which affect the ilio-psoas muscle in particular; this type is usually single.

Although infection with *Filaria bancrofti*, *Dracunculus medinensis*, and pyogenic organisms may explain the minority, the etiology of the majority remains a problem.

Entamoebae are frequently the causative factor in hepatic abscess; they have also been reported as occurring in abscesses of the jaw, the brain, the spleen, and salivary glands. Still more recently in Captain S. Smith<sup>1</sup> has recorded their appearance in the left knee-joint; the patient in whom this occurred was given emetine and made an uninterrupted recovery.

We would suggest that in view of the various organs of the body in which entamoebae have been found, there is reason to believe that amoebic pyaemia is more than a possibility.

Jouah, an African male aged 26, cook in a European household, was admitted into hospital on May 26th, 1924, with a history of fever and pains which had lasted for three days. He looked extremely ill; the eyes were sunken and the tongue furred. On admission the temperature was 104° and the pulse 100. He had no history of diarrhoea or dysentery, and stated that there had been no dysentery among the other boys in the household.

The temperature for the first two weeks after admission fluctuated between 100° and 104°. On May 31st a swelling in the left arm was opened and pus evacuated. Following this there were remissions of the temperature to normal, but it still rose to 104° in the evenings. On June 11th three more abscesses were opened—one in the right upper arm, one in the right thigh, one in the left buttock. The temperature remained high until June 30th, when a large abscess in the muscles of the back was opened. Entamoebae were present in this pus, and 8 grains of emetine were given in daily doses of 1 grain—commencing on July 2nd. On July 1st the temperature was normal, and so remained until July 9th, when the final dose of emetine was given. On the evening of this day it rose to 101°, and again to this level on July 15th. All the abscesses healed rapidly, and there is now (July 21st) only a very little watery discharge from the wound in the back.

#### Pathological Report.

On June 30th the following facts were recorded:  
**Examination of Urine.**—Nothing pathological detected.

**Examination of Faeces.**—The ova of *Ascaris lumbricoides* were present in small numbers. No ova of *Ancylostoma duodenale* were seen. No cysts or free living amoebae were noticed.

**Examination of Blood.**—Blood smear: No parasites found. Blood count: Red corpuscles 2,244,000 per cubic millimetre, white corpuscles 4,375 per cubic millimetre. Differential count: Polymorphonuclear 54 per cent., eosinophil 5 per cent., lymphocyte 34 per cent., large mononuclear 7 per cent.

**Examination of Pus.**—This was collected in the operating theatre under aseptic conditions during the incision of the abscess situated in the muscles of the back. The following points were noted: (a) The pus contained more red cells than one was led to expect from a macroscopic examination; (b) a large number of phagocytic leucocytes and endothelial cells of considerable size were seen; (c) the pus was sterile; but (d) entamoebae were seen. The pus from the same abscess was again examined on July 2nd and was found to show the same characters as on the previous occasion. Fresh pus was on this occasion examined in warm normal saline and also in warm Weigert's iodine, and the following facts were noted: Entamoebae were present; they showed active amoeboid movements, but less active than those exhibited by similar entamoebae in faeces; they were definitely phagocytic and were seen to ingest red corpuscles as well as pus cells. There was a distinct differentiation between the ectoplasm and the endoplasm. The endoplasm was vacuolated and contained in some instances six red cells. In the iodine preparation a distinct nucleus could be seen. Stained preparations showed the same histological characteristics. On July 3rd entamoebae were again found. On this occasion the pus was taken from another abscess located in the right upper arm. Entamoebae were again found in the pus on July 4th.

The serious illness of the patient, the condition of the blood, the physical peculiarities and the sterility of the pus,



the rapidity of the healing of the abscesses, point to a peculiar cause.

The presence of amoebae in sterile pus suggests: (1) That amoebae may play an important part in the production of deep abscesses found in this country. (2) That the pus from such abscesses should as a routine be examined for protozoa, with a view to establishing a causal relationship should such exist.

This case is published by the courtesy of Mr. W. R. Parkinson, F.R.C.S.; surgical specialist, Lagos Hospital, Nigeria.

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## THE NATURAL DURATION OF CANCER.

BY

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In August, 1924, Lazarus-Barlow and Leeming<sup>1</sup> published statistics of the natural duration of cancer, based upon the experience of the Middlesex Hospital. They stated that similar data were being obtained from other hospitals, and the following are the results of an examination of the records of the Cancer Hospital for the years 1900-24. The figures in the two series agree very closely, and it would appear, therefore, that they are in all probability approximately accurate. What deviation there may be from the true value cannot be estimated on account of two errors which, of necessity, enter into the calculation. First, in all cases there is a latent period, of unknown duration and certainly varying from case to case within very wide limits, wherein the developing cancer produces neither symptoms nor signs. Secondly, the date of onset is that stated by the patient, whose memory is not always reliable and observation not always accurate. The former will entail an under-estimate of the cancer's duration; the latter may introduce an error in either direction.

The cases dealt with in this paper include only a few sites—namely, rectum, breast, cervix, oesophagus, larynx, thyroid, and neck. The numbers of the first four are sufficient to make them of some value in themselves; those of the last three cannot do so, but may be of service if correlated with the figures from other institutions. In every case the duration is estimated from the reputed date of onset, and in most cases to the known date of death, but in a few instances where the patient left the hospital the length of life after discharge has been estimated by a careful consideration of the general condition of the patient and the extent of the disease when last seen, and I am convinced that no material error is introduced in this way.

None of the cases included received any but palliative treatment, which, as regards the rectum, includes colostomy. The impression gained by watching cases of rectal cancer in which colostomy has been performed is that the operation definitely prolongs life; if this were so the figures in Table II would contain an error accordingly. But when an attempt is made to estimate the increase of life no such increase is discovered (Table I).

TABLE I.—Cases of Rectal Cancer.

	Males.		Females.	
	No. of Cases.	Duration in Months.	No. of Cases.	Duration in Months.
Colostomy...	187	28	132	29
No colostomy...	69	28	62	29

A number of the cases of cancer of the cervix received applications of radium, and are shown separately in Table II. Although the stomach is one of the organs most frequently affected by cancer, I have not included figures in relation to it because determination of the date of onset

TABLE II.—Duration of Life in Cases which received Palliative Treatment only.

Site and Age.	No. of Cases.	Natural Duration in Months.			Per-centage of Cases below Mean.
		Mean.	Maximum.	Minimum.	
<b>BREAST.</b>					
Under 25 ...	1	72	—	—	—
25-34 ...	23	23	210	5	85
35-44 ...	56	60	372	4	75
45-54 ...	89	31	210	2	70
55-64 ...	68	31	120	3	58
65-74 ...	53	40	144	4	62
75 and over ...	16	30	78	5	70
Total ...	311	37	372	2	—
<b>RECTUM.</b>					
Under 25 ...	10	16	216	6	80
25-34 ...	29	46	372	6	69
35-44 ...	56	27	156	4	67
45-54 ...	125	28	183	3	62
55-64 ...	135	29	211	2	62
65-74 ...	81	24	90	3	52
75 and over ...	13	26	60	2	54
Total ...	450	29	372	2	—
<b>OE SOPH AG ER.</b>					
Under 25 ...	1	23	—	—	—
25-34 ...	2	45	71	16	50
35-44 ...	24	16	72	2	66
45-54 ...	70	10	38	3	43
55-64 ...	80	9	46	2	43
65-74 ...	28	6	27	3	36
75 and over ...	5	14	43	2	40
Total ...	210	10	75	2	—
<b>LARYNX.</b>					
25-34 ...	2	8	10	6	50
35-44 ...	6	8	10	3	50
45-54 ...	17	16	62	5	60
55-64 ...	25	14	43	6	52
65-74 ...	2	15	15	13	50
Total ...	52	14	62	3	—
<b>THYROID.</b>					
Under 25 ...	1 (2)	6 (183)	—	—	—
25-34 ...	—	—	—	—	—
35-44 ...	1	9	—	—	—
45-54 ...	5	16	48	4	60
55-64 ...	2	4	5	3	50
65-74 ...	3	3	27	5	65
75 and over ...	1	3	—	—	—
Total ...	13 (14)	10 (34)	48	3	—
<b>CERVIX.</b>					
<b>Palliative—</b>					
Under 25 ...	3	15	20	9	66
25-34 ...	29	14	90	4	62
35-44 ...	112	15	78	2	64
45-54 ...	171	16	168	2	59
55-64 ...	86	17	96	2	66
65-74 ...	36	18	108	3	61
75 and over ...	3	12	27	2	66
Total ...	440	17	168	2	—
<b>Radium—</b>					
Under 25 ...	—	—	—	—	—
25-34 ...	10	38	202	5	80
35-44 ...	22	18	76	10	60
45-54 ...	33	20	66	5	54
55-64 ...	18	22	84	6	78
65-74 ...	10	17	41	5	60
75 and over ...	1	28	—	—	—
Total ...	94	23	202	5	—
<b>Totals (cervix)—</b>					
Under 25 ...	3	15	20	9	65
25-34 ...	41	20	202	4	63
35-44 ...	139	15	78	2	62
45-54 ...	22	17	168	2	58
55-64 ...	109	18	96	2	69
65-74 ...	46	18	108	3	60
75 and over ...	4	16	27	2	50
Total ...	554	18	202	2	—
<b>NECK.</b>					
Under 25 ...	1	9	—	—	—
25-34 ...	1	12	—	—	—
35-44 ...	1	48	—	—	—
45-54 ...	7	8	12	4	43
55-64 ...	5	17	36	5	80
65-74 ...	3	20	31	12	30
Total ...	18	15	36	4	—

is so extremely difficult as to give rise, probably, to great error; because it is commonly treated by gastro-enterostomy, which again in a considerable proportion of cases materially prolongs the life of the patient; and because no great number of such patients actually die in the hospital. Carcinoma of any particular site other than those mentioned

is relatively infrequent, and the numbers available for analysis so small as not to repay the labour of extraction. The duration of mammary cancer is markedly longer than that of any other cancer, while that of rectal cancer comes easily second. It is interesting to note that in carcinoma of the cervix radium treatment seems to prolong life by an average of six months, thus confirming the general opinion amongst surgeons that it is of service in these cases. Only five cases of cancer of the breast were treated by x rays the duration of twenty-four months (against thirty-nine months for untreated cases), and each of the age periods showed a corresponding deficit.

The section of the table which deals with the thyroid gland contains, it will be noticed, bracketed figures; these include one case the duration of which was stated to be thirty years. The patient eventually died in the Cancer Hospital and the malignant nature of the growth was proved, but I find it difficult to believe that it was originally malignant, and consider it probable that malignant change ensued in a previously innocent tumour. The excess of twenty in the total cases of cancer of the cervix over the combined totals treated by palliative measures and by radium is due to the fact that the former combined x-ray and radium treatment.

Although the figures given by Lazarus-Barlow and Leeming lend support to the idea that cancer is more malignant in younger than in older persons, my figures afford no confirmation for such an opinion, and the duration of life appears fairly uniform throughout all the age periods. For those sites which may be affected in either sex my figures give little, if any, indication that the duration of life is greater in females than in males.

TABLE III.—*Oesophagus, Larynx, Thyroid, Rectum.*

	Males.		Females.	
	No. of Cases.	Duration in Months.	No. of Cases.	Duration in Months.
Oesophagus	171	9	36	12
Larynx	44	14	8	14
Thyroid	4	17	9	8*
Rectum	256	28	191	29

\* If the case mentioned in the text, and said to have had a duration of thirty years, be included, this figure becomes 45. There was no case in the series of malignant cervical glands in a female.

In conclusion, my thanks are due to Miss Hower of the Cancer Hospital, by whom was performed the labour of searching the hospital records and abstracting the notes of over 2,000 cases, which form the basis of these statistics.

## THE USE OF INTARVIN IN DIABETES MELLITUS.

BY

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THAT the fatty acids are broken down during oxidation by the removal of two terminal carbon atoms at a time ( $\beta$ -oxidation) seems to be fairly well established. Knoop in 1904, in his classical investigations on the fate of the phenyl fatty acids in the animal organism, was the first to propound this theory, which was ridiculed by the pure chemists until Dakin<sup>1</sup> was able to show that an analogous breakdown of these and similar substances could take place *in vitro*. The investigations here referred to were all concerned with the oxidation of fats with an even number of carbon atoms in their molecule. Höckendorf<sup>2</sup> had earlier shown that the introduction into the diabetic

organism of alcohols containing an odd number of carbon atoms, and which therefore on oxidation probably give rise to fatty acids with an uneven number of carbon atoms, brought about an increased excretion of carbon. Embden and his co-workers<sup>3</sup> found that on perfusing freshly excised liver with the lower members of the fatty acid series only those containing an even number of carbon atoms in their molecule yielded glucose in the diabetic result of their katabolism. Then Ringer and Jonas,<sup>4</sup> working with homologues of propionic acid, showed that valeric and heptylic acids yielded glucose in the diabetic organism roughly in proportion to the amount of  $\beta$ -oxidation, while butyric and caproic acids led to the increased excretion of aceto-acetic acid without increased glucose elimination. It was then that Ringer conceived the idea of looking for a suitable odd-carbon atom fat to be used in the treatment of acidosis, and which could be given in considerable amounts to diabetics without the possibility or danger of acidosis arising. His attempts, however, to synthesize such a suitable fat were unsuccessful, to writers—namely, Janeway and Mosenthal—also saw the possibilities. Max Kahn succeeded in synthesizing a suitable fat— $C_{15}H_{31}COOH$ , margaric acid—which is easily purified and which, when united with glycerol, forms a neutral fat. This compound, commercially known as intarvin, apparently can be katabolized in the organism without yielding ketogenic derivatives. Kahn states<sup>5</sup> that on administration to phlorizinized dogs this fat causes a marked increase in glucose elimination in the urine, showing that in the dog it is broken down to propionic acid and then converted into glucose in accordance with the theory brought forward by Ringer and his co-laborators. In this communication he brings forward a certain amount of data to confirm his claims of the previous year.<sup>6</sup> He recommends the use of this fat in those cases where insulin has no apparent or only a moderate effect up to the extent of 1,000 calories daily from such a source. He also gives data from a patient with diabetes complicated by tuberculosis, who was fed with intarvin. In this subject it was found that 100 grams of intarvin given in addition to the ordinary diabetic diet caused no ketonuria, and the carbon dioxide combining power of the blood increased, while the blood sugar during this time remained below the threshold value. In December, 1923, he published<sup>7</sup> a more extensive series of observations to substantiate his claim.

In his first case, one of starvation acidosis, he found that the addition of 100 grams of intarvin caused the acetone to disappear, while on replacing it the next day with an equal weight of butter the acetone returned once more, to disappear next day on administration of the same quantity of intarvin.

In his second case, showing acetoneuria and acetonæmia even on a low fat diet, the addition of 90 grams of intarvin cleared the acetoneuria, and when an aliquot portion of intarvin was given the next day the acetoneuria also went. The patient's blood sugar also came nearer to a normal level.

In the third case it was found that when the patient had been rendered ketone-free without intarvin, 150 grams of this substance could be added to his diet without ketonuria reappearing, and the bicarbonate reserve of the blood increased while the blood sugar remained normal.

In the fourth case, one of pituitary glycosuria where insulin was ineffectual, feeding with the odd-carbon fat cleared up the acetone and brought about a gain in weight and the glycosuria was controlled. When the intarvin was omitted, ketonuria and glycosuria immediately reappeared.

Joslin<sup>8</sup> also reports favourably upon this fat. He states: "It would appear to be ideal in the instance of acidosis in the presence of infection," and "It can logically be recommended to those cases with whom the fat-carbohydrate ratio is above 3:1."

French workers<sup>9</sup> have also brought forward evidence in favour of the antiketogenic function of intarvin. There are, however, certain dissentients. Serringhaus<sup>10</sup> reports that after comparing the effect of ingestion of beef suet and an equal quantity of glyceryl margarate in a ketonuria following carbohydrate starvation—

"Glyceryl margarate seems to have little or no ketolytic value aside from its glycerol content. It does not exert a protein sparing action in these diets."

Allen<sup>12</sup> condemns the use of artificial foodstuffs, including intarvin, in endeavouring to provide weight and strength for the diabetic, as for ever fruitless, being based on a superficial and false conception of the disease.

In view of this it seemed of interest to see what could be done with intarvin in cases of diabetes mellitus under treatment. Some of the relationships of intarvin to metabolism were consequently determined in four diabetic subjects, and, in addition, the effect of the absorption of intarvin on the blood fats was determined in two normal individuals.

Regarding the palatability of the fat, individual taste varies, but in our experience it was always found to be disagreeable, more especially if taken along with other food. Probably the mineral oil with which it is mixed when prepared for commerce had something to do with this. There is, however, no doubt that the intarvin is absorbed; both Kahn and Sevringhaus (*loc. cit.*) showed it to be 97 per cent. absorbed—that is, practically as well as beef suet would be under similar conditions. Considering that it was supposed to be antiketogenic in function it was thought worth while to determine whether the absorption of intarvin had any effect on the blood sugar.

#### Intarvin in Normal Subjects.

The following table shows the response of one of the normals (W. A.) to 250 c.cm. of 40 per cent. cream on a fasting stomach.

TABLE I.—Response to Ingestion of 250 c.cm. of 40 per cent. Cream. (Normal Subject.)

	Hours after Ingestion.					
	0	1	2	3½	5	6½
Total blood fat in mg. per cent. (Blood)	455	435	411	504	460	414
Blood sugar in mg. per cent. ...	97	106	97	101	111	—
Respiratory quotient ...	0.90	0.80	0.78	0.79	0.81	0.80

Figures for cholesterol (whole blood) and for the metabolic rate showed no significant change and are not recorded. The maximum rise in the blood fat occurs earlier than in the cases reported by Cowie and Hoag,<sup>13</sup> otherwise there is little to note. The intarvin absorption curve of this subject shows similar features. On one occasion the intarvin, to render it more palatable, was made up with washed bran. The blood cholesterol showed a considerable rise at the end of the first hour (accountable for by the sterol content of the bran itself). Details being more complete as regards the intarvin absorption curve of the other normal (W. R.), the results are given in Table II.

TABLE II.—Response to 100 grams of Intarvin. (Normal Subject.)

	Hours after Ingestion.					
	0	1	2	3½	5	6½
Total blood fat in mg. per cent. (Blood)	770	806	881	916	823	818
Blood sugar in mg. per cent. ...	103	125	118	114	108	125
Respiratory quotient ...	0.76	0.74	0.79	0.79	0.81	0.82

Blood cholesterol and metabolism showed no significant changes. In both cases it was found that the ingestion of the intarvin resulted at the end of the experiment in a certain looseness of the bowels, due probably to the mineral oil it contains. At no time did the respiratory quotient give any indication of the burning of carbohydrate in excess of normal. The urine in both cases did not show any abnormal constituents.

#### Intarvin in Diabetic Subjects.

In order to determine accurately the value of intarvin in diabetes it was considered desirable to have the diets of the patients stabilized at the highest possible level within the limit of tolerance, and then to add a quantity of intarvin. Patients were treated on the lines described in the BRITISH MEDICAL JOURNAL, August 23rd, 1924.<sup>14</sup> The diabetic cases were as follows:

#### CASE I.

A. R., aged 31. History of diabetes for four months. Admitted February 20th, 1924. On a diet of 1,210 calories ("B 12": carbohydrate 61.5 grams, protein 47.5 grams, fat 89 grams. G:FA::1:1) the patient excreted 41 grams of glucose in twenty-four hours. Acetone positive in the urine. The acetone and sugar were both got rid of from the urine by dieting alone, and the diet was built up to 2,400 calories. On March 12th on this diet it was found that the blood acetone (Van Slyke and Fitz) rose to 100 mg. per cent. two hours after breakfast, falling to 9 mg. per cent. two hours later, and remaining at this level for another two hours. Next day, similar conditions showed a fasting blood acetone of 5.8 mg. per cent., rising to 640 mg. two hours after a breakfast to which 100 grams of intarvin had been added, and falling to 36 mg. per cent. two hours later, to rise at the fourth hour to 42 mg. The blood fats showed a certain parallelism, but rose again at the end of the period. There was definite acetouria, 364 mg. per cent. of acetone being present in the urine passed four hours after the intarvin.

#### CASE II.

W. D., a gardener, aged 41. Duration of diabetes uncertain. An ophthalmologist diagnosed diabetes three months before admission, while the sight of the right eye had begun to fail twelve months before that. Admitted March 18th, 1924, on a diet of 1,524 calories ("B 15": carbohydrate 78 grams, protein 60 grams, fat 108 grams. G:FA::1:1). On March 19th the urine was acetone-free and the total glucose lost in twenty-four hours was 23.4 grams. The diet was gradually and with difficulty built up to 1,505 calories ("C 15": carbohydrate 50 grams, protein 49.5 grams, fat 123 grams. G:FA::1:1.6). Blood examinations were made during April 10th; these were repeated on April 11th, 100 grams of intarvin having been given in addition to the breakfast. The intarvin was continued at the rate of 100 grams per diem on the same diet until April 16th. The figures for April 17th represent the termination of the intarvin period. The specimens recorded as before 10 a.m. are fasting samples. Details of examinations in this case are given in Table III.

TABLE III.—CASE II.

(All chemical data are given in milligrams per cent.)

Date and Time.	Blood.			R.Q.	Urine.	
	Sugar.	Total Fat.	Acetone.		Sugar.	Acetone.
April 10—						
9.30 a.m. ...	222	809	12.8	0.79	—	8.9
10 a.m., breakfast.						
12 noon ...	222	835	10.6	0.80	—	—
4.30 p.m. ...	200	894	14.8	0.92	0.5%	26.7
*April 11—						
9.5 a.m. ...	200	813	10.6	0.91	—	29.4
12 noon ...	232	913	10.6	0.73	—	—
4.30 p.m. ...	221	769	10.6	0.75	—	46.0
*April 12—9.30 a.m. ...	265	1114	17.0	—	—	46.7
*April 13—9.30 a.m. ...	265	1110	12.8	—	—	28.2
*April 14—9.30 a.m. ...	210	1072	27.7	0.91	—	20.2
*April 17—9 a.m. ...	205	783	47.4	0.81	—	30.3

\* Indicates days during which intarvin was given.

The twenty-four hour urine during the intarvin period showed a slight trace of sugar, not estimable. Cholesterol and general metabolism figures revealed nothing. During the period of intarvin administration there was a temporary rise in the fasting blood fat and a gradual rise in the blood acetone percentage, fairly well reflected in the findings for urinary acetone when compared against the fasting blood samples. The respiratory quotient showed no typical change. The faeces during the intarvin period contained 47 per cent. fat, of which 84.5 per cent. was unsplit. The large percentage of unsplit fat was probably due to the unabsorbed mineral oil portion of the intarvin.

#### CASE III.

D. B., aged 30. Duration of diabetes, fifteen months. On April 19th, 1924, the patient was put on a diet of 1,524 calories ("B 15": carbohydrate 78 grams, protein 60 grams, fat 108 grams. G:FA::1:1). The urine showed acetone, and 41.1 grams of glucose were lost in the twenty-four hours on this diet. The patient was made sugar- and acetone-free. The diet was built up to 1,896 calories ("C 19": protein 57.5 grams, fat 158 grams. G:F: diet at this level on May 20th, from May same diet was given, with, in addition, 100 grams of intarvin per diem. During this period the blood acetone was only slightly increased, and the total fats and cholesterol remained fairly steady except towards the end, when the blood fat started to rise. The cause of this cannot be explained. Later, when the patient

TABLE IV.—CASE IV.

Date and Time.	Diet.				Blood.			R.Q.	Morning Urine.		24 Hours' Urine.	
	C.	P.	F.	Intarvin.	Sugar.	Total Fat.	Acetone.		Sugar.	Acetone.	Sugar.	Acetone.
	gm.	gm.	gm.	gm.	mg. %	mg. %	mg. %		mg. %	mg. %	gm.	gm.
<b>A. Intarvin and Pre-stabilization Period.</b>												
July 16, 1924—												
10.5 a.m. ... ..	25.0	37.75	50.5	0	125	—	15	—	—	—		
12.12 p.m. ... ..					118	851	87	—	—	—		
4.15 p.m. ... ..					114	1065	—	0.88	—	—		0.15
July 17—												
9.30 a.m. ... ..	31.5	39.75	72.0	100	114	926	52	0.77	—	—		
12.15 p.m. ... ..					111	925	215	0.77	—	—		
1.35 p.m. ... ..					—	952	169	—	—	—		
4.0 p.m. ... ..					138	957	61	0.77	—	—		0.69
<b>B. Intarvin added to Stable Diet.</b>												
August 6.—9 a.m. ... ..	81.0	69.5	200.0	100	—	1054	11	0.73	—	9	—	—
" 7.—9 a.m. ... ..	81.0	69.5	200.0	100	125	1047	6	0.70	—	15	Sl trace	—
" 8.—9 a.m. ... ..	81.0	69.5	200.0	100	108	1127	8	0.73	—	—	Trace	—
" 9.—9 a.m. ... ..	81.0	69.5	200.0	100	104	1235	64	0.74	—	11	Trace	0.15
" 10.—9 a.m. ... ..	35.0	29.0	77.0	100	—	—	—	—	—	—	Trace	—
" 11.—9 a.m. ... ..	77.6	69.0	190.5	100	105	1264	75	—	—	27	Trace	0.87
" 12.—9 a.m. ... ..	77.6	69.0	190.5	100	110	871	45	0.78	—	16	Trace	0.71
<b>C. Fat added to Stable Diet.</b>												
August 14.—9 a.m. ... ..	77.6	69.0	240.5	*	100	1034	83	0.75	—	—	—	—
" 15.—9 a.m. ... ..	77.6	69.0	240.5	*	111	1052	149	0.75	—	107	—	—
" 16.—9 a.m. ... ..	81.0	69.5	200.0	*	91	956	57	0.70	—	169	Sl. trace	—
" 21.—9 a.m. ... ..	77.6	69.0	273.5	†	—	—	—	—	—	—	—	—
" 22.—9 a.m. ... ..	77.6	69.0	190.5		97	893	86	0.66	—	151	—	1.5

N.B.—In sections B and C above the figures are obtained from samples of blood taken, and of urine passed about 9 o'clock each morning while the patient was still fasting.

\* In section C 50 grams of butter fat replaced the intarvin previously given. † 100 grams olive oil added to diet of August 21st.

was put on insulin 20 units per diem, the fats rose still higher. The total urinary acetone for twenty-four hours was on May 21st 0.35 gram, and on May 28th 1.35 grams. There was a faint indeterminate trace of lower sugar per twenty-four hours during most of the intarvin period. During the whole of the period the fasting blood sugar was below the normal threshold value. Thus, while the evidence obtainable for blood acetone was doubtful, we found that the total acetone excretion had risen. As in Case II, the faeces showed a high percentage of unsplit fat during intarvin administration, probably for the same reason.

#### CASE IV.

D. R., aged 55. Diabetic discovered four years previously during examination for life insurance. Apparently the disease had always been of the mild type. The patient was admitted on July 10th, 1924. After a test meal of 50 grams of glucose the blood sugar rose to 200 mg. per cent. at the end of the first hour, but had returned to normal at the end of three hours. In this subject the intarvin was administered in two different periods: (a) in the pre-stabilization period as the diet was being built up (July 16th and 17th); (b) from August 6th, when the diet was in a more stable condition. During the first period it was found that the addition of intarvin to the diet was associated with increase of acetone.

The diet was then built up without intarvin (to "C 25"—that is, 2,500 calories per diem), but to make sure that even with intarvin the diet would still be within the patient's tolerance it was kept 100 calories lower during the experiment—that is, 100 grams of intarvin were added to a diet containing 2,400 calories from August 6th to 12th. August 10th, however, was made a low day, with only 952 calories besides the 100 grams of intarvin, and the diet on August 11th and 12th was kept at 2,300 calories along with the intarvin. With the exception of the first day, the twenty-four hours sample of urine showed an indeterminate trace of sugar throughout the whole period. This disappeared on stopping the intarvin. The diet was kept at 2,300 calories per diem during August 14th and 15th, and 50 grams of butter fat were added each day. On August 21st 100 grams of olive oil were given along with ordinary diet, and acetoneuria was definitely produced.

It will be noticed that, even during the stabilized period, intarvin when added to the diet tended to increase the percentage of acetone in the blood and also the total excretion of acetone, especially towards the end of the period.

This, in view of its supposed antiketogenic function, is rather disappointing. The increase, however, is not so marked as when ordinary fat is given—for example, the figures of August 14th and 15th, when 50 grams of fat were given to replace the intarvin. When 100 grams of olive oil were taken on August 21st there is again a much greater increase in the total acetone lost.

#### Discussion.

From the above observations on the use of intarvin in diabetes it would seem that further investigations are needed into the whole question before the claims on behalf of this fat can be fully substantiated. In the cases recorded no reduction, but rather an increase, in the amount of acetone in the blood followed the administration of intarvin. The rise, however, is less than when an equivalent quantity of other fat is added to the diet. The average G: FA ratio in the diets employed was 1 to 1.5, so that there was ample carbohydrate to burn up the ordinary fat of the diet, apart from the intarvin. The respiratory quotient did not at any time give indication of more carbohydrate than usual being burned under the influence of intarvin, as might be expected if the acid ultimately broke up to form sugar. On the other hand, the addition of intarvin to a stabilized diet always led to the excretion of small traces of sugar in the urine. The changes in the blood fat under intarvin are simply recorded. These cannot be explained as yet. Further investigation of this question is in progress. When a patient's diet has been stabilized at his maximum tolerance, 100 grams of intarvin can be added (allowing about 700 extra calories) without the appearance of clinical signs of acidosis. But, in view of the conflicting figures obtained regarding the control of ketosis consequent on its use, intarvin cannot be used indiscriminately to build up diets to a maintenance level without fear of ketosis. The expense

and the unpalatability of the substance will also militate against its general acceptance in practical dietetics.

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## THE PERMEABILITY OF MENINGES TO URANIN AS A METHOD IN THE DIAGNOSIS OF MENINGITIS.

(Preliminary Communication.)

BY

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A METHOD whereby it is possible to decide simply by lumbar puncture whether meningitis is present or not may possibly be of interest. The normal meninges and plexus choroides have the power of preventing a number of substances that are foreign to the organism from passing into the spinal fluid; diseased meninges have lost this power. Especially in meningitis this permeability of the meninges to chemical substances is greatly increased, and it is thus natural to investigate whether the determination of the latter can be of assistance in diagnostic difficulties. The substance must be easily found in the spinal fluid and be non-poisonous. Such a substance is uranin (sodium fluorescein), a red colouring matter very readily soluble in water; a weak solution gives an intensely light-greenish fluorescence which strongly recalls the fluorescence seen in a positive Schlesinger reaction. The fluorescence does not disappear until the solution is weakened to 1 in 10,000,000. Weaker solutions have a dirty greenish colour, without fluorescence.

A series of investigations carried out by Kafka,<sup>1</sup> Schönfeld,<sup>2</sup> Jørgensen,<sup>3</sup> and others have established that uranin, in doses of 6 to 8 grams by the mouth, passes into the spinal fluid in about 30 per cent. of healthy individuals, but in small quantities only. In dementia paralytica, and also in syphilitic persons, uranin was found more frequently in the spinal fluid, especially if it was altered. These authors do not appear to have made any determination of the permeability of the meninges in meningitis.

Uranin given in larger doses enters the spinal fluid where the meninges are not infected, and the patient's skin becomes intensely yellow. After several experiments we decided upon 2 grams of uranin for an adult, or about 0.03 per kilogram of body weight. One or two hours after such a dose the patient turns yellow, but the coloration is not stronger than in icterus, and the yellow colour of the skin and mucous membrane disappears comparatively quickly, as a rule after five to six hours. Uranin has no poisonous effects, and according to C. Jørgensen's investigations does not irritate the meninges. It can be administered by the mouth or by intramuscular injection in a 20 per cent. solution, but not subcutaneously, as a strong solution produces a sensitive infiltrate. After half an hour to an hour the blood serum gives a greenish fluorescence, which in the great majority of cases does not disappear until the serum is weakened to 1 in 64. The concentration of uranin in the blood is strongest two to three hours after it has been given, and it is at that time, therefore, that the lumbar puncture should be performed. We employ the following technique:

The patient is given 2 grams of uranin by the mouth (preferably in wafers) or by intramuscular injection (20 per cent. solution) if he is not quite conscious. Three hours later lumbar puncture is undertaken in the usual manner. In order to ascertain whether

the spinal fluid is fluorescent or not, the test tube must be held against a dark background. In meningitis the fluid gives off a distinct greenish fluorescence. No importance should be attached to a doubtful fluorescence. The presence of blood may confuse the reaction, since the blood contains great quantities of uranin. Investigations made at this section prove, however, that at least 1/3 c.cm. of blood must be mixed with 10 c.cm. of spinal fluid in order that the latter shall become fluorescent.

We have employed this simple method with 74 patients, 18 of whom were suffering from various forms of meningitis. The spinal fluid (from, in all, 22 lumbar punctures) taken from patients suffering from meningitis was in all cases fluorescent, in some quite strongly, like a markedly positive Schlesinger reaction. It is true that the fluorescence was weak in three instances, but nevertheless distinct. The method used in these cases, however, differed somewhat from the technique usually employed, the lumbar puncture being performed within one hour after the patient had received the uranin. In addition, the dose of uranin given to two of the patients was too small (1 gram). The spinal fluid in 38 of 56 non-meningitic cases was as clear as water. In 8 cases the fluid was of a dirty green colour without fluorescence; this shows that minimum quantities of uranin had entered the spinal fluid. In 10 cases the spinal fluid was faintly fluorescent, but in 7 of these there was an admixture of blood, which, as mentioned above, makes the results uncertain. Three of the non-meningitic cases, on the other hand, exhibited a faintly fluorescent spinal fluid three hours after 2 grams of uranin. The fluorescence disappeared, however, in a dilution of 1 in 2, whilst the spinal fluid from patients with meningitis showed fluorescence in a dilution of 1 in 8 and up to 1 in 30. (For this determination we employed small test tubes 11 mm. in width, and observed the fluorescence in a dark box, where the light at a distance of 15 cm. enters through a 20 dioptic biconvex lens.)

### Conclusions.

Uranin in doses of 0.03 gram per kilo of body weight does not enter the cerebro-spinal fluid, or does so only in small quantities if the meninges are not infected. In meningitis the colouring matter enters the fluid in easily demonstrable quantities. If, therefore, by lumbar puncture three hours after uranin has been given in the doses stated, the spinal fluid shows a distinct greenish fluorescence, we can with great probability diagnose meningitis without making other investigations of the spinal fluid. If the spinal fluid shows no fluorescence, meningitis can with certainty be excluded.

It is not possible to decide what form of meningitis, if any, is present. The passing of the colouring matter into the spinal fluid merely indicates the greater or lesser permeability of the meninges. In meningitis comitans, circumscripta, etc., the uranin does not enter the fluid, or does so in relatively small quantities, even when pleocytosis is present. Opinions differ as to whether it is correct to designate these conditions meningitis, but this is doubtless chiefly a dispute about words.

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## A WEAK POINT IN STERILIZING METHODS.\*

BY

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ONE of the problems of the operating theatre is to ascertain the temperature reached in the centre of a packet, tin, or drum of dressings in a sterilizer. It is very different from that of the steam around the outer side of the packet or tin, but the latter alone is registered by a thermometer projecting into the sterilizer and capable of being read from the outside, or, more commonly, by means of a pressure gauge. I made tests with a specially prepared thermometer, similar to a clinical thermometer

\* Read at a meeting of the Malaya Branch of the British Medical Association.



but registering far higher temperatures. I placed it inside a tin of dressings, which I then "sterilized" in a high-pressure sterilizer of the largest and most up-to-date pattern. When the temperature of the steam in the inner jacket of the sterilizer was  $240^{\circ}$  F. that in the middle of the tin of dressings was only about  $160^{\circ}$  F. After screwing down the safety valve of the sterilizer and "sterilizing" for more than an hour after the maximum pressure had been registered by the gauge, the special thermometer in the centre of the tin registered  $220^{\circ}$  to  $230^{\circ}$  F. I tested many other sterilizers, and found that all those of low pressure, such as are used ordinarily in nursing homes and small hospitals, were practically useless, whilst even those of high pressure were mostly inefficient unless "sterilization" was continued for a far longer period and at a higher pressure than that suggested in the maker's printed instructions. On one occasion a theatre sister, doubting the accuracy of my suggestion that her high-pressure sterilizer was not efficient, took the trouble to place a raw egg in the middle of each packet of dressings, but, after completing the "sterilizing" process, discovered that the eggs were still raw. Afterwards she "sterilized" several times at a temperature and pressure regarded as dangerously high, previously having placed my special high-registering thermometer in the inside of the drums of dressings. She discovered that my thermometer even then rarely registered a temperature exceeding  $200^{\circ}$  F.

It is possible, of course, to argue that if no mischief has been proved to have resulted from the ordinary methods of "sterilization" it matters little whether or not a very high temperature has been obtained in the middle of the tin of dressings. It would be equally possible, however, to argue that, if no mischief has resulted from the use of dressings that have not been "sterilized" at all, "sterilization" is a superfluous precaution. I scarcely believe, nevertheless, that failures to detect and record mischievous results are likely to convince competent surgeons that "sterilization" by sterilizers is useless. Probably they will continue to believe that, when "cooking" our dressings, towels, overalls, etc., we ought to aim at obtaining in the inside of each drum or packet a temperature at least equal to that of the boiling point of water ( $212^{\circ}$  F.).

I have for many years past endeavoured to solve the problem of ascertaining easily and economically the temperature inside a tin of dressings undergoing "sterilization." There is no difficulty, of course, in ascertaining this temperature by means of the special thermometer already mentioned. Such a thermometer, however, is unsuitable for ordinary use, being costly, easily broken, and inconvenient. I have tried, therefore, to find an economical and convenient substitute.

On discovering that a famous surgeon had been experimenting with tiny tubes of phthalic acid, I obtained a number of these from the Paris firm that made them. I placed a tube within each of several tins of dressings, which I then proceeded to "sterilize." The powder in each tube was supposed to change colour from white to red as soon as a certain very high temperature (I think  $300^{\circ}$  F., but am not quite sure) had been reached. I found, however, by experiments, that the powder always changed colour from white to red during "sterilization" of a tin, no matter what temperature was indicated as having been reached. I found also that the powder changed colour to red when I left a tube in my waistcoat pocket for a week, or even when I held it in a warm hand for a time. Clearly, therefore, these tubes of phthalic acid do not suffice for our present purposes.

Afterwards I gave a trial to various kinds of wax. Finally, I made a series of experiments with fusible metals, and was encouraged, eventually, to devise the pyrometer here described. It is placed in the inside of a tin, drum, or packet of dressings, etc., and remains there during the process of "sterilization." It consists of a round piece of fusible metal, each having a different fusing point. Convenient fusing points have been found to be  $190^{\circ}$ ,  $200^{\circ}$ ,  $212^{\circ}$ ,  $220^{\circ}$ ,  $230^{\circ}$ , and  $240^{\circ}$  F. Each square is marked with its own fusing point, and the cardboard is similarly marked in the proper places. When the temperature of  $190^{\circ}$  F.

is reached the first square fuses; when that of  $200^{\circ}$  F. is reached the second square fuses, and so on. Consequently, by glancing at the pyrometer when the dressings are unpacked after "sterilization," the surgeon can see how many squares have fused, and consequently what minimum temperature has been reached in the inside of the packet or tin. When a square fuses its surface becomes rough and its outline blurred, whereas an unfused square remains bright and its edges sharp. As the pyrometer can only be used once cheapness is essential. A pyrometer consisting of only one thin square of fusible metal melting at exactly  $212^{\circ}$  F. would suffice, and its cost would be insignificant.

Messrs. Matthey and Johnson of Hatton Garden make these metals to melt at any temperature desired. They all contain bismuth, and this renders the metal somewhat brittle to roll into sheets, but it can be cast fairly easily into thin plates or melted into tiny square castings. The accuracy of the actual melting points is easily checked.

It has rather surprised me that none of the surgical instrument makers, apparently, has ever seriously endeavoured to provide surgeons with a cheap or reliable test of the machines they supply, which are believed and claimed to sterilize the contents of the largest drums, even when tightly packed. I noted that the standard type of dressing drum, with holes that close and open, possesses no advantage over an ordinary plain metal box with a hinged lid, which is closed over a layer of cotton-wool. The superheated steam appears to penetrate into the latter, even when closed, just as readily as into the former, and the latter has the advantage that it more nearly approaches the ideal organism-proof receptacle than the former, with its numerous loopholes for the possible entrance of bacteria.

## A DIATHERMY SNARE FOR REMOVAL OF POST-NASAL GROWTHS.

BY  
E. BROUGHTON BARNES, F.R.C.S. Ed.,  
NORTHAMPTON.

The diathermy snare here illustrated was devised by me and I have used it on an angio-fibroma of the nasopharynx with success.

The snare consists of a vulcanite body, with metal liner with solid end, into which the diathermy cable screws. In the liner of the body of the snare is a hollow metal slide. The wire, which is of hard drawn silver, is passed through the stem of the snare into this slide, and a vulcanite-headed screw works through a slot in the body into the slide and grips the wire in it. The diagram, in which the snare looks rather frail, though it actually is, shows the mechanism clearly. The instrument was made for me by Messrs. Watson (Kingsway), and the arrangement of the instrument is their design.

The case in which I used it was that of a boy of 13 with an angio-fibroma springing from the basiphoid by a pedicle half an inch broad and a quarter of an inch thick. The tumour was about 1 1/2 in. long by 1 by 3/4 in., and showed below the soft palate. The wire was passed through the mouth over the pedicle and forced against the basiphoid with the finger-nail; it was then tightened and the current was switched on at a fairly high amperage. The wire came home and the tumour fell off in about three seconds. There was no stain of blood. At no time after the operation did the child have any pain at all. Five weeks later I saw the boy and was unable to detect any sign of growth. Apart from the simplicity of the procedure and freedom from haemorrhage with the diathermy snare, it seems probable that there will be less liability to recurrence after the use of the diathermy snare than if the tumour had been removed by ordinary surgical procedures.

The only precaution is to see that the child's nasopharynx is low, as the tumour falls free, and might be aspirated into the glottis. Microscopic examination showed that the tumour in this case was very vascular.



## A TINEA X-RAY COUCH.

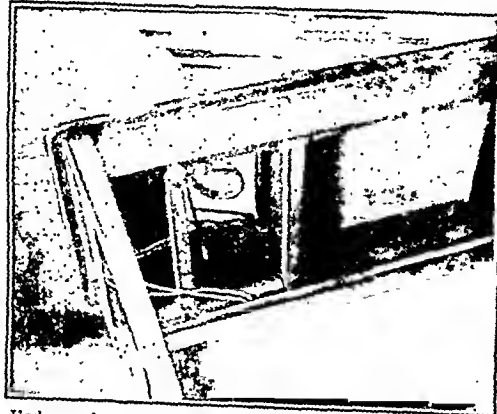
BY

J. GOODWIN TOMKINSON, M.D.,

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SKIN ELECTRICAL DEPARTMENT AND DISPENSARY SKIN PHYSICIAN,  
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AND COUNTY OF DUMBERTON EDUCATION AUTHORITY.

IN x-ray treatment of tinea tonsurans irradiation of the Kienböck-Adamson suboccipital area, and to a less degree

the vertical one, often gives some difficulty owing to variation in the shape of heads, and also from the risk of pressure on the nose—and consequent movement of the head—where the prone position on the couch is practised. The alternative position of sitting on a chair with forehead supported on the dorsa of the hands resting upon the couch is oftener than not accompanied by a tendency to slip down somewhat in the chair and so disturb the position of the head. To obviate these contingencies and at the same time retain the prone position, which ensures stability better than any other, I designed a couch which was made by the master of works, County of Dumbarton Education Authority, for the skin clinic, where it has been used since March 17th,



Under surface of tinea couch, showing method of operating hinged flap.

1923. It is constructed as follows. In the top of the couch is introduced a movable flap with circular aperture to accommodate the face, and so hinged as to allow of its being easily raised or lowered, at the free end, in relation to the level of the top of the couch. A screw, technically known as a "Leggott's quadrant," which is operated with a short "endless" cord, is attached at the free end of the flap. The cord passes over two small pulleys attached to the under surface of the head of the couch. The flap remains firmly fixed in the desired position when

having to wind the cord round any part of the couch; it can be altered at any moment by manipulating the cord, and is capable of the nicest adjustment. The accompanying photograph of the under surface of the top of the couch illustrates the mechanism. It will be seen that all pressure on the nose is avoided and variation in cranial shape combated by the hinge adjustment. Experience of working with it has suggested structural modifications which would to some extent increase its efficiency. One is to change the position of the flap so that its free edge would form part of the end of the couch; another is slightly to alter the shape of the

aperture, or, better still, to make it variable; these modifications I am about to introduce.

## Memoranda:

## MEDICAL, SURGICAL, OBSTETRICAL.

## PULMONARY EMBOLISM.

IN view of recent discussions on pulmonary embolism and thrombosis, the following case may prove of interest.

Mrs. H., aged 55, was admitted to the Christie Hospital with epithelioma of the vulva. She was treated with radium, and, ten days later, by diathermy. Her general condition, both before and after operation, was good. Her temperature was raised for three days subsequent to the operation, the maximum being 100° F., and she complained of constant pain at the site of the lesion for the first week or ten days. She felt perfectly well, but was unable to sit up, owing to the tenderness of the raw surface left after the diathermic treatment.

Three weeks after operation she was still in bed and the wound was about two-thirds healed. On the morning of the twenty-second day she complained of high epigastric pain and some dyspnoea. She was noticed to be slightly cyanosed, and the pulse and respiration rates were increased. These both rose rapidly, the cyanosis deepened, the pulse became weak and thready, and collapse supervened. Ten minutes after the onset of symptoms she lost consciousness, the breathing became stertorous, the pulse and respiration rates dropped, and death took place about five minutes later.

*Post-mortem Report* (Dr. Powell White).—The pulmonary artery contained blood clot which was mostly recent and appeared to have been formed immediately before death, but some was of earlier date; it was not adherent. The clot extended to some of the arterial branches in the upper lobes of both lungs, but not into the lower lobes. The upper lobes were partially collapsed and dry, and the lower ones were normal and moist. The right ventricle could be found. The blood in the left side of the heart, the aorta, the venae cavae, the portal and the iliac veins was quite fluid. The smaller pelvic veins, especially those coming from the uterus and vagina, were distended with blood clot. The external iliac veins on both sides were enlarged and hard.

This case was in all probability one of pulmonary embolism followed by thrombosis in the pulmonary artery; it is probable that the embolus came from one of the pelvic veins in the neighbourhood of the uterus or vagina. An illustrative factor in pulmonary embolism. The main factor here must have been the patient's enforced recumbency for three weeks; she had lain quite still all day and night, in spite of

being urged to move about as much as possible without causing herself undue pain. The circulation in the veins of the pelvis and lower limbs must have been at an extremely low ebb, especially as the force of her heart beat, though adequate, was never great. The other factor which probably played a part was sepsis. The embolus evidently arose from one of the smaller uterine or vaginal veins, there having been found at the necropsy to be distended with clot. The venous drainage of the site of the necessarily septic lesion, the perineum, is ultimately the same as that of the uterus and vagina—namely, into the internal iliac veins. It is also extremely likely that infection had spread directly from the perineum along the vagina into the parametric tissue, which contains those veins that were found to be affected.

Manchester.

E. S. FRISCHMANN, M.B., Ch.B.

## BILATERAL CYSTIC EMBRYOMA OF OVARY WITH TORSION OF THE PEDICLE OF ONE CYST.

THE following case seems to be of interest on account of the fact that a cystic embryoma existed in each ovary and that there were no definite symptoms until the torsion of the pedicle of one took place.

A married woman, aged 36, sent for me on the evening of November 13th, 1924, complaining of pain in the abdomen and difficulty in passing urine. She had been treated for floating kidneys with a Curtis belt. One child, born ten years ago, died at 4 years of age. Her periods were regular and normal.

*History of Present Condition.*

She was quite well until the morning of November 13th, when she awoke with pain in the lower part of the abdomen and difficulty in passing urine. She stated that she had had similar attacks, but had put them down to her floating kidneys. A period was then just ending.

*Condition on Examination.*

When I saw her she was sitting up in bed and leaning forward, as this position gave her relief. The temperature and pulse were normal. She was of spare build and had a goitre with some exophthalmos.

The abdomen showed slight bulging above the symphysis pubis, which on palpation gave the impression of a cystic tumour rising from the pelvis in the mid-line halfway to the umbilicus. On

pressing on the tumour she felt a desire to micturate. The right kidney was palpable and the left distinctly mobile. The uterus was retroflexed and separate from the swelling, which lay between it and the symphysis pubis, and felt like a tense full bladder. Nothing else abnormal was found in the pelvis.

There being no facilities for a hot bath, etc., I obtained the services of a nurse to pass a catheter. She reported that she withdrew only 2 drachms of urine. When I again examined the patient there was no change in the condition. I saw her the next morning, and although she had passed urine in small quantities the tumour persisted.

She was admitted to the Kingston Victoria Hospital, where she first had a hot bath. I then passed a metal catheter. The bladder was empty and the beak of the catheter could be felt in the stretched-out bladder superficial to the tumour. Ovarian cyst, probably on account of its position a cystic embryo, was diagnosed. The temperature was 99° and the pulse 76. As there appeared to be no urgency, operation was not performed until the following day, November 15th.

#### Operation.

The usual subumbilical incision was made and a greatly engorged ovarian cyst presented. This was delivered intact through the wound and found to arise in the right ovary. It had rotated on its pedicle through two complete turns. The pedicle was clamped and divided, and the stump ligatured and covered with peritoneum. The left ovary contained numerous follicular cysts and one larger one the size of a bantam's egg. The latter was incised and a creamy fluid, followed by hair, exuded. The opening was clamped and the cyst dissected out. The rest of the ovary was left, as it evidently contained a considerable amount of active ovarian tissue. The abdomen was closed in layers. The Fallopian tube was spread over the surface of the larger cyst. It was as large as a full-term foetal head. On incision a quantity of cream-like sebaceous material, with a lump of hair, escaped. The inner wall was smooth except for one spot, from which a tuft of hair was springing. The smaller cyst showed, projecting from its inner wall, a prominence the shape of a rabbit's heart, from which hair was growing. This prominence had a central cavity apparently lined with mucous membrane. A microscopic section showed a cystic embryo with great hyperplasia of the sebaceous glands. Sweat glands and hair follicles were also seen, and externally a layer of tissue resembling lung.

There is little doubt that the larger cyst used to become partly twisted on its pedicle, which would account for her previous slight attacks. But even though the torsion was found at the operation to be complete and the cyst and Fallopian tube almost gangrenous, there were none of the usual symptoms and signs of an acute abdomen.

Kingston-on-Thames, L. J. FORSMAN BELL, M.B., B.S. Lond.

## Reports of Societies.

### PERFORATION OF GASTRIC AND DUODENAL ULCERS.

A HUNTERIAN Lecture was delivered at the Mansion House on January 19th by Mr. G. GREY TURNER (Newcastle-upon-Tyne), who took for his subject "The perforation of gastric and duodenal ulcers." Mr. H. W. CANSON, President of the Hunterian Society, was in the chair.

Mr. Grey Turner, whose lecture was accompanied by many tables of statistics, said that since 1901 he had had to do with 194 cases of perforation, but these included some cases of localized perforation, incomplete operations, and cases in which it was eventually decided not to operate. Eliminating these, and confining himself to general perforations in which he performed a complete operation, he was left with 147 cases. These cases had resulted in 124 recoveries and 23 deaths, the percentage of deaths being 15.64. But if only those cases were taken which had been operated on within twelve hours of perforation, the death rate was reduced to 8.16 per cent. The actual figures were: perforated gastric ulcers operated upon within twelve hours, 27, with 3 deaths; perforated duodenal ulcers, 71, with 5 deaths. Thus a very essential point in the treatment of this condition was early diagnosis. If a case were taken in hand reasonably early and carried to a successful issue, the credit lay with the general practitioner who had detected the condition and advised the operation, rather than with the surgeon who had actually carried it out. He was sure that there was no new refinement of operative technique which had anything like the value of a reduction in the period elapsing between perforation and operative interference. Of his 194 cases, 147 were males and 47 were females. With regard to age, it had rather surprised him to find how many of the patients were over 50—namely,

6 gastric cases and 40 duodenal. The fact, therefore, that symptoms occurred in a comparatively elderly person need not deter the making of such a diagnosis. He wished also to emphasize the frequency of acuteness in the ulcer which perforated. The perforation which occurred was often that of a second contact or "kissing" ulcer on the opposite wall of the stomach to that of the chronic ulcer. He was convinced that there was an acute ulcer whose principal characteristic it was to perforate. With regard to the after-history of the 120 recovered cases which could be traced, 61 were quite well, 19 had slight digestive trouble, 18 had had to undergo a further operation, 2 had died from some sequel of the original trouble and 9 from other causes without recurrence, and 3 were known to be well shortly after the operation and were then cured, he thought that the choice of surgical procedure, he thought that the first duty of the surgeon was to save the life of the patient, and in this connexion his figures with regard to immediate gastro-enterostomy suggested that this resort added to the mortality. He had done primary gastro-enterostomy in 26 cases, with 20 recoveries and 6 deaths, and of the 98 cases without primary gastro-enterostomy 81 had been recoveries and there were 17 deaths. He was of opinion that the best thing to do was to get the patient over the calamity of perforation, and then, if it was evident that a gastro-enterostomy was necessary for the cure of the trouble, to perform this as a delayed operation before the patient left the hospital. He had done such a delayed operation in 11 cases, and there had been no deaths. The average hours of perforation in these cases had been nine, and the longest interval between perforation and gastro-enterostomy spoke with enthusiasm of the value, in had cases of general perforation, of a temporary gastrostomy. He had employed this measure 28 times, and there were 8 deaths, but, although this death rate of 30 per cent. was a high one, it had to be remembered that the average number of hours of perforation in these cases was seventeen. In 22 operations and both patients died. Nevertheless, he felt that this procedure in many cases had been of the greatest possible help. With regard to irrigation of the peritoneum, he had lost his early belief in this procedure, and he exhibited a table showing that in 117 cases irrigated there had been 19 deaths, and in 25 cases not irrigated 4 deaths; but while the percentage of deaths was much the same in both these categories, the average period of perforation in the cases irrigated was eleven and a half hours, and in the non-irrigated cases twenty-two hours. Also, out of 23 cases which developed gross complications, 20 had been irrigated—an incidence of 17 per cent. of irrigated cases. In operating he thought the surgeon should be content with the middle line of incision. Very often the stomach was distended, and in these circumstances great help would be found in passing a stomach tube while on the operating table, when the stomach would go down like a big balloon. With regard to complications, subdiaphragmatic abscess had occurred in 8 cases with 3 deaths, pneumonia and pleurisy in 7 cases with 2 deaths, pelvic abscess in 3 cases with 2 deaths, gastric fistula in 3 cases with 1 death, pulmonary embolism in 1 case which died, and prolapse of intestine in 1 case which recovered.

Mr. JAMES BENNY complimented Mr. Grey Turner on the way in which he had trained general practitioners in Newcastle to recognize gastric and duodenal perforations and send their patients without loss of time to the infirmary. He was of opinion that in the great majority of cases there was no need to drain at all; in a certain number it was well to put in a single drain, but it should be taken out next day. He also believed that irrigation should rarely be done. His own practice had been not to do gastro-enterostomy, which seemed to add a great deal to the risk of the operation.

Mr. JAMES SHERNEN said that twenty years ago the acute ulcer which perforated was met with much more frequently than now; the majority of cases which perforated nowadays seemed to be chronic, and to have given symptoms for many years. If the ulcer, whether of the stomach or the

duodenum, was a chronic ulcer, he thought that, in addition to closing the perforation, at some time a curative operation must be done. The choice of the time would depend on the experience of the surgeon and the condition of the patient.

Mr. R. P. ROWLANDS thought that if the operation of gastro-enterostomy became a routine a high and quite unjustifiable mortality would result; but in a few cases in which it was not possible to close the perforation a gastro-enterostomy might be the only life-saving measure.

Mr. GORUOX-TAYLOR agreed that the mortality of perforation of gastric and duodenal ulcer had been lowered, not by any particular modification of surgical technique, but by the comparatively early date at which, even in London, cases of perforation now came into the hands of the surgeon.

Mr. A. J. WALTON said that in his experience these ulcers were nearly always chronic. This was borne out by the history elicited in a very large proportion of the cases which had come under his observation, by the indurated edge of the ulcer, and by the findings at necropsy. He thought that in nearly every one of these perforated ulcers gastro-enterostomy should be done, but, he agreed, not always at the time of the operation.

Mr. T. P. LEGG was of opinion that, as a general rule, they should be content with suturing the ulcer without doing a gastro-enterostomy. Mr. W. E. TANNER referred to the wide distance it was necessary to go with the sutures beyond the perforation to get them to hold; this bore out the idea of chronicity.

Mr. GREY TURNER, in replying on the discussion, said that in certain cases gastro-enterostomy should undoubtedly be carried out at the primary operation, but he thought that the table of mortality would be lowered if it was generally agreed that whenever possible the operation should be left for a later occasion.

### PNEUMOCOCCAL PERITONITIS.

A JOINT meeting of the Sections of Children's Diseases and Surgery of the Royal Society of Medicine was held on January 23rd, with Dr. HUGH THURFIELD in the chair.

Dr. HECTOR C. CAMERON introduced a discussion on pneumococcal peritonitis. While the incidence of this disease fell very largely amongst girls of 5 to 15 years of age, it was overstating the case to say, as some authorities had said, that it was confined to the female sex, since he had seen three cases amongst boys. In early infancy this disproportion was much less marked, and the two sexes were almost equally, though comparatively rarely, attacked. As regards symptoms, there was often a prodromal period of some days, during which diarrhoea was very frequently present before severe abdominal pain and a rise in temperature announced the spread of infection to the peritoneum. This prodromal diarrhoea, though not invariably present, was a very valuable aid to diagnosis; two illustrative cases were cited. Primary pneumococcal peritonitis (the secondary form hardly came within the scope of the discussion, since the peritonitis was but a small part of generalized pneumococcal infection) had been divided into two types—a fulminating and a comparatively mild. Since it was possible to have every gradation between these two extremes, Dr. Cameron preferred to consider the disease rather as one exhibiting three phases—a stage of onset, a stage of high pneumococcal fever, and a stage in which the outstanding symptom was a residual collection of pus in the peritoneum (an "abdominal empyema"). The onset was generally sudden and marked by severe abdominal pain. Within three hours in one case a child exhibited delirium, with a temperature of 105° F. The patient rapidly became flushed and drowsy, and the abdomen distended. This child died a few days later after laparotomy had been performed. The dramatic suddenness of onset in such cases resembled that of perforation of a gastric or duodenal ulcer, with which they were happily unlikely to be confused owing to the rarity of the latter condition in childhood. Less severe cases, however, might resemble appendicitis, and were frequently diagnosed as such. If life was prolonged beyond this stage there followed a period of high fever, lasting two or three weeks or longer, during which there was com-

paratively little pain and few signs of abdominal disturbance. Dr. Cameron believed that this coincided with the exudation of fluid into the abdomen. During this phase the differential diagnosis had to be made from typhoid fever. Irregular intermission of the fever and high pulse later heralded the third phase, during which the patient began to be sensible of his surroundings. Finally, a localized abscess or abscesses formed, and recovery usually followed drainage. The abscess was generally in the pelvis or the subphrenic region, but was occasionally divided up into loculi spread irregularly over the abdomen. In one case six separate abscesses had formed at long intervals. In this stage the differential diagnosis lay between pneumococcal and tuberculous peritonitis, as the child was wasted and ill, and presented a distended abdomen with signs suggesting free fluid. Rarely there were latent forms in which the abscess had a tendency to evacuate itself through the bowel or bladder. In other cases the resemblance to tuberculous peritonitis was heightened by the pointing of the abscess at the umbilicus, but with the difference that the pneumococcal abscess burst with great rapidity, whereas the tuberculous abscess, as was well known, might appear to be on the point of evacuating for a long time before doing so. Dr. Cameron added that while there were occasional cases which ran an unusual course this description would fit the majority of cases. The treatment of cases of pneumococcal peritonitis in the "abdominal empyema" stage was obvious—such cases should be drained, and almost invariably did well. But the question of operation during the early stage was not an easy one to answer, and resolved itself into the question of whether or no drainage helped the patient in any way in antibody production. His own experience was that a fall in temperature only rarely occurred after drainage in the acute stage, and that further operation for residual abscess was generally called for. He had therefore come to the conclusion that it was better not to operate until there was a definite localized abscess, but to keep up the patient's strength until that time by every possible means. He applied ice to the abdomen and exhibited opium, and in some cases antipneumococcal serum. Fraser had had considerable success with blood transfusion in these cases, but the speaker had no personal experience of this. This expectant form of treatment must naturally only be employed where the diagnosis of pneumococcal peritonitis was clear; if there was any doubt as to whether the case was one of fulminating appendicitis operation should be performed at once.

Mr. GEORGE WARREN said that pneumococcal peritonitis belonged to the very small group of diseases which could be diagnosed, at least at a certain stage, with confidence by the clinician without submitting any material to pathological investigation. This form of peritonitis presented the paradox that all the ordinary signs of inflammation of the peritoneum were strikingly and characteristically absent, for within a few hours of the onset pain had disappeared and no tenderness, muscular rigidity, or immobility of the abdominal wall could be elicited. Further, except for slight diarrhoea and vomiting at the outset, the normal functions of the bowel remained unimpaired throughout the course of the illness; even the appetite was good so long as it was not interfered with by excessive pyrexia. The only evidences of persistent inflammation were the swinging temperature and accelerated pulse. This remarkable absence of symptoms had its parallel in the inflammations due to the pneumococci in all parts other than the lungs and pleurae, for pneumococcal otitis media, pericarditis, arthritis, etc., were all painless within a few hours of the onset. The only positive sign of involvement of the peritoneum was a steadily increasing tumescence of the abdomen first seen in the subcostal grooves, the groins, or the region of the umbilicus. This swelling was due to the outpouring of the green non-irritating pus and not to distension of the gut. As an illustration the case of a baby girl, aged 14 months, was quoted. The child had had a feverish illness of six days' duration which began with sharp but transient pain in the left iliac fossa, with vomiting and diarrhoea for a few hours only. On examination the left side of the abdomen and pelvis, as high as the iliac crest, was found to be full of fluid. As the child had a vaginal discharge he hazarded the conjecture that

the pneumococcal infection diagnosed had spread from the left tube. At the operation the usual large collection of greenish pus was opened, and the left tube, which oozed pus through a patent abdominal ostium, was removed. This child made an uneventful recovery. Another case, in which after operation for empyema the significance of slight abdominal symptoms and tumescence was overlooked, died; post mortem the abdomen was found to contain a large quantity of pneumococcal pus, drainage of which would probably have saved the patient. After contrasting the progressive toxæmia and absence of signs of peritonitis which occurred in the pneumococcal form with the striking symptoms and absence of toxæmia which so often characterized tuberculous peritonitis, Mr. Waugh proceeded to the discussion of treatment. Some cases recovered without a diagnosis having been made and without any specific form of treatment. Evidence of this was found in a number of cases who first presented themselves with an encephalitic abscess in the abdomen. Treatment in the residual stage was standardized and consisted of simple drainage. Treatment during the invasion stage presented the difficulty that the clinical syndrome was sometimes indistinguishable from that of an acute inflammation of an appendix "concealed" beneath the liver, behind the root of the mesentery, or in the pelvis. In such cases immediate operation should be undertaken. When the abdomen was opened the pathological appearances of early pneumococcal peritonitis were unmistakable: a little free fluid, always cloudy and frequently containing a few flakes of lymph, was present, and over a wide area the coils of small intestine were an angry red with their lustre somewhat impaired. Similar changes to an equal or less degree were exhibited by the appendix. In such cases he removed the appendix if involved and drained the abdomen. The latter was essential, for in two cases of early pneumococcal peritonitis in which the appendix had been removed, and the abdomen closed without the condition being recognized, the patient was only saved from disaster by a subsequent reopening of the abdomen and liberation of quantities of characteristic green pus. It was difficult to understand why drainage should be helpful, but it was his impression that it was so. He had never seen a fatal case in which operation was done within thirty hours of onset, whilst many cases of concealed appendix had been discovered. Finally, in the intermediate stage, the need for operation was determined by the degree of toxæmia and its tendency to increase. A climbing pulse rate was an indication for operation, but if the pulse rate remained fairly constant in spite of a swinging temperature, operation might be safely deferred. In some cases the illness came to an abrupt end about the tenth or twelfth day and any fluid in the abdomen was absorbed. Presumably in these cases the pneumococcus was entirely killed, for in the residual cases, which came to operation many months after the original illness, the pneumococcus could always be cultured from the pus. Mr. Waugh considered that the sinister reputation of pneumococcal peritonitis was undeserved; it probably arose from confusion between the primary type of case and pneumococcal septicaemia in which involvement of the peritoneum was but a small part.

Dr. D. N. NABARRO said that the pneumococcus was an organism whose pathogenicity was strikingly variable in different animals. In some it produced a rapidly fatal septicaemia, whilst others were immune. Man occupied an intermediate position, and pneumococcal infections were usually localized. Children, however, were more susceptible than adults, and in them a generalized infection of serous cavities was not very uncommon. Primary pneumococcal peritonitis was, so far as the records of Great Ormond Street Hospital showed, a rare disease. Only fifteen cases had been diagnosed since 1918, and only seven of these had grown pneumococcus from the exudate. Of the fifteen cases diagnosed as pneumococcal peritonitis, five recovered and ten died; all were females. Macartney and Fraser, in their paper on this subject, described the recovery of the same pneumococcus from the pus in the pelvis, the blood, and serous cases yielded an organism which was morphologically a pneumococcus, but as no bile solubility or pathogenicity tests had been performed, it was possible that the organism

was a variety of streptococcus—for example, that sometimes described as the enterococcus. In the case of a female child aged 16 months, diagnosed as pneumococcal peritonitis, the organisms isolated from the pus were *B. coli* and streptococcus; the same organisms were recovered from the vagina. He thought it probable, therefore, that many cases, which clinically were diagnosed as pneumococcal peritonitis, were due to another organism. Macartney and Fraser, in discussing the etiology of this disease, pointed out that its incidence was limited to female children, generally of the poorer classes who were apt to sit about without protection for the perineum, so that they contracted a vulvo-vaginitis. As a result the vaginal secretion was not acid as in health, so that the pneumococcus was able to flourish, and eventually to make its way into the abdomen via the genital tract and tubes. These authors pointed out that the pneumococcus was recoverable from the vagina in every case, that the first symptoms were those of subumbilical peritonitis, and that at laparotomy, in early cases, pus was found in the pelvis only. They had reproduced the disease in a female monkey by introducing the pneumococcus into the vagina after it had been rendered alkaline by washing out with a solution of sodium bicarbonate. The only alternative routes by which the pneumococcus might gain entry into the peritoneal cavity—namely, by the blood stream or through the intestine—were apparently negatived by the fact that all the cases occurred in females. Dr. Nabarro suggested that the milder cases, which recovered without operation, and from which in consequence no pathological material was available, were cases of enterococcal and not pneumococcal peritonitis, since the enterococcus was more commonly found in the accompanying

The CHAIRMAN (Dr. Thursfield) commented upon the curious geographical distribution of the disease, which was apparently common in Edinburgh, and commoner at Guy's Hospital than in North London. He had himself never seen a case which he could diagnose with certainty.

Mr. R. A. RAMSAY pointed out that the acute cases were almost invariably confused with appendicitis. The diagnosis could easily be made at operation by the absence of smell from the pus. In his experience the mortality of acute cases was very high, and operation did not help. His one recovery from the acute stage had occurred after putting Type I pneumococcal serum into the drainage tube, but he did not know whether recovery was attributable to this. A child first seen in the "residual abscess" stage had recovered after a number of metastatic abscesses in the limbs and elsewhere had been opened.

Dr. ERIC BELLINGHAM SMITH had seen eight cases, seven of them in girls, but one in a boy. The ages of the patients ranged between 3 months and 8 years. Diarrhoea occurred as a premonitory symptom in all cases. He disagreed with Mr. Waugh as to the absence of pain, for in the cases which he had seen there was acute pain and tenderness throughout the illness. Only three of these cases had recovered. In his experience operation, while justifiable and necessary in the residual abscess stage, was totally unjustifiable in the acute stage. He quoted a case in which operation was performed on the fourth day, when there were signs that the toxæmia was diminishing, on account of persistent tenderness in the right iliac fossa; the child was dead within twenty-four hours. He considered that the only chance for the patient lay in expectant treatment in the Fowler position until such time as a residual abscess should have formed.

Mr. MAX PAGE did not think the mere drainage of the abdomen in the acute stage was in any way helpful, an abscess stage provided he could be certain of the residual condition in the acute stages.

Mr. E. C. HUGHES was convinced of the futility of operating in the early stage, and would never do so provided appendicitis could be definitely ruled out; many cases were, however, indistinguishable. In the differential diagnosis the general distension of the abdomen or the appearance of a swelling at the umbilicus were helpful signs.

Mr. J. McLEAN PINKERTON had seen five cases of this condition during two years as a resident at a small hospital



in South London. Three of the cases were proved to be pneumococcal peritonitis by pathological examination, and though the pus was not examined in the other cases there could hardly be any doubt as to the diagnosis. The clinical course and the appearances at operation of the cases coincided with that described by Mr. Waugh. Two had been operated upon in the acute stage and the others in the residual abscess stage, and all recovered, although one of the cases operated upon in the acute stage had required a further operation for a residual abscess in the pelvis.

Mr. J. A. C. FORSTH had seen a few cases, all of which resembled those described by Mr. Waugh. In one case—a girl, aged 8 years, who had exhibited prodromal diarrhoea—ho had operated at an early stage on account of slight tenderness in the right iliac fossa. At the operation the appendix and caecum were found to be normal, but the tubes were crimson. He drained the abdomen and left the tubes intact, although he was somewhat doubtful as to the wisdom of doing so. The girl recovered at the time, but had recently undergone an operation at the hands of another surgeon for double pyosalpinx. He considered that the absence of rigidity was one of the striking features of pneumococcal peritonitis.

Dr. ROBERT HUTCHINSON commented upon the lack of unanimity amongst the speakers as regards both diagnosis and treatment; and Dr. CAMERON and Dr. NANNING replied briefly.

### TREATMENT OF PULPLESS TEETH.

At a meeting of the Section of Odontology of the Royal Society of Medicine on January 26th, Mr. J. G. TURNER presiding, two papers were read on the subject of pulpless teeth.

The first was a communication by Mr. CALE MATTHEWS, who described a case of long-standing insomnia treated by the extraction of these teeth. The patient was a married woman aged 44. She had marked exophthalmos, but no goitre, and otherwise was in excellent health. In May, 1923, she had an intermittent temperature after pneumonia, and the doctor attending her thought that the temperature might be due to some other cause, and advised that her teeth be radiographed. It was then elicited that she had been suffering from a gradually progressing insomnia during the previous twenty years. Her average night's sleep was three or four hours, and if there was any worry or domestic disturbance she got no sleep at all. More than twenty years previously—before the insomnia began—she had certain root fillings and crowns. After an investigation of the radiographic result it was decided to remove all the pulpless teeth. The extraction proved extremely difficult, and for two or three subsequent days the patient was very much distressed, but four or five nights afterwards she had the best night's sleep she had had for years, and this improvement continued. Almost a year afterwards her healthy and rejuvenated appearance made her almost unrecognizable as the same woman; she was sleeping well, and, most notable of all, there was a total disappearance of the exophthalmos. At first the speaker was inclined to think that the improvement might be a temporary one, due to some psychic cause, but it persisted. He could offer no explanation except that the removal of the septic foci eliminated the cause of the hyperthyroidism which might have been the determining factor of the insomnia.

Mr. J. G. TURNER said that in his own experience he had found that insomnia was one of the things which might be cured by clearing out a mouthful of foul teeth, whether dead or subject to pyorrhoea. Only the previous week, by taking out one loose pyorrhoeic tooth, he had restored sleep to a patient who had been clamouring for drugs.

Mr. L. E. CLAREMONT read the second paper, on the general aspects of the problem of pulpless teeth. After a description of the anatomy and pathology of the parts concerned, he went on to speak of treatment, confining his remarks to the permanent dentition. The treatment of deciduous pulps was impracticable, except perhaps in permanent teeth could be considered under three headings: (1) devitalization of the living pulp; (2) cleaning and filling of sterile canals; (3) treatment of septic teeth. The rule,

"When in doubt, remove the pulp," was, he considered, a good one. The development of infection during treatment was a very important thing to be guarded against, and a thing liable to be forgotten. Everything that came in contact with a tooth under treatment was infectious and a certain source of infection unless sterilized. In cleaning and filling the canals the watchword should be "sterility." It was not possible to be aseptic, but the next best thing could be done—namely, the work could be carried out in an antiseptic atmosphere. The choice of antiseptic was limited. Tricresol was the nearest approach to the ideal. The teeth should be isolated with rubber wiped over with tricresol. All instruments should lie in tricresol. A tooth should be allowed to drain, and the canal contents should afterwards be rendered sterile, before removal. Secondary dentine or pulp stones might be absorbed out by means of sulphuric or hydrochloric acid. The use of mummificatory paste should be restricted as much as possible; he viewed it with great distrust. Various methods had been devised for filling the canals. If gutta-percha points were used they should always be kept in formalin vapour and taken straight from this to the canal. The treatment of teeth already infected was the greatest problem before the dental surgeon of to-day. The first thing to do was to arrive at a correct diagnosis. Errors were frequently made through want of co-ordination of the factors and misinterpretation of the x-ray photographs. Mr. Claremont dealt first with treatment via the pulp canal, and secondly with surgical treatment. With regard to the pulp canal, the great question was whether it was possible to render the periapical area and the sinus, if present, sterile. Systemic toxæmia arising from apical sepsis had been conclusively proved. Before commencing treatment via the pulp canal one should consider the age of the patient and the question whether there was any systemic infection present. Ionization, using a solution of zinc chloride, with the positive pole so that chlorine was given off in the canal, was constantly used. His misgiving was whether all the organisms present in a spongy apex and beyond it had been killed. The apex was frequently necrotic, and it seemed almost impossible to prevent such a condition from being the source of further mischief. Sinuses might arise in two ways—from the bursting of an acute apical abscess and from a chronic abscess. Theoretically the teeth in which sinuses had developed would appear to offer more satisfactory scope for rendering the periapical tissue sterile. But whatever kind of treatment was carried out around the pulp canal left a feeling of dissatisfaction on the part of the operator. Surgical treatment might be considered as (1) preliminary sterilization and filling of the root canal, followed by removal of the diseased periapical tissue; (2) preliminary sterilization and filling of the root canal, followed by removal of the necrotic apex and the surrounding tissue (this, provided the patient was healthy, might be applied to the upper incisors, canines, premolars, and possibly the lower incisors, with apical rarefied areas involving not more than one-fourth of the periodontal membrane); (3) extraction coupled with curettage (it was most important to eurette thoroughly the apical region of the tooth sockets after extraction). Cases suitable for this last procedure were those involving the upper molars and most of the lower teeth, with large areas of destruction, and teeth with a sinus opening into the antrum, nasal fossa, or on to the skin.

In the course of general discussion, Mr. LIVINGSTON remarked that formalin vapour for the sterilization of instruments was practically useless, especially in a dry cabinet. He obtained perfect sterilization of gutta-percha by using absolute alcohol to which was added about 40 per cent. formalin. Mr. SPRAWSON said that it had always seemed to him difficult to know when the pulp canal was sterile, and he thought it would be rather useful to test by films and cultures a number of teeth after they had been carefully dressed. Mr. CALE MATTHEWS said that the technique of the treatment of pulpless teeth was very exacting to the general practitioner of dentistry. He wished the reader of the paper had said something about the ammoniated silver nitrate method of root filling. If the radiograph meant anything to them, it was a great satisfaction to study the radiographic appearance of teeth after they had been filled with the silver nitrate. Mr. SKINNER

thought it most important that the patient should be warned that once he had a dead tooth in his head, sooner or later trouble might arise.

Mr. A. T. PIRTS asked whether there was any greater likelihood of apical rarefaction developing in teeth which had been devitalized and afterwards had become infected than in a tooth which had died what he might call a natural death and had not been treated at all. There was an impression amongst medical men that apical rarefaction was always the sequel to dental treatment, and dental technique was regarded as being on its trial. The physician saw various teeth with obvious fillings and crowns, and, noticing apical rarefaction, came to the conclusion that the condition was due to the dentist. He would like a series of radiographs to be taken on patients with entirely neglected mouths, which he believed it would be found that apical rarefaction was quite common.

Mr. J. G. TURNER closed the discussion by remarking that the question of the depth of infection of the dentine had been overlooked, and that until this had been dealt with one was still left, whatever might have been done, with an infective dead piece of tissue.

### MENTAL SEQUELAE OF ENCEPHALITIS LETHARGICA.

THE discussion on "The mental sequelae of encephalitis lethargica" at the Royal Society of Medicine (see *BRITISH MEDICAL JOURNAL*, January 17th, p. 114) was resumed on January 27th. Dr. R. H. COLE, Vice-President of the Section of Psychiatry, was in the chair.

Dr. J. C. SKEENE (Newcastle) dealt with the subject as it concerns children, for 30 to 40 per cent. of the cases of the disease he had seen were under 12 years of age. He considered that the chief problem was not so much diagnosis, or even treatment—the latter being so ineffective—as prognosis. It was very difficult to foretell, in any given case, what the ultimate mental condition of the patient would be. Even in cases having a mild initial attack the later mental changes might be quite gross. One of the most important results of the disease, he found, was a diminution or perversion of volition; the patient might remain motionless for hours. He described the types of cases he had met with, and quoted illustrative examples of each.

Dr. C. WORSTER-DROUGHT stated that cases of mental disorder reaching certifiable limits were comparatively rare. When they did occur the condition was either progressive dementia, a delusional state, or hallucinatory confusion. He did not think it could be said that there were any really characteristic mental symptoms arising from encephalitis lethargica; perhaps the most frequent was an apparent apathy, but tests showed this was not really so pronounced as it appeared to be, and there was but little impairment of intellect. In most of the 19 cases tested by Dr. Harncastle and himself the psycho-motor reaction time was definitely lengthened, usually by about 50 per cent., but the cerebration time was not appreciably altered. In the general intelligence tests only 3 of the 19 were below the normal, the deficiency in those 3 being chiefly in the regions of memory and reason. The prognosis in regard to moral deterioration following the disease was often quite good.

Dr. HARNCASTLE expressed his agreement with the remarks of the previous speaker. In some of the cases inquired into, he said, the onset of the symptoms was preceded by an extraordinary sense of well-being. Some cases seemed to recover completely, and then, perhaps six months later, mental sequelae became definitely established.

Dr. E. MAROTER mentioned the results of his investigations in 45 cases of the condition which had been received into the Maudsley Hospital. Those cases could be arranged under three headings: (1) mental anergia, (2) morbid restlessness, (3) demoralization. The occurrence of extreme lethargy seemed, generally, to be ominous as regards the subject's future. In many cases showing mental changes the initial illness was so slight that its nature had not been recognized. There seemed to be no relation between the organic and the mental changes. In the majority the disturbances were consecutive. There was a marked spontaneous variation, suggesting an active continuance of the disease.

Many of the cases obviously needed institutional treatment, either because they were incapable of self-support or because they were a nuisance to others.

Dr. GRAHAM FORBES spoke of some cases in which the mental after-effects of encephalitis lethargica were complicated by epilepsy, and in some instances it had not been possible to determine whether the condition the patient was found in was post-epileptic or post-encephalitic.

Dr. J. GILHOVEN referred to some adult cases in which, after apparent recovery, the patients developed mental conditions such as defective memory, restlessness, and dementia four or more years after the initial attack.

Dr. CRICHTON MILLER said that for the mental symptoms following the Parkinsonian type of the disease, sedative drugs, especially hyoscin, seemed to have a specific effect on the apathy and the anergia.

Dr. WORSTER-DROUGHT said that if once hyoscin was started in these cases it was difficult to leave it off, and for that reason he was very chary about giving it.

Dr. P. C. P. CLOAKE spoke of the relationship of psychic trauma to the onset of this disease. In one case it followed immediately upon the boy being pushed into a bath strongly against his will. He thought it likely that the disease was at least aggravated by such trauma. The findings of Dr. Worster-Drought and his colleague in regard to psycho-motor retardation did not agree with those of Narval and others. But there was a psychic retardation apart from the execution of motor acts. With regard to the period of abstinence from school, he advised that the subjects of the disease should be kept from school considerably longer than would otherwise appear to be necessary. Finally, he considered that the essential feature of the psychic change was the result of a definite organic injury to the cerebral cortex, this injury being caused by the toxin of the disease.

The CHAIRMAN (Dr. Cole) said he considered the disease only mildly infective, but he related a few cases in which there seemed to have been conveyance from one to another; in one the nurse and matron concerned with a case both had the disease afterwards. These might be coincidences, and the cases might each have derived the virus from the same source, rather than from each other. Hyoscin was a drug which should not be used for any length of time; it should be looked upon only as a drug for emergencies. Patients who had recovered from mental illness and to whom this drug was given told him that they felt as if they were in a vice; they had the desire to move, but were unable to do so.

### THE WASSERMANN REACTION AS AN INDICATOR IN THE TREATMENT OF SYPHILIS.

At a meeting of the Liverpool Medical Institution on January 15th, Professor ERNEST GLENN, Dr. R. E. ROBERTS, and Dr. PHOEBE BIGLAND, in a paper entitled "The failure of mercurial continuation treatment to keep a negative Wassermann negative in syphilitic out-patients," communicated the second half of their study of the Wassermann reaction in relation to the treatment at Dr. F. P. Wilson's clinic at the Royal Infirmary. A report of the first half of this study appeared in the *JOURNAL* of April 26th, 1924 (p. 748).

The authors studied the Wassermann relapse incidence in 503 patients whose reaction was negative after the standard admission course of six doses of salvarsan, etc., and eight of intramuscular grey oils. About two-thirds of these patients received continuation courses of either grey oil or mercury tablets—the latter usually prescribed to sailors or other "wanderers"—to keep their Wassermann reaction negative. About one-third received no treatment for a few or many months because of their irregular attendance. The authors were therefore able to compare the Wassermann relapse incidence in the three groups. The patients were divided into five periods dating from the beginning of their negative Wassermann—namely, 0 to 6 months, 503 patients; 7 to 12 months, 382 patients; 13 to 24 months, 264 patients; 25 to 36 months, 100 patients; 37 to 48 months, 27 patients. Among these there were 185 "first" Wassermann relapses; six cases of reinfection were excluded. The Wassermann relapses were classified into complete and partial, the technique being number 4 of the

## INTERNATIONAL HEALTH ACTIVITIES.

At a meeting of the Medico-Legal Society on January 20th Mr. F. LLEWELLYN JONES (coroner for Flintshire) read a paper entitled "The law of nations and the health of nations—a survey of international health activities before and after the great war."

He said it was only in comparatively recent times that the State had concerned itself with matters of public health. Questions of sanitation had not received the attention of the Legislature to any appreciable extent up to the middle years of the last century, and it was only under the stimulus of men like Sir John Simon, the chief medical officer to the Privy Council, that a code of laws to regulate public health ultimately found its way on to the statute book. Consequently, it was scarcely to be wondered at that health was not regarded as a subject of international control. The law of nations did not embrace questions of international health, and it was not until 1823 that the first international scientific conference was held. The close of the recent war marked the beginning of a new era, and the developments which had taken place since the formation of the Covenant of the League of Nations provided for the creation of an organization for the international control of health. Mr. Llewellyn Jones referred to the first English Quarantine Act, of 1710, and to the cholera epidemic of 1849-50, which led to a scientific inquiry resulting in the adoption of a policy of the almost total abolition of quarantine, though he pointed out that the Quarantine Act was not repealed until the passing of the Public Health Act of 1896, which transferred from the Privy Council to the Local Government Board the power to deal with ships infected with plague or yellow fever arriving in British ports, the great Act of 1875 having already transferred such power to deal with cholera. The International Health Office, which was eventually transformed into the International Office of Public Hygiene, grew out of the deliberations of the International Health Conference of 1903, but it was not until the Covenant of the League of Nations was framed that there was any extensive provision for the exercise of international health functions by a body representative of the different nations of the earth. At the first meeting of the League in Paris in 1920 the International Health Organization was established, and he was of opinion that there was no department of the League's activities which could claim so much successful work. The great war had resulted in famine in Eastern Europe and an epidemic in Russia, and the League appointed an Epidemic Commission in 1921, which undertook the organization of quarantine stations, the equipment of hospitals, the supplying of food and other necessities, and the providing of measures for disinfecting and cleansing. This was the first attempt to deal internationally with an epidemic on a large scale, and the work of the Commission met with a great measure of success. The Health Organization had also initiated the step of interchanging public health personnel, by which sanitary officers became acquainted with practical solutions of public health problems, as well as with the organization of public health services, in various countries. The service of epidemiological intelligence and public health statistics had been most useful, reports on the prevalence of notifiable diseases being transmitted regularly from practically all the countries of the world. The health staff at Geneva had undertaken the supply of official vital statistics and statistical procedure, and were collecting information as to legislation and procedure regarding registration of births and deaths, certification of causes of death, notification of diseases, and other matters. The work of this department was of considerable value and interest to those engaged in public health administration. Therefore it was clear that there was a growing recognition of the importance of co-operation between the nations on sanitary matters, especially since the great war. The League had stemmed the spread of cholera and typhus in Eastern Europe, and research was being encouraged. Indeed, it was gratifying to the friends of international peace to know that, although eminent scientists were still searching for instruments and agencies of destruction for use in future wars, there were in all lands men who were

engaged in a campaign against the scourges and enemies of the human race.

In the discussion which followed the Chairman (Mr. Walter C. Williams) observed that the work of their Health Department was of especial value to those members of the legal profession who were engaged in carrying out parliamentary enactments for the prevention and cure of disease.

## Reviews.

## ACUTE POLIOMYELITIS.

THE history of the early epidemics of diseases which have been carefully recorded by competent observers are always fruitful objects of study. The volume *Infantile Paralysis in Vermont*,<sup>1</sup> dealing with the various epidemics in the State between the years 1894 and 1922, is dedicated to the memory of Dr. Charles S. Caverley, whose pioneer work in the investigation of the disease as it occurred there between 1894 and 1917 has amply earned this graceful recognition. Seven of his original papers and reports on the subject are here reprinted. It appears that the first epidemic of poliomyelitis of any extent in the United States was that in the State of Vermont in 1894. Dr. Caverley's account of this will well repay study, especially when it is remembered how great has been the increase in knowledge of the subject since that time; indeed, the reader will easily appreciate this when he reads that two well known neurologists expressed the opinion that the disease was cerebro-spinal meningitis.

Since then Vermont has earned an unenviable notoriety in the matter of the incidence of the disease, other epidemics having taken place in 1910, 1911, 1912, 1914, 1915, 1916, and 1917. The reports of these abound in details of epidemiological and clinical importance, which reflect the industry and the skill of the observers. That dealing with the severe outbreak of 1914 may be selected as especially full of interest and information. That the principal seasonal incidence of the disease should be in August, September, and October agrees with the majority of experiences elsewhere; but the statement made that in Vermont it seems to be a rural as opposed to an urban disease conflicts with much other experience, notably, indeed, that in regard to the city of New York.

It is interesting to read the regulations adopted by the Vermont State Board of Health in 1916 in regard to the attendance of children under 15 at public gatherings; would public opinion here consent to their exclusion from all fairs, cinemas, theatres, schools, and churches, even in the presence of an epidemic of poliomyelitis? In 1917 the local board of health of Barre, Vermont, went so far as actually to prohibit all public gatherings of any kind, and we are informed that the city of Barre enjoyed comparative immunity from the disease. Our own health authorities must surely look with envy on the drastic powers employed by the Vermont Board of Health.

The after-treatment of the residual paralysis was placed under the direction of Dr. R. W. Lovett, professor of orthopaedic surgery at Harvard Medical School, whose untimely death is much deplored. Through his organization a very large number of cases were kept under observation and treatment. A quantitative test of muscle power, especially of the power of different groups of muscles or movements, was devised by means of a spring balance; its design and use are illustrated by plates. There is nothing very new in the description of the methods of after-treatment employed, but emphasis is laid on the value of muscle training. The use of diathermy is not mentioned.

Included in the volume are chapters describing the experimental results obtained with nasal washings from cases of the disease, but since much of this work has been repeated and extended in more recent years this section loses much of its interest. The book concludes with two chapters on the treatment of acute poliomyelitis by means of the intra-

<sup>1</sup> *Infantile Paralysis in Vermont, 1894-1922*. Burlington, Vermont: State Department of Public Health, 1924.

venous injection of hypertonic saline solution and the intrathecal injection of serum from convalescents. The epidemiologist and the neurologist will find in it much to interest them.

### LIFE INSURANCE EXAMINATION.

Dr. F. W. Foxworth has got together a band of forty-nine contributors to the volume, *Life Insurance Examination*,<sup>2</sup> he has edited. His claims that it will prove both a guide and a text book to the medical examiner seem to be well justified. It surveys briefly the history of life insurance, industrial insurance, group insurance, fraternal insurance, and friendly societies, and sketches the comparatively recent origin and development of medical examination for life insurance, which dates back only to the middle of last century. Interesting chapters are devoted to the relation that should exist between medical examiners and agents, whose interests may often tend to conflict, and also to the close co-operation that should be maintained between the medical examiner and the actuary. The organization and administration of the medical department in American life offices is fully described, and the functions and duties of medical directors at the head office, of the medical referees supervising various "territories," and of the medical examiners in individual towns or districts, are explained. The training of medical officers for life-office work appears to be advancing generally along specialized lines towards the development of the particular viewpoint necessary for the medical examiner. While diagnosis is important, prognosis is still more so, and must be specialized in order that it may be translated into such terms that the degree of extra risk can be assessed under special mortality tables. An appreciation of the incidence of mortality is also shown to be of great importance. In short, the medical examiner and the actuary must be closely associated, so that their co-operation in the assessment of risks, expressed in terms of monetary equivalents, may be soundly based on the statistics prepared by the joint labours of the clinician and statistician. Such statistics are abundant in this work, more particularly in connexion with gastric and duodenal ulcers, blood pressure, goitre, neoplasms, glycosuria, and post-operative and tropical risks. These statistics and practical conclusions drawn from them are worthy of the careful attention of all British medical examiners and actuaries. The nature of post-operative risks is also examined, and the methods of treating them for life insurance are concisely summarized. The general plans for dealing with substandard lives are also described, and illustrated by explanatory charts.

The methods of meeting additional risks are fully explained—the extra premium method, the lien method, the rated-up method, and the special classes method (the latter consisting of three groups of extra mortality averaging 38 per cent., 63 per cent., and 88 per cent. above normal). It appears that the lien method is passing out of favour in America. Possibly it does not appeal to the psychology of the American, or it may be that the elasticity of the method is not sufficiently appreciated. It should be remembered that a suitably adjusted lien, constant or decreasing, will meet practically any type of extra mortality; it is perhaps not generally recognized that a constant, or even a slowly decreasing, lien will cover an increasing extra mortality. The "numerical" method of assessment is also explained; it appears to be used in America more particularly for assessing extra risk in connexion with such factors as height, weight, build, family history, and occupation, taken in relation to the class of policy. But the expounder of the plan refers to its comparatively recent origin, and does not seem too optimistic about its intrinsic value, although it is admitted that experience may justify its more general adoption. The volume also contains interesting chapters on health, accident, and disability insurance. There are, moreover, some illuminating remarks on health conservation and insurance welfare work; but although the aims are undoubtedly admirable, the schemes are of too recent development to permit their results to be gauged.

<sup>2</sup> *Life Insurance Examination*. Edited by Frank W. Foxworth, Ph.D., M.D., Indianapolis, Indiana: London: Hery Kimpton, 1924. (Med. Bro, pp. 728; 156 figures. 45s. net.)

The chapters on blood pressure and urinary analysis are excellent, but such subjects as the classification and descriptions of malignant neoplasms are unnecessary in a work of this description.

The final chapter, on "Postponement in disease," is particularly interesting and exhaustive. The joint experience of the leading insurance medical specialists of America, tabulating their opinions as to acceptance, postponement, or declension in connexion with some 300 diseases, is worthy of examination by British medical officers and actuaries. The printing and the illustrations are excellent.

### A FRENCH TEXTBOOK OF THERAPEUTICS.

When a volume on clinical therapeutics has reached its eleventh edition, and has besides been widely read in translation, comment on its merits is surely superfluous. The new edition<sup>3</sup> of Dr. Lyon's treatise is a worthy successor to its forerunners, and will no doubt achieve as wide a popularity. In the preparation of a new edition the problem of judicious elimination to make room for new material is seldom easy, but Dr. Lyon has solved it. The whole edition has been entirely recast. The elimination has been effected at the expense of novelty, of many passages devoted to certain etiological aspects of disease, and of descriptions of treatment now no longer recommended. There are many noteworthy additions. There is a succinct presentation of the subject of the cardiac arrhythmias, and a very full description of their treatment by means of quinidine. The recent researches throwing new light on the functioning of the sympathetic nervous system have rendered necessary the inclusion of a special chapter under this heading. The chapter on hysteria has been revised, and the teachings of Babinski followed in the main. There is a special chapter on protein shock and protein shock therapy. The treatment of syphilis by bismuth and of gonococcal infections by vaccines is fully described. The insulin treatment of diabetes, including recent modifications in its mode of employment, is fully dealt with. In his last (tenth) edition the author drew the attention of his readers to the modern orientation of therapeutics, which tended more and more towards the employment of vaccines, of serums, and of glandular extracts. He now declares this tendency to be even more marked, and refers to the employment of protein shock therapy and of autotoxotherapy as evidence of how increasingly the trend is towards therapy of a biological nature. The practitioner, of course, may not be in a position to carry out treatment which involves a complicated technique, but he must at any rate, Dr. Lyon says, be prepared to take samples of blood, of sputum, or of exudates for examination, or to perform lumbar puncture. Detailed instructions are given as to how such samples should be collected. He must also be prepared to carry out certain modes of treatment—the intravenous injection of arsenobenzol and of organic serums, to inject antidiptbthelial serum, to perform transfusion, and to induce an artificial pneumothorax. Dr. Lyon's instructions under these headings are conspicuously practical and complete.

The present edition has suffered in no wise from the eliminations, and has gained notably by the additions above referred to. We do not doubt that it will receive as ready a welcome as its predecessors, and so retain its well merited popularity.

### DE SCHWEINITZ'S "DISEASES OF THE EYE."

A book which has reached its tenth edition is obviously a good one, and Dr. Schweinitz's *Diseases of the Eye*,<sup>4</sup> the first edition of which dates from 1892, hardly needs any words of ours to recommend it.

As an introduction to the study of ophthalmology, more especially for the senior student, it is unsurpassed, and it

<sup>3</sup> *Traité Élémentaire de Clinique Thérapeutique*. Par le Dr. Gaston Lyon. Onzième édition. Paris: Masson et Cie. 1924. (Sup. roy. Bro, pp. xiv + 1408. Paper cover, fr. 70; cloth, fr. 85.)  
<sup>4</sup> *Diseases of the Eye*. By George E. de Schweinitz, M.D., LL.D., Univ. of Penna., Sc.D., Univ. of Mich. Tenth edition, reset. Philadelphia and London: W. B. Saunders Company. 1924. (Roy. Bro, pp. 855; 7 plates, 434 figures. 50s. net.)

is worthy to rank with the well known translation of Fuchs's great work. The word "introduction" calls to mind the remark of the schoolboy who opined that Caesar's *Commentaries* were written as an introduction for those beginning the study of the Latin tongue.

Recent advances in ophthalmology have necessitated a good deal of revision of the text; the slit-lamp work is new since the appearance of the last edition in 1921; the new illustrations number twenty-five; some of the old pictures have been redrawn. The very complete index adds materially to the value of a book which can confidently be recommended as one of the best in our language on its subject. It is a costly book and will hardly be within the means of junior students; but the man beginning the study of eye diseases in order to specialize in that branch will find it a good and safe guide.

### CHRONAXY.

DR. GEORGES BOURGIGNON describes his treatise on the chronaxy of man<sup>5</sup> as a study of the general physiology, normal and pathological, of the neuro-muscular and sensory systems. It is a large work dealing with a subject the importance of which, both for electro-physiology and for electro-diagnosis, has recently been recognized. Although the term "chronaxy" dates from 1906, most of the experimental work on which this volume is based has been done since 1915 by the author, who is director of the electro-radiotherapeutic department at the Salpêtrière.

The essence of the investigation is the recognition of the time factor as entering into the conception of the excitation of muscles and nerves. As long ago as 1848 Du Bois Raymond, working with the frog's gastrocnemius and the constant current, announced that the excitation (stimulus) depends only upon variations in current density and not at all upon the time of the passage of the current. Hoorweg (1892-97), using condensers for stimulation, introduced the consideration of the "liminal voltage" or voltage necessary to elicit the liminal contraction, and, having regard also to the "capacity" and the quantity of electricity, he related these variables in an equation (law of Hoorweg). In 1901 Georges Weiss introduced the consideration of the time factor in a statement which related the liminal intensity and the time during which the current was passing. M. and Mme Lapieque completed these researches by their definitions of "rheobase" and "chronaxic" (1906-23). By rheobase they mean the current intensity necessary to elicit the threshold (*seuil*) of contraction on closing the constant current, and by chronaxy they mean the time of the passage of the current (necessary to elicit the threshold contraction) when its intensity is twice that of the rheobase.

Dr. Bourguignon has investigated the problem involved in the experimental aspect of this comparatively new subject; he has dealt with bipolar *versus* unipolar methods, the distribution of the current between the poles on the skin, "virtual" poles, the resistance of the living tissues, and the reduction of potential from the source of stimulation.

Dr. Bourguignon has gone over the whole subject of the regional distribution of motor and sensory points. He has determined the chronaxy of every accessible muscle in the body, and has brought out some facts that could not have been foretold. Some of these are that all muscles engaged in a particular function—for example, flexion—have the same chronaxy, and that all their synergists have the same chronaxy, whereas all the antagonists (extensors) have a chronaxy just twice as great. These relationships extend even to the muscles of respiration, for the muscles of expiration have a chronaxy double that of those of inspiration. In a limb the distal muscles involved in any action have a greater chronaxy than the more central. If  $\sigma$  stands for 0.001", the actual value of the chronaxy of the flexors of the forearm is from 0.08  $\sigma$  to 0.16  $\sigma$ , and for the extensors from 0.2  $\sigma$  to 0.36  $\sigma$ . The chronaxies of the sensory nerves have been ascertained by stimulating the nerves through the skin and noting the moment of perception of the peripherally referred sensations

of formation (method of Duchenne). In any given nerve or posterior root, fibres with different chronaxies are intermingled. The map of the distribution of sensory fibres possessing the same chronaxy is regional, and in any given region the chronaxy of the nerves is the same as that of the subjacent muscles.

Dr. Bourguignon has even attempted to estimate the chronaxy of the optic nerve by observing the production of the phosphene. It varies from 1.24  $\sigma$  to 2.36  $\sigma$ .

A large part of the book is occupied with the determinations of the chronaxies of muscles and nerves in various pathological conditions. While the chronaxy is normal in such states as athetosis, myoclonus, choreiform movements and tremor, it is greater than normal in states of contraction. An interesting fact has been brought to light in regard to the chronaxy of synergists in certain abnormal states—namely, that it is not of the same value as that of the muscles in whose function the synergists co-operate.

The comparative physiology of the chronaxy of muscle has also been studied, and has been determined in the frog, toad, snail, heart of tortoise, and stomach of frog.

There is no index, but in its place a detailed and well arranged table of contents.

### A GERMAN TEXTBOOK OF OPERATIVE SURGERY.

A TEXTBOOK in English will almost certainly always be preferred by the English student to any foreign work. The preference is wise, for it is desirable that the student should be careful to base his knowledge on the doctrines and methods of the practical workers and teachers of his own country. There are occasions when the rule may be relaxed in favour of certain textbooks written and published in the United States, and such a work as Osler's *Medicine* makes an equal appeal on both sides of the Atlantic. Many of the smaller French textbooks are excellent, but they are best read by the senior student who has knowledge enough to appreciate the differences in methods and opinions and wishes to widen his horizon. Not so much can be said for the majority of German textbooks. There are exceptions, but usually their authors seem to have failed to make themselves acquainted with things done beyond the German frontier, or written in any language other than German. Consequently their textbooks cannot be recommended either from the educational or examination point of view to English students, even those who read German fluently.

If an exception is to be made it must be because the book possesses some special qualities. Such an exception seems justified in the case of the late Professor ZUCKERKANDL's book on operative surgery, the sixth edition<sup>6</sup> of which has recently been prepared by Professor SEIFERT. The book is intrinsically good, and surgery is so much of an art that it is useful for the senior student and young surgeon to learn how things are done in other countries.

Professor Seifert asserts that it is the oldest of the textbooks on the subject now in use, and, while making the additions necessary to bring the book up to date, he has preserved the essential characters of the original work as far as possible. In particular, he has been careful not to go beyond its original scope—namely, the description of typical operations and operative procedures. Although the book is elementary in the sense that the simplest matters are explained, it is nevertheless comprehensive, extending from such simple procedures as the puncture of a hydrocele to resection of the pylorus, choledochoduodenostomy, and extirpation of the larynx. The subject is divided into general and special parts—the former dealing with the position of the patient during operation, the incision and division of tissues, the arrest of hæmorrhage, and the management of the operation wound; the latter dealing with the operations themselves, in the usual regional order of classification. Ophthalmic and gynaecological operations, however, are not included. The special qualities of the book are to be found in the diction and the illustrations. The descriptions are exceptionally clear and

<sup>5</sup> *La chronaxie chez l'homme: étude de physiologie générale (normale et pathologique) des systèmes neuro-musculaires et sensitifs.* Par le Dr. Georges Bourguignon. Paris: Masson et Cie. 1923. (Roy. 8vo, pp. iv + 417; 52 figures, 122 tables. Fr. 35 net.)

<sup>6</sup> *Chirurgische Operationslehre.* By Professor Dr. Otto Zuckerkandl. New sixth edition, revised by Professor Ernst Seifert. Munich: J. F. Lehmann. 1924. (Roy. 8vo, pp. viii + 412; 487 figures. 15s. 2d.)





## Nota et Vetera.

### THE SERJEANT-SURGEONS TO THE KING.

THE death of Sir Frederick Treves in December, 1923, left Sir R. Harelock Charles the sole Serjeant-Surgeon to the King.

It is not known when this ancient and honourable office was first instituted, but it is probable that it existed long before the year 1461, when William Hobbes, Warden of the Barber Surgeons' Company, was appointed by Edward IV. As it was the duty of the serjeant-surgeon to accompany the sovereign on the battlefield, it is likely that Hobbes saw some service in those troublous times, but we know nothing of his career.

Nowadays the sovereign is well provided with medical attendants. There are in England seven physicians, five surgeons, four surgeon-apothecaries, three surgeon-oculists, a laryngologist, and two dentists, who form the personnel of the medical department of the Royal Household. In Scotland there is a physician, two surgeons, an oculist, two apothecaries, and a surgeon-dentist. In Ireland there are two physicians, two surgeons, and an oculist. But some of these offices are purely honorary.

Sergeanty or sergeancy is a form of tenure, and has been thus defined by an old writer: "Grand sergeancy is where a man holdeth his lands and tenements by doing some special service to the king in person." Thus the word "serjeant," as applied to lawyers and surgeons, implies personal service, and no doubt it meant in this case that the surgeon was a personal attendant on the king, but, despite any implications which some may think this to involve, the holder of this title ranked above the Regis Chirurgus Principalis, or chief surgeon, and to-day he comes directly after the physicians and before the surgeons in ordinary and other members of the medical department.

It must not be supposed that in Tudor times, because the serjeant-surgeon belonged to the Company of Barber Surgeons, he shared the monarch's chin or cut his hair. These duties were performed by the king's barber, who also belonged to the Company. In the later centuries of the existence of a fraternity of barbers its members had differentiated into two classes—those who practised what was called "barbery," including blood-letting, and those who practised only surgery, from which latter class the royal surgeons were chosen. Barbers only added surgery to their functions when the clergy were forbidden to practise it. As Mr. Austin Young says:

"Up till about the twelfth century the practice of surgery and medicine was . . . almost wholly confined to the clergy. . . . In 1163 the Council of Tours, under Pope Alexander III, considering that a practice which involved in its operations the shedding of blood was incompatible with the holy office of the clergy, forbade them to interfere in any matter of surgery; the consequence of this edict was that they gave over the operations of surgery, but continued to practise the healing art of medicine."

In London, however, there was a separate Guild of Surgeons, which was incorporated with the Barbers' Company by Act of Parliament in 1540.

At first there seems to have been only one serjeant-surgeon at a time, but from 1560 to 1891 there were two, and occasionally a third or extraordinary one was appointed who received no pay. After the death of Sir Prescott Hewett in 1891 the office was again single for a few years until the late Sir Frederick Treves was appointed in addition to Lord Lister, who had succeeded Sir James Paget. Treves was at first honorary serjeant-surgeon, and Sir Thomas Smith was made honorary serjeant-surgeon in 1901.

In Mr. Austin Young's sumptuous work *The Annals of the Barber-Surgeons of London* there is a list of such members of the Company as have served the office of serjeant-surgeon, and since practically all the serjeant-surgeons before 1745 belonged to the Company this list, which carries us down to 1736, is fairly comprehensive. A more complete list was published by Mr. (now Sir) D'Arcy Power in this JOURNAL (vol. i, 1900, p. 583). Some of the entries are to us but shadows of names, but others are records of men distinguished in their art, such as Thomas Vicary, of whom, however, a detractor wrote that he was "at first a meane practiser in Maidstone untill the King advanced him for curing his sore legge." It is to him that

Henry VIII is lauding (without looking at him) the charter of the Company in the great picture attributed to Holbein now hanging in Barbers' Hall. Like so many other well known surgeons of the sixteenth and seventeenth centuries, Vicary was on the staff of St. Bartholomew's, which was the only hospital—in the modern sense of the word—in the city of London. He continued to be serjeant-surgeon to Edward VI, Mary, and Elizabeth, and was surgeon to King Philip. Of Ferris we know little, save that Henry VIII left him 100 marks in his will, and that his own will is extant with a bequest to his daughter Thomazine of his "Courte bedd and bedstede and half a garnish of pewter vessels." His successor, Robert Balthrop, is only remarkable for his epitaph in the Church of St. Bartholomew the Less.

"Here Robert Balthrop lies intombed, to Elizabeth our Queene  
Who Sergeant of the Surgeons sworne wore thirty yeeres but  
here."

He died at sixty-nine of yeeres December's ninth the daye  
The yeare of Grace eight hundred thirde deductyng nine a waye  
Let here his rotten bones repose till angells trumpet sounde  
To warne the monde of present chaunge and raise the dead  
from grunde."

The quaint but cumbersome conceit in which the date of 1591 is recorded, and the erroneous description "Sergeant of the Surgeons," are perhaps due to the difficulties encountered by the writer in versification. Balthrop's Will also is interesting in that it contains a list of books and surgical instruments, including a salivatory. He left "one of my Launceetts that is sett in golde and enameled, to my felow Goodorus." This was William Gooderus, who was Master of the Company in 1594 and serjeant-surgeon.

William Clowes the younger was serjeant-surgeon to Charles I. His better known father, whose books "are the best surgical writings of the Elizabethan age" according to the late Sir Norman Moore, was surgeon to Queen Elizabeth, but not serjeant-surgeon. The family to which these surgeons belonged was a gentle one "bearing tokens and arms of honour, helm, mantle, and crest," and Clowes was one of the first men of family to take up surgery as a profession.

Of Wiseman, who accompanied Charles II in many of his wanderings before the Restoration, Sir D'Arcy Power says that he was the first to rescue surgery in London from its subordination to the Royal College of Physicians. His works show him to have been a clinical observer of great acumen and a skilful practitioner. "He believed in the miracles wrought by the blood of Charles I, yet he married the granddaughter of a regicide."

King George II was the last of our kings who went into actual battle. His serjeant-surgeon, John Rauby, as in duty bound, accompanied him at Dettingen. The tradition of personal service in the field seems to have been broken through in the last war, for when his present Majesty crossed over to France he was not, we believe, accompanied by either of his serjeant-surgeons. The last Master of the Barber Surgeons Company who held the office of serjeant-surgeon was Sir Caesar Hawkins, who was Master in 1736 and was appointed serjeant-surgeon in 1747, two years after the separation of the surgeons from the barbers. He was the first surgeon to be made a baronet. His son, his brother, his nephew, and his grandson were all serjeant-surgeons. As his brother Pennell Hawkins was appointed before 1783, the two brothers must have held office together. Five members of this family held this office, the last of them, Sir Caesar Henry Hawkins, dying in 1884. When the first Sir Caesar's brother Pennell died in 1793, King George III appointed David Dundas to the vacant place. Dundas was an apothecary (or general practitioner) at Richmond, and as such (by by-law) ineligible to the high offices in the Company of Surgeons, to which the . . . had a traditional right. He protested to keep him out, and a legal contest seemed imminent, but he did not press his claim, and contented himself with the royal favour and a knighthood.

The great Sir Astley Cooper became serjeant-surgeon in 1828. Since his time Brodie, Lawrence, Fergusson, Paget, Hewett, Lister, and Treves have adorned the office and rendered it one of the most honourable open to the medical profession. The present occupant of the office is the only member of the Indian Medical Service who has held it.

# British Medical Journal.

SATURDAY, JANUARY 31st, 1925.

## THE MEDICAL RESEARCH COUNCIL.

The Medical Research Council, as we recently had occasion to recall, owed its origin to the "research penny" which, in accordance with a provision of the Insurance Act, Parliament undertook annually to provide. After five years' experience of its working the enlarged scope already given to it was confirmed by a charter of incorporation, and it was given its present position under the direction of a Ministerial Committee of the Privy Council, to which the Medical Research Council makes an annual report. It was the tenth of these reports which was noticed in two recent issues.<sup>1</sup> In its report for 1919 the work done in the years 1914-19 was reviewed; in the new report is a review of the following five years 1920-24.

Development was very greatly affected by the war, which broke out shortly after the work was begun. The effect was both temporary and permanent. At the urgent request of the War Office, and with the whole-hearted approval of the nation, attention was at once turned to war problems. Some of them were peculiar to war conditions, but the majority were not, though their solution was made more urgent by war. As an example, the nature and treatment of shock may be taken. Shock was being produced with terrible frequency among the wounded, but it is a condition with which surgeons in peace have commonly to contend, and by which their best efforts in the treatment of patients after accidents and after operations are often defeated. It is significant that a most important contribution to this problem, probably the most important, was made by the late Sir William Bayliss, whose life had been devoted, not to surgery or medicine, but to general physiology. The success which attended the application of the principles and methods of scientific medicine to the medical war problems with which the public mind was then full had a very great, and as many were fain to believe a lasting, effect. One reason for being thus sanguine was that the public appreciation of the absolute necessity, if the war was to be won, of applying scientific methods to the production of engines of war and to counteracting the mechanical and technical devices of the enemy, was not altogether a new thing. An appreciation of the importance of science to industry had been growing steadily, though very slowly, in Great Britain before the war. The extraordinary development in Germany of certain industries immediately dependent on scientific research, and in particular that of dyestuffs, had greatly disturbed the complacency of British manufacturers. The fact that the demand for explosives was a call on that industry was, in a sense, fortunate. The public mind had also come to believe that it was already receiving great benefits from the application of scientific research to the prevention of disease and the preservation of health; it heard much of the extension of the principles of bacteriology and chemistry to these matters during the war, and the successful results came very nearly home to those who had relatives in the armies—and who had not? But though there was therefore reason to hope that the lessons taught would not be forgotten when the war organization for medical research was dissolved, there could be no certainty.

In the quinquennial survey published in 1919 it was said that on the whole most of the men best fitted for original inquiry were given the opportunity for it and were given pay from public funds. When the war organization was broken up many men marked by distinguished scientific achievement in the war were in danger of returning either to non-scientific work or to teaching posts so poorly paid that it would have been necessary for them to augment their stipends by doing professional work of a kind incompatible with serious further effort in research. If this was to be avoided it could only be by public subvention or private munificence; fortunately both proved available. The House of Commons, encouraged by the growth of public opinion, made further provision for the universities (now administered through the University Grants Committee); it increased the annual vote for the Medical Research Council, and made other votes for scientific, industrial, and agricultural research. The action of Parliament and the growth of opinion to which we have referred had two other effects: it stimulated the pious benefactor to give or leave money to supply the needs of scientific research, and notably those of medical research, and it made the lay authorities of many hospitals "newly alive to their responsibilities for aiding the advancement of knowledge, by which alone the work of mercy can be made effective." By fresh efforts they have acquired better support for the research departments, and money has been obtained from particular benefactors and from the general public by wide appeals for aid to investigations into particular forms of disease.

Differences of opinion have existed as to the relative values of attending to "specific medical problems" and to "supporting the advance of the general level of the sciences contributory to medicine." There is room for both, and the decision made in any particular case must depend upon its attendant circumstances. "In practice, however, it is found that to serve one of these objects is almost invariably to serve the other." There is a stage in the affairs of any science which, taken at the flood, leads to practical application. That stage had, by a happy coincidence, been reached in physiology when the war broke out. "The pressing need for bringing the best physiological knowledge to the aid of sailors, soldiers, and workers in their exposure to every kind of violence, hardship, and physical stress, brought the physiologists increasingly to their proper place within the field of preventive and curative medicine. . . . Fruit in practical usefulness is now being gathered from the long years of work which physicians were apt in the past to label as academic." Instances will occur to everyone; those mentioned in the report are the growing knowledge of hormones, which has given us adrenalin, pituitrin, and insulin; the studies of muscle function, almost notorious for its supposed uselessness to the practitioner, which have provided basic knowledge that now underlies many parts of the science and art of medicine and is removing empiricism from practical studies of the heart, of some nervous disorders, of physical training, and of industrial labour.

Faith must be put unreservedly in the scientific workers themselves; the best and earliest success can only come from their free and disinterested work in the pursuit of clues that may lie here and there. "Recent history shows that sterility is soon reached when scientific work is tied to particular practical issues and ceases to be a free search for knowledge as such." The university clinics set up on the unit system with the aid of the University Grants Committee are serving as the bridge, and the student of

<sup>1</sup> January 10th, p. 87; January 17th, p. 123.

to-day is learning a new spirit as he accompanies his teachers backwards and forwards across it. Most of the work which has made the real difference to the daily tasks of preventive and curative medicine in the last few years has come from the laboratories of physiology and biochemistry rather than from those of bacteriology and pathology, and, the report continues, "it is notable that the chief contributions coming from the new clinics have, as it happens, been in clinical studies of the functions of the heart, the regulation of the respiratory mechanisms of the body, and the excretory efficiency of the body, carried out by men trained to use the precise methods of physiology or biochemistry." If we are in any risk of exaggerating the importance of the laboratory we have the example of the great man whose death we have this week so deeply to deplore. The story of his life has proved that the same man may be both physiologist and clinical physician, bringing to his clinical problems all the refinements of the most recent physiological methods, and making them so plain, and so greatly simplifying their application, that the practitioner may be content to use the end-results at the bedside without himself going through the physiological mill Mackenzie so courageously entered.

The Medical Research Council has from the first acted in co-operation with the universities and the medical schools attached to the universities. Of the total resources of the Council at least £80,000 is expended annually at the universities in grants and other forms of assistance to selected workers. Such a worker may also receive pay from the university in respect of his teaching duties, but whether he does so or not the intellectual life and efficiency of the universities gain from the improved opportunities made for members of their staffs or from the addition of new workers in the research field. This policy has been consistently followed. The example of the Rockefeller Institute of New York in establishing a research hospital has not been imitated, because it was felt to have the grave disadvantages of extravagant cost and of wasteful divorce from the current system of medical education; instead, the policy of assisting research work in the medical schools has been pursued. But there are also more general problems in physiology, pharmacology, biochemistry, and other departments, and for their investigation the National Institute for Medical Research, with field laboratories associated with it, has been established and maintained. To this purpose £48,500 was applied last year. The remarkable success of the policy followed from the first is plain to everyone, and is, we will venture to add, in large measure due to the foresight and good judgment shown by Sir Walter Fletcher, who left his physiological work in Cambridge to accept the arduous office of secretary of the Medical Research Committee, which, when it was appropriately placed under the constitutional control of a committee of the Privy Council, was given the name of the Medical Research Council.

### THE OPIUM CONFERENCES AT GENEVA.

The opium conferences at Geneva have resulted in what has been described as a deadlock. The first conference consists of representatives of those countries which have opium-producing territories; the second is to consider the drug evil generally. Full details of the session of January 24th are not yet available, but it is reported that all the contentious questions which have perplexed the two conferences for the past two months have been shelved by reference to a joint committee of

sixteen members. Further plenary sittings of the conferences are postponed while this joint committee and the other committees proceed with their deliberations. It is added that the question whether the second conference is competent to deal with the American proposals of restriction of output to medical and scientific purposes and the suppression of opium smoking will not be discussed by the joint committee. These proposals, which seem to have been the occasion for the deadlock, are, according to Lord Cecil, to be raised later if necessary.

It had been hoped that the reinforcement of the British delegation by a Cabinet Minister might lead to some accommodation between the American proposals and those of Great Britain and India; this was desirable from every point of view. But, owing perhaps to insufficient information beforehand, Lord Cecil confessed himself to be involved in problems of greater difficulty than he had ever previously encountered at any international meeting, and he was betrayed into quoting figures as to the relative consumption of opium in the United States and in India which, at a subsequent meeting, he found it necessary to withdraw. We have previously<sup>1</sup> called attention to the uncertainty as to the competence of these conferences to amend the Hague Convention of 1912, to the difficulty of separating the question of opium smoking from other modes of abuse of these drugs, and to the need for more authoritative and skilled representation on behalf of Great Britain. It would indeed be lamentable if the agreement achieved at the Hague in 1912, 1913, and 1914, and the co-operation of nearly fifty Powers, already secured by the Dutch Government and the League of Nations, were now to be disturbed or further progress impeded by any sharp differences between the United States and this country. We sincerely trust that the joint committee of sixteen may find a way out of the present impasse. An initial mistake was probably made by the Assembly of the League in attempting to separate and refer to different conferences the question of opium smoking, its restriction or suppression, and that of the limitation of opium and coca products to medicinal and scientific purposes.

The whole problem has been greatly complicated by the enormous increase of opium cultivation in China after its practical extinction in 1917. The excess of the world's production of the drug has thereby been augmented, and smuggling in the Far East appears to be rampant. Unfounded assertions have been made to the effect that opium grown in India is responsible for drug addiction in America, but no one acquainted with the facts would need to be reassured by the emphatic repudiation of this assertion by Lord Olivier, the late Secretary of State for India, which appeared in the *Times* of January 16th.

It will be remembered that by Articles 6 and 7 of the International Opium Convention of 1912 it was enacted that "The Contracting Powers shall take measures for the gradual and effective suppression of the manufacture of, internal trade in, and use of prepared (i.e. smoking) opium, with due regard to the varying circumstances of each country concerned, unless regulations on the subject are already in existence"; and "The Contracting Powers shall prohibit the import and export of prepared opium; those Powers, however, which are not yet ready to prohibit immediately the export of prepared opium shall prohibit it as soon as possible." That was eleven years ago, and the American proposal that such imports shall

<sup>1</sup> BRITISH MEDICAL JOURNAL, December 6th, 1924, p. 1071, and January 10th, 1925, p. 83.

be reduced by 10 per cent. annually for ten years would not seem to be unduly expeditious. The counter-proposal put forward by the British Government is that opium smoking shall be abolished in British Far Eastern territories within fifteen years from such suppression of opium production in China as will preclude the drug being smuggled into those territories. This suggestion was stigmatized by Dr. Sze, the Chinese delegate, as "an attempt to escape from a definite obligation by subordinating it to a condition depending on the internal situation of another country," and Mr. Porter, the American delegate, could not admit that "any justification existed for even a temporary suspension of an obligation which rested upon every nation signatory to the Hague Convention."

In a recent paper read before the Royal Society of Tropical Medicine, Professor W. E. Dixon contended, in regard to smoking opium, that "this way of taking opium is by far the least objectionable, because the amount of alkaloid taken is so small." This view appears to conflict with what may be termed the official or administrative view in India, and if correct would seem to indicate that administration by way of ingestion or injection requires to be more seriously regarded and more effectively restricted than the smoking of opium. An interesting article in the *Times* of January 26th gives alarming figures of the extent of drug addiction, especially of heroin and cocaine, in the United States, and the enormous sums—estimated at over £40,000,000 a year—spent by these wretched addicts in procuring their supplies. It concludes by stating that the one certain "way of cutting off supplies is to limit the production of opium and of coca leaves in their countries of origin."

#### THE RIVERS MEMORIAL MEDAL.

THE council of the Royal Anthropological Institute recently determined to commemorate W. H. R. Rivers, M.D., F.R.S., who was its president at the time of his death, by founding a Rivers Medal, to be given annually for meritorious anthropological work done in the field. The first presentation of the medal took place at a meeting of the institute on January 27th, when the award was made to Dr. Alfred C. Haddon, F.R.S., reader in ethnology in the University of Cambridge, in recognition of his work in New Guinea, Torres Strait, and Borneo. The president of the institute, Professor C. G. Seligman, in presenting the medal (which has been struck by the Royal Mint and bears a bust of Dr. Rivers on the obverse), said that the names of W. H. R. Rivers and Alfred Cort Haddon were closely united in many ways. In honouring both on this occasion anthropologists were praising famous men and—for he might well carry the quotation further—"our fathers that begat us." There was no one who had added anything to the science of anthropology during the last fifteen years who was not indebted to a greater or less extent to one or other or both of these men. They worked together, and personally he had no doubt that neither of them would have achieved what he did had he worked alone. The medallist of that evening, upon whom this honour was most naturally and fittingly bestowed, was the first man to organize a really important anthropological expedition in the field. Every working anthropologist, directly or indirectly, was under obligation to the initiative behind that expedition to the Torres Strait a quarter of a century ago. The expedition proved to be the most important that had ever been organized, and it was a striking proof of Haddon's foresight that he determined that it should be not only an anthropological but a psychological expedition also,

and that half of its members should be trained psychologists. The opportunity of that expedition sent the subtle spirit of Rivers roving over that fascinating "no man's land" in which ethnology, psychology, genetics, sociology, and even medicine all interpenetrated. There he experimented to some extent, but more than anything else he speculated, and speculated brilliantly. Professor Seligman added that he had had the privilege of working with Rivers in the field, and he was able to see the very distinct connexion between the genealogical method which he hammered out in Torres Strait and the work he did for shell-shocked soldiers in the war. After speaking of the work of Dr. Haddon as author and teacher, he said it was with mingled respect and affection and sorrow and pride that he presented the Rivers medal for the first time. Dr. Haddon, in acknowledgement, said that he was very happy to have his name associated with that of his old friend and colleague. After his own first expedition of 1889 he gained an appreciation of the fact that psychology was an integral part of anthropology, and he determined that if he had opportunity in this direction he would not neglect it. When he was preparing for the Torres Strait expedition in 1893 he asked Rivers to join him, and Rivers refused, but later, finding that C. S. Myers and another of his best students were going, he changed his mind and asked to be allowed to join the party. The consequence was that for the first time natives were studied psychologically in their own country by trained psychologists with adequate apparatus.

#### SEX RATIO AND ITS CONTROL.

THE sex ratio is the relative numerical proportion of the sexes within the group. There must be a sex ratio at all times after sex is determined, but it is convenient to take conception, birth, and maturity as the three salient stages at which to consider the matter. These points are known as the primary, secondary, and tertiary sex ratios respectively. That usually considered is the secondary, which is measured by taking the number of males to a hundred females born. The primary is a demonstration of the sex-determining mechanism in operation, while the tertiary will provide an estimate of the post-natal survival of the two sexes. That this subject is of more than academic interest is demonstrated by Dr. F. A. E. Crew in a recent paper.<sup>1</sup> To the dairy or egg farmer it is of supreme importance that females should preponderate in his young stock, and the question is not without its human interest. It seems probable that sex is determined at the moment of fertilization. It has been shown that there exists a mechanism tending to preserve in each generation the ratio of 1 to 1, and that this mechanism is inherent in the gametes in virtue of the production in equal numbers by one sex (the female in birds, the male in amphibians and mammals) of male and female reproducing cells respectively. Thus in mammals the female is homogametic—that is, produces ova capable of becoming either male or female; while the male is heterogametic—that is, produces sperms which are either male or female, but which, once produced, must determine the sex of the resulting embryo. The sex ratio is theoretically 1 to 1, but in practice this is never the case. Dr. Crew gives some interesting figures. In man the ratio is 103 or 107 to 100; in horses and sheep the males are in the minority; while in dogs, pigs, and cattle there are from 118 to 107 males to every 100 females. In certain animals it has been found possible, by careful in-breeding, to produce a line in which either males or females predominate. There is evidence that in man the sex ratio is low for births resulting from conceptions at the seasons of greatest fecundity and high at the times of lowest birth rate. This difference is possibly related to the relative physiological condition of the parents at the time. Statistical evidence

<sup>1</sup> *Inter. Rev. of Sci. and Prac. of Agric.*, Rome, II, 1924, pp. 554-570.



sometimes supports, sometimes contradicts, the belief that the ratio is affected by the relative ages of the parents. The old notion that one ovary produces only male eggs and the other female, and that they function alternately, cannot be brought into harmony with established facts, and is not accepted by geneticists on present-day evidence. Unilateral ovariectomy does not result in the production of young of only one sex—in fact, the evidence all tends to show that in mammals the sperm always carries the sex-determining constituent. Experimentally, the sex ratio can be varied, but in nature the deviation from the theoretical number is probably most often due to a differential activity, susceptibility, or mortality on the part of the two kinds of sperm. An individual with the chromosome constitution of one sex (a determined male or female) may come to possess the functional sex equipment of the opposite. A hen, for example, may function as a cock, and when mated with a hen will provide offspring with a ratio of 1 to 2; whereas a female mammal functioning as a male will produce progeny exclusively female. The problem of the control of the sex ratio is that of the control of the differential production of the gametes by the heterogametic sex, of the control of the physical and physiological dimorphism of these, or of the production of complete sex reversal.

#### "RADIO" DIAGNOSIS.

THE exploitation of wireless as a means of medical charlatanism appears to be now in full swing in the United States. It is like the outburst of electric quacks that followed the discovery of magnetism and electricity. We are not surprised to learn, therefore, from the *Radio News* that a new method of "radio" diagnosis has been evolved: this is the neurophonometer of one G. D. Rogers, D.C., Ph.C., a chiropractor from Texas. Since these new American contraptions have a way of crossing the Atlantic rapidly, medical practitioners in this country may find it convenient to be acquainted beforehand with the name of any new marvel that may be brought to their notice by credulous patients. The *Radio News* describes the neurophonometer as a regular radio receiving set, fitted with a headphone and two additional leads. One of these leads is attached to the forehead of the patient, while the other is applied to various sites on the patient's back. The operator wears the headphone, and tunes in the set until he hears a maximum sound. By this means he can ascertain in ten minutes the "capacity and inductance of the brain," and can determine which spinal nerves show a divergence from this inductance. Chiropraxis, as some of our readers may remember, teaches that all disease is due to compression or interference with spinal nerves, and this machine enables the chiropractor to know the nerve on which he should start operations. This all sounds delightfully simple, but the *Radio News* treats the thing in a spirit of mocking disbelief. Thus it heads its article "The latest radio swindle"; it writes of "the crass nonsense of the technical verbiage"; and it uses unkind expressions such as "hokum," "humbug," "pure bunk," and "fool the public." Our contemporary mentions that it has had occasion before to issue warnings against the crop of unscrupulous exploiters who have sprung up to take advantage of the public interest in wireless, and it compares them with burglars, to the advantage of the latter. It concludes by offering to pay Rogers 1,000 dollars if he can convince a scientific committee that his claims are true. The trouble about "inventions" of this kind is that they are so numerous and so varied. Most of them die a speedy death, but a few catch on, and it is just as hard to say which one will hold the public fancy as it is to say which pantomime song will captivate the hearts of the London errand-boys.

<sup>1</sup> *Radio News*, December, 1924, p. 514.

#### UROSCOPY.

At a meeting of the Section of the History of Medicine of the Royal Society of Medicine, held on January 21st at the Wellcome Historical Medical Museum, Professor Gask read, on behalf of Mr. Alban Doran (who could not be present), a short communication on bed-bottles and glasses for uroscopy. Mr. Alban Doran's exhibit consisted of three bed-bottles, one for male and two for female patients. They were recently purchased in a curiosity shop in Oporto, Portugal, by Lieut.-Colonel Croft Lyons. Made of white flint glass, they appeared to be uroscopy glasses for the examination of urine, such as are figured in the works of Johannes de Ketham (a set from Leipzig University, 1400) and Fletcher (1641), and in the pictures of Gerard Dow and van den Bosch, painted in the seventeenth century, copies of which were exhibited. On close examination, however, and comparison with samples of both kinds of glasses in the Wellcome Museum, it became clear that these three bottles were made for the use of invalids in the recumbent position, and not for the preservation of urine for examination. They were known to English nurses as "bed-bottles," and were much in use down to the end of the eighteenth century in this country, and remained popular in Southern Europe until later times. The curator of the museum (Mr. C. J. S. Thompson) then showed and described a number of specimens of uroscopic glasses, dating from the fifteenth to the seventeenth centuries, now under his care. The antiquity and purpose of such glasses were discussed by Dr. J. D. Rolleston, President of the Section, Dr. Parkes Weber, and others. In mediæval art the physician is, in a very large proportion of cases, depicted in the act of inspecting urine in a glass. As Garrison says: "Uroscopy or water-casting was, in fact, a favourite theme of the painter and wood-engraver down to the beginning of the eighteenth century, and the accessories in these representations are nearly always the same. The urinal became the emblem of medical practice in the Middle Ages." We seem to remember that one of the Florentine churches is decorated with a carving in stone, by Giotto, showing a physician in the conventional attitude examining a specimen of urine, and attended by persons carrying the usual urine basket. The meeting concluded with a very interesting display of anatomical manikins exhibited by Mr. Thompson. The bed-bottles shown by Mr. Doran are preserved in the museum of the Royal College of Surgeons of England.

#### THE SCIENTIFIC OUTLOOK IN VENEREAL DISEASES.

IN his address from the chair of the Medical Society for the Study of Venereal Diseases, on January 23rd, Colonel L. W. Harrison said that many clinicians worked too much on empirical lines, content to follow a path recommended by some enterprising author without any clear idea of the principles which should govern their line of action. A new situation, created, for example, by some abnormal or anomalous symptom, drove them to a book, not to discover the underlying pathological processes, but to find out what the author did in a like situation. Often also clinicians and pathologists worked in water-tight compartments. Much of the criticism levelled at the reliability of the serum tests for syphilis sprang from a lack of knowledge on the part of many clinicians of the scientific principles and technique of the tests, and a consequent inability to understand the pathologist's point of view. For example, a reaction was often—too often, he thought—described by the pathologist as "weakly positive." A clinician who had not taken the trouble to understand the test, on receiving this report, and having a suspicion already that the patient was suffering from syphilis, might seize upon the word "positive" and use it as his justification for a diagnosis,

thereby inflicting not infrequently on a non-syphilitic patient a great amount of mental suffering. A little knowledge of the technique and a little conversation with the pathologist would prevent the clinician from accepting the report of a "weakly positive" reaction as justifying anything more than a suspicion, and would make it clear to him that between the plainly syphilitic reaction and the plainly negative there was a zone into which some non-syphilitic serum now and then wandered. The pathologist, in reporting a serum as "weakly positive," never intended to convey more than a doubt, and was not in the least surprised to find the same serum a week later giving a negative reaction. Colonel Harrison went on to remind the society of a few of the ways in which laboratory work had advanced the arts of diagnosis and treatment, and said that workers in venereal diseases owed more than those in most other branches of medicine to laboratory research. Arsenobenzol compounds were largely the product of pure research. The bismuth treatment owed its existence to a surmise by a chemist that from its chemical structure bismuth should be antispasmodic. The serum tests of syphilis were due to the laboratory, also the discovery of the micro-organisms of syphilis and gonorrhoea. Histologists had shown the toxic effects of antisyphilitic treatment, and biochemists had indicated some of the ways in which these toxic effects might be avoided. He spoke also of the value of a laboratory training to the clinician, and added that he felt keenly the debt which he himself owed to his training in laboratory methods of attacking problems. The laboratory worker had the advantage over the clinician that his observations could be more exact, he obtained his results much more quickly, and wrong processes of thinking were corrected sooner. The speaker illustrated his point from the attack made on the vaccine therapy of gonorrhoea; this attack had usually been based on the mere impression of an observer that cases treated with vaccines did no better than those treated without, but very often no attempt was made to discover exactly whether the cases treated with vaccines were under the same conditions as those not so treated, no exact computation was made of the results with regard to complications or the period of infectivity, and no thought was given to the possibility of the particular vaccine which was employed being an indifferent immunizer. The observer, in fact, generalized from his mere impression that vaccines were useless in the treatment of gonorrhoea. Certainly there would be every advantage in the closer study by the clinician of the scientific principles involved in the diagnosis and treatment of venereal diseases. The clinician who viewed clinical phenomena from the pathological standpoint developed ideas as to methods which might combat the pathological process. These ideas he took to the pathologist, and together they worked out a line of research which was more likely to be fruitful than if the clinician had simply, in some haphazard way, put his serums to the test. He pleaded that the clinician and the pathologist should each learn something of the other's work, and endeavour to understand its possibilities and limitations.

### "GLÜCKSGEFÜHL."

The *Glücksgefühl*, which is the subject of a monograph by Dr. Rümke of Amsterdam,<sup>1</sup> is difficult of definition. It is not the ordinary sensations of joy, pleasure, or happiness that are dependent on external excitation, nor is it the sense of physical well-being. It is essentially psychic, and arises unexpectedly and spontaneously from the innermost psyche of the individual who experiences it; it permeates his whole being, and colours all animate and inanimate objects within his horizon. It is, in fact, much of the same nature as that which Wordsworth describes in his "Tutima-

tions of Immortality": "The earth and every common sight" seems "apparelled in celestial light." This peculiar sensation of bliss is analysed by Dr. Rümke from manifestations of it amongst psychopathic and neurological patients, in the aura of epileptics, and in persons under the influence of such drugs as opium and cannabis-indica. His object is to give prominence to his method of analysing phenomena in psychic conditions. He has examined the medical histories of 5,000 cases in the Valerius Psychiatric and Neurological Clinic of Amsterdam. In only nine, however, did he find material suitable for his investigations. He dissects these cases in detail, recording first the phenomena in each case, and in later pages of the book the family and medical history of the patient. He also describes and analyses nine cases reported by other writers as occurring in conditions of neurasthenia, epilepsy, mental disease, and opium intoxication, contrasting them with the cases from the Valerius Clinic. The monograph chiefly consists of a meticulous examination of the manifestations of *Glücksgefühl* in all these cases and in all their aspects and bearings. A wide German and French literature comes within the scope of Dr. Rümke's investigations. It includes, for example, the metaphysical and sociological writings of Schopenhauer and Nietzsche. The only works in English referred to are McDougall's *Introduction to Social Psychology* and James's *Varieties of Religious Experience*. In his concluding remarks Dr. Rümke emphasizes the value and possible future development of a study of the phenomena from a prognostic point of view, but states that clinically, etiologically, and therapeutically his method leads to nothing; and, indeed, to use his own expression, might appear to be a process of "splitting hairs." But patients who have experienced *Glücksgefühl* may, when the phenomena present certain favourable characteristics, recover their sanity and remain sane for years, while those with unfavourable characteristics do not. It is in the differentiation between the favourable and unfavourable manifestations that Dr. Rümke believes his method of investigating phenomena is of value. When its limitations are recognized it becomes, therefore, an auxiliary to other clinical methods in psychiatry because of its value in prognosis.

### JOSEPH ROLLET.

On the occasion of the celebration of the centenary of Joseph Rollet, who was born on November 24th, 1824,<sup>1</sup> Dr. L. Bonnet, in a special issue of the *Lyon Médical* published on December 7th, 1924, recalls that Rollet had originally intended to devote himself to surgery, but that on his appointment as surgeon-major to the Antiquaille Hospital at Lyons he determined to concentrate his attention on venereal disease. The introduction to his book published in 1861, entitled *Recherches cliniques et expérimentales sur la syphilis, le chancre simple et la blennorrhagie*, is printed in the same number of the journal. In it Rollet pointed out that the historical method employed by Astruc and the experimental method of inoculation introduced by John Hunter are not the only guides in the investigation of venereal disease, but may be compared to roundabout paths for scaling a mountain inaccessible by a direct route. In the majority of cases, he maintains, there is nothing to take the place of the good old method of clinical observation, whether in general medicine or in the domain of venereal diseases. At the time of Rollet's appointment to the Antiquaille Hospital in 1855, almost as much confusion reigned in the nosology of venereal disease as in the subject of sore throat and continued fever before the time of Bretonneau.<sup>2</sup> Rollet's principal achievement is to have established once and for all the absolute independence of the three venereal

<sup>1</sup> Zur Phänomenologie und Klinik des Glücksgefühls. By Dr. H. C. Rümke. Berlin: Julius Springer. 1924. (Sup. roy. 8vo, pp. 128. 1.45 dols.)

<sup>1</sup> See BRITISH MEDICAL JOURNAL, November 22nd, 1924, p. 581.

<sup>2</sup> See BRITISH MEDICAL JOURNAL, November 1st, 1924, p. 524.

diseases. He showed that those cases in which an apparently soft chancre was followed by constitutional syphilis there was not a mysterious transformation of one virus into another, but an association of the two viruses. Rollet's next most important work was the demonstration of the contagious character of the lesions of secondary syphilis, for he held that it is by this means that the disease is commonly transmitted. He was thus able to recognize and describe several new varieties of chancre caused by these lesions, such as mammary chancre, buccal and cephalic chancre, and the chancre of vaccinal syphilis. Rollet's other contributions to our knowledge of venereal diseases consisted in his demonstration of the syphilitic nature of that form of sarcocelo known as fungus testis, his work on gonorrhoeal rheumatism, and the early and masked forms of urethral stricture.

## ROYAL COMMISSION ON LUNACY AND MENTAL DISORDER.

(Continued from page 172.)

The Royal Commission resumed its sittings on January 26th, the Right Hon. H. P. MACMILLAN, K.C., presiding.

### *Allegations of Wrongful Detention.*

The case of Mr. H. W. Holman, who at the previous sitting had alleged that he had been wrongfully committed as a lunatic to a mental hospital, was further investigated. Mr. H. C. Dickens, K.C. (instructed by the Medical Defence Union), appeared on behalf of five medical men who had been mentioned in Mr. Holman's evidence, and the medical witnesses were cross-examined by Mr. W. Stewart, secretary of the National Society for Lunacy Reform.

The Chairman at the outset said that Mr. Holman had addressed a most improper letter to the Commissioners reflecting on a medical witness. A court of law would take serious notice of such communications. He added that the Commission only desired to know why it was thought proper in Mr. Holman's case to issue an urgency order instead of the more deliberate reception order, and also to learn something of the circumstances of the certification, Mr. Holman having alleged that his examination before certification was insufficient and careless.

Sir Maurice Craig said that he first saw Mr. Holman in January, 1915, in consultation with his own doctor. He was stated to have been for two years very excitable and talkative, and once to have tried to throw himself out of an hotel window. He had delusions also that he was liable to arrest as a spy. He wandered from one subject to another in conversation, his pupils did not react well to light, and his reflexes were unequal. Among other signs was something which to him indicated other tests the condition from which the patient was suffering. As to the reason for an urgency order, the patient was at that time at the house of a doctor (Dr. Dempster), and there was no power of restraint. Mr. Holman threatened to leave, and the likelihood was that had he done so he would have got into the hands of the police, as he was not then in a fit state to take care of himself. The witness had tried to avoid sending the patient to a mental hospital by getting him to sign an undertaking to carry out certain promises, but this was broken. He asked Dr. Percy Smith to see the patient, and that gentleman had a long interview with him alone. What he (Sir Maurice) saw and knew of the patient certainly justified his detention.

After Mr. Stewart's cross-examination of the witness had proceeded for some little time, the Chairman expressed regret that the opportunities which Mr. Stewart was enjoying in cross-examining the witness were being largely wasted by irrelevant issues, apart from the loss of valuable time to many people concerned.

Mr. C. R. Steel, a solicitor, spoke to visiting Mr. Holman while he was detained at Moorcroft and executing a codicil revoking his will. He did not think Mr. Holman was of unsound mind, but his opinion against that of the doctors.

Dr. W. H. B. Stoddart said that he first came in contact with Mr. Holman in 1916, and he produced the notes he made of his condition at the time, taken at the home of Dr. Dempster. The question was whether he was in a condition to go unaccompanied to his home at Brighton, as he intended doing, and the witness considered that he should not go anywhere without proper supervision and control. The urgency order was rendered necessary by the patient's determination to leave and the fact that there then existed no power to detain him. The witness was cross-examined as to his recently modified views in favour of Freudism, and he admitted somewhat different angle. But this did not change his opinions on the question whether a given patient was certifiable. He added that there were impressions derived from a long interview with a patient which could not be adequately represented on the form of a certificate. He denied that he certified because he was told to do so; no doctor would do that. He was asked for his opinion and gave it very firmly.

On the following day, January 27th, the case of Mr. Holman was further investigated.

Dr. Percy Smith, examined by Mr. Dickens, said that he saw Mr. Holman in December, 1916, and from information received from three doctors and his own examination of the patient he came to the conclusion that he was insane and unfit to remain in the doctor's house, where he then was. In cross-examination by Mr. Stewart, the witness said that he could not tell how many patients he certified during 1916, but the patients he saw and did not certify were far more numerous than those he certified. He would do anything in his power to avoid certification so long as it was safe. Before seeing the patient he had a long talk with Sir Maurice Craig. He did not warn the patient that anything he said might be used as material to justify his detention; to do so in many cases would be extremely detrimental.

Mr. Stewart at this point read a judgement of Lord Justice Coleridge in 1885, in which he spoke of "the slimy stuff on which people are sometimes incarcerated in lunatic asylums." The Chairman said that that was previous to the Act of 1890, in which certain reforms were embodied, and what the Commission was now considering was whether the existing code was sufficient. Matters before 1890 were based on a very different régime. Dr. Percy Smith remarked that he was medical superintendent at Bethlem when the Act of 1890 was passed, and well remembered that the Act trebled all the certificates and reports a medical superintendent had to make with regard to patients of the private class. Mr. Stewart maintained that the Act of 1890 was a consolidating Act, and, save in one particular, brought about no alteration in procedure.

Dr. Percy Smith, in answer to a further question, whether, in the light of what was now known about Mr. Holman's case, he wished to express any regret that he had certified the patient, said that he had no regret at all. The Chairman said that if Mr. Stewart proceeded along such a line of cross-examination he would feel called upon to read communications—very serious communications—which had been received from Mr. Holman subsequent to his evidence, including a telegram received that morning.

Dr. Porter Phillips, medical superintendent of Bethlem Hospital, described how he was asked by Sir Maurice Craig to see the patient, and found him in a restless, excited, and talkative condition. He had great difficulty in questioning him because of his garrulity. He noticed unequal pupils, exaggerated reflexes, and a very tremulous condition. He came to the conclusion that Mr. Holman was of unsound mind. Mr. Holman took a fancy to the witness, and expressed his willingness to go with him to a home he had described with a view to treatment; and after consultation with Dr. Dempster, in whose house he was, it was agreed that advantage should be taken of the opportunity afforded by the patient's willingness to be removed, and the witness himself drove him to Moorcroft and left him there. He strongly denied that there was anything in the nature of a "trap."

After further evidence the Chairman announced that the Commission had heard sufficient of the case of Mr. Holman, and there was no need to call Dr. R. H. Cole, who was present and ready to give evidence.

### *National Society for Lunacy Reform.*

Evidence was then taken from Mr. Montgomery Parker, chairman of the National Society for Lunacy Reform.

Mr. Parker submitted, on behalf of his society, that there should be an immediate provision of voluntary hostels for early treatment supported by subsidy from the State and controlled by the Minister of Health through local health authorities, with no association with the Board of Control or any other board or department of State control of lunacy administration. There should be early adaptation of hospital wards to deal with incipient mental cases or temporary cases arising from illnesses. There should also be adaptation of infirmary wards to permit of observation. On the legal side there should be the methods of certification and the issue of the limitation of all unnecessary distinctions between private and pauper patients; no special fees to be payable to permanent officers functioning prior to certification; provisions to secure that the judicial authority should in all matters act judicially and not in an administrative capacity; adequate representation of the patient at all stages, and some further definition of the terms "lunatic" and "of unsound mind." With regard to institutional treatment the society submitted that it was desirable to establish a new and more representative central authority, with definite powers of direction, acting through assistant district commissioners, who should be trained administrators and not medical men. It laid stress on the urgent necessity of applying generally improved methods of curative treatment and improving the general environment of patients, of limiting where possible the numbers permitted in any one institution, of increasing the medical and nursing staff to permit of proper treatment, and of strengthening existing visiting committees with such provisions as would ensure their functioning, of a statutory provision that all institutions should appoint a body of authorized visitors independent of lunacy administration and licensed as in the case of prison visitors, the introduction of the judicial authority within asylums as an additional safeguard to the patients and the right of independent medical access to patients. There should also, in the society's opinion, be some provision that the senior medical officer should not be charged with responsibility for administrative duties. Other points set out were that there should be no punishment under the guise of "curative treatment" that there should be further provision to ensure that the existing methods of discharge were freely utilized in practice, and that after discharge there should be extended opportunity for after-treatment.

## England and Wales.

### NOTTINGHAM GENERAL HOSPITAL.

Mr. W. G. PLAYER of Nottingham, a past-president of the Nottingham General Hospital, and at present vice-chairman of the Hospital Board and chairman of the Extension Committee, has promised a subscription of £50,000 towards the capital sum required for the extension of this institution. Mr. Player had previously given £10,000 to the War Memorial Extension Fund of the hospital, and also endowed five beds at the cost of £5,000. The present subscription follows the lines of a scheme devised by the National Council of Social Service, under which charities are exempt from income tax in respect of income applied to charitable purposes. It is possible, therefore, that Mr. Player's subscription will ultimately result in as much as £70,000 accruing to the hospital. Great advances have been made since 1920; the income of the hospital has considerably increased, the overdraft at the bank has been extinguished, and the new nurses' home, erected as a war memorial, was opened by the Prince of Wales in 1923. We gave an account of this building on August 25th, 1923 (p. 339). In consequence of Mr. Player's gift it may now be possible to provide for the completion of the Ropewalk Wing of the hospital, and also, it is hoped, for the erection subsequently of the much needed wing for accident cases. The new out-patients' department, now being built, will cost about £80,000, and will contain a large central hall for out-patients, consulting rooms, an operating theatre, forty beds for throat, nose, and ear patients, orthopaedic wards, and x-ray and massage departments. It will be connected with the main hospital building by a subway. The estimated annual cost for maintenance of the new department will be approximately £5,000. As soon as it has been completed it is intended to build a new wing of the hospital containing 120 beds, which will increase the cost of maintenance by £10,000. During 1924 the Nottingham General Hospital received from the Hospital Saturday Fund over £24,000. Since 1919 the Hospital Saturday Fund has increased its contributions by £16,000, and the annual subscriptions have increased by £6,000. The total maintenance cost has risen from £20,000 per annum, prior to the war, to approximately £50,000 for 1924. The 235 beds available in 1913 have increased to 350. Some 5,000 in-patients are admitted annually, and 27,000 out-patients receive treatment. Accident and emergency cases have increased during the past ten years by more than 100 per cent. The oldest portion of the hospital was erected in 1782, and contains 44 beds. The hospital, which serves an area containing a population of more than half a million, will no doubt be visited by many of our readers when the British Medical Association meets at Nottingham in 1926.

### PROMOTION OF MEDICAL STAFF AT LONDON MENTAL HOSPITALS.

In 1919 the London County Council agreed to the principle of granting study leave to members of the medical staff at the mental hospitals, and the Mental Hospitals Committee also at that time laid it down that in making appointments to positions in the medical service special consideration should be given to candidates holding degrees in psychological medicine. The committee is now recommending to the Council that the promotion of members of the medical staff, other than those who were in the service on July 8th, 1919, to positions higher than that of fifth assistant medical officer, should be conditional upon the officer promoted possessing a diploma or degree in psychological medicine or obtaining such a diploma or degree within a limit of time to be specified by the committee.

### COMBE PARK ORTHOPAEDIC HOSPITAL, BATH.

Descriptions of the Combe Park Children's Orthopaedic Hospital at Bath were given in our issues of May 24th and July 26th, 1924. At a recent meeting of the General Committee of the hospital representatives of the Wiltshire County Council and clinics attended to discuss a scheme whereby arrangements could be made for the treatment of the crippled children of Wiltshire. The Marquess of Bath

presided, and, as the result of discussion, it was agreed to recommend that a board of governors be formed, including representatives of the Wiltshire County Council and local clinics. Since this meeting was held Somersetshire has also decided to take part in the scheme, so that eventually there will be one central orthopaedic hospital for the whole of Bath, Somerset, and Wilts, with clinics for the after-care of those patients who have been treated at the central hospital. The increased accommodation thus necessitated is receiving attention.

### THE INTERNATIONAL HEALTH CONGRESS AT WEMBLEY.

We gave an account in our issue of June 7th, 1924 (p. 1013), of the first International Health Conference organized by the People's League of Health at Wembley last May. The Conference dealt with "the latest knowledge regarding the causes, treatment, and prevention of disease," and a full report has now been published. The text of the various papers read, and of the discussion, will enable those who were present to recall the valuable information that was so lucidly set before them. The subjects dealt with were: housing and house sanitation; food, air, light, and water; some overseas and other diseases; mental hygiene; industrial hygiene; and legislation desirable with regard to health matters. Sir Clifford Allbutt contributes a foreword in which he indicates the value of the work accomplished by the People's League of Health. With regard to the evils characteristic of our civilization, he suggests that it is satisfactory to learn from the Conference that our embarrassment arises less from the number of arrears to be made up than from the continual rise in our standards. The report is published by the People's League of Health, and is obtainable at its headquarters, 12, Stratford Place, W.1, price 7s. 6d.

The League has arranged a course of nine lectures on diet, to be given during the present term at the house of the Medical Society of London, 11, Chandos Street, Cavendish Square, W.1, at 6 p.m. on each day. The first was given on Wednesday last by Dr. Leonard Hill, F.R.S., on the nature and purpose of food; the second, by Lieut.-Colonel R. McCarrison, C.I.E., M.D., on the food of mankind treated historically and geographically, will be given on Wednesday, February 4th. On the three following Wednesdays, Professor R. H. A. Plimmer, D.Sc., will lecture on diseases caused by badly chosen diets.

## Scotland.

### EDINBURGH ALUMNI ASSOCIATION.

A MEETING was held in the McKean Hall, Edinburgh University, on January 23rd in connexion with the recently formed Edinburgh University Alumni Association. Sir Harold Stiles, president of the association, occupied the chair, and the Earl of Balfour, K.G., O.M., Chancellor of the University, was the principal speaker. The chairman at the outset stated that the suggestion for the formation of an Alumni Association had been made about a year ago in consequence of the great benefits which had resulted from the founding of similar associations in America. Up to the present time 842 graduates had joined the association, and it had received subscriptions to the amount of £1,075. The latest gift, received that day, had been one of £1,000 from Dr. Charles M. Cooper (San Francisco), of which the yearly interest was to be paid to some assistant in the University Medical Department in order that he might make himself familiar with different lines of medical research and act as practical adviser to young graduates and undergraduates who desired to do some research work. Lord Balfour said that he rejoiced to have an opportunity to address representatives of the University, with which he was so closely connected on a subject which he was convinced was going to have a growing success. It seemed to him that they were too often inclined to consider a university as merely a mechanism for imparting a certain amount of learning and for giving an equipment for future success in life to the student. That, no doubt, was its primary object and one of the greatest purposes a university could fulfil. If it did not fulfil that object, certainly it would not deserve the name of a great

centre of education; but he thought that another general proposition ought to be admitted—that a man who extracted only this amount from his university training was one of the most unfortunate children of that university. A university ought to give much more, and it habitually gave much more, than those bare accomplishments which could be tested by examinations. Anyone who had been through a university would find that after all it was the human intercourse that accompanied instruction, the intercourse between pupil and teacher and the intercourse, at least as much, between fellow pupils, the sensations of union, patriotism, and love of the community of which for some years they were members, that combined, and ought to combine, into the feeling inseparable from each man's view of his own career, and inseparable from love of country and love of home, to help him to serve all the causes to which in the course of his life he might find himself attached. Could it be doubted that if an institution like that, which had had the most admirable effects in the United States, were introduced in Edinburgh, it would be doing a great work for the present and future of the University? Members of the University of Edinburgh were drawn from all parts of the globe for their education, and again scattered to all parts of the world, and carried with them some fragments of those higher things that they had learned within its walls. If an organism were given to these men scattered all over the habitable globe—a living organism which would be a bond of union between those who had left the University and also between them and those who were still either students or teachers carrying on the work of the University—it would be a great advantage to those institutions in their country to which the higher life of the country owed a great debt. That was the main object of the society which had been founded. Another object was the money side of the question; no large sums were to be asked of any member of the society. In fact, the sum asked for was deliberately kept within the resources of those whose means were very small, although he hoped that the obligatory sum would in many cases be exceeded, and that those who were prosperous among the alumni would not be slow to remember the source from which, without doubt, they obtained much of the strength, knowledge, and training to which their success was due. He laid stress on this because he was convinced that even now the general public of this country did not fully appreciate the needs from which the universities inevitably suffered. The cost of teaching had greatly increased, and the cost of research had been added to it in every university worthy of the name. Literature, mathematics, history, philosophy, and theology could be taught without any great cost of apparatus, although it was necessary now to have buildings adequate to the dignity and importance of the work which the university had to accomplish, and such buildings could not easily or cheaply be obtained. When, however, they turned to the experimental sciences and to medicine the cost of teaching was found to be inevitably growing, and, so far as he could see, was inevitably going to grow. These things could not be done cheaply, and without pecuniary assistance modern research and teaching could not be effectively carried on. So much change had taken place in science that even the language used by physicists in 1925 had no resemblance to the language used by physicists thirty years ago. The progress had been revolutionary, and he believed that those who could speak with more authority than himself in regard to medicine would say that, though the changes had not been so revolutionary as the changes in physics, they had nevertheless been of a similar character, and from the mere fact of their being so, they had created an immense volume of merely material assistance. He confessed that he envied their friends on the other side of the Atlantic, who appeared to have an unlimited number of millionaires, prepared to spend their millions, and to come forward time after time to help the good cause of scientific research. He wanted everyone who heard him to feel that this monetary task could not be wholly accomplished either from existing endowments of universities, contributions of Governments, the help of local authorities, or by students' fees. The University had the right to ask those who were not millionaires, and especially those who in their time had

gained all that the University had to give them, to contribute according to their means to the task whose outlines he had endeavoured to draw. Sir Alfred Ewing, Principal of the University, in moving a vote of thanks to Lord Balfour, said it appeared to be increasingly the case that the main concern of a principal of a university was with finance—the getting of money and the spending, or rather the not spending, of it. In his pessimistic moments he thought of the University as a big balance sheet, or as a sheet which would never balance, and it was a relief to hear Lord Balfour say that after all the University was an organism with a soul.

#### REDUCTION OF SCARLET FEVER.

A circular has been issued by Dr. W. Robertson, M.O.H. for Edinburgh, to practitioners in that city, pointing out that the cost of treating cases of scarlet fever last year in the Municipal Hospital was £20,000. Of the cases notified 92 per cent. have received institution treatment. He suggests that the infection of scarlet fever can be controlled with comparative ease, if contact between infected and non-infected persons is avoided, and if inoculation and swabbing (Milne treatment method) be adopted as a preventive. As a result of his previous experience in Leith, he maintains that when this form of treatment was employed the numbers admitted to hospital fell from 83 per cent. to 65 per cent., and he tells of a series of 200 consecutive cases of scarlet fever treated in their own homes in Leith, the largest proportion of which were working men's dwellings, and among which not a single instance of spread of infection took place among other members of the different families involved. The instructions given for this form of home treatment are to swab the throat with carbolyzed glycerin (1 in 10) every two hours for the first twenty-four hours, and for the first four days to anoint the whole surface of the body twice daily with ordinary eucalyptus oil (undiluted); thereafter the anointing is continued once daily for the ensuing ten days.

#### HUMAN NATURE THROUGH THE DOCTOR'S EYES.

A popular lecture with this title was delivered on January 6th, under the auspices of the Philosophical Institution, in the United Free Assembly Hall, Edinburgh, by Dr. Habberton Lulham; the chair was occupied by Lord Sands. Dr. Lulham spoke of the attitude of the general public towards the doctor, enlivening his discourse with amusing anecdotes. He said that if a doctor were to allow himself to be emotionally affected by all the distressing things he saw, he would soon become a nervous wreck. What he had to do was to convert pity into help. The regrettable thing about cases in which nerves were not under control was that nowadays every little condition of nervousness, lassitude, or self-indulgence in its many forms was known as neurasthenia. As a means of getting rid of slight disorders, he firmly believed in making people laugh at themselves. It might be rather a mirthless laugh to start with, but if they would persevere they would find the method had a wonderful effect. He did not believe that nerves out of control were due so much to the rush and hurry of modern life as they were to the increased ease and luxury which people now demanded. He was afraid people did not stand adverse circumstances nearly so well as they used to do. The reason was that they did not make themselves stand the minor troubles enough, without running off for sedatives. Whatever else might be wrong with neurasthenics, there was too much ego in their cosmos.

#### EDINBURGH EXPERIMENT IN THE HOUSING PROBLEM.

An inspection was made on January 13th by the Lord Provost, Sir William Sleigh, and other members of the Edinburgh Town Council of a group of new houses that are being erected on the north side of Edinburgh in Clark Avenue. These constitute a housing scheme on community lines, the City Corporation acquiring and preparing a site for the houses, finding the money, partly from the Government subsidy, to pay the cost of their erection, and giving possession to the tenants. The latter are required to contribute an initial sum of £100 and thereafter to make annual payments of about £30, representing interest and



instalments of capital, for a period of twenty years. After this the house becomes the tenant's absolute property and the title-deeds are handed over to him. By this arrangement the municipality assumes responsibility until the payments are completed, and thus a considerable amount of expenditure in respect of titles, bonds, and capital is saved. The houses consist of five rooms with kitchen and bathroom, and cost, including the price and preparation of site, about £650. Of this amount, £75 is contributed by the Government, £50 by the Corporation, and the remainder through deferred payments by the tenant and ultimate proprietor.

## NEEDS OF SCOTTISH HOSPITALS.

(Continued from page 190.)

THE Committee appointed by the Scottish Board of Health to inquire into the inadequacy of the hospital service in Scotland resumed its sittings on January 20th at the offices of the Scottish Board of Health, under the chairmanship of Lord MACKENZIE.

Mr. JAMES THOMSON gave evidence on behalf of the Glasgow Royal Maternity and Women's Hospital. He said that in the Glasgow Royal Maternity Hospital there were 114 beds, and they had had in the hospital as many as 170 cases at one time, while the average for the last year was 135. They had not refused any cases, but the hospital was certainly overcrowded. A great many more young mothers were thrown into hospital than would otherwise have been the case on account of the housing shortage. They hoped to make better provision by an addition which would add about forty or fifty beds. He thought that the normal cases might be dealt with through the establishment of another hospital in the town, and the maternity hospital might occupy more or less a consultant position. He did not think that patients should pay at the Maternity Hospital, for paying patients could be better treated in small homes. The Glasgow Royal Maternity Hospital was supported voluntarily, and workers' contributions amounted last year to £3,086. If the State chose to give the hospital a payment per case, the managers would have no objection to receiving it.

Professor JOHN GLAISTER (Glasgow), who for twenty-four years has been on the board of the Glasgow Royal Infirmary, next gave evidence. He said that at the present time and in view of existing legislation no provision required to be made for the well-to-do classes nor for those who were designated under the Poor Law the poorer classes. The chief demand for hospital facilities came from the so-called working class, and one of the chief reasons for this was the lessened reluctance of persons to enter hospitals. During his fifty years of association with medicine, as a student and practitioner, he had seen the desire for hospital treatment, and especially for surgical operations, develop greatly. Accommodation in Glasgow fell short of the desires and needs of claimants for treatment, and if a large new general hospital should be established its beds would be quickly filled. The present number of beds at the disposal of persons requiring urgent treatment nearly met the needs of the city, and he thought that the pressure in the ordinary voluntary hospitals could be relieved by the establishment of auxiliary hospitals and by the greater utilization of convalescent homes connected with the large infirmaries. A scheme had been in contemplation for the institution of an auxiliary hospital as a private venture at a cost of about £80,000, and an option had been obtained for a site not more than four or five miles from the city, but it was proposed to wait meantime and see what would develop. He thought that the consensus of opinion in regard to the Royal Infirmary was against the policy of admitting paying patients into the wards. During 1923, as in previous years, the bed accommodation of the Royal Infirmary had been taxed to its fullest, and the number of patients had always exceeded the number fixed for healthiest occupancy. There was no ground left within the present infirmary boundaries for further extension. He thought that more provision than hitherto should be provided by local authorities of large populous centres for cases of surgical tuberculosis, and these, if possible, should be sent to hospitals situated in a country area. He thought also that employers and approved societies might undertake some work with special reference to occupational disabilities, and an institution fitted with mechano-therapeutic appliances, electric baths, radiant heat applicators, and the like would prove a great help in expediting the recovery of workers who had received injuries in the course of their employment. With regard to Poor Law hospitals, he thought that the time had come to utilize whenever possible the accommodation available in hospitals atill under the Poor Law for the needs of the general community. He could not see any objection to grants being given from State funds towards helping voluntary hospitals in difficulties, provided that the State would demand only such supervision of the accounts as would enable it to see that money so given was properly expended, and he did not think that the State should ask for representation on the boards of such institutions. He thought also that, seeing the voluntary hospitals admitted for treatment insurance patients, voluntary contributions from insurance funds would be welcomed from approved societies; and there could not be a better way of expending profits, intended by the Insurance Acts to provide additional benefits to the insured, than by annual contributions to hospitals, graduated in amount according to the benefits received by members of these societies from hospital treatment. He believed strongly in voluntary effort in the support of

general hospitals, and the working classes of the West of Scotland had, as the result of systematized and continuous appeals, responded well in contributions. With regard to the amount of hospital accommodation required in Glasgow, he said that it would be necessary to depart from the old standard of one bed per 1,000, as it seemed to him that one bed in 600 or 800 was the proper estimate for a population like that of Glasgow. He believed that they still had untapped sources for obtaining voluntary contributions.

Sheriff G. L. CROLE, K.C., one of the managers of the Edinburgh Royal Infirmary, said that as regarded that hospital the number on the waiting lists for last year gave an average of 1,812 cases, although 45 per cent. of these were cases on the list of the ear, nose, and throat department awaiting the removal of adenoids and tonsils. Even with this deduction, the numbers remained higher than the managers cared to see, though it should be kept in mind that the Royal Infirmary of Edinburgh might be regarded as a national rather than a local hospital, since practically 50 per cent. of the patients in the wards came from outside the city. With regard to auxiliary hospitals, the Royal Infirmary was fortunate in having provided for it the Astley-Ainslie Institution, a first-class hospital of this type. At present only 34 beds were available, though the accommodation would increase. With regard to the other type of auxiliary hospital, where the simple forms of operation and treatment for a district could be carried out, the position presented difficulties, professional staffing being the chief of these. This, however, could be arranged by having a competent visiting staff. He was of opinion that it would be disastrous to disturb the system on which all the large hospitals had hitherto been maintained. The opportunity afforded to all classes of the community of aiding in the work by contributing according to their means must be regarded as a national asset. When he joined the board of this hospital fifteen years ago the employees in public works contributed only £2,345, while for the past year the amount that was so subscribed totalled £37,950. He did not think that any system of State aid would work satisfactorily alongside the voluntary system so far as Scotland was concerned. The time to ask a man for contributions was while he was well and working, not when he was ill with income reduced. Continuing, he said there was no doubt that the provision for maternity cases in Edinburgh was not adequate, and he thought a new maternity hospital was urgently required, while the old maternity hospital was conveniently situated for being a child welfare centre. He thought that the new maternity hospital should be in close proximity to the Infirmary. He thought that Craigleith Poorhouse might be transferred to the public health authority as a hospital auxiliary to the Infirmary. This was taken over it would, with the provision of ample accommodation for all sick.

Mr. A. K. RODGER and Mr. GEORGE LAIDLAW jointly gave evidence on behalf of the Victoria Infirmary, Glasgow. They said that while this Infirmary had 260 beds there was a waiting list of 333, but they contemplated building an addition to the Infirmary which would pass through about 1,500 patients each year. It was suggested that one of the ways in which the State should contribute towards voluntary hospitals would be to allow sums given voluntarily to hospitals to be free from income tax and death duties.

On January 21st the Committee took evidence mainly in relation to hospitals designed for the treatment of children. A statement had been prepared by Mr. Robert Barclay, honorary secretary and one of the directors of the Royal Hospital for Sick Children at Glasgow, which was described as the largest hospital devoted to children in the United Kingdom.

Mr. BARCLAY stated that there were now three hospitals in Scotland—at Glasgow, Edinburgh, and Aberdeen—entirely devoted to children. The Royal Hospital for Sick Children in Glasgow dealt with children up to the age of 15 years, and had accommodation for 275 patients. Extensions and additions were in progress which would make up the available beds to 350, and would provide a new out-patient department, an orthopaedic department, an enlarged electrical department, a milk department, and a department for the manufacture of medical and surgical appliances. The accommodation at the convalescent branch was to be doubled. The cost of these schemes was put at over £100,000, and an appeal, which had been issued four months ago, had resulted in the whole sum being subscribed with the exception of a few thousand pounds. The importance of the housing question in relation to children was adverted to, and this witness considered that improvement in this direction would reduce the supply of patients. The continuation of the voluntary principle was advocated, and he thought that, subject to a little rivalry, which was healthy, it was right that the large hospitals in a city should co-operate with one another. With regard to State grants, he thought that these should be apportioned between England and Scotland according to population, and not according to financial strain; and he thought that additional State aid might be given in respect of teaching and research work, which was national and not local in character; and which would not compromise the voluntary principle. He thought that before further hospital accommodation was required suitable provision should be made outside the hospitals for chronic cases, incurables, and cases of tuberculous disease, which were apt to occupy hospital beds unduly. Referring to the English method of treating paying patients alongside non-paying patients, the witness said that this was not desirable in Scotland, and could not be done without causing serious difficulties. He was, however, in favour of paying wings in hospitals, provided the paying part was quite distinct and that it could finance itself. The witness referred to the question of milk supply, which he said was closely allied to

tuberculous cases. It was vital to children that the supply should be pure, plentiful, and cheap, for at present it was undoubtedly the source of tuberculous infection, and its distribution was far from hygienic. He thought that the whole milk trade should be under the careful and systematic supervision of the Health Department or the local authorities; that the sale of milk should not be competent except from a licensed source and by a licensed dealer, and that dairies should be under central supervision.

Mr. W. J. GINSON, chairman of the managers of Fnlkirk Infirmary, gave evidence with regard to hospital accommodation in the Fnlkirk district. They had at one time taken in patients on a paying basis, but this had to be abandoned because of the great numbers of ordinary patients demanding admission. They were, however, convinced that it would be desirable to try and provide private accommodation, for which a considerable number of people would be willing to pay. He thought there ought to be some curtailment of the present overlapping of appeals for subscriptions, for while their district contributed £3,000 yearly to the infirmaries of Edinburgh and Glasgow, the local hospital received only about £5,000, and he regarded these sums as disproportionate.

Mr. THOMSON, chairman of the Stirling Infirmary managers, stated that they were aiming at building an entirely new infirmary at a cost of £70,000, and in five weeks they had got £26,000, which showed a great interest on the part of the people of Stirling and district. He was confident that the amount required would be raised by voluntary effort, and, in this connexion, he was in favour of decentralization, and thought that more cases should be treated in Stirling instead of being sent to Edinburgh and Glasgow. He did not approve of taking money from the rates, especially in view of the conditions that prevailed just now with regard to voluntary assistance. There was no provision at present in Stirling for maternity cases, but the managers of the Infirmary intended to make provision for this purpose.

The Rev. Dr. MONTGOMERY CAMPBELL, representing Dumfries and Galloway Royal Infirmary, considered that the voluntary system ought to be continued, encouraged, and developed, and in the district of Dumfries it had amply met the necessities of the case. At the present time, however, there was an insufficient supply of beds, and, while there were nominally 113 beds in the Dumfries Infirmary, the average number of patients constantly in hospital during the last year had been 106. It was urged that immediate steps should be taken to provide more beds and the appropriate staff accommodation. He believed, as the result of long experience as a parish minister, that an element in human nature was evoked by service in the present type of voluntary hospital which would not be evoked by another class of hospital to the same extent.

The Rev. W. S. MATHESON, representing the managers of Galashiels Cottage Hospital, said that this hospital was originally intended to meet the needs of Galashiels, but in the last few years cases had been taken in from surrounding towns, and they would have to provide increased accommodation and consider other extensions.

At the sitting of the Committee on January 23rd a plan was submitted by Mr. W. E. Whyte, district clerk, Hamilton, which would allow for State aid without State control. The memorandum runs to 39 printed pages, and refers particularly to the hospital needs of the county of Lanark, a district which, the author of the memorandum pointed out, is the most important in Scotland so far as population and valuation are concerned.

According to Mr. Whyte's evidence, over 70 per cent. of the houses in the district are one or two apartment houses, and the housing conditions are described as so deplorable and inadequate that institutional provision for the treatment of most diseases is obviously necessary. He considered that real co-operation between local authorities was seldom practicable under present conditions, and he had in view the extension of the functions of the public health authority, but he would not advocate the granting of power to public health authorities by legislation for the establishment of hospitals for the treatment of general diseases. He would, however, advocate co-operation between the rate-aided authorities and voluntary authorities. As the capital cost of the additional institution necessary would be very great, he thought the State should set aside a sum from which capital grants to approved institutions would be made, such fund to be under the direction and control of a central body. For dealing with tuberculosis he considered there were two ways in which children might be treated: either by an extension of the Hairmyres Colony, which at present existed, or by the introduction of the Grancher system, which had been working for some twenty years in Paris, and had consisted in placing out in healthy rural families children whose health was jeopardized through living with tuberculous members of their own family. In Paris, out of 2,300 children so placed out, only 7 had developed tuberculosis. The witness thought that the voluntary system should be maintained at present, but whenever the need was such that the voluntary system could not cope with it it was the manifest duty on the part of the State to make good the deficiency. This could be ascertained by obtaining periodical returns from the various institutions.

Lady SEAR GUNDOER gave evidence on behalf of the council of Queen Victoria's Jubilee Institute for Nurses (Scottish Branch). She said that 600 additional nurses would be required to establish a complete home nursing service for Scotland. This would make a total of 1,500 nurses so employed, and the provision was entirely a question of finance. At present voluntary contributions amounted to £120,000, and a full service could be provided by an annual

grant of £60,000. A head of the population of Scotland, which would yield £122,000. Both the preventive and the curative work of a nurse, who went about in the homes of the people, restricted the development of illness, and consequently the necessity for hospital treatment. The possibility of after-care in the home, which was given by adequate nursing, also shortened the time necessary for the occupation of hospital beds. A proper system of co-ordination between hospitals and local nurses by means of cards indicating treatment required would undoubtedly save pressure on hospital accommodation. About 20 per cent. of the cases attended by the Queen's Nurses throughout Scotland were treated in lieu of hospital accommodation. With a full nursing service for the whole country at least 100,000 cases would be nursed in the course of a year, and from these figures it would be seen that under the scheme suggested there would be an annual saving of hospital accommodation for 32,000 cases. The witness thought that the cost of a really good nursing service in Scotland would be about £300,000. A great deal of work was done for public authorities at the present time, but little or no help was received from corporations. She did not think they could have a complete nursing service in Scotland by the voluntary system.

The Committee adjourned till the following week.

## Correspondence.

### LONG FREEDOM FROM RECURRENCE AFTER OPERATION FOR CANCER OF THE BREAST.

SIR,—I have read in your issue of January 24th (p. 156) with interest the notes by Mr. F. J. Steward of a case of recurrence of cancer of the breast after an interval of thirty-one years from the time of operation.

Some years ago I operated on a case of recurrence twenty-four years after operation. The right breast and the axillary glands were originally removed by Sir Thomas Smith for a typical scirrhus cancer, and I saw the patient with him after an interval of twenty-four years of good health. She had then recently developed a small lump in the skin, two inches below the middle of the right clavicle, and there was also a hard gland above the clavicle. I removed both of these, and the microscope showed typical breast cancer. A further examination while the patient was anaesthetized revealed hard tumours in each ovarian region, and she died within a year with growths in the cervical glands and visceral dissemination. The facts that the recurrence was in the skin of the chest and that it was typical breast cancer leaves no doubt that this was a case of genuine recurrence of the original tumour, and not of an independent new growth originating in breast tissue left behind at the first operation.—I am, etc.,

London, W., Jan. 6th.

ANTHONY A. BOWLEY.

SIR,—Mr. F. J. Steward's case of recurrence of cancer of the breast thirty-one years after operation is somewhat analogous to a case published by me in your issue of June 24th, 1922 (p. 995). In the latter case the tongue had been excised for epithelioma in 1888. There was no recurrence near the site of operation and the patient lived a healthy hard-working life until 1922, when he died of cancer of the cardiac end of the stomach. This diagnosis was verified by *post-mortem* and microscopical examinations. I agree with Mr. Steward in his closing paragraph, where he states that the exciting cause in such cases must be general rather than local. They also go to show that a previous attack of cancer cured (in the ordinary sense of the term) by operation does not give immunity to another attack later on in life.—I am, etc.,

Warrington, Jan. 26th.

J. S. MANSON.

### TREATMENT OF PERFORATED GASTRIC AND DUODENAL ULCERS.

SIR,—I am heartily in agreement with your correspondents, Mr. Zachary Cope and Dr. Tonking, who do not consider that it should be generally accepted that gastro-enterostomy must be performed at the same time as the closure of the perforation in this type of abdominal catastrophe. On this question they are at variance with the recommendation of Mr. Percival Mills, whose experience favours the double operation. The reason for my opinion is not that I do not realize the excellent results of

immediate gastro-enterostomy, but because I believe that the routine treatment of a surgical emergency should be strictly in accordance with the emergency and not necessarily directed to the cure of the primary condition. Furthermore, surgical emergencies should be amenable to simple surgical remedies, and Dr. Tunking, I think, sounds a true note when he states that "for the general practitioner surgeon simple sero-serous suture and oversewing of the omentum is the safest course." It is the essential treatment of the perforation, together with dry sponging of the soiled peritoneal cavity. This treatment is on all fours with that applied to acute intestinal obstruction. Relief of the obstruction is then the immediate objective of the surgeon called upon to operate in a hurry.

Mr. Cope says that he used to be in favour of the combined operation, but that he now thinks that it is only occasionally advisable. This seems to me a subject on which a surgeon of experience may well have changed his mind. To such a one all things are lawful, but all things are not expedient. Expediency should be the governing principle in the surgery of acute abdominal diseases. The two main factors are the condition of the patient and the capacity of the surgeon. Time has a bearing on both: the hours that have slipped away before the perforated patient reaches the operating table, the minutes that will be consumed by the operation. For every hour over eight that elapses before the operation is done the mortality rises. For every minute that the operation is prolonged we ought to be sure that the patient gains some advantage. Anastomosis adds from twelve to twenty minutes to the length of the operation. Obviously, then, gastro-enterostomy is inadmissible in late perforations with widespread peritonitis, or where the condition of the patient is poor.

The other side of the picture, however, should be clearly viewed, and I must admit that here I differ from Mr. Cope, and I find more cases suitable for immediate gastro-enterostomy than I used to. My reasons are twofold: one is that cases treated by the double operation do undoubtedly have a very easy convalescence, but even more am I impressed by the number of cases of successfully sutured perforations which require surgical treatment at a later date. Gastro-enterostomy at the time of the operation for perforation is usually much easier of performance than anastomosis when the ulcer is closed, but the stomach or duodenum is surrounded by dense adhesions.

A long view of the treatment of perforated ulcer of the duodenum and stomach must include both the immediate and remote results. An opportunity occurred to me during a "major week" at St. Thomas's last year—when we had five perforations in the ward at the same time—of giving a simultaneous trial to the single and the combined operation. Three of them lived and two died. The age of the patient is one of the important factors, and the fatal cases occurred in patients whose ages were 59 and 63 respectively. The recoveries were all in younger patients. The age of the perforation is even more important, and in the fatal cases operation was not performed until twenty-four hours had elapsed, and in one of them it took place forty-eight hours after the perforation. The three surviving cases had perforated for five, six, and fifteen hours respectively. Two out of these three cases had immediate gastro-enterostomy and the ulcers were of the juxtapyloric type, where anastomosis yields such good results. I do not for one moment believe that the fatal cases would have been saved by the double operation. One died the next day, and the other from bronchopneumonia with a dilated heart eight days after the operation. Of the recoveries the quickest was actually in the case where only suture of the perforation was done, and he left hospital for a convalescent home ten days later; the other two left after seventeen and eighteen days respectively. Up to the present time, eight months from the date of operation, all three are in good health, but the future alone will show the benefit of the short-circuiting operation.

If we look at the remote results of simple suture of a perforation I think the old theory that such a complication cures the ulcer is completely exploded. It is about as true as the fiction that an appendix abscess destroys the

appendix. It may be urged that the operation for the ulcer should be performed when the patient is convalescent from the first operation. It must be remembered, however, that we operate on human beings, and one of their characteristics is to dislike operations. Such has been my experience that I am accustomed to teach that at least 15 per cent. of former perforations require surgical treatment for persistent, or recurrent, dyspepsia. The combined operation, I believe, will do much to wipe out this undesirable figure. We may, however, see some patients back again with jejunal perforations, for there is a type of recurrent perforator difficult to eliminate altogether.

As I have stated at the beginning of this letter, which is perhaps too long already, I do not think gastro-enterostomy should be part of the routine operation for perforation. If circumstances of surgeon, anaesthetist, and patient are all favourable it is time well spent, but the superiority of the double operation over simple closure as an emergency operation can only be that the stomach gets rest. Immobility of the affected area—most often the region of the pylorus—for twelve hours is probably all that is necessary, and the chief value of the immediate anastomosis is that it reduces post-anaesthetic vomiting to a minimum, and indeed it often abolishes it altogether. An efficient gastro-enterostomy done for any particular lesion has this great merit, and in that way it will no doubt lessen the mortality of perforated gastric and duodenal ulcers from haematemesis or secondary perforation. These are, however, very rare causes of death after suture. Most fatal cases die from bronchopneumonia, peritonitis, or subphrenic abscess and its sequels. Rest to the stomach can be secured long enough to heal a sutured ulcer by good anaesthetization, and rectal saline feeding for the first twenty-four hours.—I am, etc.,

London, W., Jan. 19th.

JOSEPH E. ADAMS.

### SHAVING THE VULVA.

SIR,—At times we have as many fashions in medicine as ladies have in dress, and the *raison d'être* for some of the medical fashions, I fear, has as little substance as the fluffs and flimsies that go to make up feminine adornment. One of the medical fashions recently promulgated is to have the vulva shaved during labour, and we find obstetricians strenuously urging what they consider the absolute, imperative necessity for adopting this procedure. So far I am afraid I must own to being a heretic with regard to this new medical doctrine.

The first, but by no means the most serious, objection to this performance is that it must cause a distinct shock to the average woman's modesty. Here is the way I look at the matter. I am thoroughly convinced that every organ and every part of the body has its own special function. Luckily, in late years patient investigations have made known to us the part played in the human economy by many organs which previously were regarded as mere anatomical items. Take, for instance, the endocrine glands, which are now known to exercise a potent influence over our physical well-being. Only a few years ago the appendix, too, was regarded as a perfectly useless organism, a sort of anachronism. Now we know that it has important work to do, and does it. Before its function was discovered a friend of mine, an expert surgeon, always, on opening the abdomen, no matter for what purpose, laid hands on the appendix and, in spite of its being quite healthy and inoffensive, ruthlessly swept it away.

Pondering over these things I have been asking myself, Are the vulvar hairs mere purposeless appendages, or do they fulfil any useful function? And I am convinced that they perform at least two very important duties. They are these. During menstruation they convey away as far as possible from the body the menstrual fluid, which is meant to be a waste product, and they act similarly with regard to the lochial discharge, which is also a waste product. In this connexion it is worthy of note that the vulvar hairs are more or less non-existent till the time arrives for the performance of these two functions. They are not developed till puberty—the time at which the first menstrual flow occurs—and, of course, the girl child

## CORRESPONDENCE.

cannot come into labour until after puberty. Now let us see what occurs with regard to the lochia when shaving has been done. The discharge, instead of being conveyed a distance from the vulva, remains on it and becomes caked, thus forming splendid pabulum for the hungry and migratory bacteria that are bound to be in the neighbourhood, and we all know that well fed bacteria increase and multiply with great rapidity. On the other hand, it may be urged that when shaving has not been done clotting might occur on the hairs. No doubt. But the tapering shape of the hairs, the fluidity of the lochial discharge as it emerges from the vulva, and the force of gravity has tend to prevent that clotting till the discharge has traversed a distinct distance from the bacteria can travel along the hairs, executing a sort of tight-rope dancing.

I am a thorough believer in Listerism, and accordingly would say, "Use suitable antiseptics certainly, but let the razor test peacefully in its case." And instead of keeping the woman glued to the bed in the horizontal position for days and days, as was the fate of our mothers and grandmothers, allow her to sit up gently from time to time to promote drainage, which will be facilitated by the vulvar hairs. If that is done I feel confident that we will have gone a long way on the road towards preventing that terrible bugbear, puerperal sepsis, the apprehension of the obstetric physician, and we will avoid the slight of being nicknamed the "barber-surgeons."—I am, etc.,  
HENRY CONN.

**PUERPERAL INFECTION.**  
Cork, Jan. 18th.

Sir,—It may be of interest to cite two of my recent cases.

The first, a primipara, was attended by me during her confinement in a nursing home where she got every possible attention. She had a rigor on the second day and died on the eleventh day of septicaemia. Forceps were used when the head was on the perineum. There was a slight tear which required one stitch.

The labour was a long one, lasting some thirty-six hours. She was My second case, a 2-para. I have just finished with. She was confined in her own home. She had a labour of some eight hours duration. She also had a low forceps extraction, and also required a single stitch. There was, however, in her case a large congeries of inflamed veins in the vagina on the fourth day after formation, during which the temperature was 102° F., pulse 120.

The abscess ruptured into the vagina on the fourth day after confinement. The infection was *Staphylococcus aureus* and *Bacillus coli*. The patient never looked back—this, although pus was pouring into the vagina and mixing with the lochia.

Now here are two cases. The technique was the same in both. How different the results! The nursing home case, in faultless surroundings, dies. The other, in a working-class home and flooded with pus, puerperal or other. I am of opinion there is some quality inherent in the patient which determines infection, puerperal or other. I have attended 2,550 confinements. My percentage of puerperal infection cases is 0.05 per cent.; these patients all died.

Will the specialists who take us general practitioners to task kindly do two things? First, tell us their own percentage rate of puerperal sepsis and how they explain it. Secondly, will they engage in general midwifery work as we do for two years, practising all the asepsis they advise, and let us know again their percentage of sepsis and explain it. If they are not ready to do these things let them not criticize.—I am, etc.,  
JAMES COOK.

**ELECTRONIC REACTIONS OF ABRAMS.**  
Glasgow, Jan. 15th.

Sir,—I notice that Sir Thomas Horder, when presenting the report of his committee of investigation of the "E.R.A." to certain Sections of the Royal Society of Medicine, referred to the "bigoted and a priori condemnation in which, actually, critics almost exclusively indulged, and of which alone the majority appear capable." I happen to be the only critic personally named in his address, and therefore feel bound to answer this accusation.

The charge of a priori condemnation is rather a superficial one, since it is notorious that the founder and followers of "E.R.A." have taken every precaution to prevent impartial examination of their machines or

methods. The machines are leased at a fantastic price, and under a bond which forbids them being opened. The alternative to buying a machine is to co-operate with electronic practitioners. This, however, is a matter of extraordinary difficulty. In this respect Sir Thomas Horder's committee evidently has had the same experience as all previous investigators, since it appears that it was unable to arrange to test the diagnostic power of "E.R.A." practitioners, subject to the usual condition that the results should be published whether positive or negative.

As regards the charge of bigotry in criticism: I, like many others, have attacked the "E.R.A." practitioners on ethical and scientific grounds. The ethical criticism is that they are exploiting a new form of diagnosis, the value of which has never been established by any form of impartial test, and that they consistently evade any such test. I charge Sir Thomas Horder endorses and emphasizes them—does go further, and suggests that the electronic point of view know that their methods are perfectly willing to use the methods in practice. From the scientific point of view, but that nevertheless they are perfectly willing to use the methods in practice. From the scientific point of view, I consider that the claims of the electronic re- and I agreed with the opinion of the *Scientific American* that there was no evidence to show that the electronic actions even exist. Sir Thomas Horder definitely endorses this opinion as regards the regular followers of Abrams (conclusion 2 in his report). The very interesting positive results recorded by his committee were obtained with Dr. Boyd's "emanometer," and we are told that this instrument is not a minor variation of the "E.R.A." machine, but is "a design *de novo* based on a different conception of the phenomena involved," and that the conclusions arrived at by the committee "leave the position of the practising electronicist as scientifically unsound and as ethically unjustified as it was before."

I cannot see that Sir Thomas Horder has justified his sweeping charge of unfair criticism against previous critics of "E.R.A." Past criticism of "E.R.A." may have been founded on scanty evidence, but this is bound to be the case whenever a new remedy is exploited and its methods are kept secret. Indeed, the charge of "bigoted and a priori criticism" is one of the stock lines of defence of every quack medicine vendor. I consider that it is unfortunate that this particular mode of defence of secret remedies should have received any kind of endorsement from high medical authority.—I am, etc.,  
A. J. CLARK.  
University College, London, Jan. 24th.

Sir,—The members of the Society of Electronic Medicine in London desire to submit to your notice the following commentary on Sir Thomas Horder's recent address on the electronic reactions of Abrams delivered before the Royal Society of Medicine.

It should be stated by way of explanation that this commentary, which is somewhat critical, is not to be understood as attempting to detract in any way from the value of his communication or as throwing any doubt on the sincerity of the scientific spirit prompting him to make it.

The value referred to lies, of course, in the fact that Dr. Boyd of Glasgow has succeeded in satisfying Sir Thomas Horder and his co-observers that an electronic reaction exists, for which achievement the former deserves no little praise; but more than this bare fact the interested committee is apparently not prepared to regard as demonstrated.

The statements, therefore, to which we are bound to take exception in Sir Thomas Horder's address concern only what by his own admission he knows as yet nothing about—namely, the practical value of Abrams's ideas in the field of medicine; and we note with regret that these statements are made with no less assurance than he displays in connexion with the experimental work of which he is certain.

We make no comment upon certain pronouncements, which, although they are to be found in the text of what has been termed "the full report," were not embodied in the actual address itself, but confine our remarks solely to



the latter as reported in the columns of the *BRITISH MEDICAL JOURNAL* of January 24th, 1925.

There a statement is published of such a nature that we, as a society, cannot but request Sir Thomas Horder either to assure us that owing to misinformation he has been in error or to produce satisfactory evidence supporting it.

This statement is to the effect that to employ Abrams's treatment is "scientifically unsound and ethically unjustified." The only reason he gives for making it is the fact that the scientific basis of the treatment remains uncertain; but while this is undeniably so, we must point out that no such objection can validly be made to the employment of a treatment which has been proved to give good results. If Sir Thomas Horder were to be taken at his word in this matter of ethics, then *ipso facto* a host of useful therapeutic measures would necessarily stand condemned in his eyes, including no doubt several hitherto employed by himself. Indeed, we should have to conjure up the curious vision of this busy physician "only experimenting privately" with methods the scientific rationale of which is still obscure to him—surely a *reductio ad absurdum*! We therefore are curious to know what real justification, if any, he can plead for taking up so extraordinary and autocratic an attitude.

In a communication to the *BRITISH MEDICAL JOURNAL* of January 10th (prior to Sir Thomas Horder's address) a member of our society took the trouble, in view of widespread misunderstanding, to dispose of all possible grounds of accusation on the score of unethical conduct. Facts were stated showing that the society had not made exaggerated claims on behalf of the Abrams system, and that they had taken all possible steps towards removing the mystery associated with it by a certain body of individuals to whom, and to whom only (also on account of their exaggerated claims), the derogatory term "Abrams cult" could be applied. To say that no definition of a "genuine Abrams worker" was afforded by that communication is so transparently inaccurate that anyone interested can simply be referred to it to discover the truth for himself.

It must be admitted that Abrams himself was not, according to our ethical ideas, free from the blame attached to the cult which sprang up as a result of his conceptions, but in our view his extraordinary temperament (common enough in geniuses) and the opposition he had to face ought to be taken into consideration when we condemn him for his mistakes. All who knew him intimately believed him to be honest, and at any rate he seems to deserve greater credit for his ideas than Sir Thomas Horder is inclined to give him.

In a letter to the *Lancet*, February 16th, 1924, the same member of our society said, "However interesting a general correspondence between 'E.R.A.' and clinical findings may be, it would be surprising to discover that they absolutely fitted in with one another." This letter, which in every way reflected the cautious view of Abrams's claims taken all along by our society, also stated, "The first reply to the criticisms of 'E.R.A.' lately begun in the *British Medical Press* contains an offer to have the results of treatment along one important line publicly investigated; and the spirit of this offer has but one significance—namely, that Abramsites desire only to maintain a faith based on reality." This offer at the time was not deemed worthy of acceptance.

If to these observations we add one to the effect that medical journals have experienced difficulty in finding room for our communications, little significance can be attached to Sir Thomas Horder's complaint, "neither coaxing nor baiting nor even sincere invitation has induced practising electronists in this country to tell us exactly what they are doing."

Statements we have made in the past (some nearly a year ago) indicating a moderate attitude cannot be construed as "belated misgivings," nor are we prepared to admit the parallel of "turning King's evidence" either in respect of "turning" anything at all or in respect of identifying Sir Thomas Horder's authority with the high authority implied by this well known phrase.

As for the idea of no "electronist" being public-spirited enough to acknowledge the "glaring inconsistencies" in his work, we suggest a very cogent reason why publication of

certain tests was deemed "inadvisable pending further research." It is that our researches (apart from treatment results) have not yet enabled us to say more than that an as yet undefined relationship exists between "reactions" and disease. We cannot at present do more than use these reactions as general indications guiding treatment in conjunction with other ordinary and "orthodox" indications. We must point out that frequent examination of a patient's blood reduces the chances of our being misled through the interference of factors at present beyond our control, and if we check our findings by clinical examinations it cannot be said that we are likely to make more mistakes than the average physician. "Tests," on the other hand, involve one or few examinations of isolated sets of specimens without the help of clinical observation.

In spite, however, of these considerations, from which it may be taken that our accessory diagnostic procedures are far from being mathematically accurate, remarkable diagnostic accuracy under "test conditions" has occasionally been achieved. Special reference may be made to the test to which Dr. Mather Thomson submitted himself, devised by Lieut.-Colonel Tizzard, Major Lefroy, and Dr. C. B. Heald. This test, which resulted in correctly diagnosing certainly three, and possibly four, unknown bloods out of four, was not fully quoted (if even referred to) by Sir Thomas Horder. We hope that Dr. Boyd's inventions may lead to the discovery of a technique enabling this kind of result to be attained more consistently.

Such successes, even if rare, certainly lend weight to our very general claim in regard to the practical value of Abrams reactions. History has shown that men do not wait for phenomena to be accurately understood and controlled before they begin to make what use of them they can.

It should be added that our investigations into the explanatory principles underlying "reactions" and treatment effects have not yet borne fruit, and we do not believe that correlation of certain reactions with specific disease processes has yet been satisfactorily worked out. No statement implying the contrary has had the approval of our society or of its president. All this—which evidences a sincere and moderate claim—was embodied in a communication sent to the *BRITISH MEDICAL JOURNAL* prior to Sir Thomas Horder's address, for which, however, no space was then available. Yet we are said to be "masonic" in our methods!

The chief claim which we, as a body of investigators, make is that excellent results have occurred from the treatment of patients by Abrams's oscilloclast, often in cases uninfluenced by all "orthodox" methods (including the most modern psychic treatment) and generally in organic conditions. The society assumes no responsibility whatever in connexion with a new machine, not yet tested, which has been placed on the market by one of its members (Dr. Laughton Scott) or with his particular theories; but reference may be made to the fact that the cases recorded in his recently published book were treated by Abrams's oscilloclast.

To sum up, our society can see no justification for several statements made by Sir Thomas Horder which have no real bearing on the kernel of his recent communication, nor is it in any way impressed by the appearance of authority with which he attempts to invest his committee, as evidenced by such statements as that their conclusions "give no sanction" for the employment of certain measures in practice by other qualified physicians. We see nothing to justify the view that we have been "manoeuvring for position" any more than Sir Thomas Horder appears to have been doing, and we can assure him that the imminence or otherwise of his address was not a matter the influence of which was in the least apparent amongst us.

His committee is reminded that only in so far as they have been observers of another man's work are they qualified to express guarded opinions on the subject of Abrams's reactions, while on the subject of any diagnostic value they may have or of investigation into the results of treatment they appear to have no justification for expressing any opinion at all.—I am, etc.,

OSCAR PARKES,  
Secretary, Society of Electronic  
Medicine.

London, S.W., Jan. 22th.



## CANCER OF THE OESOPHAGUS.

SIR,—In the discussion on Mr. Souttar's paper on cancer of the oesophagus, in the Surgical Section of the Royal Society of Medicine (reported in abstract in the *BRITISH MEDICAL JOURNAL* of January 17th, p. 115), Sir StClair Thomson raised the important question of the place of gastrostomy in the treatment of this condition; and asked, in view of Mr. Souttar having made only the slightest reference to this mode of treatment, whether gastrostomy was ever required for gullet cancer. Sir Charters Symonds expressed the opinion that the question of gastrostomy did not arise at the present day at the hands of those who were expert at modern intubation methods, as it was possible to deal with any region of the gullet by intubage.

In spite of this authoritative pronouncement by the experienced originator of the first really satisfactory form of intubation apparatus for gullet stricture—the epoch-making Symonds funnel—I am emboldened to express the opinion, based also on large experience, that Sir Charters's pronouncement excluding gastrostomy is too absolute. I admit that there must be few cases, if any, of cancerous stricture of the middle three-fifths of the gullet which cannot be safely and successfully per-endoscopically bougied up and intubated by experienced and skilled manipulators; but I venture to affirm that there are some very tight and tortuous strictures in the supraclavicular gullet above and in the phreno-cardiac portion below where difficulties may be encountered, and where it is safer to resort to gastrostomy, and where there is a very real danger of perforation even in the most expert hands. The same observation also applies to some tight pharyngo-oesophageal and oesophago-gastric strictures. I agree with Mr. Souttar and Sir Charters Symonds that intubation, when it can be carried out, and with safety, is always more comfortable and satisfactory to the patient than gastrostomy, and has the advantage over it that the patient is able to swallow the saliva which is usually enormously increased in gullet cancer.

Radium therapy has a much more restricted field of application than intubation, but in properly selected cases, and when it acts favourably, it has the advantage over intubation or any other form of treatment that it may bring about either temporary arrest of the growth, or marked reduction of the growth, or even apparent gross disappearance for a considerable period, the latter amounting in exceptional cases to several years. Such gratifying results were reported recently by Guisez in his Semon Lecture, and also by me in a paper published in the *JOURNAL* of December 27th, 1924 (p. 1196).

In conclusion, whilst thinking that Sir Charters Symonds, Mr. Souttar, and others rely too much on intubation, to the exclusion of other methods of treatment (in exceptional cases), such as radiotherapy and gastrostomy, at the same time I think that Mr. Souttar's substitution of spiral wire funnels for gum elastic ones promises to be a distinct advance.—I am, etc.,

London, W.1, Jan. 23rd.

WILLIAM HILL.

## A NEW OUTLOOK ON CANCER.

SIR,—Dr. James Young's paper in the *BRITISH MEDICAL JOURNAL* of January 10th (p. 60) is a stimulating statement of facts and of reasoning based thereon. The facts have wide biological and pathological bearings, a few of which I beg leave to indicate.

So long as I left the label "sporozoa" on the alien cell inclusions and alien free bodies of cancer, mollusum, syphilis, etc., I paid but little heed to the finding (whether by others or myself) of bacteria or other fungal forms in cultures made from cancers. This attitude was reversed when I realized that these alien bodies are fungal and are akin to the genus *Synchytrium*.<sup>1</sup>

The group Phycmycetes is now taken to include synchytrians and other Chytridinae, with Mucorineae and other orders of fungi. They have affinities with the Mycetozoa. The stalked sporanges of the common mucors are familiar; as is also the fact that when mucors are cultivated anaerobically in presence of glucose they grow in their gemma-form—that is, like yeast cells—and, like the latter, they cause alcoholic fermentation.

<sup>1</sup> *Lancet*, vol. ii, 1922, p. 495.

From a study of Dr. Young's illustrated paper<sup>2</sup> I concluded that the forms he has described are cultural modifications of the same fungi that constitute the alien cell inclusions, etc., of cancer. In some of Dr. Young's microphotographs plasmon (?=plasmon) is seen to have grown out from the nuclei of cancer cells; I have little doubt that such growth started in pseudo-karyosomes, such as are described in *Protozoa and Disease*, Part ii, Chapter xii.

In water cultures of mollusca corpuccles streaming of amorphous protoplasm is commonly the first visible sign of active life (see *Protozoa and Disease*, Chapter vi). A similar commotion was observed by Löhnis and Smith in the plasmon stage of some of their cultures of *Azotobacter*.

*Synchytrium tarazaci* is the foundation species of its genus. Synchytrians are allied to coecidia and only their coecidium-like stages are described in textbooks, but I have found also a dense chromidial (amorphous) stage.<sup>3</sup> In *S. emboliforme*, the cause of wart disease (Kartoffelkrebs), E. Köhler has described a coccus-like form, which he regards as degenerating; but, in *S. tarazaci*, I have found, and described in a paper as yet unpublished, a quite similar form as the initial stage of the amorphous chromidial modification just mentioned.

The association of a filterable virus with specific cell inclusions is frequent and noteworthy: we should remember that the first demonstration of a filterable virus was in mosaic disease of the tobacco plant (Lysanovski, 1892), also that in this same plant disease cell inclusions occur, which phytopathologists agree in regarding as being of the same nature as Guarnieri's and Negri's bodies.—I am, etc.,

London, Jan. 10th.

J. JACKSON CLARKE.

## HEART STRAIN.

SIR,—The following statement in Dr. Brockbank's very interesting lecture on heart strain (*BRITISH MEDICAL JOURNAL*, January 10th, p. 57) seems to me to be open to considerable criticism.

"The second reason is that the pressure in the aorta, whatever it is, which drives blood through the incompetent valves, acts at its full strength on every part of the interior of the left ventricle of the same area as that of the leakage in the valve, and is not diffused all over the wall of the ventricle. In other words, if there is a force of 100 mm. of mercury acting on a valve leak of 1/4 in. square, there will be a force of 100 mm. acting on every square 1/4 in. of the ventricle, and not 100 mm. diffused all over the ventricle."

Theoretically, of course, this is quite true. Does it then follow that a valve leak of 1/4 in. is more dangerous than one of double the size? Would one of 1/10 in. be more dangerous still? In other words, is the danger in inverse proportion to the area of the opening?

The principle underlying Dr. Brockbank's statement is the old familiar one of the Bramah press, whereby the pressure exerted by a piston working in a tube of small cross-section is conveyed through the liquid in a rigid container to a piston working in a tube of much larger cross-section, and is thereby greatly increased. The considerable distance through which the smaller piston moves, in one or repeated strokes, is, of course, the means by which mechanical advantage is gained in magnifying the pressure.

But three things are here to be noted: (1) There must be no valve opening out of the container; (2) the container must be approximately rigid; (3) time must be given for the liquid to flow through the smaller opening.

None of these data hold good in the case of the heart. (1) There is what is equivalent to another valve opening from the ventricle—namely, the remaining apposed edges of the semilunar valve. These (unless adherent) are only held together by exactly the same pressure as is exerted from the ventricle. In other words, in no case can the intraventricular pressure caused by a partial valve leak be greater than that caused by a complete valve leak. Practically, it must be considerably less, owing to the slower rate of flow. (2) The ventricular walls are, of course, far from being rigid; that is to say, the "give" at any one part will take off the pressure, and so prevent the full theoretical pressure being exerted until the tension is very high. (3) The rate of flow, being much slower through a smaller

<sup>2</sup> *Edin. Med. Journ.*, 1924, p. 163.

<sup>3</sup> *Lancet*, February 16th, 1924, p. 351.

opening, renders it impossible for a dangerous tension to be exerted during the small period available in diastole.

From these considerations I think it is apparent that theoretical estimations have little place in reckoning up the danger of an incompetent aortic valve. The utmost danger would be found if the whole valve were deficient—that is, if the opening were at its maximum width.—I am, etc.,

Grangemouth, Jan. 17th.

THOMAS PULLAR.

#### FREUDIAN DOCTRINE.

SIR,—Criticism of the body of doctrine known as psycho-analysis is undoubtedly needed. But if such criticism is to be of any scientific value it should be both informed and constructive. Informed criticism can come only from those who have become practically acquainted with the method by carrying out a number of prolonged analyses on patients—and, still better, who have also submitted themselves to prolonged analysis under the direction of an experienced analyst. Constructive criticism can come only from those who have accumulated a wealth of clinical data by this same method of "deep" analysis, only to be acquired by many years of experience.

The number of psycho-therapists in England outside the ranks of the avowed Freudians (and also perhaps inside) who have fulfilled these conditions is exceedingly small. This is the difficulty which such a society as the Medical Section of the British Psychological Society has to face, in deciding upon such a general discussion as that suggested by your correspondents.

The Medical Section is dominated, not by Freudians, but by a firm determination to probe the psychological secrets of mental disease to their depths, to base theory upon empirical evidence and not upon *a priori* arguments, and to be undeterred by mere *ex cathedra* statements, from whatever quarter. Discussion of Freudian doctrine among those adequately qualified to appreciate both the problem and the facts will always be welcomed in our society. Any other kind of controversy would be rather reminiscent of the fight between the elephant and the whale.

I should perhaps add that I am not a Freudian.—I am, etc.,

WILLIAM BROWN,  
President of the Medical Section, British  
Psychological Society.

London, W.1, Jan. 24th.

SIR,—In my previous letter (January 10th, p. 93) I said, on behalf of my colleagues, that we were "prepared at any time . . . to participate in any suitable conference, symposium, or discussion on psycho-analysis arranged by any medical or other scientific society." Sir Bryan Donkin, in his letter published in your issue of January 17th, replies that "the kind of discussion proposed by Dr. Ernest Jones . . . is very different from that which I suggested as desirable." The only alternative remaining would therefore appear to be that all those who have made a proper study of the subject, and have had personal experience of it—that is, psycho-analysis—should be excluded. Such a course might succeed in the aim of securing more complete unanimity, but it would surely be a very novel form of "scientific discussion."

I did not give it as my opinion that psycho-analysis had been frequently and extensively discussed "among well accredited medical and psychological authorities" (including, of course, both opponents and supporters of the method). I stated it as an easily ascertainable fact, and I am astonished that Sir Bryan Donkin should again assert the contrary in place of verifying the statement. He likewise refuses to accept my correction of his assertion that there was no discussion of the paper I read before the Royal Anthropological Institute, but merely multiplies his original misstatements by now saying: "This, however, took place on the occasion of an address by the President of the Institute and a following paper read by Dr. Jones, on the relation of anthropology and psycho-analysis, of which no criticism was made and to which no subsequent replies were admitted." The facts, which are easy to verify, are, on the contrary, that (1) my paper was not read on the occasion of the presidential address, but was the

only one read at that meeting; (2) there was extensive criticism made of it in the discussion that followed at the time; and (3) subsequent replies were admitted, for a sharp criticism of it was published in the following number of the official organ of the Institute.

In his previous letter, Sir Bryan Donkin said that neither of two particular attacks on psycho-analysis "has been replied to by any prominent advocate of this doctrine." Though I cited extensive replies that have been made twice over to them by prominent advocates of this doctrine, in just the place one would expect to find them, Sir Bryan Donkin again writes: "(1) can repeat confidently my statement concerning the non-existence of any adequate criticism by leading psycho-analysts of the two books." His first statement has been shown to be as misinformed as his other pronouncements in connexion with psycho-analysis, and I doubt if inserting the word "adequate" this time will help him much, for only those who have read the replies in question can judge of their adequacy.—I am, etc.,

London, W.1, Jan. 20th.

ERNEST JONES.

SIR,—I am one of those who would welcome a dispassionate discussion on the foundation principles of modern medical psychology. Psychologists are the very people who should be experts, not only in the theory of "emotion," but in the control, not repression, of their own emotions, and yet the subject suggested for discussion seems to excite anything but dispassionate treatment.

Obviously we are not going to make much progress if Freud is to be regarded as a medical Guy Fawkes, and we are to be invited to follow Drs. Wohlgenuth and McBride in helping to light the bonfire in which his effigy is to be consumed. Science is not to be advanced this way.

Perhaps the Royal Society of Medicine could promote a discussion on broad lines on this great subject. I would suggest that a preliminary private meeting of representative medical psychologists of different "schools" should be called together to devise the programme, and, without stifling discussion, it ought not to be beyond the wit of man to bring together those who, with the honour of the medical profession in view, would sanely and honestly state their views.—I am, etc.,

London, E.C.2, Jan. 16th.

CHARLES F. HANFORD.

#### WOMEN DOCTORS.

SIR,—It seems to me that your correspondents (January 24th, p. 192) present a very distorted view of the situation.

Taking Miss Ramsay's figures, not more than one woman to every twelve men has any reason to expect a resident hospital appointment on qualifying, and then only if she is as capable, or more so, than any one of the twelve men with whom she happens to be competing. Therein, I think, lies the answer to the question about the appointment of women doctors in hospitals, rather than "pure prejudice on the part of the male colleague." The lack of a hospital appointment is no reason why she should not go in for general or dispensary practice at home or abroad. Many of her male colleagues do so.

The public does need medical women in many spheres. It is up to such as these "45 out of 78 who have already held public appointments" to cast around and find where they are wanted, instead of seeking for a series of temporary posts.

To quote Dr. J. Walter Carr, C.B.E., for one instance, " . . . in India there are mission hospitals actually closed because no women doctors can be found to staff them." We need more of the stuff that the medical women of the generation just passing were made of—women willing to continue to carry out the responsibilities undertaken by the pioneers.—I am, etc.,

Birmingham, Jan. 25th.

FRANCES BRAID.

SIR,—Dr. Robinson's figures (January 17th, p. 140)—78 women applying for a resident medical officer's (hospital) appointment with £100 a year—are nothing compared with those given by a client of mine who, after repeated failures to secure any such hospital appointment, has

recently accepted an indoor assistantship in the Midlands, also with only £100 a year. She wrote me that she was selected out of 180 candidates! As to the permanent outlook for medical women Dr. Haunsay may be quite right. That there is at all events a temporary glut such startling figures conclusively prove.—I am, etc.,

Torquay, Jan. 24th.

HENRY BAZETT.

#### TESTS FOR DRUNKENNESS.

SIR,—We have read with interest and amusement the address of Sir James Purves-Stewart delivered on January 13th before the Society for the Study of Inebriety. At the same time we must confess to a certain feeling of disappointment; for we had hoped that the harassed divisional surgeon might perhaps derive from this lecture valuable assistance in the most thankless and difficult of all his tasks—something a little more helpful, for instance, than a half-hearted investigation to the performance of lumbar or cistern puncture! And there is one point on which we must at once join issue with Sir James Purves-Stewart—namely, his suggestion that “the police surgeon may be too open to suggestion.” We venture to submit that the police surgeon is very much less open to the charge of bias than is the medical man called in by the suspect for the express purpose of proving the latter’s sobriety. With a long experience of many police divisional surgeons we have no hesitation in saying that we have implicit confidence in their absolute impartiality. The divisional surgeon has nothing to gain by supporting the provisional diagnosis of the arresting police officer; in point of fact he very frequently reports on his man as being sober, and we are satisfied that when the divisional surgeon has any doubt as to the prisoner’s sobriety the prisoner gets the benefit of the doubt.

We also contend that a police surgeon attached to any of the big stations in Central London has an unrivalled experience in the recognition of inebriety in all its stages, and for ourselves we would prefer to rely on the opinion of such an experienced and impartial observer rather than on that of any other medical man, however eminent in his own particular line.

Again, we do not feel that Sir James Purves-Stewart has sufficiently emphasized the notorious fact that drunkenness may be a very transient phenomenon. We can most of us recall incidents in the course of bump suppers, or similar festivities, illustrative of this point—for example, the inco-ordination and dysarthria of the undergraduate at 10.30 p.m. who has pulled himself together and is conversing amicably (though perhaps with a slightly overdone solemnity) with the Dean at 11.15 p.m. The same sort of thing occurs not infrequently at the police station, if we substitute a distinguished consultant for the Dean of the bump supper days.—We are, etc.,

CHARLES A. BALLANCE.  
MAURICE A. CASSIDY.

London, Jan. 27th.

#### THE EFFECT OF LEAD ON RED BLOOD CELLS.

SIR,—Your note (January 17th, p. 131) on this subject cannot be passed without comment, because haematology has been so long neglected in England that it may be taken too seriously.

Experienced practitioners appreciate the fact that mild and early lead poisoning is often difficult to diagnose or to exclude. I had been diagnosing cases of plumbism in a village in County Durham for eighteen months before any medical man would accept the diagnosis. The worst case was an anaemic young woman, who had complete paralysis of arms and shoulder girdles, had to be spoon-fed by others, and was just able to totter across the kitchen of a small cottage. Two consultants in Newcastle diagnosed an unusual case of paralysis, gave a hopeless prognosis, and, as she was engaged, positively banned marriage. The man insisted on marrying the girl, even if it was only to nurse her till she died. Two years after I attended at her first confinement, when she was well, except that her hands were weak. At last I found a case with a blue line on the gums which

nobody could deny, and an investigation followed. The engineers of the Newcastle waterworks found that, in spite of their directions, houses had been erected here and there with a very excessive length of lead piping, and that my cases and suspected cases were entirely confined to these houses. The chief engineer was particularly interested in the woman because her home had the greatest length of lead piping in the village, and he pointed out to me how marriage removed her from this to her husband’s home, where the main pipe passed close to the door.

These cases happened many years ago when it was difficult to find evidence sufficient to warrant the diagnosis in such cases. About twenty years ago it began to be recognized that Grawitz and Hanel had proved the value of blood examination as an aid to diagnosis. In 1907, by treating various minor ailments with small doses of lead acetate, I satisfied myself by repeated examination of films that this was a most important advance. Then came Sir T. Oliver’s book on lead poisoning (1914), in which he declared that in the North of England blood examination had proved of no value. As my work was done in the North of England I may state that he and his experts were hopelessly wrong.

In commenting on the blood in plumbism, Dr. Cecil Price-Jones says, “basophilic stippling is sometimes observed, but not so frequently as was sometimes supposed.” In my last fourteen cases it was not once absent. Besides, it is futile to single out punctate basophilia. Ignoring punctation altogether, those who persistently wash it out should look for polychromasia, megalocytosis, Jolly bodies, Cabot rings, and erythroblasts; these are less easily banished from a film, and accompanied basophilia in my fourteen cases. Even those who find basophilia in the majority of healthy persons might find a safeguard in so doing. It would probably puzzle them to be told that for years I looked out for leucoblasts in these films and found them last year for the first time in a case of lead poisoning.

I had the privilege of stating my experience in your pages<sup>1</sup> and explaining my technique,<sup>2</sup> and would conclude with these words: In plumbism, long before muscle, nerve, or intestinal symptoms, the metal acts on the marrow, and the blood promptly shows definite, constant, and conspicuous changes. Consequently there is no reason why industrial absorption should ever advance to lead poisoning.—I am, etc.,

Ealing, W.13, Jan. 18th.

ROBERT CHAIN, M.D.

#### ACIDOSIS AND ACETONAEMIA IN RELATION TO SEA-SICKNESS.

SIR,—The interesting contribution by Surgeon Sydney Jones, of R.M.S. *Aquitania*, in your issue of January 17th under the above heading encourages me to submit some observations I have made on this subject during the past ten years. The relation of acetonaemia to sea-sickness and the allied conditions—air-sickness, train- and car-sickness—was first brought to my notice in 1915, when, as a naval surgeon attached to the airship subsection of the (then) R.N.A.S., I was called upon to examine officers and ratings from the special point of view of fitness for flying. Acidosis was regarded as of considerable importance; it was always suspected and the urine tested for acetone if the applicant was unable to hold his breath comfortably for more than thirty seconds. This simple test proved to be almost infallible. Should the officer or rating have had previous experience in flying a history of air-sickness was present in all cases of positive acidosis. By “air-sickness” a condition identical with sea-sickness is inferred, due to the motion of the airship, scaplane, or kite balloon, and not in any way due to high altitudes, this point being clearly stressed by the fact that air-sickness was always worse in kite balloons, working at a lower altitude, than in any other form of aircraft. During two years with the R.N.A.S. the close correlation between air-sickness and acidosis appeared to me to be an established fact. Part of 1917 and 1918 spent in the Eastern Mediterranean in surface craft did not give many opportunities for pursuing this investigation, but a number of outstanding cases of

<sup>1</sup> BRITISH MEDICAL JOURNAL, 1923, i, 103. <sup>2</sup> *Ibid.*, 1924, ii, 728.

intractable sea-sickness, described by the men themselves as "absolutely paralytic," bore out Surgeon Sydney Jones's recent observation that 99 per cent. of cases of vomiting at sea, not due to an obvious organic lesion, are accompanied by increased acidity and acetonaemia. Since resuming civil practice after the war, acetonaemia in children has claimed my attention, and some of the following observations bearing on the subject were published by me in *St. Bartholomew's Hospital Journal*, March, 1924, under the title "Some practical points in the diagnosis and treatment of acetonaemia in children."

A simple bedside test for acetone is of first importance, and can easily be performed by using a small endolytic (capillary) tube containing sodium nitro-prusside and ammonium chloride (put up by Fletcher and Fletcher, of Holloway, N.). One large drop of urine is taken on a sheet of notepaper, and saturated with a common washing soda crystal the size of a pea. This saturated urine is allowed to run up the tube by capillary attraction, the reagent having been shaken to the lower end; if acetone is present in the urine in quantity a petunia colour develops in about thirty seconds, and even when only small amounts are present a rosy or amethyst flush is noticeable in about a minute or two. When acetone is absent the powder dissolves with nothing more than a pale straw coloration, which does not develop further. A routine examination for acetone in the urine of all children coming under notice reveals the fact that it is found in more cases than one would suspect. All cases of recurrent bilious attacks, tonsillitis, pneumonia, and practically all febrile attacks only account for about 50 per cent.; in the remaining 50 per cent. acetone has been detected as a result of routine examination where it would not have been otherwise suspected. These children came under observation because they were out of sorts, had bad appetites, were bad-tempered, or did not gain weight; several recent cases evidenced disordered action of the heart and nothing else.

In treatment, unlike Surgeon Sydney Jones, I hold a brief for glucose. Cases of cyclic vomiting do not appear to tolerate alkalis by the mouth during the attack, but take glucose readily, and retain it when everything else is returned. A heaped-up teaspoonful of glucose in half a taceup of cold water, repeated every two hours until four or five doses have been taken, has produced in cases of urgent acetonaemia in children 5 or 6 years old the same wonderful improvement described by Surgeon Jones as resulting after the treatment of his distressing cases of sea-sickness with high-rectal injections of sodium citrate. Feeding with glucose appears to me to give relief in practically all cases, and if no symptoms are present it has the effect of clearing up the acetone in the urine. Concerning Surgeon Jones's final remark on the advisability of correcting hyperacidity before embarking, I have recently carried out very successful prophylactic treatment on these lines among juvenile patients who suffer from train- and ear-sickness associated with acetonaemia, on returning to boarding school after the holidays. A round of parties and dances, with concomitant indiscretions in diet, had produced in these cases a lively acetonaemia, but this was controlled by one day of meagre diet and several feeds of glucose at the end of the holidays, the long train or car runs being subsequently undertaken without any inconvenience. The same prophylactic measures do not appear to be so necessary on returning home at the end of term, as the healthy and simple diet of the average preparatory and public school does not seem to be very productive of acetonaemia.—I am, etc.,

Midhurst, Sussex, Jan. 21st.

MARMADUKE FAWKES, M.B.,  
B.S. Lond.

#### ASSETS OF THE I.M.S.

SIR,—The Indian Medical Service, "for official reasons," is moribund. Hence it is worth while ascertaining what are its assets. The formation of the Clive Fund in 1770, in which both medical and combatant officers had rights, was followed at successive periods by the institution by the Medical Service of separate funds in the respective Presidencies. In 1867 the Madras Medical Fund was inaugurated

on the basis of an assurance society; by 1829 subscriptions by official orders were compulsory. The ends to be met were the provision of pensions for widows and children, passages for officers on sick leave, and of annuities for senior officers on retirement. The latter object was not only of value to individuals but to the whole service, in that an inducement was offered for early vacation of appointments by seniors. Lieut.-Colonel D. G. Crawford, I.M.S., in his work *A History of the Indian Medical Service, 1600-1913* (vol. i, p. 482) thus describes the fate of this fund:

"The assets, liabilities, and management of this Fund were transferred to Government from 1st April, 1870, by Despatch No. 101 M. of 9th December, 1869; and after that date no new members were enrolled. In 1880 it was decided that it was not desirable to offer to members a refund of their subscriptions. For many years annuities from this Fund continued to be granted yearly. All members have long since retired, but some are yet living who still draw their annuities."

It will be noted that transfer to the Government of India of assets and liabilities of the fund was effected by official orders. This method usually leaves but a Hobson's choice to those addressed.

Having regard to the existence of organized military and civil departments dealing with finance, it is unlikely the extra strain caused by the transfer of funds could have rendered necessary other than trivial addition to their personnel and consequent cost of management. Tradition holds that the capital transferred to Government in 1870 was a very substantial sum, whilst, as the above extract shows, further increments of liabilities were prevented by the Government directing that no new members be enrolled. In 1880 it decided that it was "not desirable" (1) to refund subscriptions to former members, thus affording an unexplained departure to its mode of dealing with the Bengal Medical Fund, where repayment was made to subscribers minus 10 p.c. (sic).

Obviously, at the present date, demands upon the fund must have vastly decreased, whilst interest on capital should have accumulated. Unless, therefore, documents dealing with the transfer gave the Government of India, with the consent of the subscribers, absolute right to the capital coupled with the power exercised by it to refuse further liabilities by enrolment of new members, it follows that it is in possession of funds as trustee beyond the requirements of liabilities. It seems to me, therefore, well within the functions of the British Medical Association to ascertain from the Secretary of State for India whether this view of the matter can be maintained, or whether the transfer was ordered on philanthropic principles. Should the latter suggestion be untenable, there are doubtless immediate heirs of subscribers who would not object to a share of the fund capital, whilst there are purposes, scientific and charitable, which might be benefited by gifts in *memoriam* of the I.M.S.—I am, etc.,

Hendon, N.W.4, Jan. 23rd.

W. G. KING,  
Colonel I.M.S. (ret.).

#### WHAT IS THE DEFINITION OF "ATTRIBUTABLE" IN WAR INJURIES?

SIR,—I desire to obtain opinions upon the following case. A soldier in September, 1918, when on duty, was bitten in the neck by a horse. The wound healed with a "lump" in the scar and impaired movement of neck and arm. He was demobilized in March, 1919, with a scar and lump; he worked intermittently, the lump getting larger, but did not consult a medical man until February, 1923, when the tumour involved too much for operation. Radium tubes did no good, and the man died, after repeated haemorrhages, in 1924.

The local Pensions Board turned the widow down on the ground that the cause of death was not attributable to the wound; and on appeal, though the chairman admitted the sequence of the disease and wound, it was ruled that too much time had elapsed from the receipt of the injury to the death, and so it could not be attributable.

I therefore should be glad of opinion on the subject.—I am, etc.,

Folkestone, Jan. 18th.

P. BROOME GILES,  
Colonel A.M.S. (Ret.).

## Obituary.

SIR JAMES MACKENZIE, M.D., F.R.C.P., F.R.S.,  
Director of the Institute for Clinical Research, St. Andrews.

(With Portrait on Special Plate.)

SIR JAMES MACKENZIE died at his residence in London on the morning of January 26th. He had been suffering from angina pectoris for some time, and about a year ago decided not to spend another winter in St. Andrews, where he had gone to live after leaving London in 1918. At St. Andrews he had a delightful house and garden, and there he founded the Institute for Clinical Research, to which he gave a great part of every day while his health permitted. With him English medicine loses one of its great names. For over a quarter of a century he was in general practice in Burnley, and it was during those years that he began and carried far forward the investigations which were to revolutionize cardiology. He attained a position of world-wide eminence as a research worker and clinical investigator in what is admittedly a difficult subject. His success was due to a buoyant temperament which, coupled with untiring industry, enabled him to get through an immense amount of work; to a well founded belief in his own capacity to observe and reason correctly; and to an innate mental fearlessness and integrity which compelled him to rest his doctrine on facts rather than on authority.

He was born in Scone, the ancient coronation place of the Scottish kings, on April 12th, 1853; he was educated at Perth Academy and at the University of Edinburgh, where he graduated in medicine in 1878, and received the degree of Doctor of Medicine in 1882. After a term spent as house-physician in the Edinburgh Royal Infirmary immediately following graduation, he began practice in Burnley in Lancashire, and remained there for twenty-eight years. It was during his residence in that town, and while engaged in all the activities of a busy general practitioner, and with a hospital appointment, that he carried out the investigations which led to the introduction of the polygraph as a means of studying the various irregularities of the pulse. Perhaps during no part of his life is his character as a painstaking, persevering investigator better brought out. He says in the preface to one of his publications that amid the distractions of his daily work he has "seldom been able to give an uninterrupted hour's study to the subject." There is no doubt, on the other hand, that much of his research could not have been undertaken otherwise than in general practice, for many of his conclusions were arrived at after following the course of disease in individual patients over many years.

Mackenzie early turned his attention to the investigation of the interpretation of the pulse, and to the elucidation of the various cardiac rhythms. We find him in 1892 in the *Medical Chronicle* publishing a paper on "The symptoms associated with visceral disease," and two years later, to the *Journal of Pathology and Bacteriology*, a paper on "The venous and liver pulses and the arhythmic contraction of the cardiac cavities"; but it was in 1902, when his book on *The Study of the Pulse* appeared, that Mackenzie became definitely recognized as one who had produced a work as likely to revolutionize our ideas of the pulse, and we find this book translated into German, in which country his work was already attracting attention.

In 1907 he settled in London and quickly took his place as one of the foremost consultants in diseases of the heart. He was appointed physician to the Mount Vernon Hospital for Diseases of the Chest, and some years later (about 1913) became physician in charge of the cardiac department at the London Hospital.

In 1908 there appeared his *magnum opus* on *Diseases of the Heart*, which, in the course of five years, went through three editions, and was translated into German, French, and Italian. When war broke out his wards were utilized for military purposes, and he had perforce to give up his regular teaching, though he continued his consulting practice in London till 1918. During his residence in London

he was the recipient of many honours. In 1911 he delivered the Oliver-Sharpey Lectures and also the Schorstein Lectures—in the former dealing with heart failure and in the latter with auricular fibrillation. In 1914 he was appointed first George Alexander Gibson Memorial Lecturer at the Royal College of Physicians, Edinburgh, and in 1915 he was elected Fellow of the Royal Society for his researches into the heart in health and disease. In the same year he received the honour of knighthood from His Majesty, and a few years afterwards was appointed honorary consulting physician to the King in Scotland. During this period he also produced his shorter work on the *Principles and Diagnosis of Treatment in Heart Affections* and in 1909 a book on *Symptoms and their Interpretation*, which passed through four editions and was translated into four European languages.

Following his resignation from the London Hospital his work took on a new aspect, and the publication in 1919 of his book on *The Future of Medicine* raised a considerable amount of discussion. His aim was to encourage research in the beginnings of disease, and with this object in view the St. Andrews Institute for Clinical Research was founded, and to it Sir James Mackenzie devoted the remaining years of his life.

Many of his most important contributions to periodical medical literature, both during his residence in Burnley and afterwards, were published in this *JOURNAL*; the most recent were "A new outlook in cardiology," a long paper which ran through three numbers and dealt in particular with the sino-auricular node, the auriculo-ventricular node, auricular flutter, and the cause of heart failure; a "Preliminary inquiry into the nature of the cell impulse"; and his last contribution, "A plea for clinical physiology," all published during 1924. In addition to the papers in this and other medical journals he had published in recent years two books—one on *Heart Disease and Pregnancy*, and the other, the most important of his later works, on *Angina Pectoris*, which was the result of his investigations into this subject from the time of his early days in Burnley.

Born in Scotland, of Scottish parents, Mackenzie never lost the dogged determination that is said—not without truth—to be characteristic of that nation. Endowed with an inherent inclination to surmount difficulties, he manifested that form of genius which is defined as being "the infinite capacity for taking pains," but he was also possessed of vision and was not content to confine himself to the broad road. In his later years he concentrated his energy on stirring up a righteous discontent in the profession with things as they are, and, adopting the prophetic mantle, aimed at showing it a more excellent way.

The magnitude of the work he did in connexion with disease of the heart has been recognized all over the globe. He was early impressed with the inability to interpret the different irregularities of the pulse, and out of the chaos of the nineteenth century he evolved the order of the twentieth. Had he done nothing more than isolate the heart with auricular fibrillation from other conditions, and demonstrate its relation to digitalis therapy, he would have placed the profession under a lasting debt of gratitude. His work with the polygraph may be said to have revolutionized our knowledge of the cardiac mechanism and put the diagnosis and treatment of certain diseases of the heart on a logical basis, while it laid the foundation upon which most of the more recent work has been done. His views on cardiac failure are now so generally accepted that it is already difficult to realize that he put a new complexion on this aspect of the subject, and if some may have thought that he took an extreme position it must be remembered that it required strong dogmatic teaching to arouse a self-satisfied profession.

Throughout the course of his research on heart disease he was constantly met with difficulties from his inability to interpret many simple symptoms, and he was thus led into bypaths which he has illuminated in his earnest endeavour to seek out the truth. Perhaps nowhere is his thoroughness and his determination to get first-hand information better illustrated than when he describes in his book *Symptoms and their Interpretation* an operation at which he was the





*Macdonald*



surgeon: "I had occasion to resect a small portion of the small intestine in a conscious subject, for umbilical fistula, whose abdominal cavity I laid open. He refused to take an anaesthetic, and no analgesic, local or general, was administered"; and then follow the results of his observation, illustrating his views on the reflex character of visceral pain. He considered that the taking of surgery out of the hands of the general practitioner was a great loss to medicine, and he maintained that if practitioners could not themselves perform an operation on a patient they should at least be present to find out the explanation of the symptoms.

He long held the view that medicine was taught in the wrong order, and that the simpler and commoner diseases should be demonstrated by the out-patient department, while a junior physician would be quite competent to teach in the wards on the fully developed diseases. When he retired from consulting practice in London he had already prepared his plans for an Institute of Clinical Research, and in St. Andrews he found an ideal centre, with a comparatively stationary resident population, for putting into practice his views regarding the study of the beginnings of disease. He realized that it would be many years before the Institute could prove its real value, but he hoped to have the opportunity of training others in the method he considered best adapted for the purpose in view. It is yet too soon to estimate the full results of this scheme, but under his directorship many valuable contributions to clinical medicine have already appeared in its published reports, while the practitioners in St. Andrews who are on the staff of the Institute acknowledge the very great assistance it has been to them in their practices, and the inspiration and interest in their work which contact with the "Chief" has engendered. He had the power of inspiring enthusiasm among his co-workers, and he never lost an opportunity of preaching his principles to any visitors who came to the Institute. In his presence one could not fail to be affected by the magnetism of his personality. When carried away with his own views, whether in conversation or in writing, he was apt to leave the impression that other lines of investigation than those adopted by him were useless, and in this way his diatribes against stethoscopes, electro-cardiographs, valvular murmurs, and morbid anatomy were apt to be misleading to those who did not understand him. For all of these things, however, he found a useful place in his own writings, and his aim was to prevent others from giving them an undue prominence in their medical work.

He was probably not at his best with a large audience. The attention required for careful dictation was liable to curb the flow of his thoughts, and he was apt to drop into a more colloquial and forceful manner of address. He was at his best with a few listeners, and he could always display an earnestness and sincerity which never failed to impress. Kindly in disposition and always approachable, though sometimes almost brusque in manner, he never lost an opportunity of trying to inculcate his views on the many medical men who visited him from all parts of the world. Though it may be said that he lived for his work, he found time to have a daily round of golf until latterly he found the strain too much. His health had been failing for some time, but even when his attacks of pain were becoming more frequent and more acute he still found time to devote to his work. Like not a few men who have risen to eminence in the medical world, he was cut off by an affection of that organ the functions of which he had done so much to elucidate.

In 1887 he married the daughter of Dr. George Jackson of Boston: two daughters were born to them. To Lady Mackenzie, his devoted wife, and to her surviving daughter, from both of whom he received untiring encouragement and help in his happy home life, the sympathy of the profession and their large circle of friends will go out in their grievous loss. His brother is Sir William Warrender Mackenzie, K.C., K.B.E., one of the editors of *Lancet*. The portrait with which this notice is illustrated is from a photograph taken at the Institute for Clinical Research, St. Andrews, by Mr. Smith. We are indebted for it to Professor Waterston.

#### TRIBUTE BY SIR THOMAS LEWIS.

We are indebted to Sir Thomas Lewis for the following tribute to Sir James Mackenzie's character and work: It was in 1908, and shortly after he migrated to London from his old home and practice at Burnley, that I first came to know Mackenzie personally. While it was never my privilege to work under his supervision, yet he extended to me, though many years his junior, a friendship which soon became intimate and highly prized. I found in him during those years before the war, when we were in almost daily and personal communication, a man wholeheartedly devoted to the search for knowledge of disease, and eager, most eager, to impart his spirit and conceptions. He was an exceptionally vigorous and strong personality, intolerant in criticism, rich in personal experience, combative in argument, but open nevertheless to conviction on all questions without reserve. He saw, as few or none of his day saw, where clinical knowledge ends and ignorance begins, and never hesitated to define the limits of his knowledge; I frequently heard the words, "I don't know." To him diagnosis, the affixing of a contemporary label, gave little satisfaction; his patient still contained his problem or his problems. Mackenzie's mind could not rest on the known, but turned incessantly, at each and every hour of the day, to the unknown, and in perceiving and defining the unknown he displayed a masterly power. To know Mackenzie intimately was to imbibe independently of thought; none could go to him seriously to discuss and survive the growing shocks of that first interview, return without a gift of stimulation and stimulus. For he possessed the As a man he was hard-headed and warm-hearted, quick in temper and in sentiment, genial and hospitable, possessed of an invigorating blunt humour. Schooled by long experience in the sensibilities, reservations, obstinacies, and frailties of patients, he was an astute and shrewd physician, who rarely failed to inspire an unlimited and merited confidence.

This briefly of his practical work as I knew it; as a bedside investigator he ranks, in my judgement, as the first of his time; he has gone from us to hold a place in the history of British medicine by the side of Sydenham, Stokes, Graves, Addison, and Bright, and he will live in memory as not the least of such men. To describe the solid work accomplished by him in his long, arduous, but always enthusiastic struggle for "the light," to attempt to weigh its detail and to assess its breadth, not in one but in its many phases, fully and truthfully, cannot be done briefly; to summarize that which most of his contemporaries in large part know—I think, belittle the greatness of his achievement. To the end of a long and painful illness, when the hand of that malady which John Hunter also suffered, and into which none had a clearer insight than Mackenzie, heavily upon him, his mind retained all its former alertness, searching his own bodily symptoms, and not unsuccessfully, for some further clue to their meaning; this last contribution was to him inevitable, being but a natural epilogue to the drama of a full and rich life.

#### A TRIBUTE FROM ST. ANDREWS.

In the deep sense of recent personal loss it is not easy for his St. Andrews colleagues to pay an adequate tribute to the memory of Sir James Mackenzie, and it is possible only briefly to mention some aspects of his work and his influence there. Sir James Mackenzie's work culminated in his foundation of the Institute for Clinical Research at St. Andrews. The reasons which induced him to establish the Institute there and the special line of research which he desired the Institute to represent have been fully expounded by himself in various papers and in the reports of the Institute. As a clinical investigator his work began with the observations which he made while in practice at Burnley. His busy consulting and hospital practice in London added to the wealth of his experience, but it was in his work at the St. Andrews Institute that he summed up and put forth

the considered conclusions drawn from the clinical observations made during the course of his life's work.

The conception of an Institute devoted to clinical investigation was the outcome of his pioneer work as an investigator while a general practitioner. He formulated the fundamental truth that medicine is a special branch of science dealing with a special group of phenomena to which the clinical investigator must apply the methods specially suitable for his purpose. Other sciences have their contribution to make to medicine, but they are to be regarded as ancillary, and not replacing the proper methods of clinical investigation into the phenomena of ill health and disease which afford the material for study. Among other things, it was essential, in his view, to employ the opportunities the general practitioner alone possesses of watching the "life-history" of ill health in patients over a long course of years.

St. Andrews was known to him, was a place of convenient size, and seemed in other respects suitable for launching his great enterprise. After paying some visits to it he decided to give up his appointments and his work in London and to devote his energy and ability to this new field.

What it meant to leave London and his work there is not easily estimated. The London Hospital authorities had given him every facility for special hospital work. His position had been recognized as a great consultant, clinician, and teacher. He deeply appreciated the facilities which had been afforded him, both at the London Hospital and at the Mount Vernon Hospital, Hampstead. But he realized that he could not in London carry on the work which he felt was fundamentally necessary for the advance of medicine, and after full consideration he decided to leave London and to devote himself to founding a research institute.

He came to St. Andrews unknown to all but a few of his medical colleagues, and began at the Cottage Hospital a series of clinics in the out-patient department, to which he soon attracted all the practitioners. These clinics rapidly produced the desired effect and aroused in his audience the desire to co-operate in the work which he showed them was waiting to be done. With the assistance of generous friends who were deeply interested in his ideas, and with his own financial help, a suitable building was secured and fitted up, and the definite work of the Institute was begun. At a later stage, as the usefulness and value of the work became realized, additional help was given by the Carnegie Trust and by the Medical Research Council.

Of the work which has been accomplished at the Institute this is not the occasion to write at length, nor is it possible as yet fully to estimate the significance and the far-reaching results of this pioneer movement in medicine. It has already had an influence far wider than a merely local one, and medical thought and medical practice in many countries of the world have received from it direction and guidance. The recent award to him of the Mickle Fellowship of the University of Toronto is an illustration of the wide recognition given to his work in St. Andrews.

For three years he devoted his whole time and thought to the work of the Institute and to the training of those who worked with him there, and then, satisfied that he had laid down the lines for their work, he gradually withdrew himself from active direction, and gave to the members of the Institute the opportunity of carrying on the work by themselves. At a still later stage his health began to fail, and he decided to winter in a milder climate, but to the very last the welfare of the Institute was foremost in his interests and thought.

It is not easy for his colleagues to realize fully the extent of the loss they have sustained by his sudden death. His vivid personality and the vigour of his mind had made a deep impression upon them and the stimulus of coming into contact with him in discussion and debate was of incalculable benefit to them all. They realized the greatness of his genius and his extraordinary insight into medicine, and they had come to look upon him, not only with respect and admiration, but with the most sincere affection.

Great as was the influence of his personality his colleagues

feel that the value of his work did not depend upon that element, and will not end with his death. Not only is his work upon the heart, but in the wider field of general medicine, his observations and the principles which he has deduced from them are of permanent and abiding value.

SIDNEY BARWISE, M.D., B.Sc., D.P.H.,  
Medical Officer of Health for the County of Derby.

The death of Dr. Sidney Barwise on January 24th came as a great shock to his large circle of friends and to the public health branch of the profession generally. Although for some little time his health was giving cause for anxiety, his mind still retained its remarkable activity, and his energies seemed unabated in devising schemes for the benefit of humanity. His position amongst medical officers was in some respects unique, and his loss will be very real.

Sidney Barwise studied medicine at Queen's College, Birmingham, and obtained the L.S.A. in 1884 and the M.R.C.S. diploma in 1885. Two years later he graduated M.B.Lond. and proceeded M.D. (in State medicine) in 1893. He obtained the B.Sc. of Birmingham University in 1904. He had commenced his public health career in Blackburn in the year 1889. Although he only held the post of medical officer of health for that town for two years, he organized its sanitary administration on sound lines and conducted important investigations into two pressing problems—the smoke nuisance and the health of cotton operatives. Although the foundations of his reputation as a public health worker were laid whilst in Blackburn, it was as the medical officer for the county of Derby that his life's work was done. During the earlier years, when the powers and duties of county councils were much more restricted than they now are, his energies were more particularly directed to the provision of isolation hospitals for infectious disease and the prevention of river pollution. In both these branches he did pioneer work.

A colleague in the public health service writes: Barwise's real opportunity occurred with the extension of the duties of county councils to personal preventive medicine under the schemes of medical inspection of school children, maternity and child welfare, prevention and treatment of tuberculosis and venereal diseases, and the Midwives Act. His work under these schemes has not only proved to be of great value to his county, but has often been a real inspiration to his fellow workers in other parts of the country. His scheme for the dental treatment of school children was perhaps the most complete of any county scheme. It embodied the controversial procedure of employing dental dressers, but in his opinion this was the only method at the present time by which the great mass of school children of the country could get efficient treatment. He may have been right or wrong, but it was characteristic of him that, having come to this conclusion, he pursued his course in face of great opposition, buoyed up with the intense conviction that he was acting in the best interests of humanity. Barwise had the public health "sense" very strongly developed, and his fertile mind was almost continually engaged on schemes, many practicable, some impracticable, for the betterment of the people. As showing that his interests were not entirely confined to his work, it may be mentioned that a letter written in 1912 forecasting the war and the details of invasion of Belgium and France proved remarkably correct in detail and showed that he was a student of contemporary history. Notwithstanding his long and valuable service, one cannot help feeling that by his death a career has been cut short which still had much promise. Dr. Barwise leaves a widow and two children.

Another colleague writes: To any member of the public health service who was privileged to know Dr. Barwise his sudden death will come as a great shock and cause real grief. His infectious enthusiasm, his keenness to acquire knowledge, his energy, which seemed never to flag, and his generosity and kindness, will always be treasured memories to his staff. During the long period he was county medical officer for Derbyshire there was an unceasing

output of work, each of his annual reports, always so stimulating and interesting, showing some fresh achievement. And now that he has laid down the reins there remains as a record a public health department which must be a great source of pride to the Derbyshire County Council and the envy of others.

**JOHN FRASER, M.B., C.M., F.R.C.P.Ed., F.R.S.Ed.,**  
Retired Commissioner, General Board of Control for Scotland.

THE death of Dr. John Fraser at his residence in Edinburgh on January 18th removes a notable figure in Scottish lunacy affairs. Dr. Fraser, who was in his 80th year, recently rendered him unconscious, and, although he lingered on for some days, the shock at his advanced age proved fatal.

John Fraser was born at Thornhill, Dumfriesshire, where his early years were spent. He studied medicine at Edinburgh University, where he had a distinguished record, gaining nine medals in his medical classes, and he graduated there as M.B., C.M., with first class honours, in 1870. After qualifying, he held resident appointments in Edinburgh Royal Infirmary, and thereafter his attention was directed towards the study of mental diseases. In 1871 he was appointed assistant medical officer at Fife District Asylum, Cupar, and a few years later he succeeded the late Sir John Batty Tuke as medical superintendent. The ties of friendship between those two distinguished alienists were later drawn closer by the marriage of John Fraser to Batty Tuke's daughter. In 1877 Fraser was appointed a Deputy Commissioner in Lunacy. As a Deputy Commissioner Fraser's duties were mainly concerned with the insane living under private care, and into this work he entered more thoroughly the system of boarding out patients in private dwellings under suitable guardianship, a scheme which had been initiated by his predecessor, Sir Arthur Mitchell. His energy and enthusiasm soon gained the entire confidence of inspectors of poor and other officials, and animated many of them with his conviction as to the advantage of such a system both to the ratepayer and as a measure of justice to the many insane who, under slight supervision, are capable of enjoying the liberties and pleasures of a natural home life. The system of boarding out suitable cases became generally adopted throughout Scotland, and it has continued to be a marked feature of Scottish lunacy administration. In 1895 Fraser was appointed Commissioner in Lunacy, and in his new capacity he gained the confidence and esteem of his superintendents and other asylum officials. The superintendents regarded them less as an official critic than as a friendly and outspoken adviser whose mature experience and knowledge were always at their service—one who sympathized with them in their difficulties, and was always ready to do all in his power to assist them both with kindly counsel and active support.

Fraser's official connexion with lunacy—extending over thirty-nine years—covered a period of general progress in every direction in the treatment of the insane. There was no method of treatment of recognized merit which escaped his notice or failed to receive his warm approval and support; once convinced that it was for the benefit of the insane he did his utmost to influence others to adopt it. He was thus a real and active force in promoting the most progressive views. His name is bound up with the history of the treatment of the insane in Scotland, and his period

of office as a Commissioner was a most fruitful one and left an indelible mark on the internal administration of asylums, and through his efforts he greatly assisted to improve the conditions for patients in the Scottish asylums. Among the advances initiated during his time may be mentioned particularly the hospitalization of the insane, improved and more efficient systems of nursing, with both by day and by night. He was a strong advocate of all non-restraint methods of treatment, and also of the nursing of male patients by female nurses, which now characterize the administration of Scottish mental hospitals. He was largely instrumental in having precautions against fire perfected in all asylums, and in having efficient means provided for the safety of the patients.

His kindly manner and cheery optimism earned for him the respect of both patients and staff as a genuinely sympathetic visiting Commissioner to whom appeals were never made in vain. His kindly words of advice comforted many and helped smooth difficulties and dispel misunderstandings, the patients feeling that in him they had a real friend, who too a genuine interest in their welfare. As a Government official and public servant he was highly respected, and he worthily maintained the traditions of his office. Dr. Fraser, on his retirement from the General Board of Control under the age limit in 1910, was publicly presented by his numerous friends and admirers with his portrait painted by Mr. Fiddes Watt, R.S.A. Since then he had devoted his time and energies to charitable organizations, more particularly the Society for the Prevention of Cruelty to Children, in which he was keenly interested. He was a director of the Royal Scottish National Institution at Larbert for the care of the feeble-minded. He was predeceased by his wife in 1917, and he is survived by three sons, one of whom is an ear and throat specialist in Edinburgh, and two daughters. A memorial service was held in St. Cuthbert's Parish Church, Edinburgh, on January 21st, at which representatives from various public bodies were present, with many personal friends. The interment was in the Dean Cemetery, Edinburgh.



DR. JOHN FRASER.

We regret to announce the death of Dr. GEORGE COOKE ATTFIELD, on January 16th, within a few days of his 99th birthday. Dr. Attfield was born at Bath on January 27th, 1826, and was educated at St. Bartholomew's Hospital; he obtained the diploma of M.R.C.S. Eng. in 1850. For some years he was medical officer of Millbank Prison, and he subsequently became chief medical officer of prisons in Western Australia, where he remained until the demolition of the convict settlement in 1879. He then returned to England and went to live at Hove. From his early youth he was a keen sportsman, and was especially distinguished as a cricketer. He played at one time in Somerset XI, and it is said that when in Australia he was invited to join an All-England team touring in that country, but was unable to accept. He continued to take the keenest interest in county cricket until his death, and was also well known as a billiard player. Dr. Attfield could remember the epidemic of cholera in London in 1842-3, and during the London bread riots of 1848 he served as a special constable. At the time of his death he was believed to be the oldest medical practitioner in England.

At the death of Dr. OWEN BOWEN, which took place on January 19th, Liverpool loses one of its best known practitioners in the North End. Dr. Bowen had been far from well during the past two years, but with characteristic fortitude continued to practise till within a few weeks of his death. He qualified in 1876, taking the usual qualifications



The diploma of the Society has been granted to Messrs. A. J. Dowek, L. Freeman, E. F. Hottinger, E. J. P. McDowell, A. J. Moody, C. C. Taffs, and C. W. Warne.

Dr. ARTHUR G. CHEYNE IRVINE died at Wellington College, Berks, on January 20th after a long illness contracted during war service as a temporary captain R.A.M.C. Born at Coleraine, Ireland, in 1864, he was educated at King Edward's Grammar School, Birmingham, whence he passed to Queen's College, Birmingham, to study medicine, obtaining the diplomas of M.R.C.S.Eng., L.R.C.P.Lond. in 1890. After a year as assistant house-surgeon to the West Bromwich Hospital he set up a practice at Selly Oak, Birmingham, where his clinical acumen, keenness, and sympathy soon won the esteem of a large number of patients and fellow practitioners. For some years he acted as general secretary to the Birmingham and District General Practitioners' Union. In 1914 he was actively engaged in examining recruits, and in 1915 received a commission in the R.A.M.C., serving at Salisbury Plain, and then at the Command Depot, Sutton Coldfield. He was promoted to captain in 1916, but was invalided out of the service in July, 1917, and with great fortitude and patience lived through eight years of ill health in retirement, leaving a widow and one daughter. Fond of reading, and a really good chess player, representing his county in tournaments, Dr. Irvine bravely adapted himself to the limitations imposed by his ill health, and those who knew him were filled with admiration at his courage and feel that his death is a very real loss to the medical profession.

## The Services.

## DEATHS IN THE SERVICES.

Colonel Robert James Copeland, Army Medical Staff (ret.), died in a nursing home at St. Leonards on January 11th, aged 62. He was the son of the late Major Copeland, of the Indian army. He was educated at Edinburgh, where he graduated M.B. and C.M. in 1886, and entered the army as surgeon on July 27th, 1887. He became lieutenant-colonel on January 30th, 1912, was on temporary half-pay on account of ill health from March 10th to September 10th, 1912, and was promoted to colonel in the big war promotion list of March 1st, 1915. He served throughout the South African war of 1899-1902, when he took part in the relief of Kimberley; in operations in the Free State, including the actions at Paardeberg, Poplar Grove, Dreifontein, Karre Siding, and Pretoria, Diamond Hill, and Belfast; and in Cape Colony, in the clasp and the Queen's medal with six clasps and the King's medal with two clasps. He also served throughout the recent great war as A.D.M.S. of a division, and in command of a general hospital. He retired on August 10th, 1919.

Lieut.-Colonel Delaware Lewis Irvine, R.A.M.C. (ret.), died on January 14th, aged 71, in Westminster Hospital, of injuries caused by being knocked down by a motor lorry when crossing Whitehall on January 7th. He was born at Jesmond, Newcastle, and entered the army as surgeon on July 31st, 1880, became lieutenant-colonel after twenty years' service, and retired on March 28th, 1908. After retirement he was employed from 1909 to 1913 as staff officer to the A.M.O., North Midland Division, Territorial Force. He served in the Sudan expedition of 1884-85, in the Nile campaign, medal with two clasps and the action of Kirbekan, and received the South African war in 1899-1900, when he took part in the actions at Paardeberg, Poplar Grove, and Dreifontein; in those in the Transvaal, with the actions near Johannesburg, Pretoria, and Diamond Hill; and in Cape Colony, in the action at Collesberg; and received the Queen's medal with five clasps.

Major Arthur George Edward Newland, Madras Medical Service (ret.), died in Edinburgh on December 28th, 1924, aged 67. He was the son of the late Charles Edward Newland, schoolmaster, Bangalore. After completing his medical course he served for a time as a civil assistant surgeon in the Madras Medical College, 1879-80. Coming home, he took the L.R.C.P. and S.E.D. in 1880, and entered the I.M.S. as surgeon on April 2nd, 1881, becoming major after twelve years' service, and retiring on August 1st, 1899. He served at Suakin in the Sudan campaign of 1885, in Burma in 1886-89, receiving the frontier medal with a clasp; in the Manipur campaign of 1891 (clasp); and again in Burma from 1891 to 1896, taking part in operations in the Chin Hills and on the North-East frontier, with the Baungshie, Hlang Tiang, and Tasbon columns (clasp). He was the author of *The Inauguration of War, or Service in the Chin Hills* (1894); and a *Handbook of the Languages of the Lais* (1897).

## Medical News.

As will be seen from our advertisement pages, applications for pensionerships and foundation scholarships at Epsom College must be sent in by the morning of February 18th. An examination is also about to be held for the admission of boys as council exhibitors at the College, applications for which must reach the office, 49, Bedford Square, W.C.1, by the morning of February 18th.

The annual dinner of the Huntarian Society will be held at the Hotel Victoria, Northumberland Arcade, on Thursday, February 12th, at 7.30 p.m. The Lord Mayor and Lady Mayoress of London, the Bishop of London, and several other distinguished guests will be present. The price of the dinner is 12s. 6d. (exclusive of wines). Decorations will be worn.

The second annual evening concert, given by the London Stock Exchange Male Voice Choir in aid of the Royal Medical Benevolent Fund Guild, will be held at Wigmore Hall, Wigmore Street, W., on February 24th, at 8.15 p.m. The choir will be assisted by Miss Phyllis Lett, Mr. Edward Halland, Miss Harriet Cohen, solo pianoforte, and Mr. Leonard Dove, accompanist. Tickets—price 10s. 6d., and 5s. reserved; unreserved, 2s. 6d.—may be obtained from the box office, Wigmore Hall, or from the honorary organizer, Mr. C. Godwin, 10, Drapers Gardens, E.C.2.

At a meeting of the Royal Sanitary Institute, to be held at 90, Buckingham Palace Road, S.W.1, on Tuesday, February 10th, a discussion on food and health will be opened by Major-General Sir Wilfred Beveridge, K.B.E., who will be followed by Dr. W. M. Willoughby. The chair will be taken at 6 p.m. by Dr. Louis C. Parkes.

Dr. MAUD F. FORRESTER-BROWN, M.S., has been appointed for a third year to the William Gibson research scholarship of the Royal Society of Medicine for research in orthopaedics.

THE Fellowship of Medicine announces that Mr. Arthur Giles will lecture, on February 2nd, on the operative treatment of uterine displacements, at 1, Wimpole Street, at 5.30 p.m. During February the following courses will be held: a three weeks' combined course in diseases of children at the Paddington Green Hospital, Victoria Hospital, and the Children's Clinic; a four weeks' course in dermatology at the St. John's Hospital for Diseases of the Skin; a month's course in venereal diseases at the London Lock Hospital (if eight entries are received); and eight clinical demonstrations (twice a week) at the School of Tropical Medicine. In the last fortnight of February there will be a course in general medicine and surgery and the special departments at the Prince of Wales's Hospital, Tottenham. In March there will be a course in diseases of the chest, at Brompton Hospital; in gynaecology, at the gynaeology, at the Royal Waterloo Hospital; in infectious fevers, at the Chelsea Hospital for Women; in infectious fevers, at the North-Eastern Hospital, Tottenham; and an intensive course dealing with medicine, surgery, and the specialties, at the Royal Northern Hospital, with which will be associated the above-mentioned courses may be obtained from the Secretary at No. 1, Wimpole Street, W.1.

THE following courses of lectures will be given at the Aucoats Hospital, Manchester: On Thursdays, February 5th, 12th, and 19th, Mr. Diggle will deal with the diseases of the oesophagus; Dr. Norman Kietz will lecture on dyspepsia on February 26th, March 5th and 12th.

THE Illogan Division of the St. John Ambulance Association has reconstructed its horse-drawn ambulance as a motor ambulance, as a parish memorial to the late Dr. B. J. Mayne. At a meeting of the delegates of the Metropolitan Hospital Saturday Fund held on January 21st, the report of the Distribution Committee recommending awards to participating institutions to the amount of £70,488 was adopted; in 1923 the sum of £71,532 was distributed.

Dr. J. T. WILSON of Bothwell has been presented by his friends with a silver salver and two fruit dishes in recognition of his services rendered to public health during thirty years of office as medical officer of health for the county of Lanark.

THE late Dr. Henry Gervis has left estate of the gross value of £100,457, with net personalty £97,233. He has bequeathed to the Royal College of Physicians of London a miniature on ivory of Dr. William Hunter by Cosway.

THE *Journal of Scientific Instruments*, a monthly publication dealing with their principles, construction, and use, produced by the Institute of Physics with the co-operation of the National Physical Laboratory, and hitherto published by the Institute, will in future be published by the Cambridge University Press on behalf of the Institute.

THE Dr. Sophie A. Nordhoff-Jung prize of 1,000 dollars for the best work on cancer will be awarded in 1926. Further information can be obtained from the Director of the Department of Biology, Georgetown University, Washington.

Dr. E. F. J. PREGRENE, of Gray's Inn, was called to the Bar on January 26th.

IT is proposed to establish a medical college for women in the outskirts of Tokyo, to accommodate eventually about 700 students.

THE Universities Bureau of the British Empire has issued a report enumerating the students from other countries who were enrolled in the Universities and University Colleges of Great Britain and Ireland, in October, 1924. The total number of students so enrolled was 4,385, of whom 1,573 came from Asia, 1,144 from Africa, 794 from America, 564 from Europe, and 310 from Australia; New Zealand, and Fiji. India, Burma, and Ceylon sent 1,199; South Africa and Rhodesia, 747; the United States of America, 425; Egypt, 309; Australia, 188; Canada and Newfoundland, 162; and New Zealand, 121. Many students from other countries study in England without so enrolling; law students and students in technical schools and research institutes are not included in the figures given above. The report contains also a note of the interchange of teachers in 1923-24 between the Universities of Great Britain and Ireland and those of other countries.

On January 21st the death took place at Hatch End of Mr. E. J. Sowerby, chairman of Messrs. H. K. Lewis and Co., Ltd. Owing to failing health he retired from active work in April last. He went to Gower Street in 1872, when Mr. H. K. Lewis was still at the head of the business; from 1880 he was manager under Mr. Morris Lewis; in 1905 a partnership was formed of which he was the senior member. In 1915 the present company was created, Mr. Sowerby being chairman, with the other partners as directors. The interment took place on Monday last at Pinner.

## Letters, Notes, and Answers.

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the BRITISH MEDICAL JOURNAL alone unless the contrary be stated. Authors desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Financial Secretary and Business Manager, 429, Strand, W.C.2, on receipt of proof.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—not necessarily for publication.

Communications intended for the current issue should be posted so as to arrive by the first post on Monday or at latest be received not later than Tuesday morning.

The telephone number of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is Gerrard 2630 (Internal Exchange). The telegraphic addresses are:

EDITOR of the BRITISH MEDICAL JOURNAL, Aitiology Westrand, London.

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), Articulate Westrand, London.

MEDICAL SECRETARY, Mediscera Westrand, London.

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 4737 Dublin), and of the Scottish Office, 6, Rutland Square, Edinburgh (telegrams: *Associate, Edinburgh*; telephone: 4361 Central).

### QUERIES AND ANSWERS.

"R." asks for advice in the treatment of persistent ulcerative Vincent's angina of tonsil.

#### MOSQUITO BITE.

DR. GERARD C. TAYLOR (Reading), in reply to Dr. Effennell's query (BRITISH MEDICAL JOURNAL, January 10th, p. 95), writes: In my experience the application of solid menthol is effective in allaying the irritation and minimizing the after-effects of a mosquito bite. It should be rubbed well into the punctures and surrounding skin.

#### HERPES AND VARICELLA.

DR. C. H. LAYER (Redhill) writes: I should like to record another case of the coincidence of herpes and chicken-pox. On December 25th, 1924, a lady, aged 60, developed herpes of the right ilio-hypogastric nerve. On January 11th, 1925, her daughter, aged 30, who had nursed her mother, developed chicken-pox. This was a well marked case, the vesicles appearing in crops and running their usual course. There was no history of any contact with chicken-pox.

#### TREATMENT OF TUBERCULOUS MESENTERIC GLANDS.

DR. H. G. FALKNER (London) writes: In answer to "P.'s" question on tuberculous mesenteric glands, I would refer him to Crowde, Hodder and Medical JOURNAL, its Therapeutic Uses, by F. H. Humphris (London: H. Milford, Oxford University Press, 1924, price 8s. 6d.). In sun and day light it would seem to be the ultra-violet rays that are of most importance. These rays have a profound influence on metabolism, raising the power of resistance and stabilizing it. This accounts for the many remarkable results got in most tuberculous lesions. I have seen several cases of tuberculous mesenteric glands completely cured by ultra-violet ray treatment.

### LETTERS, NOTES, ETC.

#### HYOSINE IN PARALYSIS AGITANS.

With reference to the note in our issue of December 27th, 1924 (p. 1222), it should have been stated that the hyosine doses were given twice a day—namely, at 10.30 a.m. and at bedtime—in half a tumbler of water.

#### FREUDIAN DOCTRINE.

SURGEON REAR-ADMIRAL C. MARSH BEADNELL, R.N., writes: May I record my opinion that the question propounded by Sir Bryan Donkin (December 20th, 1924, p. 1177) as to whether or no a discussion of the Freudian doctrine is desirable and practicable should be answered in the affirmative? But as this particular doctrine is but one among many others believed by the majority of scientific and medical men to be based, not on fact, but on unverified assumptions—all of which constitute a challenging invasion of medical territory—I would extend the scope of inquiry suggested by Sir Bryan Donkin to the formation of a committee of leading medical men and psychologists to investigate the claims of the advocates of these doctrines. A published verdict of such a committee would go far to check what can, in many instances, only be described as exploitation of the glibly credulous. As a whole, the medical profession has, through its aloofness towards such doctrines, failed in its duty to the general public. Three culprits—the New Physics, the New Physiology, and the New Psychology—have figured prominently during the last decade, and yet, with certain praiseworthy exceptions, none of

these has been seriously questioned by members of the medical profession. The consequence of this deplorable passivity on the part of medical men is that the general public is in the dark as to their views, and in many instances has been grossly misled. To take but one of these pseudo-sciences as a case in point—the New Physics, or, as better known, the Electronic Reactions of Abrams. This alleged diagnostic and curative system, which involves violation of the known laws of physics and physiology, has for long been suspect, yet we have to thank an American committee for showing up the vaunted reactions as non-existent and the treatment as valueless.

The New Physiology or the New Plasmology, as Sir Conan Doyle has dubbed the "science" dealing with the alleged "psychic" exudation called "ectoplasm," has never been seriously investigated by critics in this country. The New Psychology is a term monopolized by Neo-Freudians in lieu of psycho-analysis, but in it must also be included telepathy, or the alleged sympathetic action between two "minds"; telekinesis, or the alleged power to move material objects by "thought" alone; and cryptesthesia, a faculty of cognition claimed by Richet to be dependent on extrasensory channels of knowledge. Each of these cults has its famous apostles, yet none of them has been subjected to systematic investigation. It may be said that if a person states that dragons inhabit the centre of the earth the onus of proving their existence is on him and not on his critics, otherwise medical men, psychologists, etc., would be frittering away their time in discussing the reactions of lunatics and impostors. When credulity is the result to the community, as the profession voiced its verdict.

#### LONG FREEDOM FROM RECURRENCE AFTER OPERATION FOR CANCER OF THE BREAST.

DR. JOHN BROWN (Blackpool) writes with reference to Mr. Steward's case of cancer of the breast in a woman aged 81 years (January 24th, p. 156): I consider the conclusion drawn, that the four cancerous nodules in the scar were connected with the cancer removed thirty-one years before, is fairly open to question. Cancer in persons over 75 is due to degenerative changes in the epithelial cell, and in many cases they are very slow in growth, usually painless, and may be looked upon as a form of natural decay. We know that scar tissue is predisposed to cancerous degeneration. I would call the attention of your readers to an interesting case of chronic cancer of the breast, who died at 97 years of age, recorded by Sir J. Rickman Godlee; there were no enlarged glands. The specimen is in the Royal College of Surgeons of England, Lincoln's Inn Fields, No. 1,774.

#### AN OPERATION AND AN OBSERVATION.

DR. JOHN B. NASH (Sydney, New South Wales) writes: In the Mackenzie Davidson Lecture by Sir Thomas Horder (BRITISH MEDICAL JOURNAL, July 19th, 1924) he is reported to have said:

"In reference to operations may I, in passing, share the lament of Sir James Mackenzie that hitherto so little has been done by way of

Several years ago, in conjunction with Drs. Crawley and Dunlop, I attended a medical man in Newcastle. He was desperately ill with double pneumonia and following streptococcal peritonitis. After about three most anxious and arduous weeks for physicians and nurses, the patient began to recover. Several times since then I have heard the local physicians say: "Pituitrin saved the patient's life." Recently I was operating upon a man, aged 58, for a large tumour of the upper third of the neck between the superficial layer of the deep cervical fascia and the prevertebral layer of the same fascia. The necessary procedure included the cutting of the sterno-mastoid muscle in its lower third, the clamping of the carotid artery, the ligaturing of the jugular vein, the separating of the pneumo-gastric nerve from the other contents of the vascular sheath, the lifting of the tumour from its bed on the prevertebral fascia and muscles. The excised mass consisted of the sterno-mastoid muscle, the tumour, the internal jugular vein, the common carotid artery, the external and internal carotid arteries. When this mass was lifted free I drew the attention of my assistants to the regular and forcible pulsation of the tied stump of the common carotid artery, below the omo-hyoid muscle. The anaesthetist said: "He has just been given a dose of surgical pituitrin." The deduction is that the pituitrin dose was just enough to promote the required systoles in the heart muscle, while allowing of the diastoles in regular sequence. The pulsations sent my memory back to the medical man and his desperate illness, and to the pituitrin which made his unstripped intestinal muscles act forcibly enough to empty freely his distended intestinal tract, thereby ensuring his recovery.

#### VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 31, 33, 36, and 37 of our advertisement columns, and advertisements as to partnerships, assistantships, and locum tenencies at pages 34 and 35. A short summary of vacant posts notified in the advertisement columns appears in the Supplement at page 55.

## Presidential Address

ON

## RECENT ADVANCES IN THE STUDY OF CARDIO-VASCULAR DISEASE.

DELIVERED BEFORE THE ULSTER BRANCH OF THE BRITISH  
MEDICAL ASSOCIATION, NOVEMBER, 1924;

BY

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THE word "study" in the title of this address has been used with the idea that the address may cover a considerable amount of matter which has not as yet, perhaps, reached its full practical utility. I shall endeavour, on the other hand, to discuss the questions taken up in as practical a manner as possible. The period taken as being covered by the term "recent" is merely defined by the period since my own graduation in medicine—twenty-three years. I had intended to give some points with regard to the history of the study of cardio-vascular disease, but time will not permit more than a mention of a very few names.

I think it may be said that four hundred years ago Harvey laid the basis of all real study of cardio-vascular disease. Before his time the views held on the mechanism of the circulation were so speculative and so dissociated from reality that it is difficult to-day to conceive how such ideas could exist.

About a hundred years ago auscultation had led to a definite recognition of the origin and cause of the first and second sounds of the heart, and the question of murmurs was being thoroughly investigated. Just seventy years ago E. J. Marey<sup>1</sup> began the development of his instrumental methods, based upon air transmission of pulsation, and opened up entirely new ground with regard to the study of cardio-vascular disease.

Broadbent's book on the diseases of the heart, published in 1897, might be considered representative of the position of clinical cardiology just before the period termed "recent." I left the Royal Victoria Hospital at the beginning of this period, having had, under Professor Lindsay, as good an opportunity of learning cardiac work as any young graduate could desire.

It is proposed to consider the recent advances under four heads:

- I. Advances in the study of the mechanism of the circulation.
- II. Advances in knowledge of the functional activity of some of the organs of the body, obtained by recent biochemical methods.
- III. Altered views, from a bacteriological and pathological standpoint.
- IV. Recent pharmacological development.

### I. THE CIRCULATORY MECHANISM.

In considering the circulatory mechanism the first point we must take up is our altered view of the mechanism of the heart-beat. This alteration of view means that to-day we recognize the sinus node at the venous-auricular junction as the "pace-maker" of the heart. This node throws in its impulses with the regularity which constitutes the "dominant rhythm of the heart." These impulses start the waves of contraction which flow over the auricle to arrive at the A-V junction. Here they encounter the auriculo-ventricular node, and, through this node, transmit their stimulus down the right and left branches of the auriculo-ventricular bundle. Each A-V branch goes to its respective ventricle, terminating in the Purkinje's fibres, thus constituting a conducting system, which apparently stimulates the true cardiac muscle to contract.

In 1801, when studying at the Nothnagel clinic in Vienna, I took a course upon cardiac disease, and in no part of the course was there any discussion whatever of the analysis of a single heart-beat, although in the textbook recommended (Sahl's *Untersuchungs Methoden*) as an appendix

there was a discussion, with pulse tracings, of the irregular pulse. The analysis of Wenckebach and Engelmann separated the irregular pulse, due to the extra-systole, from the completely irregular pulse, which we now know to be due to auricular fibrillation.

Then came the epoch of Mackenzie's work, which dominated all clinical cardiology. It was based upon the analysis of the single heart-beat, using for this purpose the jugular pulse or venous tracing, correlated with the arterial pulse, etc.<sup>2</sup> If we examine the venous tracing we find that there is a wave which synchronizes with the time of contraction of the auricle, and Mackenzie noted that this wave had disappeared when complete irregularity of the pulse existed. He established definitely that the auricle was not working normally under these conditions. It was left, however, for Lewis to demonstrate that the auricle was fibrillating, but Mackenzie's work placed cardiology upon a new basis, and definitely gave us a true classification of the cardiac irregularities. Auricular flutter had been previously recognized by Ritchie and Jolly, by aid of the electro-cardiograph. Clinical electro-cardiography, which will always be associated with the name of Thomas Lewis,<sup>3</sup> has introduced into medicine an entirely new method of examination—namely, a graphic record of an electric pulsation in the body, which is synchronous with the passage of the wave of contraction over the heart muscle. These graphic records gave us the foundation of our classification of cardiac arrhythmias—namely, sinus arrhythmia, the auricular extra-systole, the ventricular extra-systole, auricular fibrillation, and auricular flutter, together with complete and partial heart-block. The newer method of electro-cardiography gives a further indication which has been interpreted as the occurrence of a block in the conducting system of the heart beyond the auriculo-ventricular junction—namely, in one of the branches of the A-V bundle; that is, either to the right or left ventricle. The electro-cardiogram presents another physical sign, inasmuch as the wave which synchronizes with the ventricular contraction in the heart, the T wave, may become altered, or inverted. This inversion or negativity of the T wave, which occurs in certain electro-cardiographic tracings, has been shown statistically to be a physical sign of grave import in cardiac prognosis (Willius<sup>4</sup>). Thus from the study of the mechanism of the heart-beat knowledge has been obtained which has given a definite classification of the cardiac irregularities, and also definite indication of lesions of the heart which involve the conducting tissue in that organ.

Taking up next the consideration of the mechanism of the circulation in the arteries, blood pressure has become such a well known phenomenon, even amongst the lay public, that it is necessary to say something regarding its estimation. About 1827 it became a clinical method, and Riva-Rocci in 1897 designed the instrument which is probably most used to-day in clinical work. In 1905 Korotkow introduced a method for estimating the diastolic pressure. The estimation of the systolic pressure is easily carried out. Our ability to estimate correctly the diastolic pressure is not unchallenged. In most cases, when using the auscultatory method, there is a distinct sudden change in the character of the "knock" heard over the brachial artery, and I think the record of this point of change as the diastolic pressure is most valuable. Macleod, in his *Physiology*,<sup>5</sup> states that the diastolic pressure is the dead load of the circulation, and is the pressure which the aortic cusps, great vessels, and arteries have got continually to bear. I consider a diastolic pressure which is permanently raised is of much prognostic importance, and it is sometimes relatively unaltered when there is a marked fall of the systolic pressure.

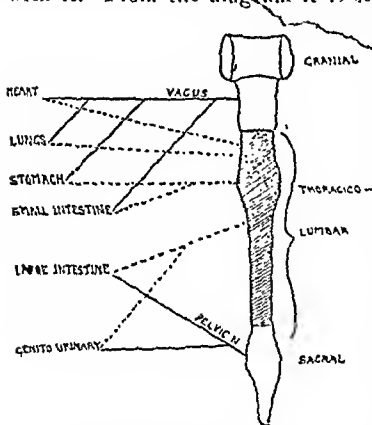
It has been recognized that a single estimation of blood pressure may give a wrong idea of the condition present in some patients. It may be necessary to chart daily the record of blood pressure in order to note how variable it is. A variation of 60 mm. of mercury in the systolic pressure may be seen in forty-eight hours. The difference in millimetres of mercury between the systolic pressure and the estimated diastolic pressure is called the "pulse pressure." This observation is used clinically, but we do not as yet know quite how to assess its true value. I have always thought that the great difficulty in regard to pulse pressure is the



fact that we are unable to obtain a true curve of pulse pressure. We have but two points on this record—namely, the systolic and diastolic pressures—but we have no intervening curve upon a true time base. It would only be by obtaining such a curve that we could integrate this true pulse pressure into work.

Very recently the anatomy and physiology of the capillaries have been studied by Krogh,<sup>6</sup> and his work, in connexion with that of Dale and others, makes it perfectly clear that a capillary paresis, or a filling up of the capillaries of the body with blood, may be the source of a circulatory failure. Thus we have the picture of traumatic and histamine shock, where the arterial system is insufficiently filled because the heart lacks a proper supply of blood from the veins. In other words, the heart is beating rapidly, but receiving relatively little blood, because of the lagging of blood in the capillary system of the body. We must bear this in mind when considering the question of toxic death. It is not sufficient simply to say "cardiac failure" and think that means a failure of the cardiac muscle, any more than that this muscle is, like the rest of the tissue of the body, insufficiently supplied with blood, owing to a lack of blood volume in the arterial system. The treatment of such cases in surgery has to-day become a matter of filling up the circulation by the transfusion of blood or gum saline, etc.

Under the head of the circulatory mechanism we must consider the altered views which a knowledge of the involuntary nervous system, such as presented by Gaskell,<sup>7</sup> brings with it. From the diagram it is seen that the vagus and



Autonomic Nervous System.

pelvic nerves represent the cranial and the sacral outflow of involuntary nervous impulses; they go, in the case of the vagus, to the heart, lungs, stomach, and small intestine, as far as the ileo-caecal valve; whereas the pelvic nerve, or sacral outflow, goes to the colon and the genito-urinary system. These nerves are opposed in their action by what we used to call the sympathetic system, and are often spoken of as parasympathetic nerves. The sympathetic system is that portion of the involuntary or autonomic nervous mechanism which comes from the thoracico-lumbar cord. This sympathetic sends fibres to the heart, lungs, stomach, small intestine, large intestine, genito-urinary system, etc., to antagonize the parasympathetic fibres. We have only recently begun to grasp the clinical meaning of this involuntary neuro-muscular mechanism. When dealing with the problem of D.A.H. (disordered action of the heart) it seemed, at the end of the work which had been carried out, that an explanation of this condition might lie in an instability of this involuntary neuro-muscular mechanism. So much was I impressed with this instability, which appeared to be either inherent or toxic in origin, that I could not help thinking how often in common language the actions of this involuntary mechanism are expressed. Thus we remember the expressions "He has no heart"; "He has no stomach for the fight"; "He has no guts"; and it is well recognized how uncontrolled the sphincters may be as the result of emotion. Further, these involuntary reactions upon an emotional basis bring into consideration their association with the secretions of the endocrine glands. While these ideas are yet speculative and theoretical, out of the knowledge of the autonomic nervous system of the heart there has come a more dramatic picture; and here one must allude to Sir James Mackenzie's work upon the segmental association of the pain reflex and visceral sensations in the spinal cord. In the recently published monograph on *Angina Pectoris*<sup>8</sup> we see this work in its true perspective and are able to appreciate the

practical application of his principles in classifying the condition into a "primary" and a "secondary" form. It was upon this same subject—the interrelation of visceral and somatic sensation—that Dr. Ivy Mackenzie touched when speaking in this hall in the spring of this year. In his paper "The reactions of the ulnar nerve in disease" we have a good example of how modern advance in neurology can illuminate a clinical problem. Professor Danileopol's paper in a recent number of the *British Medical Journal*<sup>9</sup> discusses the surgical treatment of angina by section of afferent fibres from the heart in the involuntary nervous system. One interesting idea arising from the consideration of Professor Danileopol's diagram is the vasomotor reflex from the heart acting upon the lungs. It may, perhaps, aid us theoretically to explain some of the cases of cardiac asthma in which, apparently, no real anoxaemia is present. I would utilize this conception of the relation of heart with stomach and intestine through the involuntary nervous system to impress upon you the importance of dietetic treatment in cardiac cases. How much more we will get out of our study of the involuntary system it is difficult to foresee, but I believe that clinically it will be more and more helpful in the solution of problems which to-day are unsolved.

## II. BIOCHEMICAL TESTS AND FUNCTION.

As a result of biochemical methods Hill, Meakins, and other observers have been able to give us figures of a most illuminating character with regard to the volume of blood which flows through the heart in a minute. Roughly, in a man at rest, a normal heart may pump about 7 litres of blood through in a minute. By active exercise this can be increased up to 30 litres. The exact amount per heart-beat is thus easily calculated. When there is failure of compensation, Meakins<sup>11</sup> has shown that, in spite of a large dilated heart, the minute-volume may be as low as 2½ litres; and he further demonstrated, in some of Ritchie's<sup>12</sup> patients, that as failure increased this minute-volume diminished. These figures allow us to appreciate what cardiac decompensation really means, and let us visualize the importance of absence of *vis a tergo* when we discuss "back pressure" as an increased resistance to the onflow of the blood. Did we know the exact volume of blood per heart-beat, and had an exact time record of aortic and pulmonary pressure, we could state in absolute mechanical terms the work of the heart. These figures are not yet clinically available.

Another advance in the study of cardio-vascular disease has been that biochemists have placed at our disposal methods of estimation of renal function which enable us to diagnose the presence of renal disease. To see clearly a cardiac condition which is associated with renal inadequacy is a great help in diagnosis, and also, necessarily, in treatment. I would only mention that the choice of a diuretic, if a diuretic is to be used at all, must largely be governed by our knowledge of the state of the renal function.

The third biochemical assistance in cardio-vascular disease is that by estimation of the metabolic rate a firm basis is given which determines whether hypothyroidism is present, and somewhat gauges the extent. Recent work on the thyroid has tended to separate a group of thyroid patients in whom the condition is to be described as that of a toxic adenoma of the gland. It would appear that a toxic adenoma is practically a malignant condition. Gradually the intoxication increases, and relentlessly the cardiopathy progresses. A clear case would seem to be made in this condition for early removal of the "malignant" tumour.

## III. PATHOLOGY AND BACTERIOLOGY.

Under this heading let us first consider the rheumatological heart. This has been well described from a pathological point of view by Carey Coombs,<sup>13</sup> who puts forward as clearly the observation that in this pancarditis, as I, and, it, the myocardium is always markedly involved, just as joints and subcutaneous rheumatic nodules disappear. These submiliary myocardial nodules tend to disappear without much injury to the muscle, whereas in possible and vascularized endocardial valves resolution is impossible and cicatrization results. These pathological facts alone are



sufficient to emphasize the necessity of prolonged rest in children who have had rheumatic infection. In fact, the suggestion of sanatorium treatment and notification of acute rheumatic infection is well worthy of consideration.

Next the syphilitic heart. Here the pathology of the arterial change and the recognition of the involvement of the myocardium as well as the great blood vessels, in this progressive lesion, makes it a great additional advantage in prognosis and treatment of cardiac cases to obtain the evidence of a positive Wassermann reaction.

Horder and Libman<sup>14</sup> separate a group of cases of subacute infective endocarditis with very definite clinical signs such as described by Cotton<sup>15</sup> and others. Under the title "endocarditis lenta," Starling<sup>16</sup> and Carey Coombs<sup>17</sup> have presented groups of cases of unusual interest; and if this condition, which anyone connected with cardiac work must have seen, is to be associated with an enterococcal type of infection we have an etiological asset of great importance. Unfortunately, so far the treatment of these chronic endocarditis cases has been practically hopeless.

#### IV. PHARMACOLOGY.

My fourth and final point with regard to advance is the consideration of the pharmacological aspect of cardiac disease. I do not intend to do more than indicate briefly the changes which have taken place with regard to teaching concerning remedies in common use. This group of scientists, the pharmacologists, are pushing steadily ahead, and to-day the student is taught, from a pharmacological point of view, what is the site of action of the remedy he is going to use. In such a subject, so recent and rapid in its development, we are bound to find unconfirmed statements and controversial points; but I believe that, just as physiology has now laid the recognized basis of our clinical teaching in medicine, so will pharmacology be the recognized basis of teaching of therapeutics. Pharmacologists are extending their sphere of action into consideration of problems of immunity, and one hopes that in this field they will equally show their powers of advance. To take, as an example, digitalis, its mode of action and its contained glucosides are to-day more fully understood, and thus we teach that its greatest advantage in therapeutics is the slowing of the ventricle, mainly by the depressing of conduction from auricle to ventricle. Or, again, one may consider the change of method of the administration of digitalis, as suggested by Eggleston, in large doses—a drachm and a half, followed by a drachm in six hours, and a drachm six hours later. The success claimed for this method will teach us not to rely upon small doses in urgent cases, but it is also well to remember that we must always standardize our doses of digitalis by observation of the patient.

One or two points on which we have pharmacological backing are: that calomel need not be avoided as a diuretic in renal disease associated with cardio-vascular change and oedema; that morphine, in medicinal doses, has practically no effect upon the cardiac muscle; it has a central or cerebral depressant action of enormous value; it does not influence to any extent the kidney secretion, and, except where respiratory depression must be avoided, can be given with safety in all cardiac cases.

Quinidine, a remedy of very recent introduction, is still under judgement. One point the pharmacologists have told us is that it is a depressant of the cardiac muscle, and experience has shown that we must carefully control its administration as it quickens the ventricle in the majority of cases. These two facts are most important where there is any question of the likelihood of failure of compensation. The use of adrenaline in Stokes-Adams disease, as suggested by Parkinson, and in the sudden cardiac emergency of chloroform poisoning, must also be noted. What exactly is the effect of pituitrin on capillary paresis has yet to be tested out.

There is no doubt that the work which is being undertaken from a pharmacological point of view will give us back, with a renewed confidence in them, many remedies which have been neglected.

In concluding this attempt to review some of the recent advances in the study of cardio-vascular disease it might be

said there are two distinct lines upon which progress has been made. The increase of knowledge of structure, mechanism, and function gives us a better basis for the recognition of the changes produced by disease—that is, an increased refinement of diagnostic classification. If, on the other hand, we assume that the incidence of the disease precedes these recognized changes, a point Sir James Mackenzie emphasizes, we will appreciate how developments in the study of etiology and immunity will bring with them a hope of new therapeutic methods.

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## Lectures

ON

## THE SYMPATHETIC INNERVATION OF STRIATED MUSCLE.\*

BY

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### LECTURE II.—PART I.

### THE FUNCTIONS OF THE TWO GROUPS OF MUSCLE FIBRES:

#### EXPERIMENTAL EVIDENCE.

In the first lecture I submitted the evidence that has accumulated during the last half-century in demonstration of the fact that the striated muscles of vertebrates consist of two kinds of fibres (in addition to the muscle spindles) and that the difference in their innervation is as distinct as the contrast in their anatomical features, one group being controlled by the spinal cord through medullated somatic nerves, the other by the central nervous system through the intermediation of the sympathetic system, the post-ganglionic non-medullated grey rami communicantes.

In the present lecture I propose to discuss the evidence obtained by cutting the sympathetic and the somatic nerves respectively in proof of the fact that the functions of the two groups of muscle fibres are as sharply distinguished as their structure and mode of innervation. Our preliminary experiments were made upon goats, not only because they are large animals with the simplest type of "standing reflexes," but also because Royle and I had acquired some experience of these animals under experimental conditions in the course of our investigations on spinal shock in 1920 and 1921.

The details of the experiments upon the goat have been given in the earlier accounts of our work in the *Medical Journal of Australia*. I can more usefully employ the time at my disposal in these lectures to explain the principles that guided us in our work and to discuss the results and certain technical points that throw light upon the issues in the present controversies.

In Fig. 3 the essential connexions of the sympathetic system are represented in a purely diagrammatic way. The white rami communicantes that issue from the spinal cord in the thoracic and upper lumbar region end in the ganglia of the sympathetic cord (or in one of the peripheral ganglia not shown in the diagram). From the sympathetic ganglion two series of non-medullated nerves emerge—one proceeding directly to the viscera of the thorax and abdomen, the other, forming the grey rami communicantes, passing to the

\* Delivered by Professor Elliot Smith at University College, January 26th, 1925.

mixed nerve, to reach the striated muscles (*inter alia*) along with the somatic motor nerves.

By cutting the grey rami communicantes at A (as it should be the surgeon's aim to do in all human operations on the sympathetic) sympathetic innervation of the muscles in the area of distribution (as well as of the blood vessels

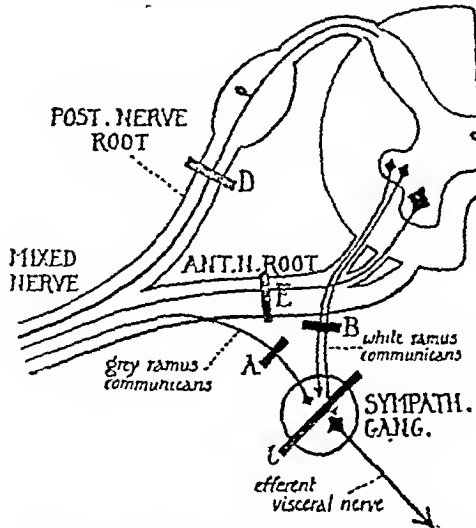


FIG. 3.—Diagram of the essential sympathetic connection.

and sweat glands) is destroyed, but the sympathetic ganglion and the visceral nerves are left undisturbed, and the patient is spared the unfortunate effects of loss of proper control of visceral function, to which he is rendered liable when the sympathetic ganglia are needlessly removed. But for experimental purposes it is often necessary to cut the white ramus at B, and this is also done occasionally (for reasons to be explained later) in human patients. In this case the efferent channels from the spinal cord to the sympathetic cord are severed, not necessarily, nor even usually, to the ganglion (as Fig. 3 might suggest) that the ramus enters immediately, but to some part of the ganglionic cord or one of the peripheral ganglia. In this case, as also in those cases where the sympathetic ganglion itself (at C) is cut or excised, the activity of both the visceral branches and the grey ramus is eliminated. The somatic efferent nerve may in some cases be cut at E without interference with the sympathetic ramus. Another type of experiment—the section of the posterior root at D—cuts off all afferent impulses, both somatic and splanchnic. As the tone of muscle depends upon reflex activity, cutting off the afferent limb of the reflex arc destroys tone equally with damage to the efferent fibres (somatic at E, or sympathetic at A, B, or C).

In the human patient the grey and the white fibres may be so intermingled in the lumbar region as to make it impracticable wholly to spare the white fibres in the operation that Royle has called "ramisection."

With reference to the procedure for removing the influence of the sympathetic system on the hind limb of a mammal or the human leg, I cannot put the essential points more clearly than Royle has already done in his part of the Murphy Oration, illustrating the account with drawings (Fig. 4) made from the excellent dissection by Dr. T. K. Potts of Sydney (see *Journal of Anatomy*, January, 1925).

In experimental animals the sympathetic influence was removed from the left lower limb simply by avulsing the left abdominal sympathetic trunk. This operation could not be considered in the human subject on account of the changes that would follow removal of the sympathetic nerves to the abdominal viscera. The sympathetic nerves supplying the muscles of the lower limb arise from the lumbar ganglia and pass through the rami communicantes to the mixed nerves of the lumbosacral plexus. The human sympathetic ganglia receive white (preganglionic) fibres in some cases as low as the third lumbar nerve. Usually the contribution of white nerves to the sympathetic system ceases at the level of the second lumbar nerve. The dis-

tribution of white and grey rami in this situation is impossible, as it has been shown by N. Bishop Harman that the rami of the second and third nerves may contain both white and grey fibres. The sympathetic supply to the abdominal viscera is given off from the ganglionated trunk in a medial direction, and, provided the operation of ramisection were confined to lateral branches directed from the sympathetic trunk to the second, third, and fourth lumbar nerves, the effect upon the abdominal organs would be negligible. The division of the sympathetic supply to the fifth lumbar and to the sacral nerves presented a more difficult surgical problem, but this solved itself easily, because the sympathetic supply of the viscera is usually given off above the level of the fifth lumbar nerve and complete division of the sympathetic trunk at any point below the level of the fourth lumbar nerve would not affect the viscera. The sympathetic ganglia are not regular structures and do not always correspond in position to the lumbar nerves. The first ganglion usually lies in relationship to the second lumbar vertebra or the intervertebral disc below this vertebra. Below this the trunk may have three or more ganglia. There may, however, be only two definite ganglia.

The plan Royle adopted in the first operation was to divide the rami communicantes of the second, third, and fourth lumbar nerves (at the points marked A, B, and C in Fig. 4, the letters being used with the same significance as in Fig. 3), and to divide the sympathetic trunk at a level corresponding to the fourth lumbar vertebra (C). The

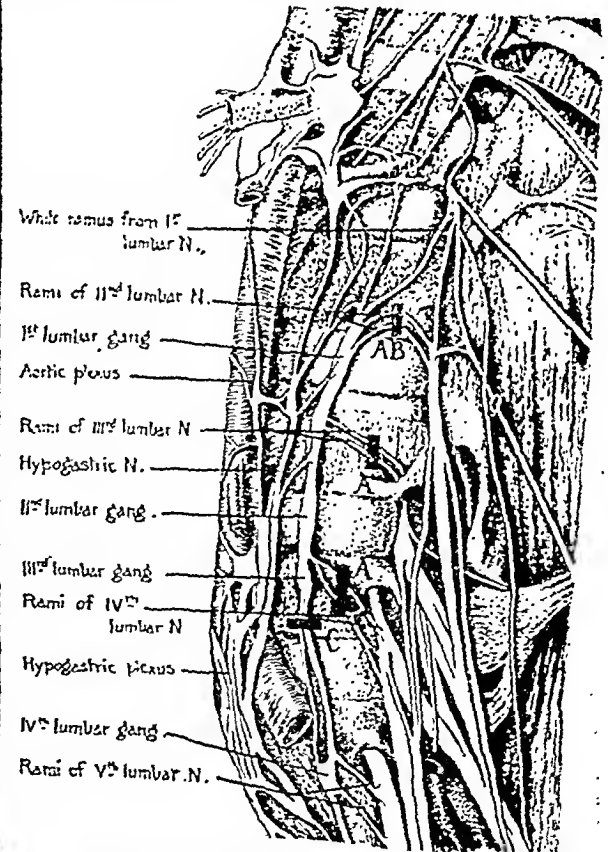


FIG. 4.—Drawing to represent the arrangement of the rami communicantes passing to the left lumbar nerves in man. After Dr. T. K. Potts. The black bars represent the places where avulsion is effected in the operation of "lumbar ramisection." The letters will facilitate the interpretation (with the help of Fig. 3), A being a grey ramus, AB a mixed ramus, and C the sympathetic cord.

exact level of section must depend, however, upon the presence of a ganglion in this situation, and also whether that ganglion is supplying any medially directed fibres.

The ganglionated trunk itself is a very variable structure, and this particularly applies to the region of the fourth lumbar vertebra. On many occasions the trunk in this

situation has been found to divide, and it was difficult to decide which division continued downward as the main trunk. The plan subsequently adopted was to define the ganglion which gives grey rami to the fourth lumbar nerve, lift it from its bed, and remove its lateral, posterior, and inferior connexions. Any medial fibres should be carefully preserved. When this ganglion is not present the ganglion supplying the third lumbar nerve may be unusually large and supply rami to the third and fourth nerves. The size of the ganglionated trunk may vary on each side of the body, and the rami may or may not come from the region of the ganglia.

The size of the rami varies with the number. A single ramus supplying a single nerve may be 2 mm. in diameter, though the usual size of a ramus varies between 0.5 and 1.5 mm. The accompanying diagram (Fig. 4) shows that the lumbar ganglion corresponding in position to the second lumbar nerve receives a large white ramus from the first lumbar nerve. In Royle's series of forty-two lumbar operations this arrangement was almost invariable; in only one instance was this large branch absent. In the first operation this ramus was mistaken for the white ramus of the second lumbar nerve and was divided, but subsequently the ramus has been avoided unless a special therapeutic effect was sought. In every operation both the white and grey rami of the second lumbar nerve have been divided. The position of the ganglia may cause considerable variation in the position and direction of the rami, but, with the exception mentioned above, the rami tend to travel laterally or laterally and downward.

The operation of cutting these three rami and the sympathetic cord at a lower level Royle has called "lumbar ramisection." The procedure for severing the sympathetic supply to the arm he calls "cervical ramisection." In this case the operation can be strictly restricted to the grey rami communicantes without cutting any white fibres or the ganglionated cord of the sympathetic. In Fig. 5 a drawing of Potts's dissection is shown.

The sympathetic trunk does not come into the field of operation excepting in the approach to the first thoracic nerve. The rami above the first thoracic nerve are composed wholly of grey (post-ganglionic) fibres, but the first thoracic nerve itself usually has both a white and a grey ramus. The sympathetic rami as a rule enter the nerve roots of the brachial plexus after they emerge from the intervertebral foramina, though occasionally rami will be found joining the nerve roots within the foramina.

According to the description of normal anatomy the nerve roots of the brachial plexus should emerge between the scalenus anticus and the scalenus medius muscles. In operations Royle says it is exceptional to find this arrangement. It is much more common to find the fifth and sixth roots piercing the scalenus anticus, and in several instances these roots have appeared anteriorly to the muscle. The seventh nerve also is commonly separated from the eighth by a bundle of muscle fibres. The eighth and the first thoracic nerves usually emerge together in a plane posterior to the scalenus anticus. A regular plexus considerably simplifies

the operation, while the difficulty is increased if each nerve root emerges separately through the scalenus anticus.

All the grey rami proceeding to the roots of the brachial plexus are easily broken with a small strabismus hook in the operation of cervical ramisection. The grey ramus to the first thoracic nerve is found on the upper surface of the latter on the medial side of the white ramus (Fig. 5), cutting of which should be avoided if possible.

I have referred to the nature of the operations at this stage to give a precise idea of what actually is done. In the third lecture I shall return to the consideration of the indications for operation . . . of the choice of these rami for avulsion . . . this I must discuss the experimental . . . functions of the two kinds of striated muscle.

Instead of describing the details of the experimental technique, which have been published in the memoirs already mentioned, I prefer to discuss the reasons for such extreme diversities of opinion as to the influence of the sympathetic nerves on striated muscle. This may be most profitably done by discussing certain points in experimental technique—such as (a) the reasons for allowing a considerable interval

to elapse after removing the sympathetic before performing the operation of decerebration; (b) the method of examination of the animal so as to eliminate the disturbing effects of fear upon muscular tone, or the labyrinthine and cervical influences investigated by Magnus and de Kleijn; (c) avoidance of the effects of asphyxia and of anaemia of the brain-stem in decerebrate animals; and (d) the important matter of the choice of animals for experimentation. The latter two points—(c) and (d)—will be discussed in the third lecture. In this lecture I want to direct attention to the important information

obtained from my experiments on birds, most of which has not hitherto been published, although passing references have been made to the preliminary results in the *Medical Journal of Australia* (June 14th, 1924, p. 581) and in *Surgery, Gynecology and Obstetrics* (December, 1924, p. 724).

#### THE FUNCTION OF THE SYMPATHETIC INNERVATION OF STRIATED MUSCLE.

In 1913 de Boer, as the result of experiments upon frogs, claimed to have shown that the sympathetic nerve supply of skeletal muscle was concerned with tone. He believed that the tone of striated muscle was governed exclusively by its sympathetic nerve supply. All subsequent workers have shown that this contention is untenable; and many of them have gone to the other extreme and denied any influence of the sympathetic on muscle tone. The truth certainly lies between these conflicting claims. De Boer's view is being replaced by the conception that only a certain element of muscle tone owes its origin to the sympathetic nervous system. In 1915 Langelan advanced the view that the tone of skeletal muscles consists of two elements, one component being governed by the somatic supply and the other by the sympathetic innervation of the muscle. This conception was independently arrived at by Revon. Later,

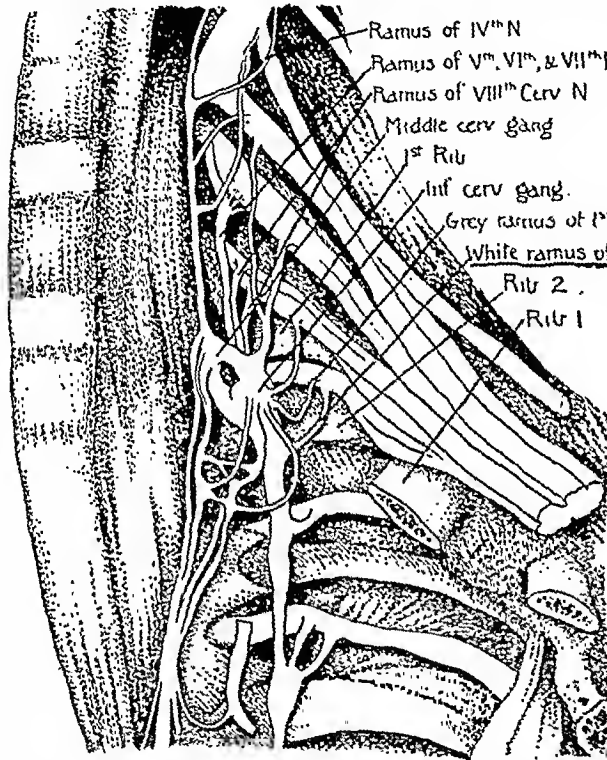


FIG. 5.—Drawing of the left brachial plexus in man to show the position of the grey rami communicantes which are avulsed in the operation of "cervical ramisection." After Dr. T. K. Potts.

Langelan (1922), as the result of experiments on frogs, added further evidence in corroboration of this opinion. He failed, however, to clear away the fundamental objection to the acceptance of his theory—namely, that no investigator had shown tone to be altered consistently in decerebrate preparations as a result of sympathetic denervation; or, conversely, that decerebrate rigidity could develop if the sympathetic innervation were left intact while the somatic nerves were severed.

The importance of decerebrate preparations consists in the fact that, from their study in the hands of Sir Charles Sherrington and others, most of the prevailing ideas of muscle tone have been derived. Sherrington proved that the tone of skeletal muscle was postural in function. He found that the typical position of the decerebrate animal was that of "reflex standing," with all four limbs rigidly extended, and the neck retracted to a greater or lesser degree. Between the phases of rigidity there were periods in which the limbs were no longer maintained in extension. During these periods, or when the extension of the limbs was overcome by passive movement, the musculature was found to exhibit a condition of what Sherrington has called "plasticity." If the leg were flexed at the knee, so lengthening the extensor muscle of the thigh, this position was retained ("lengthening reaction"). If the knee were now extended, so shortening the extensor muscle, the new position was again maintained ("shortening reaction"). Sherrington called the property of skeletal muscle which enabled it to exhibit these reactions "plastic tone." He emphasized that the degree to which this property was exhibited was independent of the length of the muscle fibres exhibiting it. It is important to remember that Sherrington was not using the word "plastic" in the popular sense of being adaptable or easily moulded; what he meant by it was the retention of any position in which a limb was placed. Following the suggestion of Grunetzner and others, he compared this property of skeletal muscle to that of involuntary muscle, such as that which surrounds the bladder wall, which enables it to adjust itself to enclose an increasing volume under practically the same wall tension. Speaking of this comparison Sherrington says: "Both are instances of the postural contraction of muscle; though the relation of the central nervous system to the postural activity is very different in the two cases." For Sherrington believed that the tone of striated muscle was entirely dependent on the intactness of the somatic motor nerve supply, while involuntary muscle can exhibit tone in the absence of its innervation.

The objection to the view that the tone of skeletal muscle is partially governed by the sympathetic nervous system, which has been put forward because experimenters employing the decerebrate preparation have obtained negative or apparently inconsistent results, disappears with the publication of our experiments (the memoirs of Royle and myself). In this work evidence of the connexion of the sympathetic innervation with the tone of skeletal muscle is forthcoming, not only from experiments upon the decerebrate goat, but from the effect of sympathetic ramisection in patients suffering from forms of spastic paralysis, which prior to operation revealed all the essential qualities of decerebrate rigidity. In normal, "spinal," and "decerebrate" animals, and in human patients, sympathetic denervation of the limb musculature led to a consistent qualitative alteration in muscle tone. The defect was found to be a lessening of the efficiency of the muscle in maintaining a position once it had been assumed. This was the case whether the position had been imposed passively, reflexly, or by voluntary contraction; and, as I have previously argued,<sup>11</sup> is due to the same fundamental change—namely, the loss of plastic tone. In the decerebrate preparation, after passive movement, the limb deprived of its sympathetic innervation failed to maintain the new position imposed upon it, when the extensor muscles were either lengthened or shortened. Instead, the limb would fall back to a posture determined by the action of gravity and the length of the fibrous tissues entering into its composition. This illustrates the effect of sympathetic denervation to remove plastic tone, as evidence of which is the absence of the "lengthening and shortening reactions" of

Sherrington. The skeletal muscles of human patients show a similar qualitative alteration. This is clearly shown, for instance, in one of Dr. Royle's patients with spastic paraplegia supervening upon a gunshot wound of the cerebral cortex. Prior to operation this patient clearly exhibited "lengthening and shortening reactions" of the extensor muscle of the knee. Before operation, if the left thigh were lifted from the bed the unsupported leg would remain extended for a long period of time. If the extended leg were passively flexed at the knee-joint it would remain flexed in its new position. If it were now passively extended the extended position would be maintained. After left lumbar sympathetic ramisection these reactions, which are identical with the "lengthening and shortening reactions" of the decerebrate preparation described by Sherrington, were no longer exhibited—that is, plastic tone was removed by the operation.

But it is important to notice that tone does not entirely disappear after sympathetic denervation. Only one efferent pathway to the skeletal muscle has been removed (compare Fig. 3). The remaining somatic innervation is responsible for another component of muscle tone. In the acute decerebrate preparation, for instance, notwithstanding the removal of its sympathetic nerve supply, the typical extensor attitude of the limb is assumed. The neuromuscular mechanism concerned in imposing the extended position is obviously intact—that is, the medullated somatic nerves are responsible for this function. It will readily be seen that the extensor muscles must be shortened in order that the extensor attitude of the limb may be attained. The antagonistic muscle groups, on the other hand, are reflexly inhibited, as Sherrington's studies of the acute decerebrate preparation have shown. Their component of tone, which is somatic in origin, and is exhibited as a degree of contraction of selected muscle groups, may, following Langelan, be called "contractile tone."

Contractile and plastic tone are both postural in function. Contractile tone imposes posture as a result of shortening of appropriate muscle groups; plastic tone takes part in maintaining this posture, once it has been attained, by fixing the length of the muscles exhibiting contractile tone. On account of the responsibility of these two components of tone in the production and maintenance of posture they may together be regarded as constituting postural tone.

As Sherrington has shown (by cutting the appropriate afferent nerves) the production of postural tone depends upon the existence of proprioceptive impulses. Posterior nerve root section in all the spinal segments connected with a given muscle removes both contractile and plastic tone. Impulses arising in the muscles, therefore, discharge (via the central nervous system) through both the somatic motor nerve roots and the white rami of the sympathetic nervous system. In other words, contractile tone is subserved by a somatic proprioceptive reflex arc; plastic tone is governed by a sympathetic reflex arc. As the result of the limited connexions of the sympathetic nervous system with the spinal cord, these reflex arcs for a given muscle group are usually situated at different levels of the central nervous axis. Purely spinal reflexes are, however, inadequate in higher vertebrates for the exhibition of the postural tone responsible for the natural attitudes of the body. The reflexes responsible for the extensor attitude of the lower extremities depend, for instance, upon reflex arcs that pass as high as the pons in the brain stem. It appears that the vestibulo-spinal tract is the descending limb of the reflex arc subserving the contractile tone to the extensor muscles of the limb; while plastic tone depends upon a reflex arc the descending limb of which is constituted by the ponto-spinal tracts. I have recently argued<sup>12</sup> that these reflex arcs are governed by the tectum, substantia nigra, and red nucleus of the mid-brain, and the corpus striatum and the cerebral cortex by way of the cerebellum. The influence of all these structures upon postural tone is produced ultimately through both the somatic and sympathetic efferent connexions to skeletal muscle. In other words, there are two final common pathways to each muscle. The excitatory impulses emerging through the somatic motor pathway all give rise to a contraction of the muscle or to contractile tone. The effect of the excitatory impulses emerging through the sympathetic rami communicantes is to fix the existing length of the



muscle (plastic tone). It is obvious that this is a primary subdivision of postural tone according to the properties subserved by the two efferent connexions of skeletal muscle. The sources of the impulses emerging through each pathway are numerous in each case, as already mentioned. Both connexions are in fact final common pathways in the sense of the term employed by Sherrington.

**TECHNIQUE OF EXPERIMENTS IN WHICH THE DECEREBRATE ANIMAL WAS EMPLOYED TO DETERMINE THE EFFECT OF REMOVING THE SYMPATHETIC INNERVATION OF SKELETAL MUSCLE.**

The negative and inconsistent results obtained by previous investigators employing the decerebrate preparation to determine the function of the sympathetic innervation of skeletal muscle call for comment. The following points appear to have been of importance in leading to the success of the experiments of this kind in the hands of Dr. Royle.

*The Interval between the Removal of the Sympathetic Cord and the Operation of Decerebration:*

In our experiments on goats the lumbar portion of the sympathetic trunk was removed from one hind limb. This was done as a preliminary procedure. Then, at a variable period after this operation decerebration was performed. In our first series the interval between the two operations varied from seven to seventy-three days. The best contrast between the hind limbs on the operated (left) and unoperated (right) side was seen in the animal in which the interval between the operations had been longest. In this animal extension of the left limb was easily overcome in contrast to the opposite limb. When not handled with the animal lying in the supine position, so fixed as to eliminate the disturbing influences, vestibular and cervical (such as Magnus and de Kleijn have described), the left limb rapidly fell from its temporary position of extension to a passive posture of semiflexion. In this stage of relaxation the "lengthening and shortening reactions" were absent.

These effects depend upon the loss of plastic tone. The comparative ease in performing passive flexion of the extended limb is due to the fact that contractile tone, which is responsible for thus imposing this position, alone has to be overcome to alter the position. On the intact side, while contractile tone is responsible for the position of extension, it is assisted by plastic tone, which tends to fix the length of the muscles necessary to maintain this position. When contractile tone is overcome on the partially denervated (that is, deprived of sympathetic nerves) side no further resistance to movement is offered. On the opposite side, though resistance suddenly gives way when reflex shortening of the extensor muscles (that is, contractile tone) is overcome, some degree of resistance to passive flexion is still maintained, because plastic tone still persists. As Walshe has pointed out, this phenomenon has its counterpart in the clasp-knife effect of decerebrate rigidity.

Decerebrate rigidity is due to the presence of an exaggerated degree of both contractile and plastic tone. The extended position imposed by contractile tone (as the result of the

When the limb was passively extended or relaxed spontaneously it would fall into a semiflexed position determined by gravity and the length of the fibrous tissues contained within the limb. If the knee-joint were now passively flexed or extended the leg would resume its original posture. In other words, a passive posture characterized the limb instead of the ability to occupy active postures, which is the property of the normal musculature in the decerebrate preparation. For the "shortening and lengthening reactions" are no longer exhibited—that is, plastic tone is absent.

Unquestionably these three manifestations of the loss of plastic tone are not so clearly exhibited when the interval between lumbar sympathectomy and decerebration is short—for example, when decerebration is performed on the same day as that on which the lumbar sympathetic trunk is removed. I have records of three decerebrate preparations that exhibited the "lengthening and shortening reactions" in this way when both procedures were carried out on the same day. In each of these, however, the resistance to passive flexion and the tendency for the maintenance of the extended position were definitely less than on the control side.

The explanation of the progressive loss of plastic tone may be that this property of skeletal muscle is less dependent upon impulses emerging from the central nervous system than is contractile tone. In this respect skeletal muscle would resemble, to a certain degree, smooth muscle, the tone of which is not absolutely dependent upon its nerve supply. However, there are difficulties in accepting this analogy as an adequate explanation, because recovery in the tone of involuntary muscle occurs as time advances following denervation. But in view of the fact that only some muscle fibres receive sympathetic nerve fibres and are therefore alone responsible for the property of plastic tone (see the first lecture), it is feasible that these denervated "fixing" fibres slowly lose this property following sympathetic denervation, so differing from the neighbouring "movement fibres," which are absolutely dependent for their property of contractile tone upon the intactness of the central connexions of the somatic nerve fibres that supply them. Moreover, in the lumbar operation so far employed, it is necessary to bear in mind that all the sympathetic ganglia from which the grey rami to the lower limb arise are not removed, though efferent impulses from the spinal cord to them are eliminated. This fact may perhaps in some measure account for the progressive loss of plastic tone. However, the whole problem of the determination of the time necessary to produce the complete effect after sympathetic denervation is now being investigated. It can best be solved by studying the effects of the operation in the chronic decerebrate animal described by Bazett and Penfield.<sup>12</sup> Delaying the operation of decerebration until a long interval after the removal of the sympathetic cord disposes of certain claims that have been made in the attempt to explain the changes revealed after sympathetic denervation. In the first instance diminution in tone cannot be ascribed to sensory inhibition due to the wound inflicted in performing the operation of sympathectomy,<sup>13</sup> for ample time is provided to allow healing of the wound to occur. Nor are the changes due to vaso-dilatation, because the diminution in tone persists, or even increases in degree, although the vasomotor changes are a maximum immediately after the operation.

Sympathetic ramisection in human patients affords similar results in this direction; for the loss of plastic tone has persisted for twelve months in the case of Royle's first patient subjected to the operation, although obvious vasomotor changes were present only in the first few weeks. In other patients the circulatory disturbance has been of greater duration: but it had a general tendency to be reduced in degree, while the loss of plastic tone was still apparent. Some of the effects of sympathetic ramisection upon tone may, however, be due to the attendant increase of blood supply to the limb. I refer to its effect upon contractile tone. Dr. Royle has noticed, for instance, that cold has less effect in increasing contractile tone in the limb of a spastic paraplegic which has been subjected to operation than in the limb of the opposite side. As a result of vaso-constriction the limbs of the spastic paraplegic are



FIG. 6.—Decerebrate goat with both fore limbs and the right hind limb rigidly extended. The left hind limb (deprived of its sympathetic innervation) is relaxed. Head and neck fixed to prevent Magnus and de Kleijn phenomena. Note the force necessary to bend the right hind limb.

selective reflex shortening of the extensor muscles) is rigidly maintained by the fixation of the extensor muscles in their shortened state by plastic tone. In the absence of plastic tone this rigid fixation is no longer apparent, and the limb fails to maintain the extended posture (Fig. 6) once the reflex shortening of the extensors dependent upon impulses emerging through the intact medullated somatic nerves ceases. The active posture of extension is now no longer maintained.



invariably colder than normal. The advent of vaso-dilatation (with an attendant increase in temperature of the limb) lessens the degree of contractile tone. This reduction is greater immediately after the operation than it is subsequently, for the vasomotor changes become less marked as time proceeds. But the reduction in plastic tone progresses in the opposite direction.

#### *The Method of Examination of the Animal.*

After removal of the sympathetic innervation of one limb the otherwise intact goat can walk, and run, in the normal manner. The characteristic change produced by the operation is revealed, however, if the animal is placed in the supine position with its head held rigidly in the mid-line. All limbs take up an extended posture under these conditions, but, as Dr. Royle has shown, when the cause for alarm is removed by gentle handling of the animal—for fear excites the defensive reaction of extension—the lower limb of the operated side falls from the extended position into a passive posture determined by mechanical factors. This method of examination for changes in the postural tone of the limb was adopted with advantage for the decerebrate preparation. The goat is placed in the supine position in a cradle and the head is held firmly in the median line, or the animal is first encased in a leather jacket which fits round the trunk and neck, and then placed in the cradle. In this way the effects of the tonic labyrinthine and neck reflexes of Magnus and de Kleijn are excluded. Under these conditions the typical extensor posture, as already explained, is assumed by all four limbs. But after a short period the limb which has been deprived of its sympathetic innervation falls under the action of gravity to a passive posture of abduction and semiflexion.

By this method of examination any defect in the maintenance of posture is readily indicated by failure of the skeletal musculature to support the weight of the limb. This is a matter of importance, for efforts to test for diminution of tone by passive movement set up a reflex spasm of the musculature of the limb which is evidence of the excitability of the nervous connexions responsible for contractile tonus. Clinicians are familiar with this observation. For spastic muscles may before palpation show no evidence of an increased degree of contraction; but a reflex tonic contraction is set up immediately passive movement is attempted. In the first phase the posture is maintained predominantly by plastic tone. After examination of the limb is commenced increased contractile tone is superadded. Obviously the effect of passive movement will be to obscure any diminution in the degree of plastic tone. Nevertheless, passive movement overcomes contractile tone alone more easily than contractile and plastic tone combined.

The results of my experiments on the wings of birds are so important and illuminating that, at the risk of making this account unduly long, I must make some reference to them.

#### REFERENCES.

- <sup>11</sup> Brain, 1924. <sup>12</sup> Surgery, Gynecology and Obstetrics, 1924. <sup>13</sup> Brain, 1922. <sup>14</sup> Compare Uyeno, *Journ. of Physiology*, 1922, p. 259.

(To be continued.)

## TUBERCULOSIS INCIDENCE AND CLIMATE IN INDIA:

### RAINFALL AND WET WINDS.

BY

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In 1923 I published maps<sup>1</sup> showing a close world-wide relation between high rainfall and high leprosy incidence, and also demonstrated the same point in detail for India by means of the leprosy census figures and a study of the rainfall records of two thousand stations in that country, the only exception being that the disease appears to have spread from the wet Bombay coast into the comparatively dry Deccan along the oldest known trade routes in India. I also collected data regarding the incidence of tuberculosis in a number of tropical countries, but found the relation to rainfall to be less striking than in the case of leprosy, while M. Kerandel<sup>2</sup> has recently come to a very similar

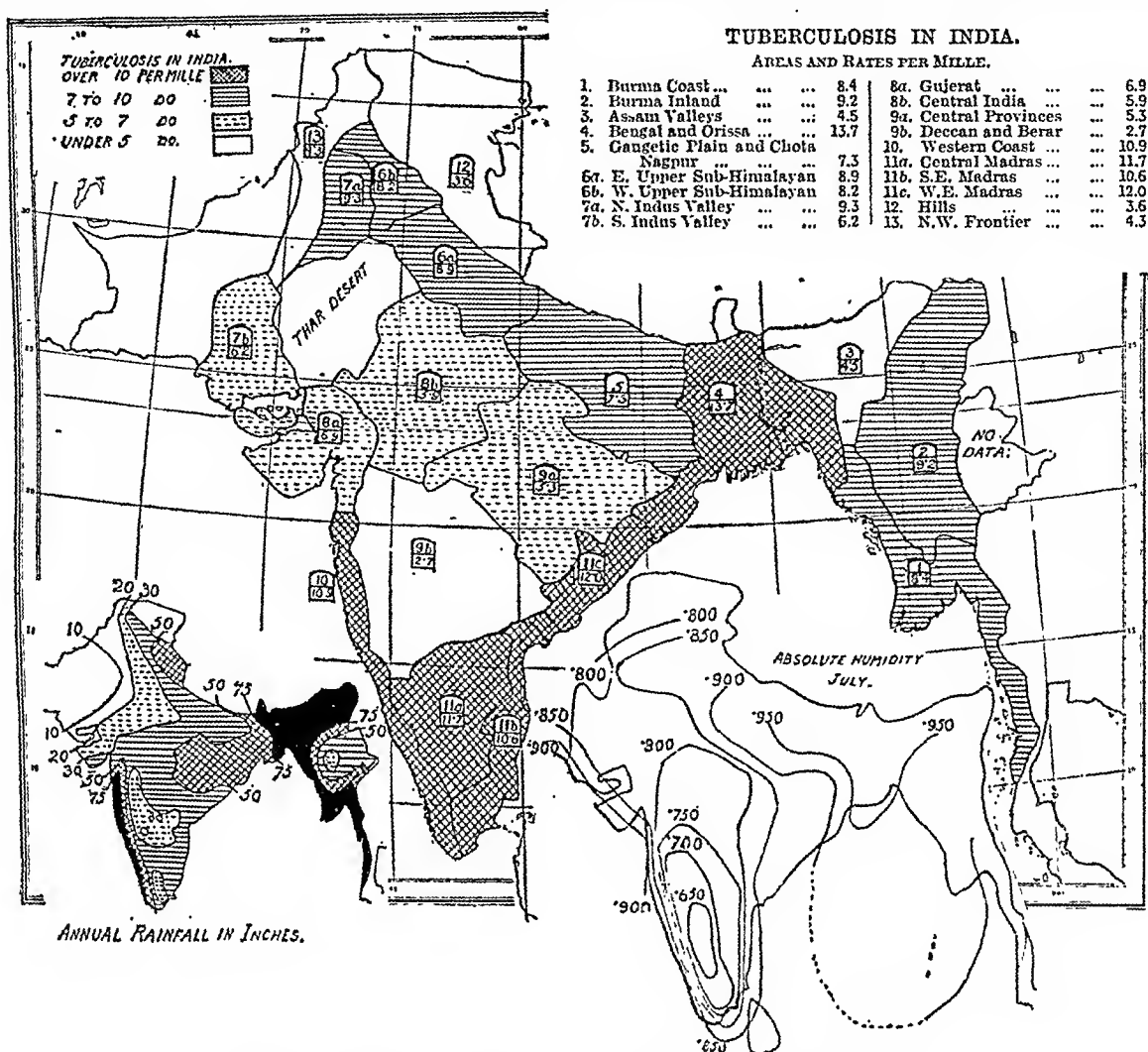
conclusion from a study of tuberculosis in the French colonies, as, although the hot, dry climate of the Sudan is unfavourable to the development of tuberculosis, he found no general close relationship between climate and the incidence of the disease. This is largely due to the variations in the type of the disease with the degree of tuberculinization of races. Those recently infected, such as in some areas of Oceania and tropical Africa, show the acute rapidly fatal infantile type with a low percentage of positive tuberculin reactions; while in Indo-China, with evidence of centuries of tuberculosis, the more chronic European type with a fairly high percentage of tuberculin reactions is found. This is also the case in India, where I met with many cases of fibroid phthisis in the post-mortem room, in spite of the disease running a somewhat more rapid course in that hot climate than in Great Britain, as A. Powell<sup>3</sup> also found in Bombay.

India, therefore, presents very favourable conditions for a study of the incidence of tuberculosis in relation to climatic conditions, for this large country shows extremes of rainfall from 500 inches on the south side of the Khasia Hills of Assam to 5 or less in North-western India. It also affords splendid meteorological records, and reliable data regarding the incidence of phthisis in the jail population; these institutions are under Indian Medical Service officers, and necropsies are regularly performed on fatal cases, and the actual figures and the rates per mille are published in the annual reports of the Sanitary Commissioner with the Government of India. For the purposes of the present inquiry I have worked out the phthisis rates of all the jails for ten consecutive years; they total over one million persons. I have selected a decade subsequent to the 1891-92 influenza pandemic, and prior to that of 1918, which so greatly increased deaths from tuberculosis in India. The yearly figures for each of the areas into which India has been divided in relation to the climatic features for the purposes of the Sanitary Commissioner's report, show such closely similar figures year by year that they are clearly sufficient for the purpose in view.

The distribution of pulmonary tuberculosis in the Indian jails thus obtained is shown in rates per mille of the jail population in Map 1, the crossed lines representing over 10 per mille, the single horizontal lines 7 to 10, the dotted areas 5 to 7, and the unshaded parts under 5 per mille, the actual figures being entered in the squares in each area, with the number of the area above it. The left-hand small inset map shows the annual rainfall distribution of India, while that on the right gives the absolute humidity, or mean daily aqueous vapour pressure, of July at the height of the south-west monsoon rainy season; this allows ready comparison of the high and low tubercle areas with the rainfall and humidity, which may now be considered. The numbers in parentheses refer to those of the different areas for convenience of reference.

#### *Relation of Tuberculosis to Rainfall.*

The first point to be noted is the general relation, with certain exceptions, of high tubercle rates and high rainfall, as shown by the very high tubercle rate of 13.7 in Bengal with the very heavy rainfall of over 75 inches, and of 10.9 in the West Coast area (10) with 100 inches of rain annually. Connecting these two areas is the eastern Madras coast (11b and 11c) with 10.6 to 12 per mille, and an annual rainfall of 30 to 50 or more inches; here it is important to note that, although the total rainfall of the Madras coast is less than that of Bengal and the western coast, it is distributed over seven or eight months of the year, instead of being limited to the four monsoon months from the middle of June to the middle of October, as in most parts of India, for the Madras coast gets part of the south-west monsoon, followed by the exclusive influence of the north-east monsoon from October to December, so that its climate is particularly humid. Its relative and absolute mean annual humidity is, in fact, greater than that of any other part of India except Lower Burma. On the other hand, Central Madras (11a) has the comparatively low annual rainfall of 20 to 30 inches, but the high tubercle rate of 11.7 per mille. This exception requires explanation; this area has a low leprosy incidence. The Andaman



MAP 1.—The incidence of tuberculosis in India in relation to rainfall and humidity.

Islands, to the south-west of Burma (see inset of Map 2) have an annual rainfall of 114 inches and a very high degree of humidity, and in accordance with this its large jails show the high tubercle rate of 10.7 per mille.

The moderately high tubercle incidence of 7 to 10 per mille occurs in two distinct areas, one on either side of the very tuberculous Bengal area. To the east is Burma, with a very high rainfall (except in a central inland area which has a comparatively low annual rainfall); but the whole province has a high degree of absolute humidity, both during the monsoon months (see right-hand inset of Map 1) and for the whole year, as in the case of Madras. To the west of Bengal the moderately high tubercle area extends throughout the sub-Himalayan divisions of Bihar, the United Provinces, and the Punjab (5 and 6) as far as the main Indus River; this in spite of the fact that the rainfall rapidly decreases in the south-western portions of the Punjab to below 30 inches annually. Here, once more, on turning to the humidity we find that during the monsoon months the mean daily aqueous vapour pressure reaches as high as 0.850 in July throughout the sub-Himalayan area up to the Indus—that is, just as far as the moderately high tubercle incidence extends (see right inset of Map 1). So that here, as in Central Burma, a high degree of humidity is carried by the monsoon current considerably beyond the region in which a high rainfall is precipitated. We may, therefore, conclude that every part of India with tubercle rates of over 7 per mille has a humid climate during the rainy seasons, with the partial exception of

Madras (11a), which is, however, influenced by the north-east monsoon during the autumn months; in the case of the latter, however, and of the south-west of the Punjab, the annual rainfall is comparatively low.

The moderately low tubercle rate of 5 to 7 per mille, which is below the average rate for the whole country, forms a well defined belt stretching right across Central India to the south of the sub-Himalayan area (5, 6a, and 6b), and includes from left to right in Map 1 Sind (7b), Gujerat (8a), Eastern Rajputana and Central India (8b), and the Central Provinces (9a), and all but the easterly part of the Central Provinces have a low or moderate rainfall limited to the period of the south-west monsoon.

The lowest tubercle rates of under 5 per mille, or less than half those of the highest areas, are found in four areas presenting very different climatological features, and are therefore of especial interest, since they cannot be fully explained in relation to rainfall and humidity alone. The lowest rate is in the extensive area of the Deccan and Berar (9b) with only 2.7 per mille, or one-fourth of the high areas. It is noteworthy also that this division is immediately contiguous with the highly tuberculous West Coast area (10), from which it is separated by the Western Ghats mountains. This is shown in Map 2, in which the dotted portions represent hills between 2,000 and 3,000 feet, those marked by single horizontal lines hills of 6,000 feet, and the crossed lines hills upwards of 6,000 feet; these hills cut off the south-west monsoon to such an extent that the coastal rainfall of upwards of 100 inches is reduced

to under 30 inches in much of the Deccan, and in a small area to under 20 inches annually (see left inset of Map 1). On the south the Deccan borders on Southern Madras, which receives the full influence of the autumn north-east monsoon, which does not affect the Deccan itself. Further, the absolute humidity during the monsoon months is the lowest in India in the dry Deccan area, as shown in the right inset of Map 1; the mean daily aqueous vapour pressure, or absolute humidity, is as low as 0.700 to 0.650 in this area during the height of the monsoon in July; this is in striking contrast with the relation between high absolute humidity and high tubercle incidence already shown. Similar conditions obtain in the North-west Frontier Province (13), which has a very low rainfall and comparatively low humidity because the south-west monsoon current of the Bay of Bengal does not reach quite as far as this area, the northern portion of which is protected from the damp monsoon currents by the Salt Hills, represented by the small shaded area to the east of the Upper Indus in Map 2; this area has the next lowest tubercle rate for the plains of India (4.3 per mille).

The two remaining areas of low tubercle prevalence present very different features from those just dealt with. Area 12 includes the Himalayan hill stations, together with a small jail in the Assam Khasia Hills; the rate per mille is only 3.6, and is lower than any except that of the Deccan. The Himalayas and Khasia Hills have high rainfalls and great humidity during the monsoon months, but a much lower temperature than the plains (they are at an elevation of from 5,000 to 8,000 feet); so some other factor must be sought for to explain their low tubercle rates. The remaining area of the Surma and Brahmaputra valleys of Assam (the Khasia Hills jail being included in area 12 just dealt with) has an exceptionally heavy rainfall of over 75 inches annually, together with a most humid climate without even the coolness of the hill area; yet the tubercle rate was only 4.5 per mille, the Surma valley rate (to the south of the Khasia Hills, and continuous with Eastern Bengal) being as low as the Brahmaputra valley one. This condition of affairs cannot be explained in relation to rainfall and humidity, any more than the high rate in the comparatively dry Central Madras area. Some other influencing factor must, therefore, be sought. I turned to the Climatological Atlas of India of the Meteorological Department, which gives maps illustrating the monthly and annual rainfall, clouds, relative and absolute humidity, temperature, including its diurnal variations, and the pressure and air movements. All of these data I have studied in relation to tubercle distribution in India, with the result that the key to the problem appears to reside in the monsoon barometric pressures and air movements, that of the middle of the rainy season in the month of August being shown in Map 2, while the small map illustrates the same data in December during the north-east monsoon.

#### *The Pressure and Air Currents in India in Relation to Tuberculosis.*

The annual rainfall of India is very largely precipitated during the four south-west monsoon months, when the barometric pressure is lowest in the north of India. The Madras Presidency is an exception, inasmuch as it receives much of its rain in the last three months of the year during the north-east monsoon, when the more northerly parts of India have a high pressure and no rain. In the maps the arrows represent the direction of the monsoon currents, their length indicates the steadiness of the wind, and the number of the feathers its velocity, increasing from two to over twenty miles an hour with the increase in the number of the feathers. About the middle of June the south-west monsoon strikes the west coast of India, much rain being precipitated on the coast and on the Western Ghats, and but little in the Deccan to the east of the mountains, while north of this range a weaker part of the current passes through Gujarat to Central India, and is broken up by the hills of this area, to which it gives only moderate rainfall. To the south of India the monsoon enters the Bay of Bengal, furnishing abundant rain to the Andaman Isles and to the Burma coast and the Irrawaddy valley; it then passes up along the Orissa and Arrakan coasts, to enter Lower

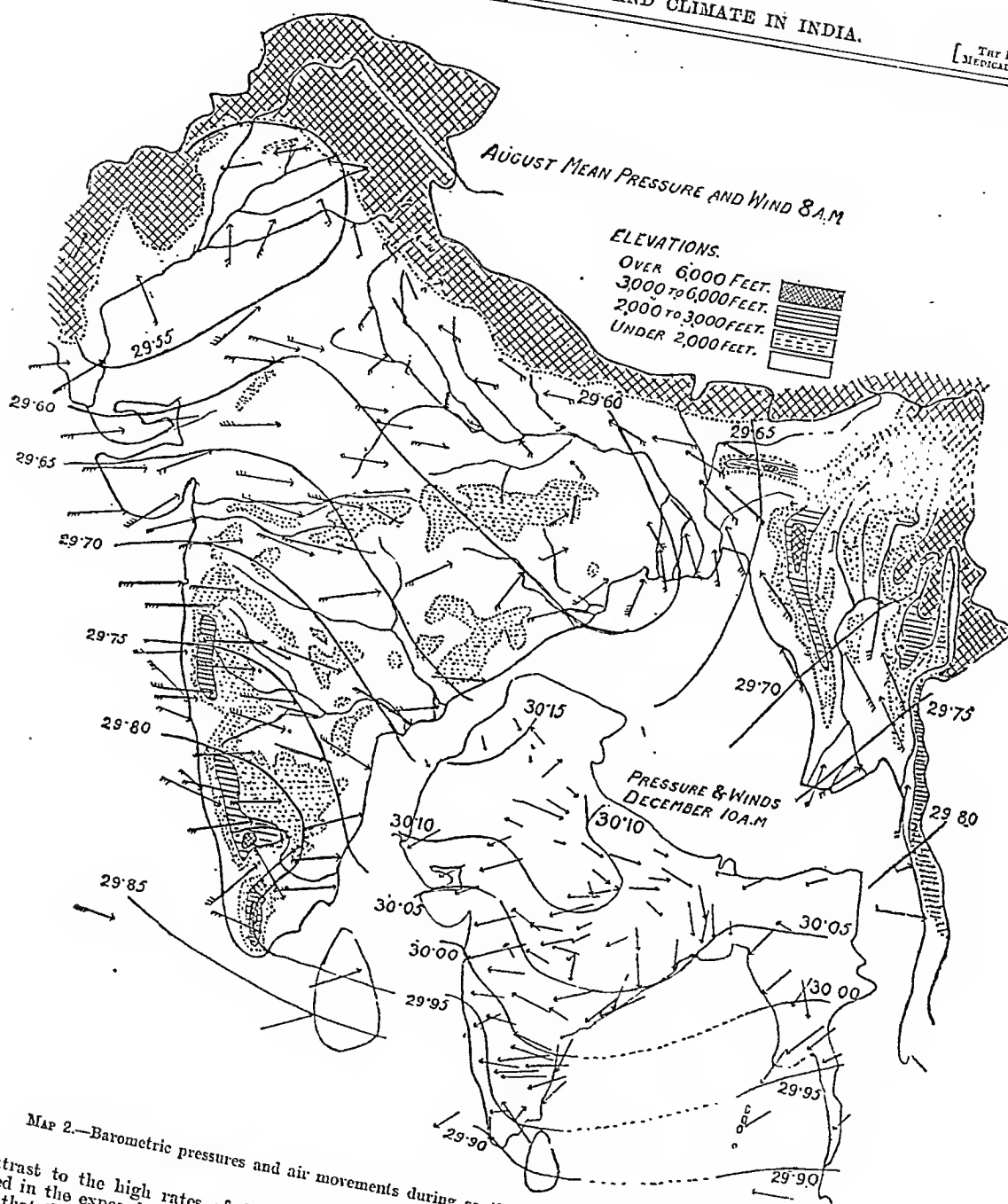
Bengal at the delta of the Ganges and Brahmaputra rivers; meeting the lofty Himalayan barrier, it turns north-west up the Ganges valley in the sub-Himalayan region as far as the Upper Indus valley, to disappear just to the east of the North-west Frontier Province. This is shown by the arrows in the larger map.<sup>1</sup> In the smaller map of the north-east monsoon in December it will be observed that all the winds are dry land winds with the exception of Southern India, over which the humid currents from the Bay of Bengal blow across the east coast (11b and 11c) and the southern central area of high tubercle prevalence (11a), as shown in the inset of Map 2.

#### *Relation of Rain-bearing Currents to Tubercle Incidence.*

It will at once be evident that the highest tubercle incidence in Bengal and in the west coast area corresponds with the strongest south-west monsoon currents, and that of the Madras Presidency to those of the north-east monsoon, while the coast areas also have humid afternoon sea breezes even in the rainless periods. (The conditions at 8 a.m. are shown in Map 2 (larger map); those at 10 a.m. are shown in the smaller map.) The moderately high tubercle areas of Burma and the sub-Himalayan districts also feel the full effects of the monsoon currents; the moderately low areas of Central India have weaker monsoon currents, and also receive a good deal of protection from their low mountain ranges and hills, while the lowest tubercle area in the Deccan is protected both from much rain, and still more from the rain-bearing monsoon currents, by the Western Ghat mountains.

Turning now to the puzzling conditions presented by Assam, with high rainfall and humidity but low tubercle rate, we find that the short Surma valley to the south of the Khasia Hills is completely protected from the main monsoon winds by the Arrakan and Tipperah Hills to its south, over which the rain-bearing currents pass to strike the top of the southern face of the Khasia Hills, rising nearly vertically to 4,000 feet at Cherrapunji, which records the highest known rainfall of the world, of 300 to 500 inches annually. Yet the short arrow shown in this valley in Map 2 indicates only an unsteady slight wind blowing in a westerly direction from the Manipur Hills to its east, and south-west monsoon winds do not enter the valley. Still more protected from the monsoon currents is the narrow Brahmaputra valley between the Garo, Khasia, and Naga Hills, running up to 4,000 to 6,000 feet to its south, and the mighty still largely unexplored Himalayas to its north. I can find no other explanation of the very low tubercle rate of the Assam valleys than this protection by mountains from the rain-bearing winds, in spite of the heavy rainfall, as the Sylhet district of the Surma valley has a dense population, which has for centuries been in close communication with highly tuberculous Bengal.

There remains to be explained the exception in the opposite direction—namely, the high tubercle rate with a low rainfall in Central Madras (11a), for although this area is exposed to the autumn north-east monsoon currents, it receives, as compared with the east coast area (11b), less rain from them. On examining the height of the Western Ghat mountains, as shown by the shading in Map 2, it will be observed that there are three portions running up to between 3,000 and 6,000 feet or more in height, separated by two gaps of low hills. In the southern of these (the Palghat gap) they do not even reach 2,000 feet, while the more northerly gap shows only a very narrow belt just over 2,000 feet. Both of the arrows shown in the lower gap point to dots, which represent the positions of the Coimbatore and the Salem jails, while that in the more northerly gap points to Bellary: the only three jails furnishing the tubercle figures of Central Madras (11a), and each is situated in the direct path of the humid monsoon winds, after they have deposited most of their rain on the Ghats. A little below the middle of the most northerly of the three high portions of the Western Ghats is another arrow pointing to a dot just to the east of this broad and high mountain barrier; it represents Bijapur, which is only a little more than a hundred miles north of Bellary, but in the dry sheltered Deccan, and has a very low tubercle rate.



MAP 2.—Barometric pressures and air movements during south-west and north-east monsoons.

In marked contrast to the high rates of Coimbatore and Bellary, situated in the exposed gaps in the mountains. Thus we find that the two striking exceptions to the rule of high rainfall and humidity and high tubercle incidence, and vice versa, are both readily explainable on the ground that exposure to humid monsoon winds, apart from actual high rainfall, favours tubercle, as in Central Madras, and that shelter from such winds, in spite of very heavy rain, as in Assam, lessens the incidence of the disease. The low tubercle rate in the hill jails is also explained by the fact that most of them are protected from the direct influence of the monsoon currents by higher hills to the south of them in addition to a cool climate.

#### Conclusions.

The direction, steadiness, and strength of the rain-bearing winds appear to be the most important factors,

in addition to high rainfall and absolute humidity, in influencing the prevalence of pulmonary tuberculosis in Indian jails.

These observations are in accordance with the well known observations of Dr. W. Gordon of Exeter<sup>1</sup> on the relation between exposure to humid winds in Devonshire and the incidence of phthisis, and afford them strong support on a very large scale, since the monsoon-influenced Gauges and Upper Indus valleys extend over 1,400 miles.

Their bearing on the choice of a residence for an actual or potential phthisical patient, and on the choice of sites for sanatoriums, is obvious.

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## SOME AFFECTIONS OF EPIPHYSES.\*

BY

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I PROPOSE to begin my address on some affections of epiphyses with an account of three traumatic cases, all boys of 16 years of age, and all sent up from the same school by the same doctor, Dr. A. M. Ansler. These cases seem to me of importance, since the lesion in each case is easily missed unless perfect radiograms are available. They emphasize the importance of x-ray examinations in all cases, however trivial, in which it is possible that a lesion of a bone has occurred.

The first is an early separation of the femoral head—that is, an early adolescent coxa vara. A common history in such a case is that of a series of two or three minor accidents, such as falls in the football field, leading in each case to a limp, which finally becomes persistent and increases. It is of the greatest importance to recognize this condition in its early stages and to take steps to prevent its increase, but it is rare, in my experience, for the surgeon to see a case before considerable displacement has occurred.

## CASE I.

A boy, aged 16, in September, 1922, fell on the right knee without hurting himself much, and on return to school he fell twice in the football field and hurt his right hip; after the second fall the hip continued to give pain; the pain was in the groin and on the outer side of the hip; a trip increased the pain. When seen, a month or so later, he was limping and the pain was increased by walking or even moving the hip when sitting.

On examination the hip showed no deformity, but there was slight fullness in the groin with tenderness here and over the trochanter. Abduction and internal rotation were limited; flexion and extension were only slightly limited. Shortening amounted to three-eighths of an inch, and there was slight wasting. There was pain on jarring the heel, and also, though less marked, on jarring the trochanter. The skiagram shows widening of the epiphyseal line and definite, though slight, depression of the right femoral head on the neck. Weight extension was applied and the leg put up in abduction and internal rotation, these two being increased day by day till extreme limits were reached, when the limb was fixed in plaster-of-Paris. It was hoped that the small amount of displacement of the head of the femur might be corrected, but unfortunately this was not achieved. The plaster cast was left on for three months and a walking calliper worn for a year. No increase of the deformity occurred.

## CASE II.

The next case, also a boy aged 16, after falling once or twice in the football field without hurting himself particularly, noticed pain in the left hip while running, and found he could not kick with the left foot. After this game he played twice only, as on each occasion he had experienced pain after five minutes' play. In an hour or so the pain had disappeared, and he only felt the hip on twisting or jumping. Walking caused no pain and there was no limp.

Physical examination was negative when seen three weeks after the onset, but some thickening of the trochanter had been noticed, and this had gone down with massage. A radiogram showed partial separation of the great trochanter, the space at the site of the epiphyseal line of the great trochanter being definitely wider on the left than on the right. Abstinence from all games for a couple of months or so effected a cure.

Separation of this epiphysis is usually complete and the result of direct violence. Although it might be expected that muscular action would be a not uncommon cause, the lesion usually results from direct trauma. A few cases due to muscular contraction have been recorded, but they are not very convincing. The commonest period for its occurrence is from the thirteenth to the sixteenth years. The displacement is usually not great and the diagnosis is difficult. In the recorded cases, mostly reported some years ago, a surprising number seem to have been complicated by infection of the haematoma. Of 11 cases (Poland) 6 were followed by suppuration and 5 of these died. Some seem to have been primarily infective osteomyelitis with secondary separation of the epiphysis.

## CASE III.

This patient showed an even rarer injury. A lad of nearly 17 complained that while playing football and running all out the left hip suddenly hurt him and gave way so that he fell, another boy falling over him. He finished the game, but with pain. When seen five days later he said he had only a little pain on walking, but any attempt at running caused considerable pain. He did not

\* Presidential Address to the Section of Orthopaedics of the Royal Society of Medicine, October 7th, 1921.

limp and no physical signs were present. The radiogram shows separation of the epiphysis of the anterior inferior iliac spine, the centre for which appears at the fifteenth year or later. Games were forbidden for a few weeks.

This would seem to be a very rare injury. Poland gives a few cases in his wonderful treatise on epiphyses. This injury usually gives rise to greater disability than in my case, the hip being flexed, and it is difficult or impossible for the patient to extend the hip and the knee. Soft crepitus may be obtained. The avulsion usually occurs in sprinters in the violent effort of starting a race. The reflected head of the rectus, which is not torn, prevents great displacement.

We may now pass on to consider the tubercle of the tibia. While there is some doubt as to whether the so-called Schlatter's disease is necessarily traumatic in origin, though certainly aggravated and kept up by the pull of the ligamentum patellae, there is no doubt that all types of cases are met with, from the complete traumatic avulsion of the tubercle to the case where no displacement is present and trauma seems to play no part in the onset.

The following case is at one end of the series, and is, I think, exceptional in that the plane of fracture passed up through the epiphysis into the joint, the anterior part of the articular surface of the tibia being displaced. A boy of 14, while attempting to jump a rope, felt something give in the knee as he took off with the left foot. A skiagram showed the displaced fragment to consist of the anterior third of the articular surface of the tibia as well as the tubercle. At operation the fragment was forced back into place and fixed there with a beef-bone screw, the drill hole being tapped to fit the screw. The result was entirely satisfactory. In another case, that of a boy aged 14 who had had symptoms for four months, a radiogram of the knee showed the typical fluffy condition of the tongue-like process forming the tubercle and of the bone beneath it, with some irregularity of the intervening cartilage. Abstinence from all games for a time has been sufficient in most of my cases to relieve symptoms, though the possibility of a recurrence cannot be said to have disappeared till fusion of the tubercle with the shaft of the bone has occurred.

I now want to refer to a less known, though not less common, affection of a similar nature—namely, osteochondritis of the heel epiphysis. This, like the affection preceding it, and that which is to follow, is an affection of an epiphysis to which a strong tendon is attached, so that trauma would naturally be expected to play a part in the causation. While in "Schlatter's knee" trauma plays a more prominent part than in the others, it is difficult to get away from the impression that a mild infection must play a part in all, and more particularly in the cases of the heel and of the navicular tubercle to be mentioned later. This infection and resulting inflammatory change is necessarily aggravated by the pull of the tendon attached to the affected epiphysis, and there is no doubt that violent exercise does increase the symptoms and that rest is followed by partial or complete relief. While in the case of the tibial tubercle, as already mentioned, definite traumatic displacement, partial or complete, does occur as a result of violent action of the quadriceps, I know of no convincing case of separation of the epiphysis of the os calcis, nor of the navicular tubercle, though I have one case to show you of fracture of the os tibiale externum. The vast majority, if not all the cases of supposed tearing off of the navicular tubercle, are really explained by the presence of a separate centre of ossification in this tubercle—the so-called os tibiale externum. Although in the affection under consideration an infective focus is probably present, it is not easy to find as a rule. More than one writer has drawn attention to the similarity of these affections to pseudo-coxalgia and to Köhler's disease. In the case of the former, the femoral head being an epiphysis subject to very considerable strain, the similarity is striking, but in Köhler's disease the radiographic similarity between the affections is not nearly so convincing, nor in this case is the bone, the tarsal scaphoid as a whole, subject to an unusual amount of strain.

Osteochondritis of the heel affects boys rather more frequently than girls and is more commonly bilateral than



unilateral, the left heel being affected in my small series of fourteen cases much more frequently than the right. The ages of the patients varied from 8½ to 15 years. In only one, in whom the affection was started by a jumping competition, was anything in the way of unusual trauma discovered. The diagnosis depends on local pain and tenderness and the x-ray changes. The pain is definitely in the heel and not beneath it, and is aggravated by violent exercise; the tenderness is on one or both sides, at the margin of the epiphyseal line, and occasionally at the back of the heel; swelling may be present, but is often absent. Flat-foot may be present, and occasionally there is some shortening of the calf muscles. Radiograms show a fluffy, caten-out, or fragmented epiphysis with unusual irregularity of the adjacent posterior surface of the body of the os calcis. Great irregularity of this surface has been met with—in a large number of radiograms specially examined—only when symptoms of the disease had been present at some time or other in the case. It must be remembered that the epiphysis may ossify by more than one centre, and, as in the case of Schlatter's disease, radiograms must be examined in conjunction with the clinical evidence, unless the changes are very marked or unilateral. This is apt to be a chronic complaint, and while only occasionally is complete rest, even in plaster, indicated, abstinence from all violent exercise may have to be enforced for several months. Cure, as in the case of the tibial tubercle, takes place when fusion of the epiphysis with the rest of the bone occurs, but fortunately symptoms may subside long before this. The later the affection occurs the better, therefore, the prognosis. One case of a relapse after an interval of two years was met with. I will now show you radiograms of three cases:

(a) A girl, aged 8½, with pain on the inner side of the left heel of some months' duration.

(b) A boy, aged 12, with pain in the right heel for two months. Irregularity of the subepiphyseal surface of the body of the bone is well marked. Later the other heel developed symptoms.

(c) A girl, aged 13, with pain in the right heel of two months' duration. She complains of pain and tenderness after running or jumping. Flat-foot is present. The radiogram shows fragmented, fluffy epiphysis on the right side.

Precisely similar in nature is an affection of the tubercle of the tarsal scaphoid, to which is attached, of course, the tibialis posticus tendon. I have seen both the scaphoid and the os calcis affected in the same foot. It may be as well to say that I am not speaking of Köhler's disease, or isolated disease of the navicular, but of an entirely different condition. Here we are dealing with an affection of the navicular tubercle only, and not of the whole bone. A child or adolescent complains of painful flat-foot, the navicular tubercle being unusually prominent, painful, and tender, the tenderness being usually on the posterior aspect of the process rather than on the tip, which might well be rubbed by the boots. An interesting fact, and one I have not seen mentioned, is that almost invariably a separate centre of ossification is present in these cases for this tubercle—the so-called os tibiale externum. In 11 cases, with bilateral symptoms in 7, making 18 feet in all, one or more centres of ossification for the tubercle were present in 13, in 2 others there is a questionably minute fragment of bone, while in one double case radiograms are not available to decide the point. The presence of an epiphysis at this point makes the anatomical conditions similar to those in the heel and the tibial tubercle. In only one or two has there been any suggestion of fluffiness of this epiphysis, if we may so call it. Girls are nearly twice as commonly affected as boys, in contrast to the heel cases, the ages varying from 9½ to 16 years in my series, the girls being rather younger. The sides are equally affected. The undue prominence of the tubercle, which is of course extremely common in painless flat-feet in children, is often equally great on the two sides, even though signs and symptoms are unilateral, while the os tibiale externum is usually bilateral. It is not known, so far as I am aware, what is the usual fate of this bone. It certainly may remain as a separate fragment throughout life, while the appearances seen in some feet strongly suggest that a separate bone had been present and had united to the navicular. The feet are almost invariably

flat, and in rare cases the calf is contracted. These cases are not quite so obstinate as the heel cases. Treatment should aim at supporting the arches and ordering a varying degree of rest according to the severity of the symptoms. Plaster may be advisable for a time. Exercises, etc., for the cure of the flat-foot must be delayed till all pain and tenderness have disappeared. I will show you radiograms of three typical examples:

(a) Boy, aged 13, with local pain and swelling for ten days only of the left navicular tubercle. Slight valgus was present; os tibiale externum on both sides, but larger on the left.

(b) Girl, aged 14, with bilateral flat-foot. Prominent navicular tubercle on the left. Tender at back. Pain on walking much for some weeks. There is some irregularity of the os tibiale externum on the left.

(c) Boy, aged 13, with prominence of both navicular tubercles, but only the right was tender at back. Three fragments of bone are seen in the region of the navicular tubercle.

Another radiogram is from a woman of 51 who had turned her ankle in 1923 and had had pain in the foot ever since. An os tibiale externum is present on both sides, but on the right the bone is apparently fractured. I have not met with a similar radiogram. A month's rest was followed by return of pain as soon as she got up again. Removal of the bone was recommended.

I now want to show you a radiogram in which is seen a separate centre of ossification for the internal malleolus. This is a very rare condition and apparently unknown to many anatomists. Curiously enough I have met with 5 cases: in 3 the condition was bilateral, in 2 unilateral; 4 had severe flat-foot with pain, one also having peroneal spasm: the condition was only revealed by routine x-ray examination. Only 2 showed any local signs, and in these the tenderness, and in one also some swelling behind and below the malleolus, rather suggested teno-synovitis of the tibialis posticus tendon, but this could not be connected, directly at any rate, with the presence of this separate epiphysis. The radiogram shown is from a girl aged 10 who complained of pain and flat-foot. She had been kicked on the right ankle five months previously, and when seen there was a puffy, tender swelling below the internal malleolus on this side. The separate epiphysis is bilateral. It is extremely unlikely that the existence of this epiphysis had any relation to the symptoms.

Lastly I show you a case of dislocation of the elbow with separation of the epiphysis of the internal epicondyle. During reduction by the doctor, the separated internal epicondyle was by some chance caught between the humerus and ulna. At operation we were able to free the detached piece of bone, and, after drilling it, to stitch it back somewhere near its correct position. This would appear to be a very rare condition, though, as often happens with rare affections, four such cases have been met with in the last two years; in each the diagnosis has been confirmed at operation. It would appear to be advisable to keep these cases in mind, particularly when recovery is delayed after reduction of a dislocation of the elbow.

## A DIABETIC DIET: THE LINE RATION SCHEME.

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EVERYONE recognizes that the most difficult part of the battle, both for the doctor and the patient, is not the insulin but the quantitative diet necessary in severe cases. A diet should be accurate and simple and yet permit of variety to suit all tastes and purses. If the diet is accurate and simple yet rigid, like Dr. Graham's "ladder" diet, it often defeats its own object by the patient getting tired of the monotony. If the scheme is accurate and still permits of choice and variety, like the scheme of Dr. Harrison and myself,<sup>1</sup> where the prescription of so many grams of carbohydrate, protein, and fat has to be translated into weights of food by the patient himself or his doctor, a few days' training and explanation is required, unless the patient is intelligent.

The following line ration scheme meets the requirements both of the busy doctor and the patient. The doctor has only to divide the patient's weight by a factor to be able to prescribe the correct rations for the day, and two minutes suffice for all the necessary instructions to the patient. Thus treatment can be commenced outside an institution, and no preliminary starvation is involved now that insulin can take its place. The scheme is shown in the appended table. Each complete line is called a ration and consists of a standard amount of carbohydrate, protein, and fat. The diet is prescribed as so many lines, or rations, a day. To calculate the appropriate number of rations the physician has only to divide the body weight in pounds by 16 (16.5 is more exact). Thus if a man weighs 165 lb. he will get 10 rations—that is, ten lines a day. (Unlike the schoolboy, the worse the diabetic the fewer "lines" he ultimately gets.) Each line is divided into two parts: the first half-line containing the carbohydrate and the second half-line the protein and fat. Any first half-line can be combined with any second half-line to make a ration. The number of rations a day is divided as desired between the different meals with regard to when insulin is given and other considerations. Suppose a patient gets three rations for breakfast: he can take  $3\frac{1}{2}$  oz. milk,  $1\frac{1}{3}$  oz. bread, and 4 oz. tomato (three first half-lines containing carbohydrate), and one egg and  $2\frac{1}{5}$  oz. of fat as butter and 2 oz. of bacon (three second half-lines, one of which has been taken twice). Thus the patient can choose his own food. The method is accurate and the lines exact in food value, with the exception of milk, whose content in protein and fat has been neglected for simplicity. The food values used are those of the food tables of Harrison and Lawrence, which are an average from all known authorities. The weight of cooked foods is given unless otherwise stated. The scheme has been planned on the following theoretic considerations.

The common successful practice is adopted of giving diets of low total caloric value composed of low carbohydrate, moderate protein, and high fat content. The proportion of carbohydrate to fat is such as to avoid appreciable acidosis (ketosis), the proportion of fatty acids to glucose being as 1.5 is to 1, as in Wooddyatt's formula.<sup>2</sup> I aim at giving 1 gram of protein per kilogram of body weight (about  $1\frac{1}{2}$  gram per lb.). This is more than many of the American school advocate, but giving less makes a miserable allowance from the patient's point of view. Each ration or line contains 5 grams of carbohydrate (the first half-line), 7.5 grams of protein, and 15 grams of fat (the second half-line). If we give 1 gram of protein per kilogram of weight, a man of 75 kg. will get 75 grams of protein a day. Now each ration contains 7.5 grams of protein, so that  $75 \div 7.5 = 10$ ; this is the number of rations for a man of 75 kg. It is the same thing to divide the weight in pounds—165 by 16.5 (7.5 kg. = 16.5 lb.). Now if we make protein the starting point and look upon it as unity (1 gram of protein per kilogram), the proportion of a ration is 0.66 gram of carbohydrate, 1 gram of protein, and 2 grams of fat, which equal 25 calories. Hence it follows that if we are giving 1 gram of protein per kilogram and the carbohydrate and fat are in the 25 calories per kilogram of body weight (11 calories per lb.). Thus by 16.5 will always give us the number of rations that provide a diet of 25 calories per kilogram of body weight with the carbohydrate, protein, and fat in proper proportion.

The diet of 25 calories per kilogram is low, but makes a good starting point in the treatment. If the patient becomes sugar-free on it the diet can be raised later. If he does not become sugar-free with nearly normal blood sugars at the end of a week, insulin must be given. If the patient is losing weight and energy higher diets can be prescribed by dividing the body weight by other factors. The number of rations to provide a diet of 30, 35, or 40 calories can be calculated by dividing the body weight in pounds by 13.5, 11.8, or 10.3 respectively, the resulting diet still having the proper proportion of carbohydrate and fat to avoid acidosis, but the protein becoming more than 1 gram per kilogram. If this is undesirable, the extra calories can be added to the 25 calorie diet by giving extra carbohydrate and fat in the proportion of one first half-line to  $1\frac{1}{2}$  or 1 oz. of fat—depending on whether the patient tolerates fat well or not. But a few patients may find this confusing, and the harmful effect of slightly increased protein is not clearly proved. Each line ration contains 190 calories, so this another method of calculating the number of rations a day is to divide the total calories desired by 190—1,900 calories being contained in ten rations.

## THE "LINE RATION" DIET SCHEME.

Any first half-line added to any second half-line = one ration.

First Half-lines.	Second Half-lines.
Milk ... .. $3\frac{1}{2}$ oz.	One egg and fat $2\frac{1}{5}$ oz.
Bread ... .. $1\frac{1}{3}$ oz.	Bacon 1 oz.
*Oatmeal (raw) or biscuit ... $1\frac{1}{2}$ oz.	Ham 1 oz. and fat $1\frac{1}{4}$ oz.
Cabbage or greens ... .. 5 oz.	Kipper 1 oz. and fat $1\frac{1}{2}$ oz.
*Tomato (raw or cooked) ... 4 oz.	Herring 1 oz. and fat $1\frac{1}{2}$ oz.
*Potato ... .. $3\frac{1}{4}$ oz.	Lean meat or mutton 1 oz. and fat $1\frac{1}{2}$ oz.
Cauliflower or French beans 6 oz.	Lean lamb or veal 1 oz. and fat $1\frac{1}{2}$ oz.
Brussels ... .. 5 oz.	Lean pork 1 oz. and fat $1\frac{1}{2}$ oz.
Spinach or asparagus ... 6 oz.	Chicken 1 oz. and fat $1\frac{1}{2}$ oz.
Turnip or carrot ... .. 4 oz.	Tongue (tinned) 1 oz. and fat $1\frac{1}{4}$ oz.
Onions, leeks, or marrow ... $2\frac{1}{2}$ oz.	Liver 1 oz. and fat $1\frac{1}{2}$ oz.
Beetroot ... .. 6 oz.	Kidney or tripe $1\frac{1}{2}$ oz. and fat $1\frac{1}{2}$ oz.
Lettuce (raw) ... .. 6 oz.	Rabbit $2\frac{1}{3}$ oz. and fat $1\frac{1}{2}$ oz.
Cucumber (raw) ... .. 5 oz.	Cheese $3\frac{1}{4}$ oz. and fat $1\frac{1}{2}$ oz.
Celery (raw) ... .. 5 oz.	White fish $1\frac{1}{2}$ oz. and fat $1\frac{1}{2}$ oz.
*Apple or pear (raw) ... .. $1\frac{1}{2}$ oz.	Sardines 1 oz. and fat $1\frac{1}{4}$ oz.
Orange or strawberries ... 2 oz.	Salmon 1 oz. and fat $2\frac{1}{5}$ oz.
Rhubarb (stewed) ... .. 6 oz.	Crab or lobster $1\frac{1}{2}$ oz. and fat $3\frac{1}{5}$ oz.
Apples or pears (stewed) ... $2\frac{1}{2}$ oz.	Pheasant, grouse, or partridge $3\frac{1}{4}$ oz. and fat $1\frac{1}{2}$ oz.

Fats are meat fats, suet, dripping, butter, margarine, olive oil; thick cream (twice the amount).

\* These articles to be taken only if specially allowed by the physician.

## Doctor's Prescription.

## Rations per day—

Breakfast: .....  
 Dinner: .....  
 Tea: .....  
 Supper: .....  
 Date: .....

The scheme is elastic and permits of easy modification to meet all requirements. In acidosis all or some of the fats can be omitted for a time. If the carbohydrate tolerance is high or improves, extra carbohydrate can be added as extra first half-lines. It may eventually be found that a quantitative diet has become unnecessary and qualitative restrictions alone will control the disease.

I find the scheme works admirably. From the doctor's point of view it eliminates the lengthy planning of diets; the patient has only to be weighed to calculate his initial diet and subsequent adjustments are easy. Patients themselves can grasp the scheme in two minutes, and the only tax on them is the accurate weighing, to which they gladly submit when they feel the benefit of it. Letter scales modified, and costing four to five shillings, meet the purpose in cases of forced economy; otherwise some type of confectioner's scale is preferable. I use this scheme particularly for out-patients and for those who are not very intelligent.\* Really intelligent patients seem to prefer the scheme of Dr. Harrison and myself, taking a pride in the accuracy and variety of their diets.

## REFERENCES.

<sup>1</sup> G. A. Harrison and R. D. Lawrence: *Food Tables*, 1924. <sup>2</sup> Wooddyatt: *Arch. Int. Med.*, 28, 125, 1921.

## SPONTANEOUS RUPTURE OF THE HEART.

BY

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 M.B., M.D.

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We have read with much interest the reports of five cases of spontaneous rupture of the heart recorded in the *BRITISH MEDICAL JOURNAL* for August 30th (p. 373), September 13th (p. 465), and October 11th, 1924 (p. 669). The following is an account of the clinical history and *post-mortem* examination of a heart which had ruptured in a patient under the care of Dr. Skeen, Fife and Kinross District Asylum.

## CLINICAL HISTORY.

The patient, who was the subject of old-standing dementia, died in November, 1922, at the age of 65. During February, 1917, she had cardiac attacks, and again in May, 1921. She was slow in her movements, rather decrepit, and frail-looking. She did not perform any work, but wandered about aimlessly, at a gentle pace. There was never any dyspnoea. The extremities, nose, chin, and ears were occasionally cyanosed. Prior to her death she was walking quietly on a level piece of ground, neither evincing nor experiencing excitement. She was observed to drop down, and died a few moments later.

\* This scheme, amplified and with explanation for doctors and instructions for patients, can be obtained in a convenient card form from Messrs. Lewis and Co.

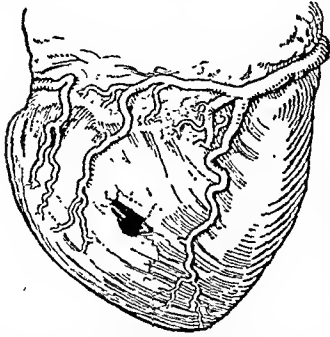
## POST-MORTEM EXAMINATION.

The heart was small, measuring 3 in. vertically and 4 in. transversely. There was a moderate amount of epicardial fat present.

## Condition of Arteries.

**Aorta.**—The ascending part was soft, pliable, and comparatively free of atheromatous patches, except at its lower part, where one or two were present. The cusps of the aortic valve, especially the right and posterior, were stiffened at their bases with patches of calcification.

**Right Coronary Artery.**—The orifice of this artery, while reduced in size, was not so small as the orifice of the left coronary. On cutting the vessel transversely a quarter of an inch from its origin, its lumen was found to be reduced to a mere slit by the presence in its wall of annular atheromatous thickening. The main stem of the right coronary artery was tortuous and presented patches of calcification along its whole course. Its two branches were also markedly atheromatous. It did not give off a right marginal branch, but divided into (a) an inferior interventricular branch, (b) a terminal branch which passed down



A drawing of the posterior surface of the heart. Before the heart was dissected the perforation appeared as a slit. It became enlarged as the result of manipulation. The right coronary artery and its two main branches are seen. They supply a larger area than usual on the posterior surface of the heart. The posterior branch of the left coronary artery is seen in the drawing.

its termination it was found that its lumen would scarcely admit a pin. The other branch was similarly reduced in calibre.

**Left Coronary Artery.**—At its origin from the sinus of Valsalva its lumen was exceedingly small, but immediately distal to its origin the lumen became perfectly patulous, 6 mm. in diameter. Distally there were patches of atheroma involving rather more than half the circumference of the vessel wall, but the lumen was not greatly reduced. Its anterior branch had numerous patches of atheroma, with the result that at many points its lumen was almost obliterated. Its posterior branch, somewhat smaller than usual, pursued a normal course, but it was also markedly atheromatous, and its lumen extremely narrowed.

**Auricular Part of the Heart.**—Both auricles were normal in appearance. The muscle coats were rather pale, and the walls exceedingly thin.

**Ventricular Part of the Heart.**—The tricuspid valve was normal. The bases of the cusps of the mitral valve were slightly calcified. There was no narrowing of the tricuspid or mitral orifices.

**Left Ventricle.**—For the greater part the muscle wall was thinner than usual. It was six-eighths of an inch at its thickest part and was five-eighths of an inch in the region of the site of the perforation. On the posterior wall about 1½ in. from its apex, and between the two branches of the right coronary artery (see drawing), there was a perforation 1 cm. in length. It passed through the entire thickness of the wall of the ventricle. On examining the interior of the chamber after reflection of the posterior cusp of the mitral valve, it was found that the heart muscle around the region of the perforation was somewhat necrotic in appearance, and the fibres of the heart in this area had ceased to manifest their normal colour and appearance. On microscopic examination of a piece of tissue taken from the posterior wall of the left ventricle adjacent to the site of the rupture the following appearances were found: The muscle fibres were not closely packed together; they had lost their striation and some had no nuclei. Fibrous tissue cells were abundant with large nuclei; they appeared to replace the muscle cells to a large extent.

## REMARKS.

The salient features observed *post mortem* were:

1. Narrowing of the lumen of the right coronary artery, causing almost complete obstruction of the circulation through that channel.
2. Secondary fibrotic and degenerative changes in the cardiac muscle in part of the region supplied by the right coronary artery.

3. The rupture was situated in this region.

4. Degenerative changes were more prone to occur in the specimen described, as the area affected was entirely dependent for its blood supply on the right coronary artery.

It would be of interest to know if the coronary vessels were affected with arterio-sclerosis in the five cases recently reported. In four of them reference was made to degenerative changes in the aorta. Were the orifices of the coronary vessels narrowed in these cases? In some instances they may be quite patulous, while the lumen of the main stems is narrowed as the vessels run in the substance of the heart muscle. In one of the cases reported the aorta showed no sign of disease. It did not follow that the coronary vessels were in a similar condition. The weight of the heart in these cases was worthy of note. In each of the five reported it was found "enlarged." In the case which we have described it was smaller and under average in weight.

Various suggestions have been advanced to account for spontaneous rupture of the heart. It is, without doubt, the result of a diminished blood supply with consequent secondary degenerative changes in the heart muscle, caused by arterio-sclerosis in one or both of the coronary arteries.

## A SIMPLE METHOD OF BLOOD TRANSFUSION IN INFANCY.

BY

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The value of blood transfusion in severe degrees of shock is now generally admitted. I recently had occasion to apply it in a male infant 4 months old, in an extremely collapsed state, when lesser methods of treatment had failed.

After three weeks' enteritis, with associated prelitis due to *B. coli*, the child lay with drooping eyelids, half-closed sunken eyes, waxen face, depressed fontanelle, utterly listless, and apparently moribund. Half a pint of subcutaneous saline given earlier in the day had failed to produce any improvement. Death within the hour was expected by all in attendance. It was decided to attempt blood transfusion, and the method employed seems worth recording in detail, as it proved effective, and gives promise of help in certain wellnigh hopeless cases. The operation was carried out in an operating theatre, but could be performed with little more difficulty in a private house.

A bowl of normal saline, so that the syringe and needle might be washed if necessary, a solution of sodium citrate (6 grains to 1 c.cm. distilled water), and a solution of 1 per cent. novocain with adrenaline, were prepared. Two 10 c.cm. syringes (one as a reserve) with two fine needles, sterilized by boiling, were available. The needles were of medium length, not so fine as hypodermic needles, but finer than the usual exploring needle.

The mother sat with her arm resting on a table in convenient proximity to the child. Venous congestion was produced in the mother's arm with a turn of the handage applied to the upper arm in the usual manner. She was warned to ignore any loss of blood as quite insignificant and unimportant to herself. Her median basilic vein was then exposed under local anaesthesia with 1 per cent. novocain. A ligature was passed beneath the vein, but left untied and gripped with a Spencer Wells forceps for lifting and steadying.

Under novocain anaesthesia an incision was made across the upper part of the child's thigh, about an inch below and parallel to Poupert's ligament. The subsequent steps of the operation are made easier if this incision is long rather than short. The subcutaneous fat was divided, and the vein which lies in the deeper part of the fascia, well to the inner side of the femoral artery, was found. It is important not to prick the vein, and the deeper part of the incision in the fascia was made in the direction of the long axis of the vein, after retraction of the margin of the wound. An aneurysm needle was then passed under the vein, and moved up and down, thus clearing 1 to 1½ inches; the handle of the aneurysm needle falling at the peripheral end of the wound cocked the vein up, putting it on the stretch and steadying it.

Into the syringe and needle 1½ c.cm. of the citrate solution was introduced, and it was then filled with blood from the mother's vein. No attempt was made to stop the bleeding from the mother's vein at the moment, but the syringe was quickly shaken to mix the blood and citrate solutions, and such air bubbles as were present were expelled. The child's vein was now lifted and stretched with the aneurysm needle in position and the needle of the syringe introduced into the vein with its point lying superficially and its bevelled surface deeper; in this manner the point is more easily seen and controlled and less easily driven through the vein wall. With the needle pushed well along the vein the 10 c.cm. of blood were easily and rapidly introduced and the vein tied to prevent any possible haemorrhage; the wound was closed and dressed with gauze and collodion to prevent any unnecessary exposure of the child. There was no shock to the child, who scarcely moved throughout the operation.

The effect was remarkable. I was called away, but returned in three hours to find the child's appearance wonderfully improved. A feed had been taken, and the depression of the fontanelle, which had been very marked, had vanished, and the patient's appearance was no longer that of a dying child.

A second transfusion was performed a few hours later in the hope of intensifying this evidently beneficial effect; 25 c.cm. of citrated blood were easily introduced, using the same syringe and needle all the time, and necessitating three introductions of the needle into the mother's vein and three into the child's vein.

Unfortunately twenty-four hours later the child went into convulsions and died, but I do not associate this with the transfusion in any way, for there were many pus cells in the urine, and there was probably a general blood infection. There was no difficulty in passing the needle into the same wound in each vein each time, and there was not the slightest reflux of blood alongside the needle from the baby's vein; nor, when the needle was removed, was there any escape of blood so long as the peripheral end of the vein was kept raised by the aneurysm needle. Giving antimony intravenously in a stout subject with small veins when dissection was necessary I have found such reflux alongside the needle troublesome, but blood is a more viscid fluid.

Assuming the total blood weight to be one-thirteenth the body weight, it seemed inadvisable to introduce more than 25 c.cm. of blood, and this could easily have been done had it been desirable.

Certain points of detail perhaps call for comment. The child should be kept warm, and as far as possible covered up during the proceeding, about which there need be no great hurry.

The upper end of the saphenous vein was selected because it was one of the largest superficial veins, and was in immediate continuity with the much larger femoral vein, so that the blood would be easily and quickly removed, preventing any tendency to reflux; also there was not the same danger of air embolism which the larger neck veins might offer. It might be urged that the exposure of the mother's vein by incision is unnecessary, but it prevents any possible bungling in the withdrawal of the blood, and the only real need for speed is during the process of transfer.

The very speedy recovery of the child from its collapsed state makes no doubtful whether the depression in the fontanelle and the collapse of an infant in severe gastro-enteritis is as much due to dehydration as to toxæmia, though it is probably caused partly by both. As a practical point arising out of this reflection, the question may be asked whether salines can ever approach whole blood in value, even in early childhood, for the child is suffering from something more than loss of fluid, something salines cannot influence perhaps.

With insufficient experience to express a definite opinion, I would suggest that blood transfusion might prove of very real service in severe degrees of collapse in infancy, whether from gastro-enteritis or from other cause.

## THE TYPE OF CASE THE BONESETTER GETS.

BY

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DURING the past year it has fallen to my lot to manipulate a considerable number of cases of knee-joint trouble, in some the result of adhesions, in others of displaced semilunar cartilages.

The following two cases are, I think, worthy of record as illustrating, first, the type of case the bonesetter often cures and acquires fame in so doing, and, secondly, that which he cannot hope to cure and which sooner or later must come to the surgeon for operative treatment. The youth of one of the cases is rather exceptional. Cases have actually been operated upon at the thirteenth year,<sup>1</sup> and recently a case of reduction of displaced semilunar cartilage at 4½ years of age has been reported.<sup>2</sup>

### CASE I.

A. B., aged 10 years, seen on March 12th, 1924, said he had fallen from the top of a wall nine weeks previously and hurt his right knee so that it was swollen and could not be straightened. At the end of four weeks he was able to get about on it, but the joint was unstable, and he fell frequently. He was taken to a consulting surgeon, who diagnosed a displaced internal semilunar cartilage and advised that a knee-cap be worn. The knee, however, still continued to give way, and two weeks previous to being

seen by me he fell down some steps and had been unable to straighten the knee since.

**Condition on Examination.**—The knee was normal in appearance and all movements were complete except extension, which was not quite complete, there being a sensation of some resilient structure blocking it. This was so slight that it was difficult to realize that there was really anything wrong with the joint. There was no pain on movement nor tenderness on pressure, and the only reply the boy gave to questions was "It's here," accompanying the remark by rubbing the inner side of the joint with his hand. He was then asked to walk, and the disability at once became apparent—he could not get the heel to the ground by quite two and a half inches, and limped across the floor on his toes. The quadriceps was very weak and flabby.

**Treatment.**—The displaced semilunar cartilage was reduced by full flexion, internal rotation, and extension. The boy was able to walk across the room immediately. A back splint was then applied and massage and electrical stimulation of the quadriceps carried out thrice weekly. No movements of any kind were permitted for a fortnight in order that healing of the torn parts should take place undisturbed. At the end of a fortnight the back splint was discarded and a bandage substituted. In spite of some tenderness over the inner side of the knee movements were begun. At the end of another fortnight the bandage was left off and treatment continued in the gymnasium for another week, when the boy was discharged.

During treatment in the gymnasium the joint was subjected to all sorts of twisting movements, but it stood the test, and the subsequent history proves the completeness of the cure—there has been no further trouble. This is rather remarkable in view of the length of time which elapsed between the first accident and the manipulation.

### CASE II.

Miss C., having hurt her right knee two days previously, was brought to me on the evening of Easter Monday. She gave a history of its having been "out" many times before, but she had always been able to get it "back" herself; on this occasion she could not.

**Condition on Examination.**—The knee was flexed, much swollen, and very tender; all attempts to move it were strongly resisted by powerfully contracted muscles and produced so much pain that they had to be abandoned.

**Treatment.**—Next morning she was given an anaesthetic and the knee fully straightened quite easily by manipulation. Extension was accompanied by a sound as of something tearing inside the joint. After treatment as in Case I was carried out, but, owing to the history of frequent displacement, operation was advised. Before this was done the cartilage again became displaced and again was reduced by manipulation—this time without an anaesthetic.

After this there was always a feeling of something moving inside the joint, and at operation the cartilage was found to be detached along the periphery in its posterior two-thirds—a condition to which I give the name "sickle-shape." In this position the detached portion of the cartilage is bent diagonally across the front of the internal condyle of the femur, so that any reduction which could take place by manipulation would result in tearing away more of it from the coronary ligament. Removal of the whole cartilage resulted in a complete cure.

### REFERENCES.

<sup>1</sup> Jones and Lovett: *Orthopaedic Surgery*, p. 31. <sup>2</sup> Christopher: *Journal of Bone and Joint Surgery*, vol. vi, No. 4, October, 1924, p. 918.

## THROMBO-ANGITIS OBLITERANS.

BY

CHARLES DICKSON, M.C., M.D., F.R.C.P.I.,

DUBLIN.

THE interesting paper by Professors Telford and Stopford of Manchester on thrombo-angitis obliterans, published in the *BRITISH MEDICAL JOURNAL* of December 6th, 1924, provides a reasonable diagnosis in a somewhat obscure case recently under my care. The parallel as regards signs and symptoms is close, but as there is a striking contrast in the matter of age and course to date it is thought worthy of record.

The patient is about to complete his 86th year, and, although a lifelong fisherman, I am sceptical of any ground for connecting this fact with the present condition, as is done in one recorded case. The family history and personal history are both exceptionally good. Some months previous to the first attack there had been acute suppurative of a corn situated over the metatarsophalangeal joint of the great toe of the right foot. In the beginning of March, 1924, after a slight attack of bronchial catarrh and flatulence, sudden pain was felt in the upper third of the right calf. When I examined the leg several hours later the foot was swollen and oedematous to the ankle, especially over the dorsum of the foot, and of a reddish colour. The limb was stone cold as high as the junction of the middle and lower thirds of the leg. Walking was impossible on account of the pain, which was described as "cramp."

like." Relief was obtained when the limb was raised, but when in bed at night there was a subjective sensation of heat in the stone-cold foot; this was relieved to some extent by resting the foot outside the bedclothes. No arterial pulsation could be detected below the level of the popliteal space, and a provisional diagnosis was made of arterial obstruction somewhere in the region of the popliteal bifurcation. There was an old-standing ingrowing toenail on the great toe of this foot, and the ingrowing portion was removed without injury to underlying tissues. Massage was avoided, and treatment consisted of rest with the limb raised, and daily application of methylated spirit, ether, and Huxley's powder, to minimize the risk of sepsis. Little else was required, as the patient was unusually healthy for his age. The heart, which was irregular, was supported from time to time, but perhaps unnecessarily, and at one period potassium iodide was tried, until the excretion of iodine in the saliva caused some faucial irritation and it was discontinued.

At the end of about three weeks the appearance of the foot suggested the formation of a line of demarcation in the neighbourhood of the ankle-joint. Gradually, however, circulation in the skin capillaries became brisker, the oedematous swelling diminished, and, after two months, walking became possible, though attended for some time by pain, due possibly to relative ischaemia in the muscle of the calf on the affected side. This condition of claudication gradually disappeared entirely, but for about four and a half months from the initial attack some pain persisted in the region of the instep on walking. A small "blood blister" appeared at the site of the ingrowing toenail. It, however, sloughed off, leaving healthy skin behind.

The patient has a high degree of natural immunity to ordinary sepsis, and this no doubt contributed to some extent to the favourable result. At the end of five months the foot was perfectly normal again, the last portion to lose its oedema and resume its normal appearance being the outer half of the dorsum of the foot.

Five and a half months after the onset of the first attack a similar sudden and intense pain was felt in the calf of the other (left) leg. The same sequence of events followed, differing only in degree, the second attack being in every way less severe and no superficial slough appearing, although an ingrowing toenail on this foot also was similarly dealt with.

At the moment of writing (four and a half months later) this foot also is practically normal in appearance. No pain is now felt in either limb when at rest or when walking short distances up to 200 or 300 yards. When this distance is exceeded a condition of claudication supervenes, affecting the left leg only and necessitating rest for a few moments. With judicious resting (by means of a camp stool) daily walks of a mile or more can be enjoyed without fatigue.

## Memoranda:

### MEDICAL, SURGICAL, OBSTETRICAL.

#### CUTANEOUS GONOCOCCAL INFECTION.

A medical man consulted me recently on account of a curious dermatitis of the elbow. A slight abrasion of the skin over the olecranon was caused by a fall while playing football, and a week later the lesion became acutely inflamed and very painful. On examination the abrasion was found to have become a shallow ulcer,  $2\frac{1}{2}$  cm. in length by about 1 cm. in width. Its base was formed by a lemon-coloured slough, and the edge was surrounded by a hyperaemic band of skin some 2 mm. in width. Encircling the ulcer, at a distance of about 3 cm., were a number of bullae; the smallest was 1 cm. in diameter and the largest  $2\frac{1}{2}$  cm. long by 1 cm. broad. The axillary glands were enlarged and tender. Serous fluid was obtained by the aspiration of one of the bullae, and films stained by Gram's method showed a few pus cells with intracellular Gram-negative diplococci morphologically resembling gonococci. A few Gram-positive cocci were also present. From cultures on blood agar *Staphylococcus aureus* and a Gram-negative diplococcus were obtained. Colonies of the latter on serum agar developed the scalloped edge characteristic of gonococcal colonies after four days' incubation. There was no history of gonorrhoea, so that a metastatic explanation of the infection was untenable, but, in view of the rarity of a primary gonococcal cutaneous infection, fermentation tests were undertaken to establish the identity of the organism. Glucose was fermented, but maltose and saccharose were not. No growth was obtained on broth

agar, and from these criteria it was concluded that the organism was in fact the gonococcus.

Inquiries as to the probable source of infection elicited the fact that, three days before the elbow became painful, the patient had operated on a female for elephantiasis. At the time of operation there was a vaginal discharge, but subsequent examination failed to detect any gonococci.

The course of the cutaneous lesion was uneventful. Hot fomentations were employed for twenty-four hours and then protargol was applied. Three weeks later healing had occurred.

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#### CASE OF PROTEIN ANAPHYLAXIS.

My son, aged 8 years, had occasion to take delivery of a hare (dead) at the railway station distant about five minutes from my house. He wrapped the hare round his neck, and in this manner carried it home. A few minutes after his arrival he was seized with intense itching in his eyes, which at once became deeply congested. This was followed by a copious watery secretion from the nares. A few minutes afterwards a livid erythematous rash appeared on the neck; it spread rapidly on to the face, and was followed by marked oedema of the eyelids. At night a persistent hacking cough developed, which continued during the night. At 2 a.m. on the two following nights he was seized with a typical attack of asthma, which compelled him to sit up in bed. The oedema of the eyelids lasted for about three days. Bronchial râles were heard over both lungs.

I ordered the nares and pharynx to be sprayed with an alkaline douche, and for some days small groups of hairs appeared in the return water. Sensitization tests were applied a week afterwards, the result being marked positive reaction to the epidermal groups (Nos. 25 and 26).

The following points are interesting: (1) The facility in detecting the protein causing the symptoms; (2) the rapidity of onset and the course of the symptoms; (3) the marked reaction to the tests applied.

I may add that the boy on many occasions had been in contact with dogs, cats, and horses without any ill effects.

AYR.

FERGUS MCKENNA, M.B., C.M.

#### RECURRENT CHICKEN-POX.

WHILE it is clear from the experience of many practitioners that one attack of chicken-pox does not necessarily confer immunity to the disease, and while, according to Osler and McCræ,<sup>1</sup> there are instances on record of three attacks in one person, the following particulars of a family under my care, the members of which appear to be unusually susceptible to the disease, seem of sufficient interest to report.

Of the three children in the family Mary was born in 1916, John in 1919, and Lucy in 1921. Their first attack occurred during a holiday in Cornwall in September, 1921. The eldest child was slightly affected, and the boy rather badly. The third child, then a baby of 7 months, had one or two "spots" (a doubtful case). There was a small outbreak of varicella at the time in the neighbourhood, and Dr. F. C. Matthew of St. Ives, under whose care the children were, has written to say he remembers the circumstances quite well, and had no doubt as to the diagnosis. The remains of the eruption were visible on the patients on their return to Oxford. In July, 1922, Mary had what I regarded as a mild attack of chicken-pox, for which she was isolated. In October, 1924, following the occurrence of a case at her school, she had a rather severe attack. Thirteen days later John fell ill, and Lucy two days after him. All three were typical cases in respect of the onset, character, distribution, and duration of the eruption.

In this family, therefore, two of the children have each had two definite attacks, the eldest almost certainly a third, while the youngest member has had one clear attack and one doubtful. The subsequent history of these children will be noted with interest.

OXFORD.

WILLIAM STORIE, M.D. Edin., M.R.C.P. Lond.

<sup>1</sup> *The Principles and Practice of Medicine*, ninth edition, p. 337.



## Reports of Societies.

### LEPTOSPIRAL JAUNDICE IN DOGS.

At a meeting of the Section of Comparative Medicine of the Royal Society of Medicine held on January 28th, with Mr. FREDERICK HOBDAY, the President, in the chair, Dr. O'KELL and Messrs. DALLING and PUGH read papers on the subject of leptospiral jaundice in dogs. The research on which the papers were based was the joint work of the three authors, but each contributed a paper dealing with somewhat different aspects of the question.

Dr. C. C. O'KELL, in giving his reasons for considering that canine enzootic jaundice was a leptospiral disease, said that of the ten cases investigated he and his collaborators had been able to isolate the organism in three dogs. He believed that they had satisfied the postulates of etiology usually required in such cases. The characteristic appearance of the organism and the peculiar *post-mortem* picture made it easy to decide that they were dealing with a leptospiral infection. They were unable, however, invariably to demonstrate the causal organism. Indeed, in only one case could they definitely see living leptospirae in ground-up preparations of various organs. In this case the guinea-pigs inoculated with the material showed no symptoms, but cultures produced many organisms which, on inoculation and subinoculations into experimental animals, were observed in ground-up tissues. With this strain they were able to show that rat serum and recovered-dog serum protected guinea-pigs against injections of the virus, while normal horse and dog serums did not. In unprotected animals the strain proved to be fatal. Krumben and Fricling, in 1916, reported that two men, living in the same room as a dog suffering from jaundice, developed what appeared to be typical Weil's disease, although these authors did not appear to be able to confirm the nature of the infection. Later authors had reported the disease as occurring in the dog under natural conditions.

Mr. L. P. PUGH said that the disease might be divided clinically into main types, with, however, every gradation between them. (1) The *hyperacute haemorrhagic type* was characterized by its sudden onset and high initial temperature (104°-106° F.), which, however, immediately before death always fell to 97°-98° F. (The normal rectal temperature of the dog is about 101°-102° F.) There was intense depression and sometimes symptoms of meningitis. Epistaxis was common and bronchial râles very evident. Vomiting, often blood-stained, occurred in all cases, and thirst was pronounced. The urine was passed in small amounts and had a high albumin content. Other symptoms were variable, but, as a rule, icterus was absent. The course was rapid, and dogs died in a few hours or days. (2) The *icteric type* had a variable onset. In the rapidly fatal type with jaundice it was acute; in the milder cases it was very insidious. The initial temperature was about 102°-103° F., which became subnormal before death. The marked depression of the first type was absent in the early stages, but developed later. Vomiting was constant and constipation usually marked. The urine was bile-stained and contained much albumin. Emaciation was frequent. Acute cases might die within two days; milder cases might survive for a week or more. Associated with outbreaks, cases occurred in which the dogs showed a slight fever and transient gastro-intestinal disturbances; these, Mr. Pugh considered, might ultimately prove to be mild cases of the disease. In the course of the work blood was examined for the presence of intracorpuseular parasites, but none were found. Moreover, trypan-blue, which proved so useful in piroplasmiasis, was useless in treatment. It was too early yet to state that the administration of antileptospiral serum would effect cures, but, although results were promising, he preserved an open mind. He recommended the use of liquid paraffin and enemata of normal saline in cases in which treatment was attempted. A liquid alkaline diet was of advantage.

Mr. T. DALLING, in comparing natural and artificial infections, said that of the ten naturally infected cases examined three showed the hyperacute type of symptoms, while the others were icteric. In the experimental

animals none were icteric. The resemblance between the series was striking, with many features in common. In both the *post-mortem* picture was identical. All degrees of jaundice might be observed. All the abdominal vessels were congested, while petechiae might be found in any part of the intestine. Intussusceptions were frequent. The liver was enlarged and congested or pale and icteric. The lungs showed bright-red punctate haemorrhages of varying size and situation. Haemorrhages might be found in practically all organs except the central nervous system. Rats might be regarded as healthy carriers of the disease, and were probably the main vectors of the virus. In the only two infected kennels investigated virulent leptospirae had been found in the rats. Mr. Dalling thought that natural infection was by means of contaminated food and bedding. The discovery of leptospirae in the kidney of one dog suggested that infected animals might themselves transmit the disease by soiling bedding with their urine. Guinea-pigs could be protected against a lethal dose of leptospirae of canine origin by an immune serum. Dogs exposed to natural infections could be similarly protected with 5 to 10 c.cm. of the serum. He considered that the disease might be—provisionally at least—differentiated from distemper by a number of points. In distemper the temperature was persistently high, while in this disease the early high temperature dropped to normal or subnormal, followed sometimes by a sudden short rise and a second fall. Haemorrhagic herpes and blood-stained vomit were very characteristic of leptospiral disease. It was thus easily distinguished from typical distemper, but in border-line cases diagnosis on clinical grounds was often impossible.

The papers were illustrated by charts and numerous pathological preparations. In the ensuing discussion Dr. A. STOKES stated that in the war-time investigation of the human disease it was found that the virulence of the organism in rats in various areas seemed to vary, and he suggested that possibly some crisis arose in the carrier which enabled it to become infective. The difficulty of isolating the organism was not confined to dogs; he had found that it could most frequently be recovered about the fourth day from the kidneys. In man, many cases, though infective, did not show symptoms of jaundice. Dr. A. BALFOUR pointed out that the results had a significance not confined to this country, but that abroad the work might have possible bearings on various human diseases. He drew attention to the possibility of the disease being carried by water, and instanced one case in which a man seemed to have acquired the infection by falling into the Thames.

### ENCEPHALITIS LETHARGICA.

A MEETING of the Aberdeen Medico-Chirurgical Society was held on January 22nd, the President, Dr. PETER HOWIE, in the chair, when Dr. A. G. ANDERSON read a paper on encephalitis lethargica.

Dr. Anderson's experience of the disease extended to some twenty cases, and as the time was inadequate to deal even with one limited aspect of the disease, such was its varied symptomatology, he thought it better to discuss the various points of interest which had emerged from the study of his own cases. After describing the original appearance of encephalitis lethargica in 1917 and its spread in different countries, and stating that the description of "lethargic" was now inapplicable to many of the recent cases, Dr. Anderson related the details of the first case he had seen, on March 17th, 1920, in a woman of 37, who presented the typical features of fever, ocular disturbance, and lethargy, which lasted for seven or eight days. The most interesting feature was that in a few days the mask-like facies developed, and by the end of May the typically stiff gait, resembling that of paralysis agitans, had appeared. During the next two or three years the residual phenomena noted were the mask-like face, the stiff hesitating movements of the limbs—the arms being held in the characteristic mid-brain attitude—and the "ready tire" of the muscles. In this case, fortunately, the Parkinsonism was not progressive, and during the past year the patient had emigrated and was able to do active work. Dr. Anderson then discussed the development of the mid-brain syndrome, and remarked that this was now regarded as one

of the commonest sequelae of encephalitis lethargica, the time of its appearance being extremely variable.

In the description of further cases of the series, Dr. Anderson dealt fully with the various characteristic symptoms and signs which had appeared, and discussed their features especially as regards period of onset and diagnostic and prognostic import. Such were Parkinsonism, lethargy, muscular and mental passivity; the running gait, akinesia, paradoxical disorders of speech, tremors, emaciation, excito-motor phenomena, pain, myoclonus, chorea, athetosis, spasmodic tics and automatic movements; facial paralysis, and signs simulating meningitis. One patient had had two pregnancies after the onset of the encephalitis, a healthy child being born; the case illustrated the facts that encephalitis does not necessarily lead to premature labour, that the child need not be infected, and that pregnancy seems to have a definite effect in aggravating an existing Parkinsonian syndrome. In connexion with the choreic type, Dr. Anderson described fully two cases: one a boy of 14 who had attacks nightly, lasting about four hours, when he went through a series of "antics"—coughing, snorting, jumping in and out of bed, and so on—till he fell asleep exhausted. The other case, also, a boy of 14, had similar restless attacks with very marked insomnia, the wakefulness persisting till 4 or 5 a.m.; one period of insomnia lasted for forty-eight hours. This boy also had attacks of marked respiratory disturbance. The mental and moral changes in the disease were next discussed, and their problems indicated.

In conclusion, Dr. Anderson dealt with the theories of the infective nature of the disease, referring to cases which might lend clinical support to the idea. He also briefly referred to the necessity for a complete examination of the cerebro-spinal fluid in all cases, not so much for possible positive findings as for information enabling other diseases to be excluded. He stated that there was no really characteristic picture of the cerebro-spinal fluid in encephalitis lethargica except that it differed from most other diseases in that the sugar content was invariably high. He pointed out also that in this disease the virus remained in the nervous system for long periods of time, waking into activity at intervals, and affecting different parts of the brain at different times; so that the original conception of a disease with an acute stage passing off and then followed by certain residual phenomena was no longer tenable. No form of treatment so far had been found to have the slightest effect, but in his opinion any form of effective treatment which might be discovered would probably be in the nature of an antiserum rather than drugs.

At a meeting of the Chelsea Clinical Society on January 20th, Dr. GORDON LANE, the President, in the chair, Dr. A. FEILING showed two boys with marked signs of pseudo-hypertrophic muscular paralysis. Mr. L. ADEL showed: a boy with osteomata on the phalanx of one of the fingers and on the metacarpal of the thumb; a case of osteomyelitis and one of osteogenesis imperfecta associated with multiple fractures; a case illustrating the advantage of avoiding the lacrymal apparatus in resection of the upper jaw for malignant disease; and a man with osteo-arthritis of the sterno-clavicular joints and one hip. Mr. A. R. THOMPSON showed a girl with bilateral renal calculi, who presented some evidence of stunted growth, which might have been associated with the renal trouble; also two men who had had the penis amputated for epithelioma—in one case four years ago and in the other case five years ago; one of the patients had become the father of a child since the operation. Mr. IVOR BACK showed a case of dermoid of the floor of the mouth, and also a specimen of sarcoma of the fibula. The President showed a case of blackening and hypertrophy of the nails of the hands, and to a less extent of the feet, which he suggested might be due to a psychic influence, as the patient gave an account of a most gruesome occurrence during the war. Dr. ERNEST YOUNG demonstrated his duodenal tube, which had been of much service in cases of gastric trouble, and could also be used for medicaments and food, distributed to the duodenum without the intervention of the stomach. Dr. J. D. ROLLESTON described a case of erythema infectiosum, which he illustrated with photographs. He suggested the name of "fifth disease" for it, thus carrying on the name of fourth disease, of which he said there were undoubted examples. He suggested that there might be epidemic conditions of the disease, but so far it had not occurred in epidemic form in England.

## Rebifus.

### THE TREATMENT OF FRACTURES.

WHEN a wild animal suffers fracture of a bone it either dies or recovers without any treatment. In the latter case the provisional or ensheathing callus takes the place of splint and bandage. Like Rousseau, Mr. J. W. DOWDEN of Edinburgh would have us go back to Nature, and in his *Principle of Early Active Movement in Treating Fractures of the Upper Extremity* he advocates abandonment of splints even in compound fractures, and the encouragement of movement instead of its prevention. This is an even more revolutionary proposal than was that of Lucas-Championnière, but we are bound to say that in the excellent illustrations of this book Mr. Dowden brings forward strong arguments to justify the adoption of his method in certain cases.

He tells us that he thinks it is possible to put into practice the same principle of treatment in the case of fractures of the lower extremity, although the weight-bearing function of the lower limbs makes a very great difference. It would be interesting to see a collection of photographs and radiographs of fractures of the thigh and leg treated by similar methods, and we hope that Mr. Dowden will ere long be able to produce a companion to the book now under notice. No doubt in order to prevent shortening some means of extension would have to be adopted, which would make the practice of active movement difficult.

It is probably very true that in former days far too much stress was laid on restoration of anatomical form and prolonged fixation. Lucas-Championnière showed us that, especially in the case of fractures near joints, better results could be got by early removal of splints and massage and passive movements; and although in some cases in young persons a too exuberant callus formation resulted, yet the method undoubtedly constituted a great advance in the treatment of fractures, and it is now generally practised by many surgeons.

Mr. Dowden has evidently worked on the sound orthopaedic principle that function is all-important. In the case of the humerus, for instance, he does not trouble himself about end-to-end contact and sometimes disregards overlapping, yet the results, especially in young people, are surprisingly good, as is shown in the radiographs of cases of fracture of the neck of the humerus, on which an almost normal head and neck has been reconstructed in the course of time. A considerable shortening of the period of disability is claimed for this method, but we venture to think that in this respect as good results can be obtained by the method of Lucas-Championnière when judiciously followed, and we question whether the results of complete rest of a non-infected joint or muscle are quite so disastrous as Mr. Dowden states. Something also must be said for the value of appearances. For instance, fracture of both bones of the forearm, if treated without splints, is bound to leave some deformity behind it, and, although a bent forearm may be functionally efficient, it may be strongly objected to by its owner or his friends on aesthetic grounds. Mr. Dowden is a distinguished surgeon of striking and persuasive personality, and is able to induce timid patients to practise voluntary movements of a broken limb when younger and less authoritative persons would fail, and he doubtless runs far less risk of an action for malpraxis on account of an unsightly though useful limb than would a general practitioner with perhaps no special surgical prestige. Nevertheless, such an original and fearless innovation as this is of great value, and, when cautiously tried and tested by others in a favourable position so to do, may lead to great improvement in the routine treatment of fractures.

We strongly recommend the careful study of this book to all those concerned in the care of injuries, and especially to surgeons in industrial districts, to whose patients rapid restoration of efficiency is of such great importance.

<sup>1</sup> *The Principle of Early Active Movement in Treating Fractures of the Upper Extremity*. By J. W. Dowden, M.B., F.R.C.S.E. Edinburgh and London: Oliver and Boyd, 1924. (Demy 4to, pp. ix + 111; numerous plates, 16s. net.)

## PHYSIOLOGICAL AND PATHOLOGICAL CHEMISTRY.

We have much pleasure in welcoming the appearance of a ninth edition of Hoppe-Seyler's handbook of physiological and pathological chemistry.<sup>2</sup> This historic textbook first appeared in 1858 as a small volume of 300 pages, and continued for two generations to be the standard textbook in biochemistry. After the death of the original author two editions were brought out by Dr. H. THIERFELDER; of these the second appeared in 1909. After this date Abderhalden's encyclopaedic textbook of biochemical technique became the standard reference book, but it has now swollen from an encyclopaedia into a library, and so, after an interval of fifteen years, a fresh edition of Hoppe-Seyler's textbook has been prepared. It contains over 1,000 pages, and has been completely rewritten by Dr. Thierfelder and nine contributors.

There are three sections. The first deals with general chemical and physical methods, but it consists of only 35 pages, and therefore only gives a short outline of a few of the most important methods. The second section, of 600 pages, is the most important part of the book. It is devoted to the description of the methods of qualitative and quantitative analysis, and of isolation of the constituents of the animal body. The third part contains details of the chief methods of analysis of animal tissues, fluids, and concretions. The whole work forms an excellent book of reference, containing descriptions of nearly all the standard methods of biochemistry. The subject has, however, been treated from a somewhat conservative standpoint, for very little is said about such modern developments as the special methods of colloidal chemistry. Furthermore, attention is devoted chiefly to substances with a well recognized structure, and only brief mention is made of vitamins; insulin is not mentioned. As a whole it may be said that the volume deals fully with biochemistry from the aspect of organic chemistry, but rather scantily with the physical and physiological aspects of the subject.

Professor MEYERHOF of Kiel has collected five lectures, delivered at Cambridge in 1922, and in a more detailed form at the Rockefeller Institute, New York, in 1923, as a small book entitled *Chemical Dynamics of Life Phenomena*.<sup>3</sup> It appears as one of the Monographs on Experimental Biology, in which series several very useful and stimulating books have already been published. Professor Meyerhof is well known to physiologists for his work on muscle contraction, and it will be sufficient to announce to them that the book has appeared. Its five chapters deal with the physico-chemical mechanism of cell respiration, autoxidations in the cell, chemical relations between respiration and fermentation, the transformation of energy in muscle, and the energetics of cell processes. Readers other than trained physiologists may have difficulty in following the text in some places, but refreshing reward for effort is to be found in the extremely interesting generalizations scattered throughout the book, particularly at the beginning and end of each chapter. There is no statement that the lectures have been translated into English from a foreign language, and certainly this would not be guessed from reading the text. In fact, the book is unusually well written, clear, and without any ambiguity of language, and often eloquent. It contains an extensive bibliography, and is well indexed.

## THE ERYTHROCYTE AND HAEMOLYSINS.

THE latest addition to the English series of Biological Monographs and Manuals edited by Dr. F. A. E. Crew and Dr. D. Ward Cutler is a small book written by Dr. ERIC PONDER, Lecturer in Physiology in the University of Edinburgh, entitled *The Erythrocyte and Haemolysins*.<sup>4</sup>

*Monographs on Experimental Biology. Phenomena.* By Professor Otto Meyerhof. 1923. (Extra post 8vo, pp. 110; 8 figures. 12s. 6d. net.)  
*The Erythrocyte and the Action of Simple Haemolysins.* By Eric Ponder. Biological Monographs and Manuals. Edinburgh and London: Oliver and Boyd. 1924. (Demy 8vo, pp. x + 152; 11 figures. 12s. 6d. net.)

with the morphology, chemistry, and structure of erythrocytes, and the second with the action of simple haemolysins. In the first part of the book there are chapters on the red blood corpuscles of mammals, camels, birds, reptiles, amphibia, fishes, and invertebrates. In the second part the author deals separately with the action of haemolysins on the red cells of mammalia and on nucleated red cells. These two parts lead up to a general theory of the mechanism of haemolysis, which is the substance of the concluding chapter of the book. Herein Dr. Ponder criticizes the opinion of Arrhenius that haemolysis may be described by a formula applicable to mononuclear reactions, and also the views of Chick and Eijkman to the effect that the cells undergo rapid cyclic changes in resistance. In the author's experience these theories do not explain the observed facts. He finds, however, that difficulties may be removed by the assumption that red cells are not all of the same resistance to the action of a haemolytic agent; this assumption is supported by a certain amount of experimental evidence. He writes (p. 179):

"One explanation seems applicable to all the haemolysins considered: that the cells differ in their resistance to the haemolysin, that these different resistances are distributed according to an ideal frequency curve, that the rate of the reaction resulting in the haemolysis of the red cells is of practically constant velocity—this being due to the fact that it is observed over a short time only—and that all variations from the symmetrical form of percentage haemolysis curve are due to accelerations or inhibitions, produced principally by the haemoglobin liberated from the cells."

Haemolytic reactions have been made to serve useful purposes in clinical pathology, as, for instance, in the Wassermann reaction and in the classification of streptococci according to their haemolytic properties. These more complicated examples of haemolysis are not discussed at length in this book, but the careful study of the action of simple haemolysins which the author has made will prove interesting and suggestive of further research to those who have to employ the more complicated haemolytic reactions in their regular work.

## THE LYMPHATIC SYSTEM.

PROFESSOR ACHARD has written a condensed but illuminating account of the lymphatic system which is the more valuable because its author has carried out a large number of researches into the physiology and pathology of what he calls appropriately the "lacunar" system.<sup>5</sup> In a sense the proper understanding of the workings of this system is absolutely fundamental in human physiology for the excellent reason that the lymph is the omnipresent medium bathing every cell, which brings to the cells all their nourishment and which carries from the cells all their waste products. The blood itself is in contact with no tissues except the vascular endothelium, the splenic pulp, and some cells in the red bone marrow.

Professor Achard distinguishes two great classes of liquids in the lacunar system:

1. Those whose function is to act by means of their volume in a mechanical fashion, maintaining pressure in the interior of organs—for example, intra-ocular and intra-aural pressure; or to prevent mechanical injury—for example, the cerebro-spinal fluid and the amniotic. Such fluids Dr. Achard conveniently calls "serosities"; they possess cell nourishment in the form of relatively large amounts of crystalloids.
2. Those whose function is to lubricate surfaces, which they do by their viscosity; they are present in small quantities; they contain relatively large amounts of protein—for example, the "mucosin" or synovin of synovial fluid.

The author is particularly successful when describing the histological and biochemical aspects of inflammation as it affects the areolar tissue and the great serous sacs. The precise causes of those deviations from the normal which constitute oedema and the various forms of dropsy are investigated in an interesting fashion. The therapeutics of these conditions are not omitted; a good deal is said about the sodium, potassium, and calcium ions. Absorption from tissue spaces receives much attention, as well as the rationale of such diuretics as sodium sulphate and urea.

In an appendix are collected together the analyses of a large number of normal and abnormal lymphatic fluids,

<sup>5</sup> *Aperçu de la physiologie et de la pathologie générales du système lacunaire.* Par Ch. Achard. Paris: Masson et Cie. 1924. (Med. 8vo. pp. 225; 29 figures. Fr. 10.)

somic of which, as the author admits, are not of recent date. They are not, however, valueless on that account.

We miss any reference to the work of Halliburton and Dixon on the secretion of cerebro-spinal fluid, and to that of Starling and Henderson on intraocular tension. In fact, English as distinct from American research work is only sparingly quoted. There is no index.

#### KALA-AZAR IN ASSAM.

LIEUT.-COLONEL McCOMBIE YOUNG's book on *Kala-azar in Assam*,<sup>6</sup> giving an account of the preventive operations under his administration, constitutes a remarkable record of the good which can be achieved by rational application of deductive knowledge to questions of public health, even though the problem of the actual mode of conveyance of a disease is still unsolved. The work itself illustrates in several points the fulfilment of the prophetic utterances of Sir Leonard Rogers a quarter of a century ago, referred to by him in a foreword. One example may be cited: "A series of unhealthy years, such as the malarial prevalence in North-east Bengal in 1872-1877 . . . might at any time light up a further epidemic prevalence," wrote Sir Leonard Rogers, and on page 3 of this book it is stated: "It appears that the sequence of events which led to the present recrudescence is . . . a succession of unhealthy seasons" culminating in the years of the influenza pandemic.

The Government of Assam ordered a survey to be made in 1912-13, which showed that certain endemic areas of the disease had persisted in the track of epidemic fires. The author demonstrates how the broad history of kala-azar in each district is traceable from the census returns of the last fifty years, and illustrates this by quoting the figures for several districts, of which Goalpara and Lakhimpur may be mentioned as instances on the one hand of an endemic area in a quiescent period, and on the other of a district so far untainted with kala-azar of the dangerous type. A minus variation in the population during a given decade indicates a prevalence in it of endemic kala-azar during those years. In the succeeding chapter evidence is adduced from both epidemiological and clinical observations to show that the notorious Burdwan fever was kala-azar.

The importance of evacuation of an infected site is demonstrated, and is attributed to the fact that the presence of an infected person is not sufficient alone to start an outbreak, but that some cycle of events conveniently designated "site infection" must be established in and around the house. Hence the beneficial, but not entirely successful, effects of removal of the infected family, for, unless those living in the immediately adjoining houses are removed also, experience shows that cases will arise amongst the latter within a year of the removal of the former. At the same time migration must be prohibited, else scattering of the infected will lead to fresh "site infection," and each such infected site will constitute a focus for further outbreaks. If an acute outbreak arises the best means at present known of preventing spread is early removal combined with treatment of patients. If infection has remained unrecognized, site infection is set up, and unless these patients are removed as well as treated no amount of treatment will prevent a constant crop of cases. Compulsory treatment with tartar emetic administered intravenously has "converted a disease with a 90 per cent. mortality into one with a 90 per cent. rate of cure." The first hospital for kala-azar was built at Nazira in Sibsagar, and the number of cases applying for treatment increased to such an extent that many similar hospitals had to be erected. In 1920 the number of cases treated was 7,188, but it was estimated in November, 1923, that there would be over 37,000 for the year and more than 80,000 in all. The total amount of the drug given was 2 grams spread over a three months' course of bi-weekly injections, but when it was found that patients apparently cured might still harbour the parasite the rule was adopted that "if the temperature becomes normal after two weeks, the treatment is continued

for two months; if the rise of temperature persists for three weeks, treat for three months, and so on."

In the chapter on the distribution of the disease in Assam and in India it is shown that soil *per se* has little influence, but that the conditions of temperature and the degree of humidity which prevail, aided by density of population, are important factors. The succeeding chapter deals with statistics and does not lend itself to summarization. In a final chapter the problem of transmission is considered, though this subject is beyond the original scope of the work. The evidence so far available indicates some insect vector, but until this question is solved preventive measures, though they may be attended by considerable success, cannot be regarded as complete.

The book is well printed and well bound, the photographs and charts are excellently reproduced, and the author is to be congratulated on good work well carried out and interestingly described.

#### GUY PATIN.

THE history of the period immediately preceding and including the reign of Louis XIV, particularly that of his minority and following years, attracts the general reader because letter writers, historians, and novelists have furnished innumerable anecdotes interesting to all those who make no demands for meticulous accuracy. Dr. FRANCIS PACKARD in his *Life and Times of Ambroise Paré* had as the central figure an attractive personality. In his *Guy Patin* he gives a detailed description of the medical world in Paris during the period following that previously dealt with, but he is not so fortunate in his subject, for Guy Patin is neither an attractive personage nor one who helped to advance the medical art of his day; indeed, the converse may be said of Guy Patin, who became one of the most conspicuous physicians in Paris during the minority and subsequent early years of the period of Louis XIV. He was a profuse letter writer, and his letters were preserved because of the anecdotes, criticisms, and satires, abusive and scurrilous, directed against those at the head of the Government, Richelieu and Mazarin in particular, and also against the nobility, Roman Church, and Jesuits. With politics Patin mingled a defence of the Paris Medical Faculty in opposition to their rivals of Montpellier, to the surgeons of Saint-Côme, and to the apothecaries, barbers, and quacks. There have been editors of his letters, each condemning his predecessor for mistakes due to crabbed handwriting in the MSS., and for differences of opinion as to the interpretations to be put upon the antiquated phraseology, and on the allusions and nicknames. Omissions have been excused of anecdotes as untrue and scandalous, of language unlicensed in character or descending to the obscene. Such omissions (bowdlerizing), many consider, tend to decrease the interest which caused the letters to be preserved, and to leave a residue of dreary reiteration over quarrels between the Faculty and the rest of those practising medicine, together with an equally sterile account of Patin's practice and that of his rivals.

Guy Patin (1601-1674), born of well-to-do parents who gave him a learned education, rose rapidly, as a fluent and incisive eloquentist, as well in Latin as in French, through various offices in the Faculty until he succeeded Riolan as professor at the Collège Royal. Meanwhile he obtained a considerable practice, and his wife had money. His primary treatment was blood-letting for all diseases at all stages; in particular he bled young children, also himself when he had toothache. With bleeding he combined purgation by seuna—"saigner et seigner." In addition, he used those materials contained in the pharmacopoeia of the day to which the Germans apply the term *Dreckapothek*. He supposed himself to be a follower of Hippocrates, Galen, and Fernel, in contrast with Arabian physicians, who had discountenanced excessive venesection. As chemistry began to emerge from alchemy Paracelsus and Van Helmont pushed forward the internal use of metallic compounds of

<sup>6</sup> *Kala-azar in Assam*. By T. C. McCombie Young, M.D., D.P.H., Lieutenant-Colonel I.M.S. With a foreword by Sir Leonard Rogers, C.I.E., M.D., F.R.S., I.M.S. (retired). London: H. K. Lewis and Co., Ltd. 1923. (Cr. 4to, pp. viii + 76; 4 plates, 7 charts. 7s. net.)

<sup>7</sup> *Guy Patin and the Medical Profession in Paris in the XVIIth Century*. By Francis R. Packard, M.D. New York: Paul B. Hoeber, Inc. 1925. (Extra post 8vo, pp. xxii + 334; 17 illustrations, including 9 full-page engravings. 4 dollars.)



mercury, antimony, and arsenic, which the ancients had employed merely in external conditions. They were dangerous remedies and no doubt gave rise to cases of poisoning. Patin attacked in particular the free use of vinum antimonialis as an emetic and sudorific; his attack failed, however, when the young Louis XIV recovered from an illness after being so dosed. For the same reason, that it was unknown to the ancients, he tried to prevent the introduction of cinchona bark, also of tea and coffee, then prescribed medicinally. He likewise opposed the administration of opium, mainly because Paracelsus had, so it seems, used what we call laudanum, as distinguished from succus papaveris, although there is some confusion over laudanum and hadanum—the resin with a volatile oil, acting as a stimulant and expectorant. The Paris Medical Faculty was then at the lowest stage of its history, and any influence which Patin may have exerted was in prolonging the practice of bleeding, which continued in France until after the Revolution. As a follower of Riolan he opposed Harvey's discovery, whereas the surgeons of Saint-Côme favoured the development of the discoveries in anatomy, physiology, and chemistry, which were to lead on to the memoirs rendering famous the Académie des Sciences and the Académie de Chirurgie in the eighteenth century. What Molière put in the mouth of Dr. Diafoirus in praise of his son can be said of Guy Patin: "But, above all things, that which pleases me in him, and in which he follows my example, it is that he attaches himself blindly to the opinions of our ancestors, and that he has never wanted to understand nor listen to the reasons and experience of the pretended discoveries of our time concerning the circulation of the blood and such like stuff."

### NOTES ON BOOKS.

The first volume of *The Early History of Veterinary Literature and its British Development*, by Major-General Sir FREDERICK SMITH, K.C.M.G., F.R.C.V.S., was concerned with the period down to 1700. The second,<sup>8</sup> which has now been issued, deals mainly with the eighteenth century and ends with the opening of the first English veterinary college; the author promises a third volume. The second volume provides at a most opportune time an excellent summary, written with a due sense of perspective. It affords complete and convincing evidence of the early interest taken in the veterinary art by the practitioners of human medicine—although that interest did not always obtain the success hoped for by the pioneers. The veterinary profession came into being with the establishment of the London College, which owed its origin in large measure to the efforts of the great John Hunter; there is little doubt that but for his death two years later its scientific advancement and that of comparative medicine in general would have been much more rapid. In addition to the work of Hunter, about thirty other physicians and surgeons wrote on veterinary subjects—a surprisingly large number when it is remembered that medical men of that period feared to incur professional degradation by contact with the diseases of the lower animals. Their work, however, was often marred by a lack of knowledge of the subjects with which they were dealing. Sir Frederick Smith is to be congratulated, not only on the writing of a most educative volume (it is founded on articles contributed by him to the *Veterinary Journal*), but also on directing the attention of the medical profession to a fertile source of information. The book is well printed and well bound and reflects the greatest credit on the publishers.

*The Art of Feeding the Invalid and Convalescent*<sup>9</sup> is a new edition of a little book which will be useful to matrons, nurses, and all who have the care of an invalid. It is written by a medical practitioner and a woman teacher of cookery. The editor, JESSIE J. WILLIAMS, justifies the publication of such a book by stating that "two thirds of all disease is brought about by error in diet." The choice of diets and the cooking thereof advised in the book are based on scientific investigation, and therefore welcome. The book consists of two parts: the first deals with general considerations upon food, and the second contains recipes arranged alphabeti-

cally and labelled "invalid" or "convalescent." The diet and also the preparation of the food are described for the following illnesses: acute febrile diseases, with special mention of typhoid fever; diabetes; and tuberculosis. The food indicated during chronic diseases is carefully dealt with, special mention being made of gout, constipation, liver and kidney diseases, and corpulence. The short chapter on infant feeding is on the whole excellent, although one of the reasons given for artificial feeding, that the breast milk is not agreeing with the infant, is now generally discarded. There is a brief but very helpful chapter on suitable diet for aged people.

We welcome the appearance of the first volume of the *Practical Medicine Series* (1924),<sup>10</sup> which, like its predecessor (see JOURNAL, July 12th, 1924, p. 59), is devoted to general medicine and divided into four parts under the same editors as in the previous year. An excellent account of recent work in infectious diseases and endocrinology is provided by Dr. George H. Weaver. Diseases of the chest, excluding the heart but including a section on tuberculosis, are discussed by Dr. Lawrason Brown, who pays special attention to x-ray diagnosis and recent methods of treatment of pulmonary tuberculosis. Dr. Robert B. Preble deals with diseases of the blood and blood-forming organs and the diseases of the blood vessels, heart, and kidneys, and emphasizes the importance of recent work on the social aspects of heart disease, subacute and recurrent endocarditis, and the various kidney function tests. Dr. Bertram W. Sippy and Dr. Ralph C. Brown review the recent literature of diseases of the digestive system and metabolism, as well as diseases of the liver and gall bladder. The volume, which is well printed and illustrated, is a worthy representative of a useful series.

The Hon. T. R. ST.-JOHNSTON, lieutenant-colonel, barrister-at-law, with medical qualifications, is a versatile person who has served under the Local Government Board and the Colonial Office, has held appointments in the Falkland Islands and in Fiji, and was a D.A.D.M.S. in the army in France. He is also the author of books of poetry, travel, ethnology, biography, and fiction. His book on *The Lau Islands* (Fiji) was reviewed in our columns of October 19th, 1918 (p. 434), and his latest novel *Pearl of Fortune*<sup>11</sup> also refers to the Fiji Islands. It is a story of the finding on an uninhabited coral reef of a pearl of immense size and value. On the violent death of the finder the pearl comes into the charge of the hero of the tale, whose duty it becomes to deliver the pearl to the dead man's daughter in England. After many temptations and dangers, during which two other men are killed, he succeeds in handing the jewel to the daughter, who is promptly robbed of it by the villain of the story. Colonel St.-Johnston is perhaps better at describing scenery than in the delineation of character. The hero is the most priceless ass to be placed in charge of a priceless pearl that we have ever met; after doing his best on innumerable occasions to lose the pearl he has the audacity to rebuke the girl for not putting it in a safer place! Our interest, however, in the hero's erratic proceedings was well maintained, and the book is quite good reading for a railway journey.

<sup>8</sup> *The Practical Medicine Series*. Under the general editorial charge of Charles L. Mox, A.M., M.D. Vol. I—General Medicine. Series 1924. Chicago: The Year Book Publishers, 1924. (Cr. 8vo, pp. 736; 32 plates. 3 dollars per volume; 15 dollars set of 5 volumes.)

<sup>11</sup> *The Pearl of Fortune: A Tale of the South Seas*. By T. R. St.-Johnston. London: Selwyn and Blount, Ltd. 1925. (Cr. 8vo, pp. 261. 7s. 6d. net.)

### PREPARATIONS AND APPLIANCES.

#### *Gadus Jelly.*

GADUS jelly is a preparation of cod-liver oil designed to disguise the taste which most persons find objectionable. Gadus cod-liver oil is prepared very carefully from fresh cod livers; it has only a slight flavour, but the vitamin content is high. The jelly, which has now been put on the market, contains 30 per cent. of cod-liver oil, but by the skilful admixture of other harmless constituents and by the use of a few flavouring agents the makers have succeeded in masking the fishy flavour. The preparation should be very valuable for administration to children who object to taking cod-liver oil. It is marketed in this country by Heyerdahl Products Co. (England), Ltd., 36, Regent Street, Cambridge.

#### *A Night Trap for Gnats, Mosquitoes, and Tsetse Fly.*

Dr. F. W. Alexander, medical officer of health for Poplar, has designed a simple device to trap insects which fly by night. In the centre of a wooden base a well protected night-light, or electric bulb, is fixed. This is surrounded by vertical sheets of ground glass arranged in wooden sockets so as to be placed in any desired position. The glass sheets are smeared with honey, or some other sticky substance, which can easily be washed off and replaced. The whole apparatus can be fixed on a pole and placed where the insects are most likely to be found. Dr. Alexander points out that this device can be made for a few shillings, apart from any storage battery or accumulator if an electric lamp is used.

<sup>9</sup> *The Early History of Veterinary Literature and its British Development*. Vol. II, The Eighteenth Century. By Major-General Sir Frederick Smith, K.C.M.G., C.B., F.R.C.V.S. Reprinted from the *Veterinary Journal*, 1923-24. London: Baillière, Tindall and Cox. 1924. (Roy. 8vo, pp. viii + 241. 15s. net.)

<sup>10</sup> *The Art of Feeding the Invalid and Convalescent*. New edition, thoroughly revised and brought up to date by Jessie J. Williams, M.C.A. London: The Scientific Press, Ltd. 1923. (Cr. 8vo, pp. 213. 4s. net.)



# British Medical Journal.

SATURDAY, FEBRUARY 7TH, 1925.

## THE MALIGNANT CELL.

DR. A. CARREL, of the Rockefeller Institute for Medical Research, New York, who delivered an address on the bearing of tissue culture on pathological problems at the Annual Meeting of the British Medical Association at Bradford last year,<sup>1</sup> has made an important contribution to the knowledge of a peculiar proliferation found in some fowls and known as the Rous sarcoma.<sup>2</sup> In this disease, where sarcoma-like growths are found, a filterable virus can be obtained which, on inoculation into other domestic fowls, reproduces similar growth-like structures. The nature of the condition has been the subject of much dispute, but the general opinion is that it is not a true malignant neoplasm. At any rate, the virus is active only for certain breeds of fowls and not for other animals, and; further, no such virus can be obtained from the true sarcomata of mammals.

When fragments of this fowl "sarcoma" are grown *in vitro* several kinds of cells proliferate—leucocytes, macrophages; and fusiform cells. In which of these does the virus reside? On growing the various cells in pure culture Carrel found that the fibroblasts were not malignant, while the macrophages when grafted into fowls invariably gave rise to tumours which grew rapidly and killed the animals. Going further, Carrel obtained pure cultures of large mononuclear cells by cultivating a film of white blood corpuscles, presumably from normal fowl blood (though this is not stated): three varieties of leucocytes emerged—large mononuclears, polymorphonuclear leucocytes, and endothelial leucocytes—but after two weeks' growth all had disappeared from the cultures except the large mononuclears. These grew singly and never formed tissue. To these pure cultures the filterable virus of the Rous sarcoma was added, and when the infected cells were introduced into chickens rapidly growing "tumours with metastases" resulted. In some experiments the monocytes cultivated *in vitro* migrated and multiplied for several weeks in their normal manner; their cultural properties remained unaltered, and the medium was not digested, but, nevertheless, tumours were produced by the injection of these monocytes into chickens. These tumours as a rule appeared later and grew less rapidly than with those cultures in which marked morphological changes had taken place in the cells. In most of the experiments, however, after three or four days a more specific change occurred in the infected monocytes: the cell protoplasm became granular and very vacuolated, the cell shape more or less rounded, and the rates of migration and multiplication in the medium were decreased. A few cells became agglutinated in dark clumps, which later increased in size and brought about digestion of the medium. The monocytes disappeared progressively from the coagulum, and from the masses of amorphous tissue these migrated large triangular, polygonal, and spindle-shaped cells, with sharp processes and a cytoplasm filled with granules; some cells assumed the appearance of normal fibroblasts. The digestion of the medium proceeded actively and led eventually to the destruction of all the

living elements. When chickens were inoculated with a small amount of the clear supernatant fluid of these cultures "malignant tumours" were as a rule developed in a short time.

Carrel concludes that the penetration of the Rous virus into large mononuclear leucocytes gave them the property of secreting the virus and caused them to die prematurely, though it probably did not for some time interfere with their reproductive power. It also rendered them capable of digesting the culture medium and assuming the appearance of fibroblasts, though these last properties are perhaps due to the formation of necrotic tissue by the dead monocytes. The "malignant" monocyte differs from the normal in being a diseased cell which is short-lived.

The Rous virus in a fowl is destroyed in a short time unless taken up by a tissue macrophage or monocyte. The infected cell multiplies and infects other macrophages, although it eventually dies; then the dead macrophages attract normal macrophages which become similarly modified. Carrel imagines that during this process growth-promoting substances contained in the macrophages are set free, and bring to the fibroblasts and other cells of the neighbouring tissues the food material and stimulus necessary for multiplication, though he produces no evidence for this theory. Since the Rous agent propagates itself within the cells, this process can continue indefinitely, and hence the tumour grows without limit in size.

Carrel's view is that whether this explanation of the mechanism of the growth of the Rous sarcoma prove to be strictly true or not, yet the difference between a normal and a "malignant" cell can be accurately analysed by this method. The tumour cell in this experiment appears as a diseased monocyte which propagates the Rous agent, degenerates slowly, and eventually dies. In the growth of Rous sarcoma the macrophages would appear to possess a function quite opposed to the duty previously attributed to them of defending the organism against bacteria and foreign substances. They appear rather to protect the active agent of the Rous sarcoma against destruction by the body fluids, and to supply the conditions necessary for its propagation.

The whole observation constitutes a welcome addition to our knowledge of an obscure subject. Carrel undoubtedly accepts the view that the condition is a sarcoma. The histological appearances constituted the most important argument for the neoplastic nature of the process: otherwise it would have been dismissed as an infective granuloma. These fusiform cells were the outstanding feature that stood in the way of the latter view. Carrel may not have appreciated the fact that his observation—namely, that the virus resides in the leucocytes and not in the connective tissue cells—has now given the critics a particularly strong argument for their view that the Rous sarcoma (which differs in many respects from true sarcomata) is not a malignant growth at all, but a granuloma with marked stromal reaction. But such is the result.

## TESTS FOR HEPATIC EFFICIENCY.

SEVERAL questions naturally arise in connexion with any functional test for hepatic efficiency. One is, How far does a test for one function—for example, in the case of phenoltetrachlorophthalein test for the antitoxic function—throw light on the condition of the other hepatic functions? Another is, To what extent does the reserve power and compensatory hyperplasia of the liver in chronic cases enable its functions to be so well carried out that efficiency tests give a normal

<sup>1</sup> BRITISH MEDICAL JOURNAL, July 26th, 1924, p. 140.

<sup>2</sup> Journ. Amer. Med. Assoc., January 17th, 1925, p. 157.

result although there is structural change obvious to ordinary physical examination? A third question, which amounts to much the same as the second, is, How much can be expected from tests in chronic hepatic disease as compared with their results in acute disorders? A fourth is, What is the relative value of the various tests?

Piersol and Bockus,<sup>1</sup> in their comparative studies in liver function by some of the later methods, bear on some, especially the last, of these questions. Comparison of the Rosenthal modification of the phenoltetra-chlorophthalein test with the urobilinuria method, Vidal's haemoclasie crisis test, and the duodenal tube method of applying the phenoltetra-chlorophthalein test, showed that the Rosenthal modification was more delicate than the urobilinuria test, and that the haemoclasie crisis method was unreliable and often at variance with the other tests used as a means of estimating hepatic efficiency. A similar opinion, it may be mentioned, has been expressed by others (Lepehne, Gerrard). In jaundice due to treatment of syphilis by arsenobenzol compounds Rosenthal's test showed a well marked disturbance of hepatic function, and they conclude that there is probably some degree of liver dysfunction present in practically all patients with syphilis who are undergoing this form of treatment. Rosenthal, in a companion paper,<sup>2</sup> found that while his test gives negative results in the primary and tertiary stages of syphilis, the test is positive in the secondary stage, and especially when employed early in the jaundice following treatment by arsenobenzol. By means of the test the severe damage present at an early stage could be watched into convalescence of the liver cells. These results of Piersol and Bockus and of Rosenthal are, it will be noted, in accord with Surgeon Commander W. I. Gerrard's investigations by means of the van den Bergh test on the frequency of degenerative changes in the hepatic cells, as shown by latent jaundice, or disturbance of the biliary function, in syphilitic patients undergoing treatment by arsenobenzol compounds.<sup>3</sup> Piersol and Bockus did not compare the results of the laevulose tolerance test, which in the hands of others has given many similar results, with those of Rosenthal's modification of the phenoltetra-chlorophthalein test. They state also that every case of diabetes mellitus thus tested by the "tetra-chlor" methods has provided them with some evidence of hepatic disturbance, thus showing that more than one of its functions was disturbed.

In catarrhal jaundice Rosenthal found evidence of severe disturbance of hepatic function, thus supporting the now widespread view that there is a hepatitis rather than a catarrhal swelling of, with a plug of mucus in, the lower end of the common bile duct. On the other hand, in ordinary hepatic cirrhosis the evidence of disturbed hepatic function was usually slight, and the argument that compensation had taken place is supported by the citation of a case with obvious hepatic enlargement from a healed gumma in which the test showed a normal result. Ottenborg, Rosenfield, and Goldsmith<sup>4</sup> have employed Rosenthal's method, and regard it as valuable as a means of detecting early cirrhosis, secondary growths, and chronic venous stasis (cardiac) of the liver.

The phenoltetra-chlorophthalein test was employed in the toxæmia of pregnancy by Rosenfield and Schneiders in 1923, and more recently by Judson A.

Smith<sup>5</sup> of Boston, Massachusetts, who tried it at the same time on twenty normal pregnant women and forty-four cases of toxæmia characterized by albuminuria and high blood pressure, including eight patients with chronic nephritis and seven with convulsions. The pregnant women on whom control observations were made gave results that may be regarded as being within the limits of the normal. About half the toxæmic cases showed abnormal retention of the dye, and in this group well marked albuminuria and severe symptoms, including convulsions, were more frequent, and the mortality was higher than in the group of cases with a normal test, which, it should be noted, included most of the patients with chronic nephritis. In the four fatal cases in which the test was abnormal some damage to the liver was found, but the degree of retention of the drug did not appear to be a trustworthy index of the amount of necrosis of the liver. In the discussion at the Royal Society of Medicine a year ago on the toxæmias of pregnancy—introduced by Comyns Berkeley, E. C. Dodds, and A. L. Walker—among other tests, those for hepatic efficiency were considered; and O. L. V. de Wesselow said that as the laevulose tolerance test had given conflicting results in eclampsia it was of little practical value.<sup>6</sup>

It may be convenient to refer briefly to the history of the phenoltetra-chlorophthalein test. It dates from 1909, when J. J. Abel and L. G. Rowntree showed that this dye, prepared in the previous year by Orndorff and Black, was removed from the blood by the liver only. The efficiency of that organ to excrete the dye in the bile was first investigated by examination of the faeces (Rowntree and Whipple), and later of the duodenal contents removed by a tube (McNeil, Aaron, Horsley Gantt, and others). But in accordance with the general tendency to go, so to speak, to the fountain head and to examine the blood rather than the excretions, Sanford M. Rosenthal in 1922 studied the blood content of experimental animals and man after the intravenous injection of phenoltetra-chlorophthalein; in healthy human beings the blood serum is almost entirely clear of the dye one hour after the injection of an amount equivalent to 5 milligrams per kilogram of body weight; when the liver is damaged the amount of dye remaining in the blood provides a quantitative index of the degree of impaired function. An obvious advantage of Rosenthal's modification of this test is that it can be employed when there is complete obstruction to the passage of bile into the intestine, and in his recent paper Rosenthal shows that in the early stages of obstructive jaundice the liver cells, while not damaged, can take up the dye from the blood, although it cannot be excreted in the normal manner through the biliary system, and this is confirmed by Bloom and Rosenau.<sup>7</sup>

The dye is practically non-toxic. But Bloom and Rosenau consider that the high incidence of thrombosis and of other untoward reactions after its injection is a serious objection to its clinical use. In the course of one hundred tests Judson A. Smith had two general reactions, and he mentions that thrombosis of the injected vein was fairly frequent; Rosenthal records four cases of thrombosis and observes that induration of the vein was rather common among one hundred and fifty cases; Piersol and Bockus, who noticed thrombosis of the vein five times among sixty-seven injections, believes that the incidence of this drawback

<sup>1</sup> Piersol and Bockus: *Journ. Amer. Med. Assoc.*, Chicago, 1924, lxxxiii, 103.

<sup>2</sup> Rosenthal, S. M.: *Journ. Amer. Med. Assoc.*, Chicago, lxxxiii, 1049.

<sup>3</sup> See *BRITISH MEDICAL JOURNAL*, 1924, ii, 224.

<sup>4</sup> *Arch. Int. Med.*, Chicago, 1924, xxxiv, 206.

<sup>5</sup> Smith, J. A.: *Amer. Journ. Obstet. and Gynec.*, 1924, viii, 298.

<sup>6</sup> *BRITISH MEDICAL JOURNAL*, 1924, i, 277.

<sup>7</sup> Bloom, W., and Rosenau, W. H.: *Arch. Int. Med.*, Chicago, 1924, xxxiv, 445.

might be obviated by the injection of a quantity of the dye smaller than that employed by Rosenthal. From the patient's point of view—objection to the intravenous injection of coloured fluid and the risk of thrombosis—Boardman and Schoonmaker, after comparison of the two methods, prefer the use of the duodenal tube to Rosenthal's modification.<sup>5</sup> It may be added that Rosenthal, in association with E. C. White, has found that bromsulphalein (phenoltetrabromphthalein sodium sulphonate), when similarly employed, gives much more sharply cut results in the estimation of hepatic efficiency than does phenoltetrachlorphthalein, and these workers propose to issue an early report on the standardization for the clinical use of this new dye. Delprat, Epstein, and Kerr<sup>6</sup> have recently employed rose bengal di-iodotetrachlorfluoresceine, of the triphenylmethane series, in the same manner, and obtained much the same results as did Rosenthal with phenoltetrachlorphthalein.

#### GOLD TREATMENT OF TUBERCULOSIS.

Our previous references<sup>1</sup> to Professor Holger Moellgaard's new method of treating tuberculosis by an inorganic compound of gold and sodium, together with an antidotal serum, may now be supplemented by an account of two papers appearing in recent issues of the Danish medical journal *Ugeskrift for Læger*.<sup>2</sup> The first of these, by Professor Moellgaard, deals with the experimental basis of the treatment. His investigations, he says, were inspired by the observation made by Koch, and published as long ago as 1890, that a salt of gold inhibits the growth of tubercle bacilli in a solution as weak as one in a million. Turning to the researches of Feldt and Spies, and the gold preparation, "krysolgan," introduced by them in 1917, the author points out that the successes achieved by this drug dwindled as the dose. After describing the properties and chemical formula of his own preparation, "sanoerysin," and stating that it materially checks the growth of tubercle bacilli in a solution of one in a million and completely arrests it in a solution of 1 in 100,000, he gives a detailed account of experiments with such animals as guinea-pigs. Subcutaneous injections of tubercle bacilli were given, and the site of inoculation was then infiltrated with sanoerysin. All the control guinea-pigs developed generalized tuberculosis, whereas some of the animals treated by sanoerysin remained free. While the treatment of a tuberculous animal with sanoerysin provoked a violent reaction similar to, and probably identical with, the shock caused by a large dose of tuberculin given to a tuberculous animal, reaction could be avoided or overcome by an injection of serum obtained from a tuberculous animal, which appeared to neutralize the toxins generated by the interaction of sanoerysin with tubercle bacilli in the body. In other words, passive immunity was conferred on the tuberculous animals, which were thus protected from the otherwise fatal action of sanoerysin. These observations suggest that the action of sanoerysin depends on its capacity to destroy tubercle bacilli in the body. The reaction of the tuberculous animal possessing natural or passive immunity to sanoerysin differed greatly from the reaction of the tuberculous animal not possessing such immunity; the immunized animal reacted with fever, a rash, loss of weight, and diarrhoea, while the non-immunized animal reacted with a fall of temperature, albuminuria, myocarditis, and oedema of the lungs. Thera-

peutic doses of sanoerysin given to a non-tuberculous animal had no ill effects, whereas the same doses given to tuberculous animals gave rise to all the reactions that would be expected of a process entailing the wholesale destruction of tubercle bacilli in the tissues. After treatment with sanoerysin had been continued for some time and clinical recovery had been achieved, the ex-tuberculous animals ceased to react to sanoerysin. The second paper, by Dr. K. Secher, describes early clinical tests with sanoerysin. In this it is stated that by November, 1923, Moellgaard's experimental work with sanoerysin in tuberculous and non-tuberculous animals had proceeded so far that clinical tests on human beings had become justifiable. Since then Secher has given sanoerysin to a considerable number of hospital patients, but the choice of patient and the dose of the drug were at first faulty from lack of experience. The three principal reactions—fever, rash, and albuminuria—acted as guides to the conduct of each case. The temperature in particular was a valuable index to the response of the tuberculous body to the intravenous injections of sanoerysin. As the tests proceeded it became more and more evident that cases in which difficulties were anticipated required preliminary treatment to avoid the albuminuria which was liable to ensue after injections of sanoerysin. Serum from a tuberculous animal was given by intramuscular injection in doses of 20 to 40 c.cm., and proved potent in counteracting the "tuberculin shock" caused by the sanoerysin. It was found advisable to continue the injections till there was no longer any reaction to them. Of the 9 patients who died, and whose death was directly connected with the treatment, 2 died from shock, 3 from Herxheimer's reaction, 3 from poisoning with emesis and hiccup, and 1 from cachexia. Of the 12 slight cases of pulmonary tuberculosis, 3 of which were sputum-positive, all were discharged as symptom-free, but this was the case with only 2 of the 21 severe cases. All the slight cases, which became symptom-free under treatment, reacted violently, severe erythema being sometimes provoked. With further experience the author has been able to give sanoerysin to patients whom at first he thought unsuitable for it. It seems to be very effective for the chronic fibrotic cases; areas of consolidation in the lungs clear up, rales disappear, and certain patients have been able to return to work. Of 3 patients suffering from miliary tuberculosis, 1 was discharged as much improved, and 1 as cured. Tuberculous pleuritis also responded very satisfactorily; of the 12 cases of acute pleurisy treated, 11 were discharged as symptom-free. The treatment could be given to children provided it was instituted early enough, and Dr. Secher expects that the early treatment of glandular tuberculosis in childhood will avert the development of the later stages of tuberculosis. But the difficulties and the dangers of the treatment render it, for the present at least, suitable only for hospital practice.

#### A NEW MOTOR DANGER.

Reports from America show that commercial enterprise has evolved a wholly new danger to the general public. Some time ago the research staff of the General Motors Company discovered that the addition to petrol of one part in a thousand of the heavy volatile fluid lead tetra-ethyl ( $Pb(C_2H_5)_4$ ) was an efficient method of preventing knocking in motors. This is a discovery of first-rate commercial importance, for it is said that it may result in a saving of 25 per cent. of petrol, and also may make possible the use of high compression petrol engines. A new form of petrol has been placed on the market in America termed ethyl gasoline, which contains 1 per 1,000 lead tetra-ethyl, together with organic chloride and a distinctive dye. This mixture is harmless in theory, since the organic chloride reduces the lead tetra-ethyl, and lead

<sup>1</sup> Boardman, W., and Schoonmaker, G. D.: *Amer. Journ. Med. Sci.*, Philadelphia, 1924, clxviii, 688.

<sup>2</sup> Delprat, G. D., Epstein, N. W., and Kerr, W. J.: *Arch. Int. Med.*, Chicago, 1924, xxxiv, 533.

<sup>3</sup> *BRITISH MEDICAL JOURNAL*, November 8th, 1924, p. 870; November 22nd, 1924, p. 861; January 24th, 1925, p. 176.

<sup>5</sup> *Ugeskrift for Læger*, December 25th, 1924, p. 1035; January 1st, 1925, p. 1.

chloride appears in the exhaust. The United States Bureau of Mines<sup>1</sup> made experiments on the subject, and found that animals did not suffer in health when exposed for eight months to a definite concentration of exhaust gas from an engine using ethyl gasoline. Unfortunately these comforting conclusions do not take into account all the practical dangers. In the first place, serious trouble has been experienced in the manufacture of lead tetra-ethyl, and in one factory alone there were five deaths and forty-four other cases of serious poisoning. This is not surprising, for organic lead compounds of the type of lead tetra-ethyl have long been known as the most dangerous of metallic poisons; they are, indeed, only rivalled by the corresponding mercury compounds. A few milligrams of lead tri-ethyl are sufficient to produce in a medium-sized dog convulsions similar to those caused by strychnine.<sup>2</sup> Lead tetra-ethyl is one of the comparatively few substances which can be absorbed rapidly through the skin; moreover, it is volatile, and can be absorbed still more rapidly through the lungs. Like all lead compounds, it is a cumulative poison, but it produces a train of symptoms quite distinct from those of inorganic lead poisoning. The initial symptoms are insomnia, nausea, loss of weight, anaemia, and low blood pressure. In severe cases acute delirium resembling delirium tremens occurs. There appear to be many possible dangers in distributing a poison of this nature in large quantities throughout the community. The chief danger lies in its use in garages, since there is always the risk that petrol may be spilt; moreover, cars while being started discharge unconsumed exhaust, and in either case lead tetra-ethyl will be set free in confined spaces. There seems to be only a remote chance of unconsumed lead tetra-ethyl producing poisoning in the public streets; but, on the other hand, we doubt if the health of the community would be benefited by having considerable quantities of lead chloride sprayed continually into the chief streets of our large towns in the form of a fine dust. The amount of inorganic lead required to produce chronic poisoning is only a small fraction of a grain a day, and it would probably take many months before the full effects of cumulative poisoning with minute quantities of lead would become manifest. For the above reasons the proposed introduction of ethyl gasoline appears to be a large-scale pharmacological experiment of a dangerous nature, which might possibly produce disastrous results in the community. We understand that the City of New York has forbidden the use of ethyl gasoline in its area, and it is to be hoped that similar action will be taken in this country.

#### THE SHAPE OF THE SKULL.

A LECTURE on "The cause of skull shapes" was delivered by Dr. Arthur Robinson, professor of anatomy in the University of Edinburgh, under the auspices of the Royal Anthropological Institute, in the rooms of the Geological Society, Edinburgh, on January 19th. He drew attention to the fact that the cranial and facial parts of the skull varied in shape and size at different periods of life, and that it was now generally admitted that the size of the cranial part depended on the amount of its contents. Since in normal circumstances these contents were mainly brain, it followed that the size of the cranium depended on the size of the brain. On the other hand, the cause of the shape of the cranium was still a matter of dispute, and a satisfactory explanation had to account, not only for differences in proportion, but also for the formation of localized expansions which were numerous and varied. The two main factors which might be assumed to have effect on cranial shape were environment and heredity. Environment might be considered to include the associated effects

of climate and altitude and the immediate environment of the muscles attached to the skull bones. With regard to general environment, there was a fairly common idea that a special type of head was being evolved in America, but there was no definite proof that such was the case. It seemed impossible to avoid the conclusion that the shape of the skull depended mainly upon hereditary tendencies which worked under the law of genetic control. If that was the case, then the shape of the cranium depended upon the growth of the brain, and the growth of the brain was undoubtedly governed by the laws of heredity.

#### IODIZED TABLE SALT.

THE brilliant work of Marine and his colleagues, who have proved that simple goitre is a preventable disease, has led to the consideration of the best way of supplying iodine to communities where goitre is frequent. Marine and Lenhart have shown that 2 grains of sodium iodide given daily for a fortnight every six months prevents goitre in school children. This represents a total of 56 grains (3.6 grams) a year. Klinger in Zürich has shown that 5 mg. of iodine given weekly throughout the year is equally efficient for school children. This represents a total of only 4 grains (0.26 gram) of iodine a year. Marine has pointed out that the thyroid has only limited means of storing iodine, and that therefore the most economical method of administering iodine is to give it in small doses as frequently as possible. He considers that the body requires about 2 grains (0.13 gram) of iodine a year if the iodine is given continuously in minute quantities. This figure agrees with such knowledge as we have of the amount of thyroxin consumed daily by the body. Any method of giving iodine as a preventive of goitre should therefore aim at providing about 2 grains a year; it may be found that smaller quantities suffice, but this is the figure indicated by our present knowledge. The problem has been met in some American cities by adding iodides to the water supply. This, however, is an extremely wasteful method, as only a very small fraction of the water supplied to a town is used for cooking or drinking. Another method is to provide iodized table salt, and here we meet with the difficulty of determining how much ought to be added. The Swiss Goitre Commission recommended a total of 2 to 5 mg. of iodine per kilo of salt; and iodized table salts are now used extensively in Switzerland and the Tyrol. Salts are now being placed on the market in England which contain a quantity of iodine similar to that recommended by the Swiss Goitre Commission. We have received, for example, from Messrs. George Hamlett and Sons, Ltd., a sample of an iodized table salt, to which they have given the trade name "Premido." The only question seems to be whether its use as a table salt would provide a sufficient quantity of iodine. An individual on a normal diet excretes about 10 grams of sodium chloride a day. Less than half of this is taken as table salt, and therefore a content of 5 mg. of iodide in table salt per kilo of body weight would provide an individual with much less than 10 mg. (1/6 grain) of iodine a year. Marine<sup>1</sup> has recommended the use of table salt containing 0.2 per cent. iodine as a prophylactic in the districts where endemic goitre prevails to a mild extent. This is four hundred times the concentration recommended by the Swiss Goitre Commission. The idea of supplying iodine to the population by adding iodides to table salt appears to be a reasonable proposal, but before this method is used and relied upon as a prophylactic it would seem desirable that the authorities should agree within the nearest power of ten as to the proportion of iodine necessary. Another important question which arises is whether persons with fully active thyroids are likely to suffer if supplied regularly with an excess of iodine. Marine and Klinger both

<sup>1</sup> Quoted in the *Journ. Amer. Med. Assoc.*, 1924, 83, 1511.  
<sup>2</sup> Mason: *Journ. Lab. and Clin. Med.*, 1921, 6, 427.

<sup>3</sup> *Proc. Inst. Med. of Chicago*, 1924, pp. 31-46.

say that they have watched carefully for exophthalmic goitre, and have found no evidence that it is produced by large-scale prophylactic iodine medication. Sir William Macpherson has, however, reported, in a letter published in our columns of January 17th, that this danger is still under consideration in Switzerland.

#### INTERNATIONAL CONGRESS OF RADIOLOGY.

ARRANGEMENTS are being made by the Electro-Therapeutic Section of the Royal Society of Medicine, the Röntgen Society, and the British Institute of Radiology, to hold a Congress of Radiology in London from July 1st to 4th. The president of the congress will be Mr. C. Thurstan Holland, Ch.M., of Liverpool. Radiologists from all countries are invited to take part, and it is hoped to arrange for the formation of a comprehensive international committee and the establishment of a full international congress at stated intervals in different countries. It is further hoped that at this London congress arrangements will be made for the first International Congress, and that the date of this and the country in which it will be held will be decided by the international committee. Physics, electro-therapeutics, and allied subjects will be included in the scope of the London congress, and all papers to be read should be sent to the Secretary-general, at the British Institute of Radiology, not later than May 1st, accompanied by a short abstract. The organizing committee states that it is particularly desirable that papers, wherever possible, should be approved by a recognized society of which the author is a member. All papers and abstracts must be typewritten or printed. Each paper will be read at the congress in the language selected by the author, and it is intended to publish the papers read in the *British Journal of Radiology*. In connexion with the congress there will be an exhibition of radiological and electrical apparatus, and of radiograms. Radiological and electro-therapeutic societies are invited to send approved representatives who shall be eligible to serve on the international committee. Societies are requested to bring the congress to the notice of their members and to secure the attendance of as many as possible. The fee for membership of the congress will be 2 guineas, and it is hoped that all who wish to attend will signify their intention as soon as possible so that some numerical estimate may be possible. Arrangements for travelling facilities and hotel accommodation are being made. The opening meeting of the congress will be held on the morning of Wednesday, July, 1st, and on the previous evening a reception will be held so that delegates and members may meet. The house of the British Institute of Radiology (32, Welbeck Street, London, W.1) will be the administrative centre for the congress, and an information bureau, with interpreters, will be provided. All communications should be addressed to the Secretaries, International Congress of Radiology, c/o the British Institute of Radiology.

#### ASTIGMATIC CORRECTION FOR NEAR WORK.

In the *British Journal of Ophthalmology* for January is published a paper by Mr. A. S. Percival on the "alteration of the power of a cylinder when used for near work." The mathematics of this paper may not be to the liking of the majority of readers, but the point is a very pretty one, and deserves the attention of all who have to prescribe spectacles. Mr. Percival finds that in the higher cylindrical powers, if the correct glass be given for distance, it will not accurately correct the astigmatism for near work as well. The corneal astigmatism is fixed. Mr. Percival finds that a cylinder of approximately 9 per cent. higher

strength will be required to correct the astigmatism fully when used for work at a distance of about 30 cm. from the glasses. If a full presbyopic addition of +3D be given, no further addition is required, because the 3D addition may be regarded as simply making the divergent rays from the close work become a parallel beam. If a partial correction for presbyopia be given, a smaller addition to the cylindrical lens will be needed. The following examples will make the matter clear. If no presbyopic correction be given, increase the cylinder by 9 per cent.; if +1 correction, increase by 6 per cent.; if +2, increase by 3 per cent.; if +3, do not increase the cylinder. This is a point of practical importance in dealing with the higher cylindrical lenses. If no presbyopic addition be given, 5.5D of astigmatism at a distance will require 6D (6.00SD) for reading; but 1D of astigmatism at a distance would be corrected by a 1.09D cylinder for near work, and this addition is, in practice, negligible. The paper ends with a discussion of an interesting point about intorsion of the eyes when converged and depressed; the part played here by the superior oblique muscles in the depression of the eyes may lead to a variable amount of intorsion; if this occurs, the axes of the cylinders should be intorted also. A valuable table gives in the second and fourth columns the lenses that should be used for close work, if exactly the same correction is required as that for distance, which is supplied in the first and third columns.

#### RAINFALL IN 1924.

THE general impression that 1924 was a very wet year in England and Wales is fully borne out by the report of Mr. F. J. W. Whipple, superintendent of the British Rainfall Organization, Meteorological Office (*Times*, January 30th). It was the wettest year since 1912. Taking the average fall at 100, it was 121 in 1924 and 125 in 1912. The year 1903 was wetter (128). The excess of rain in Ireland was last year a little greater (122 per cent.) than in England and Wales, and in Scotland considerably less (105). Taking the British Isles as a whole the percentage was 117, as compared with 127 in 1903. These percentages, however, while they justify the impression mentioned, give no idea of the actual amount of precipitation. Thus, while in England last year it was 39.6 inches, as compared with an average for 1881 to 1915 of 32.7, in Wales it was 60.8 compared with 50.1, in Scotland it was 52.8 compared with 50.3, and in Ireland 52.8 compared with 43.3. The wettest station in the British Isles, Glenquoich in Inverness-shire, was a little less wet than usual, having 108.92 inches instead of its average of 110.75. The floods in the Thames valley, which began about Christmas, were due to a combination of circumstances. In the early part of the month there was little rain; in the second week, indeed, there was a very widespread fog. On December 15th there was heavy rain (0.69 inch in the Thames valley); then there was a spell of dry weather, but on December 23rd it began to rain in earnest, and before the end of the year 2.79 inches had fallen, or an average of 0.31 inch a day. As the river above the first lock (Teddington) can only dispose of about 0.2 inch of rain a day, any greater fall in the valley must either sink into the soil or overflow the channel. In the valley of a river flowing through an alluvial country there is, generally speaking, a constant downhill movement of water, not only in the bed of the river but through the subsoil of either bank. The water level in the soil varies directly with the amount of rain, but in an average season much of the water that falls in the valley is being gradually drained into the river by side streams. This year the soil, when the heavy rains came at the end of December, was already waterlogged. Mr. Whipple states that even at the Old Deer Park at Richmond (below locks) the under-



ground water was nearly 3 ft. higher in June than it had been at the end of March. After that each month, with the single exception of November, showed an excess of rain. It was especially in the South of England that the rainfall of 1924 was above the average. At High Wycombe, in the Chiltern Hills, the figure for the year was 38.94 inches compared with an average of 25.90—an excess of 50 per cent. The river which drains this area empties into the Thames. The rainfall was unusually high also at Windsor (42 per cent. above the average). In some places in England thunderstorms caused heavy falls within short periods. Such storms occurred on July 22nd in a string of places on a line from Guildford to the Norfolk coast. The heaviest fall recorded was 4 inches at the Royal Horticultural Society's ground at Wisley, Surrey; at South Kensington  $1\frac{1}{4}$  inches fell in twenty-five minutes. There was another big storm in the north of London on July 29th, and at Hampstead, which was caught in both storms, the total fall for the month was 7.60 inches. Mr. Whipple gives a brief description of a storm which occurred in August near Bridgwater, between the Quantock Hills and the mouth of the River Parret. It was, he says, in some respects by far the greatest ever recorded in the British Isles. The rainfall measured at Cannington was no less than 9.4 inches, and of this amount the observer, Mr. Kendall, reckons that at least 8 inches fell in five hours. Such a rainfall would have done great damage in some parts of England, but the countryside affected was sparsely populated and well provided with brooks, so that the damage was minimized, though the roads suffered badly. As has been said, the earlier part of the year had been wet, so that the ground in many districts was sodden. April, normally one of our driest months, was wet (3.4 inches), making it with one exception (1878) the wettest April on record for Kew Observatory. May also had a very heavy fall all over the British Isles, yielding more than twice the average (214 per cent. in England and Wales). September too was wet (174 per cent. in England and Wales), so that the circumstances conspired to bring the floods which caused so much inconvenience, especially in the Thames valley at the turn of the year.

#### INFLUENZA.

Last week the deaths from influenza in the great towns of England and Wales increased from 142 to 195, and two cities outside London (which had 39 deaths) recorded 10 or more deaths—namely, Manchester 22 and Salford 10. The notifications of pneumonia suggest wide prevalence in the Midlands, Lancashire, and Yorkshire. The course of the mortality is very similar to that of last year, as will be seen from the following figures, the deaths in the corresponding week of last year being shown in parentheses: 100 (98), 124 (93), 142 (153), 195 (236). In 1924 the deaths continued to increase for another five weeks and attained a maximum of 730. It seems therefore probable that we have to do with a recrudescence of the same order of importance, and that the maximum mortality is not likely to exceed 700 or 800 in the great towns (with a population at risk of rather more than 19 millions). However, prophecy is more than usually rash in connexion with influenza.

From the full report printed at page 285 it will be seen that an application on behalf of Dr. P. Bateman for leave to appeal against his recent conviction and sentence for manslaughter was granted by the Court of Criminal Appeal on February 2nd, and it is understood that the hearing of the appeal will open on February 9th. The argument by Mr. Norman Birkett, K.C., counsel for the appellant, will be found of considerable interest.

## Nova et Vetera.

### MEDICAL MEN IN "SCENES OF CLERICAL LIFE."

THE characters in the three stories which collectively form *Scenes of Clerical Life*, by George Eliot, were, as is well known, drawn in the majority of cases from persons who were actually living in or near Nuneaton during her early years.<sup>1</sup> It is for this reason that the three stories in question occupy a unique position in English fiction. The characters include four medical men who practised in Nuneaton; they appeared as "Mr. Pilgrim," "Mr. Pilgrim's assistant," "Mr. Pratt," and "Mr. Brand" respectively. All were drawn from life, and all have been positively identified with the exception of the second, but, as will shortly appear, it is possible at least to suggest who he really was.

The first, "Mr. Pilgrim," was William Bucknill. He was born at Rugby in 1781, and was educated at Rugby School. In 1800, at the early age of 19, he obtained the diploma of M.R.C.S., and commenced practice in Nuneaton shortly afterwards. He lived in a house which stood in front of the site now occupied by the Post Office. During the year 1804, and probably for a still longer period, he was in frequent attendance upon Sir Roger Newdegate (1719-1806) of Arbury Hall (the "Cheverel Manor" of George Eliot), near Nuneaton, and also upon the household, as appears from an account of that year for his professional services now in the possession of Dr. E. N. Nason of Nuneaton. An interesting item on this account is a charge of £22 4s. for one hundred and forty-eight inoculations: this is doubtless a reference to the old practice of inoculating variola. Another interesting feature is the doctor's very reasonable fee: he charged Sir Roger half a crown for a "journey"—that is to say, for a visit. As Arbury Hall was at least two and a half miles from his home in Nuneaton this fee was certainly not excessive. It is eloquent testimony to Dr. Bucknill's ability that Sir Roger should have chosen him for his medical adviser, for the doctor was only 23 years of age at the time in question. Dr. Bucknill, after a long professional career, retired from practice during the middle fifties, and died after a prolonged illness on April 4th, 1860, aged 79.

His assistant ("Mr. Pilgrim's assistant") was probably Dr. Edward Nason (1800-1868), who studied at Guy's Hospital and became M.R.C.S., L.S.A. in 1822. He practised for some years in partnership with Dr. Bucknill. This partnership was in existence in 1831, although it was ultimately dissolved; and it is therefore possible that Dr. Nason entered the practice as an assistant with a view to partnership. This is the principal reason for identifying him with "Mr. Pilgrim's assistant," for the latter is mentioned by the novelist in terms which are too brief for positive identification.<sup>2</sup>

The third, "Mr. Pratt," was in real life Mr. Bond. There were for some years two practitioners of the latter name in Nuneaton. The eldest was J. Bond. He held no qualification, but his name appeared in the early medical directories (issued before the Medical Act came into force) because he had been in practice prior to 1815 (the date of the Apothecaries Act). He died on April 10th, 1849, aged 79. The other practitioner of the same name was William Hargreave Bond, L.S.A. 1828, who died about 1847. There seems, however, to be no doubt that "Mr. Pratt" was J. Bond. "Mr. Pratt" is stated by George Eliot to have been long established in "Milby" (Nuneaton), and of the two practitioners named Bond, the eldest, J. Bond, is the only one who can have answered this description during her childhood.

The fourth, "Mr. Brand," to whom only brief reference was made in the stories,<sup>3</sup> was Mr. Harris. He lived at Chilvers Coton (the "Shepperton" of George Eliot), near Nuneaton, and died in November, 1837, aged 39.

*Scenes of Clerical Life* contains long and amusing descriptions of "Mr. Pilgrim" and "Mr. Pratt." It is impossible to ascertain the precise extent to which these descriptions are coloured with humorous exaggerations, but there is little doubt that they were, in the main, faithfully drawn, even if an element of light and entirely friendly caricature is by no means lacking. As pen-pictures of two practitioners of the old school, by so acute an observer as George Eliot, they thus possess some historical interest, and no apology is needed for quoting

<sup>1</sup> Being part of a paper read before the Nuneaton and Tamworth Division of the British Medical Association, January 25th, 1924, by Richard J. Cyriax, M.R.C.S., L.R.C.P.

<sup>2</sup> Compare *George Eliot: Scenes and People in Her Novels*. C. S. Olcott, London, 1911.

<sup>3</sup> *Janet's Repentance*, chapters xxii, xxiii.

<sup>4</sup> *The Sad Fortunes of the Rev. Amos Barton*, chapters vii, viii.

their principal features here. In the extracts which follow the novelist's own words have been adhered to as far as is possible.

Mr. Pilgrim was a large, tall, heavy man, who visited, on horseback, those patients of his who lived some distance away. He occasionally affected aristocratic airs, and gave late dinners with enigmatical side-dishes and poisonous port. He was never so comfortable as when he was relaxing his professional legs in one of those excellent farmhouses where the mice are sleek and the mistress sickly. He looked with great tolerance on all shades of religious opinion that did not include a belief in cures by miracle. On this point he had the concurrence of Mr. Pratt, the only other medical man of the same standing in Milby (Nuneaton). Pratt was middle-sized, insinuating, and silvery voiced.

He "elegantly referred all diseases to debility, and, with a proper contempt for symptomatic treatment, went to the root of the matter with port-wine and bark; Pilgrim was persuaded that the evil principle in the human system was plethora, and he made war against it with cupping, blistering, and cathartics. They had both been long established in Milby, and as each had a sufficient practice, there was no very malignant rivalry between them; on the contrary, they had that sort of friendly contempt for each other which is always conducive to a good understanding between professional men; and when any new surgeon attempted, in an ill advised hour, to settle himself in the town, it was strikingly demonstrated how slight and trivial are theoretic differences compared with the broad basis of common human feeling. There was the most perfect unanimity between Pratt and Pilgrim in the determination to drive away the obnoxious and too probably unqualified intruder as soon as possible. Whether the first wonderful cure he effected was on a patient of Pratt's or of Pilgrim's, one was as ready as the other to pull the interloper by the nose, and both alike directed their remarkable powers of conversation towards making the town too hot for him. But by their respective patients these two distinguished men were pitted against each other with great virulence. Mrs. Lowme could not conceal her amazement that Mrs. Phipps should trust her life in the hands of Pratt, who let her feed herself up to that degree, it was really shocking to hear how short her breath was; and Mrs. Phipps had no patience with Mrs. Lowme, living, as she did, on tea and broth, and looking as yellow as any crow-flower, and yet letting Pilgrim bleed and blister her and give her lowering medicine till her clothes hung on her like a scarecrow's. On the whole, perhaps, Mr. Pilgrim's reputation was at the higher pitch, and when any lady under Mr. Pratt's care was doing ill, she was half disposed to think that a little more 'active treatment' might suit her better. But without very definite provocation no one would take so serious a step as to part with the family doctor, for in those remote days there were few varieties of human hatred more formidable than the medical."

Pratt's patients were profoundly uninteresting to Pilgrim; their very diseases were despicable, and he would hardly have thought their bodies worth dissecting. But there was, at the same time, in Mr. Pilgrim's heart a latent store of tenderness and pity which flowed forth at the sight of suffering."

### PULMONARY TUBERCULOSIS TREATED BY SPAHLINGER'S SERUM.

In our issue of January 3rd (p. 43) we published an article under this title illustrated by reproductions of two radiograms. On October 30th, 1924, we had received from M. Spahlinger (Carouge, Geneva) a letter transmitting the reports of Dr. Stephani and Dr. Hudson. A proof of the article was sent to Dr. Stephani and returned by him unaltered. The proof was received here on return on November 19th, and the contribution, as has been said, was eventually published in our issue of January 3rd, 1925. Subsequently we were informed that the patient had died, and on January 26th we received from M. Spahlinger the following letter, dated Geneva, January 12th:

"Sir,—With reference to the case of Mr. R. G. which appeared in one of your late issues, may I explain that this patient, who made such a rapid recovery, had started to resume normal life, when he contracted typical pneumonia, from which he died.—Yours faithfully, H. SPAHLINGER."

We have been independently informed by the Ministry of Pensions that their Medical Branch, from the particulars given in the article as published, recognized the case as one of which they had detailed information and that they had been officially notified on November 21st that "R. G." on October 25th, 1924, had a very copious hæmoptysis, and that from October 27th signs of pneumonia, with pneumococci in the sputum, developed and the case terminated fatally on November 3rd.

\* The Sad Fortunes of the Rev. Amos Barton, Chapter I; Janet's Repentance, Chapter II.

## ROYAL COMMISSION ON LUNACY AND MENTAL DISORDER.

(Continued from page 230.)

### ADMINISTRATION AND PROCEDURE.

At the sitting of the Lunacy Commission on January 28th the examination was continued of Mr. Montgomery Parker, chairman of the National Society for Lunacy Reform. The principal discussion of the morning centred round the procedure on discharge of a patient.

The CHAIRMAN (the Right Hon. H. P. Macmillan, K.C.) said he had always felt that a difficult part of the Commission's investigation concerned the position of the authorities with regard to the recently recovered patient. The moment the patient was restored to sanity it was illegal to detain him, and yet, as in all illnesses, to fix the date of convalescence was difficult, and to restore the patient immediately to his old life would in many cases be detrimental. One solution would be to make the patient become, at the stage of recovery, a voluntary boarder, thereby taking him out of the category of legally detainable persons. Another suggested solution was the utilization of the parole system, but this would involve some infringement of the law, because a patient on parole was still subject to the legal nexus which should not apply to a sane person.

Earl Russell asked what the witness would do if he were a medical superintendent and had a case practically recovered—a case which if it came to him in its present condition he would not dream of certifying, but which he knew would suffer injury from being sent out immediately. Mr. Parker said that he would make such a patient a voluntary boarder. He recognized that before such patients were sent out on trial an investigation must be made as to their home conditions, and in the case of rate-aided patients the only practicable step might be to send them back to the infirmary.

The Chairman pointed out that removal from the care of the medical attendant who had achieved the cure to that of the Poor Law doctor who did not know the case at all, and into surroundings different and less suitable, would be a menace to the completion of recovery. Mr. Parker said that he would like the medical superintendent to tell the patient that he was free, but to add, "If you take my advice you will remain here another month."

Sir Humphry Rolleston remarked that the witness, in his desire to protect the individual from any lapse of efficiency on the part of the medical superintendent, urged the right of independent medical access. But from what source would the outside doctor get his information? Mr. Parker said that he would get it primarily from the patient, from the patient's friends, from other patients possibly, and from the case-book and other records. Sir H. Rolleston said that it seemed to him that the outside doctor would have to depend very largely on evidence furnished by the medical superintendent.

The Chairman remarked that in reading Dr. Lomax's book he had been impressed by the statement that in asylums the worst cases were those most insistent on release.

Some discussion took place on definitions, and the Chairman noted that in all the definitions which had been proposed to the Commission, including those brought forward by the British Medical Association,<sup>1</sup> persons were defined by the steps which it was necessary to take in dealing with them. They were defined by the consequences of their condition rather than by those attributes from which the consequences sprang. He felt that this must be so; a pathological definition would be impossible from the administrative point of view, and a workable definition must be based on conduct or ability.

A part of the evidence of the National Society for Lunacy Reform pressed for a more judicial character to be given to all proceedings prior to detention, the proceedings to be initiated by sworn information, and to involve the usual rights of cross-examination at the inquiry and the calling of rebutting evidence.

The Chairman here remarked that the British Medical Association, in Appendix A of its evidence, had collected, for a different purpose, the various sections of the Act in which the justice of the peace or the judicial authority was referred to as being clothed with judicial powers. The purpose of the Association was to emphasize the judicial character of the procedure and to plead that all persons taking part in the proceedings should enjoy protection, including, of course, the certifying doctor. The National Society for Lunacy Reform was looking at the matter, not from the point of view of professional safeguards, but from that of the rights of the patient. But if the society was laying stress upon the desirability that the proceedings should have a fully judicial character, with the doctors as witnesses, this, of course, would mean that the doctors must have the same protection as any other witnesses in a judicial proceeding.

<sup>1</sup> See SUPPLEMENT, BRITISH MEDICAL JOURNAL, January 17th, 1925, pp. 23-36.

Mr. Parker said that his society was against this demand on the part of the doctors. It seemed that the doctors wanted to pass on their responsibility, and to enjoy the immunity of witnesses in courts of law. His society did not suggest this. What was wanted from the doctor was a medical report for which he must be considered responsible.

The witness agreed, in answer to the Chairman, that there might be cases in which it would be inexpedient to disclose the medical opinion to the patient; if the judicial authority functioned efficiently the proposals of his society would be modified to that extent. He did not think that disclosures in regard to lunacy were any more serious than those in divorce, and residence in a mental hospital would become known generally, sooner or later.

Sir David Drummond questioned the witness as to whether he had any cases to bring forward in which it was alleged that patients were wrongly certified. Mr. Parker said that there were cases in which the mental disturbance was of only short duration, and such cases should not have been dealt with by way of certification. Sir David Drummond asked that the certificates in one such case might be put in, and the witness promised to comply.

Another contention of the witness was that when a patient was capable of making rational statements an inquiry into his case should be conducted publicly. Earl Russell asked whether it was really desired that, in addition to the relatives and other parties interested, the local reporter should be present, and serve up for the public all the medical and other details. The witness agreed that there were difficulties surrounding such a requirement, and finally he admitted that nothing was to be gained by publicity if the judicial authority could be relied on to function properly. He also said that few of the public, and not many practitioners, seemed to know what rights a patient possessed under the Lunacy Act. There should be a copy of the Act in the possession of every medical officer of health, and it would be a valuable step to have printed for popular use, on a card or in pamphlet form, the main provisions of the Act.

The Commission adjourned until February 9th.

## England and Wales.

### A DEPUTATION TO THE MINISTER OF HEALTH.

On January 27th Mr. Neville Chamberlain, M.P., the Minister of Health, received a deputation from the People's League of Health, who submitted to him a number of resolutions passed at the Conference convened by the League on the causes, treatment, and prevention of disease, held at the British Empire Exhibition last May.\* Viscount Burnham, in introducing the deputation, reminded Mr. Chamberlain that he had presided over the first section of the Conference and delivered an illuminating speech on the housing question, and said that the League existed for the propagation of health ideals and health knowledge and of health habits in the body politic. Sir W. Arbuthnot Lane submitted a resolution urging the appointment of an inter-departmental committee to prepare a pamphlet on proper food as the basis of health and the first step in the prevention of disease. Dr. Scurfield urged that the constitution of infant foods should be declared on the label, and asserted that preservatives were used as a substitute for cleanliness. Professor W. E. Dixon made the point that America forbade the presence of boracic acid in home-consumed foods, though there was no reason to suppose that foods exported to this country (which did not have any regulation preventing the use of boracic acid as a food preservative) did not contain boracic acid, which in an aggregate of small quantities was inimical to health. Sir Harry Baldwin declared that the surest way to strengthen the tissues against illness was by the general and generous consumption of wholesome in preference to devitalized white bread. Dr. Tredgold said that the many eminent mental specialists who were councillors of the League were concerned with the urgent necessity for provision of treatment for early cases of mental disorder; adequate treatment was also needed for children suffering from the after-effects of encephalitis lethargica. Mr. C. J. Bond, in dealing with the hospital problem, urged the department to institute contributions on insurance lines to a hospital service which should be co-ordinated in regard to methods, and particularly to method of discharge. Professor H. R. Kenwood

spoke of the evil effects of overcrowding, and stressed the point that tuberculosis infection was contracted chiefly in infancy. Professor S. Lylo Cummins, after paying a tribute to the tuberculosis work done by the Government, urged the co-operation of the Ministry and the Board of Education to remove children from crowded areas and place them free from infection in schools at the seaside or in the country. Dr. F. E. Fremantle, M.P., said that the consolidation of the Public Health Acts would make a composite machine for the formation of public opinion.

The Minister, in his reply, said that the Ministry had already issued a pamphlet on diet, and this was available for the public and for the League if they could make use of it; others would probably follow. But he doubted whether a Government department could properly undertake the issue of popular leaflets, which must necessarily be in a form open to criticism by specialists. Mr. Chamberlain then commented briefly upon the other resolutions put before him, expressing general sympathy with most of the aims thus declared. He said he proposed to accept generally the recommendations of the Food Preservatives Committee, which would be circulated in draft, so that the interests concerned could make out any case they had against them. With regard to smoke abatement, he had already given an assurance that a bill would be introduced, but with many Government measures urgently requiring to be passed through he doubted if it would be politic to introduce it this session. He reminded the deputation that when he had been in office before he himself introduced a bill for the early treatment of mental disorder; but the Government had gone out of office before this could pass through all its stages, and since then the Royal Commission had been appointed, which would necessarily delay any progress with the bill. But the fact that he had himself prepared the bill was an earnest of his intentions. On the subject of the mental and moral deterioration of children after encephalitis lethargica, he was informed that the Board of Education was about to make special provision for dealing with such children. With regard to hospital services, he assured the deputation that if what they were anxious to secure was better co-ordination, he was entirely at one with them. But the object aimed at seemed to him unattainable without the reform of the Poor Law. This the Government had undertaken to deal with, and intended to press it forward as quickly as possible. As to the risk of the spread of tuberculosis by infected adults, he quite recognized this, but thought it would be better to remove the source of infection from the children rather than the children from the source of infection. Many local authorities had in private bills taken power to remove tuberculous cases compulsorily, and he was prepared to give general powers to local authorities in amending the Public Health Bill which he contemplated introducing as early as possible. That bill would be a preliminary to the consolidation of the Public Health Acts, and he hoped it might be possible to get both those measures through in the coming session. He also hoped that, if not this session at any rate next, he would be able to get through a bill amending the Midwives Act on the lines suggested by the deputation.

### ALLEGATIONS OF ASYLUM ILL TREATMENT REFUTED.

A few days ago sensational paragraphs appeared in some of the daily newspapers, under startling headlines such as "Story of asylum inferno," and "Degrading asylum conditions," and said to have been made at a meeting of the Board of Guardians on January 22nd by some members of the board, following a visit to Hanwell Mental Hospital on January 6th. A member of the board was reported to have said that a courtyard in which patients were confined was like Dante's Inferno, and that fifty or sixty men were there huddled together in degrading conditions, half-clothed, with torn shirts, without coats or waistcoats, and with no shelter from the weather. With regard to these allegations the Mental Hospitals Committee of the London County Council informed the Council at its meeting on February 3rd that on January 6th seven members of the Wandsworth Board of Guardians, among whom was the member referred to, signed an entry in the visitors' book at Hanwell Mental

\* See BRITISH MEDICAL JOURNAL, June 7th, 1924, p. 1013; January 31st, 1925, p. 231.

Hospital in these terms: "We have this day visited the institution and the patients appeared quite as happy and comfortable as is possible!"

#### ROYAL UNITED HOSPITAL, BATH.

The annual meeting of the Royal United Hospital, Bath, was held on January 28th. The report of the management board for 1924 referred to the tragic death of Mr. Forbes Fraser, who was to have been President of the British Medical Association Annual Meeting this year. He had been the prime mover in the scheme for acquiring the site at Combe Park, and had lived to see part of the building plan completed—namely, the erection of the paying hospital for people of limited means, and of the orthopaedic hospital for crippled children. The Friendly Societies' Council in Bath had arranged during the year for the raising of an annual contribution to enable the receipts of the Royal United Hospital to balance the expenditure. The sum of £4,900 had been handed over, and so for the first time for very many years the board of management was able to produce a balance sheet showing a credit balance of £859 on the year's working. A further benefit derived from this scheme was that the general public were now taking a much greater interest in the work of the hospital, and large parties of visitors had been conducted round the wards. A notable event during the year was the official opening of the paying patient hospital, renamed the "Forbes Fraser Hospital," in May, by the Duke of Connaught, which was described in our issue of May 24th, 1924 (p. 915). The total ordinary income of the hospital during the year was £19,225, being an increase of £5,633 on the previous year. The total expenditure for the year was £17,319, as against £16,164 in 1923, and there was a debt of £7,000 to be extinguished. The total number of patients treated during the year was 8,156, as compared with 7,967 in the previous year; there was still a waiting list numbering 70. Sir Percy Stothert, chairman of the hospital, referred to the urgent need for transferring the work of the hospital to Combe Park, in order to do away with the waiting list and to provide better and more hygienic conditions for the patients. It had been decided to remodel the x-ray apparatus at the hospital at a total cost approaching £1,000. Mr. F. H. Pine, the chairman of the Friendly Societies' Council, referring to the part played by the friendly societies, said they were determined that the doors of the hospital should be kept open without the loss of a single bed. During the Annual Meeting of the British Medical Association next July there will be ample opportunity for members to see for themselves the great progress that is being made in the transformation of the Royal United Hospital.

### Ireland.

#### DECLINE OF TUBERCULOSIS IN CO. KILDARE.

Dr. J. BOYD BARRETT, medical inspector of the Department of Local Government and Public Health, reported recently to the Kildare County Council that there had been a satisfactory decrease in the occurrence of, and death rate from, tuberculosis during the last decade. Dr. Daly, the tuberculosis medical officer, attributed the decline to the improved conditions of life of the people; their better education as to the nature of the disease, resulting from propaganda and teaching at the tuberculosis dispensaries; the elimination of sources of infection by institutional treatment of patients; and the special treatment (including immunization) which the tuberculosis medical officer had given at the dispensaries to those who attended regularly. In 1906 the death rate per 1,000 population was 2.5; in 1909 2.3; in 1912 2.1; the average number of deaths was about 170 a year; in 1922 the rate was 1.45 and the number of deaths 89. There is still no central tuberculosis dispensary, but a centre for the distribution of propaganda, examination of sputum, examination of contact cases, and preservation of records is essential in every county. It should at the present time be considered in association with the provision of accommodation for advanced cases; and also with the recognition that most cases come from an

area south of Newbridge. The numbers under treatment have diminished. This is not due to the non-attendance of patients, but to the disappearance of the disease. A feature of the decline in attendance is that cures have been effected in many cases. There are instances of some families of whom the only surviving members are those who attended regularly for months, and even years, the tuberculosis dispensaries, and had undergone a special course of vaccine treatment. The local dispensary doctors have co-operated with the tuberculosis medical officer in many parts of the county. In Athy, Killeullen, Naas, Kilmeague, Kildare, and Newbridge they have agreed to visit tuberculosis patients, according to the requirements of the tuberculosis medical officer, and report on their condition. A fee of 5s. a visit has been accepted. Early pulmonary cases are treated at Peamount, where there are about twenty-five at present. Some selected patients who were isolated at home, and had a separate room, were treated locally. Such cases attend regularly at the dispensaries for tuberculosis treatment.

#### FERMANAGH COUNTY HOSPITAL.

At a recent meeting of the Fermanagh County Council the following letter was read from Sir Charles F. Falls, M.P., solicitor to the council:

"With reference to the scheme submitted to your council for the enlargement of the Fermanagh County Hospital, so as to make it capable of accommodating all the sick poor in the county, and to close the workhouse hospitals of Enniskillen and Lisnaskea, and to the questions you have submitted for my opinion, I have carefully considered the matter. I beg to state that, in my opinion, this council has no power to close the workhouse hospitals, but if you desire to adopt the scheme you can do so by entering into binding agreements, subject to the consent of the Ministry for Home Affairs, with the guardians of the two unions as owners of the hospitals, and with the two district councils as the sanitary authorities, that if and when the county hospital is made capable of accommodating and available for the use of all the sick and poor in the county they will close their workhouse hospitals and send their sick poor to the county hospital on such terms as may be arranged. It would appear to me that it would be necessary for the sanitary authorities to devote one of the hospitals as an asylum for infirm and chronic cases, and also to keep open one of the fever hospitals for the use of the whole county."

After a long discussion the matter was adjourned until it was known what was going to happen regarding the entire Poor Law and hospital system after the Commission has made its report. The scheme had been prepared by Dr. Kidd after considerable thought, and he did not think it should be turned down. Its consideration should be adjourned until the action the Government would take was known.

### Scotland.

SCOTTISH HOUSE OF THE BRITISH MEDICAL ASSOCIATION. ARRANGEMENTS have recently been made for the purchase by the British Medical Association of a Scottish house for the Association in Edinburgh. The building, which is situated at 6, Drumsheugh Gardens, will shortly be taken over by the Association, and was inspected last week by the members of the Scottish Committee. It consists of four floors and a basement with handsome interior fittings. On the ground floor is a room suitable for meetings of committees and a suite of rooms intended for the use of the Scottish Medical Secretary and staff. On the first floor a large room capable of seating about 150 people will be available for professional meetings. There is ample other accommodation for all the possible activities of the Association in Scotland.

#### PROTECTION AGAINST DIPHTHERIA.

A considerable amount of work has been done recently in Edinburgh in regard to the Schick test in relation to the protection of children against diphtheria. At a meeting of the Public Health Committee of the Town Council on January 20th Dr. W. Robertson, medical officer of health for the city, appealed to the authorities for assistance in a matter which he regarded as of vital importance to the health of the community. In a report he stated that almost a year had elapsed since the testing of school

children was begun in the Edinburgh and Leith area. In all twenty-six schools had been visited and a great amount of work had been accomplished, no fewer than 4,362 children having been tested. Of that number 3,362 had received inoculation. Not a single untoward result had come to knowledge as a result of the application of the test. Dr. Robertson expressed the opinion that the authorities ought now to proceed to secure protection for children of pre-school ages. In fact, the logical outcome of their experience was that efforts should be mainly concentrated on the protection of children before they began to attend school. Arrangements were now being made to deal with children of pre-school age at centres convenient for the attendance of parents, and it was hoped that parents would avail themselves of the opportunity to be present in order to protect children against a disease which so frequently endangered life.

#### EDINBURGH PARISH COUNCIL AND TREATMENT OF MENTAL CASES.

At a meeting of the Edinburgh Parish Council, held in the Council Chambers on January 19th, a discussion took place in regard to the policy to be adopted with reference to voluntary and observation mental cases. The chairman (Colonel A. Young) stated that until recently the lunacy law as regarded pauper cases had been entirely dependant upon certification, but there was a tendency to get away from that and to obtain power to give the benefits of treatment without certification of insanity. So far the movement was slow, and it should be the council's endeavour to accelerate the reform. He moved that the council should decide to accept voluntary patients if chargeable to the rates and pay the ordinary rate of board for them in a mental hospital, although this meant sacrificing the small grant which was obtainable on certification. The council agreed, and it was remitted to the chairman's committee to bring up a report in regard to the provision of accommodation for mental observation cases.

#### MEASLES AND WHOOPING-COUGH IN EDINBURGH.

An epidemic of measles of considerable extent and another of whooping-cough are in progress in Edinburgh. Since the notification of cases of these diseases was introduced at the outbreak of the epidemic the total numbers have been: measles 1,546, whooping-cough 481. At the meeting of the Edinburgh Public Health Committee on January 20th it was reported that since the last return a month ago the total number of cases of measles notified had been 525, of which 116 had been removed to hospital; the cases of whooping-cough notified numbered 208, and of these 35 were removed to hospital. The suburban districts of Liberton, Colinton, and Craigmoad had so far escaped the outbreak.

### NEEDS OF SCOTTISH HOSPITALS.

(Continued from page 23.)

The Committee appointed by the Scottish Board of Health to inquire into the inadequacy of the hospital services in Scotland resumed its sittings on January 27th at the offices of the Scottish Board of Health in Edinburgh, under the chairmanship of Lord MACKENZIE.

Sir HENRY KEITH, Provost of Hamilton, gave evidence upon a précis which he had prepared to the effect that, while hospital services were at present inadequate, this inadequacy would not be assistance should be given to public health authorities, and that into serious difficulty. With regard to remedying the present inadequacy, he thought the best way was to extend existing hospitals and to ensure co-operation between the existing hospitals and departments. He thought, further, that extension applied more to public health institutions than to general hospitals. This witness was strongly of opinion that venereal disease should be existing voluntary hospitals should be paid.

Dr. J. PANTARIS KISTOUR (Aberdeen) gave evidence with regard to the needs of Aberdeen Royal Infirmary, and said that there was urgent need in that city for new and more extensive institutional health services. The present was regarded as an opportune time for the provision of a common hospital site of such extent as to provide eventually for the whole hospital system of the city. He was in favour of the maintenance of the voluntary principle, but did not consider that it could provide adequate services in

Aberdeen. He believed that, if an adequate health service was to be maintained, greatly increased State grants must be made.

Mr. JAMES MAXTON, M.P. for Bridgeton, gave evidence regarding the Socialist view of Scottish hospital services. He said that for some time past the Labour movement had been giving the matter of hospital and health services very great consideration, and they had had advisory committees sitting for the last two or three years, of which the general finding was embodied in the pamphlet *The Labour Movement and the Hospital Crisis*.<sup>\*</sup> Organized workers, who wanted to play their part as citizens, found that they were called upon to pay a public health rate to the town council, poor rate, which included charges for certain health services, educational rate, national taxation, and generally in addition an organized weekly or monthly contribution in the work-shop. The workman also subscribed to hospitals through his trade union and through his co-operative society, and in addition was often called upon to take part in various sales, prize drawings, charity football matches, and other special entertainments, which all went to keep up a hospital system and general health services. In all, the witness believed that the working man subscribed to hospitals in perhaps ten different ways, and these contributions were paid with a reasonable amount of good will. It was, therefore, annoying that a waiting list should mean delay in admission, and a man felt that it would be better if, instead of paying in many different ways, he paid in one way—namely, through the rates. He also wanted to have the satisfaction of knowing that everyone who was engaged in a national or voluntary health service was a well paid worker, and there was a very widespread suspicion among working men that hospital staffs were overworked and not too well paid. There was no working trade unionist who wanted that. The view to which they came was that the nation should take complete responsibility for the organized health service, and they would bring about that change with the least disturbance possible of existing agencies. They would first expect the Board of Health in Scotland and the Ministry of Health in England to fill up the gaps; and they definitely took the view that the Poor Law institutions should be taken out of the hands of the parish councils and put under the control of the local health authorities. The witness said that they should place three options before voluntary hospitals: either that they should be taken over outright by the local health authority, or that they should remain absolutely outwith it as they were to-day, or, thirdly, that they should receive grants. He thought that the best feature of the voluntary hospitals was the fact that they had been recognized as centres where the finest equipment and the most skilful physicians could be obtained, and they did not want anything inferior under a public service. The average working man, usually a fairly healthy citizen, would be prepared to pay the extra cost in return for the knowledge that hospitals were being run in a business-like fashion, but at present he felt that the methods of getting funds were cumbrous, involved, and irritating.

Mr. JOSEPH F. DUGAN, general secretary of the Scottish Farm Servants' Union, giving evidence, alleged that various forms of social pressure were employed to secure income for hospitals from the community, and he thought that a more economical method of providing money would be by taxation or rating. He thought, at the same time, that a certain amount of the expenditure ought to be borne by national funds, because hospital service was really more a national purpose than a regional one in some areas. He did not regard a regular levy on wages, which had been extensively adopted, as any more a voluntary contribution than the ratepayer's contribution to local authorities. He contended that the present system was wasteful in the extreme and unequal and unfair in its incidence. The first necessity, he thought, was a single local health authority.

Mr. JOSEPH SULLIVAN, former Socialist M.P. for North Lanark, next gave evidence. He considered that the hospital facilities were inadequate, especially in populous areas, but he thought that some of the money at present wasted on hospitals might be better expended on improving housing conditions. This witness criticized the work of voluntary hospitals, and expressed the general view that the work in them would be more satisfactory if the staffs were paid.

Mr. DAVID BERTHAUD, of the Ancient Order of Foresters, Broxburn, agreed that any compulsory method would be bound prejudicially to affect voluntary income, but he had no complaint to make against existing hospitals, except as regards accommodation. He said that in his area 2d. a week was deducted from every workman's wages by the employer on behalf of the Royal Infirmary of Edinburgh. The large waiting lists of hospitals were bound occasionally to extend periods for which sickness benefit was claimed from approved societies, although the greater number of persons on the waiting lists were able to continue in their employment whilst awaiting admission. He believed voluntarism to be an ideal in hospital working, but when accommodation was inadequate in every voluntary hospital other sources of revenue must be considered, and he preferred national insurance help.

Professor L. TUNNON PRICE, professor of surgery in Dundee, giving evidence, said that at Dundee Royal Infirmary there were 436 beds, and it was estimated that the additional number required would be 126. The inadequacy could be largely, though not entirely, measured by the waiting list. He thought that any additional provision that might be required should, however, be met by an increase in hospitals of the convalescent type. In Dundee, for example, there was a convalescent home containing 65 beds, which was not sufficient for a town of that size. This witness thought that independent management of hospitals was vital, and was probably the most efficient form of management that could be devised, as the average individual associated with the voluntary hospital in the capacity of director very soon became interested and enthusiastic and sacrificed a good deal of his time

<sup>\*</sup> See BRITISH MEDICAL JOURNAL, April 8th, 1922, pp. 570-3.



for the maintenance of a high standard. He thought that if times improved the voluntary effort would improve, especially if it were augmented by a grant from the State towards building, which had swallowed up a good deal of the capital of hospitals in the past. He was of opinion, however, that if the State, in giving grants, made a condition that it should interfere with the management of a voluntary hospital, they would do better to refuse the grant.

Dr. JOHN M. JOHNSTON, medical superintendent of Stobhill Hospital, Glasgow, together with Mr. M. A. REYNARD, clerk to the Parish Council and District Board of Control, Glasgow, gave evidence on a précis which they had drawn up. The Poor Law hospitals in Glasgow, it was stated, served the purpose of auxiliary hospitals, and little difference could be drawn between the patients entering them and those entering the general hospitals. Every resident within the parish had the right to demand admittance, and there was no waiting list for the Glasgow Poor Law hospitals. At the present moment, indeed, there were vacant beds for about 400 patients. It was very largely a fallacy to say that treatment in a Poor Law institution had a pauperizing influence on the individual. Many of the patients who applied to them for admission were in possession of small incomes, ranging from 10s. to 30s. a week, or had relatives who were legally and financially able to support them. In cases of this kind part or the whole of their maintenance was recovered, and the charge to the rates was thus lightened. Alluding to the suggested co-operation between voluntary and Poor Law hospitals, these witnesses said that this would be welcomed by the Poor Law authorities in Glasgow. It would be an excellent plan to take over a portion at least of the waiting lists at the general hospitals. There were, however, obstacles to this, especially in the stigma of pauperism which applied to the treatment of disease under the Poor Law. This was an anachronism, and if the Government were to amend the Poor Law Act, the Poor Law hospitals (in Glasgow at least) could give valuable assistance to the voluntary hospitals without restriction or reserve.

## Correspondence.

### ELECTRONIC REACTIONS OF ABRAMS.

SIR,—Feeling interested from a psychological and ethical point of view in the so-called electronic reactions, I submitted Sir Thomas Horder's report to a friend, who is an accomplished physicist and electrician, and I am sending you the notes with which he has supplied me. They are, I think, deserving of serious consideration at a moment when we seem to be threatened with a new and mischievous outbreak of credulity and suggestibility.—I am, etc.,

London, S.W., Feb. 3rd.

JAMES CRICHTON-BROWNE.

#### Enclosure.

I duly received your letter and copy of the BRITISH MEDICAL JOURNAL with the address of Sir Thomas Horder on the Abrams electronic reactions. I have carefully read the address, and I agree with your opinion that it cannot be regarded as a satisfactory treatment of the subject. Having regard to the copious use of this method and the condemnation which has been pronounced upon it by the *Scientific American* committee and others, I think we had the right to expect from Sir Thomas Horder and his colleagues a much more lucid and critical exposition of the whole affair.

The report seems to me defective in not giving a more thorough analysis of the method and explaining what it is and what it is not. The committee has not been able apparently to strip off the garment of mystery or deliberate mystification in which it was clothed by Abrams and redressed by Boyd.

There is no attempt to separate out carefully the physical, physiological, and psychical factors in the affair. Abrams was a great coiner of new and fantastic words, and called familiar pieces of apparatus, such as resistance coils, condensers, etc., by cunningly chosen words so as to suggest they possessed powers which they have not been proved to possess, and these absurd terms have been retained.

Looking at the sketch of Abrams's apparatus given by Sir Thomas Horder I find in it: (1) an earth connexion on the left hand; then (2) some kind of support for holding the blotting paper specimen called a *dynamiser*; then (3) a variable resistance coil called an *amplifier*, but it amplifies nothing; (4) two step-by-step resistance coils called *reflexophones*; (5) a boy or subject, who has an electrode on his forehead and his feet apparently on an earth-plate. In other words, there is a living subject with his head and feet connected through variable resistances and the specimen. The committee has given us no measurements of these resistances in ohms, nor any idea of the magnitude of the electromotive forces or currents which must be set up by thermo-electric action at the junctions, or electro-chemical action due to moist skin, etc., or muscular electric currents. The boy apparently acts as a sort of "detector," like the crystal in a wireless set. The operator taps his abdomen, and by the variation of the sound is supposed to be able to pronounce on the nature of the specimen.

The committee does not tell us what these sounds are or whether they are easily recognized, like stethoscopic sounds of heart beat, breathing, etc. They do not seem to have varied the boy or ascertained whether the boy's state of health or repletion as regards food, etc., made any difference, and whether the same results were obtained with the same specimen but a different boy and different operator. There seem to have been no proper control experiments. I do not agree with Sir Thomas Horder's method of estimating by the law of probabilities the chance of error. To make this method valid a very large number of observations are necessary. Broadly and generally speaking, I do not think that the investigation was conducted on such lines as to separate out the different factors or to definitely exclude certain causes of error or deception. Unless an effect or phenomenon can be repeated or observed in such fashion as to exclude the personal, incommunicable element in it, it cannot be the subject of scientific investigation properly so called.

Even in spite of the general denunciation of the Abrams method which occurs at the end of the report, I think it is to be regretted that there is in it a disposition to regard the method as having "something" in it. Such an opinion coming from Sir Thomas Horder, however cautiously expressed, is sure to give encouragement to the charlatan and quack.

The report does not help us in the least to decide whether there is any new physical effect involved, such as was the case with the x rays and radium, or new therapeutic agency as in the case of ultra-violet light.

It leaves the whole thing surrounded still with unintelligibility, and no illuminating ray has been shed on it from the dry light of accepted scientific knowledge. I hope I am not wrong in this opinion, or have done any injustice to an investigation which evidently took a long time, involved much expense, and showed a strong desire on the part of the eminent investigators to get at the truth.

SIR,—May I venture to submit to you my reasons for thinking that the discussion of "E.R.A." in your columns will be barren of results? There are now three parties in the contest: critics such as Professor A. J. Clark, who, though anxious to investigate, are hindered by mysterious restrictions from doing so; Sir Thomas Horder's committee, which has been content to accept the restrictions, and has recorded its views on observations of the action of a variant of the Magic Box; and actual priests of the cult, the woolliness of whose mental state, however much they may vary in technique, is sufficiently indicated by Dr. Oscar Parkes's letter. Outside the arena is a stolid mass of indifferent medical practitioners; also some enthusiastic members of the lay public who think that they have been cured of obscure and intractable diseases by means of "E.R.A." The same position has arisen in sundry other "stunts" throughout the ages; in a few, such as mesmerism, a scientific discovery has been made; others, such as phrenology, have been represented by a process of distortion as the precursors of a branch of science; while the majority, such as spiritualism and sour milk, have been, or probably will be, committed to the limbo of things forgotten.

With Professor Clark's attitude no fault can be found. He has tried to get an impartial investigation of an alleged method of diagnosis and treatment. He is offered just as little scope as falls to the lot of the inquirer into the doings of a medium within a black-curtained cabinet. Therefore his admirable letters are wasted. Sir Thomas Horder's committee, on the other hand, has to bear a heavy weight of responsibility. The committee set out to investigate a mechanical method; it was met by a refusal to allow proper scientific investigation; it could only record its observation of results much as a member of the audience at Maskelyne and Cooke's might do; and the committee solemnly records that there is "something in it." So there is in ectoplasmic emanations at one of Sir Conan Doyle's seances—something, probably, very solid and materialistic. I cannot help thinking that the investigations of Sir Thomas Horder's committee are really worse than useless; they degrade the standard of scientific observation because they were undertaken with the imposition of conditions which no scientific observer should accept. It is all too like the pitting of the wits of a conjurer against those of his audience.

Electronic practitioners present the problem that always arises with any new cult which lends itself to remunerative enterprise. Probably in most cases there is no reason to

doubt the sincerity of the spiritualist, the crystal gazer, the man who sees auras round his patients, or the practitioner who treats all disease with the outward application of paraffin oil. The human mind is capable of persuading itself of many things. But it is just this capacity which should make medical men very chary of taking up the practice for gain of an unusual nostrum unless and until full opportunity for investigation has been given. The Society of Electronic Medicine may pour forth pages of such letters as that signed by Dr. Oscar Parkes, but the letters are valueless until the whole procedure and mechanism in "E.R.A." becomes open and above-board.

To widen the scope of my criticism to its utmost capacity a word may be said on the stolidness of the mass of the medical profession. Sir Thomas Horder has the credit of not disdaining to look into a treatment because it is new. But the majority of us are disinclined to show interest in any suggestion that is outside our usual routine. This seems to me to be a mistake; medical men, who have all been trained in science, should be willing to investigate scientifically any new suggestion, even if the only result is to elucidate the psychology of the suggester. But restricted investigations such as those of Sir Thomas Horder's committee might very well be kept out of the public press.—I am, etc.,

Felstead, Essex, Feb. 2nd.

CHAS. BUTTAR.

#### NOTIFICATION OF PULMONARY TUBERCULOSIS.

SIR,—The conditions with regard to the notification and treatment of pulmonary tuberculosis appear at present to be far from satisfactory. The notification of this disease, instead of being advantageous to the patient and tending to reduce its incidence, has the opposite effect. So severe are the stigmata attached to the unhappy sufferer, so great and so many are the inconveniences resulting from notification, that many practitioners, from motives of self-protection, are loath to notify until the disease can no longer be concealed from laymen, and even in cases of death from tuberculosis refrain from entering such as the cause of death where evasion is possible. This latter practice is probably a potent agent in the apparent fall of the death rate in tuberculosis, and gives rise to an unfounded optimism in those who compile and study statistics.

Should a patient, at present, seek admission to a public sanatorium, he is subjected to an ordeal from which the guilty possessor of a positive Wassermann reaction is carefully shielded. The word "sanatorium," in itself, has come to bear an unfortunate connotation and could be more euphemistically and more advantageously referred to as a "home for treatment of respiratory diseases," or some such non-committal name, thus relieving early cases amenable for treatment from the difficulty of choosing between robust health and idleness and continued employment with intermittent invalidism, often terminating in premature death. Such cases, unfortunately, must be branded before admission, and, though this is done ostensibly in the interests of public health, no department is prepared to give indemnification for inconvenience and (too often) for financial loss both to patient and relatives. Just as there would be more reason in closing sanatorium windows and opening all others, than in indiscriminately advocating "fresh air" in sanatoriums while most of the outside populace live in a self-imposed fetor, so would it be more sensible to notify those who become a source of danger from refusing to undergo treatment, and to leave unnotified those who are prepared to undergo treatment and so become non-infectious or at least versed in the art of prevention.

By the name "sanatorium" and all that it implies, patients are hindered from receiving early treatment through reluctance to seek admission. By the system of notification and its attendant stigmata, early diagnosis is prevented, dangerous concealment is fostered, the date of seeking medical advice is postponed, and thus the medical officers of the various sanatoriums are prevented from treating those cases which alone can receive benefit.

In view of the manner in which notification entails social stigmata, loss of employment, probably false statistics, certainly great inconvenience to patients and relatives—

even to exclusion from certain State services, not only of themselves, but of their children—it is not surprising that the sanatorium medical officer is prevented from realizing his proper function and that the apparent incidence of tuberculosis is rapidly declining.—I am, etc.,

WILLIAM G. WATSON.

Ayrshire Sanatorium, Glenafton,  
New Cumnock, Jan. 24th.

#### THE DIAGNOSIS OF ACUTE DRUNKENNESS.

SIR,—I welcome the criticisms of Sir Charles Ballance and Dr. Maurice Cassidy, the chief surgeon and chief physician respectively to the Metropolitan Police, on the subject of my modest address on drunkenness.

I am gratified that it afforded them "interest and amusement." But it is evident that their interest must have flagged before they reached the end of my address, otherwise they would have noted that, so far from degrading the skill or independence of the medical officers of police, I specifically stated my firm belief that, in cases where there seemed any uncertainty as to a prisoner's sobriety, the medical officer ought to, and as a matter of fact generally does, give the prisoner the benefit of the doubt.

Sir Charles and his colleague are disappointed that my address had so little to offer in the way of new signs or symptoms of drunkenness, apart from a suggestion as to examination of the cerebro-spinal fluid. I must indeed have failed in my exposition when I tried to point out that the so-called signs of alcoholic disability of the central nervous system, whether cerebral, cerebellar, ponto-bulbar, or otherwise, can each of them, individually, be produced by many causes other than alcoholic intoxication. This craving for a new sign implies a total misapprehension of the lesson I wished to convey. St. Paul remarked to the Corinthians that "the Jews require a sign, and the Greeks seek after wisdom." I should have expected Sir Charles and Dr. Cassidy, on this occasion at any rate, to be amongst the Greeks.

It is still more surprising to find that my distinguished critics range themselves alongside the medical officer who, at the discussion which followed my address, vigorously expressed his view that it was "a grave responsibility to differ from the opinion of a police surgeon." I agree. But it may at times be our duty to take that responsibility, rather than assent to a sober man being unjustly convicted of drunkenness.

If all police surgeons actually conformed to the standard of clinical examination carried out by Sir Charles and Dr. Cassidy the percentage of errors, small as it is, would be still lower. Some police surgeons tell me that in a doubtful case they habitually spend half an hour or longer in their clinical examination of the prisoner. These are medical officers from whom one would be very chary in differing. But there are others. I personally know of cases where a perfunctory examination of a few seconds is all that the prisoner gets. The police surgeon smells the man's breath, tells him to walk along a straight line and back, looks at his pupils (!), and then says, "You are drunk." No doubt in nine cases out of ten, in spite of this crude examination, he happens to be right. But I cannot but be sorry for any sober citizen who may happen to fall into the hands of such a medical officer, if he meets him "professionally" at a police station after dinner.

My statement that medical officers differ widely in their susceptibility to suggestion on the part of police constables is so conspicuously accurate as to be almost a truism. So long as medical officers are human beings, so long will they share this human characteristic. In youth, my Presbyterian upbringing prevented me from accepting the dogma of papal infallibility, and now, at my time of life, I am not likely to subscribe to this new dogma of the infallibility of police medical officers, good as they are. And so I stick to my guns, inwardly comforted by the solace of feeling that Sir Charles Ballance and Dr. Cassidy are really in agreement with me after all.—I am, etc.,

London, S.W.1, Feb. 2nd.

J. PURVES-STEWART.

P.S.—I have also much enjoyed their jocund reminiscences of the hump supper.

## WOMEN DOCTORS.

SIR,—An analysis of the further careers of the women graduates in medicine of the University of Bristol shows the following:

Of 20 women who have obtained their degrees during the past ten years, 14 have held resident appointments in the hospitals in which they were students, and some of them have held more than one appointment; 3 married immediately after graduation. One of the remaining three has obtained a resident appointment in a hospital outside Bristol.

Besides these there are several others—that is, those holding degrees from other universities or licences to practise—who have held resident appointments in Bristol. The proportion of those who have held resident posts is higher among the women than among the men in comparison to the number of the students of each sex. I may also mention that two of the senior assistants to the full-time medical professors in the University are women.

This does not appear to indicate that there is any prejudice in this school against women as such.—I am, etc.,

WALTER C. SWAYNE, M.D., B.S.

Clifton, Bristol, Jan. 27th.

SIR,—Dr. Mabel Ramsay (January 24th, p. 192) accuses the hospitals of prejudice against women, but let us examine the question a little more carefully.

Let us accept, for the sake of argument, her statement that the ratio of newly qualified women to men is about one to five; but what is the ratio of women to men amongst those entering general practice? Is it one to fifty?

Now the base on which the hospital rests is the general practitioner. He it is who makes the primary selection and who sends up the majority of cases for further diagnosis and treatment. It is upon his discrimination that the clinical material which reaches the hospital mainly depends. Do the abdominal catastrophes reach the hospital in a favourable or semi-dying condition? Have the cases of rheumatic endocarditis or empyema been detected and sent up in an early stage? These and a hundred other things of importance to the good work of the hospital depend on the training of the general practitioner.

It is true that wide professional training for a public official such as a school medical officer is of advantage to the community, but neither is the necessity so urgent nor is the hospital training so directly of value as in the case of the general practitioner.

The case is not one of sex. If all men were obliged to choose their career immediately upon qualification, there is little doubt, I think, that the resident hospital posts would be given by preference, and rightly so, to those whose choice was private practice as against public services.

When women as a body have shown themselves capable of shouldering the responsibilities and worries of practice it will not be long before they are admitted as readily as men to hospital posts.

I am acquainted with hospitals which have taken considerable pains to surmount difficulties of accommodation and professional organization in admitting women residents, only to be rewarded by seeing their late female staff drifting into semi-employed routine official work.

If public opinion, as Dr. Ramsay says, is on the side of the woman doctor, why has the latter failed to reap the golden harvest of private work which the demand for her services implies?—I am, etc.,

Sheffield, Jan. 27th.

A. E. NASH.

SIR,—Dr. Frances Braid's judicial letter in the JOURNAL of January 31st (p. 239) was refreshing to read after the special pleading in some of the previous communications on this subject in your columns. We all, I think, admit that there is a definite place for medical women in this country and that we have come to stay. On the other hand, there does not seem to be an urgent public call for increase in our numbers, and I think that it is this regrettable apathy on the part of the general public rather than professional jealousy of male colleagues that is the real cause of the absence of women on the honorary staffs of our large hospitals.

With regard to the question as to whether children should be treated by women rather than men doctors, it is to be remembered that children are comprised of both sexes, and it is quite conceivable that a little boy (and even, perhaps, a little girl!) might prefer to be treated when ill by a "gentleman doctor." Our most eminent paediatricians continue to be men, and the most successful are those whose personal qualities endear them to their little patients. With regard to women patients, there will always be those who prefer to be treated by doctors of their own sex, just as there will be those who, *ceteris paribus*, prefer a male doctor.

Before August, 1914, there was no apparent glut of women doctors, and those who were competent could always be assured of employment. When the war came there was a large increased temporary demand for doctors as such—not women doctors. Unfortunately it was then the short-sighted policy of those in authority to encourage young women, suitable or otherwise, to flock to the medical schools. The result of this is the unfortunate state of affairs which we see to-day.—I am, etc.,

London, W.1, Feb. 2nd.

EVA McCALL, M.D., D.P.H.

## FREUDIAN DOCTRINE.

SIR,—I cannot help thinking that Dr. William Brown's letter in your issue of January 31st (p. 239) accepts a principle which, if allowed to pass unriticized, and more particularly if generally acted upon, would do untold harm. May I venture to emphasize my point by an analogy?

There is a form of deafness the pathology of which was not understood at the end of last century, and which is even now not completely understood. It was then described as progressive middle-ear deafness, and, being difficult to treat, gave rise to the promulgation of various fanciful theories as to its being due to defective action of the muscles of the middle ear and palate. Faulty innervation of these muscles was said by some to be the cause, and treatment on the lines so suggested was stated to have been successful, but experience failed to justify this claim. Now it is true that in some of these cases the patients hear rather better when they are feeling bright and well, while depression and fatigue make them temporarily worse.

Let us suppose, then, that an otologist had propounded the view that this form of deafness was due to a lax condition of the "psyche" and that by suitably stimulating it good results could be obtained, and that the said otologist had a small following of believers in his method. Let us assume, further, that this method entailed much expenditure of time and, in the case of private patients, also of money. Let the originator of the treatment and his small following take up the position that it can only be criticized or even discussed by those who have practised it, or, better still, by those who have had their "psyche" stimulated.

In view of such a position as I have sketched would Dr. Brown recommend patients to give the treatment a trial at once, with all its expenditure of time and money, or would he prefer to "wait and see" how it appeared after discussion and criticism by otologists and neurologists generally?—I am, etc.,

York, Jan. 31st.

P. McBRIDE.

SIR,—I gather from the replies to the question I asked, with your kind permission, in the JOURNAL of December 20th, 1924, concerning the desirability or otherwise of the formation of some weighty conference on the basic doctrine and the practice of the modern school of "psycho-analysis" (commonly called Freudian), that my suggestion has met with but little encouragement from such of your readers as may either dissent strongly from this doctrine or regard it with indifference. On the other hand, it appears that those adherents to Freudism who have sent replies to my letter, when making their comments and suggesting certain conditions, have not sufficiently considered what kind of discussion I thought of as desirable.

I suggested an open discussion of similar weight and

authority to the recent conference of the Institut des Hautes Etudes in Belgium; and also gave my reasons for saying that no such gathering has as yet taken place in this country. Dr. Charles Harford, in his letter to you of January 31st, has proposed a measure which would exactly meet my views. Hitherto, however, my efforts have not succeeded in securing any due consideration of this subject, anywhere, within any nearly definite date.

I have just re-read all the letters which have recently appeared in your columns about this question, but am unable to regard any of the "discussions" and "criticisms" which Dr. E. Jones mentions (I have seen most of them) as coming at all within the scope of such a conference as I deem needed. Dr. William Brown's dictum that no proper discussion of "psycho-analysis" can be carried on by those who have neither practised it nor submitted to "analysis" themselves precludes, of course, all discussion with those who are not convinced psycho-analysts. But this is not Dr. Brown's opinion alone; it is insisted on by, I believe, all or nearly all psycho-analysts (not psychotherapists).

Through your courtesy I have had at least some intelligible reply to my query; and I trust I have not exceeded my undertaking not to discuss psycho-analysis afresh.—I am, etc.,

London, S.W.1, Feb. 3rd.

BRYAN DONKIN.

\*\* This correspondence is now closed.

### GOLD TREATMENT OF TUBERCULOSIS.

SIR,—In view of the recent articles in the *BRITISH MEDICAL JOURNAL*—on November 8th and 22nd, 1924, and again on January 24th, 1925—relating to the gold treatment of tuberculosis attributed to Professor Holger Moelgaard, I write to call attention to a preliminary note by me which appeared in the *Medical Quarterly of the Soldier's Civil Re-establishment of Canada* for October, 1919. In this I pointed out that Koch had found that the cyanide of gold compounds possessed a surpassing activity in retarding the development of the tubercle bacillus, and that in the use of the double cyanide of gold and potassium for the treatment of tuberculosis I was disappointed to find that no specific influence was exerted on the course of the disease.

The advent of the colloidal preparations of the metals completely changed the outlook. After further prolonged investigation, a double colloidal cyanide of gold and potassium was prepared. To this compound, for the sake of brevity, the name "auro-cyanase" was given; it has since been obtainable from any chemist of repute. Treatment with this was found to be effective in all stages of tuberculosis, relieving much of the distress even in the very late stages.

Administration intravenously, in the initial stages of treatment, was found inadvisable as there was produced a temporary paralysis of the leucocyte-forming tissues, an effect most undesirable. Subcutaneous injection over the deltoid was substituted. Even with this method certain transient unfavourable features developed—for example, a general reaction varying in intensity with the stage of the disease. This was regarded as being in large part due to the liberation of endotoxins from the bacilli. Bearing in mind the claim of Besredka that leucocytic extract neutralized the endotoxin of tubercle bacilli, this was administered simultaneously with the injection of auro-cyanase. This measure was found effective in preventing the general reaction. It was later found to be an added advantage to give the leucocytic extract before and after the auro-cyanase.

In view of the above statements, I feel entitled to the claim of being the originator of the colloidal gold treatment of tuberculosis. In my note in the *Medical Quarterly* I gave a very brief summary of the result of treatment in several cases; stress of work at that time prevented a more detailed account. I hope shortly to report my experience since the appearance of my original article. In so doing, full details of the technique, dosage, and precautions to be observed during treatment will be given.—I am, etc.,

London, Jan. 28th.

A. COWAN GUTHRIE, M.B. Edin.

### SHAVING THE VULVA.

SIR,—With reference to the letter of Dr. Henry Corby (January 31st, p. 235), in which he condemns the fashion of shaving the vulva during labour—I presume he means before labour commences—I agree with him that this process is unnecessary and that it is repulsive to most women.

I pointed this out in a paper entitled "The sterilization of the skin of operation areas," published in the *BRITISH MEDICAL JOURNAL* of August 14th, 1909. This paper describes the method, originated by me, of sterilizing the skin with tincture of iodine. In a further contribution on the same subject, published in the *BRITISH MEDICAL JOURNAL* of June 4th, 1910, I emphasized the point that the repulsive process of shaving is unnecessary. Since adopting the method of sterilization with tincture of iodine I do not allow the pudenda to be shaved prior to operation on the abdomen. All that is necessary is that the tincture of iodine should be thoroughly rubbed in. I have always found this effective.

A normal confinement is quite disagreeable enough without adding unnecessary discomfort. Such a process as shaving the vulva encourages the present-day tendency to evade motherhood; whereas we should do all in our power to encourage motherhood.—I am, etc.,

Kidderminster, Feb. 2nd.

J. LIONEL STRETTON.

### WET WINDS AND EARLY PHTHISIS.

SIR,—I am sorry to have to draw attention to two serious misstatements in Dr. Ward's second letter.

1. *The South Devon Cases.*—The facts are as follows: Having received from Dr. Ward, not the statistics which we had all agreed on, but figures of much less value. I sent him a map of South Devon and asked him to kindly have the sites of the patients' houses marked on it and to indicate the patients' fates. This map came back so curiously marked that I could not credit the markings—for instance, the three cases of arrest in Dartmouth were marked as living in full exposure on the top of the hill; on inquiry I found that they really lived in the sheltered part of the town. So I took a fresh map down to Torquay and asked Dr. Ward to show me where to mark the sites and to say which he considered sheltered and which exposed. This he did quite willingly. In only five cases did he leave me to decide doubtful exposures; these I marked in a special way, as was only fair to us both, to distinguish them, and told Dr. Adkins that I had done so. I have all these documents. I by no means agreed with all Dr. Ward's assessments. Therefore when Dr. Ward writes that "Dr. Gordon was inclined to make me co-responsible for the result, but I was unwilling," he displays a singular forgetfulness. What has apparently annoyed Dr. Ward is that, on the whole, his own figures bear out my contention. But why be annoyed?

2. *The Work of Dr. Adkins and Dr. Datt.*—This interesting work has been carried out in quite a different way from mine. Only the actual house of the patient has been assessed as to its exposure or shelter by local examination. But it cannot be too clearly realized that that is by no means the same thing as I have done. All my work has been done by assessment from the map, of what may be called the personal exposure or shelter of the patient himself in the locality in which he lives. I thought that I had made that clear. My work on Exeter streets was partly undertaken to show that the effect of the winds was on the patients rather than on the houses, because it had been suggested that the winds acted by driving wet into the walls. Obviously differences between the results of two so different modes of inquiry do not necessarily show inaccuracy in either. Dr. Ward has not stated, as he should have done, that a different method had been used.

Again, the figures which Dr. Ward mistakenly supposes to have been thus shown erroneous are not solely "Dr. Gordon's," except in the five cases already mentioned, in one of which the wrong assessment is due simply to Dr. Ward having indicated the site wrongly. Many of these figures are Dr. Ward's own. To write, therefore, that "other

observers . . . investigating independently Dr. Gordon's decisions about shelter or exposure, but with no knowledge of the patients' fate, differed from him in 58 per cent. of 113 cases" is a serious inaccuracy. I shall check his figures presently.

I cannot imagine what Dr. Ward thinks that he effects by these letters. Does he desire to stimulate inquiry, or to stifle it? In any case nothing can be gained by misstatement.—I am, etc.,

Exeter, Jan. 30th.

W. GORDON.

### THE INFECTIVITY OF SMALL-POX IN THE INCUBATION STAGE.

SIR,—The view that small-pox is infectious in the incubation period, to which your reviewer takes exception in his very kind appreciation of my book on *Acute Infectious Diseases* (JOURNAL, January 24th, p. 166), is one that is held by several well known authorities, as is shown by the following quotations from recent literature:

"Il convient toutefois à remarquer qu'une variole peut être contractée auprès d'un malade en incubation de la maladie." [It should be noted that small-pox may be contracted from a patient incubating the disease.] (P. J. Teissier, *Nouveau Traité de Méd.* (Rogier, Vidal, Teissier), 1922, ii, 240.)

"Es liegen einwandfreie Beobachtungen vor, wo sich schon das Inkubationsstadium, sowie das Initialstadium als infektiös erwiesen." [There are undoubted cases in which the incubation stage as well as the initial stage have proved infectious.] (*Jochmanns Lehrbuch der Infektionskrankheiten*, second edition, 1924, 853.)

"Der Pockenranke ist in allen Stadien der Krankheit für Gesunde als infektiös zu betrachten, sogar in Inkubationsstadium wesshalb bei ihm noch keine Krankheits-symptome wahrgenommen werden, sind Übertragungen von ihm auf Gesunde beobachtet worden." (Schäper.) [The small-pox patient is to be regarded as infectious in all stages of the disease; even in the incubation stage when no symptoms have been noted cases of transmission from the sick to the healthy have been observed.] (F. Röhl, *Handbuch der inneren Medizin* (Mohr u. Stähelin), second edition, I Bd., I Teil, 1925, 120.)

—I am, etc.,

London, S.W., Jan. 24th.

J. D. ROLLESTON.

SIR,—May I emphasize the importance of the point raised in your review of Dr. J. D. Rolleston's *Manual of Acute Infectious Diseases*? In my experience of thirty-nine years in dealing with 1,200 cases I have had no reason whatever to credit small-pox with any infectivity during the incubation stage, with the possible exception of "bed contacts." Preventive measures based on this assumption have been consistently successful.—I am, etc.,

Bristol, Jan. 27th.

D. S. DAVIES.

### PNEUMOCOCCAL PERITONITIS.

SIR,—I should like to make one or two corrections in your account (January 31st, p. 215) of my remarks at the discussion on pneumococcal peritonitis at the Royal Society of Medicine on January 23rd. You say that "only 15 cases had been diagnosed since 1918, and only 7 of these had grown pneumococcus from the exudate. Of the 15 cases diagnosed as pneumococcal peritonitis, 5 recovered and 10 died." Unfortunately, the lantern slide giving the details of the cases which I took with me to the meeting was found unsuitable for use with the lantern, so that I had briefly to refer to the details of the cases, and no doubt the errors arose from my giving these details rather hurriedly. My actual words were as follows:

"I have gone through the records of acute peritonitis for the past nine years (1916-1924) and, excluding cases of tubercular peritonitis and septic peritonitis, following appendicitis, I have found no more than 15 cases in all, less than half being of pneumococcal origin."

Of the 15 cases of peritonitis due to various organisms, 5 recovered and 10 died; but of the 7 cases of pneumococcal peritonitis 6 died and only 1 recovered.

This shows that, so far as the Great Ormond Street Hospital is concerned, cases of pneumococcal peritonitis are even rarer than the report of my remarks would make them appear to be.—I am, etc.,

London, W.1, Feb. 2nd.

DAVID NABARRO.

## Medico-Legal.

REX v. BATEMAN.

APPLICATION FOR LEAVE TO APPEAL GRANTED BY COURT OF CRIMINAL APPEAL.

AN application on behalf of Dr. Percy Bateman, of New Cross Road, London, was heard in the Court of Criminal Appeal, before the Lord Chief Justice of England, Mr. Justice Salter, and Mr. Justice Fraser, on Monday, February 2nd. The application was for leave to appeal against Dr. Bateman's conviction for manslaughter at the Central Criminal Court in December last (see BRITISH MEDICAL JOURNAL, December 20th, 1924, p. 1179), when he was sentenced by Mr. Justice Shearman to six months' imprisonment in the second division. The application was threefold: (1) an application for the prisoner to be present at the hearing; (2) an appeal from an order of Mr. Justice Finlay refusing leave to appeal against the conviction and sentence; and (3) application for leave to call further evidence. The counsel briefed for the appellant were Sir Edward Marshall-Hall, K.C., Mr. Norman Birkett, K.C., and Mr. Arthur Davis. Sir E. Marshall-Hall, however, was unable to appear owing to illness.

### Argument by Counsel for the Appellant.

Mr. Birkett said: The grounds of appeal in this case will be (1) misdirection and non-direction as to the law applicable to such a case, (2) misdirection and non-direction as to the evidence, (3) wrongful admission of evidence, and (4) that the verdict was against the weight of evidence. I am aware that your lordships are familiar with the facts of the case, but in order to make clear the arguments which I propose shortly to address to the court, I hope your lordships will allow me to state the main facts which were put before the court below on December 11th last. The appellant, Percy Bateman, was a panel doctor carrying on his practice at Deptford, and it was said in the course of the trial that he was a "slum practice." It was at any rate true that he did attend to very many poor people in that district. The deceased woman, Mary Ann Harding, was the wife of a builder's labourer, and lived in Deptford in two rooms at the top of four flights of stairs. She was about 33 years of age, she had had four children before, their ages ranging from 13 to 4, and the evidence was that hitherto she had been a perfectly healthy woman, and that the deliveries of the four previous children had been normal. She had been attended on each of these occasions by a midwife only. On July 23rd, 1924, she was thought to be approaching labour, and the midwife, a woman of many years' experience, was called in to attend to her. Certain pains, whether true pains of labour or not, had begun on the 21st and continued on the 22nd. These subsided for a time, but on the 23rd they recurred with such severity that they were thought to be true labour pains and the midwife was called in. The midwife dressed the unfortunate woman as for a confinement, and made a manual examination and discovered an obstruction preventing the normal delivery of the child. She then asked the woman which doctor she would like, as it was necessary for her to have some doctor, and she said "Dr. Bateman." Dr. Bateman accordingly was called in that night, and on making an examination found that there was indeed an obstruction, and that without question the presentation was extremely difficult. He at once administered chloroform, and used, in the first instance, forceps, but, finding that the forceps slipped, he put them away and proceeded to try and get the birth manually. He worked at this for an hour until, as the evidence showed, the sweat rolled from his face. Eventually the child was born dead. The doctor had arrived about ten, and the child was born sometime about midnight. The dead child was handed to the midwife, who placed it in a receptacle, and the doctor proceeded to take away the placenta.

Mr. Justice Salter: Was any negligence alleged by the prosecution up to that point?

Mr. Birkett: I think not. It seems difficult to see what negligence the prosecution really alleged. Up to that point, I think I am right in saying, there is, in my submission, no act of negligence that could be alleged.

The Lord Chief Justice: Up to that point?

Mr. Birkett: I desire to deal with every matter in this very difficult case, but I do not think from the summing up of the evidence that there was any act of negligence alleged up to that point.

The Lord Chief Justice: I am not so sure that that is the case. There were two acts of negligence alleged. One was that the doctor, apparently in the effort to remove the placenta, removed the whole, or almost the whole, of the uterus. The second was that, a little later the same evening, before he went



away, his attention was drawn to what he had taken from this woman, and he was startled, and made an exclamation, "I have pulled away the uterus," or words to that effect, and yet he did not on that day, or the day following, or the day after that, not indeed until five days later, send her to the infirmary. At any rate, after he had pulled away the uterus, he not only took no active steps to deal with the matter, but rather concealed the gravity of what he had done.

Mr. Birkett: If I may deal first with what occurred at the operation—

Mr. Justice Salter: The reason I interposed just now, before you came to the removal of the uterus, was because I wondered whether Sir Bernard Spilsbury and other experts called by the Crown imputed any blame to the doctor for the internal ruptures.

Mr. Birkett: I do not think they did. Certainly, up to the point in the narrative at which I had just arrived, I do not think anybody suggested, even for the prosecution, that Dr. Bateman had done anything he ought not to have done. Dr. Bateman removed the placenta and it was placed by the midwife in a chamber, and the midwife—a woman of great experience—noticed the pinkish colour of the placenta, which was particularly unusual, and she called the doctor's attention to it. The doctor looked at it and then used an exclamation. The nurse said, "What is this?" and the doctor said, "Good God; don't you know? It is the uterus." That is how it was discovered that the uterus had come away with the placenta. Then the doctor said to the midwife, "Don't say anything; give me the uterus." The uterus was separated from the placenta by the doctor, and he then wrapped up the uterus and took it away, and the placenta was in the ordinary course destroyed. The doctor then left the room and went to the husband in the other room, and said, "The child has been born dead, your wife is very ill, and I think she is going to die." The midwife, when the fact was pointed out that the woman was very ill, said she did suggest that night that the woman might go to hospital, and the doctor said, "We will see how she is in the morning." I do not apprehend from the evidence of Sir Bernard Spilsbury or any other witness for the prosecution, that so far any act of negligence is alleged against the doctor. When the prosecution says, "He brought away the uterus with the placenta," the answer of the defence is "That is true"; but nowhere, so far as my reading of the transcript of the proceedings at the trial goes, is it said that he was negligent in doing that. In that sense I think I am perfectly right in saying that, up to that point at all events, in respect to the mere surgical skill necessary in attending confinements, there was no negligence.

The Lord Chief Justice: The evidence is that the womb came away with the placenta, and that there was pulling—one would think it would need some pulling.

Mr. Birkett: It was never denied by the appellant that he had to use considerable violence. From the fact that there was a transverse presentation, and that very vital organs of the body were involved, it would be apparent that considerable violence had to be used, and the real reason why the uterus came away was that it sloughed. But no improper violence was done by the doctor to occasion this dreadful calamity. On the following morning the doctor went at 9 o'clock (after having been in attendance on the woman until an hour after midnight). He found her weak but conscious, vomiting a little, but able to speak, and he used the expression, when he was told by one of the relatives that she seemed to be a little brighter, "That is funny," indicating his surprise that, having regard to what had happened, she had rallied at all.

The Lord Chief Justice: Was there not evidence that when a discovered what had really happened he said to the nurse something to this effect: "We had better keep this to ourselves"?

Mr. Birkett: "Do not shock the relatives" was the phrase he used, and he said in evidence that he thought, after the calamity that had happened, that the poor woman would die, and he certainly believed, and acted upon the belief, that if she were moved down four flights of stairs in the condition in which she was that night she would die on the stairs.

The Lord Chief Justice: The phrase I had in mind was, in the doctor's evidence, "I don't remember the exact words I used: I said 'I think we had better keep this quiet.'"

Mr. Birkett: On the morning after the confinement the doctor found the woman a little brighter. He called again in the evening, and during the day certain medicine was prescribed for her. On the next day he again made two visits, and found her a little better in the morning, though still weak and vomiting. Then he suggested the use of an enema, and the midwife again suggested that the patient be sent to the hospital. The answer he made on that day was, "I will send her when she gets a bit better." On the following day he again visited her twice. On that day the stomach was very much swollen, which was an indication of peritonitis. On the

following day he went twice again, and found she had been brighter during the day but got worse at night, and on that day the midwife again suggested to the doctor that she might be sent to hospital. On the following day, when the doctor called, the husband asked if the wife could go to the hospital as the strain of looking after her was wearing them out. At 6 o'clock that night the husband went for the doctor, who said that an order for removal to hospital had been sent round to the house, and at 7.30 she was removed to the hospital. That was on the 28th, and, to conclude the narrative, she remained conscious for some hours, and died about 1 o'clock in the morning on the 30th, and an inquest was held on the 31st.

The Lord Chief Justice: She lived for a week after what had happened at the confinement?

Mr. Birkett: Yes. May I now just allude to the evidence which was given of cases comparable with this case by the medical witnesses? It is a very important point in my application in favour of the appellant that, I think, forty-eight hours was the longest time that any patient had lived following such a catastrophe, whereas this patient, through not being moved, lived for seven days.

Mr. Justice Salter: After the removal of the womb?

Mr. Birkett: Yes; this patient, as a result of the advice given by the appellant, lived for seven days, but after she was moved she died on the second day. Now, my lords, this is manifestly a case of very great difficulty and delicacy. It is a matter in which the feeling of the jury might quite naturally and properly be aroused to the prejudice of the prisoner, merely because of the circumstances of the case. It was, in my submission, therefore, in the highest degree necessary that the summing up of this matter to the jury, both as to the law and the facts, should make it abundantly clear what the allegations of negligence were with which the appellant's advisers had got to deal. Upon both those heads, I submit, this summing up falls short. I do not know that I need read the summing up, but I think it right to say this, that the summing up with regard to the law was to be gathered from passages which were isolated the one from the other. It was really a direction of this kind: "To convict this prisoner you must be satisfied that he was guilty of gross negligence"—here, my lords, let me say that it has been held for a considerable time that "gross negligence" does not differ from negligence at all, and the mere fact that you say "gross negligence" to a jury is no proper direction upon the law. Then there occurs the use of the term "culpable negligence"—blameworthy negligence. Having regard to the distinction between civil and criminal liability for negligence, and the great gulf which does and ought to separate the two things, it is no guidance to say to a jury that they must be satisfied that the prisoner was guilty of culpable negligence. To use another phrase employed by the learned judge—"wicked negligence"—this, again, is of no assistance on the law with regard to this matter, in view of the distinctions which properly arise between civil and criminal negligence. I think it a fair method of putting it that the case on the law was put before the jury like this: "If this was a mere mistake you ought not to convict the prisoner. You must be satisfied that it was gross, culpable, and wicked negligence." In my submission, that is not a proper direction in a case of this kind of negligence.

The Lord Chief Justice: Would it be convenient to indicate what the proper direction would have been?

Mr. Birkett: I should shrink from that, but I do wish to call your lordships' attention to the case of Reg. v. Doherty (reported in 16 Cox, Crown Cases, page 306)—

Mr. Justice Salter: What was the case cited by the learned judge [Mr. Justice Shearman] in his summing up?

Mr. Birkett: My researches have not led me to discover the passage which he did cite. I was not in the court below when this case was tried, and no reference was given in the transcript; it may very well be that the learned judge was citing from memory. But I do invite your lordships' attention to this case of Reg. v. Doherty. The facts of that case have no application to the case now before the court, but Mr. Justice Stephen, before whom it was heard, said in his summing up: "Manslaughter by negligence occurs when a person in doing anything dangerous in itself, or having charge of anything dangerous in itself, conducts himself in regard to it in such a careless manner as to be guilty of culpable negligence." The learned judge goes on to suppose a man performing a surgical operation and, whether from losing his head, or forgetfulness, or some other reason, doing something he ought not to do, or omitting to do something he ought to do; in such a case there would be negligence.

The Lord Chief Justice: Suppose he omitted to do something he ought to have done when it had become apparent to him that a catastrophe had really happened, would it not be said, *a fortiori* in such a case that there would be negligence?

Mr. Birkett: It was assumed by the prosecution that because

Dr. Bateman did not send this woman to the hospital therefore he was negligent; but it was ignored that in the exercise of his skill and knowledge he had decided that the course he took was the best, and in this he was supported by two eminent obstetric surgeons in London, who said that what he did they would have done. Your lordships perceive the difficulty. If it is decided that as a result of acting to the best of his skill and knowledge he is guilty of culpable negligence, then I submit that the medical profession would be in a very difficult position indeed.

The Lord Chief Justice: To go back to the point you started from. The term "gross negligence" still survives. What Mr. Justice Stephen says here is that gross negligence is culpable negligence. Criminal negligence equals gross negligence, and gross negligence equals culpable negligence.

Mr. Birkett: My lord, would it be a just observation for me to say this? I appreciate what "gross negligence" and "culpable negligence" mean, but I doubt whether a lay jury does. And it was in the highest degree important that the exact bearing of phrases familiar on the lips of lawyers should be made plain to the lay jury.

The Lord Chief Justice: Does not the word "wicked" make a difference? "Wicked" is a variant of "culpable."

Mr. Birkett: I think "wicked" conveys to a layman something more than ordinary negligence. In my submission it is not a proper summing up to say that the jury must be satisfied that there is wicked negligence.

Mr. Justice Salter: What is a judge to say? Here is a great criminal lawyer who begins by using the vituperative epithet "culpable," and then proceeds to say what is culpable, and he puts supposititious cases—very strong and obvious ones.

Mr. Birkett: May I just read the words that follow those I have already quoted from Mr. Justice Stephen's judgement: "But if there was only the kind of forgetfulness common to everybody or a slight want of skill which would be met by civil damages, it would be wrong to proceed against him on criminal grounds." And he goes on: "To find culpable negligence in the present case you must" do so and so.

The Lord Chief Justice: What you get in this judgement is really the word "culpable" reinforced by illustrations.

Mr. Birkett: Just before I leave that matter I hope I may urge this. So far as my own experience goes, in the case of a doctor who has to attend patients, and, I suppose, almost every day to do things which involve life or death and certainly involve risk of lifelong injury, in my submission, when you are dealing with the negligence and the criminal negligence of a man so situated—when a precise criminal charge is laid against him, namely, the death of this woman—there is a duty in law that that negligence shall be accurately and plainly defined.

Mr. Justice Salter: There is another aspect of negligence that we must bear in mind. A man may be held guilty of negligence—certainly for civil purposes, and, I suppose, for criminal purposes also—even though he used the utmost care, if his competence is insufficient. He may take all the pains in the world and yet be guilty of negligence. That is a point which is a difficult one in this case. Mr. Justice Shearnan summed up in a very uncompromising way, as he would sum up in a civil case.

Mr. Birkett: I should also like to call your lordships' attention to the case of *Rex v. Williamson* (3 Carrington and Payne, p. 635)—a case which is very near to this case. The prisoner was indicted for manslaughter. From the evidence of the nurse it appeared that the deceased woman had been delivered by the prisoner of a male child, and two days later there was found a prolapsed uteri, which the prisoner mistook for the remaining part of the placenta. He attempted to bring away what he thought to be the rest of the placenta, and there was a rupture and the woman died. It was stated that there must have been great want of anatomical knowledge on the part of the prisoner. Lord Ellenborough, in summing up, said:

"A person in the habit of acting as a man midwife, tearing away part of the prolapsed uterus of one of his patients, supposing it to be a part of the placenta, by means of which the patient dies, is not indictable for manslaughter unless he is guilty of criminal misconduct arising either from the grossest ignorance or from the most criminal inattention. One or other of these is necessary to make him guilty. It does not appear that in this case it was any want of attention, and it would seem that having placed himself in a dangerous situation he became shocked and confounded. . . ."

The Lord Chief Justice: Those observations are clearly directed to the mistake which the surgeon made when he believed a prolapsed uterus to be the remnant of the placenta, and used force. The judge would hardly have used such expressions about a case where the surgeon, having done that, and having discovered the nature of what he had done, refrained from taking serious and proper steps.

Mr. Birkett: The case is quite distinct in that matter. But my submission is that in a case involving a medical man and his skill and judgement, not the positive nor the comparative but the superlative might properly have been used in order to make it abundantly clear to the jury what was meant by criminal negligence.

The Lord Chief Justice: According to that, you must not say "gross," but you may say "grossest"; you must not say "culpable," but you may say "most culpable."

Mr. Birkett: I do not enter into those refinements, my lord, but I point out that Lord Chief Justice Ellenborough in the case I have quoted says that to substantiate the charge the prisoner must have been guilty of criminal misconduct arising "either from the grossest ignorance or from the most criminal inattention." There is no ambiguity about that language.

The Lord Chief Justice: Is not our standard of negligence based on a series of decisions by juries?

Mr. Birkett: The principle upon which they proceeded was, of course, the duty of taking reasonable care.

The Lord Chief Justice: They decided in relation to all the circumstances what was reasonable care.

Mr. Birkett: I would not quarrel for one moment were this an ordinary civil case. It was for the jury to deal with the question of what was reasonable. But when a medical man is tried on a criminal charge, then I submit that the province of the jury must be based upon the clearest and most accurate description of the law to which they are to apply their judgement. [Counsel here referred to another case, an indictment for manslaughter consequent upon an operation, in which Lord Chief Baron Pollock delivering judgement concluded with the words, "If a person *bona fide* and honestly exercising his best skill to cure the patient performs an operation which causes the patient's death he is not guilty of manslaughter."]

Mr. Justice Salter: If that is a complete exposition of the law it appears to give the go-by to any question of standard of skill. If he does his best it is said that he cannot be guilty of manslaughter. Sir Edward Marshall-Hall said much the same thing to the jury in this case, and, rightly or wrongly, Mr. Justice Shearnan challenged that.

Mr. Birkett: Perhaps it would be convenient if I read the passages in the summing up to which exception is taken.

The Lord Chief Justice: In this case which you have cited what was being criticized was the operation itself. There was no such subsequent history as you have in the case which is the subject of the present application.

Mr. Birkett: Your lordship has put to me the importance of the subsequent events. I wanted to say at a later stage that the question of negligence in the operation was a matter which ought never to have gone to the jury at all. Indeed, the fact that that was not withdrawn from the jury would be a sufficient ground for me to have leave to appeal.

#### Application Granted.

After consultation with his colleagues on the bench,

The Lord Chief Justice said: Mr. Birkett, what you are asking for now is leave to appeal. We all think, after your able argument, that there is a question of substance to be considered here, and therefore we will grant leave to appeal. I notice that in your application there is a reference to certain further evidence.

Mr. Birkett replied that in the court below two obstetric surgeons of very high standing were called, and the additional evidence that was sought to be called now was merely another opinion of the same rank. The medical profession was very much exercised about this matter and was anxious to leave no stone unturned to put the true case before the court. The happenings in this case had been of immense interest to the medical profession, and considerable research had taken place, as a result of which one or two matters had been elicited from eminent people which, had they been known at the time, would have been very convincing in defence of Dr. Bateman. It was accordingly felt that the door might be left open for such expert evidence to be given before the Court of Criminal Appeal.

The Lord Chief Justice: We do not at this stage give leave to call further evidence. I gather that you have not looked into the matter as fully as you wish to do. If, after careful consideration, you do come to the conclusion that it would be right to have a witness here who may be called if the court so orders, that is a matter for your discretion; but when you have already called two eminent witnesses there is not much point in calling a third unless there is some special reason.

This concluded the proceedings. It is understood that the appeal will be heard on Monday, February 9th.

## Obituary.

**CECIL CLARKE, M.D., M.R.C.P.Lond.,**  
Assistant Physician, Bristol General Hospital.

By the death of Cecil Clarke at the age of 39 the Bristol Medical School has lost one of its most brilliant students and a teacher of whom great things had been justly expected. He graduated M.B., B.S.Lond. in 1908 and M.D. in 1910; he took the diploma of L.R.C.P. in 1913. After a triumphant career through his own school, in which he took all the available prizes, he held two resident appointments in Bristol and then went on to the Hospital for Consumption at Brompton, being successively assistant resident medical officer, house-physician, and assistant in the pathological department there. During this time he was attacked by pleurisy and was laid up for some months. After some post-graduate work in London he joined a Red Cross unit serving with the Bulgarian army in the second Balkan war, and received various Bulgarian and British decorations. A sojourn at Dresden, where he learnt much from Professor Schmorl, brought him to the verge of the European war; indeed, on its outbreak, he hurried back from Vienna, whither he had just gone, to Dresden, escaping ultimately into Holland. He joined the R.A.M.C., and was detailed for bacteriological work, first in Belgium and later in Macedonia. In each field he rendered excellent service—in the detection of typhoid among civilians in the former and on the histopathology of malaria in the latter. He was invalided home from Macedonia on account of chronic bacillary dysentery, but went out once more to France, and insisted on service with a battalion, in spite of poor health. After the armistice he was sent home to laboratory work at a hospital for officers, and returned to Bristol on demobilization in 1919. There he became medical registrar and then assistant physician to the General Hospital, and physician to the Queen Victoria Jubilee Convalescent Home. But his health was never quite normal, and in 1922, after a long but obscure illness, a septic appendix was removed. This had rekindled his pulmonary infection, and from that time onwards his days were spent in a most courageous fight against a slowly progressive infection. Even to the time when, only three weeks before his death, he left England hoping for a good winter abroad, he had never abandoned the prospect of a return to his hospital work.

If Cecil Clarke had lived he would have done great things. His intellectual powers were high. He had an intuitive capacity for discerning the truth in scientific work, as well as a wide knowledge of medicine and pathology. Moreover, he was well instructed in the English classics, a keen naturalist, and an amused and interested observer of men and things. He was, therefore, a genial companion and a delightful correspondent. But it is by his sturdy courage that he ought to be longest remembered. He said little, even to his intimates, of the disappointment that his failure in health meant to him, but set himself to endure and to overcome; and though victory over his disease was denied him his spirit rose victorious over all his trials and disappointments.

He married, in October, 1919, Miss Nora Martin, who cared for him with the greatest devotion throughout his long struggle. On January 2nd, 1925, most of his hospital colleagues, as well as many others, attended a memorial service, held at St. Paul's Church, Clifton. Those who had known him and worked with him must always feel a deep and sincere regret that his great gifts were exercised for so short a time on behalf of his school and his profession.

**ARTHUR GEORGE SHURLOCK, M.A., M.B., B.Ch.,**  
D.P.H.Camb.,

Assistant County Medical Officer, Hampshire.

THE death of Dr. A. G. Shurlock at the early age of 50 robs the public health service of one of its most promising junior members. He was the son of Mr. F. W. Shurlock, Principal of Derby Technical College, and was born at Bristol on July 9th, 1894. After education at Derby School and Derby Technical College he proceeded with an open scholarship to Jesus College, Cambridge, where he was a

scholar and prizeman, and obtained a first class in the Natural Science Tripos, Part I. Subsequently he was awarded a senior entrance scholarship in science at St. Bartholomew's Hospital. He became qualified in 1918, at once taking a commission in the army. After some service in France he was appointed a pathologist to the British Expeditionary Force, and served in three of the large military hospitals. He relinquished his commission (captain R.A.M.C.) in October, 1920. He returned to St. Bartholomew's Hospital, graduated M.B. and B.Ch.Camb. in 1921, and held house-physicianships at the City of London Hospital for Diseases of the Chest and the East London Hospital for Children.

During his studies for the diploma in public health he attracted special attention by his conspicuous ability in and enthusiasm for preventive medicine, and as soon as he had obtained his diploma he was appointed (1922) assistant county medical officer for Hampshire. His official work was of a very high order, and everyone anticipated that he was destined for a conspicuous position in the public health service. After two years' service, however, he developed the fatal malady which, after three months' painful illness, ended his life. His life in Hampshire was extremely happy. His enthusiasm for public health found full scope in the wide preventive activities of county council work, and as a keen naturalist he was able to pursue his hobby in ideal surroundings in the New Forest. He was reticent and reserved, but was much liked by everyone who knew him. As an officer of clinics and maternity centres he was extremely popular.

The news of the death of Dr. J. C. MARTIN of Portrush, on January 31st, was received with great regret both by the profession and the public in Northern Ireland. Dr. Martin, who was born in 1857 in India, where his father was in the Civil Service, received his medical education in Trinity College, Dublin, and soon settled in Portrush, co. Antrim, the best known of the watering-places of the North of Ireland. He rapidly acquired a large private practice, and was one of the founders of the Coleraine and the Portrush Cottage Hospitals, and was a member of the staff of both, became coroner for North Antrim about twenty years ago, was a magistrate for the county, chairman of the old Portrush Town Commissioners, besides holding numerous minor appointments, and was an original member of the Portrush Golf Club. He was a great favourite with the profession, the inhabitants of Portrush, and with the huge influx of visitors each summer; his loss will be greatly felt. His professional reputation was high, and he was noted for his surgical skill; he was an ex-President of the North of Ireland Branch of the British Medical Association. Much sympathy is felt for his widow and family; his son lately settled in practice in Portrush.

## The Services.

### ROYAL ARMY MEDICAL CORPS. Successful Candidates.

THE War Office announces that of the candidates who presented themselves for the competition for commissions in the R.A.M.C., held in London last month, the following were successful:

T. A. J. M. Dodd, M.B., B.Ch., Oxford University and St. Bartholomew's Hospital; \* R. A. Bennett, M.B., Ch.B., Edinburgh University; \* W. D. Speedy, M.B., B.Ch., Trinity College, Dublin; \* J. N. Atkinson, M.B., B.Ch., Trinity College, Dublin; \* W. A. D. Drummond, M.R.C.S.Eng., L.R.C.P.Lond., University College, Dundee; \* J. D. Corner, M.B., Ch.B., Edinburgh University; W. H. Carter, M.B., Ch.B., D.P.H., Edinburgh University; J. G. E. Vachell, M.B., B.Ch., Cambridge University and St. George's Hospital; J. T. Smyth, M.B., B.Ch., Queen's University, Belfast.

\* These candidates, being in possession of certificates obtained in the Officers' Training Corps, were awarded service marks under paragraph 85 of the Regulations for the Officers' Training Corps.

### TERRITORIAL DECORATION.

THE KING has conferred the Territorial Decoration upon the following officers of the R.A.M.C. under the terms of the Royal Warrant dated October 13th, 1920: Lieutenant-Colonel (Brevet Colonel) Thomas B. Wolstenholme, O.B.E., and Majors Harold W. Read and Edmund Alderson, D.S.O.

## Universities and Colleges.

### ROYAL COLLEGE OF PHYSICIANS OF LONDON.

An Annual quarterly comitia of the Royal College of Physicians of London was held on January 29th, when the President, Sir Humphry Rolleston, was in the chair.

#### Membership.

The following successful candidates were admitted as Members:

Wallace Wright Adamson, M.B. Glasg., Wilfrid Henry Waller Attlee, M.D. Camb., Francis Joseph Benjamin, M.D. Durh., Frank Brockington, M.D. Lond., Charles Ritchie Burns, M.D. New Zealand, Ernest M. D. Calvert, M.D. Edin., Lord Jones.

#### Licences.

Licences were granted to the following 206 candidates who had passed the required examinations and conformed to the by-laws and regulations:

M. Absé, J. D. Allen, G. T. Allerton, C. A. Amesnr, \*Kathleen J. Atkinson, \*Margaret A. Bannerman, W. D. Beck, C. E. G. Beveridge, O. P. Bewers, \*Anna M. V. Bonhote, V. H. Bochhyer, W. A. Bourne, R. N. Brandwood, S. Brest, H. P. Brower, D. A. Briggs, D. J. Brims, R. J. Brocklehurst, T. H. P. Brooks, \*Margaret H. Brown, W. A. Browne, \*Olive B. Buckley, W. H. Cameron, A. F. Chalkey, \*Gwendoline Chave, H. F. Chillingworth, G. F. Chissell, L. Chodorsky, J. Chronnell, H. A. Clegg, A. V. Clemmey, \*Doris M. Collins, L. N. R. Comty, L. C. Cook, \*Margaret I. B. Cowling, C. P. Craggs, \*Dorothy E. Crellio, J. Currie, M. Cutner, \*Gweneth M. Daniel, \*Annie E. C. Davies, A. D. Davies, J. R. Davies, W. H. Davies, A. R. Davidson, \*Charlotta D. N. De Wilde, G. E. Ellis, O. M. Ellis, \*Mary H. Elmitt, C. W. Evans, J. Evans, N. B. Farman, J. T. Fathi, L. Fathi, C. P. Fernando, M. G. Fitzgerald, \*Dorothea C. Forbes, G. R. Ford, W. S. Fricker, T. M. Frison, O. P. Giles, G. D. Gordon, H. W. Gordon, B. A. Grant, F. N. Green, A. L. Greenwar, D. L. Greig, J. M. Hall, \*Constance I. Ham, G. Hamada, J. E. S. Hamilton, C. H. Hampshire, A. W. Hanlon, Hans-Raj, \*Frede D. F. C. Hastlow, N. H. R. Hatfield, S. Helberg, A. Helmy, \*Freda K. Herbert, E. Herzberg, A. E. Hill, C. H. Hilliard, \*Minnie E. Hope, E. C. Hudson, D. B. Hughes, \*Katherine E. W. Hulse, O. R. Humphreys, F. S. Hunter, O. L. Hutchinson, \*Joy Hwa, S. Hyman, \*Elizabeth Jacobs, \*Kate D. James, E. J. Jenkins, C. W. W. Jeremiah, F. Kibble, C. T. London, M. Linc, W. H. \*Catherine B. McArthur, S. McClements, \*Dorothy F. McIntosh, J. H. Macpherson, \*Helena M. J. McQuaid, R. G. Maliphant, J. P. Marsden, G. R. Marshall, E. L. Martin, A. W. C. Mellor, C. P. Miller, F. C. Miller, G. J. Morris, C. F. Morrison, A. M. Murray, W. R. Nash, \*Margaret I. Neal, E. L. Newell, R. A. Newson, H. W. Nicholson, J. A. Noot, R. A. Norman, J. N. D. O'Rafferty, \*Evelyn D. Owen, G. W. C. Parker, A. E. Parkes, W. Parry-Jones, R. Paton, V. Patrick, F. L. Patterson, \*Gladys L. Pearson, A. D. Pegg, \*Gwyneth M. Pennant, H. C. Pierce, C. P. Pinckney, C. J. Polson, L. W. Proger, D. C. Prowse, R. S. Pyrah, V. I. Raman, C. Rankin, M. D. Rawkins, J. T. Rees, \*Olwen M. Richards, J. T. C. H. Robinson, C. F. Rowelsham, K. G. W. Saunders, S. D. Seb, \*Frances E. Smith, \*Sylvia M. T. Smith, A. D. Soares, R. H. Southall, I. P. Spurrell, \*Ethel L. A. Stamborg, B. G. Staniland, \*Ruby O. Stern, D. D. S. Stewart, F. E. J. Thomas, J. D. S. Thomas, W. Thrower, T. G. Tresidder, E. A. Trushon, L. C. D. Van der Borgt Walker, R. A. Walsh, Larna H. Wa Wells, J. Willis, F. L. White, C. E. R. Williams, H. R. Williams, D. H. M. Worth, C. L. Worthington, \*Annie Yoffa, G. C. Young, J. C. Young.

\* Under the Medical Act, 1875.

#### Diplomas in Special Subjects.

Diplomas were granted, jointly with the Royal College of Surgeons, to 21 candidates in Public Health, 21 in Tropical Medicine and Hygiene, 8 in Psychological Medicine, and 6 in Laryngology and Otology. (The names were printed in the report of the meeting of the Council of the Royal College of Surgeons of England, January 17th, p. 142).

Medicine and Surgery were granted, in conjunction with the Royal College of Surgeons, to the following successful candidates:

F. Abbey Wiesener, R. G. Banks-Smith, R. R. Bickford, W. S. Burr, T. D. Gordon, E. N. Hughes, K. H. Kamakaka, A. P. McLeod, A. D. Shroff.

#### Appointments.

On the nomination of the Council the following were elected Councillors: Dr. Phear, Sir St. Clair Thomson, Dr. Bedford Pierce, and Sir Leonard Rogers; and, to take the place of Dr. Drysdale (for two years), Sir Walter Morley Fletcher.

Sir Francis Champneys was re-appointed a representative of the College on the Central Midwives Board.

Sir George Newman was appointed a representative of the College on the executive committee of the Imperial Cancer Research Fund, vice Dr. Sidney Martin, deceased.

The President announced that he had appointed Dr. Edwin Bramwell to deliver the Bradshaw Lecture this year, and that the Council had appointed Professor Topley, M.D., F.R.C.P., to deliver the Milroy Lectures next year.

The resignation of Dr. Drysdale as a member of the Council was accepted.

#### Admission of Women to the Fellowship.

The following alteration in the by-laws was resolved:—

That the existing By-Law No. 19, be repealed, and the following by-law be substituted for it:

A woman shall be eligible for admission as a Licentiate or Member of the College and for the grant of diplomas in special subjects on the same terms and conditions as a man and a woman on as a Fellow of the College and shall have the same rights in the government management and to hold any office in like manner as

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as are requisite shall be made in the letters testimonial the form of licence and attached certificate and the form of diploma granted by the College.

#### on the University of London.

Sir Dr. John Fawcett were appointed Departmental Committee on the University of London.

#### Miscellaneous.

A contribution of 20 guineas to the St. Paul's Cathedral Restoration Fund was voted by the College.

Reports were received from the Committee of Management and adopted.

Books and other donations to the library, presented during the last quarter, were received; also, from Mr. C. H. Golding-Bird, a miniature bust of Dr. Golding-Bird, F.R.C.P., and also a copy of a portrait of Dr. Brinton from his son.

After some formal College business the President dissolved the comitia.

## Medical News.

THE Hunterian Oration before the Royal College of Surgeons of England will be delivered in the theatre of the College by Sir D'Arcy Power, K.B.E., F.R.C.S., on Saturday next, February 14th, at 4 p.m.

THE next meeting of the Chelsea Clinical Society will be held at the club-rooms of St. George's Hospital on Tuesday, February 17th, at 8.30 p.m., when Sir Thomas Parkinson and Mr. A. N. Thompson will open a discussion on the diseases of the climacteric period in both sexes.

THE next meeting of the Medico-Psychological Association of Great Britain and Ireland will be held on Thursday, February 19th, at the Royal College of Physicians, Queen Street, Edinburgh, under the presidency of Dr. M. J. Nolan, at 2.30 p.m. Dr. David Slight will give a demonstration of the psycho-galvanic reaction; Dr. George Gibson will read a paper on the boarding-out system; and Dr. William M. McAlister, a paper on results of treatment of general paralysis by malaria.

THE annual dinner of past and present students of the Royal London Ophthalmic Hospital will be held at the Langham Hotel, Portland Place, on Thursday next, February 12th, at 7 for 7.30 o'clock. Mr. W. T. Holmes Spicer, consulting surgeon to the hospital, will preside. Tickets (15s. each, excluding wine) may be obtained from Sir William Lister, 24, Devonshire Place, W.1.

PROFESSOR FUCHS, the well known ophthalmologist of Vienna, will shortly visit Madrid to deliver four lectures on glaucoma, cataract, sympathetic ophthalmia, and ocular tuberculosis respectively.

THE Fellowship of Medicine announces that on February 9th, at the Royal Society of Medicine, at 5.30 p.m., Dr. Andrew Balfour will show a cinematograph film on malaria, with special reference to the malarial parasite as a therapeutic agent. The second week of a three weeks' combined course in diseases of children begins on February 9th; the institutions concerned are the Paddington Green Hospital, Victoria Hospital, and the Children's Clinic. A four weeks' course is also being held during February at the St. John's Hospital for Diseases of the Skin. At the London School of Hygiene and Tropical Medicine a series of eight lectures is in progress on Tuesdays and Thursdays, and the second week of the course in venereal diseases at the London Lock Hospital will begin on February 9th. During the last fortnight in February there will be a course in general medicine and surgery and the special departments at the Prince of Wales's General Hospital, Tottenham. In March courses will be held in diseases of the chest at the Brompton Hospital; medicine, surgery, and gynaecology at the Royal Waterloo Hospital; infectious fevers at the North-Eastern Fever Hospital (Tottenham); gynaecology at the Chelsea Hospital for Women; and an intensive course in general medicine, surgery, and the special departments at the Royal Northern Hospital, with which is associated the Royal Chest Hospital. Copies of the syllabus of these courses may be obtained from the Secretary of the Fellowship at No. 1, Wimpole Street, W.1.

THE Central Association for Mental Welfare is arranging a special three months' course for teachers of mentally defective, dull, and backward children, to be held in London from May 7th to July 25th. The course will include lectures on normal and abnormal psychology, methods of teaching, demonstrations in speech training, manual work, and the social and legal aspects concerned. Further information may be obtained from the office of the association, 24, Buckingham Palace Road, S.W.1.

By an order dated December 31st, 1924, and issued on January 30th, 1925, the Home Secretary has added to the list of conditions which must be notified in compliance with Section 73 of the Factory and Workshop Act, 1901: (1) poisoning by carbon bisulphide; (2) aniline poisoning; and (3) chronic benzene poisoning. The notice must specify the name and personal address of the patient and the disease from which in the opinion of the medical practitioner he is suffering. For this notification the medical practitioner is entitled to a fee of 2s. 6d. Failure forthwith to send a notice renders the practitioner liable to a fine not exceeding 40s.

The private wards in Westminster Hospital are, with the permission of the Prince of Wales, president of the hospital, to be named "The Prince of Wales Wards." The new ophthalmic wards are to be named the "Wolfe Barry Wards," in memory of Sir John Wolfe Barry, chairman of the house committee from 1899 until his death in 1918.

BEGINNING with the January issue, the *Revue de Médecine* will contain short memoranda, rather than the larger original articles published hitherto. It will be mainly devoted to abstracts of the principal medical publications in France, Great Britain, Germany, Spain, and Italy which have appeared during the previous month, and will so become more definitely a review of recent medical literature.

The fifth congress of French-speaking pediatricists will be held at Lausanne in 1926 under the presidency of Dr. Tallens, professor of children's diseases in the University of Lausanne.

THE January issue of the *Journal of the Outdoor Life* is essentially a Trudeau memorial number, being issued in connexion with the fortieth anniversary of the foundation of the famous sanatorium at Saranac Lake, New York. We gave an account of recent additions to the institution on June 14th, 1924 (p. 1062), and this anniversary number of the *Journal*, founded in connexion with the sanatorium in 1903, gives very full details of the work that has been carried on at the sanatorium. Personal recollections are supplied by several contributors, including Dr. Lawrason Brown, the originator of the *Journal*, at first an assistant resident physician and a joint builder of the sanatorium organization. A short article deals with Robert Louis Stevenson, who came to Saranac Lake in the autumn of 1887, and whilst there wrote some of his best essays, including *Pulvis et Umbra*, *The Lantern Bearer*, *A Christmas Sermon*, and some portions of *The Master of Ballantrae*. The issue is well illustrated.

The annual medical congress known as the "Journées médicales de Bruxelles" will be held at Brussels from June 21st to 24th. Further information can be obtained from the general secretary, Dr. Beckers, 36, rue Archimède, Brussels.

THE fourth International Congress of Industrial Medicine will be held at Amsterdam in September, 1925. Further information can be obtained from the general secretary, Dr. Brocx, 55, Plecke de Hoehstraat, Zimmer 54, Amsterdam.

THE twenty-ninth congress of French-speaking neurologists and alienists will be held in Paris at the end of May, 1925, under the presidency of Dr. Anglade, when the following papers will be read: Late recovery from mental disease, by Dr. Robert; familial infantile encephalopathies, by Dr. Crouzon; legal medicine and states of mental torpor, by Dr. Briand.

DR. DEVÉ has been nominated professor of clinical medicine in the medical school at Rouen.

A sudden malaria epidemic in Java is reported to have caused 1,000 deaths.

WITH its January issue the *Canadian Medical Association Journal* enters the fifteenth year of its publication as the official organ of the association. During the past ten years it has doubled the number of its reading pages and increased their size. In a foreword to this issue reference is made to the visit of Sir Jenner Verrall and Dr. Alfred Cox last year, and it is noted "that after free discussion a form of affiliation was arrived at, by which our association, without losing any of its individuality, becomes affiliated with the parent society, and through it with the medical profession in all the sister dominions of the empire. This will confer certain privileges upon our members. We hope that this action may lead to many pleasant interchanges between our association and the profession in Great Britain, and in the other dominions." The annual meeting of the Canadian Medical Association will be held at Regina, from June 22nd to 26th.

## Letters, Notes, and Answers.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—not necessarily for publication.

Communications intended for the current issue should be posted so as to arrive by the first post on Monday or at latest be received not later than Tuesday morning.

THE telephone number of the British Medical Association and British Medical Journal is Gerrard 2630 (Internal Exchange). The telegraphic addresses are:

EDITOR of the British Medical Journal, Aitiology Westrand, London.

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), Articulate Westrand, London.

MEDICAL SECRETARY, Mediscern Westrand, London.

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Articulus, Dublin*; telephone: 4737 Dublin), and of the Scottish Office, 6, Rindall Square, Edinburgh (telegrams: *Associate, Edinburgh*; telephone: 4361 Central).

### QUERIES AND ANSWERS.

ALKALIS AS ADJUVANTS TO ACTION OF INTESTINAL ANTISEPTICS.

DR. L. WHEELER (London) writes: I should be glad to learn of any experience in the use of an alkali (sodium bicarbonate), given before meals, improving the action of an intestinal antiseptic administered after meals.

### INCOME TAX.

Board and Lodging of Assistant.

"R. M." is an outdoor assistant not receiving any allowance from his principal for board and lodging. If the latter were to pay the landlady's bill each month, giving the assistant the balance of his salary, could "R. M." return that balance as his income for tax purposes and the employer deduct the full amount as a professional expense?

\* It would not be correct unless a real alteration were made in the terms on which "R. M." is employed—for instance, suppose the gross salary be £x and the annual amount of the board-lodging expenses be £y, then, so long as the employer is liable under the terms of engagement to pay "R. M." £x, that is the amount of his liability, whether it be wholly paid to him personally or partly to his landlady. But if an alteration be made in a binding manner in these terms, so that the employer is bound to pay "R. M." £x-£y only and to provide him with board-lodging, then the latter is liable in respect of £x-£y only, and the employer can treat as a professional expense £x-£y plus the actual cost of the board-lodging which he provides.

### LETTERS, NOTES, ETC.

#### MONEYLENDERS.

In the *Times* law reports for January 25th is a note of a case heard before Mr. Justice P. O. Lawrence in the Chancery Division. It appears that a moneylender had obtained judgement summonses against two civil servants who appeared before the court. In reply to the judge one of the debtors said that they had borrowed £15 each, and the judge remarked that the amount had swollen to £54. An order was made for payment of £1 a week in one case and 10s. in the other. Addressing the debtors the judge said, "Pull yourselves together and get out of the hands of moneylenders, or it will wreck your whole careers." It appears to be the general experience that at the present time moneylenders are very active in issuing circulars offering to lend money. One rather senior member of the profession has sent us such a circular he received the other day; it contains the statement—"We may add that for a considerable time we have specialized in accommodating persons on exceptionally low terms." The Mr. Justice Lawrence appears to risk attaching to the acceptance of such offers.

#### CORRECTIONS.

DR. JAMES COOK wishes to correct an error in his letter on puerperal infection, published last week (p. 236). His percentage of puerperal infection cases is 0.5 per cent.—not 0.05.

An error occurred in *Epitome*, para. 130, of our issue of January 31st. The name of the fourth of the joint authors should have been given as J. S. B. Stophord.

#### VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 32, 33, 34, 35, and 38 of our advertisement columns, and advertisements as to partnerships, assistantships, and locum tenencies at pages 36 and 37.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 69.



## A British Medical Association Lecture

ON

## SOME CONSIDERATIONS OF IMMUNITY

FROM THE STANDPOINT OF GENERAL

MEDICINE.\*

BY

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THE subject of immunology has become one of the most technical and specialized in the whole field of medicine; and the general medical worker, in attempting to comprehend the principles and mechanism of immunity, must frequently be nonplussed by the complexity of data and intricacy of theory pertaining to this branch of medical knowledge.

If any justification is required for the subject of this lecture, it is the need for some review of immunity from the standpoint of everyday medicine. Experimental immunity has, of course, claimed primary attention with signally successful results, and highly important practical applications have arisen out of this work; but the subject of immunity should make an even more cogent appeal to the practitioner than that suggested by the successful application of experimental immunity.

Infective disease, as it occurs in man, is essentially a biological process which represents the predatory aggression of micro-organisms towards one of the higher animals in the natural struggle for existence; and just as all living things have adapted themselves to resist their aggressors, so immunity from infective disease is merely an adaptation which enables an animal to maintain its life in spite of the constant attack of micro-parasites. Thus the animal body has become provided in its physiological evolution with a normal immunity mechanism which affords it some relative protection from micro-organisms generally. This resistance in any species is greater towards some parasitic organisms than others; the former are usually incapable of attacking the tissues, the latter are the recognized pathogens for that species. Without this normal mechanism no animal could exist in our world, which abounds in microbe parasites.

Apart from purely biological considerations, we have only to reflect that recovery from microbic disease in the absence of a specific remedy, after the parasite has overcome the initial defences, depends on the further adaptation of the immunity mechanism, that the fate of the individual is a function of this adaptation, and that the physician in directing the general treatment is empirically attempting to facilitate the process. This is only a reiteration of the Hippocratic doctrine of the *vis medicatrix naturae* with an immunological interpretation.

Thus the practitioner of medicine is in reality the best observer and recorder of the external manifestations of this mechanism, its initial failure evidenced by the occurrence of infection, its successful adaptation with recovery from the disease, and often, unfortunately, its second failure and the destruction of the host. The problems of immunity, therefore, are not matters for research and discussion by special workers in this branch only, but relate to the ordinary affairs of general medicine and surgery. The practitioner is just as much concerned with the mechanism of immunity as with that of the vascular system.

## THE NORMAL DEFENCES.

The normal defensive system merits first consideration—that is, the means whereby infection is resisted without artificial intervention. It must be obvious that this function is a variable one—depending on race, family, sex, age, and individuality, and varying from time to time even in the same person as a result of known and unknown conditions that affect the individual. The occurrence of a rapidly fatal streptococcal septicaemia following even a minor superficial wound cannot always be explained on the basis of bacterial virulence, and is a striking demonstration of an adverse variation in resistance on the part of the

individual. But even in these days of highly developed surgical technique and treatment one cannot but marvel at the natural immunity of the tissues following trauma; and it is well known how, in the case of certain epidemic diseases, a proportion of persons to whom the virus gains access actually resist infection, or at least the spread of the organism in the tissues—for example, epidemic cerebrospinal meningitis. Microbic invasion of the tissues by those commensal but potentially pathogenic organisms that inhabit the skin and various body cavities is almost inevitably a frequent occurrence even in the normal person, but how infrequently does infection result in this way! The invading organism is rapidly destroyed and eliminated. On the other hand, in the case of a *B. coli* pyelitis, coliform bacilli invading the blood stream or lymphatics from the bowel lumen, in some way, overcome the natural defences and established themselves in the kidney.

It is apparent that further knowledge regarding the various influences affecting the normal immunity would be a great asset in preventive medicine.

The skin epidermis, with its thick and compact epithelium, is, in most cases, if intact, a mechanical obstacle to bacterial invasion. The epithelium of mucous membranes, however, does not provide this physical protection, though the mucous secretions exert an extremely important defensive function both mechanically and chemically. Thus the acid secretion of certain mucous membranes (for example, the stomach) is definitely antiseptic, and the importance of the acid factor in the gastric juice as a barrier to infection is not to be underestimated. For example, the likelihood of the typhoid bacillus passing the stomach is greater if the acid secretion is deficient owing to some condition interfering with the healthy function of the organ, or if the stomach is empty and the secretion is in abeyance (Cornwall and La Frenais).

Apart from chemical antiseptic effects, the secretions of the body possess definite bactericidal properties. The exact nature of these is not yet fully understood. An interesting contribution to our knowledge of this subject is due to Fleming, who has shown how various secretions and tissues contain a bacteriolytic agent ("lysozyme"). In any case interference with the normal secreting function of the mucous membranes means a distinct weakening in the body's defence.

In this connexion we have to consider the local resistance or susceptibility of particular superficial tissues towards certain bacteria, so that successful infection may only occur through definite avenues—for example, the mucosa of the genitals in the case of the *Spirillum pallidum* and gonococcus (though extragenital infections are not infrequent), the mucosa of the nasopharynx in the case of the meningococcus, etc. The cholera vibrio injected subcutaneously is killed locally, and cannot attack the body by this avenue. The oesophageal mucosa is obviously resistant to the diphtheria bacillus. Pathogenic bacteria may exhibit a selective affinity for special tissues: the typhoid and dysentery bacilli both invade the body through the alimentary tract, but the former selects the lymphoid tissue of the small intestine, the latter the mucosa of the large bowel. Local tissue susceptibility, on the one hand, and resistance on the other, exert an important influence on the processes of disease.

Once the parasite passes the superficial barrier and enters the tissue spaces it has to encounter a continued resistance—the phagocytic action of the leucocytes, endothelial cells, and probably certain other cells, and also the bacteriostatic and bactericidal action of the blood plasma and lymph. Little need be said with regard to the power of the phagocytes to ingest and eliminate micro-organisms and other foreign substances—the phenomenon is so well known. But some reference may be made to the adverse properties of the blood plasma. It has long been known that normal blood serum exerts an effect on bacteria, rendering them more susceptible to phagocytosis, and this has been designated bacteriostatic or opsonic action. It is apparently due to an undefined labile constituent of the serum—normal opsonin—which has no direct influence on the vitality of bacteria, but plays an essential part in their destruction by leucocytes. Blood serum is also bacteriolytic or bactericidal, and this effect has been accepted as due to

\* Delivered to the Dumfries and Galloway Division of the British Medical Association, September 25th, 1924.

an unstable substance designated alexin or bactericidal complement. This property of serum has attracted a considerable amount of attention in immunological study; but even now it is impossible to define the actual nature of complement. In many respects it resembles ferments, though it cannot be classified chemically in this way.

If the invading organisms are able to resist the immediate defences and establish for the time being a focus of infection, an inflammatory reaction may result in which larger numbers of phagocytic cells accumulate at the focus. These, along with the increased exudation of plasma, considerably reinforce the local resistance.

In analysing the initial struggle of a microbe to gain a foothold in the tissues the so-called aggressins have to be considered—that is, toxic substances produced by certain bacteria which are highly injurious to the leucocytes and so enable the invader to break down the first line of defence and increase its aggressiveness. This factor must seriously interfere with the local reaction, and the opsonin effect already referred to has been regarded by some immunologists as a neutralization of aggressin. Apart from phagocytosis, the tissue reaction affords an important protection. Thus the proliferation of fibrous tissue elements and the formation of granulation tissue walling off the focus are important protective factors. The barrier imposed by granulation tissue has been well exemplified in experiments with the tetanus bacillus and its toxin (Noctzl). Moreover, as is well known, a closed abscess may sterilize itself.

Natural immunity to particular infections may be due to the normal occurrence in the blood of specific substances antagonistic to the parasite or its toxin—that is, the so-called antibodies, which I shall refer to in more detail later. The best example of this in the human subject is the natural immunity possessed by some individuals to diphtheria, due to a specific diphtheria antitoxin in the blood. Its presence can be determined by the Schick test, where a small amount of diphtheria toxin is introduced intradermally, and the non-occurrence of a local inflammatory effect indicates the existence of t<sup>and</sup> in the blood. The opposite effect and the reaction has come to be extensively applied in preventive work, as an indication of the need for prophylactic treatment. The genesis of this natural antitoxin is uncertain, though it may be the result of a previous unrecognized diphtheria infection.

Attention has been drawn quite recently to an analogous reaction ("Dick reaction") in the case of scarlatina, based on the assumption that this disease is produced by a haemolytic streptococcus present in the throats of infected persons. It has been found that filtrates from cultures of this organism, even in high dilutions, give a cutaneous reaction like the Schick test in persons apparently susceptible to scarlatina, while those who have passed through the disease yield a negative effect. Our knowledge of this subject is still incomplete, but there is promise of further developments in treatment by the preparation of a neutralizing antitoxin analogous to diphtheria antitoxin.

D'Herelle has indicated a further immunity factor, especially in relation to intestinal infections (for example, typhoid, bacillary dysentery)—the bacteriolytic principle regarded by him as representing an ultramicroscopic parasite of bacteria (bacteriophage). In his original observations he found that broth cultures of faeces, even from normal persons, contained a filterable principle which exerted a lytic or destructive action towards intestinal pathogens—for example, *B. dysenteriae*. Whether this principle represents a parasite of bacteria or an autolytic enzyme generated in the bacteria themselves is uncertain, though recent work rather favours the latter view. The possible part played by this agent in normal and acquired resistance to infection remains to be definitely ascertained. In any case, the subject adds interest to the whole question of immunity.

It must be remembered in any consideration of normal immunity that a great factor in infection is the dose of organisms introduced into the body. In view of the undoubted potentialities bacteria have for multiplication, it may have been thought at one time that a single bacterial cell entering the tissues would be sufficient to generate the corresponding disease. We know, however, from animal

experiment, that a few bacteria injected into the body are readily disposed of by the normal defences. This function of dosage must be of the greatest importance in the genesis of disease in man. Small doses may be quite innocuous.

In studying immunity we must also consider the opposite condition, susceptibility, and the factors that predispose to infection by breaking down the normal resistance. This is a subject with which the practitioner of medicine must be familiar from his own personal experience, and merits more detailed study and analysis in general practice. Even the effects of various drugs on the normal and also the acquired immunity require investigation both from the clinical and experimental standpoints.

#### ACQUIRED IMMUNITY.

I have indicated the resistance a pathogenic microbe has to overcome before it can successfully establish itself in the tissues and some of the factors that influence this mechanism. The failure of such resistance permits the undisturbed proliferation of the organisms in the body. The existing mechanism, having failed to eliminate the parasite, requires reinforcement and further adaptation, for a much larger number of organisms have now to be destroyed if the host is to overcome the infection. In short, the struggle between parasite and host is continued with the intervention of an additional factor (or complex of factors)—acquired immunity, which means the development of new and specific resisting powers against the particular causal organism. On this factor depends the recovery of the individual in the absence of specific remedies.

The profound nature of this adaptation is evidenced by the fact that it may persist for long periods after recovery, even throughout life as in the case of small-pox. But the reverse is also true for some infections. The immunity may be transitory and decline soon after its function has been fulfilled, as in the case of pneumonia.

Acquired immunity may not always lead to the complete destruction of the causative organisms throughout the body—for instance, in tissues where for some reason the immunity influences do not affect the organisms present; it may be a "non-sterilizing" immunity, exemplified by the convalescent carrier. Thus in typhoid convalescents the bacillus may persist in the gall bladder, where it is apparently protected from antagonistic effects. Transitory non-sterilizing immunity is well seen in the case of the relapsing infections; the increased resistance resulting from the initial attack declines and the parasites still present in the body are no longer held in check, with the result that a recrudescence occurs. In the chronic infections a balance is established, the host being unable to eliminate the parasite, the latter being unable to destroy the host. In general, acquired immunity is highly specific for the particular virus and represents a special reaction on the part of the tissues to the invading organism or its products. Most of our immunological procedures are based on the specificity of acquired immunity.

Artificial immunization, which is the outcome of experimental immunology, represents the development of this highly specialized adaptation without the individual actually suffering from the particular disease, through inoculating the virus in such modified form that it is incapable of producing serious pathological effects (active artificial immunity). The adaptation can also be effected in some cases by injecting the blood serum of an actively immunized animal (passive immunity). Passive immunity obviously depends on the transference of new substances present in the blood of an immunized animal, which constitute the specific resisting mechanism—immuno bodies or antibodies.

Active immunity is more lasting than passive immunity, owing to the fact that the tissues have increased their resistance and are producing antibodies by some intrinsic change, whereas in passive immunity antibodies are supplied without tissue activity. Active immunity is, however, slower in development. Thus the latter is mainly applicable where it is necessary to confer an immunity without delay for a short period, as in emergency pro-

phylaxis by diphtheria antitoxin. On the other hand, in the case of those likely to be exposed to diphtheria over a considerable period of time and exhibiting susceptibility to the Schick test, active immunization with diphtheria toxin neutralized with antitoxin ("toxin-antitoxin immunization") is indicated. The antitoxin in this case is merely introduced to obviate the injurious effects of the toxin. The thorough combined application of the Schick test and toxin-antitoxin prophylaxis has proved a valuable procedure in the prevention of diphtheria.

The phenomenon of passive immunity clearly proves that in some cases acquired resistance is due to serum antibodies. The properties of these substances have been extensively studied, but we still know little regarding the process of their development. Though they are demonstrable mainly in the blood they are essentially tissue derivatives, and result from some chemical interaction between the cell and the protein substances contained in the parasite or its products ("antigen"). It may be noted here that, apart from antibacterial immunity, other cells and substances act as antigens—for example, red blood corpuscles, blood serum, animal venoms, etc. Certain of these antibodies are effective by neutralizing the bacterial toxin, others are antibacterial or antagonistic to the bacteria themselves. The antibacterial antibodies are somewhat diverse in their action. One type may, under certain conditions, produce actual bactericidal effects, but certain antibodies do not directly affect the vitality of the microbe though producing obvious effects, such as clumping or agglutination. Moreover, bactericidal action by antisera is not entirely due to the new substance but to the combined effect of the antibody and the normal alexin or complement of the serum. It has been claimed that the antibody sensitizes the organism, as it were, to the bactericidal complement and brings more complement into contact with the antigen than would occur without this intervention (Muir). Bactericidal action by immune bodies is therefore a complex process involving additional factors, and is not a direct effect as in the neutralization of toxin by antitoxin. While the passive immunity produced by the injection of diphtheria antitoxin and certain other antitoxic serums supplies striking proof of artificial immunization by antibodies, it must be acknowledged that animal serums containing other types of antibodies have proved less effective as therapeutic agents. It must be noted also that the obvious immunity reaction—which can be demonstrated *in vitro* by antibody effects, bacteriolysis, agglutination, etc.—may by no means represent the complete immunity mechanism. Unknown factors may contribute to acquired immunity. Immunity may occur in the absence of the recognized antibodies. Moreover, certain immunity reactions cannot be regarded as sure criteria of immunity. In fact, it has been suggested that antibody production may simply be a subsidiary result in the processes which underlie immunity (Browning): Thus the agglutinating antibody which clumps the homologous organism (agglutinin), being one of the most readily demonstrable of antibodies in laboratory experiment, has been accepted in the past as a criterion of immunity even from the quantitative standpoint; but there is now some disinclination to rely on this reaction as an index of immunity. While such antibodies may not correspond quantitatively to actual immunity, they are undoubtedly indicators of the reaction of the tissues to alien substances, which is the essence of acquired resistance. In the case of animals, of course, the sure test of acquired immunity, if carefully controlled, is by protection experiments, where the immunized animal is shown to possess a greater resistance than normal animals. This method is inapplicable in man, and we have to fall back either on statistical methods, which may introduce possible fallacies, or on the demonstrable immunity reactions, which are, quantitatively at least, uncertain indicators.

Apart from the immunity factors which bring about the destruction of micro-organisms, the occurrence of what has been called antiblastic immunity—that is, resistance due to inhibition of the growth of bacteria—merits some reference. Organisms invading the tissues utilize the available food material by their digestive enzymes, and this preparatory ferment action probably occurs at the surface of the bacterial cell. Any interference with this process would,

of course, restrain growth and contribute to the elimination of the infecting microbe. In immunization neutralizing antihodies to the bacterial enzymes may be developed by the tissues, and these, by inhibiting the bacterial ferments, restrain the growth of the organism (Dochez and Avery).

Artificial immunization by vaccines, which are generally heat-killed artificial cultures, has come to be one of the standard procedures of general medicine for prophylaxis and treatment. Statistical proof has thoroughly established the vaccine prophylaxis of certain infections—for example, typhoid and paratyphoid fevers.

In the vaccine therapy of bacterial diseases, while the basic principle of the method is the same as in prophylaxis, the application is entirely different, and, though this form of therapy is recognized as effective in certain conditions, its failures are as obvious as its successes. The fundamental question is whether, in an infection where the tissues fail to respond to the immunizing influence of the living organisms present in the body, a subcutaneous injection of the same organism in dead artificial culture will bring about an effective specific response. The original idea that in certain chronic infections the immunizing substances of the organism were not absorbed and did not therefore provoke a general reaction, and that the vaccine would supply this want, must be seriously questioned. Vaccine therapy has usually been based on the principle of specificity, but it seems not unlikely that certain of the favourable results are due to a non-specific effect. This I shall refer to later.

Any detailed analysis of vaccine therapy is beyond the scope of this lecture, but there are certain important considerations in the specific immunizing properties of vaccines to which I might draw attention. The types of antibodies developed in response to a bacterial vaccine are, for the most part, antibacterial—bactericidal, bacteriotropic, and agglutinating—not antitoxic.

Vaccines of different organisms vary greatly in their antigenic effects as judged by antibody response. Thus a typhoid vaccine exerts a marked reaction, while the immunizing effect of the tubercle bacillus is relatively weak. The antibodies resulting from immunization also vary with different organisms. The typhoid bacillus incites the production of a specific bacteriolysin, agglutinin, opsonin, whereas, in the case of the staphylococcus, bacteriolysin production is practically absent. Bacterial species vary considerably in their immunizing properties. There is no uniformity in this respect.

We must remember that our methods of producing antibacterial immunity in man are far from fulfilling immunological ideals. Killed cultures are used for obvious reasons, but one can hardly compare the effect of injecting dead bacteria with the immunity following an actual infection. The maximum immunity or protection may only be produced by the introduction of the living virus, as has been shown experimentally in the case of certain organisms. This principle is fulfilled in the case of small-pox vaccination and antirabic vaccination. To produce immunity it may be necessary that the virus should be able to multiply to some extent in the tissues. It is likely that some bacteria only produce all their characteristic products when growing in the tissues and not in culture, and if immunity depends on a reaction to all the bacterial products killed cultures would not therefore supply the necessary stimulus. Moreover, the sterilization of cultures by heat or chemicals may destroy certain essential antigenic constituents or products.

The toxicity of vaccines is also an important practical consideration. This is well exemplified in the case of the dysentery bacilli, which are extremely toxic in vaccine form. Such effects limit the doses that can be conveniently given. Toxicity can, of course, be reduced by using sensitized vaccines (where the ordinary vaccine is treated with a specific antiserum). The so-called detoxicated vaccine, in the preparation of which the toxic element is removed by chemical separation, undoubtedly obviates this difficulty, but the antigenic value of such preparations seems doubtful (Davidson).

On general principles, therefore, it is essential, in order to produce the necessary stimulus, that the virus should differ as little as possible from its natural condition. Of course, the practical difficulties in achieving such an ideal are obvious.

## DIAGNOSTIC APPLICATIONS.

One of the most interesting applications of immunology has been on the diagnostic side—that is, the use of *in vitro* antigen-antibody reactions in the recognition of infective conditions that cannot be diagnosed with certainty by clinical methods or by direct demonstration of the pathogenic agent. Their diagnostic value is a function of the specificity of antibodies for the homologous antigen, and depends on the fact that during the course of an infection these specific substances appear in the blood serum. Irrespective of whether antibodies are protective or not, they usually represent an obvious indication of the present or past occurrence of the particular organism in the body, and in this way their recognition can be utilized in diagnosis. Generally speaking, the test for an antibody depends on the availability of the homologous antigen. Thus the Widal reaction has been one of the practical results of the laboratory cultivation of the typhoid bacillus.

It has been noted how antibody production varies as a result of immunization. The same is true for the actual infection. This variation is both qualitative and quantitative. Thus the types of antibodies and their content in the serum vary considerably both in different infections and in individual cases of the same infection. The serological tests applicable in diagnosis depend on the types of antibodies developed in the particular disease; their recognizable effects on the antigen, and the facility and accuracy with which these effects can be demonstrated.

In a case of typhoid fever the agglutinin, precipitin, opsonin, and complement deviation reaction can be recognized under suitable conditions. The obvious effect is that along with the antigen it has the power of absorbing from fresh serum the normal substance called complement already referred to (complement deviating antibody). Thus the reactions of any of these antibodies might be utilized in typhoid diagnosis. The demonstration of bacteriolysis is a complicated reaction; the opsonic test, though quite practicable, is subject to great personal error; the complement deviation reaction, though relatively easy to perform, necessitates an elaborate technique. On the other hand, the agglutination reaction is easily carried out, only two reagents entering into the reaction—the patient's serum and a suspension of the bacillus—and the test is quickly completed and the clumping or agglutination is obvious even to the naked eye. Agglutination tests are the simplest to perform of all the immunity reactions, and where agglutinating antibodies are developed the reaction has been successfully utilized in diagnosis—for example, in typhoid, paratyphoid, and undulant or Malta fever. In these conditions the agglutinin content of the serum may be considerable and the reaction is quantitatively delicate.

Of course, there must be an obvious demand on the clinical side for such an indirect diagnostic criterion. There is little necessity for a serological test in an infection which can be diagnosed by more direct methods. Thus the diagnosis of diphtheria, cerebro-spinal meningitis, etc., can be confirmed in the laboratory by demonstrating the causal organism in material from the case. Even in typhoid fever, if the case is met with early enough, the most direct method is the isolation of the bacillus from the blood, and indirect methods are unnecessary.

The Wassermann complement deviation reaction is one of the most interesting of immunity tests. The original antigen aimed at for the complement deviation test in syphilis was naturally the causative organism. At that time the *Spirillum pallidum* had not been cultivated—or this test might never have been elicited—and an extract of liver from congenital syphilis containing large numbers of spirochaetes was employed. An alcoholic extract was used, and it was found that this antigen (in suitable form) along with the serum of syphilitic cases produced marked complement absorption. The specificity of the reaction for syphilis was established, but it was discovered later that extracts from normal liver, the liver and certain other organs of animals, acted also as satisfactory antigens. In short, the antigenic substance was not the *Spirillum pallidum* or its products, but the lipoids of normal tissue.

It might be said, therefore, that the Wassermann reaction is not a true immunity test. It is none the less clinically

specific for syphilis with certain limited exceptions. Investigation has tended to show that this reaction is a quantitative rather than a qualitative change in the serum. As a result of syphilis, some substance normally present in the serum—probably of antibody nature—is increased in amount, which, along with lipoids, absorbs or deviates complement.

While the Wassermann reaction involves an elaborate technique with certain pitfalls and fallacies, the serological diagnosis of syphilis is tending towards simplification by the application of the so-called Sachs-Georgi or "flocculation" reaction. This test bears almost the same technical relationship to the Wassermann reaction as an agglutination test to other complement deviation reactions. It depends on the fact that the serum in syphilis produces flocculation or precipitation of a suspension of the same lipid antigen used in the Wassermann reaction. The technique is simple as compared with that of complement deviation. Only two reagents (antigen and serum) are required and the phenomenon is easily observed.

The so-called Weil-Felix reaction presents a further anomaly in immunity. This test has proved of undoubted value in the diagnosis of typhus fever, and its discovery was quite fortuitous. Like the Widal reaction, it is an agglutination test, and depends on the development during this illness of specific antibodies (agglutinins) for a type of *Bacillus proteus* ("X 19") which has no etiological relationship to the disease. Nevertheless, the occurrence of this reaction is highly specific for typhus fever.

The significance of such anomalous immunity reactions calls for some consideration. They exemplify what we now designate "heterogeneous" or "heterophil" antibodies—that is, antibodies specific for an antigen which has no biological relationship to that acting as the immunizing stimulus. This subject has been mainly one of theoretical interest, but, as you see, it has relationships to general medicine. It was found some years ago that a rabbit injected with the tissues (for instance, kidney) of a guinea-pig developed a haemolytic antibody specific for sheep's and goat's red corpuscles (Forssman's antibody). The natural occurrence of specific antibodies in the serum of man and animals had long been recognized, and also that antibodies might have no obvious etiological significance. As a matter of fact, Forssman's heterophil antibody represents an increased output of a natural antibody in the same way as the Wassermann reaction is the result of an exaltation of a natural substance.

We have still no definite knowledge as to why such antibodies should occur. The inherent capacity to produce them may have originated far back in the ancestral biological history of the species. Why they should be increased by certain heterologous stimuli is also beyond present explanation.

Without going further into the diagnostic applications of antibody reactions, it should be said that in many infections, even where a serological test would be of the utmost value, specific antibodies cannot be demonstrated, or are present in such small amount as to render an antibody test impracticable. In tubercle and in gonorrhoea complement deviation tests with the patient's serum and cultures of the corresponding organism have been extensively applied, but their practical value is limited. Generally speaking, serological tests have had a restricted application in medicine, but where they have proved practicable the results have been of outstanding service in adding to diagnostic efficiency.

Apart from clinical diagnosis, immunity reactions have been extensively utilized in bacteriology for the identification of species. The system is the same as in the diagnostic tests, but in this case the antibody is the known quantity, the antigen the unknown. In short, certain species—for example *B. typhosus*—can only be accurately identified by testing the organism with a serum containing a specific antibody to this species, obtained by animal immunization. The agglutinin is the antibody almost entirely used in this work.

This application depends on the specificity of antibodies. While in certain cases antibodies are specific for the biological species, specificity may be more restricted and limited to what we call serological types within the species. The serological distinction of types (for example, among

pneumococci, meningococci) has exerted an important influence on artificial immunization. In the case of the pneumococcus three well defined types can be recognized, and, by immunizing animals with the separate types, an antiserum has been obtained to Type I which, given intravenously in large doses, is capable of reducing the mortality of cases of pneumonia due to this type.

I should like to state a general rule that applies to immunization and then instance exceptions of practical interest. Antibody immunity can only be produced by the introduction into the tissues of an alien or foreign antigen. Thus an animal cannot produce antibodies to the red cells of its own species or a *fortiori* its own cells.

In the condition known as paroxysmal haemoglobinuria, the result usually of syphilis, for some unexplained reason a specific substance of antibody nature is developed to the individual's own red corpuscles. This body is haemolytic (autolysin), and under certain conditions is capable of producing intravascular haemolysis and haemoglobinuria. Blackwater fever, a recognized complication of malaria, has also been regarded by some as due to a similar autolysin, but the evidence is inconclusive.

Red corpuscles are susceptible to agglutination by serum antibodies in the same way as bacteria. A haemagglutinin may be produced by immunizing in the usual manner with the red corpuscles from another species, but one of the most remarkable serological observations has been that the serum of certain individuals, for example, in the human species, may agglutinate the red cells of others, and that according to this mutual reaction of serum and cells, human individuals can be grouped into four well defined classes. This subject became prominent during the great war, when blood transfusion was a routine procedure, and when the injurious effects due to intravascular haemagglutination had to be avoided by ascertaining the effect of the recipient's serum on the donor's red cells. Here we have an instance of a serum substance, possibly of the nature of a natural antibody, acting on an antigen from the same species, and thus the agglutinin is spoken of as an isohaemagglutinin. It is of further interest that such group characters are hereditary and follow Mendel's law, and out of this has come a method by which, in certain cases, disputed paternity might be decided.

There are other interesting applications of antibody reactions to which I might refer, but the instances I have given are sufficient to show the ramifications of the subject and the practical results of its study.

#### NON-SPECIFIC IMMUNIZATION.

Perhaps one of our most difficult problems in applied immunity at the present time is that of "non-specific immunization," by which is meant the production of increased resistance by other than specific measures. The accumulated clinical evidence that an infection may be favourably influenced in this way cannot be ignored. For example, there is some reason to believe that the intravenous injection of certain proteins (for instance, proteose preparations, bacterial vaccines) is efficacious in cases of arthritis, including rheumatoid arthritis, and it might be argued that frequently the beneficial effects of vaccines are non-specific in nature.

The commonest method of non-specific therapy has been the intravenous injection of foreign toxic proteins, and the empiric aim is the production of what is called "protein shock." By this is meant a reaction to the foreign substance manifested clinically by rigor, fever (or, if pyrexia already exists, a further elevation of the temperature), aggravation of any local lesion, and various other symptoms associated with the fever. Along with these external effects there may be an increase in the nitrogen excretion indicating an effect on tissue metabolism, a "leucocyte stimulation" and increase of leucocytes in the circulating blood, an increase of proteolytic ferments in the serum, and possibly an increased output of antibodies. In short, the result might be regarded as a temporary exaggeration of the general reactive process which is the essential element in acquired resistance.

Apart from the parenteral injection of toxic proteins, other measures have been employed with a view to producing non-specific effects—for example, the artificial

abscess following the subcutaneous injection of turpentine, and even the artificial interposition of another infection. The fact that an intercurrent infection might influence an existing infection has long been recognized. It has even been suggested that counter-irritants, from the seton and cautery to the poultice and blister, owe their accredited effect to such non-specific action, and that irradiation by sunlight and other rays, the injection of colloidal metals, and certain drugs (iodides, for instance), act in the same way.

This form of therapy has now been extensively exploited, and the clinical data do not always supply the most convincing proofs. On the experimental side proof of non-specific immunization might be based on immunity reactions, or protection, experiments in animals. An apparently non-specific reaction demonstrable by antibody effects has been exemplified in persons vaccinated with typhoid vaccine and subsequently developing another infection at a time when the "post-vaccine" agglutinin have almost disappeared from the blood. The second infection leads to a renewed production of the typhoid agglutinin. Thus heterologous stimuli may increase the output of antibodies once the tissues have been sensitized by the specific stimulus. The reappearance of latent antibodies has also been demonstrated in animals as the result of injection of a heterologous bacterium or even non-bacterial proteins—that is, the types of substances used for non-specific therapy. The heterophil antibodies already referred to also exemplify non-specific immunization.

By protection experiments on animals it has been shown that increased resistance may be produced non-specifically. Thus Harvey and Iyengar found that in pigeons a relative immunity to *B. arisepicus* resulted from the injection of *B. coli* vaccine, though quantitatively inferior to that produced by a specific vaccine. In experiments of my own, evidence has been elicited that the resistance of guinea-pigs to experimental infection by *B. diphtheriae* could be increased by the injection of normal serum from various animals and even from other individuals of the same species, though also inferior to the protection conferred by a specific antitoxin.

Non-specific therapy, therefore, is not without some support on the laboratory side, and the further exploration of this field in the treatment of infective disease seems justified.

### HOW INTERFERENCE IN LABOUR MAY BE LESSENER BY EXAMINATION DURING PREGNANCY.

BY

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My purpose is to draw attention to the application of the methods of modern medicine to the particular problems of midwifery practice. These methods may be stated shortly as, first, the effort to maintain normal functioning by removing any known cause of its disturbance, and, secondly, detecting the earliest sign of disordered function with a view to immediate treatment and cure. If this is our attitude of mind towards the digestive, cardiac, and other functions it must equally be so in regard to the whole reproductive function, including that of parturition.

An anticipatory vision in the management of labour is the most striking development of this attitude of mind applied to the practice of obstetrics. Its relation to the old practice may be aptly compared to the difference between an army commander relying on his tactical skill in emergency to repel surprise attacks, and one who, with all modern means of discovering his enemies' intentions, breaks up threatening concentrations before the attacks mature. Indeed, the prematernity supervision may be termed the intelligence branch in the war against mortality and disability in childbirth.

Ante-natal supervision is as yet in its infancy, and much

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still remains to be done to improve its methods of investigation. Some enthusiasts have run the new thing to death, and their methods have tended to make the pregnant mother consider her condition as pathological rather than physiological. This danger must be kept in mind and the purpose of the supervision and examination explained to the woman. So far as possible, investigation of suspected abnormalities should be made as little obvious as can be. The chief aims of the supervision may be stated as:

1. Maintaining health of body and mind in the pregnant woman.
2. Preserving the pregnancy to full time.
3. Foreseeing and avoiding preventable difficulties in labour.
4. Preparing the mother for the nursing and care of her child and generally educating her in regard to her own health and that of her family.

If these aims are successfully carried out their effect on maternal and infantile mortality and disability is too obvious to require mention. Reproduction, though physiological, puts a severe strain on the efficiency of every system of the body, and, like passing recruits for active service and "retting" the crews in a boat race, the thorough investigation of the state of health of the woman early in her pregnancy and further observation to see how she is standing the test, seem but reasonable precautions. Quite apart from those who have some organic weakness and who may break down under the strain, there are special illnesses, such as the toxæmias of pregnancy, that may arise, even in those in the best physical condition. Putting on one side the loss of prospective life, miscarriage is a prolific cause of operative interference during or after its occurrence, often as an emergency and in unfavourable surroundings, and of subsequent disability. Stillbirths and early infantile mortality for the most part result from toxic states of the mother (for example, syphilis and albuminuria), prematurity, and birth injuries. The good health of the mother throughout child-bearing means not only that her resistance to infection and disease is increased, but also her efficiency in looking after her family when they are most in need of her care.

Though the health of the mother will be the primary consideration throughout pregnancy, it will be noticed that there is a difference between the objective in the early and in the later months—say, after the viability of the foetus. In the first three months or so the preservation of the pregnancy is the chief matter; in the last two months the purpose of the investigation will chiefly be towards foreseeing and preventing difficulty and complications in labour.

The ante-natal supervision should be directed to the maintenance of the general health at its best and to the removal of all possible septic foci and the discomforts and troubles connected with the pregnancy; but it is impossible to go into so large a problem, and I will select two types for detailed consideration, as illustrative of the methods employed: first, the woman with albuminuria, and, secondly, the cases of possible difficulty in labour from malpresentation and misfit.

#### ALBUMINURIA.

In regard to the first, I do not wish it to be thought of solely in terms of eclamptic convulsions and possible complications in labour, for there is a far commoner possible result, and that is permanent renal damage. As the testing of the urine is the first sieve to strain out cases for further investigation, the next point is to determine the meaning of the albuminuria, and for that it is necessary that a catheter specimen should be obtained, so as to make sure that the albuminuria is not due to contamination after the urine has left the bladder; and then a further chemical and bacteriological examination may be necessary to exclude those cases due to pyelitis or cystitis—that is, those in which the albuminuria has arisen after excretion from the kidneys. The next point to determine is how far the renal function is affected, for albuminuria by itself is not proof positive of its disturbance. Diminished secretion, the presence of casts, oedema, and raised blood pressure would indicate renal damage, and to determine its degree the urea concentration test should be carried out. As soon as any impairment of renal function is discovered the essential matter is to keep the patient strictly to bed, and observe what rest with a restricted protein intake will do. In most cases the effect of the diminished metabolism is the rapid

recovery of the renal function and the disappearance of the albuminuria. In the more severe cases, however, improvement may be slow or may not occur. If, after a couple of weeks, no improvement results, and still more if the continuance of headache and sickness, increased oedema, and persistent high blood pressure show that the condition is both serious and resistant to treatment, the pregnancy must be terminated, for fear of progressive and permanent renal damage, or, more rarely, eclamptic convulsions. Improvement, even if slow, will justify further observation. One of the most obvious clinical signs for the termination of the pregnancy is a rising or persistently high blood pressure, as it is a warning of the onset of eclampsia. Dimness of vision with oedema of the retina and exudate is another indication for the immediate termination of the pregnancy, because of the risk of permanent damage to the eyesight. The same principle holds good in other disorders of pregnancy, and that is to determine how far conditions will yield to treatment, and, only in those cases in which other measures have failed, to resort to the induction of abortion or premature labour.

#### MALPRESENTATION AND DISPROPORTION.

I intend to confine my remarks this evening chiefly to the examination necessary to discover the position and presentation of the foetus, the pelvic capacity, and, so far as possible, to detect any factors likely to complicate the labour. This part of the examination is not begun till the last two months of pregnancy—that is, about the thirty-fourth week—as before then it is rarely possible to discover with accuracy the presentation, and, even if it were, a completely different state of affairs may be present a few weeks later. Before the thirty-fourth week induction of labour is rarely worth while, as the chances of survival of the child are too slender.

The general physical development of the woman should be noted, both in the erect position and when lying down. A height under 5 feet, narrowness across the hips, spinal curvature or other deformity, lameness due to disease of the hip-joint or to infantile palsy, should always suggest the need for special care. Bone or joint disease or other condition that has necessitated a long period of lying on the back during childhood may have checked the full development of the pelvic girdle. The appearance of the abdomen should be carefully observed, both when standing up and recumbent, and the size, shape, and position of the uterus noted. The pendulous abdomen of the multiparous woman is easily recognized and is especially marked when standing up; it is liable to be accompanied by late engagement of the head and malpresentation, and requires support during the later months of pregnancy. The history of the previous labours may indicate whether there has been difficulty before, but even if there has been none it must not be forgotten that the deviation of the uterine axis may cause malpresentation at the beginning of labour, thus calling for careful observation as soon as labour has started, and that other factors may be present that were not previously. In a first pregnancy, on the other hand, unusual forward projection of the uterus, especially if persistent even in the dorsal position, indicates deficient space in the abdominal or pelvic cavity. The common causes are overdistension of the uterus, small abdominal capacity, as in short stumpy women or those with spinal deformity (for example, kyphosis), bringing the ribs close down to the iliac crest, or pelvic contraction preventing the descent of the head into the pelvis so that the foetus is entirely abdominal. Decided forward projection of the uterus in a first pregnancy should always attract attention, but the cause is usually readily determined, and all cases in which it is due to non-descent of the presenting part should raise the suspicion of some misfit between the head and pelvis.

The diagnosis of presentation and position is carried out by the ordinary obstetrical examination, and should be confirmed again later. Rectification of a breech presentation is most easily effected about three weeks before term, and though rectification of the foetal lie and the uterine obliquity by padding and a binder may be tried in shoulder presentations, the more favourable time, owing to the tendency to recurrence, is as a rule at the commencement of labour. In any case in which external version has been

done further examination is necessary to see that there has not been a reversion to the original presentation. Face and brow presentations are rarely recognized at the ante-natal examination, and, if recognized, are not readily converted to, or maintained as, a vertex. For the most part they arise at the onset of labour, and, as in oblique lies, reliance must chiefly be placed on discovering the high position of the head and the conditions liable to give rise to them, and trust to rectification at the onset of labour. Occipito-posterior positions are likewise best treated either just before or immediately at the onset of labour by a pad and binder, after the method of Buist.

The other important part of the obstetrical examination is that of the pelvic capacity, which is carried out by two different methods—one pelvimetry, and the other the estimation of the fit of the head into the brim. The two methods are complementary, and although formerly the measurements were thought to be all-important, wider experience has led to their being looked upon rather as a rough guide and so relegated to a secondary place, the fit of the head in the brim being taken as the deciding factor in determining treatment.

The abdominal examination is especially important as the simplest method of picking out those cases requiring further investigation. The head high up and floating above the brim is easily accessible to palpation. If it has descended into the pelvic cavity the fingers must be sunk into the pelvis in order to recognize the hard and immovable mass filling up the sacral hollow. A high position of the head in a primigravida during the later weeks of pregnancy must always be taken as a warning of possible trouble. The head is commonly found in the cavity during the last month or six weeks of pregnancy, and a high position in the last two weeks must always call for full investigation. In multiparæ, especially those with a lax abdominal wall, there is neither the same tension within the abdomen to drive the head downwards nor does the uterine axis lie directly in that of the inlet to facilitate descent, and hence a high position of the head has not the same significance. The history of previous labours in these cases, however, will generally serve to decide whether there is a diminished pelvic capacity, but the possibility of undue size of the head must be borne in mind.

A rough test can be made of the relation between the size of the head and pelvis by pressing the head downwards from the abdomen. If the two poles of the head, the forehead and hind-head, can be felt very distinctly a transverse position of the head with some degree of extension is probable, indicating some flattening of the brim. If in addition the biparietal prominence is easily recognizable, and still more if on pressing down the head it bulges over the pubes, there is definite evidence of misfit. Willett emphasizes the important evidence that can be obtained by laying the flat of one hand on the suprapubic region while the head is pressed down between the fingers and thumb of the other hand, when the parietal eminence, if felt, must be taken as a warning during pregnancy and a danger signal in labour. He also holds that if the palm of the hand is placed on the parietal eminence, it may be found that when the patient sits up and leans forward the parietal eminence sinks below the pubes, showing that the head will pass the brim. By pressing the head into the brim with the patient in the dorsal position an impression can thus be obtained of the amount of room and of the ease with which the head will enter, and those cases in which difficulty is suspected should then be reserved for further examination by the bimanual method. The treatment of the minor degrees of misfit between the head and the pelvis is by the induction of labour before the child is large enough to cause difficulty, and yet not too small to give trouble in rearing.

The cases of high position of the head with difficulty in making it enter the pelvis, picked out by the rough abdominal examination, are now examined bimanually—that is, with two fingers of one hand in the vagina, whilst the other hand on the abdomen presses the head down into the pelvic cavity. This method is more accurate because the internal fingers can be placed fairly accurately in the centre of the pelvis and the pressure of the head directed on to

them—that is, nearly in the proper axis—thus obviating a difficulty in the abdominal method, where pressure is liable to be made either too much backwards on to the sacral promontory or too much forwards on to the pubes. The fingers in the vagina also estimate the degree of descent of the head, how far it can be made to slide down behind the symphysis, and how tightly it fills the inlet and cavity, or whether it merely sits on the brim and bulges over the pubes. As soon as the bimanual examination shows a tight fit, the examination is repeated under anaesthesia and the final decision made as to whether to proceed at once to induction or postpone it for a week or two.

If the patient is examined at the thirty-fourth week, and it is then discovered that disparity between the head and the pelvis is such that even at this early stage natural delivery is unlikely owing to a serious degree of pelvic deformity, Caesarean section at term would be selected. These cases are, however, very rare, and in the lesser degrees of deformity the woman would be seen every fortnight. The fit of the head would be judged by rough estimation until difficulty in pressing down the head was detected, when the bimanual examination under anaesthesia would be made in order to decide the most suitable time to induce. Except in the extreme degrees of pelvic deformity, in which delivery of a living child by the natural passages is clearly impossible, the tendency will be to prefer induction in a young woman so as to have accurate knowledge of what is possible by the natural powers. Nothing is learnt from Caesarean section, and the scars in the uterus and abdominal wall are a source of weakness and a cause of anxiety in all future pregnancies and labours. For a time the more dramatic Caesarean section was overdone, largely because a short-sighted view, limited to the one pregnancy, was taken instead of a wide vision over the future reproductive life of the woman. In a young woman with the whole of her reproductive life in front of her an early induction should be preferred, even if it offers but a slender chance of the child being reared. A natural labour carefully observed and conducted will teach us much more than we can learn from the most thorough examination, and in a young woman with twenty years of reproductive life in front of her it is much better for her future to make a trial trip of her first pregnancy and know by experience what the natural powers can do. Usually they will do better than we expect. On the other hand, in a woman who has had previous labours in which induction has failed to give a living child, or in a woman in her first pregnancy towards the end of her reproductive life, Caesarean section would clearly be the preferable method of delivery, as securing her a living child in what might be her only pregnancy.

#### OTHER CAUSES OF INTERFERENCE.

These examples will suffice to indicate how complications in childbirth from malpresentation and misfit may be eliminated by anticipation, investigation, and treatment during pregnancy. There remain, however, the haemorrhages and convulsions, to which passing reference must be made, as both are considerable items in making up the mortality in child-bearing. We know so little as to the causation of ante-partum haemorrhage that our endeavour must be to take the first occurrence of bleeding as a warning of possible further trouble to come. Except that accidental haemorrhage occurs more frequently in women suffering from albuminuria and the intoxications of pregnancy, we know nothing of the causes of separation or abnormal implantation of the placenta. As the causes are unknown, the second best must be done by considering the occurrence of any bleeding of moment as a warning of the possibility of more serious trouble ahead, and therefore keeping the patient at rest and under observation and being prepared to take immediate action if the need arises. If placenta praevia can be definitely diagnosed, it is unsafe to temporize. Eclamptic convulsions rarely occur without albuminuria or other warning signs, and thus their unexpected onset is greatly limited by proper ante-natal supervision; they may, however, occur occasionally in patients under observation and treatment for albuminuria, when they are not usually serious, or may develop suddenly with little warning.

I have tried to show how far the complications due to malpresentations and misfits, to ante-partum haemorrhage and convulsions, with consequent interference in labour, may be greatly lessened. Errors due to miscalculations will be with us so long as we remain erring mortals, but as we become more experienced they will become fewer. There will, however, be left over four-fifths of the interference in labour—the low forceps delivery, the “shoe-horn” operation of easing the head over the perineum because of failure of the forces of labour to overcome the final obstacle of the resistance of the levator ani muscles. Happily this procedure is a minor one, but even it calls for a fresh attitude of mind in regard to it, though that is another story which I cannot begin to-night. The forceps must be regarded as our second line of defence after our first line has given way, and we must try to strengthen the first line, which is to seek out the causes of the ineffectiveness of the powers and remove them—of which fatigue, long-continued pain, anxiety, and dread of the ordeal are the most prominent.

## Lectures

OR

# THE SYMPATHETIC INNERVATION OF STRIATED MUSCLE.\*

BY

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## LECTURE II.—PART II.

### THE FUNCTIONS OF THE TWO GROUPS OF MUSCLE FIBRES:

#### EXPERIMENTAL EVIDENCE (Continued).

#### EXPERIMENTS ON BIRDS.

THE folded attitude of the wings of birds when standing or walking affords an excellent example of what Sherrington has called an “active posture”—namely, the maintenance of position against the action of gravity by means of the activity of contractile tissues. I thought a study of the mechanism concerned in the production and maintenance of this posture would throw light on the postural activity of voluntary muscle generally, and provide a means of determining the exact part played by the dual nerve supply—somatic and sympathetic—of such muscle in the production and maintenance of posture.

The effect of gravity, which would be freely acting under normal conditions in some birds, would tend to cause drooping and falling outwards of one wing, if the mechanism for the maintenance of its posture were interfered with, and by comparison with the position of the normal wing of the opposite side the degree of interference is readily measurable. The wing offers advantages for study over the limbs of the cat, dog, and goat, in which the normal attitude is extension, for compensatory efforts are necessary in order to retain this position in the interests of maintaining the erect attitude. This tends to mask the effects of injury reducing the efficiency of the postural mechanism. Variations in the position of the wing may also be studied more easily than alterations in the degrees of flexion of the hind limbs of the frog after sympathetic ramisection, as suspension of the frog (which is necessary to allow the normal side and the injured side to be compared) introduces rotatory reflexes. This circumstance renders a careful analysis necessary in order to dissociate the effects of labyrinthine impulses from the proprioceptive effects produced in the musculature of the limb itself (cf. Langelaan, *Brain*, 1915 and 1922).

In his memoir, “The Postural Activity of Muscles and Nerve,” Sherrington says:

“Section of the afferent roots of the wing affects little, if at all, the folded posture maintained by the wing when not in flight, i.e., during standing or walking. Nor has the source of the postural

contraction of the flexors of the wing been found. Here, as in the case of the iris, the postural contraction, if, as is presumable, reflex, lies in receptors not those of the contracting muscle themselves—is, in short, *allogeneus* not *autogeneus*.”

In view of our experiments on goats it appeared to me that a possible explanation for the failure to alter materially the folded position of the wing, by severing the posterior nerve roots corresponding to the origin of the brachial plexus, was due to the fact that in such an experiment the sympathetic innervation of the voluntary muscle of the wing was left intact. In previous papers (see, for example, *Surgery, Gynecology and Obstetrics*, December, 1924) I have argued that the function of the sympathetic nerve supply of skeletal muscle is the maintenance of posture once the position is attained—in other words, that it is responsible for the property of plastic tone. It appeared desirable, therefore, to ascertain the effect of removal of the influence of the sympathetic nerve supply of the muscle of the wing by section of the cervical sympathetic. The result of the first experiment of this kind has already been recorded.<sup>12</sup> The wing was markedly drooped compared with the normal side when the body of the fowl was supported in the hand during recovery from the anaesthetic. Later the droop of this wing was definitely noticeable but not so marked, its tip being 1.5 cm. lower than the tip of the intact wing. The wing also was less firmly folded to the side of the body. This condition was still noticeable when the fowl was kept at rest for some minutes up to the time of being killed seventy-four days later. A *post-mortem* examination revealed that the vertebral sympathetic cord had been cut below (or behind) the upper two roots of the brachial plexus only, so that the effect was incomplete. Subsequent operations of a more complete character, in which the sympathetic was approached by dissection of the intertransverse spaces from behind, instead of from the front as in the first experiment, gave similar results.

#### Anatomical Features of the Cervical Sympathetic Trunk of Birds.

The vertebral sympathetic plexus or cord, which contains the fibres that interest us in these experiments, passes through the foramina of the transverse processes along the vertebral vessels on a plane ventral to the roots of the brachial plexus. On approaching the ribs the cord usually

splits into dorsal and ventral trunks, which pass respectively dorsal and ventral to the neck of the rib. The operation usually performed on the fowls was to divide these trunks above the first true rib (at C in Fig. 7)—that is, caudal to the last large nerve (the last cervical) which contributes towards the formation of the brachial plexus. In sea-gulls I invariably cut the dorsal and ventral trunks immediately behind (or below) the penultimate cervical nerve as well. This section produced a more

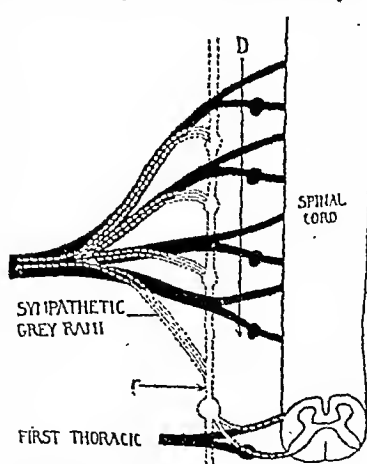


FIG. 7.—Diagram of the fowl's brachial plexus. C, The spot where the whole sympathetic connexions of the wing can be severed. D, The line along which either the posterior or the anterior somatic roots or both can be cut.

marked effect on the eyelids than the more caudal section. Langley has shown that the last cervical nerve is the first nerve through which pre-ganglionic fibres of the sympathetic nervous system emerge from the spinal cord. He records that the criterion of movement of the feathers following stimulation shows that these fibres are distributed to the upper part of the neck and the head. It may be distributed to the anterior part of the wing, but the effect is only slight when it occurs there. Therefore the more caudal section of the sympathetic

\* Delivered by Professor Elliot Smith at University College, January 25th, 1925.

chain satisfies the purpose of the present investigation. But the changes in the position of the eyelid are useful as indications that the chain has been successfully identified and cut. In the fowl the effect of section of the cervical sympathetic above the last cervical nerve (at C in Fig. 7) produces a raising of the lower eyelid and a more marked drooping and overhanging of the upper lid, so that the pupil is partially obscured. Normally the upper lid is retracted to such an extent that only its free edge is visible. After the operation, especially when viewed from above, it may be seen for an extent of several millimetres. When the effect is not so apparent as in the lower section alone a useful test is to draw the upper lid down over the eye on each side and compare the rate of its return on the two sides. It returns perceptibly more slowly on the operated side, and the return is, of course, not complete. The effects on the eyelid of the sea-gull are not so noticeable as in the fowl because they are smaller and less mobile. But the circular palpebral tissue becomes oval in shape following the operation.

The removal of the cervical sympathetic cord has an effect upon the pupil in the bird, as Langley has shown. The test of ruffling the feathers described by Langley is useful to determine whether the operation has been successful. On the normal side the feathers rapidly return to their normal depressed condition, whereas on the side from which the sympathetic innervation has been removed the return is slow.

In this series of experiments the effect upon the blood vessels was not used as a criterion to indicate whether the sympathetic had been severed or not. In one case a marked increase of temperature of the comb occurred on the side of the operation. In another marked pallor was observed in the vascular appendages of the head following the operation. This was probably due to a state of strong contraction of the capillaries following sympathetic denervation described by Krogh. On examination on the following day in the above instance it was again present.

#### *The Effect of Section of the Cervical Sympathetic upon the Posture of the Wing.*

The immediate effects upon the position of the wing of section of the cervical sympathetic cord have already been briefly noted. In the fowl the wing is somewhat drooped on the affected side. This persists after healing has completely occurred. For instance, in one of the fowls the distance of the tip of the wing from the mid-line, as measured by the callipers on the eleventh day following the operation on the left side, was 4.2 cm. on this side, compared with the corresponding measurement of 3 cm. on the normal side. When the wings were stretched outwards and then simultaneously released, an average of three measurements on the left and right sides were 4.2 cm. and 2.2 cm. respectively. These differences are in part due to the falling away of the limb from the side (abduction) in addition to dropping downwards. An estimate of the difference due to these causes is also obtainable by measuring the distance of the outer surface of the wing at the level of the elbow-joint from the mid-line on each side. On the day in question the left and right measurements were 10.1 cm. and 8 cm. respectively.

Another change due to the operation is the slowness in the return of the partially denervated limb to its final position when released after stretching outward or downward or after elevation. This effect is perceptible to the eye and is constant over numerous trials. Cinematographic records confirmed this observation. The greater part of the return movement takes place relatively rapidly, though not so rapidly as on the normal side. The limb remains somewhat abducted and elevated, and then slowly settles down to its final position, which is closer to the trunk and in a somewhat more depressed position. This latter element in the return movement may occupy several seconds. If the wing is passively placed in its normal position it rapidly falls to the depressed level. Sometimes the bird itself voluntarily lifts the wing to its normal position, but it quickly falls to its original position. This effect becomes more marked in fatigue—for example, after repeated examination.

In sea-gulls abduction and dropping of the elbow is apparent, but the effect is not so marked as in the fowl, because the tail is normally used to support the large wings, which in some of the specimens operated upon attain a span of a metre from tip to tip. In the normal position of the wings they lie crossed over one another resting on the tail. Subsequent to cervical sympathetic section the affected wing takes a position nearly parallel with the direction of the tail, and, following a two-sided operation, an interval may exist between the two wings which is not normally to be seen. When an affected wing is removed from the support of the tail it droops below the tail level approximately to the extent of 2.5 cm. The drooping of the wing is very marked during the process of recovery of the limb from the anaesthetic. Open ether was the anaesthetic employed in each experiment.

For purposes of control the vertebro-scapular muscles were severed on both sides, and both right and left sympathetic cords were exposed, but only the left was cut. The only difference between the two sides, therefore, is that section of the sympathetic cord was performed on the left side and not on the right side.

It is apparent from these remarks that the tone of the affected wing is reduced so that the normal posture is not perfectly maintained. But considerable tone remains, and it tends to impose a folded posture upon the wing. This influence must be due to the presence of the somatic proprioceptive reflex arcs which remain intact, but in the absence of the influence of the sympathetic innervation of the wing the maximum position of abduction and flexion can no longer be maintained against the action of gravity. This force leads to some degree of drooping and abduction of the wing. During light anaesthesia the effect is rendered more evident as the result of the partial removal of the influence of the somatic proprioceptive connexions. The influence of the somatic arcs is also markedly reduced by fatigue, as already noticed following repeated stretching of the wing in the fowl. The natural effort of sustaining flight shows the result of fatigue to greater advantage. These observations were carried out with the bird attached to a light line mounted on a smoothly running reel. In the unilateral operation the position of the normal wing may be used as a control, as in sea-gull 3. Before flight only slight abduction and droop of the elbow region of the wing were apparent. After a flight of one hundred metres, in which the wings were maintained in constant movement so that no gliding occurred, the abduction and drooping became very marked. The wing no longer rested on the tail, and the bird made ineffectual attempts to place it in its usual position. On supporting the body of the bird in the hand and allowing the wings to drop freely a condition resembling that seen in similar circumstances during recovery from the anaesthetic resulted. Fatigue of the somatically innervated muscles has apparently produced this effect, so that the condition of the wing in such circumstances is not far removed from that seen in flaccid paralysis.

These observations are in accord with the results of our operations on goats—namely, that the sympathetic innervation of voluntary muscles is responsible for the maintenance of plastic tone. The defect following removal of the sympathetic influence consists in inability of the voluntary muscle to remain fixed at a given length—such, for instance, as the length required to maintain the extended position of the limbs in a quadruped when placed on its back, the flexed position of the frog's hind limbs, or the folded position of the wing normally assumed when a bird is walking or standing. The flexed posture of the wing, to take the latter instance, is conferred upon the wing by the intact somatic proprioceptive reflex arc; and this tendency disappears when this arc is interrupted. Therefore this arc, when intact, subserves contractile tone (Langelaan, 1922). The position of flexion of the wing imposed by the contractile fibres fails to be maintained to the full degree in the absence of plastic tone, which is subserved by the sympathetically innervated fibres of the striated muscle of the wing. Normally, therefore, plastic tone is the property of muscle enabling the flexed position to be maintained. The "catch" or "ratchet" mechanism of involuntary muscle described by Uexküll is beautifully illustrated. The fixed

position of flexion of the wing can no longer be maintained for an indefinite period with a minimum of fatigue in the absence of the sympathetic arc. Furthermore, after voluntary activity of such partially denervated muscle, of which flight provides the best example, exhaustion of the somatic reflex mechanism manifests itself to a striking degree. It is evident, therefore, that the sympathetic innervation plays a part in movement as well as at rest. To retain the analogy already mentioned, it would appear that an "infinitely fine ratchet" assists in voluntary movement. This helps to maintain the intermediate postures through which the muscle passes during the execution of an active movement.

In the absence of the sympathetic nerve supply it is apparent that greater work is imposed upon the somatic nervous system during voluntary activity, for it not only performs the voluntary movement, but alone supports the weight of the limb. When both wings have been partially denervated by removal of the sympathetic nerve supply (as in sea-gull 8) after several short flights both wings were drooped and the bird was apparently exhausted, the mouth was widely open, and respiration very rapid. On being approached the bird only attempted short low flights to avoid recapture.

The effect of the section of the cervical sympathetic trunk in narrowing the palpebral fissure is to be ascribed to loss of plastic tone of the striated muscle of the eyelid to a greater degree than to the denervation of involuntary muscle. Dr. Oliver Latham of Sydney has made gold chloride preparations which show the sympathetic non-medullated fibres terminating in characteristic grape-like endings on considerable bundles of the eyelids. Removal of the influence of these fibres affects the capability of the muscle to remain fixed at the length required to maintain the eyelids widely separated.

#### *Section of the Afferent Limb of the Sympathetic Proprioceptive Reflex Arc.*

By cutting the posterior nerve roots (see the line D in Fig. 7) Sherrington conclusively proved that tone is subserved by a proprioceptive reflex mechanism. The question arises, then, as to whether a sympathetic proprioceptive reflex arc is responsible for the production and maintenance of plastic tone. Langley showed that the feathers of the wing are influenced by stimulation of the last cervical nerve and the upper two thoracic nerves. Of these the first thoracic nerve has a strong effect on the wing. The anterior part of the wing may be affected by the last cervical nerve, but this effect when present is only slight. The second thoracic nerve has a moderate or slight effect, usually on the posterior part of the wing only. Acting on the supposition that the sympathetic innervation of the voluntary muscle of the wing would have the same origin as that of the feathers, an operation was performed on the first thoracic posterior nerve root. This may be done by enlarging the first foramen seen on the dorsal view of the fused thoracic vertebrae. Post-mortem examination showed that this root was completely severed without injury to the anterior nerve root. In this case the brachial plexus received no somatic contributions from the first thoracic nerve. The large size of this root in all the specimens operated on is a striking feature in view of the slight part, if any, this segment takes in the formation of the brachial plexus. This confirms the suggestion that this nerve contributes the principal sympathetic connexions to the wing, so accounting for its large size. The effect of removal of the posterior root of this nerve upon the posture of the wing is in all respects the same as that following section of the cervical sympathetic cord caudal to the brachial plexus. Drooping and abduction of the wing are apparent; and, on releasing the wings after stretching, the affected side was perceptibly slower in returning to its final position. On the fifth day the measurements were as follows: The tip of the wing was 2.5 cm. from the mid-line on the left side, and 0 cm. on the right side; or, measured by the callipers, the elbows were 80 cm. and 6.8 cm. from the mid-line respectively. When the wings were stretched outward and then released the tips were 2.7 cm. and 2 cm. from the mid-line on the left

and right sides respectively. It is evident, therefore, that if a sympathetic proprioceptive arc subserves plastic tone afferent fibres must descend along the ganglionated (vertebral) chain to the first thoracic level and there pass to the nerve trunk at this level by way of one or other or both rami communicantes. In the experiment of section of the cervical sympathetic posterior to the brachial plexus both afferent and efferent fibres are therefore severed. The same effect follows section of the afferent limb of the arc only when the first thoracic posterior nerve root is cut through. Sherrington's preparations, in which the afferent nerves were cut, owe some of their features to removal of the influence of the sympathetic proprioceptive reflex arc subserving plastic tone, for in "deafferenting" the fore limb of the cat he removed *inter alia* the posterior nerve root of the first thoracic nerve, and in the case of the hind limb of that animal the fourth lumbar posterior nerve root was one of the two roots resected. In the cat thoracic-lumbar outflow extends from the first thoracic to the fourth lumbar segment: hence Sherrington's operations included the region of the sympathetic innervation of the limbs.

#### *Persistence of Plastic Tonus after Removal of all the Posterior Nerve Roots Connected with the Brachial Plexus.*

The anatomical connexions of the somatic and sympathetic nervous systems and the wing musculature it is possible to remove the influence of the former materially affecting the innervation derived from the source; for the most important sympathetic connexion consists of a reflex arc at the first thoracic level. On one of the posterior nerve roots of four segments above this level were removed with a view to removing the influence of the somatic reflex arcs. In addition to the absence of voluntary movement the result of this operation is to remove the tendency of the wing to take up a flexed position—that is, contractile tone is absent. When the wing is stretched outwards, therefore, and released, it drops to the side of the bird, and instead of taking up the flexed attitude characteristic of the normal wing it remains dependent. If the wing is passively flexed it will remain in this new position. In this way the wing may be moulded into the position normally occupied by it, and it will remain there indefinitely.

The wing may now be drawn down to a dependent position, where it will remain. It has, therefore, the properties of a plastic body, enabling it to retain any position in which it may be placed. In other words, the flexors of the wing exhibit the "shortening and lengthening reactions." These reactions indicate the presence of plastic tone.

It may be inferred, therefore, that contractile tone, which normally tends to impose the typical posture upon the wing, is absent in such a preparation, and is therefore a function of the somatic proprioceptive reflex arc that has been destroyed. Plastic tone, which fixes the length of the muscle fibres to maintain a posture once assumed, is a function of the sympathetic proprioceptive reflex arc that remains intact. Together these components of tone are responsible for posture, so that the combination of the two may be called "postural tone."

In one fowl in which the posterior roots of the brachial plexus had been severed, the relationship between plastic tone and the sympathetic innervation of the wing musculature was shown by a further experiment. The cervical sympathetic was severed immediately below (or behind) the last cervical nerve, directly after an examination that revealed the presence of plastic tone in the wing. After the operation the plastic tone had disappeared. The wing was heavy and dependent as in flaccid paralysis. It would not remain in any position of flexion in which it was placed. When folded over the back of the bird it dropped heavily to the ground. This experiment proves conclusively that the plastic tone exhibited after the first operation was maintained by the sympathetic proprioceptive reflex connexions of the wing musculature. As other experiments have shown, this is at the level of the first thoracic segment in the fowl.



### Compensatory Increase in Contractile Tone after Sympathetic Denervation of the Skeletal Muscle of the Wing.

To test the duration of the effect upon the wing of severing the cervical sympathetic trunk caudal to the brachial plexus, the position of the normal and affected wings of some preparations were daily measured. I am indebted to Mr. R. E. Murray, who carried out these daily observations. Fig. 8 is a graphic record of these observations. One observation was made each day on the position of the elbow. An average of three readings of the position of the tips of the wings from the median line was recorded daily. Both graphs show the same features. The contractile tone increases in the affected wing until both wings are approximately equidistant from the median line. This condition is gradually attained and the distances become equal in about sixty days. A similar result is found after removal of the afferent limb of the sympathetic proprioceptive reflex arc.

When this compensation has taken place the effect of cutting the cervical sympathetic is manifested under two conditions; when the bird is kept at rest for a period of approximately fifteen minutes or longer, the droop and abduction of the operated side reappear. Fatigue has a

similar effect. Starting with the elbows and tips of the two wings equidistant from the median line, the left wing and then the right wing were each folded across the back by passive movement fifty times. The difference in the distance of the elbows from the mid-line was then 2.2 cm. and the difference in the distance of the tips from this line was 2.9 cm., due to the droop of the wing on the operated side.

Plastic tone was therefore still absent. It remains to account for the increase in contractile tone. Magnus and de Kleijn have demonstrated that pathways other than the afferent nerves from the muscles themselves affect the tone of skeletal muscle. These accessory influences are the labyrinths and the proprioceptors of the neck muscles. In the resting conditions both these sources of impulses would no longer be effective, and consequently the contractile tone would be lessened, as in the experiment recorded above. It is noteworthy that Langelan has shown that in frogs removal of

plastic tone from the hind limb leads to domination of the labyrinth of the opposite side. This leads to extension of the normal limb and increased flexion of the limb upon the operated side.

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<sup>15</sup> Compare Langelan, *Brain*, 1915 and 1922. <sup>16</sup> *Ibid.*, 1915. <sup>17</sup> *Med Journ. of Australia*, June 14th, 1921, p. 531.

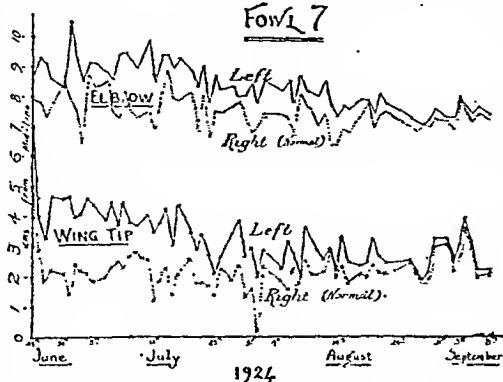


FIG. 8.—One of Mr. R. E. Murray's graphic records to express the compensatory increase in contractile tone in a fowl's wing after sympathetic denervation.

## THE HYPOTONIC (FLABBY) CHILD.

BY

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A CONSIDERABLE proportion of the children seen at the out-patient department of a children's hospital present such indefinite symptoms but such a uniform clinical picture that they were thought to be worth investigating in detail. These children are generally between the ages of 2 and 7 years, and are brought to hospital for such complaints as tiredness, lack of energy, pains in the limbs on continued exercise, knock-knee, flat-feet, or turning in of the toes when walking, and hence may be seen by either the general physician or the orthopaedic surgeon. Sometimes, however, the complaint was merely that the child had no appetite or was pale, and the usual diagnosis was "debility."

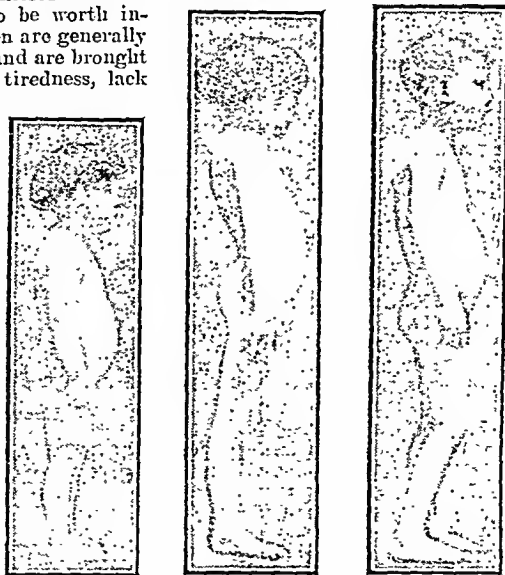
On examination of these children the most striking feature is their stance and their extreme lack of muscle tone. This is well shown in the figures. The large "pot" belly with compensating lordosis is the result of the extremely feeble development of the abdominal muscles. Hyper-extensible joints, knock-knee, flat-feet, turned-in toes, and winged scapulae are further expressions of this same lack of tone. The great majority of cases appear well nourished, but the limb muscles are so soft that it is sometimes difficult to judge whether they are really properly developed. It is interesting to note here that the calf and thigh muscles are always better

developed and have better tone than the arm muscles. Many have enlarged tonsils and adenoids, and some have a more generalized lymphoid enlargement.

Cameron<sup>1</sup> recently described a type of case frequently seen at the out-patient departments, which he terms the nervous child. This is not, however, the type of patient which the writer is attempting to describe and elucidate. The child which Cameron describes is as a rule an only child or the youngest child of elderly parents. He is thin, dislikes to hold himself in the upright position, and has what is described in America as the "fatigue" stance. His day is spent in bursts of activity and periods of collapse. During a period of exhaustion his stance is like those under investigation, but his muscles never at any time show the hypotonia of a flabby child. The metabolism of the "nervous exhaustion" child is as a rule overactive, and what is required for him is mental and physical rest.

With the hope of elucidating the etiology of this clinical syndrome of flabbiness an investigation of a large number of cases was undertaken during the past year at the Hospital for Sick Children, Great Ormond Street. Early in the investigation it was clear that a number of factors were involved, and the following is a review of these factors and of the various theories that have been put forward to account for the condition.

DIET.  
 Recently Mellanby<sup>2</sup> has stated that by diet alone in dogs he can produce every degree of muscular weakness and wasting and can cure the same by restriction of cereals and



addition of cod-liver oil. He also claims that the muscular flabbiness of rickets can be cured by the same line of treatment. He believes that the cereals have a neutralizing action on the antirachitic factor, so that on high cereal diets the dose of cod-liver oil must be increased. Vining<sup>2</sup> also believes in a dietetic error, probably carbohydrate excess, as one of the causes of the "debilitated state," although he considers the toxic factor to be more important.

An investigation was made of the diets of the children attending the out-patient department, and it was found that as a general rule they were all on the same badly balanced diet, which was too liberal in calories for the output of energy in the day. This diet was ridiculously high in carbohydrate, which was mainly cereal, and low in animal proteins and fats. Although all the children of the poor were on this badly balanced diet they did not all show flabbiness, and some had remarkably good tone. This difference was seen to occur even in the same family. Further, many of these flabby children were treated for months on therapeutic doses of cod-liver oil with no improvement, but at the same time it must be noted that the cereals were not restricted, as such a measure was impracticable when dealing with the out-patient class of patients. It is obvious from the above that other factors besides diet must be concerned in the production of muscular hypotonia.

It is interesting in this connexion to note the reports of Holt and Fales<sup>4</sup> on children in an institution in New York. These children received a most liberal diet, but one which included a large excess of carbohydrate (over 60 per cent.), and yet they were in most excellent physical condition. Practically the same portion of food was allowed to both the younger and older children, but both increased normally in weight and remained in good health.

#### CONFINEMENT AND LACK OF EXERCISE.

That rickets, and especially lack of muscle tone, is due to confinement has been the opinion of the Glasgow school for many years. Recently Galbraith<sup>5</sup> stated that although cod-liver oil caused a deposition of calcium in the bones and healed bony manifestations of rickets, nevertheless the muscular flabbiness remained as marked as ever. He reports rapid cures of flabbiness with massage and exercise.

That actual immobility does not necessarily produce lack of muscle tone is suggested by a study of the results of the open-air treatment of children suffering from tuberculous hips or spines, gross rickets, or congenital malformations. These children during their treatment are confined in splints for long periods, but they are lightly clad and exposed to both moving fresh air and sunshine, and under these conditions retain excellent muscle tone. This can be explained by the work of Leonard Hill<sup>6</sup> as due to the stimulating effects of sunshine and moving fresh air on metabolism. It is a matter of common observation that normal children with good tone who are confined to bed as a result of some acute illness rapidly become flabby, but after being up soon evince a desire to move about and quickly recover their muscle tone. This is in marked contrast with the true flabby child, who shows no desire for exercise. Undue confinement sometimes occurs even in the homes of the well-to-do, and though the children are taken out of doors they may not get sufficient walking exercise, as they are sometimes kept too much in their perambulators. At the same time these children are receiving an over-liberal diet and are excessively warmly clad.

Inquiries into the histories of the hospital cases showed that many of these flabby children had practically no exercise during the day, only being taken out for about one hour in the morning. The majority were confined to small quarters which were badly lit and badly ventilated. When the children reach the age of 4 or 5 years they are allowed out by themselves and also commence school; at this age the number of hypotonic children rapidly decreases. The superior tone of the calf muscles as compared to the arm muscles also becomes very remarkable at this age, although the same contrast to a lesser degree is seen in the younger children. This is obviously due to the fact that the calf muscles are those most exercised. Another interesting point noted was the frequent complaint that the children were always tired and slept much during the day.

From the above facts it would appear that lack of exercise and confinement, though very important factors in the production of hypotonia, will not by themselves produce flabbiness but must be correlated with others in order to have this effect.

#### TOXIC THEORY.

Vining<sup>2</sup> has suggested that toxic absorption from either the throat or bowel plays a most important part in the production of the debilitated state. Wills and Warwick<sup>4</sup> showed that children with septic tonsils as a rule had excellent muscle tone, but that true hypertrophy of the adenoid tissue of the throat was associated with flabbiness of the muscles. There is no evidence that toxic absorption is taking place from the bowel. The constipation which is present in a number of the cases is rather the result of the atonicity of the abdominal and bowel wall muscles than the cause of this condition. Against the toxic theory is the fact that in tuberculosis, syphilis, and rheumatism, all of which are chronic toxæmias, flabbiness may occur but is certainly not characteristic.

#### CONSTITUTIONAL DEFECT.

The theory is put forward by Czerny<sup>7</sup> that there is a type of child who is born with a particular constitution which he calls the "exudative diathesis." In this type the muscles are flabby, the child is inactive, shows general enlargement of the lymph glands, and is prone to infections of the mucous membranes. Whether such a child exists or not it is difficult to say. Certainly every clinician knows that there are infants who from birth are firm, quick in their movements, inclined to be under weight, and difficult to fatten, while other infants are slow in their movements, flabby, sleep a great deal, gain weight easily, and do this on a low caloric intake. In the former the metabolic fires are burning rapidly, while in the latter these fires are burning slowly.

#### CONCLUSIONS.

1. A consideration of the first two theories—namely, diet and lack of exercise—suggests that factors which tend to depress metabolism produce flabbiness, while factors which tend to stimulate metabolism cure flabbiness.

2. The factors which tend to depress metabolism and produce flabbiness are confinement, and lack of exercise, fresh air, and sunshine; overclothing with consequent heat retention, overfeeding or over-calorying in relation to the child's output of energy in the day; feeding with a diet too high in cereals, too low in animal fat and protein, and defective in vitamins.

3. The factors which tend to stimulate metabolism, and therefore cure flabbiness, are the reduction of the diet and especially of the cereals, retaining in the diet a sufficient amount of animal fat and protein; the administration of cod-liver oil; and stimulation by sunshine, fresh air, exercise, massage, and open-air treatment, with scanty clothing to increase heat loss from the skin.

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### BLOOD CALCIUM AND INORGANIC PHOSPHATES IN CHILDREN WITH MARKED LACK OF MUSCLE TONE.

BY

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(From the Biochemical Department, Hospital for Sick Children, Great Ormond Street, and the Pathological Department, Royal Free Hospital.)

It is well recognized that extreme lack of muscle tone is a characteristic accompaniment of bony rickets, and many consider this symptom as definitely part of the rachitic syndrome. This flabbiness is, however, characteristic of a type of child frequently seen in any out-patient department

and generally classified as debilitated, though when the child is under 3 the diagnosis of rickets is sometimes made on this flabbiness alone, even if there are no signs of either past or present bony rickets. This association of poor muscle tone and rickets suggests the possibility that the so-called debilitated flabby child may be suffering from mild rickets. It was with a view to testing this hypothesis that the present investigation was undertaken, which is only part of a general study of the "flabby child." Further, in a previous study,<sup>1</sup> when working in the Ear, Nose and Throat Department of the Royal Free Hospital, it was shown that children with true hyperplasia of the lymphoid tissue of the nasopharynx, as distinct from those with enlarged lymphoid tissue resulting from previous infection, had poor muscle tone. In fact, it was this study of the adenoid child that led to the present wider investigation.

#### NATURE OF INVESTIGATION.

Investigations of the blood in cases of rickets have shown characteristic changes: the serum-calcium value is more variable than in normal cases, and the average figure slightly lower, and the inorganic phosphates are in nearly all cases markedly lowered. A study of these two components was therefore undertaken in two control groups—one of normal children and one of sick children—and in a group of flabby children, to ascertain if there was any constant characteristic departure from the normal in the latter group.

The first control group (Group 1) consisted of twelve normal healthy children of the hospital class, aged 2 to 11 years. The second control group (Group 2) consisted of thirty-one children, aged 2 to 12 years, with enlarged and inflamed tonsils and adenoids, each of whom had, however, excellent muscle tone. This group was included not only to compare two groups of sick children, but also in the hope of obtaining further evidence in support of the classification of cases of adenoids into those with septic enlargement and those with true hyperplasia. The third group was made up of children, aged 1 to 12 years, with poor muscle tone. These cases were selected by Dr. Donald Paterson at Great Ormond Street Hospital, and had the following characteristics: soft flabby muscles, resulting in such abnormalities as large pendulous bellies, hollow backs, hyperextensible joints, and flat-feet; most had large tonsils. The children were brought to hospital for vague disorders, lassitude, or weakness. Children with any definite organic lesion were excluded from the series. No case with any suggestion of bony rickets was included.

#### METHODS.

Kramer and Tisdall's<sup>2</sup> method was used for the estimation of calcium in serum, and Briggs's<sup>3</sup> modification of the Bell-Doisy method for the inorganic phosphates in plasma. The plasma used for the phosphate solutions was always separated from the corpuscles within half an hour of drawing the blood; specimens showing any haemolysis were discarded. Owing to the difficulty of obtaining sufficient blood from small children both determinations could not always be done on the same patient.

#### RESULTS OF CALCIUM DETERMINATIONS.

Blood-calcium values for children have been determined by many authorities, and the majority are agreed that in normal children the serum-calcium value lies between 9.5 and 11.5 mg. calcium per 100 c.cm. of serum, with higher values in young infants. Jones and Nye<sup>4</sup> and Denis and Talbot,<sup>5</sup> using Lymau's method, report a much larger range, which has not been confirmed by other workers. Anderson,<sup>6</sup> working with whole blood, reports a wide range of normal values, but, as the question of corpuscular calcium is still in dispute, it is difficult to assess the value of her findings. In children suffering from rickets there is no very marked decrease in the serum-calcium values, such as is found in tetany and some cases of nephritis, but the range is much greater. Expressed in milligrams of calcium per 100 c.cm. of serum or plasma, the following ranges and averages are reported: Kramer, Tisdall, and Howland,<sup>7</sup> 8 to 11.1, average 8.6; von Meysenbug and co-workers,<sup>8</sup> 7.9 to 9.8, average 8.6; György,<sup>9</sup> 7.2 to 10.7, average 8.5. Mayer,<sup>10</sup> however, reports high serum-calcium values in early cases of florid rickets.

In the present investigation the blood-calcium values for the group of children with hypotonic muscles and for the control groups are set out in Table I. The values for the

TABLE I.—Blood-calcium Values.

	Type of Case.	Age.	No. of Cases.	Milligrams Calcium per 100 c.cm. Serum.		
				Lowest.	Highest.	Average.
Group 1	Normal	2-11	10	10.1	11.0	10.4
Group 2	Inflamed tonsils and adenoids but good muscle tone	3-12	20	8.7	10.6	9.8
Group 3	Poor muscle tone	2-9	30	6.6	10.6	9.0

Note.—If Groups 2 and 3 are combined as a control group the range becomes 8.7 to 11.0, with an average of 10.1.

normal children (Group 1) are, without exception, above 10 mg. per 100 c.cm. of serum, and range from 10.1 to 11.0 mg. The values for the other control cases (Group 2) have a lower average—9.8 mg. of calcium per 100 c.cm. of serum, with a range of from 8.7 to 10.6 mg.; only one value, however, was below 9 mg. The general health of the individuals of Group 2 varied; some were in good health at the time, although their tonsils and adenoids were enlarged as the result of previous infection; others, on the other hand, were in very poor condition, with acutely inflamed tonsils, aural and nasal discharges, etc., but all had excellent muscle tone. The cases with poor muscle tone (Group 3) gave serum-calcium values averaging 9.0, with a range of from 6.6 to 10.6 mg. per 100 c.cm.; of the 30 cases only 5 showed a value of 10 mg. or more.

It has been suggested that there may be a seasonal tide for calcium as well as for the inorganic phosphates of the blood (Hess<sup>11</sup>). The present study was made during the months of April, May, and June; no seasonal change was indicated during that period in any group, but the figures and time are both too limited for any deductions to be drawn.

#### RESULTS OF INORGANIC PHOSPHATE DETERMINATIONS.

The inorganic phosphate values in normal children, as established by various authorities, average for whole blood 4.0 mg., and for serum and plasma 4.1 mg. per 100 c.cm. With the exception of Jones and Nye<sup>4</sup> and of McKellips, De Young, and Bloor,<sup>12</sup> the latter working on infants, who give a range of from 1.9 to 5.4 and 1.2 to 4.6 mg. per 100 c.cm. respectively, authorities seem agreed that the normal range is from 3.2 to 6.5 mg. per 100 c.cm., but that the values are nearly always over 4.0 mg.

In contrast with the normal is the characteristic low value found in most cases of active rickets, uncomplicated by tetany. Howland and Kramer,<sup>13</sup> for example, give a range of from 0.6 to 3.2 and an average of 2.0 mg. per 100 c.cm. of serum; Anderson<sup>6</sup> gives from 2.5 to 5.3, with an average of 3.3 mg. per 100 c.cm.; György<sup>9</sup> gives from 1.6 to 2.9, with an average of 2.4 mg. per 100 c.cm.

In Table II are given the values for the inorganic

TABLE II.—Values for Inorganic Phosphate.

	Type of Case.	Age.	No. of Cases.	Milligrams per 100 c.cm. Plasma.		
				Lowest.	Highest.	Average.
Group 1	Normal	5-10	5	4.1	6.1	4.8
Group 2	Inflamed tonsils and adenoids but good muscle tone	3-12	20	2.9	5.1	4.1
Group 3	Poor muscle tone	1-11	25	2.5	6.1	4.5

phosphate in the three groups under consideration in the present investigation. There is no difference between the values in Groups 2 and 3; the figures in both groups cover the same range, and with five exceptions fall within the normal limit. The five normal cases comprising Group 1 give a slightly higher average, but a larger number might have shown a wider range. The findings are not such as would be expected if the condition in Group 3 (flabby children) is regarded as akin to florid rickets.

Kramer, Tisdall, and Howland<sup>7</sup> state that in normal blood the product of the calcium and inorganic phosphate values should be 40 or over, while in rickets it is reduced below this value. György<sup>8</sup> uses the quotient of the organic phosphate into the calcium values, and states that in normal cases this figure should be 1.95, in rickets 3.5, and in tetany 1.4. Five cases in Group 3 of the present investigation show a lowered product, but a lowered quotient also, due to the lowering of the calcium value, while the phosphate value remained normal. The quotient (with one exception, where it is 1.32), though lowered, is never as low as in cases of tetany, and the significance of this change is not evident.

#### CONCLUSIONS.

The serum-calcium values found in the group of normal children agree with those of other workers. The values obtained in Groups 2 and 3 show a wider range than the normal, the difference being more striking in Group 3 (hypotonic children) than in Group 2. In Group 3, moreover, the average calcium value is 9 mg., a slightly lower figure than the average of 10.4 found in the normal cases. Five cases in Group 3 have values of 10 mg. or more, and many other of the cases have but a slightly lowered value; and further, inversely, a few cases in Group 2 have lowered values though good tone. It is therefore clear from these two facts that muscle hypotonus is not immediately dependent on the serum-calcium level, as it can occur with either high or low values. A wide range of calcium values is probably constantly associated with this poor tone, even as a similar range has been shown to be associated with rickets, but it does not operate as a causative agent. The fact that Group 2 had a greater range than the normal suggests that such variation occurs in other conditions of ill health.

The inorganic phosphate figures for the three groups, with a few exceptions which occur both in Groups 2 and 3, fall within the limits of the normal and do not differ from each other. In contrast with these findings are those recorded in cases of bony rickets where low inorganic phosphate values are constantly found and are considered by most authorities as typical of the disease. Anderson,<sup>6</sup> however, as a result of her work on rickets, suggests the need for further investigation of blood phosphates in disease "causing and probably preceded by considerable muscular inactivity and atonicity," before deciding whether a low blood phosphorus is an exciting cause or merely a result of rickets. The normal values found in Group 3 (flabby children) are of interest in this connexion, as they do not suggest any association between lack of muscle tone *per se* and a low inorganic phosphate level in the blood, such as is frequently found in rickets.

The balance between the calcium and the inorganic phosphates, expressed either as the product or the quotient of the phosphate and calcium figures, does not appear to be appreciably altered from the normal in Groups 2 and 3, though there is a slightly greater range in the figures in Group 3, owing to the greater variability of the calcium figures. In fact the chemical findings reported above do not appear to support the hypothesis that muscle hypotonus in children is necessarily an indication of some degree of rickets, though the hypothesis can only be adequately tested by a study of the conditions in which these flabby children live and by the result of carefully controlled treatment.

#### SUMMARY.

1. The average serum-calcium value in 10 normal children (Group 1) was found to be 10.4 mg. and the range 10.1 to 11.0 mg. per 100 c.cm.; and in 20 cases with inflamed tonsils and adenoids but good muscle tone (Group 2) it was 9.8 mg., and the range 8.7 to 10.6 mg.
2. The average value found in 30 cases with marked lack of muscle tone (Group 3) was 9.0 mg., and the range 6.6 to 10.6 mg. per 100 c.cm.
3. The average value of the inorganic phosphates of the plasma was found to be approximately normal in all three groups (50 cases), and there was no difference in the range of values in Groups 2 and 3.
4. Though the calcium values were more variable in Group 3, no relationship between the calcium level in the blood and muscle hypotonus was established.

5. The blood picture of flabby children is not similar to that of rachitic children, though the calcium variation is the same in both conditions.

In conclusion I would express my thanks to Dr. Donald Paterson for selecting the cases of flabby children, to Mr. Gay French for permission to investigate his cases, and to Dr. Harrison for permission to work in the Biochemical Department, Great Ormond Street, and for his valuable help with this work.

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## MIKULICZ'S DISEASE ASSOCIATED WITH ARRESTED MILIARY TUBERCULOSIS.

BY

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THE following case seems to be of sufficient interest to merit publication.

E. D., a girl aged 15 years, was admitted to the City of London Hospital, having been diagnosed at her local tuberculosis dispensary as a case of early phthisis. Her history was that three months before coming under our observation she had gradually begun to feel weak and easily tired, developed a slight dry cough, and once brought up a few streaks of blood. At the same time she noticed a marked "puffiness" of the eyelids for which she was treated for subacute nephritis, a trace of albumin having been found in her urine at this time. In regard to her past history, she had been a healthy child except for measles, chicken-pox, and whooping-cough at 3 and 4; at 2, however, she had had a severe illness, the details of which are vague; apparently her chief symptoms were fever and acute pains all over, for which she was kept in bed for about three or four weeks. There was no family history of tuberculosis, and she had two brothers and a sister alive and well. The patient was rather pale, but otherwise did not look particularly ill. She had very little cough, she had no night-sweats, and her temperature was normal.

Repeated careful physical examinations showed a chest apparently little removed from the normal. A radiogram, however, showed the remarkable appearance seen in the accompanying figure, and was suggestive of an acute miliary tuberculosis. A diffuse miliary mottling is observed throughout both lung fields. The possibility that this appearance might have been due to an anthracosis was excluded by the fact that the patient had never been engaged in any dusty occupation. So inconsistent, apparently, was the radiogram with the



physical signs and the condition of the patient, that a second film was taken; this showed precisely the same state of affairs. A sputum examination showed tubercle bacilli present; subsequently, however, there have been seven successive negative examinations.

The second point of interest about this case was that there were found to be symmetrical enlargements of the

parotid, submaxillary, and lacrymal glands. The enlargement of these latter had apparently been much greater a few weeks prior to coming under our observation, and had no doubt given rise to the erroneous conclusion that the patient was suffering from kidney trouble. The swellings were smooth, uniform, and not fixed. It was thought that the accessory lacrymal glands were palpable, but not the socia parotidis. The glands of Blandin-Nuhn were distinctly felt as two round hard swellings at the tip of the tongue, as described by Ziegler.<sup>1</sup> The sublingual glands did not seem to be abnormal and the swellings sometimes said to be found on the hard palate were not observed. The liver and spleen were not enlarged; there were lymphatic glands palpable in the neck near the submaxillary glands, but otherwise the lymphatics did not appear to be affected. The tonsils had been removed some years previously. A blood count showed 5,600,000 red cells, haemoglobin 90 per cent., leucocytes 10,000. A differential count showed 62.5 per cent. polymorphonuclear leucocytes, 6.5 per cent. hyalines, and 31 per cent. lymphocytes. The urine was normal.

Since the syndrome of simple lymphomatous hyperplasia of lacrymal and salivary glands was first described by Mikulicz, many cases resembling but not synonymous with this condition have been recorded from time to time in the literature. Von Brunn has attempted to classify the various diseases associated with these symptoms as follows:

1. Cases without alteration in the blood—

(a) Without symmetrical swellings of the spleen or lymphatic glands.

(b) With swellings of the spleen or lymphatic glands.

2. Cases with alteration in the blood—

(a) Severe aplastic anaemia with lymphatic pseudo-leukaemia.

(b) Leukaemia.

Only cases coming under Group 1 (a) appear to be true cases of Mikulicz's disease. Campbell Howard collected 55 cases of this type down to 1909, but since then few, if any, cases have been recorded in the literature. The most recent contribution on the subject which we can find appears to be that of Thursfield in 1914,<sup>2</sup> and his case appears to have been one of "lymphatic pseudo-leukaemia." Our case certainly comes under Group 1, and, except for two doubtful glands in the neck, the lymphatic apparatus does not appear to have been involved.

The association of our case with a tuberculous condition of the chest is interesting, for whilst the majority of cases appear to be a simple chronic interstitial inflammation, non-tuberculous (Igersheimer and Pollot),<sup>3</sup> both tuberculous (Krausheimer, Pitt, and Napp)<sup>4</sup> and syphilitic cases (Lange, Luders, Gutmen, and Jackobaus)<sup>5</sup> have been recorded from time to time.

#### PROGNOSIS AND TREATMENT.

According to Thursfield,<sup>2</sup> prognosis is bad in the leukaemic and pseudo-leukaemic, but appears to be good in true cases of Mikulicz's disease. Arsenic and potassium iodide are usually recommended in treatment. The results of operative intervention appear to have met with different results in the hands of different observers. Ziegler records how removal of one of the enlarged glands has resulted in great increase in the size of the rest. Elliot, on the other hand (*Ophthalmoscope*, 1911),<sup>3</sup> has recorded a case in a Hindu woman in which operation on the lacrymal glands was successful and was followed by diminution in the size of the parotids and submaxillaries. In view of the uncertain results of the cases recorded we have not thought operation justifiable in our case, especially as the swellings are giving rise to no unpleasant symptoms; we are simply giving arsenic and potassium iodide. X rays have met with success in some cases.

In regard to the remarkable chest condition revealed by the skiagram such cases have been recorded before. H. K. Dunham and J. H. Skavlem<sup>4</sup> say:

"Many cases of healed military tuberculosis are being found by our more general use of the x-ray chest studies. This diagnosis is only justified when the subject gives no history of work in a dusty trade. Lungs of anthracite miners most nearly simulate military tuberculosis. The x-ray picture is that of fine, sharp, discrete studdings, more or less evenly distributed throughout all lobes. . . . Most peculiarly these patients seldom, if ever, give any history suggesting serious lung infection."

The undiagnosed illness with which the patient was affected at the age of 2 is not without interest, however, although its significance is difficult to estimate. Opie<sup>5</sup> has noted in several necropsies extensive calcified tubercles of the lung and lymph nodes, so that "a grave infection must have existed at some time previous—even though there had been no history of corresponding symptoms, there was doubtless at some period imminent danger of death from tuberculosis."

Prognosis is necessarily uncertain from lack of experience of similar cases. Dunham<sup>4</sup> considers that such patients are likely to go downhill rapidly if they become subsequently infected.

We are indebted to Dr. Clive Riviere for permission to publish this case; to Dr. Sparks, who took the x-ray film; and to Dr. D. S. Page, who did the blood count.

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## Memoranda: MEDICAL, SURGICAL, OBSTETRICAL.

### HERPES ZOSTER AND VARICELLA.

As the relationship of herpes zoster and chicken-pox is still undecided, I desire to place the following case on record.

On December 19th, 1924, a woman developed herpes zoster. On January 3rd, 1925, her son, aged 5 years, was covered with a typical rash of chicken-pox. The following facts seem to point to some relationship between the two diseases:

1. The boy had not been away from his own home for several weeks.
2. There is not a case of chicken-pox in his neighbourhood, so far as I can ascertain.
3. The child slept in a cot in his mother's room.
4. The fourteen days' interval between the onset of the two diseases agrees with the incubation period of chicken-pox.

On the other hand, if there is any relation between herpes zoster and chicken-pox, it is strange that the coincidence of the two diseases should be so infrequent. This is the first occasion that I have seen them occur in the same family at the same time.

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### RUPTURE OF ABDOMINAL WALL WITH PROTRUSION OF UNINJURED INTESTINE.

THE interest of the following case appears to me to lie in the fact that a crushing injury of the abdomen could produce a rupture of the abdominal wall and protrusion of the intestines without injury to the intestines or other viscera, as is usually found.

A boy, aged 16, was admitted to hospital on October 3rd, 1924. He had been crushed between the buffers of two railway wagons, and it was found on examination that about three feet of small intestine protruded through an opening below the tenth rib in the mid-axillary line.

The patient was anaesthetized and several small lacerated wounds were found in the skin, through one of which the intestine was protruding. On feeling the skin there was a gap, four inches in length, two inches wide, in the muscular layers and the abdominal wall, with great laceration of the peritoneum. The protruding intestine appeared to have escaped injury, and was returned to the abdomen. The eleventh and twelfth ribs were fractured and the distal portions of these were removed. After excising all damaged tissues the layers of the abdominal wall were brought together with difficulty and closed. A laparotomy through a left paramedian incision was then performed to exclude injury to abdominal viscera, but nothing abnormal was discovered except some retroperitoneal haemorrhage, not extensive.

The boy made an uninterrupted recovery and his abdominal wall is now perfectly sound with no bulging at the site of the injury.

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### MYELOID LEUKAEMIA ENDING AS LYMPHATIC LEUKAEMIA.

The case reported below is interesting because of the remarkable reduction of the myeloid leucocytes from 892,000 to 11,600, with corresponding recovery of health, so that the man was able to return to work. It was very disappointing that acute lymphatic leukaemia should have supervened, as it is not primarily a disease of the bone marrow like the myeloid condition. This case is not a solitary coincidence, since, a few years ago, another patient with myeloid leukaemia, whom I had successfully treated with x rays, also died of lymphatic leukaemia.

A man, aged 38, was admitted to hospital under me in February, 1923, with an enormous spleen extending into the left iliac fossa. His blood count was: red cells 2,820,000, leucocytes 892,000 (polymorphs 44 per cent., lymphocytes 16 per cent., eosinophils 4 per cent., mast cells 4 per cent., myelocytes 32 per cent.). There were several small retinal haemorrhages, and, soon after admission, he developed a large haematoma beneath the left scapula. This became so painful that 12 oz. of altered blood were aspirated from it; it filled up again, however, but with less pain. It was slowly absorbed, lasting in all about three months. The treatment employed was exposure to x rays twice weekly of the heads of the long bones at the knees, hips, and shoulders, and of the spleen, the dosage being arranged by Dr. W. B. Prowse. The leucocytes steadily diminished in number, rather more rapidly when arsenic was given as well as the x-ray treatment. The man's condition also improved and his spleen became much smaller.

In February, 1924, his blood count was: red cells 4,030,000, leucocytes 56,100 (polymorphs 73 per cent., lymphocytes 2 per cent., eosinophils 2 per cent., mast cells 7 per cent., myelocytes 16 per cent.), and he was able to do light work. In July he was strong and well, and the spleen was only an inch below the costal margin. The blood count then was: red cells 4,856,000, leucocytes 11,600 (polymorphs 76 per cent., lymphocytes 5 per cent., mast cells 11 per cent., myelocytes 1 per cent.), and the x-ray treatment was suspended. At the beginning of September he became rapidly short of breath and very anaemic. His blood count was then found to be: red cells 2,760,000, leucocytes 160,000 (lymphocytes 94 per cent., polymorphs 4 per cent., and myelocytes 2 per cent.). He died of this acute lymphatic leukaemia in three weeks.

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### GASTRIC CANCER TREATED BY PYLORECTOMY AND GASTRO-ENTEROSTOMY.

The case here recorded is of interest on account of the following peculiar characteristics: (1) the very unusual amount of peristalsis definitely ending in the tumour; (2) the extensive mobility of the growth; and (3) the absence of glands, adhesions, or ulceration, yet almost total occlusion of pylorus.

A. T., a lady aged 72, consulted us in December, 1924, complaining of obstinate vomiting; food was rejected immediately after being taken. No history of haematemesis was given. She had constant epigastric pain, and had lost a considerable amount of weight. The symptoms were of three months' duration. Examination of the abdomen revealed marked peristalsis, the waves showing a rise of one inch above the surrounding abdominal wall. A definite tumour, the size of a hen's egg, was palpable under the right rectus. It was firm and freely movable in all directions. Splashing was distinctly audible on palpating the stomach, and the peristaltic waves could be felt to end at the tumour. There was no free fluid in the abdomen, no glands were palpable, and there was no enlargement of the liver.

**Operation.**—A right rectus incision was made, and the muscle retracted outwards. The tumour was found to be the pylorus; it could be easily lifted out of the abdomen. There was no evidence of adhesions or glandular involvement. The liver was normal. The stomach was much enlarged and thickened. Posterior gastro-enterostomy was first performed, as it was doubtful how the condition would stand resection, but when it was found that her condition was favourable we proceeded to remove the pylorus, one inch of the first part of the duodenum, and as much of the pyloric end of the stomach as possible.

Recovery was uneventful, and when she left the nursing home nineteen days later she was able to eat full diet with no discomfort.

Examination of the specimen showed that the mucous membrane was intact over the tumour area; there were no signs of previous ulceration. The pyloric canal was almost completely occluded. The carcinoma presented colloid

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## Reports of Societies.

### POST-OPERATIVE PULMONARY AFFECTIONS.

A COMBINED meeting of the Sections of Surgery, Anaesthetics, Medicine, Obstetrics and Gynaecology, and Pathology of the Royal Society of Medicine was held on February 4th to discuss "The prevention and treatment of post-operative pulmonary affections." Mr. H. J. PATERSON was in the chair.

Mr. E. C. LINDSAY said that there was a growing belief that post-operative lung complications, such as pneumonia, pleurisy, and collapse, which had been a source of contention and mutual reproach between surgeon and anaesthetist, were not the result of irritation or congestion, but were in fact the result of pulmonary embolism and infarction. Wharton and Pierson considered that 40 per cent. of pleurisies and 12 per cent. of pneumonias after gynaecological operations were due to pulmonary embolism. Such embolism might be of (1) the massive type, occluding one or both pulmonary arteries; (2) the infarction type, followed by pleurisy and signs of consolidation; (3) the type where the site of the embolus prevented its recognition as such; this type was associated with slight respiratory increase, mild evening pyrexia, and the expectoration of small quantities of blood and mucus. Two cases were quoted in which this third type of embolism had served as a warning—in one case of the massive embolism that occurred later, and in the second case of thrombosis of the veins of the leg. It was noteworthy that in many cases a premonitory sign of the massive type of embolism was an urgent desire to defaecate, and the speaker suggested that this might be due to a vasomotor reflex set up by the passage of the clot from the femoral or iliac veins. Sir Charles Gordon-Watson and Wharton and Pierson had emphasized the importance of the slight evening rise of temperature as a constant premonitory sign. A research into the records of surgical cases at the London Hospital for the years 1914-24 revealed 114 undoubted cases of pulmonary embolism. It had been stated that this unfortunate condition was increasing, and changes in blood character and coagulability depending on changes of diet had been suggested as a cause. But in Mr. Lindsay's opinion the increase was more apparent than real, since the percentage in the London Hospital cases agreed very closely with Rupp's figures as the result of the investigation of over 22,000 operations from 1903 to 1920. Rupp also found that the mortality of pulmonary embolism in internal disease without operation was 1.1 per cent.—four times as high as that following operation. An analysis of the London Hospital cases showed that age was a very important factor, the average for the series being 52 years. The average of urinary bladder and prostate operations complicated by pulmonary embolism worked out at 60 years, and even in appendicitis the average age was 30.4 years, although there were included among them cases whose ages were 2½, 11, and 13 years. As regards the different types of operations which were responsible for embolism, 21 cases occurred in 2,778 gastric operations, 22 cases in 2,004 major gynaecological operations, 17 cases in approximately 4,000 appendix operations, and 12 cases in 1,967 hernia operations. As in other published series, gynaecological operations therefore headed the list in order of frequency. *Post-mortem* examination revealed thrombosis in 42 per cent. of the cases, the thrombosis being in the left common iliac or left iliac vein in half of these cases. Thrombosis of the pelvic, iliac, and femoral veins was found in 47 per cent. of the gynaecological cases, and 57 per cent. of the gastric cases. This was remarkable, since in one case the operation involved the systemic venous system and in the other the portal system. In none of the *post-mortem* notes was there any mention of extensive thrombosis at the site of operation. The question of primary pulmonary thrombosis had been discussed by Professor Glynn and others, but the speaker found it difficult to reconcile the size of the thrombus, its considerable length, its frequently unbranched appearance, and the fact of its being nearly always rolled up, with the formation of the clot in the

pulmonary artery. Further, the pulmonary artery, though carrying venous blood, was arterial in type.

Dr. F. E. SHIPWAY said that the two outstanding post-operative pulmonary complications—bronchitis and pneumonia—occurred more frequently after abdominal, and especially upper abdominal, operations than after operations elsewhere, and were very rare in private practice. Bronchitis, although not often directly fatal, was a very serious complication in the unit. It sometimes arose in a mild degree in a perfectly healthy patient after ether anaesthesia, and was caused partly by exposure, but chiefly by the cooling and irritating effects of high concentrations of ether vapour, which lowered the resistance of the lung tissues to bacterial invasion. Further, deep anaesthesia abolished the reflex mechanism and caused an appreciable fall.

For these reasons, the speaker considered that deep ether anaesthesia was harmful, and was definitely contraindicated in cases of bronchitis and asthma. Except in the summer months ether should be given warmed. The relative immunity of private patients from post-anaesthetic pulmonary complications was ascribed by Dr. Shipway to the better nursing conditions after the operation. Hospital patients nursed in large wards were exposed to draughts and kept in an atmosphere that was not sufficiently warm, whereas private patients generally had a room the temperature of which could be kept at the optimum to suit the case. Again, the importance of obtaining a history of recent common cold, and of not giving an anaesthetic except in emergency when such a history was obtained, was not sufficiently recognized in hospital practice. Liability to bronchitis and pneumonia was very much less after non-abdominal operations, even though ether was given; further, pulmonary complications not uncommonly occurred after abdominal operations when a local or spinal anaesthetic had been given. From this it was evident that there was some factor for which the site of operation was responsible; this was, he thought, collapse of the lung, massive or partial. Pasteur, Whipple, Elwyn, and others had studied this subject, and concluded that collapse, usually partial but occasionally massive, of the lower lobes of the lungs was a common predisposing factor in the production of post-operative bronchitis and pneumonia. The mechanism of this collapse, whether due to reflex inhibition of the diaphragm, sudden blocking of the bronchioles by secretion, sudden reflex spasm of the bronchioles, or surgical paralysis of the abdominal muscles, was not clear, although recent observations pointed to a nervous origin. The value of local anaesthesia in preventing pulmonary complications had been challenged, but its growing use in America seemed to indicate that it was less dangerous, although the exposure involved in certain methods of local anaesthesia might be as great as that of general anaesthesia. For operations below the umbilicus Dr. Shipway advocated spinal anaesthesia combined with gas and oxygen or a minimum quantity of C.E. mixture. In 258 bladder cases anaesthetized thus only two died from pulmonary complications. Cyanosis and excessive secretion of mucus were harmful, and if the latter occurred hypodermic injection of atropine should be given after the anaesthetic. Expansion of the base of the lungs by breathing exercises should be begun twenty-four hours after the operation, and depressant drugs, such as aspirin and morphine, should be given as sparingly as possible, since pain had its use in promoting movement.

Mr. J. P. HEDLEY said that gynaecological operations were reputed to be more commonly followed by fatal pulmonary embolism than any others, but the records of St. Thomas's Hospital did not show any greater frequency in the gynaecological department than in the surgical. The figures of the Mayo Clinic showed 10 fatal cases in 7,993 gynaecological operations—about 0.12 per cent., while there were 23 in 12,229 operations on the gall bladder, liver, prostate, colon, and rectum, and for hernia—about 0.18 per cent. The great difficulty in the prevention of pulmonary complications after operation was that their causes were not definitely known. Some thought that nearly all the cases resulted from embolism, and others that they were due to disturbances of anaesthesia. When a patient had a common cold the dangers of lung distur-

ances after anaesthetics were well known, so that Mr. Hedley saw no difficulty in assuming that many post-operative pulmonary complications were due to the stirring up of a latent infection of the lungs by the anaesthetic. Old people were particularly liable to post-operative lung complications. There were many arguments in favour of the embolic theory, notably that operations on certain regions of the body, even after local anaesthesia, were more likely to be followed by disturbances than others. But often after examination under an anaesthetic there had been pulmonary disturbances, while the freedom from these dangers after accidental wounds and fractures was striking. Assuming that most of these cases starting with bronchitis were due to the disturbance of the anaesthetic and certain predisposing causes, reasonable precautions could be taken. When the lungs were damaged either operation should be avoided or it should be performed under a local or spinal anaesthesia, and deferred if the patient had a cold. The temperature of the theatre should be 70° F., and after operation the patient should be protected from draughts and cold. At St. Thomas's a tent was placed over the trolley on which the patient returned to the ward, and strict rules were enforced about bed curtains. This had reduced the number of these "bronchitis" cases. The inhalation of vomit, mucus, or blood should be prevented while the patient was semi-conscious. When pulmonary complications developed later the only explanation seemed to be embolism or thrombosis. There was some evidence that particles of tissue detached by the operation were carried to the lung and held there by the lung capillaries. Thrombosis in veins near the seat of operation might be the source of emboli, and where even mild sepsis was present this likelihood was greater. Those cases where the patient had an attack of pain over a small area of the chest, followed by signs of pleurisy near this area, were fairly common. There was usually some evidence of mild infection of the wound, such as moderate disturbance of temperature, or vaginal discharge after total hysterectomy. The obvious way of preventing complications in this type of case was to avoid damaging or bruising tissues around the seat of operation. The treatment when an attack had occurred was by local applications to the chest wall and by keeping the patient at rest in bed. In those cases where sudden large pulmonary embolism occurred there was usually very little to attract attention beforehand, although there was often a mild disturbance of temperature. A patient who had suffered from haemorrhage before or at the time of operation was more liable to thrombosis. Starvation and excessive purgation before operation might both add to the risks of thrombosis in any part of the body. When patients were lethargic after operation there was increased fear of this complication. To prevent it operations for conditions such as uterine fibroids, which produced anaemia, should be performed before the patient had become very anaemic; loss of blood at operations should be properly controlled. Bruising of the tissues must be avoided by the greatest tenderness in handling.

Mr. Hedley thought that the old method of administering drastic purgatives before operation was useless and dangerous. Patients should be encouraged to move their limbs, and should be propped up in bed within a day or two of operation. He said that the dyspnoea and shock produced by a pulmonary embolus was due to the sudden embarrassment of the right side of the heart, and if the patient could be tided over the first few hours there was good chance of recovery. Blood-letting and the inhalation of amyl nitrite were the best methods of treatment, but morphine also was most valuable. Although in the routine management of post-operative cases the patients should be encouraged to move about, once it was thought that a clot had formed the patient should be kept absolutely at rest.

Lord Dawson said that enormous improvements had taken place in anaesthesia in recent years, due to improved administration and better care of the patient. He thought that the anaesthetist was now seldom responsible for serious post-operative complications such as pulmonary embolism. Small infarctions, especially if deep, might give rise to no visible signs, and he suggested that they were more frequent

than was supposed and a frequent cause of post-anaesthetic bronchitis and pneumonia. If the infarction became infected a pneumonic patch was formed. It was interesting that the type of pneumococcus was almost invariably Type IV. While physical signs from a small infarction were almost absent, the symptoms might be very severe, and were possibly due to a form of shock. Emboli generally arose from the systemic veins, particularly the femoral and iliac, and only very rarely came from the auricles and valves of enfeebled hearts. These complications did occur after local anaesthesia.

Sir CHARLES GORDON-WATSON referred to a paper on this subject by Featherstone, who found that 10.8 per cent. of 222 consecutive severe abdominal operation cases developed pneumonia, whereas only 0.7 per cent. of 2,100 orthopaedic operations had developed this complication. There could be no doubt that operations on the upper abdomen were much more prone to produce pneumonia than any others, and this might be due, as Pasteur had pointed out, to the interrelation between the muscles of the abdominal wall and the diaphragm. During the war collapse of the right lung was very commonly seen after wounds in the abdomen. Collapse was followed by stasis in the collapsed lobe of the lung and then by infection. To prevent this, irritation by the anaesthetic should be avoided, and the experience of the war went to show that nitrous oxide gas and oxygen with some ether was the most satisfactory anaesthetic for the prevention of shock during the operation and post-anaesthetic lung complication. As regards pulmonary embolism, the figures at St. Bartholomew's Hospital tended to show that the massive type was increasing in frequency, although still happily very rare, there having been 32 deaths from this cause in 29,000 operations. Small infarctions were often indicated by a slight evening rise in the temperature. He thought that the clots which broke up and gave rise to small and possibly repeated infarctions were infected, whereas the clot responsible for the massive infarction was generally sterile. Clotting might be due to trauma at operation, stasis, and possibly the absorption of thrombokinase, and should be guarded against by avoidance of excessive loss of fluid and shock during operations, and by attention to posture during and after operations.

Dr. H. W. FEATHERSTONE said he had published figures showing the extreme frequency of post-operative pneumonia after operations on the upper abdomen, and the infrequency of this complication after prolonged operation on the head and neck. He felt that ether should not be specially blamed for these complications, and indeed considered intratracheal ether to be a very safe anaesthetic, very infrequently followed by pneumonia. In cases where pneumonia arose the previous history of the patient should be investigated. During influenza epidemics these complications occurred more frequently, and he therefore strongly urged the advisability of not performing severe abdominal operations at such times except in emergency.

Dr. ROBERT HUTCHINSON considered that thrombosis was often postural and due to the adoption of the Fowler position, which also had the disadvantage of exposing the patient's chest. If this position must be adopted, the patient should be encouraged to wear a warm jacket, and "fresh air" must be allowed for the time to go "by the board."

## SEPTICAEMIA AS A COMPLICATION OF MIDDLE-EAR INFECTION.

At a meeting of the Section of Otology of the Royal Society of Medicine on February 7th, with Dr. J. KEER LOVE in the chair, Mr. G. J. JENKINS read a paper on septicaemia as a complication of middle-ear infection.

Mr. Jenkins said that the term "septicaemia" denoted an infection of the blood; clinically it implied a general infection, its severity ranging from a slight disease with apparently unimportant symptoms to a grave condition with a fatal termination. The one absolute proof of true septicaemia was the finding of organisms in the blood; he had encountered only two groups of organisms in true septicaemia—namely, streptococci and pneumococci. In his experience septicaemia, or the septicaemic state, was

almost as common in acute middle-ear infection as any single intracranial complication. There was a real danger of failure to recognize the middle-ear infection in the early stages of septicaemia, when something might be done to save the patient. Septicaemia was probably more common with infections of the ear, nose, and throat (especially of the ear), than with inflammation of any other part of the body, including the pelvis. Intracranial complications of middle-ear disease were becoming less common, but he believed that the septicaemia in association with aural sepsis was less likely to disappear, occurring as it did in the very early stages of the infection. Septicaemia, or the septicaemic state, was more likely to be met with in children than in adults, and, he believed, more commonly in patients who had not previously had a gross lesion of the ear. Mr. Jenkins gave details of a typical case of the milder type of the septicaemic state, in which the aural symptoms and signs were so masked that he had at first believed that some other cause must be sought. In such cases, when septicaemia appeared the symptoms and signs of inflammation at the primary site of infection were profoundly modified. When the primary lesion was in the middle-ear tract the clinical appearances depended on the stage reached of the inflammation and the anatomical formation of the mastoid. If the incidence of septicaemia coincided with a later stage of inflammation, the appearances might be those of chronic suppurative middle-ear disease. As seen during an operation the appearance of the interior of the mastoid was characteristic: the "laking" of the pus in the larger cells, the thin, pale mucous membrane lining the cells almost normal in appearance, and the absence of congestion were characteristic of mastoiditis followed by a septicaemic state. Such an appearance at operation had on occasion suggested to him a diminished resistance, and this had been confirmed by a low leucocyte count. After operation the general symptoms predominated, and there was no evidence of reaction in the wound. A smear from the wound might show a few lymphocytes, polymorphonuclear cells, and a large number of organisms. In regard to diagnosis Mr. Jenkins attached a good deal of importance to the cytological examination of the blood, especially the leucocyte and differential counts. The value of the bacteriological examination of the blood was very great when the result was positive, but little when it was negative. As regards treatment, it was very important that the middle-ear condition should be thoroughly dealt with. In the majority of cases this involved the Schwartz operation and paracentesis; then came the question of the treatment of the general infection. Until recently Mr. Jenkins had been accustomed to give these patients large doses of normal horse serum as soon as possible, continuing this daily so long as necessary; lately he had been trying immuno-transfusion. His own experience of vaccine therapy had been unfortunate. Mr. Jenkins wished to draw the attention of general physicians to the importance of examining carefully the ears, nose, and throat when a patient was in this septicaemic state.

### Nerve Anastomoses.

Mr. LIONEL COLLEGE and Dr. L. D. BAILEY exhibited a kinematograph film illustrating anastomosis of the facial nerve in cases of facial palsy. The film consisted of four parts: the first part showed a typical case of facial palsy, and the three subsequent parts showed three cases of nerve anastomoses for facial palsy, after operation. The film brought out well the slight differences still remaining in the movements of the opposite sides of the face; and clearly showed how re-education of the affected side was effected after nerve anastomosis. The value of the kinematograph in demonstrating post-operative results and the signs of affections of the nervous system was strikingly exhibited, the photography being excellent.

In the first case of nerve anastomosis shown, a girl aged 17, the reaction of degeneration had been still complete, with no evidence of recovery, at the end of six months after an operation for suppurative in the labyrinth and meningitis. The facial nerve was anastomosed end to end with the whole of the central end of the hypoglossal, and the peripheral end of the hypoglossal was implanted laterally into the spinal accessory. The film showed the state of the face three years after nerve anastomosis; faradic response was present in all the facial muscles. In the second

case, a man aged 27 had a complete facial palsy resulting from a radical mastoid operation performed in India two years previously. The facial nerve was anastomosed to the whole of the central end of the hypoglossal. The descendens noni was divided and its central end was united with the peripheral end of the hypoglossal, the peripheral end of the descendens noni being implanted into the side of this junction. The film showed the state of the face fifteen months afterwards; faradic response was present in all facial muscles. The third case was that of a woman aged 56, who had a complete facial palsy after a radical mastoid operation. The facial nerve was attached to the central end of the descendens noni, and the peripheral end of the descendens noni implanted into a slit in the side of the hypoglossal. The film showed the state of the face after twelve months; there was faradic recovery of all the facial muscles.

## THE CONTROL OF TUBERCULOSIS AND THE MILK SUPPLY.

A MEETING of the Sections of Epidemiology, Comparative Medicine, and Disease in Children of the Royal Society of Medicine was held on February 9th, the chair being occupied by the President of the Section of Comparative Medicine, Professor F. T. G. HODGKIN.

Dr. JOHN ROBERTSON (M.O.H., Birmingham) said there was a widely divided amount of scientific medical opinion as to the part played by tuberculosis of bovine origin in the production and dissemination of the human disease. Some estimated that 3,000 human lives were lost annually owing to tuberculosis of bovine origin, and probably many thousands of children had other forms of tuberculosis due to the bovine bacillus which, though not fatal, caused crippling, glandular enlargements, etc. On the other hand, some experienced physicians held that the mild invasion of the bovine bacillus conferred just that amount of immunity which saved enormous numbers from acute tuberculosis of human origin. He emphasized the close clinical, pathological, and etiological resemblances existing between the lesions and the progress of the disease of the two kinds; the same predisposing factors also operated. Birmingham had attempted three methods. One was the testing of samples of milk for the presence of tubercle bacilli and the elimination of cows returned as positive. Another was an offer to farmers to test their herds free of charge if they would eliminate reactors. Thirdly, they had instituted pasteurization of milk with the view to limiting the amount of milk which was infected. Of the churns of milk sent into Birmingham during the past eighteen years 8.7 per cent. contained living tubercle bacilli, and the percentage so contaminated now was less than eighteen years ago. Many cows were eliminated as "wasters," and for this a small compensation was paid to the farmer as an inducement to have these animals quickly slaughtered. Before the war, as a result of the efforts of the city council, twenty-eight herds supplying milk to the city were free of tuberculosis, and many farmers at that time asked to come into line with the scheme. The results of the application of the tuberculin test by an experienced officer were very satisfactory, and for cowshed work it was quite reliable. On the average in dairy herds the reactors numbered 30 per cent. of the whole. His recommendation had been to pasteurize and bottle the milk, largely based on the great success achieved in cleansing the milk supply in America. He had never found living tubercle bacilli in milk which had been efficiently pasteurized. Of the milk supplied to Birmingham 70 per cent. had been sufficiently heated to kill tubercle bacilli, and he hoped that in a few years no milk would be supplied in the raw state except from tested herds. He thought persons handling milk should be examined once a week to ensure that they were free of disease. There was much needed here a careful investigation as to the merits of pasteurization and sterilization, and whether boiling destroyed or greatly diminished the vital properties of milk. During ten years Birmingham had 1,000 fewer cases of pulmonary tuberculosis notified, and the deaths from non-pulmonary tuberculosis were now only half the general rate for England and Wales.

Lieut.-Colonel BRITTLERANK (veterinary officer, Manchester) said the main fact for consideration in this discussion was that the tuberculosis of bovines was transmissible to human beings, and there was a good deal of evidence that such infection from bovine sources was, in many cases, of more virulent type than that originating

from another human. The associated economic problem as it affected agriculture was one of great importance, and it was upon that industry that the cost would largely fall. Roundly, there were in Great Britain  $7\frac{1}{2}$  million head of stock, 3 million being cows and heifers in milk or in calf. On the average, one-third of these were tuberculous, so that a million head of the dairy stock of the country were tuberculous in some degree, as ascertained by the tuberculin test. Some considered that encapsuled lesions of tuberculosis were a source of protection to the animals, and that the bacilli were frequently discharged into milk without there being detectable disease of the udder. But it was important to bear in mind that udder infection was usually secondary to lesions in the thorax, abdomen, and elsewhere in the body. Approximately 10 per cent. of the samples of Manchester milk examined during the past twenty-three years caused tuberculosis experimentally, and the percentage of farmers sending tuberculous milk into the city was higher in 1923 than it was in 1901. On 800 farms sending tuberculous milk, 597 cows were found to have tuberculosis of the udder, and when the disease was ascertained they were removed from the source of supply. In regard to more than 200 cons, there was ample evidence that just prior to the visit of the inspector they were disposed of to dealers. He believed that, as a general rule, the public would continue to buy the milk which was cheapest. The animals which earliest reacted to tuberculin were those giving the greatest quantities of milk—that is, those which worked the hardest. He advocated breeding their own stock, and stopping importation of strange cows, as one infected animal quickly carried its bad effect to the herd. That was carried out on one farm, and there was an increase of milk yield per cow per year of 200 gallons; moreover, on that farm there were no cases of contagious abortion. He had visited 136 farms: 6 were clean, 52 fairly clean, 78 dirty. At only 5 of the farms was there satisfactory provision for storage of manure, at 12 it was less satisfactory, and in the remainder such provision was either absent or very unsatisfactory. Of 346 cowsheds examined, 10 were clean, 147 fairly clean, the remainder dirty. He had ascertained that just prior to some of his visits farmers had sold tuberculous cows at prices ranging from 10s. to 35s. each. He said he hoped the Tuberculosis Order would soon be reintroduced, and would be so amended that it would require the inspection of every dairy farm in the country, without awaiting notification of disease. It was a waste of public money to pay compensation for infected cattle; it should be regarded as a crime for any man to be found in possession of such an animal on his farm. He believed there was no method by which really dirty milk could safely be made fit for human consumption.

Professor S. L. CUMMINS agreed that wherever in the world there was a practical absence of tuberculous cattle, there the human type of the disease was of a very grave and acute character; that was the case in large tracts in Africa, and in India. Thus, by concentrating on getting rid of tuberculosis one might possibly be doing harm; yet if this idea were disseminated, it might be retorted that thereby retrogressive farmers were being sustained in their attitude. Hence it was undesirable to make public any but well ascertained facts. He did not think sufficient attention was paid to the quantitative aspect of the question. Cobbett related that the Royal Commission reported the fact that the dose of tubercle bacilli which could infect a cow when ingested was infinitely larger than the dose needed to cause the disease when inhaled. Was not the aim of getting rid of all the bacilli from milk therefore rather theoretical? He believed the mixing of milk was of great importance in the prevention of tuberculous disease from that source, the uncontaminated milk acting as a wholesome diluent. It was said that 25 per cent. of the samples of London milk contained some tubercle bacilli, and guinea-pig experiments were positive with those samples, so that the safety of the milk as a whole must have been greatly increased by the mixing of milks. From 60 to 80 per cent. of the adult general population reacted to tuberculin, yet no doctor hesitated to advise mothers to suckle their children, without an examination previously to giving the advice, unless they were obviously ailing. The whole production of milk was a very artificial matter,



following on the breeding of cattle with this object in view, and the manipulations of the udder in frequent milking might tend to activate lesions there which would never have developed otherwise. He thought the gold salt recently discovered and tried in Copenhagen held out a hope of the cure of tuberculosis. He advocated a closer co-operation between the medical and veterinary professions in this matter.

Dr. NIVEN (late M.O.H., Manchester) related his experiences in this connexion in Oldham, and later in Manchester. At the former town he was responsible for the issue of a circular advising that all cow's milk should be boiled before use, and when he went to Manchester in 1894 he took the same course. The milk then supplied was so dirty that he could think of no other way of saving the people from the effects of drinking such a fluid. He referred to the able assistance given in the crusade by Professor Delépine. There were also instituted in Manchester classes of senior girls for instruction on the care and feeding of infants. He agreed that once tuberculosis was imported into a previously tubercle-free herd, the spread among the other animals was very rapid. Great precautions were needed to keep a herd free from the disease. In America the control of the milk supply was much more successful than in this country, and a large factor in the more satisfactory serving of the milk was the free use of ice, which would be a factor of much greater difficulty here. He expressed the hope that the programme put forward by the Astor Committee would be energetically put into operation by the Ministry of Agriculture. In New York the milk coming into the city was graded, three degrees being recognized, and he asked whether some such system might not be brought into operation in the largest cities here. Perhaps the country was not yet ready for such a measure, but it was likely that in five years something of the sort might be possible. There should be a corps of veterinary inspectors visiting all the farms which were supplying milk to cities, and reports should be regularly furnished by them to the city committees responsible for these matters. He believed greatly in the education of all who were concerned in the milk industry, both by tuition and, where needed, by coercion. In America the various States vied with one another in sending pure milk, and the authorities there did all they could to assist farmers to perpetuate the best stocks.

The discussion was adjourned to March 2nd.

### THE TREATMENT OF LYMPHADENOMA.

At a meeting of the Medical Society of London, held on February 9th, with the President, Dr. EUSTACE M. CALLENDER, in the chair, a discussion was held on the treatment of lymphadenoma.

Sir THOMAS HORDER opened the discussion by explaining that he had recently had under his care two patients suffering from lymphadenoma of the Pel-Ebstein type who were alive and well some considerable time after the illness first commenced. He considered that the treatment adopted in these cases was of general interest in that, he believed, no previous case of cure of this type of the disease had been recorded. The first case was that of a man, aged 47, whose illness commenced insidiously in 1918 with periodic bouts of pyrexia. These were found to be of a regular periodicity, occurring every fourteen days; on examination, both between and during the attacks, nothing definite could be found. Spending the winter abroad had no effect on the disease, and at the end of eighteen months an exploratory laparotomy was performed, mainly because of some rather vague symptoms in the region of the liver. Nothing abnormal was found, except some adhesions round the gall bladder and round the appendix, which was removed. A temporary cessation of the attacks of fever, lasting for six weeks, followed, and a second operation produced no improvement. In 1922 arsenic treatment was instituted and neokharsivan was given intravenously in increasing doses at intervals of five days, followed by applications of  $x$  rays to the liver. The next attack of fever was abortive, but the following one was as severe as ever, and the attacks continued, although the rhythm was not so regular. Further applications of  $x$  rays were made, but the condition

remained unchanged, and a course of "protein shock" therapy, consisting of intravenous injections of peptone, was without effect. Another intensive course of neokharsivan was next tried, with  $x$ -ray applications simultaneously, glucose being given by the mouth to avert any toxic symptoms. The next bout of fever was abortive after an interval of thirty-eight days, and one other attack, after fifty-two days, was the last the patient had had. Since January, 1923, he had been hard at work, retaining his weight. A third series of neokharsivan injections and  $x$ -ray treatment was given early in 1923, although the symptoms had all disappeared. The second case was also of the Pel-Ebstein type, but the pyrexia was not so sharply marked off, the rises of temperature being more gradual and the falls more irregular. This patient, a man aged 41, was admitted to St. Bartholomew's Hospital with symptoms and signs suggesting a subphrenic abscess. An operation revealed nothing abnormal in the abdomen, and it was particularly noted that the spleen appeared to be quite normal. In view of the curious rises of temperature and an  $x$ -ray discovery of enlarged glands in the thorax, the patient was given a course of  $x$  rays and later a combined course of neokharsivan and  $x$ -ray treatment. The patient left the hospital apparently cured, but returned a year later with similar symptoms, which responded to the same treatment as before, and the patient had been back at his work for some considerable time. In the general consideration of the treatment of these conditions Sir Thomas Horder thought that several questions arose. In the cases he had described, was the arsenic or the  $x$  rays responsible for the favourable results? He thought the  $x$  rays were of greater value, but that probably a combination of the two forms of treatment was desirable, if not essential, in cases of this type. If both were desirable, what was the best method of combination? He thought synchronization was most efficacious. With regard to dosage, arsenic must be used boldly and the question of liver damage must be settled for each individual case; the best route for the arsenic was the intravenous. The dosage of  $x$  rays he left to subsequent speakers, and while he had had no experience of radium in the Pel-Ebstein type of case, he had treated nodal cases of lymphadenoma with radium with marked benefit. He referred briefly to other forms of treatment which had been used in this disease.

Dr. ROBERT KNOX described the treatment by  $x$  rays of the first case referred to by Sir Thomas Horder. At first he had used slightly filtered rays over a large area of skin, but when it became obvious that a lengthy treatment was required he had advised that the filters and the voltage should be increased so as to prevent damage to the skin and to reach the deeper structures. Discussing  $x$ -ray treatment of lymphadenoma in general, Dr. Knox described the surprisingly rapid disappearance of swellings followed by a period of apparent cure, after which a relapse followed.  $X$  rays gradually seemed to lose their effect until finally a relapse occurred where the swellings would not respond to treatment, and a fatal termination was not long delayed.  $X$  rays gave the best results in glandular and mediastinal growths, and radium if deeper structures were involved. He considered that the dosage of  $x$  rays should not be excessive. Small doses at short intervals over a long period gave the best results, and this treatment should be continued for some considerable time after an apparent cure had been obtained. He thought that the control of this disease by radiations was probably due to some biochemical action through the blood stream; hence he believed that simultaneous injections of arsenic were of great value. Cases must be observed very carefully during treatment, and close collaboration between the clinician and the radiologist was of the greatest importance.

Dr. F. PARKES WEBER emphasized that one of the fundamental problems in lymphadenoma was diagnosis. The pathology of the condition had been carefully worked out, and he considered that statistics as to the disease were urgently needed. These statistics should show the grounds on which diagnosis had been made and the nature of the treatment adopted. He criticized the diagnosis in both the cases reported by Sir Thomas Horder. In the first case there were no enlarged glands anywhere, and in the second case the spleen was normal and the only enlarged glands



were those radiologically detected in the thorax. Dr. Weber referred to certain had effects sometimes produced by radiation treatment where, although local swellings decreased in size, the general condition of the patient became much worse, and often a fatal termination rapidly ensued.

Dr. A. S. MacNALLY reported two cases of lymphadenoma where beneficial results had been obtained by the use of arsenic in the form of Fowler's solution. One case was still quite well after four years. In his opinion x-ray treatment did not seem to have any permanent beneficial effect.

Dr. J. H. DOUGLAS WEBSTER agreed that diagnosis was vitally important. He recorded some cases where tuberculosis and lymphadenoma existed in the same patient, and one case with a rather indefinite pathological condition, a gland removed during life proving later to be lymphosarcoma. He suggested that it would be very interesting to try the effect of x-ray treatment during the febrile attacks, for certain observers had reported that radiations had more effect at higher temperatures. He reported one case treated with both radium and x-rays; while radium produced quicker results, relapses occurred at shorter intervals.

Sir THOMAS HORDEN, in reply, expressed surprise that any doubt should be thrown upon the nature of the disease in the cases he had described. At autopsies on similar cases where glandular enlargement had also been absent quite definite changes had been found in the liver characteristic of Hodgkin's disease. All stages of the disease existed between simple local glandular enlargements and cases such as he had described. There were, in fact, many lymphadenomata, and he considered the results of the treatment he had described of value, since a new discovery with regard to treatment of uncommon cases often led to improved methods of treatment of the more common varieties.

## TETANY.

A MEETING of the Royal Medico-Chirurgical Society of Glasgow was held on January 26th, the Vice-President, Mr. JOHN PATRICK, in the chair.

Professor LEONARD FINDLAY in opening a discussion on tetany recalled briefly some of the outstanding events in the history of the disease. Although convulsions during the dentition period had been known to Hippocrates and Galen, it was only at the beginning of last century that tetany was first appreciated as a distinct entity when Clarke, in 1815, devoted a chapter of his book *Commentaries on Some of the Most Important Diseases of Children* to "a peculiar species of convulsion in infant children." In 1860 Trousseau once more described the three signs of carpopedal spasm, laryngismus stridulus, and convulsions as manifestations of one disease. In 1874 Erb described the increased electrical excitability, and in 1876 Chvostek noted the increased mechanical excitability of the peripheral nerves, both of which phenomena were of great value in detecting the latent stage of the disease. Professor Findlay then referred to the various hypotheses as to the pathogenesis of the disease and to the relationship of idiopathic tetany to tetania parathyreopriva. He concluded by describing the investigations of Professor Paton and himself which had led them to the adoption of the guanidin intoxication hypothesis.

Dr. STANLEY GRAHAM then discussed briefly the main theories regarding the etiology of tetany as suggested by various workers from a study of the blood chemistry. The four main hypotheses held at present were: (1) guanidin intoxication, (2) disturbance of the ratio of sodium and potassium to calcium and magnesium, (3) calcium deficiency, and (4) alkalosis. With regard to the guanidin intoxication hypothesis, he was of the opinion that until more accurate methods for the estimation of guanidin were devised little further confirmation could be obtained. The action of sodium and potassium as irritative salts and of calcium and magnesium as sedative salts had been known for many years, and it had been suggested by several workers that a relative increase of the irritative or decrease of the sedative salts in the blood would account for the

increase in the excitability of muscle. He considered that though theoretically such disturbance of the ratio could be responsible for an increase in electrical excitability of the muscle, it seemed to play very little part, if any, in the production of tetany, as seen clinically. The association of a diminished calcium content in the serum with certain forms of tetany he had found to be by no means constant, and in two recent cases of active tetany the calcium content had been normal. Also in other forms of tetany—gastric and hyperpnœic—the calcium content might be normal. In uræmia with a low calcium content no instance of tetany had been recorded. The disappearance of the signs of tetany after the administration of calcium chloride, supposed to be due to the supply of calcium ions, was now considered to be due to the acidosis produced. Ammonium chloride had been found to be as effective as the calcium salt, while calcium lactate failed to relieve the tetany. The acidosis of a gastro-enteritis had been found to cause the signs of tetany to disappear. Dr. Graham concluded by discussing the alkalosis hypothesis in its relation to the various types of tetany, and showed that while it was greatly concerned as a factor in all the types of tetany it was unlikely to be a causative factor. A toxic factor in the presence of an alkalosis might account for many of the symptoms, but such hypotheses at present lacked substantial confirmation, and the part played by the phosphorus was also deserving of further investigation.

In the unavoidable absence of Dr. GRACE H. ANDERSON, Professor Findlay read her contribution on the treatment of infantile tetany. Some of the earlier methods of treatment were first described and the reasons for their failure discussed. Dr. Anderson then went on to describe the mode of administration of calcium chloride adopted by her. In the active stage, with the three cardinal symptoms present, it was best to give the drug in 30-grain doses every four hours till all symptoms had disappeared. It was found that the urgent symptoms disappeared after one or two doses, but the latent signs took two or three days to vanish. In the latent stage of the disease smaller doses could be given and continued over a longer period. The drug was well tolerated by infants, though the disagreeable taste made the tablet form preferable in older children. Dr. Anderson concluded by referring to the treatment of tetany by ultra-violet radiation.

In the discussion which followed Dr. G. H. CLARK agreed that some form of intoxication was responsible for tetany, with probably an alkalosis as an important or even determining factor. He found it difficult, however, to support Dr. Findlay in blaming the parathyroid gland for idiopathic tetany, and believed the cause to be gastro-intestinal. He thought it unlikely that a disease showing practically the same symptoms in adults and in children should have a parathyroid origin in the latter and not in the former, and no one suggested that parathyroid disease was the cause of tetany in cases of dilated stomach, cholera, or enteric fever. Diseases of endocrine origin were uncommon and not readily amenable to treatment, whereas idiopathic tetany was by no means uncommon and was fairly readily cured. Dr. Clark then referred to a case of true parathyroid disease which had yielded to the administration of dried parathyroid extract.

Dr. ADAM referred to the treatment of a large number of cases of laryngismus stridulus. He compared this condition with asthma of the larynx, and mentioned the toxæmic factor associated with asthma. He had found also in spasmophilic children an eosinophilia similar to that in toxæmia. He referred also to the importance of diet in the treatment and to the part played by carbohydrate excess.

## Deep X-ray Therapy.

Dr. JAMES R. RIDDELL described briefly a series of five cases of malignant disease of the throat and mouth which had been treated by deep x-ray therapy. Two of the patients were shown to the society.

1. Epithelioma of the lower jaw and gum—confirmed by pathological report—treated with three doses of x-rays by the Erlangen method over a period of five months. No recurrence since healing took place eighteen months ago.
2. Tumour of left vocal cord, clinically malignant, treated by two doses. Had remained well for twenty months.

which originally appeared in *Biometrika* and is a fine example of pure biometry. The second part deals with various aspects of vital statistics, and includes a demographic study of the American peoples, which is an admirable piece of work. The third part contains various studies of medico-statistical problems, and includes a witty and provocative paper on the statistical evaluation of public health activities. We will not refrain from quoting the concluding paragraphs.

"May I close with an illustration which may serve as a warning of the dangers of the statistical method? In 1881, before the diphtheria bacillus had been discovered, there appeared in one of the leading medical journals of Germany, by an author of standing, a paper apparently proving, or at least making apparently highly probable, the conclusion that the eating of potatoes was the cause of diphtheria! It was shown, by conventional statistical reasoning, that the disease first appeared in Europe near the close of the 16th century; that it appeared *after* potatoes were introduced as an article of diet; that the disease had increased concomitantly with, and at about the same rate as the increase in the consumption of potatoes as food; that the most severe epidemics of diphtheria occurred at the time of the planting and the harvesting of potatoes; children from 2 to 3 years of age were particularly attacked because they played with the potatoes at the time of sowing and harvesting, while the older children were in schools; in one region, Schmalkalden, diphtheria was rarer than in another, Malstatt-Burbach, otherwise similar, because in the former place potatoes were bought in small quantities and immediately consumed, while in the latter place large quantities were laid in, and the people came more often in contact with spoiled potatoes. Now the point I wish to make about this tale, which seems so weird and ridiculous, now that we know what causes diphtheria, is that the statistical reasoning in the paper cited is every bit as good and cogent as at least much of the statistical work in the field of public health in this country at the present time. We may be, and I fear too often actually are, making just as egregious spectacles of ourselves in our statistical discussions of tuberculosis, infant mortality, etc., as was the gentleman who proved (?) that potatoes cause diphtheria. I hope that the moral of this true story is plain."

Probably some infidel when he reads the following sentence in Professor Pearl's study of influenza—

"But the outstanding *single* factor, which apparently more than any other one thing yet discovered, determined how abruptly or explosively the mortality was to rise at the outbreak of the epidemic, was the normal death rate in the community from organic diseases of the heart!"

will mutter "potatoes"; indeed, the sentence is not happily worded, but Professor Pearl knows the difference between correlation and causation, and anyone who reads the whole of his papers on influenza should know it too.

The fourth part of the book deals with statistics of population, discussing and illustrating the use of the logistic curve, which was the topic of Mr. Uday Yule's recent address to the Royal Statistical Society.

The volume should be read, not merely by statisticians, but by all medical men, particularly by public health workers. Of course there are many points open to criticism; there are in any good book. But Professor Pearl writes so clearly and so temperately that in his most polemical moments he probably hurts fewer sensibilities than the average statistician wounds when he thinks he is being especially polite.

#### MODERN METHODS IN HEART DISEASE.

The general practitioner must look askance at the appearance of any new book on heart disease, feeling that he will find in it a terminology which he cannot quite understand. In Dr. HEATHERLEY's book on *Modern Methods in the Diagnosis and Treatment of Heart Disease* he will find information supplied in a very practical manner, interspersed with crisp illustrations and without the aid of any graphic records. The author admits that he was brought up in the tenets of the old school and became converted to the new after twenty-five years of general practice, and the book has been specially prepared for the use of general practitioners. It is not a textbook on heart disease, but it is full of useful advice. The various abnormalities of the heart beat are discussed in a way that will rivet attention, while the chapters on heart failure and angina pectoris should prove very helpful. The closing chapters deal with symptoms and signs in general and with prognosis and treatment. The author puts in a plea for the general

practitioner making use of his opportunities for original research, and points out that "neither a £300 electrocardiograph nor even a gilt stethoscope is required." There are very few points in which we would feel inclined to differ from the author, and none is sufficient to detract from the usefulness of the book as a whole. One can imagine the author's style gripping the reader, so that he will feel inclined to read steadily through the volume. The book has been specially dedicated to "those who find salvation in compensatory hypertrophy and who fear a well-conducted mitral."

This notice has been inadvertently delayed, and we understand that a second edition is now in the press.

#### THE ADDER.

So few people nowadays have opportunities of meeting with the elusive denizens of our wild places that to many the title of this notice may suggest a machine in a city bank or other commercial office, rather than the true subject of Mr. NORMAN MORRISON's monograph, which is at home on the sunny banks and rocky wilds of Great Britain. In *The Life-Story of the Adder* he has put on record the results of many years' patient study and experiment, and has produced a work which, as Sir THOMAS OLIVER writes in a foreword, "will rank as a classic upon one of the sub-orders of vipers."

As a contributor to the press under the pseudonym of "Ophidia" Mr. Morrison has for years been known as an authority on British serpents. In this book he tells all that is known of the nature and habits of the *Vipera berus*, including some discoveries of his own. By actual experiment he has ascertained that frogs and toads are immune to adder venom, but that eels and presumably other fish are susceptible, for an eel which was bitten by one of his adders became paralysed and died in five and a half hours.

Some savages on certain ceremonial occasions devour their totem animal. It was not with any superstitious feeling of this sort, but in order to make his knowledge of his subject as complete and intimate as possible, that Mr. Morrison once dined on a boiled adder. He says that it was by no means disagreeable to the palate, that the flavour was between fish and flesh, and that the meal did not disagree with him.

It is well known that there are no indigenous snakes in Ireland, although two grass snakes were found in County Wicklow a few years ago. It is less well known, perhaps, that the island of Iona alone among the Scottish islands has no snakes, although they are common in the much larger island of Mull only one and a half miles off. Mr. Morrison does not attribute the immunity of Iona to the influence of St. Columba, but to its geological history. To test the *genius loci*, he took an adder from Mull and gave it a run (if such a word may be used of a snake) in Iona, which it seemed to enjoy, and it apparently felt no ill after-effects, although it was sent to Edinburgh packed in Iona grass. He also quotes Dr. Leighton as authority for the statement that an adder has been known to swim from Mull to Iona. Unfortunately this interesting would-be colonist died shortly after landing, its death being "probably due to heart failure," but it is obviously open to believers in the legend to attribute its decease to Columba's curse.

To the question whether adders swallow their young to protect them from danger Mr. Morrison can give no certain answer, for although one of his captives brought forth seven young vipers, they were prematurely born and she took no further notice of them.

Mr. Morrison fears that adders may become scarce in the West of Scotland. There seems no reason to think that this is the case in the South and West of England, for it is considered dangerous for children and dogs to wander in certain rocky places in Cornwall on account of the number of vipers. It might be a pity were they to become extinct in Britain, for their friends assert that they do more good by killing vermin than harm by occasionally biting

\* *Modern Methods in the Diagnosis and Treatment of Heart Disease.* By Francis Heatherley, M.B., B.S.Lond., F.R.C.S. London: Baillière, Tindall and Cox, 1923. (Demy 8vo, pp. x + 203. 5s. net.)

\* *The Life-Story of the Adder.* By Norman Morrison, F.Z.S.Scot., Campbelltown. With foreword by Sir Thomas Oliver. Paisley: Alexander Gardner, Ltd.; London: Simpkin, Marshall, Hamilton, Kent and Co., Ltd. 1924. (Cr. 8vo, pp. 133 + 14 figures. 6s. net.)

a dog or human being. Mr. Morrison found a full-grown rat in the stomach of an adder; such a large animal could hardly be captured by the non-poisonous grass-snake, yet the adder, though smaller, is able to do so, thanks to its deadly venom, which owes its power to its haemolytic property. Mr. Morrison suggests that this property might make adder venom of value in the treatment of cancer, but it is not to be expected that its action could be restricted to cancer cells only.

The adder is untamable and when in captivity invariably starts a hunger strike and dies of starvation. Even when she (four-fifths of the adders found are females) is forcibly fed she refuses to digest the food and dies just as soon and as surely.

Lord Avebury believed that he had won the affections of a she-wasp and described in moving words her dying farewell to him. Mr. Norman Morrison is under no delusion as to the possibility of making a friend of an adder, but he evidently has a very soft spot in his heart for these "charming creatures," as he calls them, and his enthusiasm for his subject much enhances the interest and value of his book.

#### APPENDICITIS AND ALLIED CONDITIONS.

THE importance of the early recognition of acute appendicitis and the necessity for prompt surgical intervention are now universally recognized. Dr. GUILLAUME does not challenge the wisdom of this; but in his book, *Les Colotyphlites*,<sup>1</sup> he contends that appendicitis has assumed too prominent a place in the diagnosis of abdominal trouble, especially of chronic abdominal trouble, of which he considers the appendix is often unfairly held to be the cause. The work is dedicated to the memory of Professor G. Dieulafoy, whose views the author shares, and to whose clinical sagacity and diagnostic acumen the author, in his introduction, pays a striking tribute.

The history of the progress of our knowledge of abdominal diagnosis is reviewed. Before the days of the widespread recognition of appendicitis, perityphlitis held the diagnostic field; and now, in the author's opinion, the pendulum has swung too far in the other direction, and many conditions are labelled appendicitis whose real nature is an infection, not really of the appendix, but of adjacent parts of the intestinal canal. Pain in the right iliac fossa is the almost constant feature of these disorders, and a considerable part of the book is devoted to a careful investigation of the significance of this syndrome. Dr. Guillaume urges his readers to investigate the part played in the production of these phenomena by a variety of affections and so to arrive at a proper understanding of the real nature of each and the appropriate treatment.

The book is divided into fifteen chapters, followed by an epitome of the author's conclusions. The bibliography is extensive, containing more than a thousand references. Drawing on a wealth of anatomical and physiological facts, Dr. Guillaume studies the various problems presented; these include the factors tending to produce appendicular mischief, the relation of appendicitis to other morbid conditions affecting the intestines, and the problems presented by chronic appendicular trouble and the signs pointing to its presence. Abnormalities, both of the structure and the position of the ascending colon, are discussed, as also the unduly mobile caecum and its relation to chronic intestinal stasis.

Dr. Guillaume is careful to define the terms he uses to designate such conditions as typhlocolitis and colotyphlitis. Typhlocolitis is the condition found in those false appendicitis cases of intestinal origin so named by Dieulafoy. Under the heading of colotyphlitis numerous affections of the intestinal tract are brought together and analysed; they are then considered synthetically and their relationship with the signs and symptoms referable to the right iliac fossa described.

The author is to be congratulated on having written so interesting and challenging a book. The problems that have engaged his attention are of wide interest, and his contribution to the subject undoubtedly throws much light on

the etiology, diagnosis, and treatment of those chronic abdominal troubles whose features resemble appendicitis so closely.

#### A MEDICAL MISSIONARY'S REMINISCENCES.

THERE must be few men in this or any other country who are university graduates alike in arts, medicine, divinity, and law, as is J. E. Hine, Bishop Suffragan of Grantham, and formerly Bishop successively of Likoma, Zanzibar, and Northern Rhodesia. That a man with these qualifications should have devoted many years of his working life to missionary service for the Church of England in Central Africa is an arresting fact, and now, under the title of *Days Gone By*,<sup>2</sup> Bishop HINE has written his autobiography. The story embraces his medical training at University College, with notes on his teachers and contemporaries; also his life at Oxford in the days of Burdon-Sanderson, including the scene in the Sheldonian, when the proposal to establish a physiological laboratory was carried after a keen discussion, which centred in the introduction of experiments on living animals. The author tells how Burdon-Sanderson developed a serious illness, and insisted on the future bishop attending him, a task by no means easy, as the patient looked on himself in the light of an experiment, and subjected the experimenter to a perpetual viva voce examination in all the symptoms and every step in the treatment.

But the great bulk of Bishop Hine's fine volume consists of a detailed account of his labours in Central Africa after taking holy orders. His dispensary and surgical work is only incidentally mentioned, his heart and soul being wrapped up in the establishment of Christianity. Central Africa, he urges, can never be a white man's country; while malaria and sleeping sickness may be done away with, the tropical sun remains, and it is of great importance to the welfare of the world that, in addition to teaching the native races to till their land, rule by law, and exercise justice, they should be brought under the strengthening discipline of the Christian faith. To that end Bishop Hine has devoted himself throughout a life spent in the midst of the discomforts and dangers and diseases belonging to such a country. Now he is back again in his own land, still engaged in his congenial work, but yet finding leisure to write this interesting autobiography.

#### NOTES ON BOOKS.

A REPORT of the eleventh Congress of Medicine of the Northern Countries, held at Christiania,<sup>3</sup> has lately been published by Dr. OLAF SCHEEL as a supplement to the *Acta Medica Scandinavica*. Professor P. F. Holst, in his preliminary address to the congress, recalled that in the previous congress held twenty-five years ago at Christiania the main subject of discussion was organotherapy. On the present occasion endocrinology was considered in detail, and the great advance in knowledge during the twenty-five years between the congresses was apparent. The report contains two addresses—one on the treatment of thyroid diseases, by I. Holmgren, and another on metabolic conditions of thyroid origin, by H. C. Hagedorn. Besides these addresses fifty contributions are included in the report, each being in the language used by the author; in several cases the discussions following the papers are also briefly reported.

In his *Elementary Morphology and Physiology*<sup>4</sup> Mr. WOODGER, reader in biology, University of London, has attempted to meet the special needs of a student who has later to go on to anatomy and physiology by giving him a comprehensive survey of the form and activities of living beings. He presupposes laboratory work, and has very little to say about plant morphology or physiology; hence the word "animal" should have appeared in the title. Not only is Mr. Woodger's survey broad, but it is philosophical; throughout the description of the driest morphological details there runs the conception of the necessity for interpretation. Particularly

<sup>1</sup> *Days Gone By: Being some Account of Past Years, chiefly in Central Africa*. By J. E. Hine, M.A.Oxon., M.D.Lond., Hon. D.D.Oxon., Hon. D.C.L.Durham, M.R.C.S. London: John Murray. 1924. (Demy 8vo, pp. xii + 313; 15 plates, 1 map. 15s. net.)

<sup>2</sup> *Rapports et Comptes Rendus du Onzième Congrès de Médecine des Pays du Nord Tenus à Kristiania le 3 au 5 Juillet, 1923*. Publié par le Dr. Olaf Scheel. *Acta Medica Scandinavica*, Supplementum VII. (Med. 8vo, pp. 376; illustrated.)

<sup>3</sup> *Elementary Morphology and Physiology for Medical Students*. By J. H. Woodger, B.Sc. London: Humphrey Milford, Oxford University Press. 1924. (Demy 8vo, pp. xx + 523; 255 figures. 12s. 6d. net.)

<sup>4</sup> *Les Colotyphlites et le syndrome de la fosse iliaque droite (appendicitis, périticéolite, colotyphlites)*. Par le Dr. A. C. Guillaume. Paris: Gaston Doin. 1924. (Roy. 8vo, pp. xx + 385. Fr. 35.)

valuable is the way in which the facts of embryology are introduced, for this branch of biology can be made dull beyond all imagining. The way in which the large subjects of evolution, heredity, and variation, with their subtopics of the germ-plasm and Mendelism, are handled shows that the author has a power of discriminating between facts and surmises. Some even of the arid facts of histology are illuminated by interesting speculation, as when it is suggested that membrane-bone is more "primitive" than bone formed in cartilage. As the scope of the work is so wide, Mr. Woodger could not logically avoid discussing the controversial overgreens of biology—the relations of mind to matter, intonctionism and parallelism, mechanism and vitalism, and animal behaviour in general. He has succeeded in making them the most arresting parts of his treatise. When describing the mode of attachment of the ovum to the uterine mucosa some reference should have been made to the recent important monograph by Professor J. H. Teicher of Glasgow University. The statement (p. 13) that weight for weight fats yield less energy than carbohydrates is not in harmony with the careful pronouncements which elsewhere characterize this book; they really yield more than twice as much. The many illustrations are generally excellent, a large number of them being original.

The fifth edition of Mracek's atlas of skin diseases<sup>12</sup> has been brought up to date by Dr. PAUL MULZER of Munich, who has succeeded Dr. A. Jesionek in the editorship of this well known manual. The principal change in the present edition consists in the replacement of some of the previous illustrations by better plates, some of which have been taken from Stein-Henning's book, and others from Professor Hoffmann's collection of wax models at Bonn.

The trial of Frederick Bywaters and Edith Thompson for the murder of Percy Thompson took place so recently that there is no need to dwell much on the circumstances which are recorded with such full detail in the volume which Mr. FISON YOUNG has edited for *Notable British Trials*.<sup>13</sup> Bywaters was a waiter or a landlady steward on a P. and O. steamer, 20 years of age. Mrs. Thompson was a bookkeeper and manageress to a wholesale milliner, aged 28, who lived on rather bad terms with her husband Percy in a house he had bought at Ilford. She appears to have committed adultery with Bywaters some time before the murder. Bywaters brutally stabbed Thomson to death in his wife's presence. They were both found guilty, sentenced to death, and hanged. Such are the bare facts. Neither of them showed much intelligence or forethought in planning the crime, and their subsequent behaviour and contradictory statements made the task of the prosecution easy. The case was entirely devoid of interest from a medical point of view. It is true that the female criminal probably made several unsuccessful attempts to murder her husband by administering broken glass and other substances, but no medico-legal problems were presented. Mr. Young, who is a well known journalist, uses all his skill in an attempt to invest this sordid case with a romantic interest and to make an unfortunate

of the woman. We are more inclined to think that the letters were "gush" than that Mr. Young's hyperbolic statement that they form "a series of the most remarkable letters that have ever been made public in modern times." Except for the frequent allusions to what were clearly attempts at murder, the letters appear to us to be of slight interest. The callous way in which these attempts seem to have been discussed, the levity with which the crime of murder was regarded, and the brutality of the final climax must shock all serious minded persons, the more so as it was not necessary to the realization of their guilty hopes of free indulgence of their passions.

<sup>12</sup> Mracek-Jesionek Atlas of Skin Diseases. Edited by Dr. Paul Mulzer. Fifth edition. F. Lehmann, 1924. (Cr. 4to, pp. viii + 260; 52 plates. 4s. 6d.)

<sup>13</sup> Trial of Frederick Bywaters and Edith Thompson. Edited by Fison Young. Notable British Trials Series. Edinburgh and London: William Hodges and Co., Ltd. (Demy 8vo, pp. xxxi + 261; 9 plates. 10s. 6d. net.)

## PREPARATIONS AND APPLIANCES.

### Antiseptic Surgical Spirit.

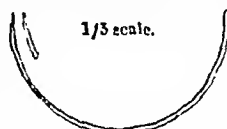
The difficulty in obtaining alcohol in a pure state is a cause of no less trouble to the many who use it otherwise than as a beverage than to that section of the population who only know it as a constituent of drink. The only form of duty-free alcohol recently available for surgical and nursing uses was one which had been rendered comparatively undrinkable by the addition of naphtha. Methylated spirit was serviceable for those purposes until lately, when the Board of Customs and Excise adopted the course of adding to it crude pyridine in order to render it wholly undrinkable. Such spirit cannot be applied to the skin owing to the toxic activity of the pyridine.<sup>1</sup>

<sup>1</sup> See *British Medical Journal*, December 27th, 1924, p. 1207.

It is creditable to the enterprise of certain firms of manufacturing druggists that they have sought, with the Board of Customs and Excise, for a relief from the difficulty. The Board has granted permission for the supply of a spirit for surgical use which has been denatured in accordance with an approved formula containing no pyridine. Messrs. Duncan, Flockhart and Co. of Edinburgh, and the British Drug Houses, Ltd., of London, have each undertaken to supply non-pyridinized methylated spirit. We have examined analytically samples of the spirit supplied by these firms. They are free from pyridine, and appear to be perfectly satisfactory for all the uses of methylated spirit. They become milky on dilution with water, and there appears to be no escape from that objection. The different spirits are rendered antiseptic each in accordance with the maker's formula.

### Curved Surgical Needles.

Mr. C. A. STINSON, honorary surgeon, Wolverhampton and Staffordshire General Hospital, writes: The needles shown in the accompanying sketch may be of interest. The chord from eye to point is  $\frac{3}{4}$  inches, the arc 6 inches. The section is that of the average large needle. They are made (a) in flat cross-section with cutting points, and (b) rounded in section and point for peritonum. In closing the abdomen, peritonum, etc., they possess the advantage of saving time by dispensing with the use of a needle-holder, yet giving a clear field when finger-held. They compel alertness in an assistant. They require long sutures. The needles are made by Messrs Charles Spencer of Redditch, and are sold by all instrument manufacturers.



## NEEDS OF SCOTTISH HOSPITALS.

(Continued from page 281.)

THE Committee appointed by the Scottish Board of Health to inquire into the inadequacy of the hospital services in Scotland completed its sittings last week. The Committee again met on February 2nd under the chairmanship of Lord MACKENZIE. The witnesses examined on that day included Sir Robert Philip, LL.D., Sir Harold Stiles, F.R.C.S., and Dr. J. S. Fraser.

SIR ROBERT PHILIP said he was satisfied that present conditions did not meet the demand, but the amount of inadequacy varied in different parts of the country. Among other things there was insufficient accommodation for cases of non-pulmonary tuberculosis, although he considered that the local health authorities, for the most part, were doing their best to make provision. He attributed the growing demand for hospital accommodation to a greater attention to preventive medicine, to the development of research in medicine, and also, it seemed to him, that the humour of the age was to enter institutions. There was no doubt that the standard of professional attainment was much better in this country than it used to be, and therefore much of what was regarded as calling for hospital treatment in the past might now be dealt with in the home. He thought that home nursing facilities might be extended with much advantage, and he thought that a system whereby nurses went from the hospital to patients might prove of great advantage. Cottage hospitals throughout the country would seem a natural form of relief, but there was need for more formal co-ordination between different institutions. Patients should be encouraged more than they were at present to pay for their own maintenance; and it seemed to him absurd that patients, who merely required surgical relief, should have their maintenance paid while they were in hospital. If this aspect were presented more definitely to patients at the commencement of their stay in hospital, a large number would probably refuse to accept free maintenance. It seemed to him that State grants might be made, not merely in times of emergency, but for erection and definite extension. It would certainly be fair to call upon the State to recognize the claims of the teaching hospitals, whatever the State might be disposed to do in regard to other hospitals. In reply to a question, Sir Robert Philip said that in any district where it was proved there had been a failure to provide adequate hospital accommodation, the local authority ought to step in both in regard to this and in regard to nursing services.

SIR HAROLD STILES indicated how he would propose to make the advantages of the Royal Infirmary of Edinburgh available in the surrounding districts. He thought that the secondary hospitals were capable of doing more work than they had hitherto done, and thus relieve pressure on the infirmary, provided that they were efficiently staffed. Many of these hospitals should be enlarged; and, in so far as surgery was concerned, the work should be undertaken by men who were pure surgeons and not general practitioners. He thought the minimum working size for such a hospital was 100 beds. Cottage hospitals should also be linked up with the larger hospitals. As to paying patients, he favoured separate blocks with a separate operating theatre and separate administration. He approved of the principle of subsidizing surgeons in certain places, if not in the teaching hospitals. He also saw no objection to the State meeting the needs of hospitals, and did not think that this would have the effect of checking voluntary support. If the enlargement of secondary hospitals, or, for example, the Edinburgh Infirmary, were necessary, it would be the primary affair of the State to provide the capital while the public supplied the money to run the institution, and if the State



provided the capital sum it would actually be an inducement to the public to contribute.

Dr. J. S. FRASER, surgeon in charge of the ear, nose, and throat department of Edinburgh Royal Infirmary, speaking from a précis which he had submitted to the Committee, said that something would be lost if the voluntary system were to go. The medical profession generally, he believed, was still against nationalization of hospitals. He believed, however, that the advantages of rate and State aid would far outweigh the disadvantages. He did not think that service could be given efficiently under the present system, although it was very pleasant to work under. The present system could be kept going from year to year, but it could not be extended. With regard to the Royal Infirmary of Edinburgh, he advocated a considerable extension of ground and property, and suggested that a large nursing home in the immediate neighbourhood should be acquired to form the nucleus of a nursing home annex which would be a wing for paying patients. He considered that a "follow-up system" was required to ascertain progress of patients after leaving hospital. Contrasting Scotland with America, he said that 80 per cent. of the population in this country came to the voluntary hospitals for surgical treatment, while the consultants were supported only by the remaining 20 per cent. In America the proportions were almost exactly reversed.

On February 3rd evidence was given by Dr. William Robertson, D.P.H., F.R.C.P., medical officer of health for Edinburgh, on a précis of evidence which he had already presented to the Committee. He dealt mainly with hospital provision from the preventive side, and thought that the present provision of hospitals for the isolation of infectious diseases was ample.

Dr. ROBERTSON said that the provision for infectious diseases differed in different areas. The generally accepted rate was one bed for every 1,000 of the population, which might be satisfactory in rural areas, but should be increased for cities to one bed for every 800 of the population. The medical inspection of school children, which it had been hoped might aid in stamping out infectious diseases, had not in experience borne out this hope. He was satisfied that the aim of present-day public health along the lines of producing artificial immunity among the younger population would give good results; and the reduction of disease would lessen the demands on infectious diseases hospitals. He thought that in future the demands on isolation hospitals would be less pressing than they were now. This pressure would be further relieved when the population of the larger centres were housed under better conditions than they were at present. This witness said he hoped that the pasteurization of milk and the possibility that now existed of putting on the market pasteurized milk at the same price as ordinary milk would have a considerable effect in diminishing diphtheria, scarlet fever, and tuberculosis. He thought there was a need for supplementary wards where, after having passed through the acute stage of measles and whooping-cough, patients might pass a period of convalescence and have fresh air treatment. These supplementary wards need not be of elaborate or substantial structure. At present during acute epidemics of these two infections the shortage of accommodation compelled them to discharge patients immediately after they had recovered from the acute stage. Another principle that might reasonably be considered was the setting aside of special wards for the treatment of scarlet fever and diphtheria where paying cases might be treated. With regard to the subject of tuberculosis, he held that the provision of institutions for this disease was unequal; and that the accommodation for advanced cases was insufficient, and patients often had to be sent out to a very unsatisfactory home in order to make room for other cases. Dissemination of tuberculosis could be actually traced when advanced cases were allowed to live and die in small houses. With regard to venereal diseases, Dr. Robertson expressed the opinion that there was not enough hospital accommodation. Much more preventive work could be carried out if additional beds were provided for the proper treatment of children affected by the disease. With regard to venereal disease the public health committee in Edinburgh was fully convinced that compulsory notification was the right policy. He thought that there were no insuperable difficulties in regard to co-operation between the voluntary, public health, and Poor Law hospitals, given good will on all sides.

Dr. J. H. MIELE, medical officer to the Edinburgh education authority, in giving evidence said that in Edinburgh they had two school clinics. So far as eye diseases were concerned, there was no co-operation between the education authority and the Royal Infirmary. The authority had no opportunities for operative treatment of tonsils and adenoids, and these cases went to the Royal Infirmary and elsewhere. He believed that if the education authority undertook this treatment a small hospital with beds would be necessary. In 1912 the education authority had made an agreement with the Royal Infirmary whereby the authority contributed a certain amount to get x-ray treatment done in that institution for ringworm, and this arrangement had been very successful.

Major G. STEVENSON, M.D., Glasgow, member of the Massage Board of Scotland, gave evidence in regard to the proper organization of this type of work, and said it might be possible to save beds in general hospitals and to shorten the period of incapacity after injury and prevent much chronic invalidism and crippling by this means. The position regarding massage training in Scotland at present was that there was only one school, situated in the Western Infirmary, Glasgow. Speaking generally, the numbers of workers trained in massage in other hospitals were hopelessly inadequate to cope with the numbers of patients requiring this treatment. The present tendency all over the country

was towards a radical change as regarded the position of massage departments of hospitals. Many patients were sent to hospital for the sole purpose of receiving treatment by massage. This affected both surgical and medical cases and both out-patients and in-patients. It was suggested that massage and medical electricity should be put at the disposal of any insured patients requiring it, and that more might be done in the way of forming local treatment centres in industrial areas. With regard to the group of children's cases, there was a possibility of group treatment; that is to say, that children suffering from similar conditions might be treated together in welfare centres and afterwards at school by methods such as re-education of muscles and artificial sunlight. As regarded the group of chronic invalids, many would be best treated in their own homes, and there might be a district masseuse service on the lines of the district nurse service. He thought it would be profitable also to have centres in mining districts where massage treatment could be obtained.

On February 4th the Committee examined Dr. Alexander Shearer, who is medical officer of the Scottish Board of Health, with regard to the medical service of the Highlands and Islands.

Dr. SHEARER explained that a sum of £42,000 was voted annually by Parliament and paid to the Highlands and Islands Medical Service Fund for the general purpose of providing forms of skilled assistance auxiliary to general medical service. The general idea was in bringing medical attendance within the reach of crofters and dependants of insured persons at fees which they could reasonably be expected to pay, despite the great distance of their residences from the nearest doctor. Close co-operation between authorities and voluntary agencies, such as district nursing associations and hospitals, was clearly contemplated. During the year 1924 grants had been paid to 64 nursing organizations, the number of hospitals assisted had been 6, and the number of ambulance committees 3. Towards the end of the year payments had been made for the first time towards the maintenance of resident surgeons in the islands of Shetland and Lewis. The witness said that, in addition to 155 nurses whose maintenance was assisted from the fund, a number of nurses were also supported by private persons. He thought that an addition of between thirty and forty nurses to the existing staff was required, as well as a more general provision of motor conveyances for the nurses. By the provision of motor-cycles two nurses might be able to cover an area for which three were at present necessary. The annual cost of a nurse, including salary, was between £180 and £200. This witness said that the number of beds available in the 22 hospitals of the Highlands and Islands might be taken as 340, and he thought this amount of general hospital accommodation was reasonably adequate, although he believed that some medical cases at present treated at home would be sent to hospital if they were certain that accommodation would always be available. He thought that by a service of specialists in cottage hospitals the flow of cases to the south would be stemmed to some extent. In certain remote localities there was a strong case for the provision of some form of hospice, which could conveniently take the form of a nurse's house having accommodation available for the reception of emergency cases. The sites at which these hospices should be erected would have to be the subject of special survey in regard to nursing needs, means of communication, etc. In regard to additional services, he thought that the services of medical consultants might be made available, and in the matter of surgery the need for specialist assistance was more urgent and would be heartily welcomed. An addition to the annual grant in aid would be required if progress in these matters was to be maintained. The witness agreed that it might in some instances be better to spend money on main roads so as to facilitate transport than to spend it on building new hospitals.

Mr. JAMES HAY, an Aberdeen advocate, gave evidence supplementary to statements which had already been made in regard to the Royal Infirmary of Aberdeen. This infirmary, he stated, had 309 beds, and a deficit on the working for last year of £749, as well as improvements on the x-ray department, etc., amounting to £2,449, had been met from legacies. He considered that the voluntary system had risen to the requirements of the North of Scotland in a wonderful way. Although the expenditure of the infirmary had increased enormously in recent years, income had kept pace with the increase. Amongst the sources of income were contributions from insurance and friendly societies, which last year amounted to £1,402. The directors of the institution thought that 400 beds would be ample accommodation in Aberdeen for many years to come. The witness was of opinion that the amounts of £360,000 capital outlay and additional revenue of £30,000 previously mentioned to the Committee by another witness as necessary for the joint hospital scheme in Aberdeen were greatly exaggerated. He suggested, however, as sources from which additional revenue might be got, the health insurance societies, a grant for surgical tuberculosis, and a Treasury grant under conditions similar to those given to universities. In the case of grants he would postulate no interference from the outside. The Chairman remarked that the information seemed to show that, although there was a shortage in Aberdeen itself, there appeared to be a surplus of accommodation in other places; and he asked whether by co-operation with other hospitals beds could not be cleared with greater rapidity. The answer was that that had not been considered. Witness did not know that there were any hospitals with vacant beds.

At the conclusion of the evidence submitted on February 4th the Committee sat privately to consider what additional measures should be taken by it to further its object.

The Committee then adjourned *sine die*.



## *Novus et Vetera.*

### DUELLING IN INDIA.

It is a curious fact that in an age when duelling prevailed no officer in the Indian Medical Service was ever killed in a duel, though at least six cases are on record in which officers of that service killed their antagonists in duels. In three of these cases the survivor was tried for murder in one or other of the Indian High Courts, and, almost as a matter of course, acquitted: in one case tried by court martial the accused was cashiered, but the penalty was subsequently remitted. In two cases, in both of which the duel was fought on foreign territory, no proceedings seem to have followed. In one case it is not stated what weapons were used; in the other five pistols were the arms selected. Duelling was common in India for about a century, and duels without a fatal result attracted little attention and were not recorded. The practice gradually died out before the Mutiny.

The earliest case recorded of a fatal duel, in which an Indian medical officer was concerned as principal, took place in 1777; the papers relating to the case are preserved in the Calcutta Record Office. Captain W. Crabh, officer commanding at Monghir, reported to Government, in a letter dated June 4th, 1777, that Surgeon James Ford had shot Lieutenant Sydney Smith in a duel. Ford was sent to Calcutta to stand his trial for murder in the Supreme Court. Procedure was slow. On December 4th, 1777, six months later, Robert Jarrett, the Company's attorney, was ordered to conduct Ford's prosecution. On December 27th Jarrett reported that Ford had been honourably acquitted. Ford had entered the Company's service in 1766, rose to be surgeon-major of a brigade in 1781, and died at Barhampur on April 6th, 1783. He served in the Rohilla war of 1774, and in the first Maratha war in 1781, as senior surgeon to Colonel Carnac's force.

The next case occurred some three years later, in or about 1780, and is mentioned in *Memoirs of William Hickey* (vol. i, p. 319). Surgeon Kenneth Murchison fought a duel with a Captain Crofts, at Lucknow, and shot Crofts dead. No proceedings seem to have been taken in this case. Lucknow was then the capital of the Kingdom of Oudh, independent territory. Murchison was an officer in the Bengal Army, but his services had been lent to the King of Oudh. Crofts had borne a commission in the British Army, but had resigned it, and was in the service of the King of Oudh, not in that of the Company. Probably the Government of India never heard of the case, officially; if they did, they would consider it no business of theirs. Murchison entered the Company's army in 1776, spent most of his service in Oudh, went home on furlough in January, 1784, did not rejoin, and was struck off from that date. He died at Bathampton in 1786. He was the father of Sir Roderick Murchison, the great geologist.

The *Calcutta Gazette*, which was then a newspaper, publishing general news as well as the official gazettes, in its issues of March 26th and April 30th, 1789, mentions that a duel had been fought at Pondicherry between Mr. W—y, of the Madras Civil Service, and Surgeon R—, of Madras, in which the former was shot through the head and the latter had his leg fractured. Mr. W—y was James Woolley, a civilian of high rank in the Madras Civil Service. It is not possible to identify Surgeon R—, for there were in 1789 no fewer than five officers of the Madras Medical Service of the rank of surgeon whose names began with R; among them was William Roxburgh the botanist; further, the official naturalist, Surgeon Patrick Russell, who resigned in February, 1789, may still have been in Madras in April. No criminal proceedings were taken, the duel having been fought on French territory. Evidently the two combatants had gone over the border

to Pondicherry to fight the duel, as Englishmen used to go to Bonlogne for the same purpose, after duelling had been stopped in England.

Surgeon William Betty, of the Madras Service, was tried by court martial and cashiered on October 6th, 1803, for having killed, on September 7th, 1802, Lieut.-Colonel Sir Robert Hamilton, of the Bengal Army, in a duel at Ambuyna, a small island in the Malay Archipelago, where they were present on military duty. Why Betty was tried by court martial, instead of being sent for trial by the Supreme Court, is not quite clear, but Ambuyna was not British territory; it was therefore not within the jurisdiction of the Indian courts, and both Hamilton and Betty were there on military duty. Exactly the same facts, both as to duty and locality, apply, however, to the next case, which was tried in Calcutta. The order of court, quoted below, suggests that the court martial was rather for other breaches of military duty than for the duel itself. Two years later Betty was restored to the service by the Court of Directors, by an order dated April 18th, 1805, in which they state:

"We have been influenced in our decision upon Mr. Betty's case by the peculiar circumstances of his long arrest previous to his trial, and of his having been acquitted of all the charges brought against him, except that of breaking his arrest, in which he appears to have acted more from an error in judgment than intentional disobedience, and likewise by the very strong and unanimous recommendation of the court martial in his favour."

From this order it seems that Betty must have been acquitted of the more serious charges and convicted only of a more or less technical offence. Presumably Hamilton was the aggressor and challenger.

Assistant Surgeon Walter Key, of the Bombay Service, medical officer of the Company's cruiser *Malabar*, was tried in the Calcutta Supreme Court on January 13th, 1815, for having killed Lieutenant Passmore of the same vessel, in a duel fought on February 22nd, 1814, on the island of Bourro, one of the Moluccas. Lieutenant Edward Searight, who was first lieutenant of the *Malabar* at the time of the duel, but had succeeded to the command before the trial, was also indicted, having been Passmore's second. Lieutenant Irwin, who seconded Key, was not brought to trial. The chief evidence was that of Searight, who stated that Passmore had been the aggressor. Both prisoners were acquitted. Key was ill at the time of the trial, and died a few days later.

The sixth and last case is also the most interesting. On July 18th, 1835, Assistant Surgeon John Porter Malcolmson, of the Bombay Service, in a duel at Poona, shot and killed Captain Alexander Urquhart, of the Bombay Cavalry. Mrs. Malcolmson appears to have been the cause of the duel. *Nulla fere causa est, in qua non femina litet moverit*. This is the only one of the six cases in which any suggestion as to the cause of the duel has survived. Malcolmson was wounded in the hand, and got tetanus but recovered. After the duel Assistant Surgeon James Don was called to attend him. On September 25th, 1835, the survivor, Malcolmson, the two seconds, Captain Foster Stalken and Lieutenant James MacDonnell, and Don, were tried for murder in the Bombay Supreme Court, before the Chief Justice, Sir Herbert Compton, and Sir John Awdry, puisne judge. The prisoners made no defence. When Sir John Awdry began to deliver the charge to the jury, the foreman stated that the jury had made up their minds to acquit all the prisoners. The judges accepted this verdict, Awdry remarking that Don, who had not been present at the duel, but was called in after it was over, should not have been put on trial. Malcolmson had joined the army in 1825, and died at Nasirabad on June 16th, 1854. He served at the capture of Aden in 1840, and in the Punjab war in 1848-49, when he was present at the siege and capture of Multan and at the battle of Gujrat. Don took the L.R.C.P. Lond. in 1824, and was the first officer to enter the L.M.S. with this qualification. He joined in 1825, became a member of the Medical Board in 1855, retired in 1857, and died at Brechin on July 18th, 1864. He served in the first Afghan war in 1839.

# British Medical Journal.

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## THE POSITION OF PATHOLOGY.

IN an article published on January 31st (p. 225) we gave some account of the quinquennial review contained in the report of the Medical Research Council for 1924, but omitted reference to certain important paragraphs relating to pathology and bacteriology. It is observed in the report that "The position and progress of these sciences, on which so much of the current work of medicine depends, cannot be regarded as satisfactory." This statement comes rather as a surprise after reading of the healthy condition of the sciences of physiology, biochemistry, and of experimental and clinical medicine. We took some natural pride in the achievements of the faithful stewards who have multiplied their talents, but must turn now to those from whom less has been received than was expected.

It should be said at once that the report criticizes the subjects of pathology and bacteriology only from the point of view of organization, but other critics have suggested that these sciences are now "sterile," and that further exploration is unlikely to lead to any new discoveries of value to medicine. The report does not take that attitude, and scattered throughout its pages is to be found abundant evidence that the sciences of pathology and bacteriology are attracting extremely able research workers from whose studies much is anticipated. Undoubtedly we have passed beyond the era of periodic sensational discoveries of microbes; we have reached, perhaps, the time for firm consolidation of territory won by brilliant and almost too rapid advance. Bacteriology is exemplifying the law of diminishing returns, but is far from being "played out." If it has come upon evil days it is not because of exhaustion of its vitality, but because of harmful external influences such as those which this report indicts with severity.

After tracing the historical development of the sciences of pathology and bacteriology, the report points out that "the practical value of bacteriology in the public health services and in medical diagnosis became obvious and the need for it became increasingly urgent at a time when in many places the university professor and his department were the only source of supply. At the same time the universities, all poorly endowed, were actually unable to equip these new subjects without exploiting this economic value of bacteriology and using the fees earned by the professor to support him and his department." Thus it happened that practically all the departments of bacteriology, in the English universities at least, have been developed as commercial laboratories. Similar evils have existed in the big hospitals, where full advantage has not been taken of the unique opportunities for original investigations which exist because the pathologist has been commonly so poorly paid that he has found it necessary, and indeed has been expected, "to augment his salary by making paid routine examinations for his colleagues in practice or by taking the remunerative path of vaccine therapy."

The Medical Research Council's report deplores the fact that during the past five years little improvement in the general situation has taken place. In former

days, when the laboratories of the universities were performing a task which could not have been done adequately elsewhere, it was possible to offer some defence for this commercial system, but those days have passed, since a sufficient number of competent bacteriologists could be found outside the ranks of university teachers for the work required by local authorities and private practitioners. How their work might be organized and their status upheld has been very ably indicated in what is commonly known as the Dawson Report.<sup>1</sup> That report suggested that at certain primary centres there should be laboratories, of which the first and essential function would be the provision of facilities for general practitioners to make such examinations as they could and wished to do. Assuming such help in recording results as is elsewhere indicated through secondary centres, university centres, and the Medical Research Council, the result of this organized union of clinical observation and pathological research would be, it was believed, to make large additions to our knowledge, especially of the early stages of disease. The stereoscopic view produced by the combination of the visual fields of clinician and pathologist brings often into relief essential factors in a case which would otherwise escape observation. Experimental work may not infrequently be sterilized if divorced from clinical work, the problems being tackled *in vitro* rather than *in vivo*. Although specialism remains necessary in the more recondite parts of the subject, yet the giving back of pathology in part to the general practitioner would result in a triple line of advance. Research pathologists in university centres and elsewhere would be supplied with more material, thanks to the increased number of collectors working for them in wider fields; general practitioners would handle personally a most valuable weapon in diagnosis; and, thirdly, provision would be made for collecting, collating, and publishing that knowledge which at present too often dies with the individual.

Another problem of very great importance presents itself in this connexion. The setting free of the universities and other research laboratories from the drudgery of routine work implies an increasing infliction of this necessary, but often soul-destroying, labour upon a group in the profession for whom no prospects of anything higher are at present discernible. These routine workers, engaged in the same dreary round of simple investigations year after year, find their intellectual outlook cramped, and inevitably become mechanical in their work. Without prospects of promotion to more advantageous positions or to appointments conferring facilities for original investigations, their services are lost to scientific research. It is neither good nor necessary for pathological and bacteriological work to be penalized in this way. The problem is to a certain extent considered in the Dawson Report, in which it is suggested that those who work at the primary laboratory centres might spend occasional periods at the laboratories of the secondary centres for the improvement of their skill and knowledge. It is further hinted that the secondary centre laboratories should be linked up with the chief, or university, centres, which would deal with problems of exceptional difficulty, or investigations involving very special or expensive inquiry. Something more than this is necessary, however—namely, the possibility of the specialist workers passing from one grade to a higher in accordance with their increasing

<sup>1</sup> Consultative Council on Medical and Allied Services. Interim Report on the Future Provision of Medical and Allied Services. 1920. London: H.M. Stationery Office. Cmd. 693. Price 1s. net. See Section VI (a), pp. 18-20.

knowledge and ability. This would be attained by the creation of a graded service, comparable with other national services, in which promotion would be the reward of ability. Junior members of such a service would receive a thorough training in technique, and would be encouraged to use their talents rather than neglect them, as is the inevitable result at present under the daily pressure of performing simple investigations which soon become mechanical. As they became expert their services would be made available in more advanced researches: proved ability would bring with it escape from routine and the provision of increased opportunities for original work. This would produce a number of trained investigators who would interest themselves in the many problems of which the solution is at present delayed.

The report of the Medical Research Council points out that further assistance in the advance of pathology may be legitimately expected from the universities and medical schools. Unfortunately, many universities are still reluctant or unable to relieve their staff from the monotony of routine examinations, for their departments have been built up on a basis of commercial work, and so the financial difficulties in the way of reform appear almost insuperable. At Oxford and Cambridge, however, the schools of pathology have now been relieved of such commercial work, and rewards have come in the shape of generous benefactions. Thus, at Oxford the Dunn Trustees, and at Cambridge the Rockefeller Foundation and Mr. Ernest Gates, have provided large sums for the erection and equipping of new buildings for pathological studies. As the result of this a strong forward movement may be confidently expected at these two universities, and it may be noted in passing that pathology has already been included amongst the subjects for the advanced honours course in natural science at Cambridge, where also college fellowships have been given for the subject. As Lord Curzon points out in the report, the community at large will be well served by an increase in the number of those enabled to lead the active intellectual life of research and higher teaching, thus opening the only certain channel for rapid gains even from the utilitarian standpoint.

### PERPENDICULAR HOUSING.

A PROBLEM, suddenly acute in Birmingham, and casting its shadows before in London, has arisen out of proposals in both cities to undertake slum clearance schemes by the provision of large blocks of workmen's flats in central districts. The thorny aspects of the Birmingham problem revealed themselves at a recent meeting of the City Council, when a noisy and acrimonious discussion was provoked by the announcement of a programme for the demolition of a slum area and the replacement of back-to-back houses and other insanitary dwellings by what is described as an experimental block of flats. There is a difference of opinion on this policy between two committees of the council. The Public Works Committee recommends the expedient as a partial solution of the housing problem, whereas the Health Committee complains that it is a retrograde step and subversive of the interests of public health. The Health Committee is supported in its attitude by a letter written by Dr. John Robertson, medical officer of health for Birmingham, deprecating strongly the recommendation, and this letter the committee circulated among the members of the council, thereby bringing a good deal of criticism both upon itself and upon Dr. Robertson.

We do not propose to discuss the propriety of the Health Committee's action or that of the medical officer of health; but the general question as to whether it is advisable or not in these days of housing reform to erect blocks of tenement dwellings in congested areas for artisan tenants and their families is clearly one on which those responsible for or interested in the health of the community are entitled to express an opinion. A letter by Mr. Christopher Martin, consulting surgeon to the Birmingham and Midland Hospital for Women, which has also been published in the course of this Birmingham controversy, argues that small children living in such buildings are apt to be cooped up out of the sun and fresh air, and consequently to incur a serious risk of rickets. Dr. Robertson, in his letter, also expressed the opinion that the general result of life in flats is that young children suffer from very ill defined ailments and are definitely more susceptible to the influences which predispose to rickets than those who live in detached cottages. It is perhaps unnecessary to labour the point, so well recognized by all authorities on hygiene and sanitation, that, *ceteris paribus*, the prevalence of rickets is in inverse proportion to the opportunities which the children have for the enjoyment of sunlight and fresh air, and that infective disease has an incidence almost in direct proportion to the degree of congestion and the number of inhabitants to the acre. The troubles of overcrowding may be mitigated by piling dwellings one on top of the other, but they are not removed. For this reason it is to be hoped that the authorities of Birmingham—the home of progressive and resourceful municipal policy—will find a better solution of this difficult problem than to carry into effect the recent resolution instructing the Public Works Committee to proceed with the erection of this experimental block of flats. An amendment—that no family with children under 6 years of age should be accommodated on the upper floors—was incorporated in the resolution. A notice has been given to rescind the resolution, which, with the incorporated amendment, was passed amid some confusion, with the result that certain members of the council were not fully aware of what was taking place. We hope it will not be said of Birmingham, of all places, that it is building houses not fit for children to live in.

The London scheme, which was announced at the meeting of the London County Council this week, provides for the clearance of a slum area in St. Paneras, to the north of Euston Road, and the rehousing of the dispossessed persons in five blocks of flats, nine stories high. Colonel Levita, chairman of the Housing Committee, brought forward the proposal, but at this stage the committee makes no observations on its practicability so far as the provision of blocks of flats is concerned. It is stated that in any event the proposal is not intended to supersede existing methods of housing, but merely to offer a supplemental method for limited use on housing sites in central areas. The buildings, if the scheme goes forward, will be somewhat after the fashion of American city tenements, with light steel framing and concrete panels, and will provide nearly 600 flats. The amenities proposed include quick-running lifts, central heating and hot-water supply, with an open fireplace in each flat in addition to the radiators, dust shoots in every lobby, a direct lighting supply to every room, and through ventilation. Each flat would have a balcony where a baby could sleep in the open air, and on each block there is to be a roof playground. The buildings would be set back to a distance of forty feet from the present

roadways, so that the rooms on the lower floors would not be overshadowed. The proposal came in for some criticism at the meeting of the London County Council, but it received a greater measure of commendation, and one or two of the Labour members supported the idea. Colonel Levita said that he had long been aiming at high buildings. Such a nine-story building was within the limits of the Housing Acts, and he considered that these higher edifices were a weapon wherewith the problem of London housing might be attacked, and that St. Pancras was a place where the experiment might very well start. The Council agreed to spend £150,000 in dealing with this area of St. Pancras (which is known as the Ossulston Street area), including provision on the site for nearly all the 2,700 persons who will be displaced; but the proposal for the nine-story buildings, which is still in the realm of suggestion, is to have further consideration before it is adopted.

Whether the amenities in the London scheme can silence similar objections to those which have been urged against the Birmingham scheme is a matter which will have to be carefully considered when the proposals materialize. In the discussion in the Birmingham City Council it was stated that in Liverpool large blocks of eight-story flats are contemplated, and that Liverpool has been encouraged in such expedients by the success which has attended the provision of flats, of a less ambitious kind, in that city as a solution of the housing problem.

#### IODINE PROPHYLAXIS AND GOITRE.

Last week we drew attention in these columns to the increasing use of iodized salt for the prevention of goitre, bringing our notice to an end on a somewhat diminuendo note. For it has seemed that the precise part played by iodine in regard to goitre prevention is not yet understood; that it is not clear that all endemic goitres are of the same order or due to the same cause; that there is little agreement as to the amount of iodine required to prevent simple goitre; and that its prevention seems to be a domestic problem for each country. Thus we hear of brilliant results from America and Switzerland, but in New Zealand they do not seem to be of the same order. The New Zealand observations are of the greatest interest because of the careful control which was exercised by Professor C. E. Hercus and Dr. E. S. Barker.<sup>1</sup> They excluded all bias by "taking pains not to know" at the various examinations which of the children had received iodine and which had not. The observations relate to Waimataitai School in Timaru, where 467 children were under observation for six months, and to the Christchurch schools, where 1,514 children were under observation for one year. In the former the system decided upon was to give 2 grams (31 grains) of potassium iodide a year to all children irrespective of age. After six months' treatment, during which time 20 (out of the 31) grains of potassium iodide were administered, the following results were obtained: the thyroid increased in size in 5.7 per cent. of normal children who received iodine; it increased in size in 4.8 per cent. of normal children who received no iodine. In previously goitrous children the results were of a like order: the goitre increased in size in 6.2 per cent. of those who received iodine, in 6.1 per cent. of those who received no iodine. So far as this school was concerned it does not appear that the prophylactic use of iodine influenced the incidence of goitre one way or the other. At the Christchurch schools the results are more encouraging. Sodium iodide was used in this case: children aged 11

and upwards were given 120 grains a year; those aged 8 to 11, 60 grains; those aged 5 to 8, 40 grains a year. The method of dosage adopted was to give a weekly dose for ten weeks in each term (of 4 grains, 2 grains, and 1½ grains respectively) in half an ounce of water. The results were these: the thyroid gland increased in size, during the fifty-two weeks of the experiment, in 55 per cent. of normal children who received no iodine, and in 39.6 per cent. of children who received iodine. In children previously goitrous the goitre increased in size in 43.5 per cent. of those who received no iodine, and in 21.4 per cent. of those who received iodine. In this group of schools, therefore, the prophylactic use of iodine for a period of one year reduced the incidence of freshly acquired thyroid swellings from 55 to 39.6 per cent. The fact appears to be significant that, despite the use of sodium iodide, 39.6 per cent. of children developed goitre, and that if iodine want is to be regarded as the essential cause of goitre its absorption at the intestinal threshold is a question of the first importance. It is significant also that among the school children of Christchurch the administration of iodine for a period of nine weeks was as effective as its administration for fifty-two. Thus, among normal children the results observed were as follows: nine weeks' treatment, 38.5 per cent. showed an increase in size of the thyroid; thirty-eight weeks' treatment, 39 per cent. showed an increase in size of the thyroid; and fifty-two weeks' treatment, 40.5 per cent. showed an increase in size of the thyroid. As to existing goitres, the observers noted that 15.4 per cent. of untreated cases at the Christchurch schools decreased in size, as compared with 35.4 per cent. receiving iodine. But in this note we are dealing with the prevention of goitre, not with its cure. This admirable piece of adequately controlled work by Hercus and Barker is one that should be repeated by skilled observers in a number of selected schools in this country before any further attempt is made to introduce a generalized system of iodine prophylaxis. For we would repeat that the goitre problem seems to be a domestic one for each locality in which goitre prevails.

#### THE OPIUM CONFERENCES AT GENEVA.

THE joint committee of sixteen which was instructed to endeavour to find a way out of the deadlock in which the two opium conferences at Geneva had become involved failed to find an acceptable formula, and on February 6th the American delegation withdrew from the conference. The Chinese delegate has also retired in consequence of the attitude assumed by the American delegation. Lord Cecil, on behalf of the British delegation, deplored the attitude taken up by Mr. Porter on behalf of the United States; he said there was no difference of opinion that the ultimate object was to restrict the production of opium and the coca leaf to medical and scientific needs; but the most effective control at present was to regulate the manufacture of drugs, and the British delegation was disappointed that in the whole American memorandum there was only a passing reference to this. It was proposed to set up a central control board. They would have preferred that the United States should have continued to co-operate. They would, he added, have been stronger with them, but would continue the work without them. From the incomplete reports of the debates which have as yet been received it would appear that the actual or ostensible split occurred over the date from which, after a period of ten or fifteen years, the import or export of "prepared" opium for smoking should, in the words of the Convention of 1912, be "suppressed" or "prohibited." The American and Chinese delegations desired that the date from which the period would run should be the present time. Lord Cecil, on the other hand, impressed with the extent of smuggling

<sup>1</sup> *New Zealand Med. Journ.*, xxii, p. 169.

from China and elsewhere to our Far Eastern dependencies, desired to make the fifteen years of grace run from an indefinite date, to be determined by the League of Nations, when satisfied that opium production in China had been so far curtailed as to remove the dangers of contraband import. It is reported from Delhi that the successful stand made by the British delegation at the Geneva conference against the American proposals is regarded with some satisfaction there. On the other hand, the Mahatma Gandhi is reported to have declared that "if the whole of the opium traffic were stopped to-day, and the sale restricted to medical use only, I know there would be no agitation against it worth the name. Furthermore, from the moral standpoint, there is no defence of the Indian opium policy." It is much to be regretted that the close of the Geneva conferences will, it is feared, leave the opium question in a more controversial state than it was at their inauguration. It is sincerely to be hoped that American co-operation, which was so helpful at Shanghai in 1909, and at the Hague in 1911-12, 1913, and 1914, may again be obtained in effecting that "suppression of the abuse of opium, morphine, and cocaine" which it was the object of the Convention of 1912 to achieve.

#### ANTIQUE MICROSCOPES.

THE celebrated collection of antique microscopes which was made by the late Sir Francis Crisp is to be sold by Messrs. Stevens, at King Street, Covent Garden, on February 17th, thus exemplifying the sad but common fate of nearly all private collections. Among the 371 lots in the catalogue there are many of great interest for their historical associations, their excellence of workmanship, or the beauty or quaintness of their design. In the seventeenth and the first half of the eighteenth centuries microscopes were not the severely practical utilitarian instruments with which we are familiar. The craftsman was not content with having done his best to turn out an optically efficient instrument. He further lavished his time and skill in ornamenting every available part of the apparatus, whether the microscope were a tiny simple hand microscope, such as that made in Augsburg in 1686, and represented in the illustrated catalogue as Lot 10, or the elaborate compound microscope nearly two feet high which furnishes the frontispiece. This microscope, which was made by Adams of Fleet Street about 1746, is of silver and most elaborately ornamented, so much so that, with its Corinthian column and allegorical figures, it looks more like a presentation centrepiece than a scientific instrument. There are several other interesting specimens by this maker in the catalogue which show the excellence of his work. An earlier English maker was J. Marshall of Ludgate Street (circa 1704), whose skill is well represented by several examples, such as Lot 118. In his microscopes the body or optical tube was generally covered with ornamented vellum or leather, and the mounts were of turned wood such as lignum vitae. Lot 132, of which a full-page illustration is given, is of twofold interest—firstly, because of the beautiful inlaid box base on which the compound microscope stands and in which it is to be packed, and secondly, because it was the property of Pope Benedict XIV, and bears the triple crown and the crossed keys in marquetry on its case. This Pope was elected in 1740, but whether he had any serious interest in science we know not. The perfect condition of the microscope and case and the completeness of the fittings suggest that they were not much or often used. Lot 255 is an extraordinary Dutch instrument, having a conical body two feet in length and a field lens five inches in diameter. This Brodwingian microscope is probably unique, but the same may be said of several other lots. Among the solar microscopes is one of which the body tube is supported

by the uplifted arms of a carved allegorical figure, and another giant having a body twenty-four inches long and seven in diameter; only two instruments of the type are known; the other is in the Science Museum at South Kensington. There is such a wealth of interesting objects in this collection that it is difficult to do justice to them in one visit, and we wish that the auctioneers had found it possible to allow them to be viewed for more than one day and a few hours. We advise all those who are interested in the history of microscopy or in skilled workmanship to visit the collection on Monday next, February 16th, or before 11.30 on the day of sale, February 17th.

#### LEAD GLAZES IN COOKING UTENSILS.

FOR many years in this country leadless glaze has been employed for the earthenware manufactured for culinary purposes, but latterly there has been an increasing importation from abroad of casseroles, dishes, and similar articles in which a glaze with a high-lead content is used. Representations to this effect having been made to the Ministry of Health, an inquiry was ordered as to the solubility of this glaze during cooking operations. An account of this investigation, made by Dr. Monier-Williams, chemist in the foods division of the Ministry, has now been published. Having tested the action of citric acid solutions and of various foodstuffs upon a number of these vessels, Dr. Monier-Williams reports that, while there is no serious risk of lead poisoning resulting from their ordinary use in cooking, yet under certain conditions—for example, prolonged use with foods of a high degree of acidity—excessive quantities of lead may be dissolved from the glaze. Apart from this it was not possible to trace any connexion between the acidity of the foodstuffs and the amount of lead taken up. Dr. Monier-Williams does not consider that there is any valid reason why lead should occur at all in glazes, since leadless glazes are used by the great majority of English manufacturers of cooking ware. He adds that in any case it is apparently a simple matter for the manufacturer to produce lead glazes which show a negligible solubility, even on prolonged heating with citric acid solution. Much of the ware, however, that is now imported from the Continent appears to be of a low standard in this respect, sufficient care not having been taken in the control of temperature and the duration of firing in the kiln. It was considered advisable to extend the inquiry to enamelled hollow-ware in view of an outbreak of lead poisoning in 1922, due to the storage of beer in enamelled tanks containing lead. Dr. Monier-Williams found that the danger of injurious substances being taken up in significant amounts by foodstuffs from ordinary enamelled ware was remote. In one instance, however, a considerable quantity of boric acid was dissolved from the enamel of a frying-pan by tomatoes which were grilled in it. He concludes that if acid foods were heated for a long time in vessels of this particular make considerable quantities of boric acid might be dissolved out from the enamel.

#### TISSUE CULTURE.

THE cultivation of animal tissues outside the body, after being for some years little more than a biological curiosity, is beginning to show its value as a serious instrument of investigation. Dr. Carrel, one of the pioneers of the method, gave an address on its bearing on pathological problems to the Section of Pathology and Bacteriology at the Annual Meeting of the British Medical Association at Bradford last year, which was published with illustrations in our issue of July 26th. He then described the methods employed, and observed that though they were still in

<sup>1</sup> Reports on Public Health and Medical Subjects, No. 29: *The Solubility of Glazes and Enamels used in Cooking Utensils*. By G. W. Monier-Williams, M.A., Ph.D., F.I.C. London: H.M. Stationery Office, 1923. Price 6d. net.



their infancy and very ernde, he foresaw that this mode of investigation would have an important bearing upon our understanding of pathological problems because it could reduce complex phenomena into simpler terms and bring to light some of their underlying principles. This method of investigation has been used in this country by several workers, and the President, Sir Charles Sherrington, communicated to the Royal Society on February 5th a paper by Dr. H. M. Carleton on the growth, phagocytosis, and other phenomena in tissue cultures of foetal and adult lung. The result of the investigation was to show that the invasion of the medium in a growing culture is the result of sheet-like epithelial outgrowth from the alveolar epithelium of cut alveoli; of radiating growth of fibroblasts from the connective tissue of the lung; and of "membrane formation," in which the cells of the cicatricial epithelium detach themselves from the implant. Organization of the cleft thus formed is effected by epithelial cells and fibroblasts. These three types of growth may coexist in the same culture. Within the implant there occurs a swelling up, and a detachment of, the alveolar epithelial cells. Mitoses are frequent in these, even in cultures of adult lung. Finally, the implant undergoes a fibroid transformation. A cicatricial epithelium, derived from that of the bronchi, grows over the cut edges of the implant. Sterile coal or carmine particles are actively phagocytosed by both foetal and adult lung *in vitro*. The alveolar epithelial cells are actively phagocytic, the dedifferentiated cells of the cicatricial epithelium less so.

#### INDIAN POPULATION PROBLEMS.

IN a paper read before the Royal Society of Arts (Indian Section) on February 6th, Mr. J. T. Marten, Census Commissioner for India, dealt with some of the problems which emerge from the statistical matter collected in the 1921 census of India. He said that India had a high birth rate, owing chiefly to the universality of marriage and the economic simplicity of living, and a correspondingly high death rate, including a large infant mortality. The difference between the birth and death rates was not greater than in many countries of Europe, and might perhaps be estimated at a normal of 7 or 8 per cent. in a decade. In India, as in every other country, the most prolific portion of the population was the lowest stratum. Of the fluctuating influences determining the periodical variations from the average, the most important, except the catastrophe of famine, was the effect of climate on health, and not any variations in the material conditions of the people. In the matter of housing, clothing, and diet the lowest strata of Indian people were probably not worse off than the slum population of Western towns. The dry years were, on the whole, the healthiest, though they were not usually years of economic prosperity. On the other hand, there appeared to be an intimate connexion between the quantity and distribution of the rainfall and the incidence of disease, such as malaria and dysentery. There was always, in an agricultural population, even among those near the subsistence limit, a considerable margin of resource which enabled them to resist in a remarkable way temporary stringency. Sir Edward A. Gait, K.C.S.I., a former Census Commissioner, who occupied the chair, said that when Mr. Marten estimated at 8 per cent. the normal decennial growth of the population due to the excess of births over deaths, he could not have meant that that was the rate of growth to be expected, for the average decennial increase in the five periods for which statistics were available was only half this figure. On three occasions the increase was  $1\frac{1}{2}$  per cent. or less, once it was  $9\frac{1}{2}$  per cent., and once  $6\frac{1}{2}$  per cent. What Mr. Marten no doubt meant was that 8 per cent. was the rate to be expected in a decade free from widespread famine and from exceptional

unhealthiness. Even so this statement required some qualification, for the rate of growth in any given period was largely dependent on the age distribution of the population, and this varied greatly from time to time. In a severe famine the mortality resulting from insufficient and unwholesome food occurred mainly among the very young and the very old, many of whom, in the ordinary course of events, would have died a few years later, while people in the prime of life were but little affected. Consequently the period after a famine was one of exceptionally rapid growth, a high birth rate being accompanied by a low death rate due to the premature disappearance of many of the bad lives. The terrible influenza epidemics of 1918-19, which swept away  $12\frac{1}{2}$  million of the population, had an equally disturbing effect on the age constitution, but in the opposite direction. This disease was specially fatal to persons in the prime of life, so that at the commencement of the current decade there was an unusually low proportion of married women at the reproductive ages. Sir Edward Gait doubted whether the census of 1931 would show a growth equal to Mr. Marten's "normal" figure. He agreed, however, with Mr. Marten's conclusion that, apart from exceptionally severe and widespread famine, periodical variations in the rate at which the population of India grew depended more on conditions directly affecting the health of the people than on the degree of agricultural prosperity. He added that in India there was no such thing as "birth control." The lowest stratum might have a slightly higher birth rate, but he thought this was neutralized by a higher infant mortality.

#### PRISON AND THE PRISONER.

THE report of the Prison Commissioners for 1923-24<sup>1</sup> affords ample material for reflection, and much for congratulation. Less and less satisfactory are found to be the old methods of exalting the purely punitive side of imprisonment, while ignoring the many opportunities which prison life might afford of training prisoners to direct their thoughts and activities into channels which would provide them later with a sane alternative to crime. The Commissioners intend to take full advantage of all opportunities of training and re-education, and the record of their efforts in this direction is encouraging. There are several impediments to progress. One is the presence in the prison population of a number of weak-minded individuals who are neither insane nor mentally deficient in the technical sense, but are unable to benefit by any such scheme of training as is proposed for the normal prisoner. It is intended to place these under the charge of a special staff so soon as this can be provided. There is also the question of the association of young men in prison with hardened offenders. This under present conditions cannot be wholly prevented, and the Commissioners urge the provision of a separate establishment for young prisoners to ensure complete separation and special training. Lastly, there is the difficulty occasioned by the presence of longer-term prisoners along with those who are serving only a short time. The presence of the latter interferes with the proper working of an efficient scheme of training. The Commissioners have begun to meet this difficulty by using Wakefield Prison for the training of longer-term prisoners to the exclusion of others; since the experiment was initiated there have been very few cases of recidivism amongst the 218 men discharged. It need not be feared that the sole intention of the Commissioners is to render the prisoner's lot a happy one. Their object is to fit him for his duties as a citizen when he comes to be discharged. "The means to this end are," it is said, "fairly long hours of hard and steady work at an occupation which shall, if possible, give such industrial training as will enable the offender to earn his living;

the removal of needless degradations, and the encouragement of self-respect. The prison day should be hard, but the object is not mere severity. It should be interesting, but the object is not to make it pleasant. The aim is to make a citizen by quickening and directing the activities of both mind and body." There can surely be no two minds about the essential wisdom of such a project, tempered as it is by sound practical considerations. Coincident with the introduction of these reforms, and presumably because of them, there is said to be a marked change in the attitude of the prisoners themselves. As witness to this are the remarks of the governor of Hull Prison. "The atmosphere is now such," he says, "that a troublesome prisoner, instead of receiving at least sympathy from other prisoners as formerly, must plainly see that they regard him as being a disgrace to the establishment." The Commissioners pay special tribute to the increasing care exercised by the courts in the investigation of the circumstances of offenders and the avoidance of unnecessary committal to prison. The more liberal use of probation is urged in cases of young first offenders. Of the numerous reports submitted to the Commissioners that of the medical officer of Birmingham Prison (Dr. M. Hamblin Smith) calls for special mention, on account of the attack therein made on the system of committing offenders to prison without consideration of their individual requirements. He considers that the main cause of past failures has been neglect to recognize in criminal conduct a definite mental abnormality. He would have the problem of the delinquent envisaged alongside the problems presented by other mentally abnormal persons, and would have the treatment of the offender regarded as essentially a psychological problem. It certainly cannot be denied that many crimes have an undoubted psycho-pathological basis. Examples that may be instanced are many cases of pilfering in young persons, and the commission of offences because of an unconscious feeling of guilt. Such abnormal motivation of criminal conduct is only discovered by the expert psychologist; and in so far as Dr. Hamblin Smith's criticism of present methods draws attention to the need of such experts in the courts, it is of particular service. It is a far cry from that, however, to the doctrine that all crime is a disease made manifest, and some degree of caution must be exercised in accepting the tenets of a school of thought whose propositions are dangerously akin to such doctrine.

#### FRENCH SPAS.

PROFESSOR ALBERT ROBIN, who has written a preface for an album of the spas of France compiled by a French medical committee, thinks it necessary to apologize for the elegance of the volume and the beauty of the photographs it contains, and to insist that it gives also accurate information sufficient to guide a doctor in selecting a place suitable for his patient. This is true, but Professor Robin's serious intentions will, in not a few instances, be imperilled at a first glance because many French spas are in very beautiful situations; such are Aix-les-Bains, Cauterets, Allervard, Eaux-Bonnes, and Uriège, to mention only a few. Even in the plains the architect and town planner have gone far to make up for scenic deficiencies, and to reconcile the invalid to spending his days in sunny gardens and umbrageous parks. Vichy, for instance, is an excellent place in which to be lazy during the intervals left between the strenuous and varied therapeutic devices it so lavishly provides. There is, indeed, for very many people a fascination not easy to define about a well appointed French spa, whether in the Vosges hills, among the Pyrenees, or in the plains. The patient is expected to be up betimes, but the serious business of the day is got over in the morning, and in the afternoon rigid discipline is so far relaxed that he can feel himself once more his own

master and indulge in such recreations as the state of his health permits. Owing mainly to the university vacation the French spas are most frequented in July and August. Professor Robin suggests that where possible the months of May and June, or September, should be chosen; the extremes of summer heat—which can be very considerable, not only in the plains, but in a southern mountain valley—are avoided, the doctors have more time at their disposal, and the hotels, being less crowded, are able to give more favourable terms to visitors. The pamphlet is issued in this country by the Office Français du Tourisme, 56, Haymarket, London, S.W.1, where full particulars of the qualities of each spa and the best way of reaching it can be obtained.

#### INFLUENZA.

LAST week the number of deaths from influenza in the great towns of England and Wales again increased, but less than in the previous week—namely, from 195 to 202, as compared with an increase from 142 to 195. London alone showed a greater rate of increase; the figures of the last three weeks were 36, 39, 48. Manchester was the only city other than London recording more than 10 deaths (18). Five others—Bury (5), Salford (7), Bolton (5), Burnley (5), and Leeds (6)—had 5 or more. There has been a further increase of notified pneumonia, particularly in London and the North, but the statistical indications do not make it probable that the present recrudescence will be very serious. While the mortality of this epidemic is not heavy, it is common knowledge that influenza has been extremely prevalent in many parts of the country during the past few weeks.

#### REX V. BATEMAN.

THE medical profession will, we doubt not, have learnt with a deep sense of relief that the Court of Criminal Appeal has allowed the appeal against the conviction and sentence of Dr. Percy Bateman, a medical practitioner of New Cross Road, London, who was found guilty on December 12th, at the Central Criminal Court, of the manslaughter of a woman patient, and sentenced to six months' imprisonment in the second division. An account of the trial appeared in the BRITISH MEDICAL JOURNAL of December 20th (p. 1179), and a full report of the application for leave to appeal in last week's issue (p. 285). This week we publish at page 334 a report of the proceedings in the Court of Criminal Appeal on February 9th and 10th. The case for the appellant was listened to with the closest attention by the three judges (the Lord Chief Justice, Mr. Justice Salter, and Mr. Justice Fraser), and Mr. Norman Birkett, K.C., in the course of his ably sustained argument, had the advantage of many illuminating questions and comments from the Bench. It will be seen that the Lord Chief Justice, at the conclusion of the case for Dr. Bateman and the reply for the Crown, said that the Court was of opinion that the appeal ought to be allowed and the conviction quashed, but that in view of the importance of some of the questions raised their lordships proposed to consider their judgement and to deliver it at a later date. In view of this we think that comment by us should go no further at the moment, beyond expressing satisfaction at the outcome of this most important and most distressing case.

WE are glad to learn that Dr. Herbert Jones, whose recent illness has caused his many friends some anxiety, is making satisfactory, though slow, progress towards complete recovery. Dr. Herbert Jones was president of the Society of Medical Officers of Health a few years ago, and president of the Section of Public Medicine and Industrial Diseases of the Annual Meeting of the British Medical Association at Bradford last year.

## THE NEW MISSING LINK.

BY

SIR ARTHUR KEITH, M.D., F.R.S.,

CONSERVATOR OF THE MUSEUM OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

PROFESSOR RAYMOND DART, whose discovery of a "missing link" in South Africa has fallen like a bombshell on anthropological Europe, is well known to British anatomists. He is one of the many young medical graduates of Sydney University whose minds were bent towards research in anatomy by Professor J. T. Wilson, before this distinguished anatomist left Australia for Cambridge. In post-graduate days Professor Dart worked at University College, London, with Professor Elliot Smith, at the Royal College of Surgeons, and in research laboratories of the United States. He went to Johannesburg some three years ago to occupy the chair of anatomy in the University of Witwatersrand. In South Africa he found an earnest band of investigators opening up unexpected chapters in the early history of man. Old river-beds were yielding a sequence of stone implements almost as ancient as those of Europe. The remains of a fossil man had been found at Boskop, and soon after Professor Dart's arrival other human remains were found deep in the floor of a rock shelter on the southern coast of Cape Colony. These were examined by Professor Dart, and found to be of the Boskop race. Then came the discovery of Rhodesian man in the bowels of a limestone kopje in Rhodesia—a much older and more primitive type than that of Boskop. And now comes an equally remarkable discovery which is largely due to the initiative and perspicuity of Professor Dart.

In November last a lady demonstrator brought him the fossil skull of a monkey—a baboon. It came from a limestone quarry situated at Taungs, eighty miles to the north of Kimberley. There the quarrymen had worked their way 200 feet into a limestone bluff which rises 50 feet above the dry veldt of the surrounding country. The monkey's skull was blasted from the rock. Finding that his colleague, Dr. R. B. Young, professor of geology, was going to Taungs, he asked him to inquire into the source of the fossil bones in the quarry. Dr. Young arrived at the quarry in time to receive a mass of material just blasted from the base of the working face of the quarry. He gathered the fragments, and handed them to Professor Dart on his return.

In the mass of limestone Professor Dart found a cast which had formed within the brain cavity of a skull, and from the adjoining block he chiselled out the forehead and complete facial parts which went with the brain cast. The blasting had shattered and de-

stroyed most of the cranial bones. From these fragments the discoverer reconstructed the being to which he has given the name *Australopithecus africanus*. So exact and clear are his drawings and his descriptions that those who have studied his preliminary account in *Nature* (February 7th, p. 195) have all the data placed at their disposal for coming to an independent opinion. Indeed, those who have charge of much larger collections of anthropoid and human skulls and brains than

were at the disposal of Professor Dart have a somewhat unfair advantage over him. But with all these disadvantages against him his main conclusions are certain to stand.

He speaks of this new being as a "man-ape," and as standing "between living anthropoids and man." These are his expressions, but when we examine his text we find him quite alive to the fact that the animal he has brought before the scientific world is a man-like ape or anthropoid. The size and convoluted pattern of its brain leaves one in no doubt of this matter. Many fossil fragments of higher anthropoid apes have been found on previous occasions, in Europe and India, but this is the first time we have seen the complete face of one of them. In this case, the animal is young; the first permanent molar teeth have cut and are coming into place; this happens in the gorilla and chimpanzee towards the end of the fourth year—two years earlier than in human children. The face in all its lineaments is that of an anthropoid; there are blended in it some



Norma facialis of *Australopithecus africanus* aligned on the Frankfurt horizontal. (Reproduced here by the courtesy of the Editors of *Nature* and of the *Illustrated London News*.)

features of the chimpanzee, others of the gorilla, and some which belong to neither. But of humanity there is no trace save in one respect—its jaws are smaller and its supraorbital ridges less developed than in a chimpanzee of a corresponding age. There is a reduction in jaw development, and such a reduction has certainly taken place in the evolution of man. Further, the milk canines are less pointed than are those of the young chimpanzee, and the interdental space in front of the upper canine is less.

In volume the brain of this new anthropoid is of the size we find in young gorillas, but its shape is different. In the brain of the gorilla the width is 82 per cent. or more of its length; the gorilla—and the same is true of the two other living anthropoids, the chimpanzee and orang—is round-brained. The gorilla is low-brained; its height is small compared with its length. *Australopithecus* is long-brained; from Professor Dart's measurements one infers that

the width was 71 per cent. of the length; the brain is compressed from side to side, and is high. Thus, amongst anthropoids, as amongst living races of mankind, we have long-heads or dolichocephals and round-heads or brachycephals. Earth pressure may compress a skull from side to side and thus alter the natural shape of the brain cavity, but one may be sure that Professor Dart was alive to this source of distortion and excluded it.

Thus we have made known to us a high anthropoid, one which is clearly related to chimpanzees and gorillas but differs from both, and in the points wherein it differs making some approach towards man. Its exact relation to the human phylum will be cleared up by its geological age. To have any claim to stand in or near the human line of descent it must be able to claim an early Miocene date at least.

All living anthropoid apes are confined to tropical jungles. The limestone bluff which served as a tomb for this new anthropoid child lies 2,000 miles from the haunts of the gorilla and chimpanzee. The first supposition one makes—and it is justified by what we know of Europe—is that the climate of South Africa has changed, and that the tropical belt had once spread over the arid deserts of Bechuanaland. Professor Dart, on the other hand, leans to the supposition that Australopithecus may have assumed the posture and habits which have become perfected in man, and was thus able to wander far beyond the jungle limits. We cannot be certain of posture until we find a bone of the lower limb. One cannot see any character in the skull which justifies the supposition of an erect posture.

Further evidence will make clear how this fossil skull, and numerous others belonging to monkeys of the baboon type, became embedded in the limestone cliff at Taungs. One infers that in these limestone cliffs caves had formed, and that they again, with a change in climate, became filled and obliterated by stalagmite forming on their floors and walls. Animals which had died in the cave would thus have their bones preserved as fossils. These caves may not be older than late Pliocene or earlier Pleistocene.

However this may prove to be, there can be no doubt of the high importance of Professor Dart's discovery. He has found and given an exact and full description of a new and high kind of anthropoid ape; it is not only a missing link but a very complete and important one, but it lies altogether at the anthropoid end of the chain which culminated in man. It is a discovery which places Professor Dart's name in the front rank of students of the evolution of man and anthropoid.

## France.

[FROM OUR OWN CORRESPONDENT.]

### Travelling.

The French have ceased to deserve a reputation for ignoring geography. At any rate, as regards the medical world, we have many opportunities of travelling, if it were but on account of the numerous congresses. But now Dr. Loir of Havre, a great believer in thalassotherapy, is inviting us to make sea trips so that we may preach to our patients from personal experience to do the same. For those of us who can find time to take a three weeks' holiday this would be a marvellous opportunity of touring round the Mediterranean, in congenial company, and of studying some scientific subjects. If our many schools are represented on board they are sure to have quite a good discussion on the ever new subject of *varicella*. An invitation perhaps even more tempting is extended to all medical men

—foreigners and French—by the Cie Transatlantique to visit Morocco and Algeria. Two tours have been organized: one leaving Bordeaux on March 30th for Casablanca and returning from Algiers so as to reach Marseilles on April 24th; the second, leaves Marseilles on April 18th and terminates in Bordeaux on May 14th. The travelling by land will be by motor car, and all places of interest are to be visited under expert guidance. Full information can be obtained from Dr. V. Gardette (3, rue Alexandre de Humboldt, Paris 14).

A striking novelty in Morocco is the aerial ambulance service for the French expeditionary corps. Some 1,500 patients have already been evacuated through the air with no mishap. In many cases the time saved was in the ratio of a minute to two hours—namely, a twelve minutes' flight would bring a wounded man to a comfortable and safe refuge which could not have been reached under twenty-four hours by land transport. One plan is to bring the patient to the surgeon, and another is to bring the surgeon to the patient. Therefore the *aero-chir*, which is nothing less than a flying operating theatre, has been brought into existence. Professor Tuffier was the first to use such an apparatus in Morocco when rendering first aid to a French officer. The demonstration has been so complete that a medical member of Parliament, M. Chassaing, has proposed that every part of France should be equipped so as to allow the rapid evacuation by air of urgent cases. Realization sometimes works quicker than imagination.

### Physician v. Physicist.

Modernization of methods was never better illustrated than at one of our medical *concours* in a provincial faculty. The subject of a written paper had been given to the candidates and they were secluded from the wide world, when the denn was called on the telephone and informed that one of them was communicating with the outside by means of wireless; should he call at such and such room he would certainly be edified. Incredible as it seemed, the fact proved true. Asked what he was doing with that microphone, a young man answered that he was "experimenting." He was informed that the nature of his experiments was sure to interest the magistrate and that in the meantime if he handed over his resignation from his present appointment it would certainly be accepted. So this young man will have to devote his capacities to some other branch of science than medicine. We suggest physics.

### The Fight against Tuberculosis.

The President of the Republic took the chair at the Sorbonne last week at the meeting of the committee of the various associations fighting tuberculosis. In our country, where the problem of natality is appallingly urgent, the question of protection of infants is of the utmost importance. Professor Calmette showed that preservation is obtained every time that infants are separated from an infected parent. His suggestion is to provide for the child as soon as possible after birth. The country is well armed for that purpose, and statistics prove that many lives are saved. Cruel as it may seem to have one's child taken by hygienists, still it is less cruel than to have it taken by meningitis. The education of the public has now progressed enough to make this understood and accepted. In the same spirit our first mountain sanatorium for heliotherapy has just been opened at Odeillo in the Pyrenees, at an altitude of 5,000 feet. It is open to children under the protection of a certain number of institutions, priority being given to war orphans.

### Bone Prothesis.

In the Necker Hospital amazing improvements are being carried out in osteoprotehesis. The way bone can be replaced by plated ebonite can only be believed by those who actually see the patients and the skiagrams. Dr. Robineau has been waiting to publish his results until a sufficient number of years should have elapsed to make them certain. At the International Congress of Military Medicine (Paris, April 20th to 25th) we may expect to hear a few startling papers. This congress, with its wide opportunities of visiting various parts of France, is proving quite a success, and we hope that our British comrades will not miss this opportunity. Lest we forget!

G. Monro.

## Ireland.

### HONORARY F.R.C.P.I. CONFERRED ON SIR HUMPHRY ROLLESTON.

SIR HUMPHRY ROLLESTON, Bt., K.C.B., President of the Royal College of Physicians of London, was on Saturday last admitted to the Honorary Fellowship of the Royal College of Physicians of Ireland. The function took place in the College Hall, Kildare Street, Dublin, in the presence of a large and distinguished gathering. The Governor-General, the Provost of Trinity College, and Lady Aberdeen attended. The President, Sir William Thompson, who presided, welcoming the visitors, said that the most valued of many highly prized heritages of the College was its option to confer its Honorary Fellowship, from time to time, on men who had distinguished themselves in the profession of medicine, the allied professions of science, literature, and the fine arts. This privilege had always been most jealously and meticulously guarded, and none but those outstanding in their professions had ever been admitted. In the case of Sir Humphry Rolleston the College had no hesitation in unanimously electing him to Honorary Fellowship. In his address conferring the honour the President said that the College had 3,200 on its rolls, and they felt honoured in adding to that number one so distinguished in the medical profession. They had all watched with interest, pleasure, and pride, Sir Humphry Rolleston's steady progress on the ladder of success to his present unassailably eminent position. They all earnestly prayed that the new Fellow would long be spared to enjoy not only the Honorary Fellowship of the College, but the many other distinctions and honours which had been so deservedly conferred on him. Sir Humphry Rolleston was then duly admitted to the Honorary Fellowship and signed the roll.

The new Fellow returned thanks for the honour conferred on him, and proceeded to read an address on individual links between the Colleges of London and Ireland. His admission as a Fellow of the Irish College was a tribute, he said, to the sister College in London. These two Colleges had the same ideals as their aim: their pharmacopoeias were on the same lines, and the Presidents of the Irish College had been members of the Decennial Committees for the nomenclature of diseases. In the eighty years from 1836 to 1916 it was of interest to know that no less than twenty-eight Fellows of the London College, including presidents, had been by courtesy admitted to the Fellowship of the Irish College. Although younger, the Irish College had done what the London College had not done—last year it had admitted a lady, Mrs. Mary Hearn, as a Fellow. The Irish College as far back as 1877 had taken the lead in admitting women as licentiates—an example not followed by the London College till 1909. In addition to their great founder, Dr. Stearne, the lecturer referred to many prominent men who had been connecting links between the two Colleges. Sir William Petty, one of the original thirteen members, had been described as one of the most remarkable figures in Irish life. He had served as Physician-General to the Army, and had undertaken the task of surveying the country for the purpose of distributing the lands. In the following century there were at least three distinguished Irish physicians who contributed to strengthening the ties between sister colleges. These were Sir Edward Barry, Dr. Anthony Pelham, and Dr. Thomas Brooke. Barry was born in Cork about 1689, and after practising there came to Dublin, where he quickly won a high reputation, which was enhanced by a very learned work which he published on *Consumption of the Lungs*. He was Physician-General to the Forces, and was elected M.P. for Charleville. Later he went to London, and was admitted a Fellow of the London College, as were his contemporaries, Pelham and Brooke.

Proposing a vote of thanks to the lecturer, Dr. Walter Smith, Father of the College, and ex-president, said the name of Rolleston required no adventitious illumination. Sir Humphry's father, George Rolleston, was a man of graceful character, and had won merit as a professor

at Oxford University. Sir Humphry Rolleston had made some notable contributions to medical literature. He had spread his activities in many directions, and had served his country in several capacities in peace and war. It was no wonder that numerous honours and distinctions should fall to his lot, including being gazetted Surgeon-Admiral of the Royal Navy, an unusual distinction for a physician. In addition to his other qualities he had a facile pen, and had written a very interesting and instructive book on *The Medical Aspects of Old Age*. Sir John Moore, who seconded the vote of thanks, said that Sir Humphry Rolleston's record was one of unparalleled service to humanity, and in particular to the soldiers and sailors of His Majesty's Forces, giving them the advantage of his knowledge and skill during the great war, when he was consulting physician to the Royal Navy. His admission to the Fellowship of the Royal College of Physicians of Ireland forged one more link in the golden chain which bound the two Colleges together. The vote of thanks was carried with acclamation, which Sir Humphry Rolleston acknowledged, and the proceedings terminated.

### THE ROYAL VICTORIA HOSPITAL, BELFAST.

Dr. R. Marshall delivered a very interesting address to the Belfast Medical Students' Association on February 4th. Professor Fullerton was in the chair, and many of the visiting staff were present. The lecturer gave a brief account of the first records of hospital and dispensary work, and referred more fully to the *History of the General Hospital*, by A. G. Malcolm, M.D., one of its physicians, published in 1851; he also quoted some of the figures from early annual reports; these showed the gradual and steady increase of operations, number of admissions, and general work of the institution. The name was changed from the General Hospital to the Royal Hospital, and then, when it migrated to its present site, to the Royal Victoria Hospital in 1903. It was impossible to mention all the benefactors—their number was too large—but members of the Donegall family were always to the fore; for its present building and equipment the hospital was deeply indebted to the late Lord Pirrie, and to its president, Lady Pirrie.

The members of the medical staff, the superintendent (Colonel Forrest), and the students joined in warm and appreciative thanks to Dr. Marshall; reminiscences of earlier days, often of an amusing and not strictly professional nature, were related.

### THE JUBILEE NURSES.

Lady Elizabeth Kenmare, president of the Queen Victoria Jubilee Institute for Nurses, in the course of a communication addressed to the press, states that recent appeals, first for the endowment fund of the Queen Victoria Jubilee Institute for Nurses, and, secondly, for the relief of the distress in the West carried out by the Jubilee nurses working under Lady Dudley's scheme, have created a confusion in the mind of the public. It is desired to make it clear that the joint work is carried out by two committees under one organization. Twenty-five Queen Victoria Jubilee Institute nurses are partially maintained by a fund raised by the late Rachel Lady Dudley. They are managed by a committee in Dublin, because in the isolated districts where they work there is no possibility of forming local committees of management or of raising funds. The supposition that there are two independent organizations is harmful to both, as the work is one and the same, only differing in the fact that twenty-five nurses are managed from Dublin and the others by local direction.

## England and Wales.

### MANCHESTER SANATORIUM.

MANCHESTER City Council has decided to proceed with the scheme for installing 210 beds for tuberculous children at its sanatorium at Abergele; a further addition of 336 beds is contemplated in the future. The sanatorium is placed in an estate of 355 acres, and the new buildings to accommodate children will be erected on a plateau separated by a narrow gorge from the main buildings of the sanatorium. A southerly aspect enables the full value of the morning sun



to be obtained, with protection from the heat of midday and the afternoon. The Manchester Education Committee will undertake the supervision of education and of the teaching staff for these children. At present there is only accommodation for ten children in a small cottage on the estate.

#### BLACKBURN HEALTH EXHIBITION.

The Publicity Committee of the County Borough of Blackburn has organized a health exhibition which opened on February 11th and will continue until the 21st. The exhibition is entirely educational, without any commercial side; it has been prepared by the Central Council for Infant and Child Welfare and the staffs of the borough departments, particularly those concerned with public health and cleansing. Daily lectures have been arranged and also visits to the hospitals, open-air schools, farms, welfare centres, and other institutions. In connexion with the exhibition a handbook has been published, describing its objectives and some of the schemes for improving the public health in Blackburn. Short descriptions, illustrated by photographs, are provided, and make it possible to appreciate the great extent and value of the work that is being carried on. An interesting table is supplied of the cost of the various activities, both actually and also expressed in terms of a penny rate. Another table illustrates the reduction in sickness and the death incidence during the last forty years. The great reduction in infant mortality since 1890 is shown by a striking chart; this ratio has been reduced to less than half, the reduction representing a saving of 221 infant lives each year. In connexion with the exhibition sermons will be preached in various churches, and health plays are being performed.

#### NEWCASTLE-UPON-TYNE.

##### *Plastic Surgery of the Face.*

Mr. H. D. Gillies, surgeon to the Queen's Hospital, Sidcup, recently gave an address to the members of the Newcastle-upon-Tyne and Northern Counties Medical Society in the Royal Victoria Infirmary, Newcastle. In introducing the lecturer the President, Dr. Charles, alluded to the high character of the work Mr. Gillies had done, which entitled him to be regarded as a surgeon-artist. Mr. Gillies, in an admirable address, illustrated by lantern slides and photographs, riveted the attention of his audience by the description of his operative methods, the originality of which was fully recognized. The first thing necessary in every case, he stated, was to make a diagnosis, for without it no adequate treatment was possible. On the screen he showed how he obtained large skin grafts from the abdominal wall, transplanted these to the arm, for example, and subsequently from the arm to the face. These "sausage grafts," so called from their shape and consistence, supply an excellent type of skin, as was seen in the case of a young woman to whom he had, practically speaking, given, externally, a new neck. From the lantern slides it was readily observable what wonderful results had been obtained by the transplantation of sausage and Thiersch pressure grafts to faces which had been rendered repellent as a consequence of shell wounds or burns. In the evening the lecturer was entertained to dinner in Tilley's rooms by the council of the society. Twenty sat down to dinner. The chair was occupied by Mr. Willan, and the vice-chair by Mr. T. A. Hindmarsh. After the loyal toast had been honoured, Sir Thomas Oliver proposed that of "Our Guest," and in doing so said he regarded it as a great privilege that as a physician he should have been called upon to propose the health of their distinguished visitor. During the war the speaker had visited the hospitals in Amiens and Paris, where he saw, and was impressed by, the plastic face surgery which the French and American surgeons were doing, but the address to which he had listened that afternoon, and the results achieved by the operator, made him feel proud of British surgery. He congratulated Mr. Gillies on the success he had already attained. It was a line of practice in which he was pre-eminent. The toast was received with musical honours. On the following afternoon, in one of the theatres of the Royal Victoria Infirmary, Mr. Gillies operated upon two patients, in one of whom he prepared an abdominal graft for the treatment of extensive ulceration of the skin over the tibia.

#### *Lectures on Citizenship.*

In the Church of the Divine Unity a course of Sunday evening lectures is being delivered, the title of the course being "The town we live in." Last Sunday the second lecture was given by Professor Harold Kerr, medical officer of health for the city, who chose for his subject "The city healthful." Dr. Kerr dealt with such subjects as the increased longevity of recent times, the reduction of infantile mortality rate, the marked improvement in the death rate of tuberculosis, and with slums and the public parks. The lecturer brought his address to a close by appealing to the people of Newcastle themselves, who must, if they wish to have a "city healthful," personally co-operate in order to attain that end.

#### LEICESTER ROYAL INFIRMARY.

The annual meeting of the governors and subscribers of Leicester Royal Infirmary was held on January 28th. Mr. H. Johnson, house-governor and secretary, in presenting the annual report, said that the new wing added to the hospital had been instrumental in reducing the waiting list of patients from several hundreds to less than one hundred. The admissions to the adult ward had increased from 4,143 in 1923 to 4,758; but the admissions to the children's hospital had decreased from 756 to 719. There had been an increase in the number of in-patients from 4,899 to 5,477. During the year the increase in attendances in consequence of accidents had risen from 83,512 to 89,426; accidents in the street, and in factories owing to their increased number, were becoming more numerous week by week. The governors had authorized the expenditure of approximately £5,000 for additions to the casualty department, which was erected about twenty-four years ago. It was expected that there would be a deficiency of about £9,000 on the year's working, the total expenditure being £74,000, as compared with £65,000 in the previous year, and the income being £64,160. The sum of £9,000 from special donations and legacies had been added to capital. It was evident that no less than £10,000 a year was needed in the way of new income, but the appeal that had been made for £100,000 was now approaching completion, £92,000 having already been received.

#### THE FREEMASONS' HOSPITAL.

The annual meeting of the Freemasons' Hospital and Nursing Home in Brompton Road, London, was held on January 28th, the chair being taken by Lord Marshall of Chipstead, Past Grand Warden. The chairman's report stated that during the previous year 481 patients had been admitted, as compared with 427 in the previous year; the number of operations had increased from 374 to 449. On several occasions the waiting list had been as high as forty. During the year £1,725 had been devoted to the assistance of 110 patients who were unable to pay the hospital fees. The board of management had decided to close the list of founding lodges. An extension of the hospital would soon be necessary, although only surgical cases were dealt with. Lord Marshall, in presenting the treasurer's report, appealed for further donations in view of the increased number of beds that had been provided. At the end of December the £120,000 required for the endowment fund had been secured, and the invested funds were now nearly £110,000, but the excess of expenditure over income during the year had amounted to £2,579.

#### CLEAN MILK.

The importance of clean milk is being more and more recognized alike by producers, purveyors, and consumers, with the result that apart from Government departments voluntary organizations are taking an active part in the movement for attainment of perfection in the provision of this article of primary importance to infant and general welfare. The council of the National Clean Milk Society has now issued a print of recommendations in respect of immediate future milk legislation. It urges that the Tuberculosis Order of 1914 should be reintroduced with an amendment relating to compensation for condemned and slaughtered animals, the point being that the amount paid to the owner should be limited to the sum received by the local authority for the value of the carcass. Also it advises

that the Acts of 1915 and 1922 be consolidated subject to certain amendments. Such designations of milk as "guaranteed," "nursery," and "invalid's" should, the society holds, be illegal, and only those should be allowed which are referred to in Milk (Special Designations) Orders; milk should be sold by imperial measure; a local authority should have power to prohibit the sale in its area of milk if it finds the public health "is or is likely to be endangered" thereby; pasteurized milk should be so described; centrally approved model milk regulations, including classification and bottling, should be adoptable by local authorities; in boroughs of over 50,000 inhabitants there should be power, with central consent, to require the pasteurizing of all milk other than "certified" or "Grade A (tuberculin tested)." Other recommendations relate to milk designations, bottle caps, inspection by local authorities, and regular reporting of the results of inspection to the Ministry of Health. It will be seen that the society has given much attention to the details of milk provision and sale, and no doubt in its turn the Ministry will give careful consideration to the advice of a body which specially devotes itself to the subject.

#### CENTRAL MIDWIVES BOARD.

At a meeting of the Central Midwives Board on February 5th, when Sir Francis Champneys was in the chair, the Standing Committee dealt with a letter from a county medical officer of health as to midwives who had not notified their intention to practise, with regard to the calling in of medical aid and other points connected therewith. A reply, drafted by the chairman, was approved. Information had been received from the institution at which, recently, nitric acid had been used in mistake for silver nitrate, stating that the use of nitric acid had been discontinued. Dr. Rhoda Hicks Butler Adamson was appointed to fill the vacancy, caused by the death of Dr. J. B. Hellier, as examiner at the Leeds Centre. It was reported that the representatives on the Board of the various bodies had been reappointed without any change. The next meeting will be held on March 5th.

#### PRESENTATION TO DR. WRIGHT HILL.

Dr. J. Wright Hill, who was recently presented with several gifts by his friends on the occasion of his retirement after thirty-eight years' medical practice, took a very active share in the administrative side of medical work. He was a member of the West Ham Panel Committee and chairman of the East Ham Panel Committee. He is at present the chairman of the Stratford Division of the British Medical Association. During the war, besides his very heavy clinical work, he served as chairman of the local branch of the British Red Cross Society, in consideration of which he was appointed a governor of Queen Mary's Hospital, Stratford. Dr. Hill is also a justice of the peace.

## Scotland.

#### ROYAL MEDICAL SOCIETY OF EDINBURGH.

The annual dinner of the Royal Medical Society of Edinburgh was held in the hall of the Royal College of Physicians on February 5th, Dr. T. Drummond Shiels, M.P., presiding over a company numbering about 120. The guest of the evening was Mr. Alexander Miles, M.D., F.R.C.S., and among those present were: Lord Provost Sir William Sleigh, Professor G. Lovell Gulland, P.R.C.P.Ed., Sir Harold Stiles, P.R.C.S.Ed., Sir Robert Philip, and Surgeon Commander P. L. Crosbie, R.N. The chairman, proposing the toast of the guest, said that on the roll of the guests at the annual dinners of the society there were many eminent names, and they were proud to add to that roll the name of Mr. Alexander Miles, who was not only a great surgeon but also a great teacher, which was even rarer. Mr. Miles, proposing the toast of the Royal Medical Society of Edinburgh, said that it was, and always had been, a students' society; the bulk

of its members were still undergraduates. It was true that a few remained in active membership for a year or two after graduation, but these were usually house-physicians and surgeons in the hospitals or assistants in the laboratories of the professors and lecturers. It was well authenticated that the society was founded in August, 1734, and that it was thus the oldest medical society in the kingdom. Its inception was due to six students, who, after spending a social evening together in a tavern, agreed to meet once a fortnight in their respective lodgings, where a dissertation in English or in Latin on some medical subject would be read by one of them and be discussed by the others. This band of six was soon joined by one whom they were always proud to count among the founders of the society—the celebrated William Cullen—who perhaps more than any other man served to make the foundations sure. At the time when the society was founded medical opinion was in a state of flux. Medical practice had for long been based on the doctrines of speculative philosophers, of whom Boerhaave of Leyden was the chief apostle. A new school directed by Hofmann sought to replace these abstract theories by knowledge based upon observed facts. Cullen was one of the leaders of this school; he exerted a powerful influence upon his fellow members, stimulating them to think and to observe for themselves, and to question on every point the voice of authority. That had always been, and still was, the spirit which pervaded the society. It was an interesting coincidence that they were meeting on the anniversary of his death 135 years ago. It was mainly through the influence of their society on the Edinburgh school that the doctrines of Hofmann and his experimental system triumphed eventually.

In 1737 the society drew up a constitution and adopted the name of the Medical Society. In 1778 it became incorporated under Royal Charter, and a hall was built in Surgeons' Square, where the members remained till 1852, when they acquired the present hall and offices in Melbourne Place. The society had one of the finest medical libraries in the country, containing well over 30,000 volumes. During the war years, however, its revenue suffered seriously, with the result that there was a curtailment of the books purchased for a series of years, and a large gap existed on the shelves of what was an otherwise complete library. Mr. Miles appealed to old members of the society who could spare any books published during these lean years to communicate with the curator of the library. The membership of the society included the names of many men who had made medical history in this country for nearly two centuries. Among its most distinguished members in medicine Mr. Miles mentioned Andrew Duncan, Richard Bright, Marshall Hall, Robert Christison, Douglas MacLagan, Byrom Bramwell. In surgery there were the Bells, Robert Liston, William Fergusson, James Syme, and—the greatest of all—Joseph Lister; whilst in obstetrics there were James Young Simpson, A. R. Simpson, and Halliday Croome. A great many of their members had also become distinguished outside medicine. Such were Mark Akenside, the poet; Oliver Goldsmith; Mungo Park, the explorer; Sir Henry Holland, the traveller; Sir Gilbert Blane, who introduced lime juice into the navy; Sir Charles Hastings, the founder of the British Medical Association; Robert Finlay; Thomas Addis Emmet, the Irish patriot; and Charles Darwin. The society was now an integral part and one of the most valuable assets of the medical school.

#### PROPOSED COLONY FOR THE FEEBLE-MINDED.

Lord Provost Sir William Sleigh presided at a public meeting held in the City Chambers, Edinburgh, on January 27th by the Edinburgh Women Citizens' Association, to further a scheme for the establishment in Scotland of an industrial colony for the permanent care of the feeble-minded. Lady Leslie Mackenzie, Chairman of the Scottish Council of Women Citizens' Associations, said that the several associations had come to the conclusion that the time was opportune for action. The word to be stressed was "permanent." It was true that school boards had power to establish special schools where children could be trained until the age of 16, but the feeble-minded remained children in mind no matter what age or size they reached, and it was calculated that somewhere between

two and three hundred left the special schools every year. The object of the proposed colony was to take permanent care of inmates at all ages, to give as much school work as was necessary, and to train the inmates for work with complete separation of the sexes and proper classification of faculty for work under skilled supervision. They aimed at establishing a type of institution which would become an interest and impetus to local authorities and others concerned in this serious social question. Professor G. M. Robertson, physician superintendent of the Royal Edinburgh Asylum, sent a letter expressing his cordial sympathy with the object which the association had in view; education during school years might, he said, do much to lighten the burden of the individual defective, but could not endow him with what Nature had denied—the capacity to carve his own destiny and hold his own in the face of manifold temptations. The defective, like a child, might have a highly developed imitative faculty which, unless carefully tended, was a source of infinite danger, not only to the defective himself, but to the community. Much of the good of school training was rapidly undone when the defective was turned out into the world to fend for himself; his fate there depended almost entirely on the environment in which he was placed. Many became a burden on the community, and by propagating their own kind kept open this social sore. Experiments had been conducted in America and England which clearly showed that the industrial colony afforded a real means of grappling with the problem, for in such a place the economic worth of the defective might be exploited to its maximum extent, while at the same time he was shielded from everything that in the outside world led to his breakdown. Sir Arthur Rose, Chairman of the Board of Control for Scotland, stated that it was really the duty of the State to attempt to solve this problem. The State before the war had recognized its responsibility and passed a useful Act which provided for the care of the mentally defective, but the war had intervened and the Treasury now set an embargo on local authorities putting the provisions of the Act into force. It had begun to lift the embargo, but only to a modified extent, although it was gratifying to notice that certain enlightened local authorities in Edinburgh, Glasgow, and Govan had been so impressed with the importance of the work that they were, on their own initiative, going ahead with its development. Still in Scotland, at the present time, the amount of provision being made for these cases was hopelessly inadequate. Dr. H. C. Marr, one of the Commissioners of the Board of Control, said that on the whole mental deficiency and mental disorders were distinguishable; and, while in regard to the latter purely hospital treatment was necessary for cure and amelioration, in regard to mental defect care and an educational system were required. Many children could not be educated in the schools that were available, and the consequence was that a large number of mentally defective persons were passing into a life of irregularity and crime. There were nine institutions for the care of mental defectives, and in these, as well as in private dwellings, there were now under supervision in Scotland over 2,000 mentally defective persons. Even if this accommodation was increased by 1,500, as was proposed, the Scottish provision for mental defectives would still be lamentably small, and there was urgent necessity for the scheme proposed by the Women Citizens' Associations. Lord Sands, in moving a resolution pledging the meeting to support the efforts of the Scottish Council of Women Citizens' Associations to establish in Scotland an industrial and farming colony for the permanent care of the feeble-minded and stating that there would be no difficulty in finding abundant material for such a colony. Mental defectives, after school life, lost a great deal of the benefit they had gained. Many of them led very unhappy lives, and were also the cause of unhappiness to others, of depression, anxiety, and humiliation. There were also many moral dangers in allowing them to be at large in the community, and segregation, he was sure, would make for their own happiness. Work was the great source of happiness, and they would all be taught trades and treated with sympathy, tenderness, and love. Mr. W. H. Mill, in seconding this resolution, stated that the number of mentally defective children of school age in

Scotland was said to be over 6,000; probably there were in reality between 7,000 and 8,000, of whom nearly 5,000 could be educated. The motion was cordially adopted and a vote of thanks was given to the Lord Provost for presiding.

#### CENTRAL MIDWIVES BOARD.

At the meeting of the Central Midwives Board for Scotland held for the election of office-bearers, Dr. James Haig Ferguson was unanimously re-elected chairman, Dr. Michael Dewar deputy chairman, and Sir Archibald Buchan-Hepburn, Bt., convener of the finance committee. The meeting appointed other committees and examiners, and approved the list of recognized institutions, with the teachers attached thereto, for the training of midwifery nurses.

#### CHALMERS HOSPITAL: ANNUAL REPORT.

The report by the Directors of the Chalmers Hospital, Edinburgh, shows that the number of patients treated in the wards during the year was 673 and the number of out-door patients 2,541. On the balance between the ordinary income and ordinary expenditure there was a deficit of £709 2s. 7d. and an extraordinary expenditure of £332 11s., which made a total excess of expenditure over income of £1,041 13s. 7d. For the current year the directors would require to use the whole free income of the trust for 1925, and they further sought authority to draw upon the funds of the trust to an extent not exceeding £600 if they should find it necessary to do so.

[The continuation of the evidence before the Committee appointed to inquire into the inadequacy of the hospital services in Scotland is printed at page 316.]

## Correspondence.

#### CANCER OF THE OESOPHAGUS.

SIR,—Dr. Hill is, of course, quite right in his opinion (January 31st, p. 238) that there is a stage in the tortuous cicatricial variety of malignant disease in the upper third of the oesophagus where it may be impossible to insert a tube. This was in my mind when I made the remark regarding gastrostomy, knowing well the difficulty sometimes encountered. There is a stage, however, in all such cases where the obstruction can be overcome, so that given this point the statement would still hold good. The moral is that advice should be sought earlier. With regard to the lower end, there are difficulties, as Dr. Hill points out, owing to the contraction of the diaphragm and the irregularity of the growth; moreover, there is the liability of the tube being rejected on vomiting. Nevertheless, a considerable number of such cases can be successfully managed by a short tube, and, if not, by a long one. I have recently had under my care a man who wore at intervals a short tube over a period of eighteen months, and Dr. Stebbing showed me a man who had retained a short tube for several weeks. As I pointed out some years ago, these lower end obstructions can usually be traversed by a condé bougie, or feeding tube when the straight variety cannot be passed. Once such a tube can be passed and retained for three or four days, then the thin-walled rubber tube carrying the silver wire suggested by Dr. Hill can easily be inserted and worn indefinitely.

Recent experience has certainly led me to the conclusion that these low obstructions are more amenable to relief by tube than I was at one time disposed to think.

Mr. Souttar has undoubtedly brought forward an additional and valuable aid in the treatment of cancer of the oesophagus. Further experience will give this variety of tube its right place. Its employment will be restricted to those who are familiar with the oesophagoscope, and this will set a limit to its application. On the other hand, the elastic tube can be introduced after a little experience, and has been used somewhat extensively by a number of surgeons. All short tubes fail when there is perforation into the bronchus, lung, or mediastinum, as fluids cause

irritation. When this stage is reached the long rubber tube—first introduced by Mr. James Berry—must be employed. There are many other questions arising out of the subject which space will not permit me to touch upon. I may refer to my paper published in the *Lancet* for March 30th and April 6th, 1889.—I am, etc.,

London, Feb. 9th.

CHARTERS J. SYMONDS.

#### LONG FREEDOM FROM RECURRENCE AFTER OPERATION FOR CANCER OF THE BREAST.

SIR.—The case published by Mr. Steward, of the woman who had a recurrence thirty-one years after her original operation for cancer of the breast (January 24th, p. 156), has elicited interesting remarks from Sir Anthony Bowly and Drs. Manson and Brown. This case displaces that recorded by Verneuil in *La Semaine Médicale*, 1888, 112, of a woman on whom he operated again for recurrence thirty years after the original operation, which hitherto was the longest recorded interval. Verneuil's patient lived, but for how long is not stated. Bryaut had a twenty-five year interval, with the further curious connexion that the patient had had the cancer for five years before the first operation; the daughter had cancer in her breast but died in six months from the time of her operation. All these three cases, therefore, were more than thirty years from the commencement of the disease.

Mr. Steward and Dr. Manson refer to the cause of the condition being general and not local. I should like to point out, however, that this conclusion is not warranted. Cancer always is local and can only grow where cancer cells exist, and cancer cells start in organs in which there is epithelium, and may be carried to other regions, but they are always local. A general tendency, whatever that means, can never produce cancer in the subcutaneous tissues if cancer cells have not been brought there.

The position of the recurrences a little way from the scar is one of the commonest sites, after the axilla, for recurrences to appear. It is due to the fact that at the operation the knife is kept close to the skin for what is hoped is a sufficient distance, and is then turned deeply through the tissues; in doing this it cuts across the lymphatics and cancer cells escape and remain behind. Many of these cells doubtless die, but some survive and produce recurrences at various times later. In this case there were at least four cells surviving, all of which escaped at the same time, and lay about the same distance from the scar; other cells had already been carried to the internal organ and lay dormant there. How long cells live is unknown; it is only with the greatest difficulty that we can ever find karyokinetic figures in the cells of a constantly changing tissue like the skin, and we must suppose that some cells such as those in the anterior horn of the spinal column, which send their axons to the muscles, must last throughout our lives, as it is almost impossible to imagine that they can ever be replaced. There is no reason to suppose that tumour cells should be less hardy. The answer to the question why they do not grow at once, we must suppose, is that there is a body resistance which prevents them growing, and this resistance varies in different individuals. It is this resistance, or lack of resistance, which determines whether a person has atrophic or acute cancer. This resistance may be very strong for a time, but in almost all cases, if the patient lives long enough, it weakens and disappears and lets the disease work its will, and lucky are those people who, "cured of cancer," die of intercurrent disease in the meantime. In Mr. Steward's case there were apparently internal metastases which proved fatal. The most extraordinary example ever published of this resistance giving way is the case recorded by Crivelli and Tinca; the woman lived with a carcinomatous growth of the breast for forty-seven years, and it was only during the last two years that the resistance broke down and the disease obtained the mastery.

These long intervals between operation and recurrences are very interesting, but what is equally interesting, and even more important for us to know, is the longest period a person has lived after operation for cancer without having a recurrence, and of this no one has any figures.—I am, etc.,

London, W., Feb. 2nd.

DUNCAN C. L. FITZWILLIAMS.

#### A VASCULAR SIGN OF DEATH.

SIR.—In the *Epitome* for January 24th, 1925 (No. 79), reference is made to Dr. M. H. Kahn's claim (*Amer. Journ. Med. Sci.*, December, 1924, p. 890) that segmentation of the venules and arterioles has not hitherto been described as a clinical sign of death.

I was taught this sign at St. Bartholomew's Hospital twenty-five years ago, and on one occasion (when ophthalmic house-surgeon) was examining the retina of a patient with the ophthalmoscope at the moment of death. The column of blood in the veins appeared to stand still, then shake into broken segments. After oscillating to and fro for an immeasurably short period the broken segments came to rest.

Bouchut's description (quoted in Norris and Oliver's *System of Diseases of the Eye*, Lippincott, 1900, vol. iv, p. 917) of "the interruption of the blood current in the retinal veins... recognized by a pneumatosis which at times exists in the meningeal veins" cannot be improved upon.

I think this is the appearance to which Dr. Kahn refers when he says that segmentation of the venules and arterioles is a definite sign of death.

The fact was established by Bouchut in 1876, and several references were made to the phenomenon in the *BRITISH MEDICAL JOURNAL* during 1924 (March 8th, p. 424; March 15th, p. 497).—I am, etc.,

Clifton, Bristol, Jan. 29th.

J. A. NIXON.

#### IODIZED TABLE SALT.

SIR.—The note in your issue of February 7th (p. 274) on this subject calls for a few remarks. There is abundant evidence to prove that vast numbers of people in this and other countries suffer from a deficiency of iodine in their diet. The late Dr. Barwise stated in a newspaper interview that 10 per cent. of the natives of Derbyshire have goitre. If he meant that 70,000 persons in this county have a visible enlargement of the thyroid gland I think there is an element of exaggeration in the statement. Undoubtedly, however, a far larger number suffer in some degree from hypothyroidism (with or without goitre) as the result of partial iodine starvation. Goitre is the result of extreme shortage: minor indications of the defect must be sought elsewhere.

The problem, as you observe, is how to supply the community with the small quantity of iodine they so badly need; and salt as a suitable medium has much to commend it. The amount of iodine appears to be the chief difficulty, and only time and experience can settle the point. I accept Marine's estimate that the body requires 2 grains of iodine a year; but I differ when you proceed to draw from that statement the conclusion that "Any method of giving iodine as a preventive of goitre should therefore aim at providing about 2 grains a year." This assumes that all our iodine intake is to be derived exclusively from iodized salt, which in this country is impossible. Iodine is so widely distributed throughout nature, although present only in minute amounts, that we cannot, not even in goitrous Derbyshire, avoid getting some in our food and drink. The iodine we obtain from iodized salt is intended only to supplement what we get elsewhere; and there is reason to believe that, small though the amount be, if taken regularly from early childhood, it will achieve the end in view.

I have been mainly responsible in advising in an honorary capacity the firms that have marketed iodized salt in this country, and the following points have received consideration in fixing the iodine content:

1. Iodized salt is intended not for treatment, but for prophylaxis only.

2. Once a salt of this kind is put on the market it is impossible to limit its use to goitrous districts. The only prudent course, therefore, is to have the iodine content so low that it can be used without harm, and probably with benefit, by everyone in all parts of the country, leaving supplementary measures, if experience shows them to be necessary, to be employed in those districts where goitre is exceptionally prevalent and severe. In some of the Derbyshire schools an iodized sweet or a chocolate Iodistarin tablet is administered weekly to the children whose parents have consented. Similar auxiliary methods are employed in Switzerland, Austria, and New Zealand; but it is very probable when

iodized salt is universally used from early childhood onwards the need for these supplementary measures will disappear. Time alone can settle the point.

3. Obviously in a new venture of this kind it is better to begin low, and gradually increase the amount if necessary, than to start with a high iodine content, meet with trouble, and bring the whole method into disrepute. It should be remembered that Chatin in Switzerland seventy years ago advocated the use of iodine as a prophylactic for goitre, and the method was very generally used at one time, but it fell into disfavour partly because excessive doses of iodine were employed, but chiefly because the exophthalmic goitre was paraded in a scaremongering fashion, as it will be again. Let us profit by the mistakes of the past.

4. It would be folly, in fixing the iodine content of this salt, not to take advantage of the experience of other countries, Switzerland, Austria, New Zealand, and even "God's own country"—the land where everything is done on a gigantic scale. The Swiss Goitre Commission, after painstaking investigations, fixed the maximum strength about 1 part iodine to 200,000 parts salt, and that is the proportion that has been adopted in this country, except in cases where the salt is intended to be used only at the table, when a strength of 1 in 50,000 has been advised. I am pleased that the Government of New Zealand, in the official instructions it has issued for the preparation of iodized salt, has followed the lead of Switzerland, Austria, and this country rather than America. The strength it has adopted is 1 in 250,000. A special salt with a strength of 1 in 100,000 is permitted, but it must bear a label "Medicated salt," and it must only be used under medical advice.

A much greater proportion of iodine is used in the American iodized salts. Marine says that a concentration of 1 in 500 should be employed in mildly goitrous districts. Surely this is more in the nature of a medicinal preparation than a condiment. It is a hundred times stronger than our table salt, and it contains more than ten thousand times the amount of iodine we would get if we used natural sea-salt for culinary purposes.

Some time ago I asked the Ministry of Health to do what the New Zealand Government has done, and issue instructions or, at least, recommendations, for the guidance of our salt manufacturers. The matter is under consideration. Sir George Newman is, I believe, busy making an exhaustive study of this subject from the material he collected last year from all parts of the country, and his report is eagerly awaited.

My own opinion is that the strongest American iodized salt is perfectly harmless, and that the fear of producing Graves's disease by the use of iodine is quite groundless. In time it may be necessary to increase the iodine content of the salt manufactured in this country; but it is important to note that highly satisfactory results are being obtained in Switzerland and Austria by these weak preparations: and if a small quantity will do what we require, why use more? No one need fear to use freely the British iodized salts. It may be in very bad goitrous regions further iodine assistance may be required; but of no substance can it more truly be said that, however small the amount we receive, every little helps.—I am, etc.,

Chesterfield, Feb. 7th.

J. A. GOODFELLOW.

#### ISOLATION HOSPITALS FOR SCARLET FEVER.

SIR,—A long experience of isolation hospitals, at any rate of those erected in the provinces according to designs approved by the Local Government Board, has convinced me that the designers overlooked one important point—namely, the provision of a covered and wind-protected space for exercise in the open air by convalescents from scarlet fever. In all other respects these modern isolation hospitals are admirable: the sites well chosen; ample air space in the wards; lighting, warming, and ventilation all excellent. But still we find periodical outbreaks of cervical adenitis, otorrhoea, nephritis, etc., which at one time I was inclined to associate almost entirely with temporary crowding of wards, and to deal with accordingly. Later experience has led me to modify these views, and I now think that one of the weak administrative points of these hospitals, if not a direct cause of complications, is the absence of well protected exercising space. In most of these hospitals the wards have been built on hitherto virgin soil, and the immediate surrounding of the wards is newly laid grass with gravel paths on which there is no great amount of regular traffic. In a wet season, such as the summer and autumn of last year, the difficulty of providing open-air exercise for children recovering from scarlet fever became very apparent. It was almost impossible to send the children out without sending them into damp slushy paths and lawns.

The point was emphasized a few years ago when a new phthisis pavilion was added to the hospital buildings in the joint hospital with which I am connected at Hill Top, Bromsgrove. In this pavilion a deep covered verandah is provided along the whole front of each block of cubicles; its advantage is obvious in wet weather. If such a covered space had been available in the scarlet fever and diphtheria blocks I am convinced that some of the complications with which we have been troubled during the last nine months might have been avoided. I am bringing this matter before the committee, but shall be very grateful if others will give their opinion. The additions I advocate would, of course, be rather expensive, but I cannot help thinking that the cost would be justified.—I am, etc.,

H. CAMERON KINN,  
M.O.H. Bromsgrove.

February 8th.

#### HEART STRAIN.

SIR,—Dr. Pullar's comments (January 31st, p. 238) on comparing a leaking aortic valve with the Bramah press are quite reasonable, and one would expect to find that the slightest leak the more serious the effect on the wall of the ventricle. I believe that this would be so were it not for the other very important consideration—namely, the degree of the nourishment of the heart muscle. The slightest leak, as a rule, the better this is, the more able is the heart to compensate well for the extra work thrown on it, and the greater the danger of overlooking early aortic incompetence. With free regurgitation there is very little power of drive through the coronary arteries, and the heart muscle fails badly in consequence of the diminished blood supply to it. The analogy of the effect of the force generated by a leaking aortic valve and that applied in a Bramah press can only be partial, because the wall of the press is absolutely rigid, whilst that of the ventricle is elastic, but it is a convenient reminder of the danger of aortic incompetence.—I am, etc.,

Manchester, Feb. 7th.

E. M. BROCKMANE.

#### WHOLE-TIME MEDICAL OFFICERS.

SIR,—Two letters which appeared in the *BRITISH MEDICAL JOURNAL* of February 7th may, with advantage, be placed side by side and compared. One is from Dr. Crossley, a senior tuberculosis officer, and will be found at page 53 of the SUPPLEMENT; the other, from Dr. Naish, physician, Sheffield Royal Hospital, at page 283 of the JOURNAL.

Dr. Crossley: "We whole-time medical officers... are all, or nearly all, members of the British Medical Association, and are entitled to as much consideration as any other members, and to as much freedom of action in our choice as to what branch of the profession we wish to follow."

Dr. Naish: "If all men were obliged to choose their career immediately upon qualification, there is little doubt, I think, that the resident hospital posts would be given by preference, and rightly so, to those whose choice was private practice as against public services."

Here we have a physician to a great teaching hospital and lecturer in medicine to a medical school approving of discrimination against newly qualified medical men who intended to enter the public services. In the service to which—although no longer on the active list—I still have the honour to belong, young officers, on admission, can be seconded for twelve months for the purpose of holding resident hospital appointments before taking up their work in India. Apparently, these men need not waste time in applying at Sheffield. In the last three generations of my family there have been seven doctors. Of these, two joined the Indian Medical Service, two the R.A.M.C., one the Royal Navy, one is a county tuberculosis officer, and only one elected to "reap the golden harvest"—as Dr. Naish puts it—of private work. As far as I know, we have all held resident hospital appointments.

It would help to clear the air if the British Medical Association would disavow, and as soon as possible, the policy which Dr. Naish proclaims. It should be frankly recognized that there is room for the medical official and the private practitioner. The part of the draft Memorandum of Evidence for the Royal Commission on Insurance that deals with "specialist services" embodies an attack upon the salaried clinical medical officer, and needs entire recasting. The clinic system, and the "team work"



which clinics imply, are now essential parts of the practice of medicine throughout the world. While every officer in charge of a clinic will welcome the association of private practitioners with him in his work, he will naturally resent any attempt to oust him from his appointment and take over the fruits of his labours; and the modifications which the Memorandum suggests are all in the direction of reducing the usefulness and lowering the standard of work at the clinics—a retrograde step which, I believe, the public will not tolerate.—I am, etc.,

P. HEFFERNAN, Major I.M.S. (ret.),  
Tuberculosis Officer, Derbyshire County  
Council.

Buxton, Feb. 7th.

### IMMUNIZATION AGAINST TUBERCULOSIS.

SIR,—There has been much publicity lately on the subject of immunization, more particularly immunization of calves against tuberculosis. In France Dr. Guérin has been using a vaccine made from attenuated cultures. In England Dr. Nathan Raw and Mr. Payne have published results with the use of vaccine R, also from an attenuated culture. The French observers indicate that immunity is not established for more than two years, as a rule. Dr. Raw and Mr. Payne do not yet indicate how long the immunity will last. Dr. Orr of the Rowlett Institute, Aberdeen, in a recent article in the *Transactions* of the Highland Society, indicates that his opinion is that the replenishment of the depletion of the milking cow is the crux of the matter. The Pickett-Thomson Research Laboratory has recently made certain researches in this matter. The writer is one of those engaged in this research. We have attempted immunization at all periods from birth till 1 year old. The matter has been approached from the standpoint of biochemistry, in consequence of the researches of Dr. David Thomson.

We find that all fractions of the tubercle bacillus help to confer immunity, although some are more powerful than others. We find that the length of the immunity depends on the condition of the mother at the time of calving. If the cow is depleted immunity will last for a shorter time, in a calf treated at 6 months old about one year. The earlier the treatment the longer the immunity. Calves from cows with a big milk yield and a big percentage of fat are more apt to have a shorter immunity.

Our results appear similar to those of Dr. Raw and Mr. Payne, but we believe that calves from cows markedly positive to the eye test require more than two doses of vaccine. Our results are at variance with those of Dr. Guérin when he advocates yearly vaccination. We find that if a calf has not a lasting immunity, immunization by the use of vaccine in a sensitive animal may be dangerous. I refer in this instance to animals which remain sensitive from 9 months till 2 years. There is not the same danger in older cattle.

Our researches would almost make us agree with Baumgarten in that it looks as if the virus is in some cases transmitted from the mother. Thus we turned our attention to an attempt to immunize pre-natally. We find that by using the most powerful fraction of the bacillus alone we could render a milking cow which was positive to the eye test negative in about three months. The process was accompanied by great improvement in health, appearance, and milk yield.

The first cow we treated doubled her milk yield in the yearly lactation period. In another cow, aged 10½, markedly depleted and apparently finished, after treatment increased her milk yield from 1,500 gallons to 2,100, and gave birth to twin calves which were all that could be desired. About a dozen cows were so treated. The eye test, it is necessary to note, did not remain negative, but was only positive for a few hours after dropping tuberculin in the eye. The calves of these cows have thriven better, and, we believe, will be easily immunized.

Our complete results indicate that immunization is perfectly feasible. We are at present devising a method of rectifying the negative mineral balance which deep milking cows undergo. Those researches appear similar to the early researches of Sir John McFadyean, who used live human bacilli. We have used a colloidal solution of live

human bacilli. We believe, with Dr. Orr, that the better treatment of depletion is the crux of the matter. From depletion comes tuberculosis. Our researches indicate that where depletion is going on, even when not noticeable in the mother, the calf will show it before the mother breaks down or reacts to the test. If this be true, then early vaccination is imperative if tuberculosis is to be controlled.

In reference to the recent criticism of the detoxication methods of Dr. David Thomson and the defatting method of Professor Dreyer by Dr. L. S. P. Davidson of Edinburgh, it is only fair to recognize that Dr. Davidson himself stressed the fact that he was experimenting with *in vitro* immunity reactions.

I take it that a satisfactory vaccine is one which renders insensitive a very sensitive animal. It enables immunization to take place in an animal sensitive even to the protein and fats of food. In our experiments we attempted immunization of a reacting bull calf at 8 months—mother a reactor; father, history of tubercle probable. We used the fatty fraction of the bacillus, and caused an acute spread of the disease. In the next calf—same mother, same father—we used detoxicated vaccine at birth, later one dose fatty fraction. The second calf passed the test at 8 months and is one of the best heifers in the herd. In our experience, in an animal at 6 months or more, if sensitive and treated by the fatty fraction alone, a spread even to the meninges may occur.

In immunization of cattle heat-killed bacillary emulsions in saline are not good because of the increased sensitiveness. No doubt heat-killed vaccines increase agglutination and complement fixation, but the ultimate aim of immunization is to preserve the integrity of the blood plasma; for the criteria of *plus* agglutinins, etc., are associated with a diminution in the coagulability of the blood. Heat-killed vaccines against infectious pneumonia of calves in the United States of America are an utter failure if given after the disease commences. In this older, more experienced land the farmers save the herds by early bleeding and limiting the extent of the pneumonia.

It would interest those who entertain a belief in lipid that the farmers in Yorkshire are in the habit of making a wound and placing therein a piece of bacon fat when the animal is wasting. The result is usually most successful. But it is only fair to note that the lipid of bacon fat contains a low grade vitamin A, while the lipid fraction of the tubercle bacillus would appear to be vitamin A in great concentration. That the lipid fraction has its place there is no doubt, but not for the young, sensitive consumptive we have to treat. Professor Dreyer is justified in withholding the lipid from his vaccine.

Lastly, in support of the contention that immunity is a matter of biochemistry, I would record that in calves from deeply milking cows where depletion has gone on, milk appears to be, as a feeding stuff, almost poisonous. I learnt that many feeders had known of this for a very long time. We found that in calves desensitized from birth this poisonous character of milk is prevented. Milk in sensitive calves appeared to spread the disease.

That there is a close resemblance chemically between the tubercle bacillus and its products and milk has been recognized in Germany before now, and I think that these researches, given in a tentative way, indicate that there is some close alliance. There is great necessity for research workers in laboratories refraining from expressing results from laboratory animals in terms which have no bearing on disease as seen in practice.—I am, etc.,

J. J. THOMSON,  
Chief Clinical Tuberculosis Officer,  
North Riding of Yorks.

Northallerton, Jan. 14th.

### SHAVING THE VULVA.

SIR,—Will you allow another general practitioner to offer some remarks on the shaving of the vulva before labour?

I offer no opinion on its efficacy in preventing infection; what I am concerned with is its practicability in general practice. It certainly cannot be done by the doctor. It is scarcely reasonable to expect any young woman to submit to such a process at the hands of her medical attendant.

It must be done by the nurses, and how many of them are thoroughly skilled in the work? To remove every hair from the vulva and adjacent parts is a difficult process. Whatever tools are used there will inevitably result a number of more or less minute cuts and abrasions. These are not likely to lessen the risk of infection during childbirth.—I am, etc.,

London, E.12, Feb. 7th.

A. CAMPBELL STARK.

### THE MALIGNANT CELL.

SIR,—The critical analysis of Carrel's latest work given in the BRITISH MEDICAL JOURNAL of February 7th is of such outstanding importance that I ask your permission to comment on the distinction made between sarcoma and granuloma. With the utmost respect and with equal confidence I say that no such difference exists in nature.

A typical human alveolar sarcoma proved to be a granuloma on making a full histological analysis, as is recorded in *Protozoa and Disease*, Part II, Chapter xii; and in the next chapter of the same book a human round-cell sarcoma is shown also to be a granuloma.—I am, etc.,

London, N.W.8, Feb. 8th.

J. JACKSON CLARKE.

### TUBERCULOSIS INCIDENCE AND CLIMATE IN INDIA.

SIR,—I have read the able paper by Sir Leonard Rogers, published last week (p. 256), with the greatest interest and pleasure. The unusually reliable material and wealth of meteorological data, the great area, and the great numbers dealt with, the marked climatic contrasts, and, above all, the high authority of the writer—for there is no greater name in contemporary medicine—make such a confirmation of the utmost consequence to my work. I especially welcome this confirmation at the present moment, when the attention of the profession seems at last really to be turning to the subject.—I am, etc.,

Exeter, Feb. 8th.

W. GORDON.

### Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

#### Reassembly of Parliament.

The House of Commons reassembled on Tuesday, February 10th. The business of the week included Supplementary Estimates presented by the Ministry of Health. As a grant in aid of payments for medical benefit in England £300,000 was asked, and for medical benefit in Wales £17,000. These additional sums were needed to meet expenditure under the National Health Insurance (Cost of Medical Benefit) Act, 1924. For the additional sickness benefits required "in consequence of heavy sickness in the spring of 1924," £350,000 was asked for England and £3,500 for Wales. The Ministry of Health is not expected to introduce any medical legislation for England and Wales this session, but the Scottish Board of Health will probably reintroduce the Insulin Bill, to authorize the provision of insulin by public authorities in Scotland. Colonel Fremantle (U., St. Albans) has been elected Chairman and Dr. E. Graham Little (Ind., London University) Secretary of the Medical Committee of the House of Commons.

### The Services.

#### DEATHS IN THE SERVICES.

Major Donald Hector Cofin MacArthur, O.B.E., R.A.M.C., was accidentally killed at Meerut on January 23rd. He was born on December 19th, 1880, and educated at Edinburgh, where he graduated M.B. and Ch.B. in 1905 and M.D. in 1913. After filling the post of senior house-surgeon of the Clayton Hospital, Wakefield, he entered the R.A.M.C. as lieutenant on August 1st, 1908, and attained the rank of major after twelve years' service. Brigade Surgeon Francis Collins, R.A.M.C.(ret.), died at Lyme Regis on February 3rd, aged 92. He was born at Knaresborough and educated at Edinburgh, where he took the L.R.C.S. in 1854, and graduated M.D. in 1864. He entered the army as assistant surgeon on September 1st, 1854, became surgeon on March 9th, 1867, and surgeon major in 1873; he retired with a step of honorary rank on January 7th, 1880. In the regimental days he served in the 5th Foot, or Northumberland Fusiliers, and in the 18th Dragoons, and in 1860 was appointed to the Royal Military College, Sandhurst, where he served for several years. He was one of the last survivors of the Indian Mutiny; he took part in the second relief of Lucknow, including the attacks on the Dikusha and La Martinière, and in the occupation and siege of the Alambagh, also in the final relief and capture of Lucknow, receiving the Mutiny medal with two clasps. After his retirement he interested himself in archaeology, contributing many papers to the publications of the Yorkshire Archaeological Society and Surtees Society.

### Medico-Legal.

#### REX v. BATEMAN.

##### PROCEEDINGS IN THE COURT OF CRIMINAL APPEAL.

IN the Court of Criminal Appeal on February 9th the appeal of Dr. Percy Bateman, of New Cross Road, London, against his conviction for manslaughter at the Central Criminal Court on December 12th, was heard before the Lord Chief Justice (Lord Hewart), Mr. Justice Salter, and Mr. Justice Fraser.

Mr. Norman Birkett, K.C., and Mr. Arthur H. Davis appeared for the appellant, and Mr. H. D. Roome for the Director of Public Prosecutions. The court was crowded.

##### The Case for the Appellant.

Mr. Birkett briefly summarized the history of the case on the lines of the opening of his speech on the original application, as reported in our last issue (p. 285). He remarked that, according to Dr. Bateman, the presentation in this labour was the most difficult known to medical science. The head, the feet, and the cord were all presenting together. He complained that Mr. Justice Shearman, in his summing up, had referred to the placenta as "membranous stuff," which might have misled the jury. The placenta was not a thick, fleshy, cake-like substance, a span in breadth, an inch in thickness, and a pound in weight. Continuing, he said that two allegations were made against the appellant, one relating to his conduct of the operation of version and producing the child, and the other to his action in the events which followed thereon. It appeared from the *post-mortem* examination that the injuries which the woman sustained at that time, as described by the medical witnesses for the prosecution, were the destruction of the pelvic floor; the uterus, with the right Fallopian tube and the right ovary, had been removed with the placenta; there was a tear of 2 inches in the uppermost part of the bladder, and there was a crushing of certain intestines against the sacral promontory. There was also a slight tear in the rectum. It was alleged at the trial that some of these injuries might have been caused by natural labour. The expert witnesses stated that the injuries might have been so caused, but that more probably they were the result of the manual traction. Counsel then recapitulated the circumstances which followed the labour, up to the death of the woman seven days later. It was said for the prosecution that the fact that this injury took place at delivery was in itself evidence of such negligence that the jury, on being satisfied that it had taken place, might convict of manslaughter; and that, following these injuries, the omission to do anything with a view to remedying the state of affairs which had resulted was negligence of a kind which rendered a person liable to conviction on the same charge. The answer of the defence was that there was not negligence, and that in so far as the first of these allegations was concerned no single act of negligence was even brought forward by the prosecution, while so far as the second allegation was concerned the conduct which was said by the prosecution to be negligent was, in fact, considered conduct, and, the defence submitted, proper and prudent conduct. Of three cases cited in which the uterus had been removed in a similar manner, one patient died within thirty minutes of such removal, the second died on the way to the hospital, and the third died within forty minutes of admission. The woman in this case lived for seven days.

Mr. Justice Salter desired to know whether negligence was alleged in the manipulation which went on for one hour before the birth of the child.

Mr. Birkett said that this was certainly not admitted by the defence, and it was a matter of some conjecture whether it was persisted in by the prosecution. Sir Bernard Spilsbury had admitted that there was nothing unusual in manipulation for an hour, as in this case, to effect delivery. Counsel then went on to read portions of Mr. Justice Shearman's summing up, and pointed out that there was not one word which made any distinction whatever between what might be termed civil negligence and criminal negligence, although this was a factor of supreme importance in the case. The summing up might be quite unexceptionable in an action for damages against a doctor, but in a direction to a jury on a criminal charge the omission he had pointed out was fundamental. He was conscious of the technical difficulties arising on the distinction between civil and criminal negligence; both things were proved by the same facts, and juries drew inferences from the facts; but unless the clear distinction was made, and the ground of it made, a great injustice could be done. Civil negligence was that negligence in which reparation was sought by the individual; in criminal negligence reparation was sought by the State. In all the discussion with the jury as to the elements which constituted this alleged crime, not one word was said to indicate the distinction between the case in which there was an action for damages and in which the question of degree of skill might enter, and the case in which a person was indicted on

the criminal charge of manslaughter. He appreciated how frail might be the margin between civil and criminal negligence, but in a case like this the sympathies of the jury would obviously be with the husband and with the dead woman, and this made it all the more important to point out that in this case those considerations which might properly be brought to bear in an action for civil damages should not apply. It was a fundamental misdirection to say to a jury that in a criminal charge they could only convict if in their judgement the standard of skill exhibited fell below that which any doctor should possess. In his submission this had no relation to crime at all, although it was entirely admissible in a civil action.

The Lord Chief Justice: There is an implied undertaking of reasonable and competent skill and an obligation to exhibit that skill in fact. You must not say that a doctor who holds himself out to do a doctor's work is negligent because his skill falls short of the highest skill; you can only say that he is negligent in this sense if his skill is not such as it is reasonable to expect of a practitioner.

Mr. Justice Salter: Take a case where there is gross lack of skill, but no lack of care at all. Suppose an unqualified person performs an operation and kills the patient. It is admitted that he did his utmost, used every faculty he had, but could he not be convicted of manslaughter?

Mr. Birkett replied that it would depend on the facts of the case. If his patient knew his lack of qualification and still went to him, the practitioner could not be convicted. Their lordships would remember a case where a man went to a farrier for some operation, and the answer was that if the patient "had not been an ass" he would not have gone to a farrier; and there was no felony. He submitted that in dealing with the crime of negligence to speak of degrees of skill was quite irrelevant.

The Lord Chief Justice: If a person puts himself out as qualified to perform a difficult and delicate operation, he is not, on this argument, to be judged as regards skill by any objective test, but by such skill as in a particular case he happens to have.

Mr. Birkett answered that he appreciated many intellectual difficulties about this matter, but the degree of care and skill which formed the standard whereby the jury must judge—both in civil and in criminal cases, of course—must depend in some degree upon the person with whom they were dealing. If they were dealing with a Harley Street specialist different standards would apply from those which should be taken in the case of an ordinary general practitioner.

The Lord Chief Justice: Do you or do you not assert as a principle of law that under the head of skill the practitioner is to be judged, not by reference to a general standard of skill, but by reference only to such skill as he had shown in a particular case?

Mr. Birkett said that he submitted the latter. He went on to quote from *Bevan On Negligence* to the effect that negligence in one man might be competent care in another, and that where the charge was one of negligent treatment the question of competency or incompetency was irrelevant.

Mr. Justice Fraser pointed out that the passage quoted from *Bevan* went on to declare that the evidence of negligence was not suggested by an arbitrary standard. Given the presumptive competency of the practitioner, the standard of skill required of him, according to this authority, was that of the branch or school to which he belonged.

Mr. Birkett said again that his submission was that this would be perfectly applicable where the issue was one of civil liability, but was not applicable where the issue was one of crime.

Mr. Justice Salter: You agree that in civil matters a man who does his very best may be liable because he is incompetent. Is it contended that in criminal matters a man who has admittedly done his utmost, but is incompetent, is not liable?

Mr. Birkett said that this, without hesitation, was what he would contend. He based his argument for a difference between the two issues on the fact that in the one case—the civil case—the reparation was to the individual, and in the other case—the criminal case—the reparation was to the State, which had suffered injury. There was no injury to the State if a man had done the very best he could.

The Lord Chief Justice: Is there no injury to the State—I am not thinking of this case—if a person, being unskilled, undertakes an operation requiring skill?

Mr. Birkett: Let me take the case of a quack. The quack holds himself out as being able to do certain things and to provide proper treatment, and, knowing he does not possess the skill, he deceives people by so doing. That clearly would be a case where it would be to the interest of the State to say that this was a crime. But where you have a fully qualified medical man doing that which by law he is authorized and required to do, the mere fact that he may fall below the standard of skill in some respect has no reference to a crime, though it may have a reference to civil liability.

The Lord Chief Justice: The lack of the proper quantum of skill or lack of proper diligence in act would not be sufficient to convict. Juries must also be satisfied that by reason of that lack in the one

case or the other, or both, the death of the patient was caused or accelerated.

Mr. Birkett: The real question for the jury would have been this: On these facts is there evidence of gross and culpable negligence which entitles you to say that this man is guilty of manslaughter? That is the question, not the refinements of degrees of skill nor the highly contested medical questions of proper treatment.

Counsel then referred to the case of *Rex v. Van Butchell*, an indictment of manslaughter following upon treatment for disease of the rectum. In the judgement it was stated:

"If a person, bona fide and honestly exercising his best skill to care a patient, performs an operation which causes the patient's death, he is not guilty of manslaughter; and it makes no difference whether such person is a regular surgeon or not, nor whether he has had regular medical education or not."

He also referred to Lord Ellenborough's judgement in the *Williamson* case [set out in the report of his speech in our last issue], and pointed out that nothing was said in Lord Ellenborough's judgement in that case with regard to standard of skill. It was put quite clearly in that judgement that, to convict for manslaughter, either gross ignorance or criminal inattention must be proved. In reply to Mr. Justice Salter, counsel agreed that if a man held himself out to be a skilled man when in fact he was a quack, he could be convicted of manslaughter for pretending to have that skill.

Mr. Justice Salter instanced the parallel case of a motor-driver who, although he might take the utmost care, would not thereby be saved from a charge of manslaughter should he be incapable of proper driving. Mr. Birkett said that the conviction in that case would be on the ground that he purported to have skill as a driver when in fact he had not, but it would not be a question of his standard of skill as compared with other motor-drivers. In the case of a skilled motor-driver the question for the jury would be, not whether in this instance he fell below the general standard of skill of motor-drivers, but whether, with the skill he had, he was negligent on that particular occasion. His degree of skill or the difference between his skill and that of other drivers would be quite irrelevant.

The Lord Chief Justice here referred to the case of *Rex v. Spiller*, in which the judge said:

"Any person, whether a licensed medical practitioner or not, who deals with the life or health of any of His Majesty's subjects, is bound to have competent skill; and is bound to treat his or her patients with care, attention, and assiduity; and if a person dies for want of either, the person is guilty of manslaughter."

Mr. Birkett submitted that if a layman professed to be a medical man and undertook to cure people his action would belong to an entirely different category from that of a medical man who was doing that which he was ordinarily and customarily employed to do. The judgement in this case of *Spiller* went no further than that. It was not there a question as to the exact degree of skill, but as to whether the skill exhibited fell below the general standard of skill of such persons as the defendant in that case.

The Lord Chief Justice remarked that the *Spiller* case dated back to 1832. In 1864 Mr. Justice Wills, in the case of *Reg. v. Markuss*, said that any person who dealt with the health of others was bound to take reasonable care. Gross negligence, said the judge in that case, might be of two kinds. One was that of a physician who, for example, went hunting and left his patients untreated, and the other was that of a physician who was rash in, for example, dealing with dangerous medicines in which he was insufficiently skilled. The judgement continued:

"An unskilled practitioner who ventures to prescribe dangerous medicines, of the use of which he is ignorant, shows culpable rashness for which he will be responsible."

There one had, said the Lord Chief Justice, the twofold division—on the one hand inattention, and on the other hand insufficient skill.

Mr. Birkett, in reply, again cited *Bevan*, to the effect that if a person assumed to act as a physician, however ignorant of medical science, and prescribed with an honest intention of curing the patient, but by ignorance the patient died, the person was not guilty of manslaughter or murder; but if the party prescribing administered the medicine with an obstinate wilful rashness, and not with an expectation of effecting a cure, he was guilty of manslaughter at least, though he might not have intended to effect any harm. To come back to his main contention, counsel said that when the jury were told, "You can only convict this man if you come to the conclusion that he removed the uterus from this woman because his degree of skill fell below that which you would expect of a doctor," it was, in his submission, a misdirection. He then went on to observe that the coroner's deposition which was used in the trial, and upon which Sir Bernard Spilsbury based his evidence, was never proved, and was wrongly admitted, to the injury and detriment of the appellant. Altogether (counsel continued) it appeared that there was no case to go to the jury so far as the operation itself—what he called the first part of the

charge—was concerned. The testimony of the midwife—who had had thirty-seven years' experience and had attended on an average 100 confinements a year—when she was asked whether the doctor did everything he ought to do for this woman, was "Yes, I thought so." It was said that he concealed from the relatives the fact that the uterus had been removed, that in a letter he had suggested that the uterus was merely introverted instead of saying it was removed, that in his original deposition before the coroner there was some variation from the facts placed before the criminal court, and that he had put unnecessary violence upon the placenta instead of "peeling" and "coaxing" it away. As for the charge of concealment from the relatives, let the circumstances be considered. This doctor found that the uterus had come away—a terrible calamity—and he told the husband that the woman was going to die, but was it not mere humanity on his part not to distress the family by particulars of what had happened? This humane reticence was now urged as an element of negligence.

The Lord Chief Justice: Not so much evidence of negligence as evidence throwing light on his state of mind with regard to what he had done.

Mr. Birkett said that the issue for the jury was not what he had done, but how he had done it, and the fact that he had concealed from the relatives what he had done could have no relevance. This could be used only to create prejudice. Upon this first head of the case, therefore—relating to what occurred at delivery—there was nothing to go to the jury. That, in his submission, was what the judge should have ruled, and then he might have asked the jury to consider whether the indictment was sustained by the second head—the subsequent action of the doctor. But to leave the issue at large, so that it was not known upon which part of the case the jury came to their conclusion, did entitle the appellant to come to this court to make his submission. In a civil case a defendant was entitled to know the particulars of the alleged negligence; but in the much more serious matter of a criminal charge—when to a medical man a conviction meant the loss of everything—the allegations were left at large.

The Lord Chief Justice: To take away the placenta is an easy matter. From the fact that a considerable amount of force had to be used in the taking away of the placenta it might be held that the doctor ought to have known that what he had got hold of was not the placenta. Was not the jury entitled to say that?

Mr. Birkett: I submit not. I appreciate the difficulties of precise definition.

The Lord Chief Justice: You used the term "coaxing" the placenta. Might not the jury have thought, after hearing the evidence, that there must be a very great difference between coaxing away the placenta and pulling away the womb?

Mr. Justice Salter pointed out that neither Sir Bernard Spilsbury nor Dr. Buchanan, who was the other medical witness for the Crown, was asked to say anything on this point.

Mr. Birkett said that the evidence of Sir B. Spilsbury was entirely in accord with that of the two eminent obstetricians called for the defence—namely, that the edge of the uterus being torn, thin, and irregular, as indeed was the edge of the placenta, to take hold of the one edge in mistake for the other was the most natural thing at that stage, and thus the uterus came away.

The Lord Chief Justice: You say it came away. The evidence is that it was pulled away with considerable force.

Mr. Birkett next dealt with the second portion of the charge—that relating to the subsequent events. The allegation was that because of what the doctor had done, whether through negligence or not, he had destroyed the pelvic floor, and his first duty, therefore, as a medical man was to repair the pelvic floor so as to prevent what the witnesses termed "herniation." The way to do this was by the operation of stitching. If that had been done it was urged that the patient's life might have been saved, and in any event the exploration for the purpose of the operation would have revealed the injury to the bladder and intestine. It was urged that from the evidence as to the woman's condition she was at some time after the birth in a condition to stand the operation, and it was also put forward contended, on the other hand, that the non-removal of the uterus for operation was not a negligent thing at all, but a carefully considered medical procedure. To have moved the patient in the days directly following this event would have meant probably immediate death. There was no moment later when that would have been a safe and proper thing to do. The necessity for drainage was put in cross-examination. Having regard to the removal of the uterus and the position in which the woman was placed, she had in fact the most effective natural drainage. Everything in the previous similar cases on record pointed against operation and in support of the very conduct which the appellant had followed. The point was

made by Sir B. Spilsbury and Dr. Buchanan that, the uterus and ligaments having been torn away, certain blood vessels were torn at the same time, and that unless some stitching was done to deal with these blood vessels the woman was certain to die. The answer was that the bleeding stopped, and the evidence showed that the clotting was the natural and proper thing for stopping the bleeding. To leave her in the position in which she was left so that there might be some chance of healing before removal was not merely the most humane but the most prudent thing to do.

The Lord Chief Justice: The question is, can a professional man be found negligent for doing what two heads of the profession say they would have done in like circumstances?

Mr. Birkett: And it has to be remembered on the other side that Sir Bernard Spilsbury—for whom I have a very great respect—is not a gynaecologist, but a pathologist.

The Lord Chief Justice went on to say that the frequency or the rarity of such a dilemma had to be considered. Apparently the tearing away of the uterus was a very rare thing. Was a man to be expected to know that if that happened all risks must be taken and the patient must go to hospital? If it were an everyday occurrence it would be different.

Mr. Birkett agreed, and said that this was one of the substantial grounds on which he relied in his plea that there had been misdirection on the evidence. The learned judge had told the jury that that fact did not matter. It was vital to the defence to show that in this very rare occurrence the doctor had done everything that a practitioner ought to do. Sir B. Spilsbury, when asked when operation should have taken place, had said that it would depend upon the patient's condition, and that she should have been operated on as soon as she rallied from a state of collapse. For evidence as to the patient's subsequent condition Sir B. Spilsbury had relied upon statements made by the husband and other members of the family, and had entirely ignored the more skilled evidence of the midwife, who testified that there was no change in the patient from the time of delivery on July 23rd to her removal to the hospital on July 28th.

At this point the hearing was adjourned until the following day. When Mr. Birkett apologized for the length of his speech, the Lord Chief Justice begged him to take his time, in view of the very great importance of the case.

*Tuesday, February 10th.*

On the resumption of the hearing Mr. Birkett said that two matters only remained on which he had to trouble their lordships—misdirection by Mr. Justice Shearman on the evidence, and the plea that the verdict was against the weight of evidence. In the notice of appeal there were fourteen separate heads set out on which misdirection was alleged, but in general the only importance to be attached to these was in respect of their cumulative effect. One matter specially complained of was that the jury might have been led to believe, from the way in which the matter was dealt with by the learned judge, that the evidence for the defence given by Dr. Banister as to the number of similar cases of the coming away of the uterus was of no account. With a lay jury, shocked no doubt by the circumstances of this case, there was need for very careful direction if they were not to be led away by their feelings to the disadvantage of the appellant, and they might easily have believed that the pulling away of the uterus was in any circumstances a grossly negligent thing.

The Lord Chief Justice remarked that it might well be, without any question of negligence, that a doctor would pull at the edge of a torn uterus believing it to be the placenta, but the jury might have considered that the degree of force necessary would have informed him, before matters had gone too far, that he was not trying to remove merely the placenta. His lordship asked further whether it was not legitimate for the jury to say that here was a healthy woman, the mother of four children already, and that it was by some mishandling on the part of the doctor in delivering the child that the uterus was pulled away. Mr. Birkett submitted that that was not legitimate. He complained that the summing up might have led the jury to suppose that the pulling away of the uterus in any event was a sufficient ground for finding negligence under the first head—that is, at the delivery—whereas the real question was whether in the pulling away of the uterus there was in fact negligence.

The Lord Chief Justice pointed out that Sir Bernard Spilsbury had said that considerable force would be needed to bring away the uterus. He also noticed that Mr. Birkett had used three different terms to describe what had taken place—"pulled away," "came away," and, an intermediate term, "came away in the doctor's hands." Mr. Birkett said that he supposed this was the bias of the advocate adopting the language most favourable to the appellant which came into his mind at the moment. Asked how he himself would have summed up on this point, he said, with great deference, that he would have submitted to the



jury, after pointing out the distinction between civil and criminal negligence, that they should put from their minds entirely any idea of convicting the prisoner merely because the uterus was pulled away. They should be told that this event might happen in the hands of the most skilful operator. The question for them was whether at any stage there was any blameworthy act or omission on the part of the doctor. Counsel then went on to attack the verdict on the ground that it was against the weight of evidence. Here he quoted at length from the evidence given by Dr. Bright Banister, obstetric physician to Charing Cross Hospital, who was called for the defence. Dr. Banister had said that the chance of the recovery of this patient must have been very slight indeed. Asked if he agreed with Sir B. Spilsbury that probably there was a period in the days immediately following the catastrophe when she might have been removed for operation, he replied, "Change 'probably' into 'possibly' and I agree." Dr. Banister said further that the best person to judge as to the desirability of her removal was the doctor in attendance; also that with such a presentation and without manipulative interference there might have been a rupture of the uterus, and that it was a well known fact that the uterus could rupture in the course of perfectly normal labour. With regard to the midwife's evidence that in removing the placenta the doctor gave it a sharp pull, Dr. Banister considered that this might be enough to separate whatever attachment of the uterus was left. Dr. Banister had also said that it would be quite possible for a medical man in removing the placenta to remove the uterus and not be aware that he had done so; if there was a tear of the uterus its edge might be mistaken for the edge of the placenta. Dr. Banister did not agree that great force would be needed to tear the uterus—not more force than might reasonably have been used.

The Lord Chief Justice pointed out that counsel, in examining Dr. Banister, had quoted the midwife as saying "he pulled it [the placenta] sharply," whereas what she actually said was "he pulled it, rather sharply."

Mr. Birkett went on to say that similar evidence was given by Dr. Hubert Roberts, senior obstetric surgeon, Queen Charlotte's Hospital. This expert evidence was of a nature completely to exonerate the appellant. Having regard to the responsible and honourable duties of the medical profession, whose members were called upon to meet emergencies at all hours of the day or night, when an untoward thing like this happened (a thing which occurred with extreme rarity), to declare that the doctor was guilty of manslaughter, although two other doctors of the highest standing in the profession had said that what he did they would have done, was to place all the members of the profession in a very hazardous situation, and one which would deter men from entering the profession. On any ground he was entitled to succeed, but especially on the ground that the verdict was unreasonable and against the weight of evidence. He added that a very distinguished obstetric physician was present in court and would give evidence if their lordships desired, but in view of the Lord Chief Justice's remarks when the original application was made for the admission of further evidence, he could not press for an examination of this gentleman.

This concluded the speech for the appellant, which had lasted nearly three and a half hours.

#### *The Case for the Crown.*

Mr. H. D. Roome said that the case for the Crown was well expressed in the judgement which had been quoted in *Reg. v. Williamson*, when Lord Ellenborough said, "a person . . . is not indictable for manslaughter unless he is guilty of criminal misconduct arising either from the grossest ignorance or the most criminal inattention." The two divisions of the present case were illustrated in that judgement. It was said by the Crown that to remove the uterus at all might itself be an act of negligence arising from gross ignorance or gross carelessness. Owing to the extreme rarity of such a tragedy it was put before the jury on behalf of the Crown that they might find that the prisoner must have been either grossly ignorant or extraordinarily careless in not discovering before he had pulled away the uterus that it was not the placenta of which he had hold. Owing to the increased resistance of the uterus he ought to have inferred the true state of things, or at least to have paused for reflection. In the opinion of the witnesses for the Crown he must have used a considerable degree of violence.

The Lord Chief Justice here raised the question of what it was which held the uterus in position. Mr. Roome said that he questioned Dr. Hubert Roberts on that point, and he was proceeding to read his answers, when the Lord Chief Justice remarked that this was in cross-examination of a witness for the defence, and asked whether there was no evidence on behalf of the Crown to show what held the uterus in position. Mr. Roome replied that he did not think there was, but in putting his questions to Dr. Roberts he was acting on expert advice, and Sir Bernard Spilsbury was sitting just in front of him.

Mr. Justice Salter asked if there were not passages in the evidence of Sir B. Spilsbury and Dr. Buchanan expressing the opinion that the removal of the uterus in the circumstances of this case was inconsistent with average care and skill. Mr. Roome replied that that was so.

The Lord Chief Justice: As controversy develops, the perspective changes. Was it a cardinal point in the original case for the prosecution that the fact that the uterus was pulled away involved negligence?

Mr. Roome: The case for the prosecution originally was that it was the subsequent conduct of the defendant which laid him open to a charge of manslaughter.

The Lord Chief Justice: The defendant counters that by saying that his subsequent conduct did not accelerate but in fact delayed the death of the woman. Thereupon the prosecution begins to pay a new degree of attention to this original question of the pulling away of the uterus.

Mr. Roome: It was rather upon the suggestion of the learned judge that both aspects were considered, but more stress was laid by the prosecution upon the second aspect.

The Lord Chief Justice: That is to say, you ended as you began.

Mr. Roome: But there was Sir Bernard Spilsbury's evidence that the uterus required a lot of pulling, also the evidence of Dr. Buchanan. [Counsel here read some of this evidence, which described how the uterus was suspended by the broad ligaments.] It was suggested by the Crown that the mere removal of the uterus in these conditions might, if the jury chose so to regard it, be an act of gross negligence as showing ignorance on the part of the doctor of what he was doing, and the prosecution said that the subsequent conduct of the case showed clearly that the doctor himself thought this was so, because he did not inform the relatives what had happened, he impressed upon the midwife not to tell anybody, he took the uterus home, leaving the placenta behind, and he took no steps to inform anyone at the hospital or to call in another doctor.

The Lord Chief Justice: Is that not rather a perilous line of argument? These things might go to supply a makeweight and make the jury say, "Well, it is shown by his conduct afterwards that he thought it was negligence." But would that alter the character of that which had been done? Suppose that what he did was consistent with quite other views and motives. By bringing in these other things you get confusion of mind, supplementing imperfect evidence, and producing a proof!

Mr. Roome: Much more stress was laid upon the second branch of the case. It was urged that this was no error of judgement. The appellant expected the woman to die, and he said that if she had been dead when he called the next morning he would have given a death certificate.

The Lord Chief Justice: Again supposing that had been so, would it have altered the intrinsic nature of what had been done or omitted?

Mr. Roome: It supplied the motive for what the Crown said was his wicked and criminal inattention.

The Lord Chief Justice: But the question still remains: Was there wicked and criminal inattention? If there was not, you need not trouble about motive.

Mr. Roome: But from the evidence the Crown said that there was. The appellant made no attempt to insert a drainage tube; he omitted to take a second opinion; all that he did was to mention to his locumtenent, on his return to the consulting room, what had happened; he made no attempt to remove the woman to hospital.

The Lord Chief Justice: He says that was good for her.

Mr. Roome: The prosecution says that he did it to prevent anybody from finding out what he had done. When he found out that on the following days she was still alive, and according to the relatives a little brighter, if his object had been to treat his patient in the best way he might have brought a surgeon to her bedside to see whether or not she was fit to be operated on.

Mr. Justice Salter: Supposing he had got a second opinion and taken her to hospital, what is the evidence that her life would have lasted longer?

Mr. Roome: It was hypothetical evidence. In the opinion of the medical men called for the prosecution there was just a chance. Sir Bernard Spilsbury said that he considered she rallied sufficiently to permit of an operation being performed.

The Lord Chief Justice: Does that mean a successful operation? Very often the operation is perfectly successful, but the patient dies!

Mr. Roome: The one chance—a very slender one—of saving or prolonging her life was to have an operation, which might or might not have been successful.

The Lord Chief Justice: That statement involves one view of the facts. Another view was presented—namely, that in the circumstances of this case and in the physical posture in which the patient was lying she was getting at least as efficient drainage.

Mr. Roome: That was the evidence of the appellant himself, and of no other witness. What the Crown contended with regard to drainage was borne out by the two medical witnesses called for the defence.

The Lord Chief Justice then asked what, in all this exceedingly interesting and quite ingenious controversy, became of "proof beyond all reasonable doubt."

Mr. Roome said that it was for the jury, after the judge had ruled that there was evidence to go to them, to say whether they considered the case proved beyond all reasonable doubt.

The Lord Chief Justice: It is for them to say; and it may be for others to say whether they have reasonably said.



Mr. Roome: The jury were urged by the prosecution not to convict this man unless they were absolutely driven to it by the weight of evidence. There was no attempt to snatch a verdict.

The Lord Chief Justice: Nobody would suppose for a moment, Mr. Roome, that you would dream of snatching a verdict. No such thing is suggested.

Mr. Roome went on to say that this case was put particularly high by the prosecution. It was put to the jury that unless they thought that the doctor's conduct was so wicked that they were driven to the conclusion that he was guilty of the grossest inattention towards this unhappy woman they must not convict. What impressed the jury was the callous neglect he showed. He did not call in another doctor, he took the uterus home with him, he concealed the facts of the matter from everybody who might be in a position to give help or advice. Moreover, when he was pressed by the husband to send the woman away, he destroyed the very foundation of his reason now alleged for keeping her at home, and it was when she was weaker that he at last yielded to importunity and sent her to hospital.

The Lord Chief Justice: Suppose—a mere hypothesis—that even at the end of the eleventh hour he had still refused to let her go to hospital, would your criticism have been less or more severe?

Mr. Roome: His conduct would have been at least more consistent. The prosecution do not for a moment accept his story that he was consulting the interest of his patient. Having committed a practically unheard-of blunder, he took every step in his power to conceal it, and that was evidenced by the whole of his subsequent conduct.

The Lord Chief Justice: If that is an accurate representation of the case for the prosecution, the foundation of it was that he made a "colossal blunder" in pulling away the uterus, and that the rest of what happened threw light upon the colossal nature of that blunder. That is not the way in which the case was put at all.

Mr. Roome: Perhaps "blunder" was not the proper word. I should have said "disaster." The case for the Crown was that he was so appalled to think of what he had done that he took steps to conceal it. He wrote to the hospital that the patient had been doing fairly well but was now in a bad way. If the patient had been doing fairly well what excuse was there for not sending her to the hospital long before she was sent? It was not until he was driven to send her to the hospital that he did so. The prisoner had a most fair trial. The jury consisted of men only.

The Lord Chief Justice: That remark seems to suggest that the prisoner could not have had a just verdict if there had been women on the jury. But that might have been an advantage to the prisoner.

Mr. Roome: It was the prisoner's counsel who challenged, successfully, every woman juror who was called.

Counsel went on to submit that there was abundant evidence to support the conviction. Dr. Bateman had been guilty of what Lord Ellenborough described as most criminal inattention.

The Lord Chief Justice asked whether what was meant was that he committed a blunder in taking away the uterus in the belief that he was taking away the placenta, and, having committed the blunder, he proceeded, not to seek to remedy the effects of the blunder, but to conceal the fact of it. Mr. Roome agreed, and the Lord Chief Justice went on to ask whether he would not go a step further and say that he had by reason of that concealment accelerated the death of the patient.

Mr. Roome said that that was one of the points on which the learned judge specially directed the jury. No one could say that the woman would not have died had she been removed to the hospital the next day or the day after. It was idle to say that she could not be removed, for an ambulance was available, and a stretcher to carry her down the stairs. There was a chance, at any rate, of something being done to save her life. The prosecution did not accept entirely the evidence of the two distinguished experts for the defence. These gentlemen never saw this woman, alive or dead, but they came forward with theories which in their view were likely to assist the jury in arriving at a conclusion favourable to the accused.

This concluded the speech for the Crown, which occupied half an hour.

#### *Judgement: Conviction Quashed.*

After a consultation, lasting about seven minutes, with his colleagues on the Bench, the Lord Chief Justice announced the judgement of the Court as follows:

This appellant, Percy Bateman, was convicted at the Central Criminal Court of manslaughter, and was sentenced to six months' imprisonment in the second division. He now, by leave of the Court, appeals against that conviction and that sentence. The Court is of opinion that the appeal ought to be allowed and the conviction quashed. In view, however, of the importance of some, at any rate, of the questions which are raised, we propose to consider our judgement and deliver it on a later date. In the meantime the prisoner is discharged.

Dr. Bateman was then discharged and left the court with his friends.

## Obituary.

SIR ANDERSON CRITCHETT, Bt., K.C.V.O.,  
F.R.C.S.Ed.,

Surgeon-Oculist to the King; Consulting Ophthalmic Surgeon to St. Mary's Hospital, London.

By the death, at the age of 80, of Sir George Anderson Critchett, on February 9th after a short illness, a notable figure has passed from the British medical profession. For many years he had been the doyen of ophthalmic surgeons, and he worthily held the high position he had attained. Until within quite recent weeks he was still at work, displaying all that care and interest in his patients that had marked his whole career.

He might be said to have been born to be an ophthalmic surgeon. He was the eldest son of George Critchett, who was one of a distinguished group of men who, commencing life as general surgeons, broke away to specialize in eye work, and by so doing gave an immense impetus to the study of ophthalmology in this country. Many of these men did their work at the well known general hospitals, some at special-eye hospitals. Sir Anderson did his work in the main at St. Mary's Hospital, where he gathered about him a group of students and instilled into their minds a love of the work of his choice.

Not only could he look back on a career of over fifty years as an ophthalmic surgeon himself, but he was a link with the founders of modern ophthalmology. Sir William Bowman, Jonathan Hutehinson, George Lawson, and George Critchett were the great names in the ophthalmic world in the sixties and seventies of last century, and Anderson Critchett was approaching manhood at the time when the discovery of the ophthalmoscope produced a renaissance in the study of diseases of the eye. "La réputation d'un père est un lourd fardeau pour le fils." But great though his father had made the name, Anderson Critchett undoubtedly added to its repute, and it is safe to say that there are few names of British ophthalmic surgeons better known in the world at the present time.

He received his early education at Harrow, and retained to the end the greatest love for and pride in his old school. The cheers with which he was greeted when he went to Harrow on Speech Day in the summer of 1908, after he had been made a baronet, gave him more happiness than almost any other recognition of that honour. At Harrow he won the prize for English literature, and though he did not gain a place in the eleven he laid the foundations of a good cricketing style which served him well when, later on, he went up to Caius College, Cambridge. At Caius he captained the cricket eleven and made many friends. He graduated in 1867, and immediately after began to study medicine at the Middlesex Hospital. He qualified in 1872, and there followed a period when it seemed almost doubtful whether medicine or music should claim him. He possessed a fine baritone voice and a love for the drama and social qualities, which all combined to draw him away from the serious profession of medicine. His affection for his father and his desire to be of assistance to him proved an effective counterbalance to these attractions, and he soon devoted himself seriously to the study of ophthalmology. He speedily began to acquire a wide reputation, and it is of interest to note that his first published paper, on inoculation in ophthalmic practice, was published in a French journal—*Annales d'Oculistique*—in 1877.

In 1881 he was elected, out of a strong field of candidates, ophthalmic surgeon to St. Mary's Hospital, and it was his work there that finally established his reputation and incidentally built up one of the biggest eye clinics at any of the general hospitals in London. Critchett himself would have been the first to recognize how much he was aided in his work at St. Mary's by the late Henry Juler; they loyally worked together when, a few years later, Juler was co-opted as his colleague.

His career from this time onwards is a simple record of increasing honours accorded to him. There was scarcely an important office in ophthalmic circles in which he did not take his share of work with the full appreciation of his colleagues, both of his own and of the younger generation. He was vice-president of the Section of Ophthalmology.

logy at the Annual Meeting of the British Medical Association in 1886 at Brighton, and again in 1895 when the meeting was held in London; he was president of the Section in 1889 at the Leeds meeting. To name but a few of the other offices he held: In 1894 at Edinburgh, and again in 1899 at Utrecht, he was elected honorary president of the International Ophthalmological Congress; from 1899 to 1901 he was president of the Ophthalmological Society of the United Kingdom, and of the Ophthalmic Section of the International Medical Congress at the London meeting in 1913. In that great gathering from many nations he displayed a tact in affairs that made him not only the doyen of British ophthalmologists, but a recognized leader amongst eye men of all countries. Not a little of his success in this regard was due to his powers of expression. It is given to few to have had such a command of words as he had, whether in English or French. He became surgeon-oculist to King Edward VII in 1901 and received the honour of knighthood in that year. In 1905 King Edward created him a Commander of the Victorian Order, and in 1908 he was raised to the rank of baronet. In 1912, when a new Section of Ophthalmology was started in the Royal Society of Medicine, he was the first president. In 1918, on the foundation of the new Council of British Ophthalmologists, he was elected the first president of that body. In 1919, in recognition of services to King George V War Hospital, he was made a Knight of Grace of the Order of St. John of Jerusalem, and in the same year was created K.C.V.O. Last year (1924) he was elected Master of the Oxford Ophthalmological Congress, of which body he had previously been honorary treasurer. Thus, apart from the honours he received from the King, he had held every honour it was possible for his colleagues to confer on him. Such a record by itself shows the esteem in which he was held by those best able to judge of his work—an esteem which could only be earned by the genuineness of character which gave rise to it. Among other offices he held that of ophthalmic surgeon to the Royal Academy of Music and to the Actors' Association.

He was never a prolific writer, and to the regret of many of his pupils much of his teaching, which would have been of great value, is lost for want of record, but he was a great clinician, and unrivalled as an operator. To see Critchett in the heyday of his skill removing a cataract was to see the perfection of operative technique. Never a hurried or purposeless movement was made, and if any untoward complication had to be met, it was faced with the same steady placidity as if it had been foreseen from the first. Few attained to the perfection and gentleness of his manipulative skill. He did his work so easily and gracefully that it appeared to be the simplest of performances. There was no sign of display, no hint of showiness or sleight of hand. Every operation that he performed was a perfect piece of work. There could be no doubt that he thought and studied continually to maintain this perfection of technique. It is therefore to be expected that his writings should in the main have dealt with operative procedures, cataract extractions, and the treatment by operation of conical cornea. But to judge of his views it was better to hear him in a general meeting of one of the ophthalmological societies or an Annual Meeting of the British Medical Association; then, in a perfect flow of

words, he would give his experience in a manner that made so lively an impression as to be unforgettable. While his communications to society meetings were worth hearing, he was at his best when called upon to do the honours of the occasion in congratulating some colleague upon a success gained or an honour won; then Critchett said the words, and just those sentiments, and in just that manner in which every one of his hearers desired them to be said and would like to have been able to say for themselves. In the teaching of students his habits of work, as well as his words, were contagious and lasting in their impression.

As a man integrity was the hall-mark of his character. As a colleague he was perfect; and he counted amongst his colleagues even the most youthful of the followers of his art and craft. There are not a few who recall with pleasure a few simple words from him that were both a reward for an effort made and a stimulus for further work. To be able to do this we may be sure that Critchett was a happy man, of a courteous breed, with a cultivated largeness of heart, that took pleasure both in his own work and in that of others, and could regard the successes of others not only without envy but with hearty satisfaction.

To few men has it been given to have such a happy and such a full life; happy in his work, happy in his friendships, and happy beyond expression in his family life, he reached the end of his long term of years without ever growing old.

We are indebted to an old friend of Sir Anderson Critchett for the following tribute:

Any dweller in the Cavendish Square district during the last thirty, or even forty, years will miss the presence of the familiar figure of Sir Anderson Critchett. Short but dignified, erect and square-shouldered, clothed with the frock-coat and tall hat of pre-war times, and wearing a muffler well on into the days of summer, his was a well known personality as he strolled along, always leisurely, to his nursing home, his hospital, or, in former years, to watch some cricket at Lord's. Sir Anderson Critchett was the acknowledged doyen of ophthalmic surgeons in this country. He was cradled in the purple. His father before him was the well known ophthalmic surgeon,



Photograph by

(Russell and Sons, London.)

SIR G. ANDERSON CRITCHETT.

and he therefore had not to endure the hard struggles and lean years which so many consultants and specialists have had to suffer. Elected at a comparatively early age to the staff of St. Mary's Hospital, he was there associated with such men as Broadbent, Chandle, Edmund Owen, Field, and Malcolm Morris, all of whom added lustre to its school.

There are doubtless few who have begun so early in life to practise in Harley Street and who have carried on work so long, so uninterruptedly, and so successfully. During these years he taught and wrote, but it cannot be said that in either of these directions was he as noted as he was for his technical skill and his charming personality. His steadiness of nerve and dexterity of touch permitted of his carrying out cataract operations even in his 80th year. This long-maintained vigour was, possibly, in part, due to his lifelong abstinence from tobacco and wine, though he took the greatest pleasure in supplying the best of both these luxuries to his friends.

His other great claim to remembrance is the affection and regard which he inspired universally with patients and colleagues. His kindness to his junior colleagues was proverbial. He was entirely free from professional envy, hatred, and uncharitableness. His loyalty to those who brought him patients in consultation enabled them to do their best for their clients. This sincerity and uprightness of character gained for him the affection of patients of all classes.

Although so devoted to the practical side of the profession and so esteemed by his colleagues, yet Sir Anderson never

cared to take any prominent place in the academical or administrative life of medicine. Neither did he hanker after any public notoriety. This trait in his character was doubtless due to his intense appreciation of his home and his friends. Of the former this is not the place to write. But it may be recorded that there are few men in recent times who had a larger circle of intimate friends, particularly in the theatrical, artistic, and literary professions. To the writer he once expressed his appreciation of any men who might be called "clubbable," for this adjective, in Dr. Johnson's day, meant a friendly and sociable soul; and not merely a "club-man." His own favourite club, particularly in the golden days of the late Victorian and early Edwardian years, was the Garrick. His intimate theatrical friends were many, and there are few actors or actresses of note who have not enjoyed his hospitality in Harley Street.

Critchett was blessed with what Antoninus Pius, one of the best and wisest of rulers, summed up as the philosophy of life—*Aequanimitas*. He could suffer fools even gladly, and he

never seemed bored. He had a pretty wit, shown, not in the tedious telling of tales which so often passes for humour, but in that bright play of fancy, which is better described by the French as *esprit*. This faculty he used, not for public fireworks, but to cheer his friends and patients. Compared with some of the present-day tendencies towards sensationalism and publicity, Sir Anderson might be regarded as of the old school. His many friends could not wish for higher praise if by the "old school" is meant devotion to family and friends, sincerity in thought and word, generosity and hospitality, cheerfulness and good humour, long years of strenuous work, loyalty to his profession, and entire devotion to his patients. Had he been asked to write his own epitaph I feel sure he would have said: "Write me as one that loves his fellow men," and many to-day can say of him that he was—

"The dearest friend to me, the kindest man,  
The best conditioned and unwearied spirit  
In doing courtesies."

StC. T.

#### EMERITUS PROFESSOR NICHOLAS KULCHITSKY, M.D.

On the morning of January 29th, which was the 69th anniversary of his birth, Professor Kulchitsky was the victim of an accident at University College, as the result of which he died on the night of the 30th. He had acted as a lecturer in histology at University College since 1921.

In 1910, when he had been professor of histology in the University of Kharkoff for thirty years, he retired so as to give younger men a chance of promotion. In spite of the university's appeal for a reconsideration of his resignation he insisted upon his retirement. But he was not idle for long. He soon accepted a position in the Ministry of Irrigation, and then, in 1912, became the representative (curator) of the Ministry of Education in Kasan. In 1914 he was appointed to the same office in St. Petersburg, where he came into personal touch with the late Czar, who in 1915 appointed him a senator, and in 1916 made him Minister of Education, a position he occupied until the revolution.

He was reluctant to refer to his experiences in 1917, when he was seized and imprisoned, but (for some reason which he never quite understood) escaped the fate that befell his brother ministers. He was allowed to return to Kharkoff, where he earned his living by making soap. He used to explain that in the days when he first took to histology it was customary to use soap for embedding tissues, so that the first business of the histologist was to learn how to make soap. Hence in the time of need he had a craft to fall back on and save himself from starvation. He was able to get his family out of Russia in 1918 after walking all the way from Kharkoff to Sebastopol, which took twenty-two days. But he stayed in Russia for another three years in the hope that his services might be useful to his country.

When he arrived in London in 1921 he was penniless. He was taken on to the staff of the Anatomy Department at University College as a lecturer in histology, and, with the help of a grant from the Medical Research Council, he began the study of nerve endings in muscle, which in 1881 had been the subject of the first of his extensive series of contributions to histological literature.

In 1921 Professor Boeke gave a lecture in London on his researches on nerve endings in striated muscles, and brought his specimens to University College, where he gave a private demonstration in the Anatomy Department. His

results differed from those obtained by previous observers. Hence it was suggested to Professor Kulchitsky that he should investigate the whole subject anew. His work has

had momentous results, because John Irvine Hunter, who was working at University College in 1922, got from Kulchitsky's preparations the ideas for the researches described in the *BRITISH MEDICAL JOURNAL* of January 31st. Kulchitsky described two kinds of efferent nerve endings in striated muscle—one connected with non-medullated, the other with medullated nerves. He was unable to discover a single example of both kinds of nerves going to the same muscle fibre.

Kulchitsky's memoir was published in the *Journal of Anatomy* of January, 1924. The night before his fatal accident he completed the manuscript of a memoir on the nerve endings in the lizard's muscles, and instructed his daughter that it was to be dedicated as a tribute to the memory of his young friend John Hunter.

More than a quarter of a century ago Kulchitsky's name became familiar to all neurologists by reason of the widespread adoption of his modification of Weigert's haematoxylin staining method for myelin. But he has a long record of achievements in histology, including textbooks of histology and microscopical technique, both of which passed through five editions between 1902 and 1912.

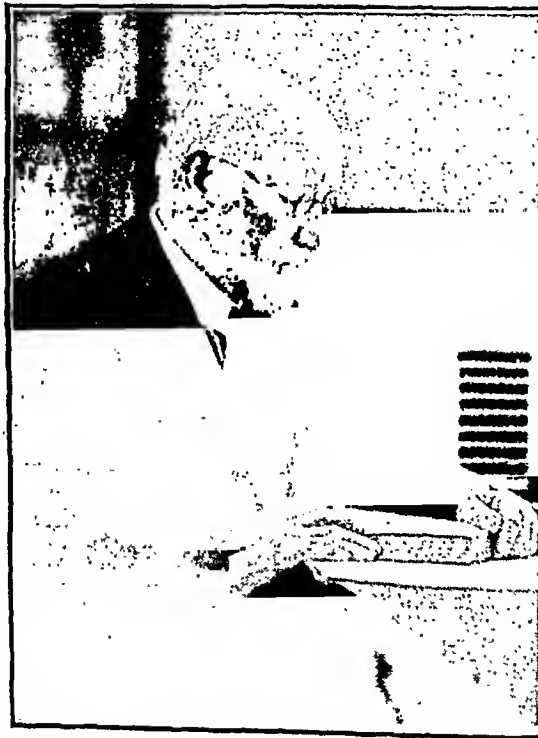
In addition to the distinction of being a Russian senator and an emeritus professor of Kharkoff University, he was a Commander of the Legion of Honour, a Privy Counsellor of Russia, a corresponding member of the Imperial Academy, and an honorary member of the Anatomical Society of Great Britain and Ireland.

His technical achievements in histology were superb; and during the last three years it was a cheering sight to see the courtly old man, who had weathered such terrible anxieties, peacefully enjoying the triumphs of his own technical skill and experience.

G. E. S.

#### THE LATE SIR JAMES MACKENZIE.

The funeral of Sir James Mackenzie, M.D., F.R.S., took place at Golders Green Crematorium on the morning of Thursday, January 29th. The service in the chapel was conducted by his nephew, the Rev. D. R. M. Keir of Perth. Besides the widow, Miss Mackenzie, Sir William Mackenzie, K.C., and other members of the family, the congregation



NICHOLAS KULCHITSKY, M.D.

Dr. BANTI, professor of morbid anatomy in the University of Florence, who had given his name to a form of splenic anaemia, has recently died.

### Universities and Colleges.

## UNIVERSITY OF LONDON.

## UNIVERSITY COLLEGE.

**THE** introductory medical course for students who have matriculated in the University of London will begin at University College on Monday, March 2nd. Intending students should apply at once, and should attend at the College on Monday, March 2nd, at 11 a.m.

NATIONAL UNIVERSITY OF IRELAND.

On Saturday, February 7th, the following degrees in the Faculty of Medicine were conferred in the hall of University College, Dublin:

[illegible]

ROYAL COLLEGE OF PHYSICIANS OF IRELAND.

At the meeting of the Board of the President and Fellows, held on 12th October 1906, the following candidates, having duly passed the required examination, were admitted as Licentiates in Medicine and Members of the College: Cyril James Ussher Annrphy, M.B., B.Ch.; B.A.O. Dubl., M.D.; William Thomas Noonan, M.B. Toronto, Ont.

in Saturday, February 7th, Sir  
President of the Royal College of  
Fellowship  
of conferring the honorary  
an address on "Individual links  
between the Royal Colleges of Physicians of London and Dublin "  
(see page 327).

## Medical News.

It will be remembered that on two previous occasions parties of medical men from other countries have visited Great Britain to study British public health services. A third party, now in this country, was received on February 8th by the Society of Medical Officers of Health, addresses of welcome being given by Professor Kenwood and Colonel S. P. James, of the Ministry of Health. On February 9th the party was received by Mr. Neville Chamberlain at the Ministry of Health, when an address was given by Sir George public health administration. Later in divided into three groups, one going to district, another Leeds and the West Willesden and Middlesex. The party will leave this country on March 24th for the closing conference at Geneva. The visits are arranged by the Health Organization of the League of Nations, with the financial assistance of the Rockefeller Foundation. Similar visits have been paid in other years to Italy, Belgium, Austria, Holland, Denmark, Switzerland, and the United States.

DR. J. R. KAYE, the County Medical Officer for the West Riding of Yorkshire, has been elected President of the Association of County Medical Officers of Health for England and Wales.

A CHADWICK public lecture on international hygiene will be delivered by Dr. E. W. Hope at the Medical Society of London, 11, Chandos Street, Cavendish Square, on Monday, February 16th, at 5.15 p.m., with Sir James Crichton-Browne, M.D., F.R.S., in the chair. On Monday, March 9th, at 8 p.m., in the Inner Temple Hall, Lord Newton will give an address on the necessity for legislation with regard to smoke abatement, with Sir William J. Collins, K.C.V.O., M.D., in the chair. In May Professor Brumpt, of the faculty of medicine in the University of Paris, will give two lectures (in English): (1) how to conduct an antimalarial campaign, and (2) the prophylaxis of sleeping sickness. On June 11th, at 5 p.m., in the Chelsea Physic Garden, Sir Daniel Hall, K.C.B., F.R.S., will discourse on the sources of the fruit and vegetable supply of London. Admission to all Chadwick public lectures is free.

DR. ROWLAND L. THOMAS of Whitland has been appointed coroner for West Carmarthenshire.

THE annual county medical dinner organized by the West Riding Local Medical and Panel Committee will be held at the Hotel Metropole, Leeds, on Tuesday, March 31st, at 6.30 for 7 p.m., when the chair will be taken by Sir Berkeley Moynihan, Bt. Tickets 12s. 6d. (exclusive of wine), to be obtained from Dr. W. Eardley, 50, Burlington Crescent, Goole.

A LECTURE on modern atmospheric conditions will be given before the Royal Society of Arts on Wednesday next, February 18th, at 8 p.m., by J. S. Owens, M.D., A.M.Inst.C.E., superintendent, Advisory Committee on Atmospheric Pollution, Air Ministry. Dr. Owens has written on the rate of settlement of solids in water as well as on atmospheric pollution.

THE Fellowship of Medicine announces that on February 20th Sir James Dundas Grant will lecture on some points in the diagnosis and treatment of tuberculosis and cancer of the larynx, at the Royal Society of Medicine, at 5.30 p.m. Beginning on February 16th, a fortnight's course in medicine, surgery, and the special departments will be held at the Prince of Wales's Hospital, Tottenham. In the mornings there will be demonstrations of modern clinical methods; in the afternoons demonstrations of groups of selected cases and clinics in the various hospital departments; and at 4.30 p.m. each day there will be a special clinical lecture. The opening lecture of the course will be given by Mr. James Sherron on appendicitis. On March 2nd a three weeks' course in medicine, surgery, and gynaecology will commence at the Royal Waterloo Hospital, and include heart disease and diseases of the nervous system, the blood, and the breast. A four weeks' afternoon course in ophthalmology will begin on March 9th at the Central London Ophthalmic Hospital; an operative surgery class will be held by arrangement for an additional fee. The Chelsea Hospital for Women is arranging a special three weeks' course from March 16th. At the Hospital for Diseases of the Chest (Brompton) a fortnight's course begins on March 16th. The Royal Northern Hospital, in conjunction with the Royal Ghost Hospital, is arranging an intensive course in medicine, surgery, and the special departments from March 23rd to April 4th. Copies of the syllabuses of these courses may be obtained from the Secretary of the Fellowship at No. 1, Wimpole Street, W.1.

Irish newspapers announce that Dr. T. Hennessy, Irish Medical Secretary of the British Medical Association, has accepted the invitation of the Government of the Free State to become a candidate for election to the Dail for South Dublin City.

ON and after April 1st next grants made to health visitors will be paid by the Minister of Health instead of the Board of Education. The circular letter in which this change is announced states that on and after April 1st, 1923, the appointment of a woman for the first time to be a health visitor will not be approved unless she has obtained a certificate granted by a central examining body approved by the Minister.

At the meeting of the Nottingham Mental Dispensary Committee, held on January 28th, the town clerk reported that the Board of Control had approved the purchase of Aston Hall and park, comprising 88 acres, and about 56½ acres of adjoining land to be used as a home for mental defectives. The institution will, it is hoped, provide accommodation for 400 beds and a resident staff.

At the meeting of the West Kent Medico-Chirurgical Society at the Miller General Hospital, Greenwich, to-day (Friday, February 13th), at 8.45 p.m., Dr. Harold Pritchard will read a paper on some modern aspects of disease.

The nave of Epsom College War Memorial Chapel will be consecrated by the Bishop of Winchester (visitor of the College) on Saturday, February 21st, at 3 o'clock. Contributors to the war memorial fund who wish to be present at the ceremony should apply for a card of admission to the Bursar, Major Walter L. Giffard, the College, Epsom, Surrey.

MESSRS. MANN, EGERTON AND CO., LTD., have made for Daimler Hire Limited a very luxurious ambulance body for a 45-h.p. Daimler chassis. Special attention has been given to ease of loading and the comfort of the patient's bed, and for his removal from his room folding carriers are provided. Two chairs are fixed for attendants. In addition to lockers there is a wash basin with water supply. Attention has been given to the ventilation and lighting of the body. One aim the makers kept in view is that the ambulance when travelling shall resemble an enclosed limousine.

THE twentieth International Congress of Anatomy will be held at Turin from April 6th to 8th under the presidency of Professor G. Romiti. Titles of papers should be sent to Professor G. Levi, Istituto Anatomico, Corso M. d'Azeglio 52, Turin.

At the meeting of the Medico-Legal Society to be held at 11, Chandos Street, W.1, on Tuesday next, February 17th, at 8.30 p.m., Dr. Godfrey Carter will read a paper on the psychology of the criminal, which will be followed by a discussion.

WE hope to publish next week a memoir of Dr. E. E. Klein, F.R.S., the eminent bacteriologist and histologist, whose death at the age of 80 is announced as we are going to press.

## Letters, Notes, and Answers.

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the British Medical Journal alone unless the contrary be stated. Authors desiring reprints of their articles published in the British Medical Journal are requested to communicate with the Financial Secretary and Business Manager, 423, Strand, W.C.2, on receipt of proof.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—not necessarily for publication.

ALL communications with reference to advertisements as well as orders for copies of the Journal should be addressed to the Financial Secretary and Business Manager, 423, Strand, London, W.C.2. Attention to this request will avoid delay. Communications with reference to editorial business should be addressed to the Editor, British Medical Journal, 423, Strand, W.C.2.

Communications intended for the current issue should be posted so as to arrive by the first post on Monday or at latest be received not later than Tuesday morning.

The telephone number of the British Medical Association and British Medical Journal is Gerrard 2630 (Internal Exchange). The telegraphic addresses are:

EDITOR of the British Medical Journal, Aitoliway Westrand, London.

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), Articulate Westrand, London.

MEDICAL SECRETARY, Midiscera Westrand, London.

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 4737 Dublin), and of the Scottish Office, 6, Rutland Square, Edinburgh (telegrams: *Associate, Edinburgh*; telephone: 4361 Central).

### QUERIES AND ANSWERS.

#### SNOORING.

"WILTSHIRE" writes: Can any reader of the British Medical Journal kindly advise how to prevent snoring in adult life? The patient, a man aged 50, healthy, has no nasal obstruction, is not a mouth-breather, and only recently acquired this habit.

#### HOUSE DUTY.

"T. D. H." writes: I pay £100 a year rent for my house; I am allowed £50 by the Inland Revenue, but I have to pay house duty on the £100. Is that right?

\* \* \* Yes, it is correct, though the reference is presumably to the house duty chargeable for 1923-24 and prior years, as it has been abolished as for 1924-25 and onwards. The point is that whereas house duty—and income tax under Schedule A—is, like local rates, chargeable on the premises as a whole, the amount of rent to be allowed as representing a professional expense is determined by the portion of the premises used for professional purposes.

### LETTERS, NOTES, ETC.

#### THE INACCURATE ANTIS.

DR. W. D. O'KELLY (Department of Pathology and Bacteriology, University College, Dublin) writes: My attention has been drawn to an article in the *Vaccination Inquirer* of February 2nd by the receipt through the post (anonymously from London) of a marked copy of this publication. The article in question refers to a discussion on the value of the Schick test at a recent meeting of the Section of Pathology of the Royal Academy of Medicine in Ireland. I write to say that the account of my remarks given in the article in question is inaccurate and misleading.

#### INFLUENZA.

SURGEON COMMANDER LLEWELLYN LINDOP, R.N., writes to suggest that in influenza the point of infection is the eye, and that the cough-spray, reaching the conjunctival sac, incubates there and infects the nose by way of the lacrimal duct. He thinks, further, that infection of the respiratory tract is by contiguity of tissue, and that the risk of infection would be diminished if persons travelling in trams, buses, and tubes, in reach of infected coughers, could be persuaded to wear well fitting motor goggles. An ordinary pair of horn spectacles would, he says, be better than nothing, but would not cut off lateral splash.

#### VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 34, 35, 36, 37, 40, and 41 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 38 and 39.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 63.



## Remarks

ON

## THE POSSIBILITIES OF EXPLORATORY THORACOTOMY.\*

BY

PROFESSOR GEORGE E. GASK, F.R.C.S.,  
DIRECTOR, SURGICAL UNIT, ST. BARTHOLOMEW'S HOSPITAL.

(With Special Plate.)

THE beginnings of thoracic surgery date from the very earliest times of which we have records. It is evident that Hippocrates was familiar with pleural empyema, and his accounts of the means of diagnosis and the various methods of operation by cautery or cutting are classical.<sup>1</sup> Army surgeons throughout the ages have been called upon to treat wounds of the chest inflicted by spear, arrow, or rifle bullet. Celsus, Ambroise Paré, Wiseman, Guthrie, Larrey, and many others have left records of their various efforts. Yet in spite of the ever-recurring need and the obvious desirability of finding a satisfactory treatment for injuries

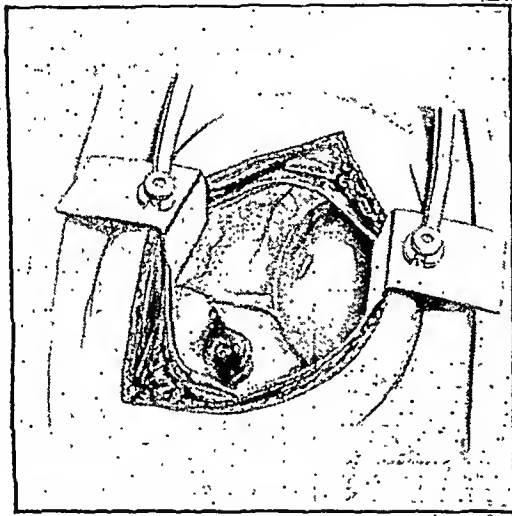


FIG. 1.—Method of dealing with gunshot wound involving the diaphragm and lung.

and diseases of the chest, thoracic surgery has never progressed far, and in the great advance which characterized general surgery in the past fifty years it has definitely lagged behind.

The purpose of this paper is to attempt an analysis of this strange lack of progress, to discuss what is possible at the present time, and to hint at some developments for the future. With the establishment of aseptic surgery the fear of suppuration and many of the dangers incident to operations which haunted our predecessors were removed, and yet the chest still remained an unexplored field for the surgeon, a fact which at first sight it seems difficult to understand. The explanation may be found in a widespread, though ill founded, belief that on the opening of one pleural cavity under ordinary atmospheric pressure not only one lung, but both lungs, would collapse and the patient die of asphyxia. This assumption was perhaps encouraged by physiologists, who based their opinion upon animal experiments, and though this is true for certain animals, such as guinea-pigs and dogs, in which the mediastinum is poorly developed, it is not true for man, in whom the mediastinum is a moderately stout structure completely separating the two pleural cavities.

In order to get over this assumed difficulty, surgeons invented complicated and costly chambers in which patients could be placed, either under a positive or a negative

atmospheric pressure, so that the interchange of gases in the blood could be maintained with the minimum of respiratory movements. Under these conditions operations were carried out successfully, and one likes to associate this stage in the evolution of thoracic surgery with the names of Sauerbruch and Willy Meyer and Tuffier, to whom great credit is due. These pressure chambers were, however, far too costly to come into common use in hospitals, and in consequence there was little general advance.

Such was, in brief, the position of thoracic surgery at the advent of the great war. The years 1914 and 1915 were dark days for surgery. Little could be done for the sufferers. Frightful . . . . . angrene, and septicæmia complicated . . . . . of the wounds. The words of a distinguished surgeon remain clear in my memory: "Surgery has gone back to the pre-Listerine age"; by which he meant that all the efforts of the surgeons could not avert suppuration, and that the most to be done for the wounds was incision and drainage. It was then that the ghastly method of the guillotine amputation came into vogue, while for wounds of the chest the routine treatment was to put a pad and bandage over the wound, to administer some opium and an expectorant mixture, and to await

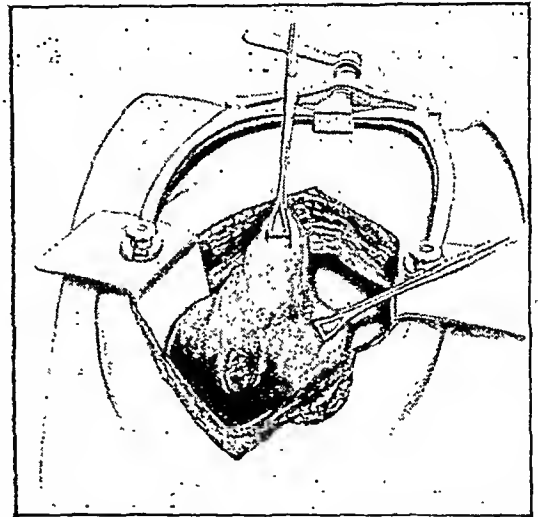


FIG. 2.—Gunshot wound of lung: to show method of exposure and extraction of missile.

developments.<sup>2</sup> In 1916 opportunities for surgery at the front were vastly improved, for surgeons with well equipped hospitals were established close behind the fighting line, and the desire to ameliorate the condition of the sufferers provided a stimulus strong enough to overcome some of our long-cherished prejudices.

About the same period in both the French and British armies surgeons began to question this purely expectant treatment of chest wounds and to consider the possibility of opening the pleural cavity, of removing foreign bodies, and of suturing wounded and bleeding lungs. It was, of course, quite impossible to erect pressure chambers anywhere near the front, and, though the fear of making a wide opening into the chest still persisted, it was determined to make an attempt. With fear and trembling the operations were undertaken, when it was quickly found that the chest could be opened widely under a general anaesthetic, that missiles and portions of bone and clothing which had been driven into the pleural cavity could be removed, and that the chest could be closed completely and the wound heal by first intention. The soundness of the practice was soon recognized, and in a short time it was established as a fit and proper treatment for certain types of wounds.<sup>3</sup>

The establishment of this fact is a landmark in the evolution of thoracic surgery the importance of which must be recognized. It marks the abolition of pressure chambers, with the recognition of the feasibility of opening the chest widely under general anaesthesia without undue risk to

\* Given before the Southampton Division of the British Medical Association on January 14th, 1925.

the patient, and the ability of the surgeon to have the thoracic contents under direct view, to arrest bleeding, and to handle and suture a wounded lung. It must not be forgotten in the consideration of the evolution of this branch of surgery that the use of x rays for the purpose of diagnosis and the localization of foreign bodies and of disease has been a most important aid, though full use of the method could not be made until the technical operative details had been elaborated.

After this brief sketch of the evolution of thoracic surgery let us consider what has occurred since the war. Stimulated by their experiences with the treatment of infected haemothorax, the result of organisms which had been carried into the pleural cavity by a missile, some surgeons thought that the ordinary forms of empyema as seen in civilian practice might be treated by a free opening, irrigation, and subsequent closure. Though a certain number of successful results have been reported, the method on the whole cannot be judged a good one. The reason appears to be that in most of the empyema which arise in civilian practice the source of infection lies in the lung, and that even if the pleural cavity were cleansed, reinfection would soon occur; so that for the present the old and well tried method of incision and drainage should be relied on.

For several years after the war there was a demand for treatment from a number of pensioners who had retained missiles in the chest which were giving trouble. The complaints they made were of shortness of breath, pain in the chest, and, in a certain proportion, of haemoptysis and suppuration. The two following cases are illustrative of the types of operation which were performed.

In 1916 an officer (Captain B.), aged 27, received a shell wound of the chest with retention of a piece of shell in the left lung. He returned to duty in 1918 and remained well until September, 1920, when he had a severe haemoptysis, followed by a succession of small haemorrhages and continued expectoration of blood-stained sputum. A radiogram showed a fragment of shell lying in the lower part of the left lung.

An operation was performed in January, 1921, some four and a half years after the wound. The chest was freely opened by an incision along the ninth rib, the lung was exposed, and the piece of shell found lying in an abscess cavity in the lower lobe of the lung. The fragment of shell was removed, the wall of the abscess cavity dissected away, the space closed with layers of catgut sutures, and the chest then closed.

The operation wound healed well, and the patient was discharged four weeks later. The haemoptysis and expectoration disappeared completely, and subsequent letters showed that the patient made a permanent cure.

A soldier (T. C.), aged 31, was wounded in the Dardanelles by a shrapnel ball which entered the chest behind the left shoulder and lodged in the posterior mediastinum, immediately to the left side of the aorta, every pulsation of which was communicated to the ball. The man complained of pain in the chest, and stated that he was unable to work on this account. In this patient the mediastinum was opened by splitting the sternum down the centre. This gave easy access to the mediastinum, and the ball was removed without opening either of the pleural cavities or doing any damage to the thoracic contents. The sternum was sewn together, and recovery was uneventful, the patient being in hospital under three weeks. Reports received lately show that he has remained well.

These operations may be considered to be the direct outcome of the war, and we may turn now to methods of treating various types of disease.

It is not proposed here to enter into a discussion of the treatment of frank empyema, for this subject has been fully dealt with elsewhere. I do, however, want to inquire into what may be done for those patients who have a collection of pus hidden away in some pocket of the pleural cavity or between the lobes of the lung. In some the pus can be located with the needle, but in others this is not so, and

a long and distressing illness is the result. To illustrate my meaning let me tell you about one of our nurses at St. Bartholomew's Hospital.

During the great epidemic of 1918 this lady contracted influenza, which was followed by a pleural effusion. Later she spat up a quantity of pus, and for a short time it appeared as if this was the end of the affair; but the cough and expectoration of pus recurred, associated with fever, and she was totally incapacitated from doing her work. The condition might have been for tuberculosis, but tubercle bacilli could not be found in the sputum, which was crowded with pus cells and streptococci. Repeated, but fruitless, attempts were made to find pus by needling, and at last an operation was suggested.

The chest was opened widely under a general anaesthetic and an abscess found between the lobes of the lung. The abscess cavity had fibrous walls more than a quarter of an inch thick. This fibrous tissue was dissected away, and the cavity closed by approximation with catgut sutures. The operation was followed by immediate cessation of all symptoms, a rapid recovery, and the nurse is now at work in the hospital. (Figs. 4 and 5.)

I submit that in such conditions there is a good field for sound surgery. What is the result of long retention of pus within the chest? A favourable issue may follow if the patient is able to spit up the pus, or if the lung becomes sufficiently collapsed and fibrosed to close the cavity; but at what expense to the patient! At the best it means

a permanent partial disablement. Often the issue is not favourable, and a condition of chronic bronchiectasis supervenes with all its deplorable sequelae, which are too well known to require elaboration. Should it not be accepted that, in the event of the trial and failure to find pus by the ordinary methods of clinical diagnosis, a deliberate and planned exploration of the chest by open operation should be undertaken? In my opinion such an exploration can now be done with safety, and there is no more reason for allowing pus to remain pent up if it happens to be in the chest than if it were in the abdomen. Exploratory abdominal operations have now become of everyday occurrence, and I can see no reason why exploratory thoracotomy should not become equally familiar to general surgeons.

Another type of case which can be benefited by surgery is the chronic discharging sinus which refuses to heal. These are most distressing cases, which, if left alone, tend to get worse and worse and finally die of tuberculosis, amyloid disease, or bronchopneumonia. The old and rather mutilating operation devised by Estlander may very well be replaced by that known as decortication, which Tuffier has done much to popularize. This operation, if deliberately planned and carried out at a reasonably early stage before fibrotic changes have rendered the lung permanently incapable of expansion, may be expected to yield good results. The following history will illustrate my meaning.

A boy (W. J.), aged 8, had pneumonia in the spring of 1923, followed six weeks later by a left-sided empyema. This was treated at first by aspiration, and then by incision and drainage, but the sinus refused to heal. The left side of the chest became flattened, air entry was poor, the fingers showed clubbing, and there was a constant cough with some deliberate operation was performed for the relief of the imprisoned dense fibrous tissue. This was accomplished by the sacrifice of three inches of the seventh and eighth ribs; a layer of thick fibrous tissue was dissected off the lung, which immediately began to expand. Two months later the boy left hospital, healed, with a good functioning lung. The accompanying pictures will show you the condition before operation and nine months later. (Figs. 6, 7, and 8.)

Tumours of the chest do not offer a great field for exploration because they are more often than not malignant, and no further reference need be made to them now.

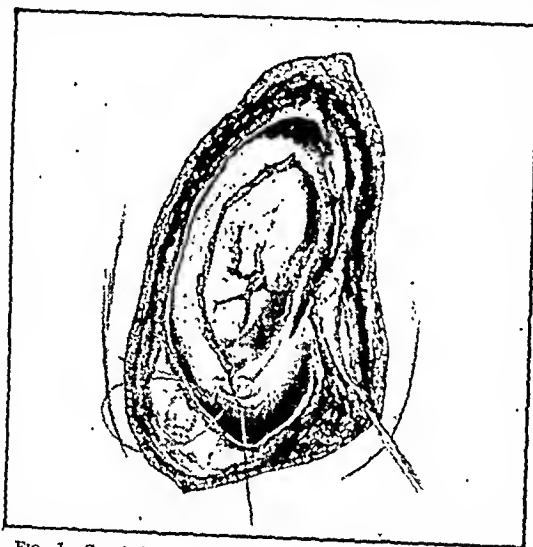


FIG. 3.—Gunshot wound of chest, involving both pleural and peritoneal cavities: showing method of suture of lacerated diaphragm.

Innocent tumours, though of much rarer incidence, are found from time to time. They may be fibromata or lipomata, and if not removed may give rise to serious, and indeed fatal, results.

Mr. Dunhill has reported the case of a man, aged 37, from whom he removed a fibroma, weighing 1 lb. 3½ oz. and measuring in the greatest diameter 13½ cm. It was situated in the upper part of the mediastinum and bulged into the right side of the chest. The prominent symptoms were increasing and crippling dyspnoea, cyanosis of the head and neck and upper extremities, and oedema of the right arm. The tumour was completely and successfully removed by an operation by the trans-sternal route, and the patient has had no further trouble.<sup>4</sup>

Amongst the rare intrathoracic tumours mention must be made of teratomata. A considerable number of cases have been described, most of which have been in the mediastinum, though others have occupied one or other of the lungs. These have been well described by Sir Rickman Godlee.<sup>5</sup>

The following pictures demonstrate the condition of a patient at St. Bartholomew's Hospital who had an extraordinary mediastinal tumour which involved the pericardium.

A male (A. A.), aged 21, was seized with a sudden severe attack of pain in the chest, accompanied by great shortness of breath. Physical signs and x rays revealed the presence of a large pericardial effusion and a tumour situated in the upper part of the left side of the chest, and apparently attached to, or pressing against, the heart. Temporary ease was afforded by pericardial paracentesis, but as the condition did not improve and dyspnoea was distressing, it was decided to explore the chest by open operation with the idea of removing the tumour. The trans-sternal, or sternum-splitting, operation was chosen as admitting the best exposure of the upper mediastinum. A large thick-walled cyst was discovered containing some 1,200 c.cm. of dark greenish fluid. It was situated in the mediastinum and was adherent to both the pleural and pericardial membranes. The reason for the pericardial effusion was probably due to a leakage from the cyst into the pericardium. The cyst due to a leakage from the cyst with a little more courage the whole of the cyst might have been dissected out. Recovery was uneventful. The histological examination showed the tumour to be a teratoma, containing cartilage and hypoblastic elements. Professor T. R. Elliott, who sent me the patient, has described the case fully at a meeting of the Association of Physicians. (Figs. 9, 10, and 11.)

There still remains the subject of hydatid cysts. This condition, though luckily rare in England, is a most serious complaint and likely to be fatal. The accompanying picture illustrates the condition, and I am indebted for the notes of the case to Dr. C. R. Hoskyn.

The patient was a male, aged 41, who sought relief on account of vomiting and persistent blood spitting. The physical examination and x rays showed the presence of a mass in the right side of the chest. Scolices were found in the sputum, which continued to be blood-stained. An operation was performed and the cyst was removed, but great difficulties were encountered on account of a communication between the cyst and one of the large bronchi. This unfortunate complication probably accounted for a severe bronchitis or bronchopneumonia, to which the patient succumbed three days later.

After this review of what has actually been accomplished, I think it may fairly be considered as proved that certain types of injury and disease of the thoracic viscera may be well and successfully treated by open operation, that the method adopted is a sound one, that it gives encouraging results, and is worthy of general consideration. It has also been demonstrated that the chest can be opened under general anaesthesia, and that the operative technique, though by no means incapable of improvement, is so far advanced as to justify the belief that with increased experience we may hope for still further developments in the near future.

Let us try now to take a more speculative view of the question and consider what are the possibilities of extending the knowledge and experience that have been gained towards the treatment of other diseases of the chest. A question that is constantly being asked is whether something could not be done for tuberculosis of the lung, or a portion of a diseased lung. This question has proved tempting to many surgeons. As long ago as 1881 it was shown by Gluck, Schmidt, Bloch, Biondi, and others that, in animals, portions or the whole of a lung could be removed

without necessarily causing death. On the strength of these experiments a number of operations for the removal of portions of lung affected by tuberculosis were undertaken.<sup>6</sup>

Although one or two favourable results were reported, including one by Macewen, who, in 1897, removed the whole of one lung for massive disintegrating tuberculosis, the method could not be judged a success. The considered judgement of Sir Rickman Godlee, writing in 1898, is worth quoting:

"With regard to these operations it must be said that they do not seem likely ever to have a very wide application; not only because it is very difficult to be sure that the part on which it is proposed to operate is the only one affected, but also because, in the early stage in which alone surgical interference would be justifiable, there is a fair chance of effecting a cure by other less hazardous measures."

These words are as true now as on the day they were written, and the older one grows the more it becomes evident that the problem of tuberculosis is not to be solved by surgical methods. The disease is preventable, and one must look to hygienists and the Ministry of Health to give us healthy conditions, or to pharmacologists to produce a drug which will kill the bacillus. It is tempting to make some reference to the new remedy which is now under trial, but this is neither the time nor place. Mention, however, should be made of subsidiary methods of surgical treatment which may be of help in those cases of established tuberculosis which will not yield to medical means. I refer to the operation of thoracoplasty, which is designed to bring about collapse of a lung when, owing to adhesions, an artificial pneumothorax cannot be obtained.<sup>7</sup> This operation, which has recently received a stimulus from the excellent work of our Scandinavian colleagues, is of undoubted value in certain selected cases. In this connexion it is interesting to remember that the operation was discussed by Macewen as long ago as 1897 at the International Congress of Medicine: a remarkable prognostication.<sup>8</sup>

A recent interesting development comes with the invention of a thoracoscope, by which the interior of the pleural cavity may be examined and through which adhesions may even be divided.<sup>9, 10</sup>

Passing from tuberculosis, I now come to the vexed subject of bronchiectasis, and here I confess to great difficulty in knowing what to say. Should one aim at the removal of one or more affected lobes of a lung? It can undoubtedly be done, and it has been done and patients have survived.<sup>11</sup> There do not appear to be any difficulties in the operation which should make the method impossible of being developed, in suitable cases. The difficulty, as it appears to me, is that at present we do not really understand the pathology of the disease, and the probability is that there are a number of conditions which may produce the same result. I would suggest that this is a suitable subject for research, and that when the accurate details of the pathology of the condition have been established then we shall have a sound basis for effective treatment. If it is allowable to venture on a prognostication, it is that in the greater proportion of instances it will be found that bronchiectasis could be prevented from occurring, and that surgery will take but a small part in its treatment.

This speculative survey of the realm of chest surgery would not be complete without some reference to the surgery of the heart. There are plenty of references in the surgical literature to sporadic operations on the heart—mostly for conditions the result of wounds or foreign bodies lodging in the wall of the ventricle—but little has been done for diseased processes. For many years suggestions have been made that valvular disease of the heart, attended with stenosis of the apertures might be treated by division of the obstructing membrane. It was suggested long ago by Brunton, who was laughed at for his temerity. Now quite recently we find that the operation has actually been done successfully by Cutler of Boston. His first patient is living, and apparently improved, one year after the operation.<sup>12</sup>

I have tried to place before you a few things which have been accomplished and many things which have yet to be

done: that they can be done is sure. May I conclude with these words of Bacon:

"Men, till a matter be done, wonder that it can be done; and as soon as it is done, wonder again that it was no sooner done."

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## THE PATHOLOGY AND TREATMENT OF GENU VALGUM.

BY

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(With Special Plate.)

## THE HISTORY OF THE INVESTIGATION.

IN 1897, when we began to take skiagrams, I had one made of the knee-joints in a case of genu valgum, for the purpose of demonstrating the elongated internal condyle, which most of us believed, at that time, invariably produced the deformity. Instead of showing any change in the lower end of the femur, the skiagram showed that the genu valgum was due, to a large extent at any rate, to a deflection outwards of the upper end of each tibia. Certainly the exact shape of the lower end of the femur could not be determined, as the epiphysis was only imperfectly ossified, but there was nothing in the appearance of the skiagram to suggest that an elongation of the internal condyle existed, or any obliquity of the knee-joint, whereas the deformity in the tibia was quite enough to account for the genu valgum. I published<sup>1</sup> an account of the skiagraphic appearances at the time, and then Mr. Muirhead Little and the late Mr. Noble Smith called attention to the fact that, even without the aid of skiagrams, they had described deformities in the leg bones, rather than in the lower end of the femur, as a cause of genu valgum. Indeed, the latter surgeon had stated that he considered these curvatures in the leg bones, and not elongation of the internal condyle, were the usual cause of genu valgum. In 1898 I published<sup>2</sup> a paper, describing these curves in the leg bones, as revealed by skiagrams, and advocated osteotomy of the tibia, rather than of the femur, and in 1902 delivered a lecture at the Post-Graduate College and Polyclinic, in which I further described the condition of the bones in genu valgum, and considered more fully its treatment, both operative and non-operative. This lecture was published in the *BRITISH MEDICAL JOURNAL* for 1902 (vol. i, p. 1527). In it I have illustrated the various forms of deformity present in the leg bones which cause genu valgum.

This present paper is based on a study of 51 records of the skiagraphic appearances of genu valgum, which I possess, representing the appearances of about 100 limbs (for the skiagram almost invariably represented both limbs). I have also a very large number of the prints of these skiagram negatives, preserved. These 51 records are all that I possess, with the exception of three which are of no value for the present inquiry. They are: (1) a second skiagram taken two years after the first; (2) a relapse after osteotomy; (3) a case which had been previously operated on by another surgeon.

### FREQUENCY AND RELATIVE PROPORTION OF THE CHANGES IN SHAPE OF THE LEG BONES AND THE LOWER END OF THE FEMUR.

In 36 of the 51 cases the epiphysis at the lower end of the femur was not sufficiently ossified to be certain of its shape from the skiagraphic appearance, but in all these

cases there was sufficient deformity in the leg bones, revealed by the skiagram, to account for the genu valgum; and although it is not possible to say for certain that there is no change in shape in the lower end of the femur, yet in many one can be almost certain the knee-joint has not been made oblique, instead of transverse, by an abnormal descent of the internal condyle. Fig. 1 is a good illustration of this group. In 15 cases ossification of the lower epiphysis of the femur has proceeded far enough to be sure whether the line of the knee-joint is transverse or oblique—that is, whether the internal condyle descends abnormally low or not. In 4 of these cases it is obvious that there is no change in the shape of the condyle, and that the knee-joint remains transverse, and therefore that the genu valgum is wholly due to the curvature, or deflection outwards, of the tibia. Fig. 2 is a good illustration of this group. In 5 cases the descent of the internal condyle was very slight, and the genu valgum was clearly mainly due to the curvature of the leg bones. Figs. 3 and 4 illustrate this group. In Fig. 3 a very slight descent of the internal condyle is seen, but Fig. 4 of the leg bones shows that the genu valgum is more due to a deflection out of the shaft of the tibia from just below the head.

In 6 cases the genu valgum is about equally due to an abnormal descent of the internal condyle with obliquity of the knee-joint, and to curve, or deflection out, of the shaft of the tibia. Fig. 5 is a good illustration of this group. Fig. 6 represents the other limb, in which the genu valgum seems to be more due to deformity in the lower end of the femur than to the curve in the leg bones, but this is because the skiagram is taken with the femur abducted. The shaft of the femur, if prolonged above the skiagram, would not ascend parallel to the inner edge of the skiagram, but obliquely, upwards and inwards. The genu valgum in the skiagram of this limb appears greater than in the other limb, because the limb is abducted, but it will be seen in Fig. 7 that the genu valgum is practically equal in the two limbs. Fig. 7 shows the lower limbs in this case.

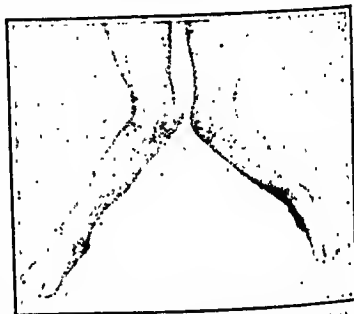


FIG. 7.—Represents the lower limbs of the patient from whom skiagrams 5 and 6 were taken.

I have one skiagram in which the genu valgum is wholly due to deflection out of the tibia in one leg, and equally due to this deformity and an abnormal descent of the internal condyle in the other leg. I have never seen a case in which the change in the bone causing the genu valgum was greater in the lower end of the femur than in the tibia.

The proportion of deformity may alter as the case progresses. I have the record of a case in which, at the age of 14, the deformity was almost wholly in the leg bones, whereas, two years later, another skiagram showed the genu valgum was equally due to deformity in the femur and the leg bones. One case does not of course, indicate that, as age advances, the change in the femur becomes more marked in proportion to that in the leg bones, but it is suggestive, and an examination of more skiagrams to decide the point would be interesting.

### THE CHANGES IN THE SHAPE OF THE LEG BONES.

The various forms of deformity of the tibia causing genu valgum were described by me in the lecture already referred to, and are represented in diagram 3 of the published lecture, and need not be reproduced in this paper, but Figs. 8, 9, and 10 give a good idea of the common forms of such deformity. In some cases there is a distinct curve out of the shaft of the tibia from just below the head, in others no definite curve, but a sharper angular deflection out, from about one inch below the head, and in others a gradual deflection out of the shaft



FIG. 4.—Nurse P. An interlobar abscess with dense fibrous walls.

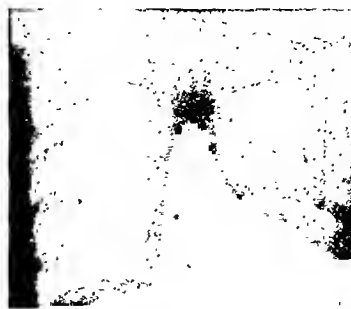


FIG. 5.—Same patient, five years later, showing complete restoration of function, after decortication.



FIG. 6.—W. J. Chronic empyema sinus filled with bismuth.



FIG. 7.—Photograph of same patient nine months later, after decortication.



FIG. 8.—Same patient, showing restoration of function.



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FIG. 9.—A. A. Mediastinal teratoma with large pericardial effusion.



FIG. 10.—Same patient, showing air in upper pericardium.



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FIG. 11.—Same patient, showing condition two months after operation.





FIG. 1.

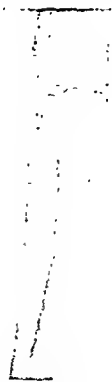


FIG. 2.

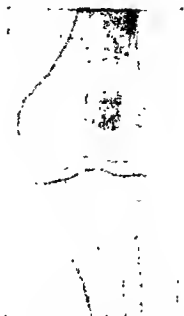


FIG. 3.



FIG. 4.



FIG. 5.



FIG. 6.



FIG. 8.

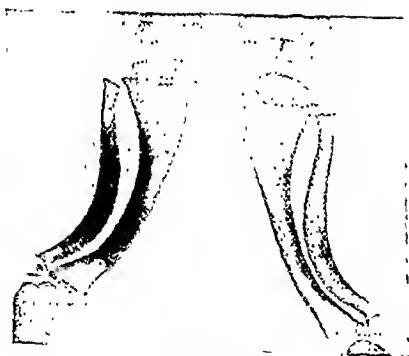


FIG. 9.



FIG. 10.



FIG. 11.



FIG. 12.



FIG. 13.

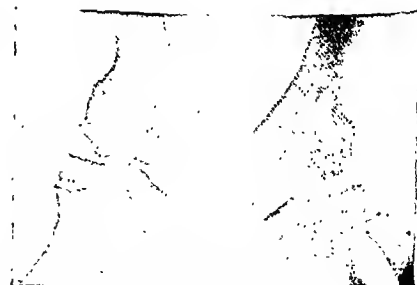


FIG. 14.

from just below the head. All these various types are represented in the diagram published in my paper in 1902. In the form in which there is a sharp angular deflection out of the shaft, about one inch below the head of the tibia, the angle may be so marked as to cause a definite projection, or spur, on the inner aspect of the shaft of the tibia, in cases of genu valgum, has been attributed to the strain on the attachment of the internal lateral ligament of the knee-joint. In some cases it may be so, and its production in this way is suggested by the appearance in the skiagram, in some cases, of a small surface production of new bone; but in other cases the spine is clearly seen in the skiagram to be simply an angular projection of the shaft at the seat of greatest deformity.

In some cases, of which Fig. 11 is an example, there has been a curious correction of one curve by another. There has perhaps been a curve out in the upper part of the tibia which, if not corrected, would have produced genu valgum; and yet another curve is present, nearly correcting, or even overcorrecting, the upper curve, and producing in the final result a certain amount of genu varum. Or there may be a curve in the lower end of the femur producing genu varum, and this may be corrected by the presence of another curve in the leg bones, which corrects the femoral curve, but if present alone would have produced genu valgum. This condition is illustrated in the left limb in the skiagram, Fig. 12. In the right limb genu varum is present, due to femoral curve. In several cases there has been a combination of curvature of the leg bones outwards, producing a marked degree of genu valgum, and an antero-posterior curve of the leg bones, producing the ordinary bow legs.

The condition of the fibula varies very greatly. In some cases, in which the skiagram shows only the upper half of the bone, it is straight, even though there is a marked deformity of the tibia, causing the genu valgum. Figs. 2, 6, and 13 are good illustrations of this. But it is possible that in these cases the fibula is curved out in its lower part, which is not represented in the skiagram, for other skiagrams which show the whole bone indicate that the fibula, though straight in the upper part, yet may curve out in the lower. In some cases of genu valgum the curve out of the fibula in the upper part, yet of the bone is seen to be as marked as that of the tibia; and in some skiagrams, whereas the tibia is deflected outwards from just below the head, without any distinct curve, yet the fibula presents a very distinct curve out in its upper part; in others, again, both bones are gradually deflected outwards, without distinct curve in either.

THE CHANGES IN THE SHAPE OF THE LOWER END OF THE FEMUR.  
The change in the lower end of the femur, which is partly a cause of the genu valgum in some cases, has been

described as an elongation of the internal condyle of the femur, and this was considered by Mikulicz to be due to an increase in the diaphyseal part of the condyle, rather than the epiphyseal. I do not believe there is any change in the shape of the internal condyle itself, but I consider that the internal condyle is pushed downwards, and the obliquity of the knee-joint thus produced, by a change in the shape of the whole condylar part of the lower end of the femur. In a study of skiagrams of these cases, the condylar part is seen to be tilted outwards at its junction with the shaft, so that the relative level of the condyles is altered, and the internal one descends lower than the external. Figs. 5, 6, 13, and 14 show this change in the lower end of the femur very clearly, and the resulting obliquity of the knee-joint. If a careful study is made of skiagrams in which the abnormal descent of the internal condyle is marked, it will be noticed that the outline of the

outer aspect of the femur, at the junction of the shaft and condyles, is altered. It is more curved in an outward direction than in the normal bone, in which there is a more marked curve at the junction of the shaft and condylar portion of the bone on the inner than the outer side, but in these cases of genu valgum with abnormal descent of the internal condyle to a marked degree there is a markedly greater curve on the outer aspect.

Although in the lecture published in 1902 I called attention to the explanation why the deformity of genu valgum disappears on flexing the knee, it may be well to repeat it here. It has been suggested that it is because the articular surface of the tibia rides off the elongated internal condyle on to its posterior aspect, but it is really due to an external rotation of the limb which the surgeon unconsciously performs in flexing the knee. External rotation of the limb tends to mask the genu valgum, and in really due to an external rotation of the limb which the surgeon unconsciously performs in flexing the knee. External rotation of the limb tends to mask the genu valgum, and in

### DESCRIPTION OF SPECIAL PLATE.

- FIG. 1.—To show curves in leg bones. The epiphysis of the lower end of the femur is not sufficiently ossified to indicate the shape of the lower end of the femur, but it seems almost certain that if the knee-joint is oblique it is oblique in the opposite direction to that which would produce genu valgum; probably it is transverse and there is no deformity of the lower end of the femur.
- FIG. 2.—The knee-joint is transverse and there is no deformity in the lower end of the femur, the genu valgum being due wholly to the deflection outwards of the shaft of the tibia. (The picture is made of two separate skiagrams joined together where the light transverse line is seen. It was not possible to get the lower end of the femur and so much of the tibia on one plate.)
- FIG. 3.—There is a very slight abnormal descent of the internal condyle and obliquity of the joint, but Fig. 4 shows that the genu valgum is more due to a deflection out of the shaft of the tibia combined with a slight fibula curve.
- FIG. 4.—Same case as that shown in Fig. 3.
- FIG. 5.—In this limb the genu valgum is about equally due to the deformity in the lower end of the femur and to the curve in the tibia; but in the other limb (Fig. 6) it seems to be more due to the deformity in the lower end of the femur than to the curve in the tibia, but as explained in the text this is only apparent.
- FIG. 6.—Some case as that shown in Fig. 5.
- FIG. 7.—A common form of curve in the leg bones.
- FIG. 8.—A more angular deformity of the tibiae in the upper part, on the inner side, producing in the left limb a tibial spine.
- FIG. 9.—The curve in the left limb a tibial spine.
- FIG. 10.—The curve in the left limb a tibial spine.
- FIG. 11.—In the right leg there is a curve of the tibia out in the upper part which, if not corrected by a curve in, in the lower, would have produced genu valgum. In the left leg there seems to be a tilting of the lower end of the femur, which would have caused genu varum but for the curve out at middle of tibia. This is again corrected by a curve in the lower part.
- FIG. 12.—In the right leg deformity is present of the lower end of the femur, producing genu varum. In the left leg the same condition, but corrected by curve out of leg bones at middle. This, if present alone, that is, without the condylar deformity—would have produced genu valgum.
- FIG. 13.—The tilting out of the condylar part of the femur, causing abnormal descent of the internal condyle and oblique knee-joint, combined with curvature of the tibia, which also contributes to the causation of the genu valgum. This is the skiagram of the case shown in Fig. 18.
- FIG. 14.—To show the same condition of condylar part of femora as in Fig. 13. In Fig. 14 the lower ends of the femur, the knee-joints, are seen; in Fig. 13 the leg bones are also seen. All these skiagrams are from the same case.

flexing the limb of a genu valgum patient the knee is not also rotated out, the genu valgum is not corrected.

### THE NON-OPERATIVE TREATMENT.

I need not repeat in this paper what I said in 1902 about the futility of attempting to reduce the deformity of genu valgum by the application of splints, in out-patient treatment, as a means of moulding the bones into a better position, though no doubt splints or irons, by supporting the soft bone, may allow Nature a better chance of rectifying the deformity as the bone grows. Since that time I have in one case made an attempt to really mould the deformed bones straight by splint traction. As I pointed out in 1902, it is impossible, in out-patients, to apply splints so as to exercise enough continuous pressure on the bones to mould them. But I admitted a girl, aged 9, into the Children's Hospital, and made traction on the deformed bones, watching very carefully that the traction was really constantly maintained, and that it was not producing any pressure sore. I did not adopt the plan of fixing the limb

against an outside splint and making traction against it, as is usually done, for, as I pointed out in my lecture in 1902, pressure applied in this direction is not as desirable as traction applied so as to draw the displaced lower part of the leg inwards, which, if it acts at all, will restore the original shape of the bones. I therefore fixed the leg, the knee, and the lower part of the thigh, on a combination of a back and outside splint, and made elastic traction on the leg in the neighbourhood of the ankle, towards the inner side, by a rubber accumulator.

It required constant care to see the limb did not in any way shift on the splint, and that no pressure sore was produced (Fig. 15). There was  $3\frac{1}{2}$  inches of genu valgum in the limb when placed on the splint, and I was able to reduce it to 2 inches in six weeks. This was too slow a process to induce me to adopt this line of treatment, for by an operation, practically free from risk, I could with certainty have corrected the whole of it, and need not have kept the child confined to bed for so long a time.

#### THE POSITION FOR OSTEOTOMY.

Since I described the method which I adopted for operation on the leg bones in genu valgum in 1902, I have had considerable further experience of it. If the genu valgum is shown by a skiagram to be due entirely to a deformity of the leg bones, or if the deformity of the leg bones is shown in the skiagram to be sufficient to account for the deformity, the condition of the lower end of the femur not being sufficiently ossified to enable the surgeon to be sure as to abnormal descent of the internal condyle, I operate only on the leg bones, and the result is usually quite satisfactory. Figs. 16 and 17 show such a case before and after operation. It would be quite possible in such cases to correct the genu valgum by an osteotomy at the lower end of the femur (Macewen's osteotomy), but the result would be that the knee-joint, which was transverse (normal) before the operation, would have been rendered oblique, with an abnormal ascent of the internal condyle, which cannot be a satisfactory condition of the joint for locomotion. I admit that a transverse osteotomy of the femur just above the condyles is a simpler operation than removal of a wedge from the



FIG. 16.—Case before cuneiform osteotomy of upper end of tibiae.

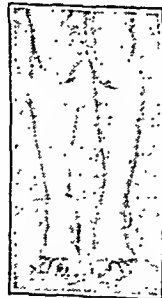


FIG. 17.—The same case as that shown in Fig. 16, after operation.

upper end of the tibia, but the latter operation corrects the deformity of the bone producing the genu valgum, whereas an osteotomy of the normal lower end of the femur corrects it by producing a new deformity in the previously normal lower end of the femur. Of course, I am writing only of cases in which the genu valgum is not due to deformity of the lower end of the femur. When it is due to this, clearly an osteotomy there may be indicated.

If a skiagram shows that though there is some abnormal descent of the internal condyle, yet the genu valgum is

due much more to curvature of the leg bones, I think we may ignore the condition of the lower end of the femur, and overcorrect the deformity of the leg bones, to make up for the remaining deformity of the femur, though no doubt the ideal operation in all such cases would be to do a double osteotomy, one correcting the deformity of the lower end of the femur, and the other of the tibia, and possibly a third of the fibula also. In cases in which the genu valgum is extreme, and about equally due



FIG. 15.—Showing application of traction to lower part of leg to overcome the genu valgum.

to abnormal descent of the internal condyle (or, as I should prefer to call it, to a bending out of the condylar part of the femur), I have practised osteotomy both of the femur and the tibia. I treated in this way the patient whose genu valgum is shown in Fig. 18 before operation, and in Fig. 19 after operation; Figs. 13 and 14 show the skiagrams of this case. Fig. 14 was taken to show the condition of the lower ends of the femora and the knee-joints, and Fig. 13 the

leg bones on one side. It was the worst case of genu valgum I have ever seen, and there were 17 inches between the feet when he was standing, but even this measurement does not represent the total amount of genu valgum, as he had to overcome a certain amount of it, by rotation out of the lower limbs, before he could stand at all, and that he might be able to do this he stood and walked with a certain amount of flexion of the hips, as is seen in the photograph. But if the combined deformity in the lower end of the femur and the tibia does not produce an extreme degree of genu valgum, I am generally content to perform a transverse osteotomy of the lower end of the femur, or a cuneiform osteotomy of the upper end of the tibia, according to the relative amount of deformity in each.

A good deal of discussion has taken place as to the age when osteotomy should be performed for rickety deformities, including genu valgum, and some surgeons have advised that it should not be performed in young children because of the tendency to relapse owing to the persistence of the softness of the bone. I think it is well to have a definite guide as to the probability of relapse in all cases before undertaking osteotomy; and it has been my practice for many years to take careful charts of the deformity and careful measurements of the degree of the genu valgum, and then to let the children run about freely for six months, and at the end of this time to compare the limbs with the chart and take a fresh measurement of the

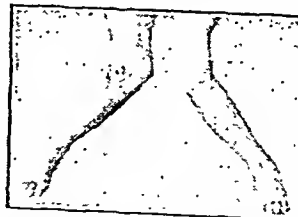


FIG. 18.—The case referred to in the text of 17 inches and more of genu valgum. Fig. 13 shows the skiagram of this case.

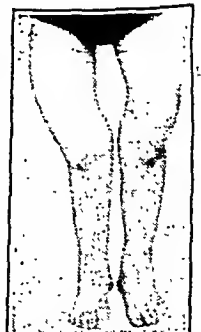


FIG. 19.—The case shown in Fig. 18 after combined osteotomy at the lower end of the femur and cuneiform osteotomy of the upper end of the tibia in each limb.

genu valgum. If there has been no increase of the deformity then the surgeon has a good indication that he may perform an osteotomy without fear of relapse. It is naturally considered that if there is any enlargement of the epiphyseal junctions present, indicating an active stage of rickets, it should be a contraindication to osteotomy. But it does not seem to be so, at an rate in some cases in which it has persisted for a considerable time, for I have applied the chart and measurement test to such cases and found the

deformity was not increasing, and then performed osteotomy without, at any rate, early relapse.

#### THE NATURE OF THE OSTEOTOMY.

With regard to the nature of the osteotomy I have performed in cases of genu valgum, all I need say with regard to the operation on the lower end of the femur is that I prefer to divide the bone with an Adams saw from the outer side, rather than by Maccewen's method. I have performed a cuneiform osteotomy of the upper end of the tibia for genu valgum in forty-six limbs, combined in several cases with osteotomy of the fibula, and the correction has usually been quite good (see Figs. 16 and 17, showing photographs of a case before and after this form of osteotomy). In the great majority of these cases there has been no division of the lower end of the femur, but an osteotomy of the femur has also been performed in a few cases because the genu valgum has been due to a deformity of the lower end of the femur as well as in the leg bones. In a few of my earliest cases I made a linear osteotomy of the upper end of the tibia, but I soon realized that removal of a wedge was desirable. A study of the skiagrams will indicate the best position for the removal of the wedge. This is usually quite high up, just below the head of the tibia, but in a few cases, where we have to deal with a curve more uniformly affecting the whole shaft, it has to be removed at a lower level, and in one case of an unusual form of curvature I had to remove two wedges at different levels. In my description of the operation in my former paper<sup>3</sup> I referred to the opinion held by surgeons that a cuneiform osteotomy of the upper end of the tibia was a more dangerous operation than a linear osteotomy of the lower end of the femur, because of the danger of wounding the anterior and posterior tibial vessels and nerves, which lie in such close proximity to the bone where the wedge is removed. But I described how, by a very careful method of removal of the wedge, injury to these structures could be avoided, and in the forty-six cuneiform osteotomies I have now performed no injury of these structures has taken place. If the surgeon, either with an Adams saw or a chisel and mallet, cuts freely right through the thickness of the bone, he will be in great danger of wounding either the anterior tibial vessels in the anterior interosseous space, or the posterior tibial vessels and nerve on the posterior aspect of the tibia. The only safe way is to saw out a wedge from the compact tissue of the superficial aspect of the tibia, and then, as I pointed out in my previous paper, the bone must be further removed in pieces, with great care, so as not to run any risk of carrying the chisel, or the point of the Adams saw, beyond the bone, and wounding any of the soft structures around. In removing this cancellous bone, and the posterior compact layer, it is not possible exactly to maintain the wedge shape of the removal of the superficial compact layer, but the space left is sufficiently wedge-shaped throughout the entire thickness of the bone. In many cases the deep layer of the bone was so cautiously removed that the periosteum on the outer and deep aspect of the wedge space was not divided.

The breadth of the base of the wedge must, of course, correspond to the degree of curvature to be corrected. On a careful examination of the skiagram this may be determined, but the most accurate way is to make a paper chart of the deformed bone, as shown in the skiagram, and then to remove from it a wedge which will just correct the deformity, and note the breadth of the base of this wedge. It is always better to remove too little than too much bone, for it is easy, when once a wedge has been removed, to increase its size by taking a further slice off the bone, for with the ends of the bones separated this can be done by one cut of the saw, the soft parts on the deeper and outer aspects of the bone being protected by a copper spatula. But if too wide a wedge has been removed there will be a great risk of overcorrection of the deformity and the production of a certain amount of genu varum. The test as to whether a sufficient amount of bone has been removed is that when the sides of the wedge space are brought in contact the genu valgum is wholly corrected. Nothing short of this will suffice.

In my paper published in 1902 I advocated the removal

of a wedge which was not transverse, but the apex pointed obliquely upwards. I have since found that a transverse wedge is better, and certainly easier to remove. The base of the wedge should correspond to the inner border of the bone, and a line, which would be at right angles to that surface, if it were straight and not somewhat curved, should pass through the centre of the wedge transversely across the bone. I have generally fixed the anterior edge of the wedge space together with a few catgut sutures, either passed through the periosteum or through holes drilled in the edge of the bone. This is not essential, as if the limb is put up on the splint in the fully corrected position, and carefully maintained in that position, the sides of the wedge space will come together if the right amount of bone has been removed, but it will ensure that the sides of the wedge space are approximated, and is, I think, an advantage.

The important question has to be considered as to whether, in addition to removal of a wedge from the tibia, it is also necessary to divide the fibula. I have already described the skiagraphic appearance of the fibula, and pointed out that it may be straight in the upper part, even if the tibia at that level is much curved; but in these cases it is always possible that there may be a curve out at the lower end, for in the less common cases in which the whole fibula can be seen in the skiagram it may sometimes be noted that although the upper part is straight such a curve exists at the lower end. Both in cases in which there is no curve in the fibula in the upper part, corresponding to the curve in the tibia at this level, and in those in which a marked curve is present in the upper part of the fibula, it may be quite possible to rectify the deformity completely by a cuneiform osteotomy of the tibia alone, and I have done this in many cases. In the case shown in Figs. 16 and 17, before and after cuneiform osteotomy of the upper end of the tibia, the deformity was completely corrected without any division of the fibula. After the wedge has been removed from the upper end of the tibia, and before the fibula has been divided, even when the bones can be placed in a perfectly corrected position, I have sometimes noticed that there has been a tendency for the bones to spring back into the old genu valgum position to some extent, and I have then divided the fibula for the purpose of overcoming this, but I have not thereby succeeded in all cases. The more cuneiform osteotomies of the tibia I have performed for genu valgum, the more have I tended to dispense with division of the fibula, even in cases in which a marked curve was present in that bone.

I think if the fibula has to be divided, the ideal place for division, having regard only to the correction of the deformity, would be at the same level as the tibia, but here it is in such intimate relation to the external popliteal nerve, and a little lower to the nerves into which the external popliteal nerve divides, that I have never attempted division here. In one of my early cases I divided the middle of the fibula, which was the seat of greatest curvature in that particular case, but I found the curvature had brought the fibula so abnormally close to the tibia, and so little room was left in the anterior interosseous space, that the danger of wounding the vessel and nerve there was very great. Since then, whenever I have divided the fibula I have done so where it is fairly superficial—that is, in the lower part, not far above the external malleolus, where there is much less danger of wounding the structures in the anterior interosseous space in cases of marked curvature of the fibula approximating it to the tibia in the middle of the leg. I have in many cases divided it at this level, and even excised a quarter or a third of an inch from it, and I have considered that this has enabled me to correct marked deformity, which the cuneiform osteotomy of the tibia did not allow of. So that I think I may say that though in some marked cases division of the fibula is a distinct aid in correction of the deformity, yet in most cases it is not required.

I have found the use of the special splint which I described, and figured, in my paper in 1902 of very great value in maintaining the limb in the fully corrected position; and, as I pointed out in that paper, it is desirable to support the leg bones under the seat of osteotomy with

a pad, because there is a tendency to sinking backwards of the divided bones at that level.

In several cases in which I have found the curvature in the leg bones producing the genu valgum combined with an antero-posterior curve of the tibia producing the ordinary deformity of bow legs I have had to deal with such a combination of deformity by a double osteotomy—the removal of a wedge from the upper end of the tibia for the correction of the genu valgum, and removal of a wedge from the lower part of the bone for the correction of the antero-posterior curve (in this position of course with the base of the wedge anteriorly).

## REFERENCES.

<sup>1</sup> BRITISH MEDICAL JOURNAL, 1897, i, p. 1347. <sup>2</sup> *Ibid.*, 1898, i, p. 1347.  
<sup>3</sup> *Ibid.*, 1902, i, p. 529.

## Lectures

ON

THE SYMPATHETIC INNERVATION  
OF STRIATED MUSCLE.\*

BY

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## LECTURE III.—PART I.

## THE PRACTICAL APPLICATIONS.

THE INCONSISTENT RESULTS OBTAINED BY OTHER  
INVESTIGATORS.

In the second lecture attention was called to the evidence in support of the view that the two kinds of striated muscle fibres perform different functions. Only those innervated by the somatic medullated nerves are actively contractile and under the direct control of the will. The slender fibres innervated by the sympathetic non-medullated nerves are not contractile (although their length is passively altered by the activity of the contractile fibres alongside them): their function is to establish plastic tone, to support and maintain the more active and easily exhausted contractile fibres and relieve them of much of the work that would otherwise induce the rapid onset of fatigue.

When the grey rami of the sympathetic distributed to skeletal muscle are stimulated the muscles supplied show no sign of shortening (Bayliss<sup>1</sup>). But, of course, this is to be expected if the sympathetic innervation is responsible for plastic tone of skeletal muscle. The result of appropriate stimulation would be to fix the muscle fibres governed by the sympathetic system at their existing length. Obviously, therefore, atetoid movements or intermittent spasms of muscle, which depend upon the process of shortening of muscle fibres, are not dependent upon the sympathetic innervation of the muscle groups affected. No appreciable improvement of these conditions follows sympathetic ramisection, and their presence is, in general, a contra-indication to the performance of the operation. However, if marked improvement or loss of these features takes place, any remaining rigidity, which may be dependent upon the existence of plastic tone, may then be examined with a view to subjecting the patient to operation so as to enable further progress in education to proceed.

During recent years several writers have strenuously denied that any function of the sympathetic innervation of muscles had been demonstrated by experiment. It is hardly necessary, in view of the consistent results obtained by Langelaan and ourselves, to discuss in detail the reasons for the negative or inconsistent results obtained by other investigators. In some cases the negative results are due to imperfect denervation; in others to the fact that the observers were looking for an effect upon contractility, which, of course, they did not find. Our observations have been confirmed in the case of the dog by Foix,<sup>2</sup> an investigator who was clearly free from any bias in favour of the results that he obtained, apparently unexpectedly.

Moreover, there is the very positive evidence obtained by Orbeli and his collaborators, which was summarized in

\* Delivered by Professor Elliot Smith at University College, February 2nd, 1925.

the BRITISH MEDICAL JOURNAL (September 20th, 1924, p. 534). Orbeli stated in 1923<sup>3</sup> that the direct influence of the sympathetic nerves on skeletal muscle is fixed beyond doubt; the ability of the autonomic fibres to alter the condition and constitution of muscle becomes transferred from a small organ, the heart, to the whole skeletal muscle, thus fulfilling the prophecy of the "chemical tons" of Pfliiger and the "trophic innervation" of Pavlov. The sympathetic system, which controls all the vital properties of muscles and secures for them the greatest use of their reserve strength, must also affect their tone and metabolism. In 1922 Orbeli's collaborator Ginetinsky found that stimulation of the sympathetic while fatigue was beginning to develop or had developed (as the result of stimulating the motor nerve) gradually restored the function of the fatigued and contracted muscle. The effect begins after a long period of latency, increases gradually, and reaches a maximum soon after the cessation of the stimulation of the sympathetic. Moreover, it lasts a long time.

These results are complementary to and consistent with those obtained in our experiments, and by others, as to the effects of adrenaline on fatigued muscle. The only criticism I would suggest of the work done in the Leningrad Medical Institute is that attention has been concentrated too exclusively on the phenomena of fatigue; and no adequate recognition has been given of the fact that the supporting and fatigue-sparing function of the sympathetically innervated muscle fibres is constantly being performed in every action of any muscle.

I want now to consider two factors that have been responsible for much of the discrepancy in the results obtained by various experimenters.

*Avoidance of the Effects of Asphyxia and of Anaemia of  
the Brain Stem.*

It is clear from the argument of the second lecture that the results of loss of plastic tone would be more difficult to observe if any condition existed that would unduly increase the degree of contractile tone. As Dr. Royle<sup>4</sup> has pointed out, asphyxia of the animal would produce this effect. To avoid this complication he employed intratracheal anaesthesia and then oxygenated the animal freely as soon as decerebration was performed. If asphyxia tended to develop later—for example, when the tube in the trachea was too small—the rigidity of all four limbs in extension would become extremely marked, and differences in the tone of the hind limbs due to the loss of plastic tone on one side would be completely obscured. Removal of the cause of asphyxia would invariably remove the tendency for this display of such an exaggerated degree of contractile tone. In several recent papers Walshe has argued that minimal degrees of oxygen in like manner may lead to hyperexcitability of reflex arcs. Evidence is accumulating that this factor may account for "irritative" symptoms following central nervous lesions, as Royle and I have shown. But the effects of asphyxia and anaemia that are manifested as reflex hyperexcitability are foreign to the condition of tone exhibited in decerebrate rigidity. Like the state of spastic paralysis, this condition is to be regarded as being due to a release of function in the nervous system, following the removal of higher levels of nervous activity. The term "release" is employed in the sense advocated by Hughlings Jackson, and developed in the present century by the work of Head and his collaborators. It appears to me that Sherrington's method of decerebration, which should be done in the goat by section of the mid-brain under direct vision, is preferable, for the purpose of observing the presence or absence of plastic tone, to the method of decerebration by anaemia induced by tying the carotid and basilar arteries, which has been introduced by Pollock and Davis. While a preparation made by the method of these Chicago neurologists is unquestionably useful for observing the reflex activities of such an animal, it gives misleading results so far as tone is concerned. It is impossible to be certain in how great an area of the brain stem the cell stations are rendered hyperexcitable by a degree of anaemia that is insufficient to abolish function altogether.

<sup>1</sup> [As the result of a conversation with Professor Orbeli last November I have made certain verbal modifications of his expressions as translated by Dr. Horsley Gantt in the BRITISH MEDICAL JOURNAL.—G. E. S.]



*The Choice of Laboratory Animal.*

The animal selected for our experiments, in the first instance, was the rabbit. Dr. Royle procured an excellent result in the diminution in tone of the hind limb of a spinal rabbit on the side from which the lumbar sympathetic trunk had been removed. This effect was not reproduced in subsequent experiments; and the failure was attributed to the difficulty in this animal of completely excising the sympathetic trunk on the selected side without injury or removal of the trunk of the opposite side. Therefore the goat was used for all our subsequent mammalian experiments. In the second lecture I have already explained why the goat is peculiarly adapted for this type of experiment. In contrast to the goat a carnivorous animal such as the cat shows a capacity for great and numerous variations in the degree of postural tone. The cat does not take up the extensor posture when placed in the supine position. Variation in the degree of contraction in its four limbs imposes varied attitudes upon it; and no doubt in the well oxygenated decerebrate cat the variations in the degree of rigidity of the limbs are to be accounted for in a like manner. Such variations in the degree and selective activity of contractile tone possibly render the effects of loss of plastic tone less apparent than would otherwise be the case and render an analysis of the exact defect in tone more difficult at the outset. For it must be borne in mind, in this connexion, that in the experiments recorded in the literature, practically all of which were performed on cats, differences were found in the degree of tone upon the two sides following unilateral sympathetomy, which was performed in some cases before, and in others after, decerebration. For instance, Dusser de Barenne observed a diminution in tone in five cases out of nine, after removal of the lumbar sympathetic chain. Ueno found differences in the tone of the fore limb after removal of the ganglion stellatum on one side, but attributed the diminution in tone to sensory inhibition due to the wound on this side; but in Royle's experiments this explanation is not admissible. Consequently the problem presenting itself is not to explain negative results, but the inconsistency of the effects. I believe that the factors to which attention has been called in the foregoing discussion explain the failures encountered. This is especially the case when in the past investigators have been seeking to observe quantitative diminution of tone. I have attempted to show that contractile tone is well displayed after sympathetic denervation, and under certain experimental conditions may be present in an enormously exaggerated degree. It is only when qualitative changes due to the selective removal of plastic tone are looked for that the interpretation of effects in any such instance becomes clear.

The thesis maintained in these lectures (that plastic tone is a property of the sympathetically innervated fibres of skeletal muscle) no longer rests solely upon the evidence provided by experimental decerebrate rigidity. For the same effect as that which follows sympathetic denervation in the decerebrate animal is produced by sympathetic rami-

section in human patients in those conditions of spastic paralysis which exhibit all the essential qualities of decerebrate rigidity.<sup>21</sup> The excessive plastic tone characterizing these conditions is removed by the operation of ramisection. The evidence that may be obtained by studying the character of the knee-jerk is of special interest. For in both decerebrate rigidity and in the types of spastic paralysis to which reference has been made, the execution of the knee-jerks, slow before the operation, became brisk in character. This is due to the rapid rate of relaxation of the extensor muscle after completion of the jerk contraction, which replaces the former tendency of the muscle to remain shortened ("shortening reaction") when contraction ceases.

## THE SURGICAL OPERATIONS.

From the reports that have reached us Dr. Royle and I have been convinced that most of the failures have been due to two main causes: (a) the neglect to determine whether voluntary control and excess of plastic tone were present, and (b) faults in the technique of the operation, more especially the failure to cut the appropriate rami communicantes. The long discussion in this lecture (publication of which has been deferred to next week's JOURNAL) should make clear how to choose cases that are likely to benefit from ramisection.

The basic principle of the operation of sympathetic ramisection is that it removes plastic tone. It is only indicated when plastic tone is in excess and hampers the voluntary activities which have persisted in spite of the central lesion. A study of the nature of the spasticity of the spastic limbs, and an estimate of the anatomical defect of the central mechanism responsible for the condition, must go hand in hand, and only when the physiological indications are discoverable is the operation to be undertaken.

With reference to the operation it is a matter of great importance not to remove the sympathetic ganglia, because the unnecessary removal of their control of visceral function is wholly unwarrantable. Dr. Royle attaches great importance to the adoption of the lumbar route for the

operation of lumbar ramisection, not simply because it is for the patient a less formidable procedure than the abdominal route involves, but especially because it permits a clearer view of the rami and a more certain identification of the right ones to avulse.

In the second lecture I indicated which rami should be cut, and why.

## THE OPERATION OF LUMBAR RAMISECTION.

Royle has given the following account of the surgical technique.

The patient should be made to lie on the side opposite to that of operation and should be inclined slightly toward the surgeon, who faces the patient's back. The space between the ribs and the crest of ilium should be made as wide as possible by placing a sandbag beneath the patient,

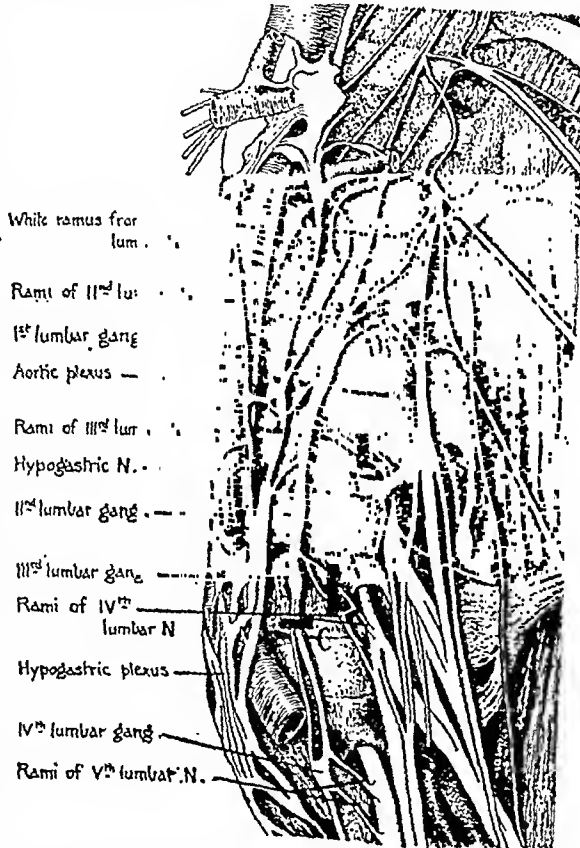


FIG. 3.—Drawing to represent the arrangement of the rami communicantes passing to the left lumbar nerves in man. After Dr. T. K. Potts. The black bars represent the places where avulsion is effected in the operation of "lumbar ramisection." The letters will facilitate the interpretation (with the help of Fig. 3). A being a grey ramus, B a mixed ramus, and C the sympathetic cord.

or, better still, by using the adjustable support devised for operations on the kidney.

**Step 1.**—The incision is made from the last rib to the crest of the ilium and thence forward to the anterior superior spine of the ilium. If the quadratus lumborum muscle can be palpated, the downwardly directed part of the incision should follow its lateral margin, but if not, the lateral margin of the sacro-spinalis should serve as a guide. The forwardly directed part of the incision should lie about 1 cm. below the aetnal crest of the ilium. This enables the attachment of the external oblique muscle to be exposed. The flap of skin and fascia outlined by this incision is reflected forward to expose the attachments of the latissimus dorsi to the lumbo-dorsal fascia and of the external oblique muscle to the crest of the ilium.

**Step 2.**—The trigonum lumbale Petiti is next defined and from this point forward the oblique muscles are freed from the crest of the ilium to within 6 or 8 cm. of the antero-superior spine of the ilium. In doing this it is possible in most subjects to divide the external oblique through definite tendinous tissue close to its insertion and to avoid cutting the actual muscle fibres. This gives a decided advantage in closing the wound. The internal oblique and the transversus abdominis muscles are divided through the muscle fibres close to their attachment. The dissection is then carried upward and the lumbo-dorsal fascia is divided at the lateral border of the quadratus lumborum. In doing this it may be necessary to cut through the fibres of the latissimus dorsi.

**Step 3.**—The abdominal wall is now free to be thrown forward and after dividing the fascia transversalis the hand can be passed in front of the quadratus lumborum and the psoas muscles until the medial border of the psoas is palpated. Suitable retractors are then placed in position. Care should be taken not to disturb the fascia covering the quadratus lumborum and the fascia covering the psoas muscle.

In a very fat subject, however, the approach to the sympathetic trunk may be rendered more easy by leaving the fascia transversalis intact except at the medial border of the psoas muscle, where it must be pierced to reach the sympathetic trunk. The ganglionated sympathetic trunk can often definitely be palpated where it lies at the medial border of the psoas muscle before it can be seen. The psoas itself sometimes constitutes a difficulty in the adult subject by obscuring the trunk from view, and a suitable retractor is necessary to flatten the muscle. In children and poorly developed subjects this difficulty is not great.

The ganglionated sympathetic trunk will be found lying on the bodies of the lumbar vertebrae near the medial border of the psoas muscle. The abdominal sympathetic trunk on the left side is easy to define, if the medial border of the psoas is sought. In this situation a thin layer of connective tissue passes from the psoas muscles across the psoas on the opposite side. This is easily slit with a blunt dissector and the sympathetic trunk comes into view. On the right side the trunk lies under the lateral margin of the inferior vena cava and is usually placed anteriorly to

the lumbar vessels. This, however, is by no means constant, for on several occasions Royle has experienced difficulty from the lumbar veins crossing anteriorly to the sympathetic trunk. When this occurs the operation may be simplified by removing one or more of these veins. On the left side this complication has not been met, but in young subjects the lumbar arteries can be mistaken for rami communicantes, which they sometimes resemble in size and direction. In a few instances the lumbar lymphatic vessels and an unusually low formation of the receptaculum clyli has made the definition of the sympathetic trunk more difficult. In one instance the lymphatic vessels lay between the sympathetic trunk and the attachments of the psoas muscle. On lifting the lymphatic vessels the rami appeared from under their posterior surfaces, and patient dissection was required to define each structure.

In defining the sympathetic trunk long blunt dissectors are necessary. Royle's dissectors are 25 cm. long and have rounded ends. A long probe with a flat handle and curved on its end like a strabismus hook is useful for lifting the sympathetic trunk when defining its branches. Long straight, or slightly curved, artery forceps, 20 cm. long, are also essential, and four should be provided. The structures of the abdominal wall and abdominal viscera demand a large, broad, and deep retractor. Royle's retractor for use in operations on the average adult is 8.75 cm. wide and 12.5 cm. deep. It is constructed to act as a light-reflecting surface and has a shelf extending forward from its lower edge so as to depress structures medial to the ganglionated cord. The sympathetic trunk and the rami communicantes should be clearly defined before section. The method of dividing the rami communicantes is usually by avulsion.

Each ramus may be seized by a pair of artery forceps and drawn away from its lateral connexions, though in many instances it is necessary to divide a big ramus with a long pair of blunt-pointed scissors. In young subjects the rami may be easily and effectively broken with the blunt dissector. When ramisection of the second, third, and fourth lumbar nerves has been effected, the ganglionated cord is then divided at a level corresponding in position to the fourth lumbar nerve. The operation is then completed. The edges of the lumbo-dorsal fascia are first sutured in the region of the trigonum lumbale. The oblique muscles are then sutured to the crest of the ilium and a special point is made of suturing the tendinous portion of the external oblique to its original attachment and to the adjacent fascia lata. When this is done carefully the raw area on the crest of the ilium comes in contact with a raw area of considerable width on the under surface of the external oblique tendon, and this facilitates adhesion. The lumbo-dorsal fascia and the latissimus dorsi muscles are then sutured. The skin is closed without drainage.

The whole operation should be performed with very little loss of blood except from small vessels occasionally encountered in freeing the oblique muscles. There is no bleeding in the depth of the wound if the approach is

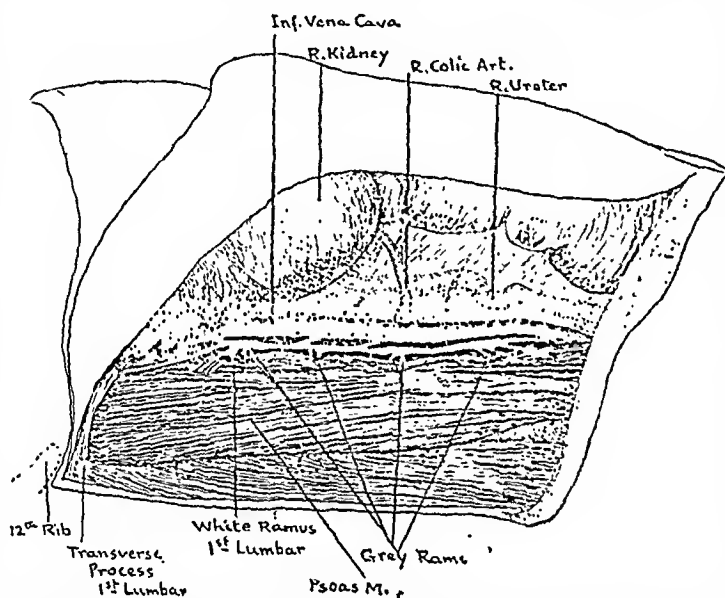


FIG. 10.—Dissection to show right lumbar rami communicantes as seen in the operation of lumbar ramisection. The incision runs from the twelfth rib along the border of the erector spinae muscle and is continued for three inches along the crest of the ilium. The tips of the transverse processes are seen in relation to the quadratus lumborum muscle, and the genito-femoral nerve is seen on the anterior aspect of the psoas.

confined to the plane between the peritoneum and the fascia covering the quadratus lumborum and the psoas muscles. Sharp instruments should not be introduced into this wound. The essential dissection can be done with blunt dissectors and long artery forceps.

The ilio-hypogastric and ilio-inguinal nerves are both drawn forward with the abdominal wall and the ureter with the parietal peritoneum. The incision has been designed so far as possible to divide only fibrous structures in approaching the sympathetic trunk. The internal oblique and the transversus abdominis muscles have, usually, to be divided through their muscle fibres at their insertion to the crest of the ilium. The incision also avoids all important nerves and blood vessels, and, if carefully sutured, should leave the abdominal wall as strong as before the operation.

#### THE OPERATION OF CERVICAL RAMISECTION.

The rami communicantes only are divided in the cervical operation. The sympathetic trunk does not come into the field of operation excepting in the approach to the first thoracic nerve. The rami above the first thoracic nerve are post-ganglionic fibres, but the first thoracic nerve itself usually has both a white and a grey ramus. The sympathetic rami usually enter the nerve roots of the brachial plexus after they emerge from the intervertebral foramina, though occasionally rami join the nerve roots within the foramina.

**Step 1.**—The patient lies with the chin turned away from the side of operation and with a small pillow placed beneath the shoulders. The field of operation is reached through an incision extending from the clavicular insertion of the sterno-mastoid backward and slightly upward across the posterior triangle. In young subjects and in those patients in whom the nerve roots all emerge from behind the scalenus anterior this incision suffices, but occasionally it is necessary to make a second small incision upward along the posterior border of the sterno-mastoid to be sure of reaching the connexions to the fifth and sixth nerves.

**Step 2.**—The platysma is divided and the external jugular vein is secured in the line of the original incision. The anterior layer of the cervical fascia is divided and blunt dissection is then carried out to expose the deeper layer of fascia covering the brachial plexus and the scalenus muscles. Between these two layers of fascia the superficial cervical

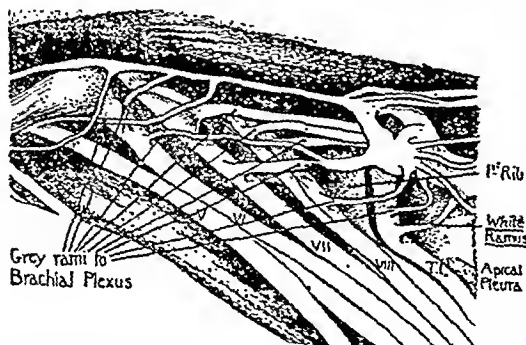


FIG. 11.—Diagram to illustrate the arrangement of the cervical rami communicantes on the right side. After Dr. T. K. Potts.

artery will be found occasionally. The transversus colli artery appears in a deeper plane crossing the nerve roots, and in Royle's experience most frequently between the seventh and eighth nerve roots. To obtain a clearer view of the plexus this artery should be tied and divided. The omo-hyoid muscle, appearing in this space, can be retracted downward.

**Step 3.**—In the upper part of the plexus it is necessary to look for and define the phrenic nerve as it lies on the anterior aspect of the scalenus muscle. The nerve

roots are then exposed and traced to the intervertebral foramina. The subclavian artery is identified and pulled forward to expose the eighth cervical and the first thoracic nerve. The rami communicantes are not easy to define. Those to the fifth and sixth nerves may come across the anterior surface of the scalenus anterior to join the nerve trunks or they may come through the muscle itself (Fig. 12). In addition there may be two or more branches; and it is necessary in dealing with each of the nerve roots to be sure that all anterior connexions are divided right up to the intervertebral foramina. Grey rami may join

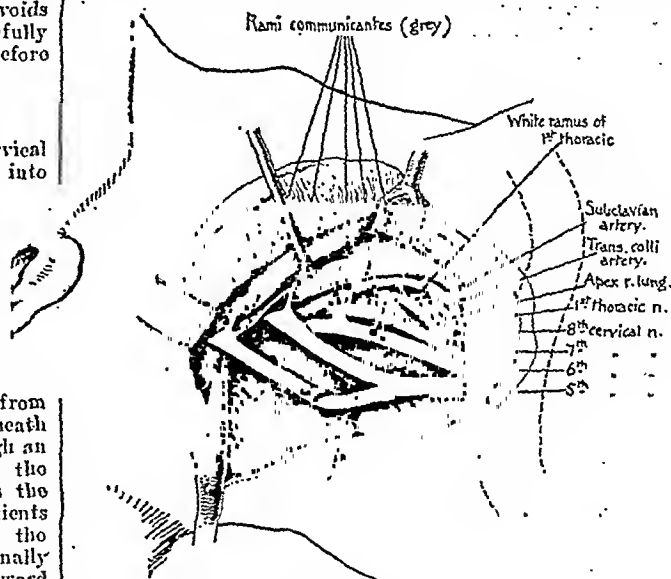


FIG. 12.—Royle's figure of the rami communicantes, as exposed in his operation of cervical ramisection, modified by Dr. John Beattie and Miss Audrey Russell. Note the three slips of the anterior scalene muscle between which the grey rami to the upper three nerves emerge. Position of clavicle indicated by broken lines.

the nerve roots on their antero-inferior aspects, and in many instances must be sought there. This particularly applies to the eighth nerve. Medullated muscular branches will also be found on the anterior aspect of the nerve roots. These may be confused with sympathetic rami, and if there is any doubt should be removed. When the phrenic nerve receives communications from the fifth cervical nerve it will be found necessary to retract it laterally to get a clearer view of the trunk of the fifth nerve. The greatest difficulty will be found in connexion with the eighth cervical and the first thoracic nerves. In approaching this part of the dissection the first rib should be palpated and the first thoracic nerve sought as it crosses the neck of the rib. This nerve trunk can then be traced into the thorax. The cervical sympathetic trunk will be found on a plane posterior to the subclavian artery, and if it can be well defined no difficulty will be experienced in picking up the communicating rami to the eighth nerve. At this point the trunk usually moves to a more medial position as it travels into the neck, but sometimes it will be found lying upon the root of the eighth nerve. The grey ramus of the first thoracic nerve is found on its superior surface medial to the white ramus, which should be avoided if possible. The rami in this operation may usually be easily broken with a small strabismus hook. After ramisection has been completed the wound is closed by drawing together the edges of the platysma and by suturing the skin without drainage.

#### REFERENCES.

- <sup>11</sup> Principles of General Physiology, third edition, p. 545. <sup>12</sup> Rev. Neurology, July, 1924, p. 4. <sup>13</sup> Med. Journ. of Australia, September 27th, 1924, p. 315. <sup>14</sup> Compare Walshe, Lancet, September, 1923, p. 644; Riddoch, Proc. Roy. Soc. Med., July, 1922, Neurology, p. 47.

(To be concluded.)

## BRAIN ABSCESS OF AURAL ORIGIN.

BY

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ALTHOUGH brain abscess is by no means a rare complication of suppurative otitis media it is sufficiently uncommon to make the report of such cases a matter of interest. The following are brief summaries of six cases that have been under my care during the past year. Three have recovered completely, one died of a recurrence three months after operation, and two died without the abscess being found at operation.

## CASE I.

A man, aged 37. He had had left otitis media for many years with offensive discharge and granulation tissue. He was admitted to the Ministry of Pensions Hospital, Liverpool, on October 28th, 1923, in a drowsy, semiconscious state. When first seen by me on November 2nd he was comatose; temperature 97°, pulse 40; tongue dry and furred; no eye symptoms.

*Operation.*—The skull was opened through the squamous temporal and half an ounce of fetid pus evacuated from the temporo-sphenoidal lobe. During the operation respiration ceased for about half a minute and was not resumed until the abscess had been opened. Uninterrupted recovery followed, and on December 27th he was able to go home for a few days. On January 25th, 1924, a radical mastoid operation was performed. On February 25th he complained of headache and vomited, and a few hours later became comatose with right-sided convulsions and died.

*Post-mortem examination* revealed a large recurrence in the temporo-sphenoidal lobe. The fatal termination was a great surprise to all, since up to the day of his death the temperature and pulse were normal and the man was going about apparently in good health. On retrospect, symptoms that might have aroused suspicion were slight headache, taciturnity, slowness in answering questions, and a certain moodiness and unsociability.

## CASE II.

A boy, aged 12, was admitted to the Liverpool Stanley Hospital on November 7th, 1923, in a very drowsy condition and with sensory aphasia. The tongue was dry and furred. There were no eye changes. Chronic otitis media with slight offensive discharge was found on the left side. The mother was not aware of any ear trouble.

*Operation.*—The skull was opened as in Case i, without disturbing the mastoid, and a large abscess was evacuated in the temporo-sphenoidal lobe. Recovery was delayed by a large cystic hernia cerebri which had to be partly removed. On February 20th, 1924, a radical mastoid operation was performed. On March 9th he was discharged in good health and with no impairment of mental function.

## CASE III.

A girl, aged 17. On April 5th, 1924, I saw this patient in consultation with Dr. C. L. Forde. There had been a recent attack of influenza with acute otitis media on the left side. Whilst apparently convalescent severe frontal and temporal headaches had set in, with vomiting on one occasion. On examination I found the mind clear and alert and the temperature and pulse normal. No discharge and no mastoid tenderness. No eye symptoms were present and no localizing signs. The possibility of brain abscess was considered, but the indications were not thought sufficient to justify operation. On April 10th she became rapidly comatose and on the following day was admitted to the Birkenhead Borough Hospital in extremis.

*Operation.*—As only the most expeditious measure was practicable the temporo-sphenoidal lobe was rapidly explored through a vertical incision above the ear. No pus was found, but the tension being much increased, a decompression operation was performed. Lumbar puncture revealed many lymphocytes, but no micro-organisms. Temporary improvement followed, but symptoms of meningitis ensued and death occurred on April 29th.

*Post-mortem examination* revealed a large abscess of the left lobe of the cerebellum.

## CASE IV.

A girl, aged 13, was admitted to the Victoria Central Hospital, Wallasey, on May 9th, 1924, with temperature 99.2°, pulse 156, and with foul discharge and granulation tissue in the left ear. On May 11th the condition was worse, with temperature 103.6° and pulse 128. Vomiting was occurring and the child had sunk into a drowsy condition.

*Operation.*—A radical mastoid operation was performed, the dura of both middle and posterior fossae being exposed but not opened. Slight improvement followed, but on May 16th the child became very ill, and on May 17th was deeply comatose with Cheyne-Stokes breathing and complete incontinence. At a second operation the cerebellum was first explored, slight nystagmus having been observed. No pus was found, but on subsequently puncturing the temporo-sphenoidal lobe a large abscess was evacuated. Uninterrupted recovery followed and the child is now in excellent health.

## CASE V.

A man, aged 25, had had left suppurative otitis media since Christmas, 1923. He was admitted to the Victoria Central

Hospital, Wallasey, on July 6th, 1921, with a history of severe headaches and vomiting during the previous three weeks. He appeared to be very ill and lay in a heavy apathetic state. The tongue was dry and furred; temperature and pulse normal; there were no eye changes. Slight rigidity of the posterior cervical muscles was present.

*Operation.*—Cholesteatomatous material was found in the mastoid. The temporo-sphenoidal lobe was explored without result. Subsequently a small abscess was evacuated from the cerebellum through an opening internal to the lateral sinus. The patient made an uninterrupted recovery.

## CASE VI.

A man, aged 48, seen in consultation with Dr. Leggate on October 9th, 1921. During the previous week there had been dizziness, headache, and vomiting, inability to write, and very impaired memory, followed by increasing mental dullness. The tongue was very dry and furred, the temperature and pulse normal. He had had right suppurative otitis media for twenty years. There was slight nystagmus and strabismus with a degree of deficient power in conjugate movement of the eyes towards the affected side.

*Operation.*—The cerebellum was explored by numerous and deep punctures, both mesial and posterior to the lateral sinus, but without result. Exploration of the cerebrum was also negative. Cerebro-spinal fluid escaped under pressure, but was free from cells and organisms. Following the operation he continued in a dull apathetic state, but when spoken to answered questions fairly briskly, although for the most part very incorrectly. He died suddenly on October 22nd.

*Post-mortem examination* disclosed an abscess in the anterior angle of the right lobe of the cerebellum adjacent to the pons.

The foregoing cases illustrate the fact that localizing signs are frequently absent in brain abscess, and that, for this reason, it is often difficult to know whether the cerebrum or cerebellum is affected. In left temporo-sphenoidal abscess word deafness is usually present, but, if the disease be well advanced, the general hebetude will make it impossible to test for sensory aphasia. Crossed hemiparesis and homolateral oculo-motor paresis are, in my opinion, rarely present in temporo-sphenoidal abscess.

In cerebellar abscess nystagmus and some form of ocular paresis are the most frequent localizing signs, but even these are often absent (Cases iii and v), as also are asynergia and homolateral paresis. In my experience the most significant symptom of acute brain abscess is severe pain in the head, which is subject to the most terrible exacerbations. This is an early symptom and is invariably present. It continues until a dull apathetic state ensues, which is the precursor of coma.

Regarding operative treatment, it is agreed that the best procedure is to open the mastoid and endeavour to find the track of the disease. On exposing the dura the presence of a brain abscess is usually either immediately obvious by the escape of pus through a hole in the dura or suspected on account of inflammatory changes in the dura. Occasionally, however, the dura may present a normal appearance, and in such cases the investigation must be carried further by incising the dura and exploring the brain. In Cases iv and v localization of the abscess in the cerebrum and cerebellum respectively was only determined after negative exploration of the cerebellum in Case iv and the cerebrum in Case v.

Should the patient's condition be very critical and the signs be those of temporo-sphenoidal abscess, it is a much safer and quicker procedure not to disturb the mastoid but to make a vertical incision above the ear and explore the brain through the squamous temporal. This was done in Cases i, ii, and iii.

A point in treatment that seems to me of great importance is the making of a large opening in the dura and skull. The mere evacuation of the abscess does not of necessity adequately deal with the situation, for there is a large area of encephalitis around, which, unless decompressed, will maintain increase of intracranial pressure and thereby favour extension of brain infection. A sufficient tissue to relieve itself by forming a temporary hernia cerebri. In the case of temporo-sphenoidal abscess, I do not consider it sufficient to remove merely the roof of the tympanum and antrum. Part of the squamous temporal should be removed as well. For similar reasons cerebellar abscesses, unless very small, should be drained behind or through the lateral sinus as well as internal to it. It is important to remember that a cerebellar abscess is much easier to miss than a cerebral abscess, and may, as in Case vi, elude the most thorough search.

## FOLLICULITIS CAPITIS FULMINANS.

BY

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This case appeared to me to be so unusual as to be worth recording. In twenty years I had not seen such another, nor have I found any reference to the condition in the literature I possess.

In October, 1923, I was called to see a gentleman of 70 who, while gardening, three days previously, had been bitten by an insect on the back of the neck, just within the hair margin. At first itchy, the bite and its immediate surroundings became within a few hours hot, painful, and swollen. When I saw him there was a patch on the nucha the size of a florin, tense, red, and with its surface studded over with papules and with pustules, each having a hair in its centre. The appearance at first glance rather suggested a commencing carbuncle without the induration. Each pustule I probed with pure carbolic acid, and I ordered repeated hot boracic fomentations. Each morning following for the next few days tinct. iodi mit. (B.P.) was painted over and beyond the patch in an attempt to limit spread. This was hopeless, so that within two weeks the disease had extended out of all control and had spread so as to involve practically the whole scalp, except an area the size of the palm of the hand above the left ear, and about the left "temple"; the spread, however, being at once limited by the edge of the hairy scalp. The small initial patch was made up of an agglomeration of papules which speedily became pustular and of lesions which were pustular from the start; a hair pierced each pustule. The pustules were round, small, and at first tense, of a yellow colour, and did not easily rupture.

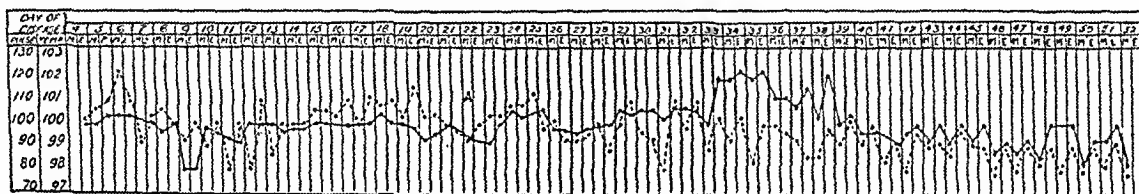
When the rapid spread commenced fresh pustules appeared in clusters without any previous papular stage and without any basal

acri flavine in normal saline solution was applied, covered with oiled silk. This dressing was replaced every four hours, being each time carefully packed under any portion of undermined skin. For the next three days the patient was profoundly ill, a subsequent fall in temperature and pulse rate appearing to be rather an ominous sign than otherwise. A smear of pus, stained and examined microscopically, showed masses of pyogenic cocci.

By the twenty-ninth day he had begun to sleep better, to ask for more solid food, and the appearance of the scalp was different altogether. The acriflavine had fixed the infection, which, in a day or two more, was in perfect control, the discharge having almost ceased. The soaks were, however, steadily continued, but with a longer interval between dressings.

Six weeks after the operation the whole scalp was practically healed, but, on account of the destruction of many hair bulbs and follicles, there were patches of baldness, and others, islands, where the hair still existed, the damage to these not having been so complete. In the right frontal region there was a network of fine vessels—a telangiectatic patch.

This case, then, was a coccic pustulosis from the start, there being a slight perifolliculitis as well as the folliculitis of great intensity with little surrounding inflammation and practically no induration; at no time was there any crusting. The rapid spread went by continuous auto-inoculation as well as by burrowing, and there was no appreciable lymphatic gland involvement. The effect of the acriflavine was surprising in the way the infection was fixed and controlled. There had been no seborrhoea of the scalp to begin with, nor was there any skin lesion elsewhere—on body or limbs. The partial vacuum method of treatment might have aborted the mischief at the start or an autovaccine have cured more quickly, had the patient allowed their use.



A=Anaesthetic—gas and oxygen.

infiltration to speak of; the scalp was invaded from behind forwards. The pustules remained discrete, though closely set and crowded, and infection appeared to spread by auto-inoculation and direct extension, so that by and by the whole surface oozed pus, which could also be pushed along, from place to place, under the scalp, welling up at the same time through the follicles and showing the hairs at first taking place. The hairs at first remained

in the aspect of burning and pain which extended with the disease, restlessness, furred tongue, loss of appetite, and these, with the situation of the trouble, made sleep almost impossible. The pain, however, became much less severe as the disease approached its worst. During the first week the temperature steadily rose, reaching its highest (102.4°) on the sixth day, the pulse rate being round about 100. There was what might be called a "negative phase" during the second week, and at the fourteenth or fifteenth day general toxic signs became more evident. The skin was yellowish, although no sign of jaundice was indicated in the conjunctiva or sclerotic; the patient perspired freely, complained of headache, aching in the limbs, and exhaustion. With these symptoms, the distress of mind, and want of sleep in such a highly nervous, active-brained man as the patient was, coupled with a soft mitral and aortic first sound, I felt that he was becoming worse, and he was, in fact, extremely ill. Brandy was given, digitalis, and full doses of ucinel, and he was not allowed to sit up in bed. Eusol soaks were substituted for the boracic fomentations, the scalp being gently swabbed with each change of dressing. The patient, being an anti-vivisectionist, had refused to allow any vaccine or method of treatment which had been learned by experiment upon animals. I, of course, respected his feelings, explaining at the same time the greater risk he must take. An intramuscular dose of 0.5 c.cm. colloidal manganese on the fifth day he refused to allow me to repeat, and no autovaccine could be used.

On the twentieth day there was a fall of blood pressure, he was a little cyanosed, and was breathless on the least exertion. The urine contained pus, strings of mucus, and a trace of albumin, but no sugar, and no casts could be found. These were due to a cystitis consequent upon an enlarged prostate, and now aggravated, likely, by the scanty urine, dorsal decubitus, and lowered resistance. However, greater comfort was attained by turning him prone on his face from time to time, especially for a little before each act of micturition, and by the occasional gr.x hexamine, imperial drink, barley water, etc. These kept the cystitis in temporary control.

On the twenty-second day, under gas and oxygen, the whole scalp was cleaved up and any burrowing pus was tapped; a change over to flavine was made. A gauze pack saturated with 1 in 1,000

Kaposi described a disease which he named "dermatitis papillaris capillitii," an inflammation of the scalp commencing at the back of the neck and spreading upwards towards the crown. It was papular at first, each papule being pierced by a hair; there was much surrounding induration, an occasional pustule, the disease, however, being more strictly limited than in my case and being much more slowly progressive. This case differs in many ways from Kaposi's disease, more particularly in the intense nature of the infection and in its rapid and extensive spread, as also in the absence of much surrounding inflammation and induration. "Folliculitis capitis fulminans" appeared to me to be the most suitable label for such an acute pyogenic folliculitis.

I am indebted to Dr. Maynard Varey for having seen the case for me on several occasions and for having confirmed this record.

## VOLVULUS OF THE SMALL INTESTINE.

BY

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THE cause of the condition found in the case here recorded was undoubtedly adhesions of the lower ileum forming a mass, which the enlarging uterus caused to rotate.

A married woman, aged 24, a patient of Dr. Henry Paterson of Cardiff, was transferred from the Maternity Hospital to the Royal Infirmary on November 24th, 1924, with the following history.

The patient, who was seven months pregnant, was seized at 4 p.m. on the previous day with severe epigastric pain, which in a few hours became generalized over the whole abdomen and "doubled her up." This was accompanied by severe and persistent attacks of vomiting. On November 10th she had had a similar attack of pain and vomiting, which lasted five hours. When 1 year and 7 months old she had been operated on in Liverpool for "perforation of the bowel." In 1916 she was operated on by Mr. H. G. Cook at this hospital for peritonitis, the cause of which was not determined, but the appendix was removed.



When admitted she was pale and had an anxious expression. The pregnant uterus reached midway between the ensiform cartilage and the umbilicus. The abdomen was tender all over and was moderately rigid. My diagnosis was perforated gastric ulcer.

#### Operation.

At 4 p.m. on November 24th, twenty-four hours after the onset, the abdomen was opened by a long right paramedian incision. The pregnant uterus presented, and to its right side was a mass in the angle between the ascending and transverse colon, consisting of matted coils of ileum of a dark mulberry colour, beginning to lose their gloss and with a faecal smell. The mass was brought out, and it was found that there was a twist from right to left through 360 degrees, situated exactly at the ileo-caecal valve, where the gut was anemic. The proximal small intestine was moderately distended. A healthy portion was found; a clamp was applied there and also at the junction with the caecum; the ends were closed by a double basting suture over Parker-Kerr clamps. A lateral anastomosis was effected between the proximal intestine and the ascending colon, iso-peristaltic, by an inner Connell and outer Cushing suture. The mesenteric vessels were ligatured and the gap in the mesentery closed. The small intestine removed measured  $5\frac{1}{2}$  feet, and about 5 feet of this was gangrenous. The abdominal wound was closed without drainage; it opened a week later at the lower end and discharged pus freely for a time.

On November 26th she miscarried and was delivered of an anencephalic foetus. She then improved rapidly, the bowels being opened on November 27th; very persistent diarrhoea set in, which was difficult to control for several weeks, but at last ceased. She was discharged to a convalescent home early in January.

Kinking and twisting of isolated loops of small gut is not very uncommon as a cause of intestinal obstruction following the adhesions of peritonitis, whether due to appendicitis or other causes. Two cases are cited by Perrin and Lindsay, in the *British Journal of Surgery*, in their series of 400 cases of intussusception at the London Hospital, one being volvulus of the ileum, the other of ileum and caecum, following reduction; but such an extensive volvulus as this is, I think, unusual.

A lateral anastomosis, rather than an end-in-side, although taking longer to carry out, was thought to be the safer, as much less likely to leak; and the result appears to have justified this, as, in spite of infection of the abdominal wound from the gangrenous gut and the occurrence of very intractable diarrhoea, the patient made an uninterrupted recovery.

## Memoranda:

### MEDICAL, SURGICAL, OBSTETRICAL.

#### MULTIPLE POLYPOSIS OF THE COLON.

At a meeting of the Royal Academy of Medicine in Ireland, reported in the *BRITISH MEDICAL JOURNAL* of January 3rd (p. 21), a paper was read by Sir W. de Courcy Wheeler on the condition known as polyposis of the colon, and interesting remarks were made as to its etiology and pathology. It was suggested that the polypi were the result of a chronic ulcerative colitis. The following cases in my experience throw an interesting light upon the etiology and show that in certain of these rare cases the cause is a congenital one.

When I was acting as house-surgeon in a London hospital a man was admitted, aged 30, who had for some years complained of the passage of bloody stools, and had lately been suffering from increasing constipation and rapid wasting. He was found to have a large fixed mass in the descending colon. It was decided to carry out complete removal, but he died on the second day after the operation. Upon opening the colon, the mucous surface was found thickly covered with small pedunculated polypi, and the malignant growth had evidently commenced in one of these.

About six months after I admitted his brother, aged about 32 years, with a similar history, and found a similar malignant growth in his left iliac fossa. In this case it was decided to perform colostomy; on opening the colon he was found to have a large number of pedunculated polypi of the same character as those found in the colon of his brother.

A third brother, aged 27, came to visit him while in hospital, and informed me that he frequently passed blood with his stools, but I had no opportunity of discovering whether the condition of his bowel resembled that of his brothers. He also told me that his mother died of cancer at an early age, and that his sister had died of carcinoma of the uterus at the age of 24.

Is it not probable that in these cases there was a family tendency to the formation of polypi upon the mucous surfaces and the malignant changes which are so usual in this condition of polyposis had taken place?

Saundersfoot.

D. H. PENNANT.

## British Medical Association.

### CLINICAL AND SCIENTIFIC PROCEEDINGS.

#### OXFORD DIVISION.

The first meeting of the year of the Oxford Division was held at the Radcliffe Infirmary on January 28th, when Dr. NEILL presided over a gathering of about fifty members.

Miss BIGGAN, matron of the Radcliffe Infirmary, read a paper on the various diets used in the hospital, with special reference to that employed in the treatment of diabetes. The items were carefully considered from the point of view of the expense to the patient, and it was shown that the diet of a patient on an average amount of insulin cost rather less than that of a patient treated without insulin. Various forms of enemata and their uses were described and details given of the method of colon irrigation for diagnostic and therapeutic purposes.

Mr. HAYWARD PINCH gave a lecture on radium therapy, illustrated with lantern slides. The remarkable results of a single application of radium in conditions like rodent ulcer were well seen in the photographs. Other conditions treated with success included psoriasis, lupus, keloid, and naevi, and relief of symptoms and prolongation of life might be expected in epitheliomata, inoperable cases of lymphosarcomata, and Paget's disease of the nipple. In the time at his disposal Mr. Hayward Pinch was only able to deal with more or less superficial lesions.

Mr. GIMBLESTONE asked for a diagnosis in the case of a woman of middle age who came to the orthopaedic department with a patient and who was noticed to have altered nutrition of the finger-nails and wasting of some of the smaller muscles of the hands, and who complained of sensory changes in the fingers. Acroparesthesia and syringomyelia were suggested.

Dr. STOBIE showed a child, aged 19 months, who had been operated on twelve months previously by Mr. John Fraser of Edinburgh for hydrocephalus. At birth, which was uncomplicated, the child's head was of normal size, but when the baby was 4 months old the mother noticed that the eyes were peculiar and that the head was swelling. The latter increased rapidly in size until about six weeks before the child's admission to hospital, when it seemed to become fairly stationary. At that time the child was aged 9 months and looked well and bright. The head was uniformly enlarged, the sclera of both eyes showed prominently above the iris, the anterior fontanelle was bulging, and the pressure of the cerebro-spinal fluid was increased. The measurements of the head were: circumference 21 inches, vertical  $13\frac{3}{4}$  inches. The result of investigations made in hospital showed the hydrocephalus to be extraventricular in type, due to pre-natal adhesions between the edge of the tentorium and the peduncles of the brain. The common carotid arteries were ligatured at an interval of two weeks, and the baby was discharged with the fontanelle pressure greatly reduced. The present state of the child was eminently satisfactory. The fontanelle remained depressed, the head could be held up well, attempts to walk with assistance were being made, and intelligence and talking appeared normal.

Dr. SUMMERHAYES asked for opinions as to diagnosis and treatment in the case of a woman, aged 50, with a swelling in the left popliteal space of fourteen days' duration, associated with pain. The diagnosis suggested by the surgeons present was an affection of the "semi-membranosus bursa," and the treatment non-operative.

Mr. H. WHITELOCKE showed two cases: (1) A woman, aged 44, with a soft pedunculated tumour over the right eyebrow (noticed for the past thirty years) and a large mass of soft, non-adherent glands in the right preauricular and upper cervical region (present for eight years). It was agreed that a diagnosis could not be made until the tumour had been excised and examined microscopically. (2) A man, aged 59, epileptic, with recurrent dislocation of the right shoulder, to show the result of Clairmont's operation.

Dr. GIBSON showed a case of recurrence of symptoms of encephalitis lethargica of the Parkinsonian type in a boy of 15. The facies, attitude, and gait were typical; rigidity

was marked; tremors were absent. The boy was mentally normal; the only eye sign was a loss of the accommodation reflex. There was a tendency to sleep in the day and be awake at night. The sphincters were normal, and the only other nervous sign was an upgoing toe on the left side. He was being treated by hexamine and intravenous vaccine therapy, but the temperature still showed a tendency to rise for a few days from time to time.

### KENSINGTON DIVISION. LEGAL DISABILITIES IN THE EARLY TREATMENT OF MENTAL DISORDERS.

At a meeting of the Kensington Division of the British Medical Association on February 13th, with Dr. WALTER E. FRY in the chair, an address was given by Dr. R. H. COLE, physician in charge of mental diseases at St. Mary's Hospital, Paddington, on "The present legal disabilities in the early treatment of mental disorders."

#### Dr. R. H. Cole's Address.

Dr. Cole, after expressing his pleasure in the occasion, and mentioning that he had been a member of the British Medical Association for more than thirty years, said that legal restrictions were imposed in the treatment of various diseases, such as those of an infectious character, but in no department of medicine were these so paramount as in the case of mental disorders, when the liberty of the subject as involved. It was a question whether the legal encroachment in the domain of medicine had not gone so far as to constitute a serious menace to the State in the matter of the prevention and cure of insanity, which was admittedly the province of the medical man had been regarded as the authority on the treatment of diseases, although civilization onwards the Middle Ages were to some extent handed over to ecclesiastical folk and laymen. The appointment by statute of the Royal College of Physicians as the central body governing mad-houses in 1774 marked an epoch in medical supremacy, which subsequently led to a Government department being set up in the shape of the body now known as the Board of Control. He thought this body would be better recognized under a more suitable name, such as the "Board of Mental Health." "Board of Control" was used in connexion with liquor, railways, and other things; it was not sufficiently distinctive—people did not know exactly what it meant. This central authority, as now very properly affiliated to the Department of Public Health, under the Minister of Health, in place of the former Secretary, who presided over the Prison Service, was a notable advance and a sign of progress. He wanted to eliminate the idea of detention as much as possible. At present there was too much similarity between asylums and prisons, and the former were now being called mental hospitals. In the reign of George III, who himself suffered from mental illness, mental derangement in poor persons was the province of local justices of the peace, who frequently confined them to prisons, for lack of other accommodation. Permission to build asylums out of the rates only originated in 1808, and was not made compulsory until 1845. Medical certification was scarcely a written protection to the receiver of an insane patient until 1845. Matters indeed became regularized in 1884-5, when Lord Shaftesbury initiated his great work on behalf of the mentally afflicted. It seemed extraordinary that in recent times there had been no great public man who in any way approached the earnestness with which he undertook this work. As the result of repeated actions at law, the justices' order, which hitherto had been confined to the pauper class, was added to the private class in 1890, when the existing Lunacy Act came into operation, and the county councils took over the management of asylums from the justices. The close of the great war had directed popular attention more and more to the need of lunacy reform, which the medical profession had urged for so many years. The Royal Commission now sitting afforded a special opportunity for the profession's voice to be heard on this important matter.

The Medico-Psychological Association had devoted much attention thereto, and would shortly be presenting its evidence. As chairman of the committee concerned, he had spent a good deal of time over that evidence. A conference had taken place between representatives of that body and the British Medical Association; they had tried to agree on general principles, and in the main had done so. Every member of the British Medical Association must be grateful to its Council for the work it had undertaken through its special committee in the preparation of the important Memorandum of Evidence which was delivered by Dr. Langdon-Down and other witnesses before the Commission on January 14th (SUPPLEMENT, January 17th), and to which he wished to direct attention. The disabilities under which the profession laboured in the early treatment of mental disorders were obvious to all who had any experience. Directly a change from home was indicated in a patient who was certifiable, and was yet willing to accept treatment elsewhere, the requirement of certification existed to comply with the law. The stigma and consequences of certification were quite unequalled for in most temporary cases, or in the early stages of other cases of mental disorder, including those patients who were too ill to possess any volition at all. The law was in urgent need of amendment, so that clinics, with in-patient beds, might be established by the local authorities, and arrangements should be made for the provision of wards or annexes in the general hospitals. The rate-supported mental hospitals also should be available for the admission of patients on a voluntary basis, which would do much to remove the dissatisfaction attaching to detention in those institutions. The reputation of a place was altered very much by the presence of voluntary patients; it helped the certified patients if they knew that some of the others were not compelled to remain. Mental disorders should be regarded as a matter of health, and the Poor Law should have nothing whatever to do with them. The Mental Treatment Bill of 1923 would do much in the desired directions, even if the delay in the abolition of the Poor Law continued. As regards the paying class, it should be made legal for a certifiable patient, if harmless to himself or others, and not unwilling, to be treated temporarily in a nursing home or elsewhere that was recommended for him or her. By this means certification might be delayed or be entirely dispensed with, to the satisfaction of all concerned. At present the medical profession was unable to advise what was best for a patient by reason of the hampering state of the law, and many patients received no treatment at all and lapsed into chronic insanity which might have been prevented. A patient might be certifiable one day and not the next, or perhaps certifiable for a week and then recover; and to have two separate authorities seemed to him (the lecturer) entirely wrong. Dr. Cole went on to say that the medical members of the Board of Control were not sufficiently well paid. The salaries were fixed by Act of Parliament at £1,500 a year when the Board was initiated in 1845 and remained the same to-day. He had no axe to grind, but thought the remuneration should be about £2,500 a year. An unsatisfactory thing about the Board of Control was that the legal element was too much in evidence. It should be a medical body, with legal advisers. The address proceeded with an elaboration of some of the details specified in the British Medical Association's Memorandum, Dr. Cole remarking that it deserved the careful attention of the medical practitioner. It was so important that he wished it had been incorporated in the body of the JOURNAL; he was afraid too many busy practitioners did not give the SUPPLEMENT the attention it should receive.

#### Discussion.

The CHAIRMAN thanked Dr. Cole for his address and invited discussion. He said that the question of the salary of the members of the Board of Control, the suggestion in regard to voluntary boarders, and other points raised by Dr. Cole, were of very great importance.

Dr. CHRISTINE MURRELL suggested that voluntary boarders who were certifiable should be under the control of the Board of Control or some other body, otherwise they would not be adequately protected. The conditions in some of the asylums which the Board of Control would pass were

unsatisfactory—for example, patients quite well aware of their position were placed in the same ward with people who were moaning and yelling and unpleasant in their habits. There was no woman doctor on the Board of Control because the authorities refused to pay women the same as men.

Mr. E. B. TURNER, referring to the objection of practitioners to certify patients, said he had not certified one for thirty years. He was much impressed by the evidence the British Medical Association had put before the Royal Commission. It was exceedingly well balanced and well considered, and he agreed with all the conclusions.

Dr. MARY BARKAS considered that one of the two certifying doctors should be the patient's medical man. In view of public feeling, it might be well that an expert, as well as the judicial authority concerned, should be a party to the detention certificate. She saw no means of compelling local authorities to make adequate provision for early treatment unless the Board of Control had compulsory powers.

Dr. COLE, replying to the discussion, said the Board of Control had absolute powers over licensed houses and rented hospitals. The Medico-Psychological Association proposed that the Government grant should be payable to local authorities throughout the country on the certificate of the Board of Control. From the humanitarian point of view, he urged that there should not be too great differentiation between cases of chronic lunacy and acute mental disorder. He hoped that the British Medical Association's Memorandum would mark the beginning of a new era.

## Reports of Societies.

### VITAMIN DEFICIENCY AND ITS EFFECT ON HEALTH.

A SPECIAL discussion on non-specific disturbances of health due to vitamin deficiency was opened at a meeting of the Royal Society of Medicine on February 16th. The PRESIDENT (Sir St. Clair Thomson) was in the chair. The whole of the time was occupied by four opening papers, and when the question was put from the chair whether the general discussion should be resumed the same evening, after a short adjournment, only ten hands were held up in favour of this course. It was decided, therefore, that the discussion should be resumed at a later date, by which time members would have the advantage of seeing in printed form the papers which had been read, and which, as the President and Dr. William Hunter stated in some complimentary remarks at the close, together constituted one of the most remarkable contributions to the subject of vitamins hitherto made.

#### *Accessory Food Factors in General.*

Dr. LEONARD WILLIAMS, in a general survey of the whole question, said that a very superficial study brought one face to face with the impossibility of putting a vitamin in a water-tight compartment. The vitamin was not an entity, it was a subtlety; it could not be considered alone, it must be considered in relation to certain other things lying outside the orthodox trinity of fat-soluble A, water-soluble B, and antiscorbutic C. The first of the supplemental substances were the mineral salts. If the mineral salts in the dietary were present in adequate amount or were properly balanced, the absence or the deficiency of vitamins commonly so called mattered very little. Here he quoted at length from Dr. John Boyd Orr's paper in the *BRITISH MEDICAL JOURNAL* of September 20th, 1924 (p. 504), and then went on to ask where these essential mineral salts were to be obtained in their proper balance if not from untampered vegetable products. Then there were the catalysts, which effected chemical changes without themselves taking part in such changes. These were described by the late Sir William Bayliss, and a study of his work suggested that catalysts as found in the untampered state were essential to the utilization, not only of mineral salts, but of proteins, fats, and carbohydrates. Further, the paramount importance of friendly bacteria had to be

recognized, for it was only these which produced the enzymes. And where were catalysts or enzymes to be obtained except from Nature's laboratory? Chlorophyll also had to be reckoned with. All life depended upon chlorophyll, and it was by the vegetable kingdom alone that this was manufactured. Just as properly balanced mineral salts had been shown to be an adequate substitute for vitamins, so had sunshine. Sunshine played the essential part in germinating grain—in converting a body which was to all appearances dead and devoid of vitamins into a substance which was bursting with them. Finally there was the question—a very dangerous one to touch on at that moment, and especially in that hall—of electricity. Mineral salts were electrolytes, colloids had an electrical discharge, enzymes were colloids. These were facts concerning which there was no dispute. He pleaded therefore for the inclusion within the ambit of vitamins of mineral salts, catalysts, enzymes, chlorophyll, violet rays, and electricity. Each and every one of these was completely destroyed by heat, or at least was so profoundly altered thereby as to be no longer recognizable as a product of Nature's laboratory. It was these which constituted the power of resistance of the body to devitalizing influences. All disease, whether microbial or metabolic, was what mathematicians called a "function" of cookery and concentration. He was not a vegetarian, even in theory, although he had been accused of living on raw carrots alone. All that he did was to advocate the obvious—namely, that the forces and substances which he had mentioned must be represented in the diet, and could not be adequately represented or balanced so long as people failed to recognize that raw fruits and raw vegetables were essential. Not vitamins alone, but the other things which acted in conjunction with vitamins, and without which vitamins were powerless, must be taken into account. These other things were like the berries on the mistletoe, and he did not need to remind them that "it's the berries as does it."

#### *Disturbances of the Gastro-intestinal Tract.*

Lieut.-Colonel R. McCannism spoke of the effects of vitamin deficiency on the gastro-intestinal tract, and drew attention to the results of some experiments on monkeys which he carried out six years ago (*BRITISH MEDICAL JOURNAL*, 1919, i, 177, and ii, 36). These experiments led him to suggest that vitamin deficiency in food was an important factor in the causation of a number of the gastro-intestinal disorders so common at the present day, including irregular action of the bowels, whether in the direction of intestinal fluxes or of constipation, infection of the gastro-intestinal tract, chronic digestive disturbances with impaired absorption and assimilation of food, gastro-intestinal stasis, mucous disease in children, and colitis in adults. He prefaced his account of these experiments by three remarks: (1) that vitamin deficiency of lesser degree when protracted over longer periods of time might give rise to effects similar to vitamin deficiency of greater degree over a shorter time, although death in the former case, to judge from the animal experiments, was not usually from acute vitamin starvation, but from some intercurrent infection; (2) that there was an extraordinary variation in individual idiosyncrasy among animals of the same species and age to chronic vitamin starvation; and (3) that the results of such experiments as he had to bring before the meeting varied with the animals used and with the pathogenic flora of the intestine. The animals employed in these experiments were monkeys which, up to a few days before, were living their natural life in the jungles of Madras. A number of them were used as controls, and were given a varied diet with abundance of vitamins; the others were given the same diet after it had been subjected to a sufficient degree of heat in the autoclave to reduce its vitamin value very markedly. Some of these latter were given an item of fresh food to ensure a sufficient supply of vitamin C, or two items to ensure a sufficient supply of vitamin C and vitamin A; the food of all was deficient in vitamin B. The control animals remained in good health, the health of the others soon showed signs of impairment, one of the earliest and most constant symptoms being diarrhoea, with or without mucus and blood in the stools. Nine out of the

eleven animals treated in this way exhibited a severe intestinal flux. Five of the animals suffered from dysentery, and it seemed evident, after examination of the controls also, that many of the animals had been "carriers" of the organism of amoebic dysentery when the experiment commenced, and that the amoeba had remained harmless to the well fed animals, while it had attacked those whose food was deficient in vitamins. The first effect of such deficiency appeared to be to render the intestinal tract susceptible to invasion by bacterial or protozoan agents. It rendered pathogenic to the ill fed host organisms that might be non-pathogenic to the well fed. The monkeys survived from fifty-one to a hundred days. He described and illustrated the pathological changes discovered on opening the tract. The gross anatomical lesions included enlargement of the mesenteric glands, dilatation of the stomach, congestion of the gastro-intestinal tract, with ballooning of various parts, and marked thinning of the muscular walls of the colon. In the colon the changes were found to consist in greater or lesser degrees of colitis, which was the most marked and one of the most constant of the morbid changes present. He also described the changes found in various parts of the tract on histological examination, and went on to say that not all the changes were present in all the deficiently fed animals; in general they were more pronounced and frequent in animals whose food was deficient in vitamin A as well as in vitamin B, but each individual was more or less a law unto himself in regard to the effects of vitamin want. He touched on the work of Cramer and of Gross on rats fed on synthetic diets, and described the very recent work of Pappenheimer and Larimore, who had recorded the occurrence of gastric lesions in 55 per cent. of rats fed on synthetic diets in which the only known deficiency was want of vitamin A. He claimed, in conclusion, that derangements in function of the gastro-intestinal tract, and its greatly increased susceptibility to attacks by bacterial and other pathogenic agents, which had been shown to result from vitamin deficiency in monkeys and rats, was to be regarded as an important factor in the causation of the common intestinal disorders of mankind.

#### *General Experimental and Pathological Aspects.*

Dr. W. CRAMER urged that there was no fundamental distinction between specific and non-specific impairments of health due to vitamin deficiencies. The so-called specific deficiency diseases were merely the last links in a chain of events of which the so-called non-specific impairments were the earlier ones. When vitamins were withheld from the diet there ensued loss of appetite, constipation, diminished nitrogen retention, progressive atrophy of the lymphoid tissue, and other disturbances. He likened the action of vitamin B to that of the hormones as having a specific stimulus the absence of which led to atrophic changes. A striking feature in mammals suffering from vitamin B deficiency, even in its most advanced stages, was the absence of spontaneous infections, though in the case of experimental infections produced by injections of bacteria subcutaneously the resistance was said to be diminished in subjects suffering from vitamin B deficiency. Animals with vitamin A deficiency presented exactly the reverse condition: they always developed spontaneous infections, beginning in the mucous membranes of the intestinal and respiratory tracts and in the eye, although the general defences of these animals remained unimpaired until long after the local infections were established. The same diminished resistance to local infections had been observed in children, where xerophthalmia was always accompanied by, and sometimes preceded by, an infection, usually of the lungs. When, in badly nourished children, general infections occurred, such as pneumonia and enteritis, these were just as much specific deficiency diseases as the xerophthalmia. The speaker drew attention to the condition of "vitamin underfeeding," where the intake of vitamins was sufficient to enable the animals to grow and reproduce themselves, but where, nevertheless, health was impaired without any obvious symptoms of disease, as compared with animals receiving a more abundant supply of vitamins. He pointed out the harmful effect of vitamin underfeeding in pregnancy. It was frequently asserted that a civilized

community living on a freely chosen mixed diet was in no danger of suffering from a deficient vitamin intake. This was scarcely borne out by the work of Blegvad and Widmark in Denmark, whose population, owing to economic factors, had suffered from an extensive vitamin deficiency, shown by the decreasing consumption of milk and the increasing consumption of margarine. But similar conditions existed in this country, where the poorer classes, owing to their consumption of margarine, which was free from vitamin A, and of white bread, which was free from vitamin B, were cut off from some great natural supplies of vitamins. He believed that the wide extent to which this affected the health of the community was not at present recognized, partly because it was generally held and endorsed by leading authorities that the supply of vitamins was bound to be adequate if there were no specific deficiency diseases. This was an error, and the speaker maintained, on the contrary, that the organism, especially the young organism, which required for its full functional development an abundant supply of vitamins, suffered manifold disturbances of function with any degree of restriction of the vitamin intake.

#### *Bone Marrow Changes.*

Dr. G. M. FINDLAY referred in particular to the condition of the leucoblastic tissues, more especially those concerned with the formation of polymorphonuclear leucocytes, in connexion with the breakdown of the defence mechanism of the body following upon vitamin want. In animals fed on diets deficient in vitamin A it was rare to find lesions in the leucoblastic bone marrow, and correlated with this absence of degeneration in the marrow was the fact that there was no reduction in the number of leucocytes in the blood stream in this form of deficiency. In fact, after the onset of keratomalacia, it was not uncommon to meet with a polymorphonuclear leucocytosis. At the same time there was a fall in the bactericidal power of the blood which occurred in all acute infections. The infections associated with a deficiency of vitamin A in the diet were thus solely due to a local breakdown at the sites of infection—the conjunctiva and the epithelial lining of the respiratory and intestinal tracts. In animals fed on diets wholly deficient in vitamin B numerous small haemorrhages occurred in the bone marrow. When the diet was not wholly lacking in this vitamin a condition of gelatinous degeneration occurred in the bone marrow, with reduction in number of the leucoblastic cells. In acute vitamin B deficiencies there was a reduction in the total number of leucocytes in the blood stream, though this reduction affected only the lymphocytes. While the opsonic power of the blood and the capacity to form agglutinins, haemolysins, bacteriolysins, immune body, and antitoxin remained unimpaired, it was usual to find a fall in the bactericidal power of the blood in animals fed on diets deficient in vitamin B, which fall appeared to be correlated in some way with the fall in body temperature occurring as the result of diets lacking in this vitamin. Animals with reduced body temperature lost their resisting power to certain bacterial infections. Under normal conditions pigeons were totally immune to infection with the pneumococcus and meningococcus, but if their body temperatures were reduced to below 40° C., either by the action of some antipyretic drug or by feeding on a diet deficient in vitamin B, then the intraperitoneal injection of pneumococcus or meningococcus was followed by a fatal septicaemia. In the case of vitamin C, guinea-pigs with acute scurvy showed many small haemorrhages in the bone marrow. In chronic scurvy in this animal—a condition characterized by no definite clinical symptom—the bone marrow underwent either gelatinous degeneration or a fibrotic change which was not confined to the epiphyseal ends of the bones. If healthy guinea-pigs and guinea-pigs with chronic scurvy were given small intraperitoneal injections of organisms such as pneumococcus, *B. coli*, or staphylococcus, both groups survived, but when the number of such organisms was increased the animals with chronic scurvy died, while the controls survived. The increased susceptibility to infection occurring as a result of these vitamin deficiencies, however, did not apply to all bacteria, because diets lacking in vitamin did not modify the course of experimental tuberculosis in guinea-pigs or rabbits.

## SUBACUTE COMBINED DEGENERATION.

At a meeting of the Section of Neurology of the Royal Society of Medicine on February 12th a discussion was held on the etiology and treatment of subacute combined degeneration of the spinal cord.

Dr. A. F. HURST, in opening the discussion, emphasized the intimate association between Addisonian anaemia and subacute combined degeneration of the spinal cord. Three factors, he said, were to be considered in the pathogenesis—(1) achlorhydria, (2) oral streptococcal infection, and (3) duodenal streptococcal infection. The achlorhydria might in turn be constitutional or congenital, or secondary to lesions of the stomach such as atrophic gastritis, carcinoma, or occurring after gastro-enterostomy. The achlorhydria might be not only congenital, but he believed it was also often a familial condition. In the last event it was interesting to note the occasional familial incidence of Addison's anaemia and subacute combined degeneration. The factors concerned in the oral infection were pyorrhoia alveolaris, streptococcal infection of the jaws, tonsillitis, and the Hunterian glossitis. He especially emphasized the frequency of the glossitis, which he had almost invariably found since Hunter had called attention to this symptom. These two factors—oral infection and achlorhydria—led to a streptococcal infection of the duodenum. This resulted in the production of specific toxins which might be haemolytic or neurotoxic. In the first case anaemia of a particular kind was produced. He wished to remark on the diagnostic importance of two features in the blood picture, anisocytosis and megalocytosis, and referred to the work of Price-Jones and to the value of his charts. By means of his methods they had been enabled to make a diagnosis at a much earlier stage than was possible when chief reliance was placed on the high colour index or the percentage of haemoglobin. He stated that the anaemia present in subacute combined degeneration was always of the Addisonian type. He stressed the importance of prophylaxis, whereby persons who were found to be the subjects of a congenital achlorhydria might be prevented from developing Addisonian anaemia or subacute combined degeneration by taking sufficient dilute hydrochloric acid for the rest of their lives. In treatment he aimed at attacking the etiological factors as follows: the administration of hydrochloric acid for the achlorhydria; two drachms of the dilute acid were to be given in about twelve ounces of water three times daily, the first dose to be given in the morning on an empty stomach. Secondly, the removal of any foci of oral or pharyngeal sepsis. He said that such removal must be radical, but if the patient were seriously ill he advised a preliminary course of streptococcal vaccines. For the duodenal infection he used autogenous vaccines, and thought highly of the value of sour milk and charcoal as intestinal antiseptics. For the anaemia he gave arsenic, or in severe cases blood transfusions. Dr. Hurst's remarks were illustrated by several tables of great interest setting out statistics of cases of achlorhydria, Addisonian anaemia, and subacute combined degeneration.

Dr. MACBRIDE said that he and Dr. Carmichael had collected the records of 199 cases of subacute combined degeneration which had been in the National Hospital for the Paralyzed and Epileptic, Queen Square. In 53 of these the diagnosis was confirmed by autopsy. The average age at onset had been found to be 47½ years, the extremes being 26 and 70 years; 102 were males and 97 females. Heredity appeared to play no part in the etiology. No definite predisposing cause had been identified and no attacks of previous anaemia had been noted. In 78 per cent. of the cases the primary symptoms had been neurological, such as stiffness or numbness of the legs, while in the remaining 22 per cent. the primary symptoms could be referred to the anaemia. Alimentary symptoms were uncommon; 12 per cent. had been edematous, and 15 per cent. had been noted to have a sore tongue. In 14 cases free hydrochloric acid was found in the gastric juice by fractional analysis. A clinical resemblance to myxoedema had been observed in many cases, and some of these had taken large doses of thyroid extract, as much as 36 grains a day, without signs of thyroid intoxication. He thought that Dr. Hurst's theory of the essential importance of achlor-

hydria was untenable, and was inclined to think that some disturbance of endocrines was present. In treatment he had used arsenic, both by the mouth and by intravenous injections of novarsenobillon. He had not seen benefit follow the treatment of oral sepsis nor the exhibition of large doses of dilute hydrochloric acid. In none of the cases which they had studied had any change in the neurological signs taken place as the result of treatment.

Dr. WILLIAM HUSTEN thought that both pernicious anaemia and subacute combined degeneration were more common now than formerly. He wished to emphasize especially the infective lesions in these diseases, and particularly the glossitis, of which he showed many lantern slides demonstrating the conditions of the tongue and streptococci in the deeper parts of the tongue. There was a definite seasonal incidence for the onset and the recurrences of the anaemia—namely, about the months of July and August. He considered that the prognosis of the anaemia was better now than some years ago.

Dr. KNOTT spoke on the bacteriological flora of the duodenum in these cases, and said he had been impressed with the ease with which haemolytic streptococci could be found even in direct films. Recent experiments on rabbits had shown that a grave anaemia could be produced by feeding with haemolytic streptococci after the administration of alkalis.

Dr. COLLIER mentioned one case of subacute combined degeneration which occurred in a patient the subject of chronic lymphatic leukaemia. He thought that Dr. Hurst's teaching on one point was dangerous—namely, that patients with Addisonian anaemia who presented symptoms of numbness and tingling in the extremities were necessarily the subjects of subacute combined degeneration, or even bound to develop it later. He had himself never seen a typical case of pernicious anaemia go on to subacute combined degeneration of the cord. He had only seen one case definitely arrested by treatment, and that one had subsequently relapsed.

Dr. BARNES was unable to accept Dr. Hurst's views *in toto*. He alluded to the difficulties of clinical diagnosis. Out of twelve cases which he had examined lately by the methods advocated by Dr. Hurst, he thought that Dr. Hurst would have rejected nine as not filling the bill truly. One of these had an increase of hydrochloric acid in the gastric juice by fractional analysis. He thought that there might be different types of the disease, and had found in his experience that the cases which began with spastic signs tended to run a less acute course than those where signs of ataxia and gross defects of sensation were more prominent early signs.

Dr. ELLIS also thought that Dr. Hurst's views must be held to be non-proven, especially as to the pathogenicity of the streptococci. He related the details of a case of great interest where a man had a partial gastrectomy for a growth of the stomach (proved to be carcinoma on section) in 1909; now he presented the signs of subacute combined degeneration of the cord with a sore tongue, achlorhydria, and a blood picture suggestive of pernicious anaemia.

In a brief reply Dr. HURST maintained his own views, and said that he was unable to explain the statistics from the National Hospital.

## ETIOLOGY OF MINER'S NYSTAGMUS.

THE meeting of the Section of Ophthalmology of the Royal Society of Medicine on February 13th was devoted to a discussion on the etiology of miner's nystagmus. Sir ARNOLD LAWSON (President) was in the chair, and before the discussion started he alluded to the loss which ophthalmology had sustained in the death of Sir George Anderson Critchett. He said that as a colleague he would be remembered for his straightforward character, his unvarying courtesy, and his ready wit. Mr. ERNEST CLARKE also paid a tribute.

Dr. T. L. LLEWELLYN (Nottingham), in opening the discussion with some general considerations, said that miner's nystagmus was an occupational disease of the general nervous system, not merely a local disease confined to the ocular muscles. It affected chiefly coal-face workers, but



25 per cent. of all men employed underground—judging from an examination of large numbers of workmen—had some signs of the condition, and this reservoir of latent cases must always be borne in mind. The incidence of certified cases had risen sharply since the inclusion of miner's nystagmus in the schedule of industrial diseases, and especially since the broadening of the definition in 1913 and the difficult economic conditions of the post-war period. Deficient illumination of the coal-mine owing to the low candle-power of the lamps used and to the absorption of light by the coal was the chief factor in the production of the disease. Delay in dark adaptation and an increased retinal susceptibility were frequent symptoms. The determining influence of light conditions was evidenced by the greater prevalence of the disease in winter, the increased recovery rate in summer, and the onset of symptoms after dark. The disease was more prevalent in urban than in rural districts, and in some seams than in others. The depth of the workings and the thickness of the seams did not play so important a part as the age of the workman, the difficulty of working, the character of the shale, and the attention paid to the disease itself. He dwelt upon the importance of the personal factor, and upon the tendency of men suffering from illness or accident to attribute their incapacity to the onset of a nystagmus which they had had for years. The disease was often mimicked and readily brought on by suggestion. While most cases showed no evidence of a neurosis, a group of cases had certain neurotic symptoms associated with well marked signs of the disease, and in another group the neurosis was dominant and was accompanied by slight or indefinite symptoms of nystagmus. When a neurosis was present it differed in no way from the neurosis found in other conditions, and its treatment was the same. The provision of suitable work helped the recovery rate. Sufferers rapidly deteriorated if they were allowed to remain idle. High as were the figures for new cases in 1923, they were lower than in 1922, and he believed they would prove to be lower still in 1924. Colliery owners were now alive to the importance of prevention, and large sums were being expended on the provision of lamps giving larger candle-power.

#### *Physiological Consequences of Very Dim Illumination.*

Professor J. S. HALDANE thought that it might now be regarded as clearly established that miner's nystagmus was brought about by using the eyes for guidance in muscular movements when the absolute (not relative) differences in luminosity of the objects seen were extremely low. He did not propose to discuss the evidence in favour of this conclusion or against other theories as to the cause of miner's nystagmus, but only to draw attention to a certain physiological peculiarity of vision where the illumination was extremely feeble. It seemed to him that this peculiarity furnished a key to the understanding of how miner's nystagmus was produced. Within wide limits of illumination the acuity of vision was practically constant, but it began to fall off seriously with low illumination until, when the illumination was sufficiently low, it was not possible to distinguish a white or a black object. It was also well known that with good or even moderate illumination acuity of vision was much greater at the centre than at the periphery of the field of vision, but with very low illumination this was no longer the case. One great peculiarity of foveal vision, with sufficient luminosity, was that the impression on the consciousness of an object on which the eye was focused was a lasting one—the person continued to see it—whereas in the peripheral visual field objects were perceived and then faded out of consciousness. If the eyes, for instance, were focused steadily on a fairly bright star, the surrounding stars would fade out of the vision except those which were twinkling, but in the twinkling stars the twinkle—which was only a variation in luminosity—became enormously exaggerated. A twinkling star, seen in the periphery of the visual field, with the eye fixed, disappeared completely from vision during the intervals of the twinkling. With very low luminosity the foveal vision lost completely its lasting character, and the conscious impression was even less lasting than with peripheral vision. Therefore the eye, trying to focus on the object, wandered about, picking the object up momentarily with the fovea and losing it again.

In all probability the fatigue thus induced was the disturbance which led up to the condition of miner's nystagmus. The nystagmus might perhaps be regarded as a tendency to a bad habit brought about by the fact that with very low illumination the eye was always moving. With ordinary hand safety lamps in the mine the illumination of the working space was not only very low, but the actual luminosity was extremely low also. There was no nystagmus among those who worked in mines where oil cap-lamps were used, because with such lamps the illumination of the miner's working area was far greater. It seemed clear that unless the illumination was greatly increased either by the use of cap-lamps or by much more powerful hand lamps, nystagmus would continue to be prevalent among coal-miners in this country. The illumination required to prevent nystagmus was such as to permit of lasting foveal vision, and therefore of fixing the eye on the object seen. This fixation was necessary for the proper guidance of any tool the miner was using. To judge from a number of different observations, the threshold illumination below which lasting foveal vision became impossible varied considerably in different individuals. This might be related to varying liability to nystagmus. With the old-fashioned oil safety lamps about half the miners working on the coal face showed signs of nystagmus, though few of them had serious symptoms. Visual acuity was, of course, greatly affected by defects of accommodation. He did not think, however, that it was the falling off of visual acuity, but rather the greatly diminished lasting power of foveal vision which led to nystagmus. Professor Haldane added that as it was still believed by some that miner's nystagmus was due to gases in coal-mines, he would like to take the opportunity of saying that, so far as he could see, the action of abnormal gases could have nothing whatever to do with the causation.

#### *Quality of Illumination in Coal-mines.*

Mr. H. S. EBBWORTH (Ebbw Vale) said that what was needed in coal-mines was a better quality of illumination, not necessarily a higher candle-power. Attention was drawn to the importance of the quality of the light by observing that when an oil lamp was taken into a mine not only was the candle-power diminished, but the remaining light was changed in quality, being deprived of yellow and orange rays, and retaining only a pale-bluish illumination. In the case of the Marsaut safety lamp the percentages of red, green, and blue rays with the lamp at the surface were respectively 71, 22, and 7, and with the same lamp in the mine the figures were 69, 20, and 11; at the same time the candle-power diminished from 0.48 c.p. at the surface to 0.21 c.p. in the mine. He had experimented with yellow-tinted glasses, and had found it possible, with the Oldham lamp, to change the quality of the light so that instead of a proportion of blue rays amounting to 17 per cent. he got the proportion with the tinted glass down to 11 per cent., at the same time increasing the proportion of green rays from 31 per cent. to 38 per cent. But he still wanted the blue constituent in the Oldham lamp to be further reduced to be about 6 per cent., as in the carbon filament, where the proportions of red, green, and blue were respectively 67, 27, and 6 per cent., and an excellent quality of light was forthcoming, very much like that of a candle. The Ebbw Vale Company had used yellow-tinted glass for a year, and the result had been quite satisfactory, although the ideal quality, which was that of the carbon filament, was not yet attained, and the total amount of light was still below the minimum desirable. Because a lamp gave 1 c.p. at the surface it was useless to assume that it gave this to the collier at his working place; it gave him, in fact, very much less. The minimum of candle-power required to bring a steam-coal pit up to the level of safety was 0.9 c.p. But with this yellow-tinted glass the Ebbw Vale miners had suffered to a much less extent from nystagmus. Some of the worst cases of nystagmus had loss of central vision, and it seemed to him that this might be due to the focusing upon the eye for too long a period of ultra-violet rays from the lamp, thereby exhausting the visual purple or otherwise damaging the eye. The yellow-tinted glass acted as a filter to prevent ultra-violet radiation from emerging.

Later in the discussion Mr. G. J. SACUS pointed out that even with the clear glass of the lamp the ultra-violet rays would be practically cut out, and that lead glass of  $\frac{1}{2}$  mm. thickness would absolutely eliminate any dangerous rays.

#### Compensation in Miner's Nystagmus.

Professor E. L. COLLS (Cardiff) stated the view that the increased incidence of nystagmus was apparent rather than real. An increase in compensation claims had occurred owing to the disease being an occupational neurosis—that is, a complex of a physical symptom and an underlying neurasthenia. The physical symptom—oscillation of the eyeballs—was present, without causing inconvenience, in 20 to 30 per cent. of miners working in poor illumination. In Belgium incapacity for nystagmus soon terminated, and the limit of time for which compensation was payable was six months. In this country the period of compensation was not limited. When the disease was so scheduled that a claim could be maintained on neurasthenic symptoms alone, the number of claims, particularly those of old standing, rose. In 1921 there were 1,913 new cases, and the continued cases on the books were 4,804, of which 645 had lasted for over five years, and 89 of these for over ten years. When economic factors in 1922 and 1923 brought possible earnings and compensation payments somewhat close together, and there was also a fear of unemployment, a still greater rise in the number of claims occurred. The course of events was similar for claims on account of miner's beat-knee and beat-hand (septic infections) and non-fatal accidents, but in the case of fatal accidents no increase took place—a fairly certain indication that no real increase in non-fatal cases had occurred, but that the increase in claims was due to economic factors. The excessive rise in old standing claims of nystagmus, which were nearly all based on neurasthenic symptoms, with no oscillation of the eyeballs, supported this contention.

#### Colliery Administrative Experience.

Mr. G. J. BINNS (managing director of the Midland Colliery Owners' Mutual Indemnity Company) said that it must be assumed that a very large number of cases which went down as nystagmus were not really nystagmus. Certifying surgeons were naturally not experts in nystagmus, and many colliery proprietors did not take steps to check the certificates. He gave an account of appeals which had been made by his company in 32 (out of a total of 428) claims on account of nystagmus, and of that 32 the company had won 28. Someone had said that nystagmus was caused through too much attention being paid to it. He did not subscribe to this, but he felt that the condition was one which needed the right kind of attention, sympathetic and skilful, not the kind which consisted in saying to the man, in effect, "You will go blind if you go down the pit again." The Under-Secretary for the Home Department in the last (the Labour) Government (Mr. Rhys Davies) had stated that the Home Office was prepared to amend the definition of nystagmus if colliery owners would guarantee to find light work for nystagmus patients. It was very difficult, however, to find surface work for men thus disabled.

Mr. H. MITTON (mining engineer to the Butterley Colliery Company) gave figures for eight collieries employing 7,000 men underground. The incidence of (certifiable) miner's nystagmus in 1924 was 0.56 per cent., and in 1913 it was 0.95 per cent. He attributed the decrease to the improvement of illumination.

#### Effect of Mine Gases.

Dr. F. RONSON (Penarth) gave figures from 1908 onwards to show that nystagmus was growing. The numbers now were getting huge. The whole coalfield had been seriously affected. This was not a condition which could be put down to neurasthenia. The increased knowledge of coal as a result of the work of the coal chemist had helped the clinician to visualize the possible relationship of coal to neurological disturbance. The miners among whom nystagmus was mostly found were those working on bituminous coal, and it seemed to be a fair inference that the high incidence of nystagmus was associated with certain compounds of coal which were to be found specially in the bituminous variety. Coal of this kind had also the highest

percentage of volatile matter. He pointed out further that nystagmus did not affect miners in other minerals, no matter at what depth they worked nor what kind of lamps they used. Nystagmus was an affliction of the coal-fields. He believed that the proportion of volatile matter yielded by coal might play an important part in causation.

#### The Personal Factor.

Mr. G. H. POOLEY (Sheffield) said that the personal factor was of two kinds—that of the observer and that of the person observed. In the case of the observer the personal factor entered to a great extent. Some men formed a theory and then looked for facts to support it. The incidence of the disease could only be determined by the examination of a number of men working in a particular mine, and as far as possible under the actual conditions of their work, and then discovering what percentage of them had got the disease and the degree to which they had got it. He had been carrying out some experiments to discover what the normal eye could see at an illumination of 0.00006 c.p. At that very dim illumination the normal eye could still detect colour; there was a visual acuity of about  $\frac{1}{72}$  of the normal. A good deal of flicker was experienced, fatigue was very marked, and a moving object was more readily seen than a stationary one. The colour best seen was red, green was detected less readily, and blue and yellow less readily still. The eye was so readily fatigued in the dim light and retained fixation so badly that there was no doubt a tendency, even in the case of the healthy eye, to oscillate under such conditions. He laid stress upon the point that a man was able to work in spite of a very marked degree of oscillation. Men whose eyes were never still, and who had a definite undulatory oscillation of their eyes, could still not only go on getting coal regularly and steadily, but in many cases could play cricket in quite good teams. With extremely little sight men could earn full wages at the coal face. Many of the men who went on compensation for nystagmus were suffering from quite other ailments, but found it to their monetary advantage to go on workmen's compensation for nystagmus rather than on sickness benefit under the National Insurance Act. A good deal of the so-called neurasthenia was a *maladie imaginaire*.

The discussion ended on this question of the personal factor. Dr. M. CULPIN said that nystagmus *per se* did not disable. The photophobia, the head tremors, the extreme convergence of the eyes, and the night blindness were all seen among the mental results of the shocks and stresses of the war. Everyone knew by now the kind of man who fell a victim to these troubles. There was an epidemic of night blindness among soldiers. The cases should be treated for the neurasthenia, and it would disappear and with it the nystagmus. Dr. C. F. HAUFORD drew a parallel between shell shock and nystagmus, and said that search must be made beyond the factors of illumination, or posture, or refractive errors; the personal element—the moral—must be considered. Dr. H. W. EDMISON also considered that a strong psycho-neurotic element was an etiological factor. He commented upon the fact that many cases experienced an acute exacerbation on examination or when attention was directed to their condition.

#### ANAL AND RECTAL FISTULAE.

At a meeting of the Section of Surgery (Subsection of Proctology) of the Royal Society of Medicine on February 12th, with Mr. F. SWINFORD EDWARDS (President) in the chair, a discussion took place on the subject of fistulae.

The PRESIDENT said that he looked upon the treatment of fistula as a specialty within a specialty. He had come across most excellent proctologists in every other respect who yet failed miserably when dealing with fistula of the horseshoe type. Of all the lesions which the proctologist was called upon to treat none would tax his powers more heavily. It took years of experience for a man to become thoroughly familiar with fistula of the horseshoe variety—a form encountered much more frequently than was generally supposed. The reasons for the frequent failure of operative interference were the lack of topographical knowledge of the particular case, with a failure to lay open the whole

track or tracks; the non-recognition of fistula due to caries of the coccyx or the lodgement of a foreign body in a sinus which the surgeon had failed to lay open; the special difficulties attaching to tuberculous fistula; omission to remove all overhanging margins of skin and mucous membrane; injudicious after-treatment, such as painful and too frequent dressings and over-long confinement to bed. To those about to operate for fistula he urged a careful examination by palpation; a probe was rarely necessary. To the external orifice was behind an imaginary line drawn transversely across the centre of the anus the internal orifice would be found usually as a depression between the two sphincters in the mid-dorsal line, and this pointed to a horseshoe or semi-horseshoe fistula. When dealing with a sinus which might run up at right angles; this must on no account be laid open into the bowel. It was a curious fact that where a horseshoe fistula had two internal openings, the lower one between the sphincters was to be felt as a depression, whilst the upper one projected into the rectum and felt like a small wart or papilla. He emphasized the importance of the two-stage operation; the first procedure was to lay open all tracks into the main posterior sinus, and then, after three or five weeks, when the wounds were healed, a slight secondary operation, dividing the external sinus, which, of course, included the main sphincter, completed the cure. With regard to exsection with immediate suture, he had tried this in only two cases, neither case did he get complete primary union. The shorter convalescence hardly compensated for the additional risk involved, and he could see no reason for supplementing the old method of healing by granulation. The secret of success in operating on horseshoe fistula was the antero-posterior dorsal incision.

Sir CHARLES GORDON-WATSON, who mentioned that at St. Mark's the average number of fistula operations was 150 a year, said that with regard to tuberculous fistula the textbooks were apt to mislead the practitioner by implying that this was a hopeless condition. Many fistulae were tuberculous without the patient being tuberculous. Of course, where the body was involved, a tuberculous or other parts of the body were invaded with tubercle the mere fact that his fistula was invaded with tubercle bacillus was no barrier to a cure, given correct surgery and after-treatment. With regard to the posterior track up the bowel resulting in a secondary opening in the horseshoe fistula, he had hesitated long as to proper treatment. It was a most dangerous thing to open up completely into the bowel. The majority of these tracks were submucous, but when they were not submucous and were very high up. He had once or twice been bold enough to slice into the bowel, and he did not think there had been ultimate incontinence, although there had certainly been temporary incontinence. With regard to primary suture, he thought that this question had been influenced by experience in the war, when a great amount of work of a very important character was done. At one period in the war a certain number of beds at one of the casualty clearing stations were set apart solely for the purpose of investigation in connection with primary suture of wounds, and he thought that something had been learnt about primary suture in consequence, and that better results were now forthcoming than could have been obtained without that experience. In the case of a direct fistula an excellent result could be obtained by primary suture, and the convalescence considerably shortened. A little while ago he brought forward a series of seventeen cases of primary suture; the results were all exceedingly good, with a high average of primary union. Some were done by excision and primary suture treatment with bismuth and iodoform paste. Nevertheless, the indiscriminate use of this method was very dangerous. If it became a routine it would lead to disasters, and its proper use required a considerable experience of cases and an ability carefully to select them. He had found Finsen light stimulate sluggish lesions to heal.

Mr. W. E. MILES said that the average general surgeon did not realize that there were more types of fistula than one. The ordinary textbook would speak of fistula as having the following varieties: a complete fistula consisting of an external opening on the skin surface, an internal opening into the rectum or anal canal, and an intermediate sinus or track; a blind external fistula, and a bilateral internal opening; a blind internal fistula, with no fistula. That was all very well in its way, but it did not throw much light on the subject. They all knew that a fistula was preceded by an abscess, and the track of the found in four chief positions: the subcutaneous abscess, the submucous abscess, the ischio-rectal abscess, and the pelvic-rectal abscess. Each of these abscesses, and the pelvis of the varieties to which he had just alluded. There might be a complete subcutaneous fistula or a subcutaneous fistula with a single opening, and when it was opened up one found an ischio-rectal abscess, and so forth. Very often one found an ischio-rectal abscess, and when it was opened up one found a fistula behind it. Some surgeons would say that a fistula whose internal opening was at a level of two or three inches above the anal verge might be laid open with impunity, whereas other surgeons would say, with equal truth, that it was a most dangerous thing to do, and that if one laid open such a fistula according to textbook instructions most disastrous consequences would ensue. Here were two opposite views which it was hard to reconcile, but both were right and both wrong. In the one case what was being spoken of was the submucous fistula entirely, and in the other case the pelvi-rectal fistula.

Mr. ASLETT BALDWIN favoured ionization treatment in some cases. With a callous surface which would not heal, no matter whether the positive pole, was very effective.

Mr. IVOR BACK said that he was inclined to classify the varieties as three: a fistula with an internal opening, which was always secondary to the opening between the two sphincters, and might be at any part of the anal canal or in the rectum; and a pelvi-rectal fistula, which last, to his mind, had nothing to do with the rectum whatever and was a primary indication of some disease higher up. With regard to deepest cut area one would, in a large proportion of cases, of straight fistula, get primary union.

Mr. L. E. C. NOBLE spoke of success in the treatment of tuberculous fistula; and Mr. SWINFORD EDWARDS, in a closing remark, expressed the view that pelvi-rectal abscess was very rare and was the result of gonorrhoeal prostaticitis, and, of course, the treatment must be extrarectal.

## TREATMENT OF PLACENTA PRAEVIA.

At a meeting of the Edinburgh Obstetrical Society held on January 14th, the President, Professor B. P. WATSON, in the chair, a discussion was held on the treatment of placenta praevia.

The PRESIDENT and Dr. DOUGLAS MILLER gave a statistical analysis of 254 cases of placenta praevia, of which most had occurred in the Edinburgh Royal Maternity Hospital. In 25 of the cases the mother died, representing a maternal mortality of 9.8 per cent. In explanation of the high mortality incidence it was stated that several of the high cases had been sent into hospital from long distances and the patient had arrived moribund from loss of blood. The causes of maternal death were as follows: Ante- and post-partum haemorrhage in 13 cases; sepsis, 6 cases; and one ileus, post-partum collapse and mania, eclampsia, duodenal partum haemorrhage, the last two patients dying undelivered. Including stillbirths and neo-natal deaths the foetal mortality was 64 per cent. In 81 cases the situation of the placenta was central, the maternal mortality being 22 per cent., and the foetal 82 per cent. The maternal mortality in the partial cases was 4 per cent. and the foetal 59 per cent. Consideration of the results of the different

than 50 per cent. of the cases; moreover, in a case reported by Dujardin-Beaumetz, in which there was almost complete closure of the superior vena cava resulting from compression of an aneurysm of the aorta, there was a continuous murmur. This, however, was not an important objection, because, as Professor Shennan pointed out, other cases in which a similar pathological change was present showed a somewhat different murmur. The diagnosis must be based upon a combination of physical signs, seeing that even the absence of a murmur might not weigh greatly in the scale against the diagnosis of a varicose aneurysm.

Mr. G. H. COLE mentioned the diagnostic relationship between this condition and dissecting aneurysm. He referred to the absence of laminated clot in the cases where the blood pressure must often be low, and in which von Recklinghausen's theory might be held to apply.

Mr. WILLIAM ANDERSON first referred to the work of Makins in traumatic arterio-venous fistulae, and mentioned particularly the delay of a few days in the appearance of symptoms after the injury. He then referred to the recent work of Holman, whose experiments seemed to show that the bruit and thrill in these cases was due to the vibration of the septum between the artery and vein, and could be made to disappear by simple closure of the vein proximal to the fistula, even though blood continued to pour through it towards the periphery. He also mentioned the increase in blood volume, the fall in blood pressure (systolic, and, more particularly and permanently, diastolic), the slowing of the pulse on compression of the artery, and the general effects on the whole organism of throwing out of use as much as a quarter or two-fifths of the total blood volume in these cases.

### THE UTERUS AS A CENTRE OF TOXINS AND IRRITATIVE PRODUCTS.

At the annual meeting of the North of England Obstetrical and Gynaecological Society, held at Manchester on January 16th, the retiring President, Professor A. DONALD, gave his valedictory address on the subject of the uterus as a centre of toxins and irritative products.

Professor Donald first discussed briefly the toxæmias of pregnancy and of the puerperium, with special reference to two conditions—namely, toxic liquor amnii and toxic lochia. He mentioned a case of acute urticaria which was undoubtedly due to changes in the liquor amnii, and also some cases of acute toxæmia commencing about the twelfth day of the puerperium, which were due to the accumulation of toxic lochia in a flabby uterus, the cavity of which was below the level of the cervix. He thought that there were cases in which these toxic elements, produced during abortion or confinement, might persist for a long time afterwards, and referred to a case of acute eczema which occurred some months after an abortion, and which resisted all treatment until the uterus was curetted; the eczema then rapidly and permanently vanished. He believed that in many cases the heart and the nervous system were functionally affected by these toxins, which might also play a part in causing rheumatic affections. Their origin was not only in the contents of the uterus, but sometimes in its substance. There were undoubted indications that fibroid tumours of the uterus were associated with a toxic condition in the patient; this was most noticeable when a fibroid was undergoing rapid diminution at the menopause. There seemed to be disintegration of the growth, and absorption of the products into the general system, attended by palpitation, profuse sweating, loss of flesh, and cachexia. The cases cited had occurred mostly in parous women, but he believed that they were sometimes seen in nulliparæ and virgins. The effects of some irritative products seemed to be purely local. Sometimes the conditions seemed to result from bacterial invasion, and at other times to be due entirely to chemical irritation, but it was not always easy to distinguish between them. The so-called senile vaginitis, and especially senile endometritis and pyometra, seemed to be caused by bacterial invasion. Pruritus might be due to the same cause, but also occurred in single women, in which case it seemed to be due often

to irritative elements in the menstrual discharge or to an irritating leucorrhœa. Another condition often due to irritation was dyspareunia. In the very severe cases there was probably a nervous or even a mental element, but in the more common type he believed that a uterine discharge which might be slight in amount kept up a condition of local irritability. His practice was to dilate and curette in these cases, and the results had been more satisfactory than after any other method of treatment. Finally, he thought that cervical erosion was in a great many cases the result of an irritating discharge from the uterine cavity. The general opinion seemed to be that it spread from below, and many seemed to think that it was most commonly caused by gonorrhœa, but Professor Donald believed that this cause was greatly exaggerated. This irritation might appear after a confinement, but it was not uncommon in virgins. The teaching was generally that it was purely cervical in origin, but there were good grounds for believing that it was caused by the discharge from the uterus. In all cases of cervical erosion, except where there were reasons to believe that it was the result of gonorrhœa, the cavity of the uterus should be curetted. It was not uncommon in these cases to remove by the enrette large masses of glandular tissue. A condition which seemed to him to prove the irritative effect of the intrauterine discharge was the so-called erosion of the posterior lip in cases of retroversion. The erosion was not confined to the posterior lip, as could be recognized when the uterus was straightened by a vulsellum, but it was chiefly situated there because the intrauterine discharge, owing to the position of the uterus, was obliged to flow over the posterior lip of the cervix.

#### Pelvic Adenomyoma.

The PRESIDENT opened the discussion on Dr. Kenneth Bailey's paper, which was read at the last meeting of the society on December 19th, 1924, and reported in our issue of January 24th, 1925 (p. 165).

Mr. GORAN thought that the cell implantation explained most satisfactorily many cases previously difficult to understand. He thought, however, there was still room for Cullen's mucosal theory and for the theory of development from Müllerian rests. He referred to a case recently seen by him in which a tumour over the left pubic spine became swollen and painful at each menstrual period, and at operation proved to be an adenomyoma of the round ligament. There was no evidence of any intrapelvic disease and no hernial sac, so this tumour could not be accounted for by the implantation theory.

Mrs. BARTON HALL doubted whether retrograde menstruation was a pathological process as Dr. Bailey had suggested, and was associated with other pathological changes, including an increase in the loss of surface epithelium; she asked why this actively invading epithelium did not embed itself in the wall of the vagina.

Professor FOTHERGILL raised the question whether menstrual back flow was an isolated occurrence or took place repeatedly in certain women.

Miss IVERS said that she had been able to excise localized uterine adenomyomata in one or two cases without removing the uterus.

Dr. D. DOUGAL thought that the evidence in favour of the Fallopian type of growth was not very convincing. The theory appeared to rest chiefly on the fact that the cells in these cases were ciliated, but the uterine cavity was also lined by ciliated epithelium and he could not understand why menstrual hæmorrhage should be associated with the activity of tubal epithelium. Retrograde menstruation appeared to furnish the most reasonable explanation of how the implants reached the peritoneal cavity. Adenomyoma had been found in certain situations difficult to explain on this theory, but he thought that all of them could be so explained. He referred to the successful experiments in rabbits by Victor Jacobson which proved that endometrial transplants in the peritoneal cavity were capable of active growth in the new situation. Clinical observations also supported this. Sampson had referred to four cases where adenomyoma occurred in the abdominal scar after operation on the pelvic organs, and Loehraue had also reported a case. Accepting the endometrial origin of these tumours as proved, and retrograde menstruation as the process by



which the implants reached the peritoneal cavity, certain other problems remained for solution. Was retrograde menstruation a frequent occurrence? What conditions of the uterus predisposed to it? The association of fibroids with adenomyoma had been frequently noted. Dr. Dougal referred to the confusion with regard to the nomenclature of this condition, and did not think Dr. Bailey had improved matters by suggesting another name. He thought the terms "endometrioma" and "endometriomyoma" suggested by Blair Bell were the best so far.

Professor BLAIR BELL was unavoidably absent, and Dr. Hendry accordingly read his remarks. Professor Blair Bell had been present as a guest of the American Gynecological Society on the historic occasion when Sampson read the first communication in which he demonstrated the endometrial character of the elements which were found in the ovaries in the circumstances under consideration. When Professor Blair Bell returned home he discovered endometrium in the ovaries in a case of bilateral "tarry cysts," and this was the first case demonstrated and published in this country. He knew of no inherent reason why there should not be two types of ectopic gland-bearing tissue, one endometrial and the other of tubal origin, but only the endometriomata had any practical or clinical interest, for menstruation could not occur in connexion with tubal glandular tissue. He thought that Dr. Bailey might be in error in describing the line of epithelium which he had illustrated on the surface of one ovary as tubal; it resembled germinal epithelium. Professor Blair Bell held that in certain cases the "cellular spill and implantation theory" of Sampson could not apply. For instance, endometriomyoma of the round ligament in the inguinal canal—a case of which he had recently reported to the society—could not originate in this way. Such a tumour was congenital in nature, the primitive endometrial tissue having been displaced by the external muscular coat of the uterus in the process of development. He believed that endometriomata were both developmental and implantational in origin.

In Dr. LEITH MURRAY's absence, Dr. Hendry read his remarks also. Dr. Leith Murray emphasized the need for keeping an open mind about the pathology, more particularly in view of the adhesions which occurred at certain sites, and the association in some cases of "adenomyoma" of the Fallopian tubes with the tubercle bacillus. He would like to know to what extent bilateral oophorectomy influenced these ectopic growths when occurring in the rectovaginal space.

Dr. BAILEY, in his reply, referred to mistakes made in the past as to the nature of this condition and to the views held with regard to the amount of epithelium lost from the endometrium during menstruation; he believed that a considerable quantity was cast off into the uterine cavity during menstruation. The vaginal wall was often invaded to a certain extent by small nodules of growth. He had never found any trace of bacterial infection in these growths, and cultures from the "chocolate" fluid blood were always sterile. He had never encountered a case exhibiting malignant change. He insisted that the invasion of the ovary by the growth resulted in the production of a cavity without any evidence of the formation of a cyst wall. He therefore thought that the term "tarry cyst" was wrong, and that "ovarian blood cavities" or "menstrual blood cavities of the ovary" should be substituted. The "site of rupture," he held, was merely the original site of implantation. He believed that the invading elements were deposited probably at every menstrual period in some women, but did not necessarily invade at every deposition. He also believed that retrograde menstruation was of regular occurrence and that it might be one of the main factors in the causation of dysmenorrhoea in young women.

Dr. DOUGAL showed a specimen of a very large "tarry cyst" of the ovary.

At operation on a married woman 30 years of age, who had never been pregnant, the tumours shown were removed. The larger tumour was seen to arise from the right ovary, being quite free from adhesions, except on the posterior aspect of the broad ligament, where it was firmly attached over a large area. On puncturing the cyst wall with a trocar, tarry or chocolate-coloured contents escaped. The cyst measured about ten inches in diameter, and had thin walls except where adherent to the broad ligament.

Its inner surface had no definite epithelial lining, but appeared to be composed of a striated layer of fibrin-like material; outside this the wall was composed of compressed ovarian tissue. Further exploration of the pelvis showed another cyst occupying the position of the left ovary. It was adherent to the back of the uterus and left broad ligament, and was about the size of a Tangerine orange. It also contained a tarry fluid, and adenomatous tissue was found at the inner pole in the neighbourhood of the ovarian ligament.

The chief interest lay in the size of the larger tumour, the contents of which measured about two pints. It seemed extraordinary that such a quantity of blood should be poured out as the result of functional activity of implanted endometrial tissue. It might be suggested that the haemorrhage resulted from interference with the blood supply of the tumour, but there was no evidence of this. Tarry cysts varied much in size, but were rarely larger than a Tangerine orange. The largest one in Sampson's series of cases measured about five inches in diameter.

Professor W. E. FOTHERGILL showed a haematometra associated with absence of the vagina, double haematosalpinx, and ovarian blood cysts removed from a girl 11 years of age. When examined under an anaesthetic the vaginal orifice admitted only the tip of the little finger, and the urethra was a mere slit. Rectal examination showed a very large uterus. At the operation it was found that the vagina was only represented by a fibrous cord. Cases of haematometra associated with other developmental abnormalities were referred to by Mr. PHILLIPS, Dr. W. FLETCHER SHAW, Dr. R. A. HENDRY, and others.

Dr. J. W. BURNS read notes of a case of hydatidiform mole and chorion-epithelioma from the same patient.

The patient, 28 years of age, had had two children, the second four years ago, and was seen first on March 7th, 1924, complaining of swelling in the abdomen and bleeding. Her last menstrual period was on December 20th, 1923, and bleeding began on February 20th, 1924. Examination of the patient suggested the existence of a uterus pregnant about sixteen weeks with a cystic tumour on the left side. Under anaesthesia, on passing a finger high up into the cervix, the tumour on the left of the uterus disappeared and the swelling resembled a symmetrically enlarged uterus twenty to twenty-two weeks pregnant. The cervix was tightly packed with sterile gauze, and the patient returned to bed. Two days later a hydatidiform mole was delivered, weighing 20 ounces, and a few days later the patient was sent to a convalescent home. A month afterwards the patient was readmitted as the uterus was still enlarged and tender, the left appendage was enlarged, and there was a free pink vaginal discharge. A few days later, under anaesthesia, the uterus was explored and an attempt to clear the cavity of its contents with a blunt curette had to be abandoned. The abdomen was opened and the uterus, tubes, and ovaries removed. On cutting open the uterus a mass of chorion-epithelioma was seen in the fundus penetrating into the muscular wall, and the left ovary showed a theca-lutein cyst. Microscopic sections of the uterus showed the characteristic appearances of chorion-epithelioma. The points of interest were the behaviour of the uterus on dilating the cervix and the rapidity with which the chorion-epithelioma showed its presence.

Dr. D. DOUGAL referred to a case which had been under his care where chorion-epithelioma developed equally rapidly.

## TUMOURS OF THE CENTRAL NERVOUS SYSTEM.

At a meeting of the Bristol Medico-Chirurgical Society on February 11th, Mr. J. LACE FIRTH in the chair, Mr. PERCY SARGENT read a paper on the surgery of tumours of the central nervous system.

Mr. Sargent laid emphasis first on the necessity for accurate diagnosis and for close co-operation between the neurologist and the surgeon. Tumours of the pituitary region, he said, manifested themselves in two ways. Function was disturbed, with changes in the skeleton and in other glandular functions, hairlessness, etc.; pressure produced intolerable headaches, with falling vision. It was for the latter symptoms that surgical intervention was required. These tumours fell into two divisions. Simple adenomata of the pars anterior excavated the sella, and also pushed up the optic chiasma, but in invading the cranial cavity they remained encapsuled. With these types of tumour glandular disturbances might occur; and such patients bore operations badly. The second division was composed of suprapituitary tumours: (a) meningeal tumours of the interpeduncular space, (b) tumours or cysts of complex structure probably arising from the infundibulum; with these, the glandular changes were not remarked. Either type might be approached (1) by the temporal route, used by Horsley twenty years ago;



(2) from below, through the sphenoidal sinus as advocated by Cushing; (3) by means of a frontal osteoplastic flap, as devised by Frazier. Mr. Sargent preferred the last method. The prognosis was best with adenomata; with the improved technique the proportion of satisfactory results was quite gratifying. Suprapituitary tumours were less satisfactory. Some were cystic and contained cholesterol; with these there seemed to be a risk of death from toxæmia, following the liberation of the fluid. Cerebello-pontine tumours were usually neuro-fibromata of the auditory nerve; others were cholesteatomata, or "pearl tumours." The former were usually firm, solid, encapsulated tumours, but might be soft or even cystic. They enlarged the internal auditory meatus, sometimes to a remarkable degree; this could be demonstrated by skiagraphy. Deafness and tinnitus might be the only symptoms for many years. Loss of function of the vestibular part of the nerve was early demonstrable, and loss of the corneal reflex of the same side was also frequent. Later, the classical signs of tumour—headache, vomiting, papilloedema—appeared. By this time an operation had become a more difficult as well as a more hazardous proceeding. The tumours should not be removed *en masse*; this could be done, but the resulting disturbance to the vascular supply of the medulla commonly induced death. The tumour should be removed intracapsularly, by morcellation. Decompression might be performed if piecemeal removal was not thought advisable, but the results were not nearly so satisfactory. The group of endodermiomas was histological rather than regional, though the tumours were meningeal and tended to be superficial. They cupped but did not infiltrate the brain, and probably arose from the arachnoid tufts which formed the Pacchionian bodies, and so tended to be found about the longitudinal sinus. Growing very slowly, they might attain very large size before giving rise to symptoms. These tumours might often be diagnosed and localized with certainty before signs of general pressure appeared; this was a great advantage, as an osteoplastic flap could be employed. A two-stage operation was not advised; the patient might die between the two operations. These tumours formed only a small proportion of the whole class of tumours of the cerebrum, and were rare in the cerebellum. A glioma of an infiltrating type was the common tumour. For these, decompression and partial removal gave some relief; and it seemed that gliomata were favourable tumours for the action of radium buried in their substance. In any case, where there was a high degree of intracranial pressure any operation was fraught with difficulty and danger; the classical signs of tumour should be regarded rather as danger signals, or even portents of impending death. Early and accurate diagnosis were the points of essential importance. Spinal tumours provided some of the best examples of the benefits derived from operation on the central nervous system. A large proportion were benign extramedullary growths, and in all these there was some stage where operation afforded prospect of complete removal at very small risk. In addition to neurological means of diagnosis and lumbar puncture, skiagraphy after the injection of lipiodol through the occipito-atlantoid ligament afforded a valuable means of localizing the tumour.

### CONGENITAL CYSTIC KIDNEY.

A MEETING of the Section of Anatomy and Physiology of the Royal Academy of Medicine in Ireland was held on January 30th, with the President, Dr. C. M. WEST, in the chair.

THE PRESIDENT showed a case of congenital cystic kidney accompanied by various other abnormalities in a seven months foetus which he had received from the Rotunda Hospital. There was a large cystic kidney on the right and a commencing similar condition on the left side. The ureters were greatly distended and the bladder was much dilated and hypertrophied; this, however, was not due to any obstruction to the outflow of urine, but was apparently of a similar nature to cases of congenital hypertrophic stenosis of the pylorus. The vas deferens of each side opened independently into the lower part of the hypertrophied bladder, and there was no sign of any seminal

vesicles. There was a Meckel's diverticulum; and the left foot was clubbed. Dr. West showed the various abnormalities by means of lantern slides and the actual specimen, and discussed the causation of the conditions found.

Professor A. F. DIXON suggested that in this case the caudal part of the large bladder really represented a much dilated first part of the urethra, and that the reason that the seminal vesicles were not present might be due to the fact that the part of the Wolffian duct from which they normally arise had been taken up and incorporated into the much dilated cavity of the bladder.

### Nutrient Foramina of Bone.

Professor E. J. EVATT read a preliminary note on the nutrient foramina of the longer bones of the extremities. He showed by specimens and drawings of them that as soon as the articular epiphyses were demarcated the bones were practically models of the adult bones. Each of these longer bones began with two nutrient foramina—one above and the other below the middle of the shaft; the upper foramen was directed distally, and the lower towards the proximal end of the bone. The spatial relationships of the foramina to each other and to the ends of the bone were retained throughout life. The final direction of the surviving foramen or foramina was determined by the constant or changing direction of the arteries to the bones, and not by an inequality in the growth of the bones themselves. Many of the bones retained the two foramina throughout life. He believed that the epiphyses did not add to the length of the bones, and that the growth of the bones was in no sense local but general.

Professor A. F. DIXON did not agree with Professor EVATT's conclusion regarding the growth of bone. It was contrary to the results obtained by madder feeding and other experimental work.

A series of casts and photographs, showing the development of the external nose in the orang, the chimpanzee, and the gorilla, was shown by Professor DIXON. The chief peculiarities of the nose in these animals were explained, and the condition in each contrasted with the external nose of man.

At a meeting of the West London Medico-Chirurgical Society, at the West London Hospital on February 6th, Dr. BENJAMIN MYERS reviewed the subject of the nutritional disturbances of infancy, dealing with those nutritional states occurring in infancy in which, so far, no pathological or bacteriological lesions of any primary consequence had been found. To comprehend nutritional disturbances it was necessary to appreciate fully the importance of food. Human milk must be considered the ideal food, containing not only proteins, carbohydrates, fats, salts, and water, but also the ferments and vitamins which must be kept in view. Further, it was necessary to remember the relative percentages of the salts, and the fact that human milk contained more potassium and iron than cow's milk, while the latter showed a large percentage of calcium and phosphates. The great importance of correct feeding with pure milk of definite composition was considered; also the difficulty of fat digestion, the necessity of caution in maintaining the carbohydrate percentage; the danger of too strong whey salts, and of too high percentage of sugar. The importance of breast-feeding was strongly emphasized. The discussion was opened by Dr. HUGH THURSFIELD and Dr. ERIC PITCHFORD.

At a meeting of the Hull Medical Society on February 6th, the President, Dr. T. RITCHIE ROOPER, in the chair, Dr. F. C. EVE read a paper entitled "Diabetic treatment simplified." In this he expressed the view that modern methods involving food value estimated in calories and the blood sugar tests were too complicated to apply in private practice. Hence, in diabetes, it was far better to regulate diet and the use of insulin consistently by urine testing rather than to attempt the impossible by blood testing, which could not be done often enough. The only means whereby the doctor could see at a glance what happened in his absence was for the patient to chart a curve of his sugar excretion every day. Dr. EVE had devised and used a simple fermentation method by means of which any adult could do this satisfactorily. Caloric estimation and blood sugar tests were rarely needed. If the ferric chloride test became positive for ketones, then bread and insulin must be added. Dr. W. W. ADAMSON dissented from the view that the treatment of diabetes could be adequately controlled by the estimation of urinary sugar, which might give a false impression of the percentage of sugar in the blood. Hyperglycaemia might be present without glycosuria.

## Reviews.

### INTERNAL SECRETIONS.

THE third edition of Professor SWALE VINCENT's book on *Internal Secretion and the Ductless Glands*<sup>1</sup> brings the knowledge of these glands up to date and affords the reader a select bibliography, guided by which he can, if he so wish, compile a complete one in any particular branch of the subject which interests him. The book is a valuable corrective to the wilder statements made frequently in some of our contemporaries and the absurd claims of the nostrum-mongers who sell to, and through, the profession every imaginable kind or combination of tissue extracts. There are drug makers just as clever in passing off their wares to medical men by speciously scientific advertisements as are the patent medicine vendors in gulling the public by more blatant advertisement in the daily press.

In the section on the reproductive organs we note that the latest publications of Voronoff and Steinach are critically considered. The first case of Voronoff was a man from whom both testes had been removed for tuberculosis, who resembled a eunuch; was hairless and fat, and had large mammae. A testis was grafted in four pieces. The graft only survived three months and then suppurated. During this period the beard grew and the man had to shave, which he had not done for twenty years. One man of 74, with marked signs of senility, was transformed into a vigorous, energetic person, but in some other cases the results were not so definite. Time and more cases are required to form a true judgement on the value of monkey gland grafts. Steinach's method of tying the vasa deferentia causes increase of the interstitial tissue of the testes and signs of rejuvenation, but it is not yet known how long the beneficial effects last. The wisdom of sterilizing criminals by this means, now legalized in certain States of America, is doubtful if, as is alleged, increased sexual productivity results. It is, the author states, as yet undetermined how far the germ cells of the seminiferous tubules share in the internal secretion which has been attributed to the interstitial tissue. A very interesting account is given of feminizing and masculinizing experiments which have been carried out by castration and grafting. Not only changes in physical form, but in eroticism, are said to result. Hermaphroditism and psychical homosexuality are considered in view of these animal experiments.

In dealing with the thyroid, the author describes certain recent success in abolishing goitre by giving children small doses of iodine. In an ordinary diet iodine is obtained from sea-fish and from milk, eggs, cereals, vegetables, and wine; soil blown upon by sea spray is an important source. It should be pointed out that white flour and bread are robbed by the miller of iodine; along with valuable salts and vitamin B. Prohibitionists should learn that while wine may add essential salts, sweets and white flour pastry rob the diet of these, and also of vitamin B, required for proper digestion and utilization.

Dr. R. PORAK, a professor at the Shanghai School of Medicine, has written a book on the functions of the endocrine glands, entitled *Les Syndromes Endocriniens*,<sup>2</sup> which forms one of a series of French monographs published under the direction of Professor ROGER. Authors of books on endocrinology set about their task in different ways, but for the most part adopt the classification of diseases due to increased or diminished function of the glands of internal secretion. Dr. Porak treats of the subject from rather a different point of view, and readers will be disappointed who expect to find here a neatly arranged table indicating the effect of hypo- or hyperfunction of endocrine glands, and who seek for an exact formula to balance a glandular defect and to cure a patient with certainty. Sufficient evidence has not yet been accumulated to warrant such a

simple classification; many of the generally accepted symptoms of endocrine deficiency require a critical review. In particular, Dr. Porak is not satisfied with evidence usually presented in favour of hyperfunction of internally secreting glands; he insists on a more accurate study of certain nervous syndromes wrongly attributed to derangement of internal secretion. Such are the special characters of the book, wherein are described successively the relations of internal secretions to the development of the body, to sexual functions, to the cardio-vascular system, to diseases of the excretory organs and skin, and to disturbances of nutrition. He gives reasons for his decision to include diabetes within the scope of the book, and has a special chapter on the relation of the pathology of the blood to symptoms and signs of endocrine upset. The functions of the thyroid, parathyroid, and suprarenals are dealt with in sequence. One feature of the book is the frank and open discussion of the fundamental doctrines of this rapidly growing branch of medicine. It will serve a good purpose if it destroys confidence in the blunderbuss preparations advocated by some organotherapy enthusiasts and directs attention to the necessity for more careful thought about the influence which one secretion exerts on the others. It is a useful and stimulating addition to endocrine literature.

### THE PROBLEMS OF TUBERCULOSIS.

Dr. AUBERTIN, in his book on the development of bacillary infection in man,<sup>3</sup> deals only with what the French call "*bacillose*," or infection with the tubercle bacillus of Koch. He discusses in great detail every known aspect of the process by which it gains access to, primarily infects, and becomes latent or active in the human body. The book is not so much a record of the young author's own experiments and observations, as a careful examination and critical analysis of the published work and theories of others. It consists of four parts. In the first an account is given of the views of French observers regarding the development of tuberculous infection in man; in the second these are examined critically; and in the third and fourth an effort is made to demonstrate the factors of the conditions favourable to tuberculous infection. The first two parts of the book will leave the reader in a maze of doubt, for the author's critical examination of the conceptions and observations of the best known writers on tubercle infection brings out a mass of contradictory evidence. While one holds that infection only occurs through the intestinal tract, another will argue that it can only occur through the lungs; and so on with a number of other problems, such as the questions of the age at which primary infection takes place; of acquired immunity; of the freedom or otherwise of native races from tuberculous infection; of the site of original infection as observed clinically, in autopsies or experimentally; of the relation between human and animal tuberculous infection; of secondary infection and the influence of intensity of infection; and other important questions. In the final sections of the book, however, he sums up what he considers may be regarded as more or less established facts; and states that of all the theories at present held regarding the conditions under which tubercle infection attacks mankind, only one is definitely accepted by all—namely, that tubercle is a contagious disease caused principally by expectorated matter containing tubercle bacilli. He arrives at three conclusions regarding liability to infection. The first is that there is no specific immunity, and the theory that tubercle bacilli, which are universally latent in almost everyone, cause immunity spontaneously, has not the importance sometimes ascribed to it. Secondly, that though there is no specific immunity, the various biological defences the human body possesses, notably the leucocytes, vary with the individual. On the other hand, independently of the influence of predisposition, tubercle infection (given equal doses of the bacilli) will develop more readily the nearer the subject approaches the antecedent conditions favourable to infection. These seem foregone conclusions. His third conclusion is that the tubercle bacillus specially selects certain

<sup>1</sup> *Internal Secretion and the Ductless Glands*. By Swale Vincent, M.D., F.R.S., etc. Third edition. London: Edward Arnold. 1924. (Demy 8vo, pp. xv + 453; 110 figures, 25s. net.)

<sup>2</sup> *Les Syndromes Endocriniens*. Par le Dr. R. Porak. Préface du Prof. H. Roger. Bibliothèque des Grands Syndromes. Paris: G. Doin. 1924. (Med. 8vo, pp. vi + 401; 19 figures, 4 plates. Fr. 23.)

<sup>3</sup> *Le Développement de l'Infection Bacillaire chez l'Homme. Le Rôle du Terrain*. Par Dr. E. Aubertin. Préface du Pr. Agrégé Leuret. Paris: Gaston Doin. 1924. (Roy. 8vo, pp. 339. Fr. 20.)

tissues and organs for its development. It does not attack non-vascular tissues and those only slightly vascularized, but has a special affinity for highly vascular organs and tissues, and for young persons in the full activity of their bodily functions. The final pages of the book contain remarks on prophylaxis. Although unhealthy environment, poverty, and vice must be combated, the removal of these conditions will not be efficacious unless at the same time efforts are made to detect persons who are expectorating sputa containing tubercle bacilli. Dr. Aubertin recognizes the practical difficulties in carrying out these measures effectively, and urges the need in France of Government action; he quotes a statement of M. Poincaré in 1924 to the effect that the campaign against tuberculosis will be amongst the most urgent matters occupying the attention of the French Parliament in the future. Dr. Aubertin's book as a whole is an able and full critical exposition of our knowledge of tuberculous infection.

#### A TEXTBOOK OF PHYSIOLOGY.

*Fundamentals of Human Physiology* is a book of moderate size, and its scope is precisely what the title indicates, Professor J. J. R. Macleod and Dr. Pearce having kept to their text with commendable strictness. It is always interesting to see what masters in their subject consider "fundamentals"; and in the book before us we have the Institutes of Medicine—as the old term for physiology was—expounded by two experienced teachers in Canadian medical schools.

We do not wonder that the book is already in its third edition,<sup>4</sup> for the style is so easy that the reader does not at first appreciate how much quite recent physiology is compressed into the volume. The authors begin with short accounts of the physics and chemistry requisite to an understanding of physiology to-day; in fact, we cannot remember previously to have seen the vast subject of the proteins summarized in one and a half pages.

A refreshing sanity pervades the whole treatment of the bodily functions, and much useful information is given, notably in the remarks on hygiene with which the volume closes. We are relieved to find that such eminent physiologists as the authors do not scorn to use the expression "lower the vitality" when discussing the subject of draughts predisposing to "catching cold." They also condescend to criticize the too high seat in the w.c., against which there was a sort of crusade in this country a few years ago. In 99 per cent. of cases it is too high and is level instead of sloping backward to allow the thighs to exert on the abdominal wall the powerful supporting pressure which Nature intended. The way in which the innervation of the circulation and of the respiration is dealt with is interesting, as is indeed all that is said about the nervous system; "psychic reflexes" are not explained away as though the psychic element was not a causal one. We should have welcomed a chapter on posture and animal mechanics, and surely we might have had more than so casual a reference to insulin; is not this carrying modesty too far?

The seventy-one illustrations are well chosen; the coloured diagram of the tubules and blood vessels of the kidney is very valuable for teaching purposes.

#### CATENARY PATHOLOGY.

The expression "catenary" as applied to pathology suggests itself as an appropriate interpretation of what Dr. RICKER, of the Municipal Pathological Laboratory of Magdeburg, intends to postulate by the term "*Relationspathologie*" in his *Pathologie als Naturwissenschaft*,<sup>5</sup> a book which he has written for the edification of pathologists, physiologists, doctors, and biologists. It is an exhaustive exposition of his theory that pathological and physiological processes are one and the same, that they depend on a chain of linked physical action within the body, set going by internal or

external stimulation of the nervous system, and that both physiology and pathology are natural or physical sciences. Dr. Ricker considers that they should be taught as physical sciences without reference to hygiene or medicine. On this foundation the author constructs his theory of catenary pathology. Disease in all its forms commences with a stimulation of the nervous system, which directs by vaso-motor action the circulatory system and blood stream, while it, in its turn, acts on the organs and tissues, influencing metabolism and other functions of the body. There is thus a chain of processes, beginning with the nervous system and ending with the organs and tissues. If the results are healthy or normal, the chain of processes is physiological; if unhealthy or abnormal, pathological. Inflammation, tumours of all kinds, macroscopic and microscopic anatomical changes, are all produced by the initial action of the nervous system on the circulatory system, causing dilatation or constriction of the blood vessels, and so effecting a slowing or arrest of the blood stream, with subsequent massing of leucocytes, exudation and interference with normal metabolism. If these views are accepted by pathologists, Virchow's time-honoured cellular pathology vanishes in the light of *Relationspathologie*, as alchemy in the light of chemistry, and astrology in that of astronomy. In fact, throughout the volume Dr. Ricker writes contentiously, and attacks not only Virchow's theories but many others. He does not accept, for example, the usual explanations of chemotaxis and phagocytosis; and infective (bacterial) pneumonia he does not consider a struggle against bacterial invasion. He seeks to prove in argument and by experiment that the cell has not and cannot have an independent existence. The cellular theory, by which individual cells can be stimulated directly for self-maintenance and multiplication, ignores the relation between the blood stream and the nervous system. All cell and tissue changes stand in causal relation to the blood, the circulation, and the nervous system, and the chain of processes, of which the nervous is the earliest in point of time, is carried in different directions and produces macroscopic and microscopic anatomical changes according to the nature of the cells or tissues concerned. It is too soon to determine how far this view of pathology will be accepted or not; but among his own countrymen Dr. Ricker has many active opponents, one of whom remarks that his description of Virchow's cellular pathology is a caricature (*Zerrbild*).

His work, however, is suggestive in many respects, though it is difficult at times to follow him on account of the involved thought in many of his sentences. He divides his subject into three parts—a physiological, a pathological, and a philosophical criticism—in which the conceptions of life, cells, inflammation, degeneration, tumour formations and so on, and the principles of a catenary physiology and pathology are tested logically. His pathology does not concern itself with mental processes or mental disease. He regards these as belonging to mental and moral sciences or metaphysics. Pathology and physiology, being only concerned with physical processes, have nothing to do with the psychical. Psychology, however, is regarded as a science which links up the physical with the psychical. It commences where the physical leaves off. On the other side are the practical sciences of hygiene and medicine—the one for the maintenance of normal physiological processes, the other for the restoration of the abnormal pathological to the normal. Dr. Ricker would be more convincing if he did not protest so much, repeat his theory so often, or involve his arguments so obscurely at times in long and parenthetical sentences. His book is scarcely one that will be read with ease. It has a good index and a bibliography of sixty-three articles or books written by himself or his collaborators.

#### BASAL METABOLISM.

We recommend the new book by Dr. EUGENE DU BOIS, *Basal Metabolism in Health and Disease*,<sup>6</sup> to the attention of physicians as well as physiologists. For many years the experiments on calorimetry which physiologists conducted

<sup>4</sup> *Fundamentals of Human Physiology*. By R. G. Pearce, B.A., M.D., and J. J. R. Macleod, M.B., D.Sc., F.R.S., assisted in the third edition by Dr. Norman B. Taylor. Third edition. London: H. Kimpton. 1924. (Med. 8vo, pp. 349; 71 figures, 8 coloured plates. 15s. net.)

<sup>5</sup> *Pathologie als Naturwissenschaft*. By Dr. R. Ricker. Berlin: J. Springer. 1924. (Med. 8vo, pp. vii + 391. Paper cover, gold marbled.)

<sup>6</sup> *Basal Metabolism in Health and Disease*. By Eugene F. Du Bois, M.D. Philadelphia and New York: Lea and Febiger. 1924. (Med. 8vo, pp. viii + 372; 78 figures. 4.75 dollars.)

and the new knowledge of the general metabolism of the body which was gained did not reach most medical practitioners, since it was published chiefly in physiological journals. Calorimetry experiments laid the foundation of the science of nutrition, yet, long after calories were understood and talked about, the cumbersome and expensive apparatus by which these were estimated was installed only in the best equipped physiological laboratories, and few people would have predicted that such appliances would soon assume a form which could be carried to the bedside. In recent years it has been shown that estimations of metabolism by indirect calorimetry are of great value in the diagnosis and proper control of such diseases as exophthalmic goitre, diabetes, and the anaemias. Fortunately the ingenuity of physiologists in devising simpler apparatus has kept pace with the increasing usefulness of basal metabolism tests, so that it is easy now for these tests to be carried out by the practising physician without any special training in technicalities. In this adaptation of physiological research to practical medicine Dr. Eugène Du Bois has played a prominent part, and it is fitting that he should have taken up the task in such a book as this of translating the whole subject of basal metabolism out of the realm of pure physiology into the domain of clinical medicine. He has succeeded in explaining the subject very clearly, and has written a book which should be very useful to physicians, advanced medical students, physiologists, and dietitians.

The first part of the book deals with metabolism in health. The earlier chapters describe the nutritional requirements of the body and the general principles of metabolism. Later the author turns to the different forms of respiration apparatus and the methods used in calculation. In the second part of the book, devoted to metabolism in disease, he discusses the value of basal metabolism tests in diabetes, diseases of the thyroid, adrenal, pituitary and sex glands, in diseases of the blood, heart, and kidneys, and in fever. But in this portion of the book, as in the earlier part, he does not confine himself simply to the value of tests for estimating the basal metabolic rate; he covers much more ground than this, surveying the whole physiological exchanges of the body in health and disease.

We believe that this book will prove very useful to those who are looking for a comprehensive and trustworthy account of the subject with which it deals.

#### A CANADIAN LOYALIST.

In the year 1647 two brothers named Ryeerzoon emigrated from Holland to America, and settled in New York, then New Amsterdam. The name eventually became Ryerse and afterwards Ryerson. In his autobiography, *Looking Backward*,<sup>1</sup> Major-General G. S. RYERSON of the Canadian Medical Service tells us how he is the direct descendant of one of the two brothers, and how his grandfather, with others of the family, remained loyal to the British during the American Revolution, and, after having their property confiscated, emigrated into what was then the wilds of Canada. His grandfather became a loyalist soldier at a very early age, and performed gallant service during the Revolution. His father, who was born in 1791, and was one of six brothers, also became a soldier, and fought and was severely wounded in the campaign of 1812-14 against the United States. Eventually he and four of the brothers took to the ministry, one, the Rev. Dr. Egerton Ryerson, attaining eminence in the Methodist Church. These details of his ancestry are related in the early chapters of the autobiography, and are followed by chapters of General Ryerson's own early life, education in Edinburgh, Paris, and Vienna, and his professional career as professor of eye, ear, and throat diseases in the Trinity Medical College and University of Toronto. At the time of the Fenian raid of 1870 he held a temporary commission as ensign in a regiment of foot, but saw no active service. He took part, however, as a regimental medical officer in the campaign of

1885 against Louis Riel and the Indian rebels of the Northwest. At that time he had organized a bearer section, and he gives a graphic and interesting account of his journey with it to the area of operations and his subsequent experience, during the fighting at Fish Creek and Batoche. A chapter is devoted to his venture in politics, when he stood three times as a Conservative candidate for a Toronto constituency and was elected a member of the Legislature on two of these occasions. The remainder of the book is taken up with the author's activities in the Canadian Militia Medical Service, the Canadian branches of the St. John Ambulance Association and British Red Cross Society, with his work as Canadian Red Cross Commissioner during the South African war, and with accounts of visits paid to England, Spain, Budapest, Japan, and Hong-Kong, and to France during the great war. Everyone will sympathize with him in the tragic family bereavements from which he suffered in 1915. There are several inaccuracies throughout the book as to names, places, and dates, some probably due to inadequate proof-reading. The Geneva Convention, for example, is dated 1865, and the International Conference of Red Cross Societies is said to have been held in London in 1912; in that year it was held in Washington. It is also disconcerting to find a medical writer to-day referring to anti-enteric vaccine as a serum, to a bottled aerated water as containing a considerable percentage of radium emanation, and to the eating of raw fish as a cause of beri-beri. But, notwithstanding these defects, the autobiography will be appreciated on account of the picture it presents of the author's patriotism, loyalty, and faith in the British Empire.

#### NOTES ON BOOKS.

THE new number of *Brain* (vol. XLIV, Part 4) contains an article by Dr. E. D. ADRIAN, F.R.S., of Cambridge, on inhibition, a clinical and pathological study by Dr. James Collier and Dr. J. G. Greenfield of London on the encephalitis periaxialis of Schilder, and another article on encephalitis periaxialis diffusa by Professor Bonman of Amsterdam. The issue also contains notices of recent publications and an index to the volume. The periodical is published in London by Macmillan and Co., and in New York by the Macmillan Company. The yearly subscription in this country is 24s., to be sent to Messrs. Macmillan, St. Martin's Street, London, W.C.2.

Dr. ARTHUR SHEARD'S little book on *Pernicious Anaemia and Aplastic Anaemia*<sup>2</sup> is a thesis submitted by him to the University of Leeds in December, 1923, for which he was awarded the degree of M.D. with distinction. It is a review of fifteen cases of pernicious anaemia which were carefully studied, together with a case of haemolytic jaundice simulating pernicious anaemia in certain respects, and one of aplastic anaemia. Of these patients four died in the Leeds General Infirmary and post-mortem examinations were made. The remainder were kept under observation as long as possible and after discharge from hospital often visited in their homes. The study of this relatively small number of cases has been supplemented by a review of all the cases of pernicious anaemia admitted to the Leeds General Infirmary during the past ten years, particular attention being paid to age and sex incidence, family history, and occupation. The book is divided into two sections, the first of which deals with pernicious anaemia and the second with aplastic anaemia. It is a careful piece of work, and, though it has not opened up any new outlook on the pathology or treatment of these puzzling diseases, the detailed information it contains will be of interest to all who are making a special study of blood diseases.

The 1925 edition of *The South American Handbook*<sup>3</sup> contains a considerable amount of information about the countries and resorts of Latin America, including South and Central America, Mexico, and Cuba. Local descriptions of the districts and towns are combined with the details of railway routes and a guide to hotels. Besides being of service to travellers, the book should be of use to investors and others interested in South America.

<sup>1</sup> *Looking Backward*. By George Sterling Ryerson, M.D., C.M., F.R.C.P. and S. Edin., F.A.C.S., F.S.A. (London), Major-General, R.M.O. Canadian Army Medical Service. Toronto: The Ryerson Press. 1924. (Extra post 8vo., pp. 261; 11 plates. 2.50 dollars.)

<sup>2</sup> *A Contribution to the Study of Pernicious Anaemia and Aplastic Anaemia*. By Arthur Sheard, M.D. Bristol: J. Wright and Sons, Ltd.: London: Simpkin, Marshall, Hamilton, Kent, and Co., Ltd. 1924. (Roy. 8vo., pp. vii + 94; 2 plates. 7s. net.)

<sup>3</sup> *The South American Handbook*. 1925. London: South American Publications, Ltd. 1925. (4½ x 7½, pp. lxvii + 628. 7s. 6d. net.)

## Nova et Vetera.

### ALIBERT.

ALIBERT is generally esteemed to be the founder of the French school of dermatology which has had so great an influence on the study of that department of medicine. It was under him that the ancient Hôpital St. Louis became essentially a hospital for diseases of the skin, and from his studies and teaching there sprang the long line of French clinicians and teachers who have always been foremost in every progressive movement associated with their specialty. It is hardly too much to say that the Hôpital St. Louis is the Mecca of the dermatological world; and physicians who make cutaneous diseases their peculiar study scarcely regard their education complete without a pilgrimage thither. It is therefore quite appropriate that Dr. Brodier, who is the curator of the hospital museum and no doubt enjoys special facilities for the purpose, should devote some of his energies to writing the biography of the first master.<sup>1</sup>

Jean Louis Marc Alibert was born on May 2nd, 1768, at Villefranche-de-Rouergue, where his parents occupied a position of some importance. He was originally intended for the Church, and served his novitiate in an order, the Pères de la Doctrine Chrétienne, who conducted an important school in his native town. In 1793, however, owing to the revolution, the fathers suffered dispersal and Alibert proceeded to Paris, where, after certain vicissitudes, he took up the study of medicine, and was received M.D. at the end of 1799. It may be confessed that his subsequent career shows little or no trace of early clerical training.

Alibert's life work began when he was appointed to the St. Louis Hospital in 1802. He found on his arrival at that institution an extraordinary collection of patients suffering from every kind of disease—a collection which only boasted a single feature in common, the fact that they were considered unsuitable for the wards of the Hôtel-Dieu, the institution from which they had been passed on. A very considerable number of these patients were the subjects of some cutaneous malady, and no doubt it was this circumstance which directed the young physician's attention to the study of diseases of the skin. With the wealth of material at his disposal it is not surprising that he was the first to describe several of the more striking forms of cutaneous disease—for example, mycosis fungoides and scarlatiniform erythema. He invented an almost entirely new nomenclature for dermatology, most of which has been quite forgotten, but the terms syphilide, dermatosis, keloid, dermatolysis, which are still in common use, owe their genesis to his ingenuity. Alibert was at his best in his clinical demonstrations, which he conducted, whenever weather permitted, in the open air under a tree, which is

still exhibited with pride to visitors to the hospital. The professor stood on a low platform, while close to it were seated the patients decorated with labels bearing the name of their complaints, which he proposed to illustrate. The pupils occupied benches around.

Alibert was by no means a dry-as-dust lecturer; he illustrated his discourse with quotation, epigram, and metaphor and his classes attracted men from every part of France and from every country in Europe. Such was his reputation as an orator that he was in great demand to pronounce those funeral orations which are one of the forms of tribulation that the French are in the habit of paying to the memory of departed merit. That which he gave on Spallanzani, writes Dr. Brodier, placed him in the front rank of contemporary orators.

In those days the first impression produced on any thinking physician confronted with a mass of patients, all the subjects of cutaneous affections, must have been one of intense bewilderment at the chaotic state of affairs before him. He had no guide to the relationships of the various eruptions presented to his gaze, and his confusion was necessarily heightened by the notorious multifariousness of many dermatoses. In these circumstances the most pressing desire of dermatologists was for some sort of classification whereby this amorphous mob of pathological conditions could be reduced to order. Alibert felt this need to the full, and, influenced by the success which had attended quite recently the classification of the animal and vegetable kingdoms into orders, genera, and species, attempted to do the same for diseases of the skin. He produced an elaborate classification on botanical lines which he depicted graphically in the form of a tree, "*l'arbre des dermatoses*." This was famous in its day, but it was soon found that the divisions to which he assigned various skin conditions were unnatural and unsatisfactory, and it was not long before the scheme was abandoned for the less ambitious but more rational classification of Willan, based on the primary lesions of the

diseases investigated. Indeed, Biett, Alibert's most famous, and long his favourite, pupil, was the chief agent in introducing Willan's work into France, and his advocacy of the British school caused a serious estrangement between them.

Alibert was a prolific writer, not only on dermatology, but also on therapeutics and general literary subjects; his most important work was the *Monographie des Dermatoses*, which was lavishly illustrated by the best artists he could find. It was the first illustrated book on diseases of the skin to be published in France.

Alibert continued to live in Paris till his death. He had many friends in the literary as well as the scientific world, and was very hospitable. He died on November 4th, 1837, and his funeral oration was pronounced by Cruveilhier.

The picture Dr. Brodier has drawn of Alibert as a man and a clinician in the eight chapters of his book is that of a generous, warm-hearted, eloquent son of France, a keen physician, proud of his profession, in which he takes high, if not the highest, rank, as the founder of the French school of dermatology.



ALIBERT.

(From the collection of the Royal College of Physicians of London.)

<sup>1</sup> J.-L. Alibert, *Médecin de l'Hôpital Saint-Louis (1768-1837)*. By L. Brodier. Paris: A. Maloine et Fils. (Roy. 8vo, pp. 399; illustrated. Fr. 40.)



# British Medical Journal.

SATURDAY, FEBRUARY 21st, 1925.

## ACUTE FOOD POISONING.

BACTERIAL food poisoning in this country is almost invariably due to infection of food with bacteria of the salmonella group, such as set up acute gastro-intestinal irritation revealed by vomiting and severe diarrhoea. The more serious form of food poisoning, botulism, is of an altogether different character and is fortunately extremely rare in these islands. The group of microbes now spoken of as the salmonellas may be more familiar to some readers by another name, such as the Gaertner group or the paratyphoid-enteritidis bacteria. The name "Gaertner group" was satisfactory whilst we thought that the *Bacillus enteritidis* of Gaertner was the commonest or most important member of the family; but when later it became apparent that this title was inadequate and misleading the food poisoning bacteria were more frequently referred to as the paratyphoid-enteritidis group—a cumbersome denomination from which we have been delivered by a further advance of knowledge which separated the paratyphoid bacteria proper from the common agents of food poisoning. The hitherto less popular name "salmonella" has been kept alive by some bacteriologists from the beginning, and now seems the most suitable appellation, in spite of the fact that it may erroneously suggest some connexion with salmon, and so give the impression that this fish is particularly associated with food poisoning. The name salmonella has fewer drawbacks than any, and possesses historical justification, being the first name these microbes received. It was, we believe, originally proposed by Lignières, after Dr. Salmon, who isolated the bacillus of hog cholera.

The salmonella bacteria have always been a troublesome genus to the bacteriologist. Alike in morphology, and almost alike by common culture tests, the members of this group can only be distinguished from each other by agglutination reactions. Serological tests easily separate Gaertner's bacillus from the paratyphoid group, but great skill and patience are needed to distinguish the individual paratyphoid bacilli A, B, and C from *B. aertrycke* and *B. suiptifer*. The ultimate court of appeal, the agglutination absorption test, has discriminated a steadily increasing number of new types of paratyphoid bacilli, given different names by different workers, thereby adding to the confusion.

We welcome the Medical Research Council Special Report No. 91, entitled "An Investigation of the Salmonella Group, with Special Reference to Food Poisoning," chiefly because it contains important information about the distribution of the food poisoning bacteria and the way in which they act, but we are glad also that it gives an authoritative lead in terminology. This is found in the first part, which records the serological studies Mr. Bruce White has carried out on the classification and behaviour of bacilli of the salmonella group. We do not propose to enter into the details of these experiments, though they are of much technical interest, but observe in passing that Mr. White's conclusions support Dr. Schütze's classification, even if they call for some eliminations and

the addition of at least one new type. He distinguishes *B. enteritidis*, *B. paratyphosus* A, *B. paratyphosus* B, *B. aertrycke* (four types), *B. suiptifer* (including *B. paratyphosus* C and the hog cholera type), and *B. abortus equi*.

In the second part of the report Dr. Savage and Mr. White arrive at some very important conclusions about the distribution and disease-producing powers of the different members of the salmonella genus. *B. aertrycke* is the commonest agent of food poisoning in man; it causes enteritis in mice, guinea-pigs, rats, birds, and calves. The paratyphoid B bacillus does not cause food poisoning; it possesses no irritating toxin; though responsible for paratyphoid fever in man, animals are not susceptible to this infection. Gaertner's bacillus causes food poisoning in man and illness in animals, notably cows and rats. *B. suiptifer* has a low virulence for man, and can cause food poisoning only in exceptional circumstances; occasionally it is a primary cause of disease in pigs, but usually only a secondary invader of pigs suffering from hog cholera. These views contradict many oft-repeated statements about the paratyphoid B bacillus and the suiptifer bacillus, but they bring a welcome order into this ill assorted group. The scheme which the Ministry of Health promoted early in 1921 for the investigation of outbreaks of food poisoning has given Dr. Savage unique opportunities for the study of the salmonella bacteria, but we need not accept his views out of deference to his experience alone; for in the third section of the report we come across some experiments which will be impressive to the unconvinced.

Outbreaks of acute gastro-enteritis due to canned foods are usually characterized by rapid onset and rapid recovery; no pathogenic bacteria can be isolated from the sufferers or from the food, and the blood serum does not as a rule show agglutinins for the salmonella bacteria. Feeding experiments by giving the peccant food to animals yield negative results, but by inoculating animals with the food it is sometimes possible to work up low titre antiserum for salmonella bacilli. The essential feature, therefore, appears to be the existence of a toxic substance having a local irritant action, and to investigate this Dr. Savage and Mr. White adopted the plan of feeding young rabbits with large doses of salmonella bacilli and killing them after six to eight hours, to observe the appearance of the stomach and intestine. In this short interval no symptoms appeared: there was no diarrhoea and no vomiting. When *B. aertrycke* or Gaertner's bacillus was given by the mouth to animals, using either living germs, or cultures killed at 60° C., or cultures boiled for ten to thirty minutes, a well marked irritant action on the stomach and duodenum was noticed; in some cases the stomach was violently inflamed, much swollen, and showed many petechial haemorrhages. Dr. Savage and Mr. White obtained a strong impression, which, however, could not be definitely confirmed, that the heating of suspensions of the aertrycke bacillus and Gaertner's bacillus tended to accelerate the irritant action on the alimentary tract. No such irritant action was noticed after feeding animals with cultures of the paratyphoid B bacillus.

Both Mr. White and Dr. Savage thought to confirm these results by experiments on themselves. Mr. Bruce White observed sensations of tingling and a rash with injection of hair follicles when cotton-wool pads soaked in emulsions of aertrycke bacillus were strapped on his arm, but no definite reaction with the paratyphoid B bacillus. Dr. Savage consumed an emulsion of an agar slope of the paratyphoid B bacillus

heated at 66° C. for thirty minutes, and another heated at 100° C. for twenty minutes, and noticed no irritant action on the alimentary tract. From these experiments they conclude that heat-killed salmonella bacteria, particularly those responsible for food poisoning, exert a marked irritant effect on the intestines; this irritant action is slight or absent with paratyphoid bacilli B and C. The irritant action is local and independent of the immunity of the animal to invasion by the living microbes.

These and other experiments recorded in this report must lead to a revision of views about some of the food-poisoning bacteria. It seems that the paratyphoid B bacillus ought not to be included in this group. Under natural conditions it only attacks man and causes paratyphoid fever only. It differs from the true food-poisoning bacteria in not possessing the same irritant effect on the bowel, and in the fact that it readily penetrates the intestinal barrier and can be found in the blood. The longer incubation period and gradual onset of paratyphoid fever afford clinical evidence against local irritant action. Outbreaks of food poisoning alleged to be due to paratyphoid B were in reality caused by some other microbe. *B. aertrycke* and Gaertner's bacillus have a wide range of natural hosts, including man, mice, rats, and most domestic animals. They differ from the paratyphoid B bacillus in possessing marked irritant action on the bowel and in not invading the tissues of the body in man, though they are markedly invasive for other animals; the low agglutination titre of the blood of patients suffering from infections caused by *B. aertrycke* and Gaertner's bacillus is explained by the lack of general invasion. The toxin which these bacteria form when living in food is not destroyed by boiling. For *B. suipestifer* the pig is the natural host, and it still remains to be decided whether it and the paratyphoid C bacillus are separate organisms. Probably the suipestifer bacillus is frequently ingested by man, but only one outbreak of food poisoning in England has been definitely traced to it; in this outbreak, investigated by Dr. Savage, cheese was the offending article.

To sum up, probably three-quarters of the outbreaks of food poisoning in England are due to the aertrycke bacillus, and the low death rate (about 1 per cent.) may be explained by the low invasive power of this bacillus. Next in importance is Gaertner's bacillus, which causes a more serious infection as a rule. Other salmonella bacteria play a very small part, if any, in acute food poisoning.

### CHEST SURGERY.

Chest surgery seems to be only just in the making. Although MacEwen was the first surgeon to demonstrate that thoracotomy could be safely performed without special pressure chambers, British surgeons did not follow his lead, and British surgery has, on the whole, left the thorax somewhat neglected. Perhaps one reason for this is that in chest surgery there must be close co-operation between physician and surgeon, so that diagnosis and operative technique may advance together. It is the same in brain surgery: the physician must diagnose and localize correctly; but he must do more, he must inform himself of every advance the surgeon makes, so that they may together judge of further possibilities. Even though the surgeon be a most skilled diagnostician, cases requiring intrathoracic surgery will not come to him until they have passed through the hands of the general practitioner (and perhaps the consulting phy-

sician too). Most of the present generation of practitioners can recall the time when cases of appendicitis did not find their way as a matter of course to the surgeon. There is to-day no great eagerness to seek a surgical opinion on purely thoracic cases; yet without this there can be no advance.

Professor G. E. Gask's address to the Southampton Division of the British Medical Association on the possibilities of exploratory thoracotomy, with which this issue opens, comes as a timely reminder that, in the words of Pierre Duval, "surgery of the lung takes its place amongst the recognized procedures of general surgery."<sup>1</sup> Professor Gask refers briefly to the evolution of thoracic surgery during the war—an evolution to which he himself was no small contributor, with the assistance of his physician colleague Dr. K. D. Wilkinson. At first the honours lay with the French surgeons, notably Duval, but at the end of the war the surgeons of the British army were no less bold and no less successful. The great progress made during the war in the surgery of gunshot wounds of the chest, and the advantages derived from collaboration between surgeon and physician, were clearly indicated in the paper by Mr. A. L. Lockwood and Professor J. A. Nixon which appeared in the BRITISH MEDICAL JOURNAL early in 1918.<sup>2</sup>

The problem Professor Gask sets out to consider is the extent to which the lessons of war surgery may be applied to intrathoracic surgery in civilian practice. Everyone knows now that a wide opening of the thorax is not followed by complete and dangerous collapse of the lung. After thoracotomy the chest can be closed completely and the wound will heal by first intention. These two facts alone constitute landmarks of supreme importance. Professor Gask advocates that, in cases where there is evidence of pus within the chest which cannot be localized by ordinary clinical methods of examination, a deliberate exploratory thoracotomy is as sound a surgical procedure as exploratory laparotomy in like circumstances. It seems clear that this must become the rule in the very near future. Tumours of the chest offer another field for operative surgery, even though, as Professor Gask says, they are more often than not malignant. It must be remembered, however, that the possibility of malignancy does not prevent exploratory laparotomies, and removal in such cases is sometimes successful even when the growth is malignant.

Of pulmonary tuberculosis and bronchiectasis Professor Gask speaks with more hesitation, and he gives the impression that he is almost content to rest satisfied with the old and well tried method of incision and drainage for empyema. But the failures that occasionally follow this method of treating empyema are too many and too distressing for us not to hope for something better. It is a method that seems to take too little into account the ultimate restoration of function in the affected lung. At present we appear to be satisfied with mere saving of life, and to be almost unconcerned about the patient's subsequent health. The chronic discharging sinus following empyema is a reproach to modern surgery, and Estlander's operation is nothing else than the setting of the seal on hopeless failure.

The medical profession is sometimes slow to realize that new methods of treatment have passed beyond the experimental stage and are well established as safe and sane procedures. Chest surgery is now in that position.

<sup>1</sup> Duval: *War Wounds of the Lung* (J. Wright and Sons, 1918), Author's preface.

<sup>2</sup> Lockwood and Nixon: *War Surgery of the Chest*. BRITISH MEDICAL JOURNAL, January 26th, 1918, p. 105; February 2nd, 1918, p. 145.

## A MEMORIAL TO SIR JAMES MACKENZIE.

THE Institute for Clinical Research at St. Andrews was established by Sir James Mackenzie five years ago, and readers are aware, through the series of papers communicated by him to this JOURNAL, of the great amount of work of fundamental clinical importance already accomplished there. Through Mackenzie's own efforts and his extraordinary generosity in providing money, the building, together with well equipped chemical and bacteriological laboratories, is the property of the council, and he himself and his personal friends, assisted by grants from the Carnegie Trustees and the Medical Research Council, have met current expenses. It was his ardent hope that the work he began there would be permanent, and no effort is being spared by the council and staff of the institute to give effect to the aims he had in view. An appeal is now being made for contributions to meet the cost of maintenance. It is true to say that of all he accomplished nothing lay nearer his heart than the welfare of this institute, and there could be no more fitting tribute to his life and work than the placing of the institute on a sound financial basis. It has been ascertained that a sum of about £60,000 will be required to produce the minimum income necessary for the scheme, and of this amount £7,000 has already been collected. In future the institute will be known as "The James Mackenzie Institute for Clinical Research, St. Andrews." Donations towards securing its establishment as a permanent memorial to its distinguished founder will be gratefully received and acknowledged by the Honorary Treasurer of the Institute, Commercial Bank, St. Andrews.

## PRESERVATIVES IN FOOD.

DRAFT regulations have been prepared by the Ministry of Health and the Scottish Board of Health to give effect to the principal recommendations of the recent Departmental Committee on the use of preservatives and colouring matter in food. The regulations propose to prohibit the use of preservatives in food with the exception of sulphur dioxide and benzoic acid. The use of a specified proportion of sulphur dioxide would be permitted in sausages, jam, fruit and fruit pulp, dried fruit, beer and cider, alcoholic wines, non-alcoholic wines and cordials, fruit juices sweetened and unsweetened; the use of benzoic acid would be permitted in coffee extract, non-alcoholic wines and cordials, fruit juices sweetened or unsweetened, sweetened mineral waters, and brewed ginger beer. No article of food, however, would be allowed to contain both sulphur dioxide and benzoic acid. The regulations would prohibit the use in food of certain metallic colouring matters, one vegetable colouring matter, and some coal-tar colours. Where sausages, jam, and coffee extract contain preservative the fact is to be stated on a label, and labelling would also be required in the case of articles sold as preservatives of food. The regulations would apply to imported articles as well as to articles produced in this country, but not to articles intended for export or re-export. Copies of the regulations can be obtained from H.M. Stationery Office, Adastral House, Kingsway, London, W.C.2, or 120, George Street, Edinburgh.

## CONGRESS ON SEASIDE TREATMENT OF RICKETS.

THALASSOTHERAPY is defined as embracing all methods of treatment in which sea air, sea water, and seaside sunshine take a share; the French Association of Thalassotherapy, founded thirty years ago by Professor Vernheil of Paris, has, by a natural process of development, added heliotherapy in general, and this, if widely interpreted, might take the association sometimes to the mountains. Sea air might also be held to include sea voyages, and, as our French correspondent told us last week, the profession in

France is beginning to experiment. This, however, only by the way, since for this spring an International Congress of Thalassotherapy is to be held at Arcachon. The long coastline of France is dotted with seaside places from the Belgian frontier to Hendaye, almost within earshot of Fontarabian echoes. It can boast also many places on its Mediterranean seaboard where sun, if not fresh sea air, can often be enjoyed even in winter. Arcachon is a sandy place backed by far-stretching pinewoods on a land-locked inlet of the Bay of Biscay, and ought to be very agreeable at the end of April, when the congress is to assemble for the discussion of the seaside treatment of rickets. The subject will be introduced by representatives of Great Britain (Dr. Leonard Hill and Dr. Webster), France (Dr. Armand Delille), Italy, Belgium, and other countries. A speaker may use his mother tongue, and papers on subjects other than rickets may be contributed, but the committee does not undertake to publish them save in abstract. The congress proper lasts three days (April 27th to 29th), and on May Day the members are to start on a motor trip to Biarritz, about one hundred miles away, and then to St. Jean de Luz and Hendaye, where the French Antituberculosis Society, whose headquarters are in Paris, has one of its sanatoriums for children. The third article of the regulations is that "these congresses are essentially scientific," but it will have been gathered that the committee in Paris knows how to mingle pleasure with business. It has taken steps also, with the co-operation of the hotel keepers and motor proprietors, to protect the pockets of those attending, and the Southern Railway Company will issue first-class tickets to Arcachon and back for £10 2s. 3d. (second class, £7 3s.). At a meeting held at Sir StClair Thomson's house last week a British Committee was formed with him as president and Dr. Campbell McClure (65, Wimpole Street, W.1) as honorary secretary, but subscriptions should be sent to the treasurer, Dr. Robert Pierret (7 bis, rue Raynouard, Paris 16). The president of the congress is Dr. Gilbert, professor of clinical medicine in Paris.

## THE FIRST BOOK IN ENGLISH ON DENTISTRY.

IN 1686 Charles Allen, about whom the *Dictionary of National Biography* is silent, brought out in Dublin a book of fifty-eight pages, *The Operator for the Teeth, showing how to Preserve the Teeth and Gums from all Accidents as also the Description and Use of the Polican*; the only known copy is in the library of Trinity College, Dublin. In the following year, 1687, there appeared a second edition or reprint with an altered title, *Curious Observations in that difficult part of Chirurgery relating to the Teeth, shewing How to Preserve the Teeth and Gums from all Accidents they are subject to*; seven copies are known to be extant, and from that in the British Museum (782, 1.5 (1)) a reprint has been made. Allen considered that he was the first to write on the subject, and Miss Lilian Lindsay, who contributes an introduction, remarks that Berdmore, nearly a century later, made a similar statement, and that the value of Allen's book is not so much its priority or its contents as that it is one of the rare examples of Dublin printing in the seventeenth century—probably one of the most disastrous that even distressed Ireland has ever experienced—when the hearts of writers and printers alike failed them for fear to publish. The surviving part of his teaching is the importance to be attached to the care of the teeth in early life, which is "conducive to the preservation of life and health of children . . . and to the preventing of all those infirmities wherewith they are afflicted." It is dedicated "To the most Honourable and Truly Learned The Physitians, Chirurgeins, and Apothecaries of the City

*Curious Observations on the Teeth.* By Charles Allen. The first known book on dentistry in the English language, 1687. With a short introduction by L. Lindsay. Dental reprints No. 1. London: John Bale, Sons, and Danielsson, Ltd. 1924. (Fcap. 8vo, pp. viii + 25; 1 plate. 5s. net.)

of Dublin," and on the next page, under the original title "The Operator for the Teeth," has a poem beginning with the laudable and disarming sentiment, "Knowing that it is the duty of every man, and especially of such as live under a Civil Government, (where the general Interest always includes the particular) to contribute as much as he can (in his own station) to the publick Good." The work contains seven sections, dealing with: the Nature of the teeth; the alterations of the teeth, with their remedies; the corruption of the teeth, with their remedies, whereto is annexed the description and use of the polican; the restoration of the teeth; the tooth-ake, looseness of the teeth, and decay of the gums, with their remedies; children's teeth; and the "acceleration of the teeth," which gives instructions how to hasten the growth of children's second teeth and also "those in men that are called the teeth of wisdom."

#### GUY'S HOSPITAL BICENTENARY.

A SPECIAL number of the *Guy's Hospital Gazette* has been published to commemorate the bicentenary of the hospital and the centenary of the medical school. Sir William Hale-White, consulting physician to the hospital, contributes a most valuable history of the institution, which is illustrated by interesting prints of the building at different periods. Mr. H. L. Eason, medical superintendent and ophthalmic surgeon to the hospital, supplies details of its present size, constitution, and general activities, and so affords a basis of comparison with the position in 1725. A history of the medical school is contributed by the dean, Professor T. B. Johnston; and the story of dental surgery at Guy's is related by Mr. F. J. Pearce, who points out that though the dental school was only inaugurated in 1889, yet the first dental surgeon, Joseph Fox, was appointed in 1799, and the hospital was probably the first to institute courses of lectures on dental surgery. The history of the *Guy's Hospital Gazette* is sketched by the editor, Mr. L. G. Housden, who describes its progress since a second-year student, T. Cattell-Jones, brought out the first number on October 1st, 1872. Miss F. A. Sheldon, who was lady superintendent of Guy's Hospital Trained Nurses' Institution from 1913 to 1922, writes an interesting account of nurses and the development of nursing at Guy's Hospital during the last two hundred years. Many quaint details, and some even quainter photographs, of the nurses of early times are furnished. Miss Sheldon contributes also a short account of the Guy's Hospital Trained Nurses' Institution, maternity charity, and midwifery training schools. The various students' clubs (in particular the Rugby Football Club) are dealt with, and the volume also includes a description of Guy's Hospital Ladies' Association by Mrs. Lauriston Shaw. The very high standard of the printed matter and the illustrations in this bicentenary number will undoubtedly secure for it the popularity it deserves, especially as the price is only 2s. 6d. a copy. It may be obtained from the *Gazette* Office, Guy's Hospital, S.E.1.

#### CENTRAL AMERICAN DISEASES.

DR. ALDO CASTELLANI visited Central America in the course of last year, and has now published in the *Journal of Tropical Medicine and Hygiene* for January 1st an account of some observations of diseases of Central America. He describes at length the pathology of "Guatemala nodules," a form of filariasis occurring on the Pacific slopes of that country. He is inclined to believe that further investigation will show that this condition is also present in other Central American countries. He takes the view that it is not identical with African volvulus, though very similar to it. Two types of Central American myiasis are distin-

guished according to whether the fly larva is the true cause of the condition or only a secondary invader. A short account is given of rhino-scleroma, a disease generally associated with Eastern Europe, particularly Austria, Poland, and Russia. It is extremely rare in the tropics, with the exception of Guatemala, where Dr. Castellani saw six cases, in three of which ulcerative processes were present, though apparently secondary. With reference to alastrim, in Jamaica, he takes the view that this disease and small-pox are due to two slightly different viruses. Although the two eruptions can hardly be distinguished, yet the general condition of the patient in alastrim is remarkably good, and secondary fever is generally absent. Furthermore, the scarring and pitting in convalescents from alastrim was much less marked than in the case of small-pox.

#### INFLUENZA.

LAST week the number of deaths from influenza in the great towns of England and Wales again increased, from 202 to 291, a considerably greater increase than in the previous week, when only 7 more deaths were recorded than in the week before. The chief reason is that London and the South are now involved; the deaths in London increased from 48 to 76. Two cities other than London—Manchester (23), Leeds (12)—recorded more than 10 deaths; Rochdale and Norwich had 9 each, Bolton and Salford 8 each. The indications are that the deaths will continue to increase in numbers for some weeks more, but there is still no suggestion that the scale of the mortality will be greater than, or even as great as, that of 1923-24. The country has heard with great regret that the King is one of the latest victims of the epidemic, and that his attack is complicated by bronchitis. Fortunately it does not seem to be of great severity, and as it has been taken in good time there is every reason to expect that His Majesty will quickly be restored to health.

#### "THE CRIPPLES' JOURNAL."

WE have received the third quarterly issue of the *Cripples' Journal*. It is published by the Shropshire Orthopaedic Hospital at Oswestry, and aims at making known and helping to relieve the surgical needs of all the crippled persons in this country. Indeed, it may in some sort be considered as the organ of the Central Committee for the Cure and Care of Cripples. At the same time it provides its non-medical readers with a good deal of information on orthopaedic matters. This number contains some valuable contributions. Professor Patrik Haglund of Stockholm gives an account of the care of cripples in Sweden, and describes the three recognized State-aided institutions at Stockholm, Gothenburg, and Helsingborg, and of the measures taken for training the patients in handicrafts and trades. A scheme for the extension of Government aid, formulated by a Royal Commission over which Professor Haglund presided, is at present under consideration. There is a report by the Rev. Ratcliffe Barnett and Mr. W. A. Cochrane of Edinburgh Royal Infirmary on "The cripple [why not crippled?] child in Scotland: what is and what might be." Mr. Cochrane freely confesses that it was only during his service in the orthopaedic department of a large hospital in war time that he "learned the first meaning of the word orthopaedic." If this was the case with a surgeon of Mr. Cochrane's standing it is not wonderful that the profession in general and the lay public should for so long have remained unaware of their ignorance. It is to be hoped that Mr. Cochrane is not alone in receiving enlightenment, and that the lessons of 1914-18 will not be forgotten. The case of Northern Ireland is well stated by Mr. Archibald Irwin of Belfast. Mr. Roeyn Jones begins a scholarly and comprehensive

historical review of orthopædic surgery from the time of Hippocrates. Dr. Maurice Nicoll writes on "Psychological reaction to deformity." Our own observations do not enable us to corroborate Dr. Nicoll's view of the seriousness and frequency of the feeling of inferiority in cripples. In very many cases the physical disability seems to be compensated to some extent by the gift of an unusual amount of high courage and even self-esteem. The other articles in this number are well worthy of the standard set up by its foregoers.

#### IDENTIFICATION OF CANCEROUS TUMOURS.

THE Association Française pour l'Étude du Cancer has undertaken to issue a series of plates to serve as standards for the classification of cancerous growths, and has appointed an influential committee to carry out this somewhat difficult task. The plates will be gathered into an atlas, which, when complete, will constitute an illustrated catalogue of the diverse species and varieties of cancer of every organ of the body, and thus serve as a work of reference on occasions when the nomenclature of tumours is a source of ambiguity, as is not infrequently the case. The nomenclature of tumours is not fixed; different terms are employed to denote the same tumour, and at times the same term is used for different tumours, so that in reading works that are not provided with good illustrations it is not always easy to recognize exactly what growth is under discussion. A more serious disadvantage of a defective nomenclature results from the circumstance that there exists a relation between the morphology of a tumour and its evolution—that is, its tendency to local extension, to generalization, and to glandular invasion. Statistics bearing on these matters have often proved false through failure to discriminate clearly between the varieties of growth to which an organ is subject. The aim of the association, however, is not to impose a new nomenclature, for, however sound the principles of classification adopted might be, the tendency to adhere to accustomed terms would stand in the way of its general acceptance. The difficulty involved in the use of names can be avoided by substituting for them figures of the growths themselves, thus making use of a language at once objective and universal, since it is independent of verbal symbols. The plates will be exact reproductions of the preparations, chosen from a great number of specimens as being representative of the conditions illustrated. It will suffice, it is hoped, in the future, whatever name may be given to a tumour, to indicate the plate of the atlas to which it corresponds, and all ambiguity as to the particular type of growth referred to will be avoided. The atlas is being issued in parts, and the fasciculus before us, which is edited by Bazy and Peyron, contains five plates comprising fifteen figures, illustrating carcinoma and chorion-epithelioma of the Fallopian tube, and chordoma. There can be little doubt that the diagnosis of sections of these tumours could be made by referring to the plates by way of comparison, even by those who could not claim to have expert knowledge of the subject. The aim of the French association may be said to have been fulfilled in these instances, and, provided that a similar standard is maintained throughout, the completed work will be of great value. It is no exaggeration to say that the figures are artistic productions. It too often happens that coloured plates, while giving a perfectly accurate representation of a microscopic section, fail to reproduce the elements of beauty that are always present to the eye of the artist, and upon which a real likeness greatly depends. On the other hand, if the artist, however skilful, is not also a pathologist, it is an almost universal experience that what may

be called the pathological likeness fails to satisfy. Neither of these defects is observable in these plates, a result which is due, not only to the technical excellence of the reproduction, but also to the fact that the pathologists are their own artists, and have had at heart both artistic effect and scientific accuracy. As a consequence of this combination of qualities the figures produce an impression almost identical with that of an actual section, as is well seen in Bazy's figure of chorion-epithelioma. Accompanying the plates is a general histological description of the tumours and of their tendency to extension and generalization. With regard to the execution of the work, it has been arranged that each of the twenty-seven members of the committee shall undertake the illustration of one organ or tissue, while collaborating in all parts of the work for the provision of the best possible preparations and deciding upon the most representative sections.

#### LEMON JUICE AND LIME JUICE.

It will, we believe, be a surprise to many to learn that an antiscorbutic no longer forms part of the regular dietary of the Royal Navy. Probably in these days of short voyages, when a vessel is seldom more than a few weeks away from a port, this does not greatly matter; but it is rather disconcerting to know that the Admiralty relied for many years on the antiscorbutic properties of lime juice. They are very low, and the Nares polar expedition in 1875 suffered severely in consequence. What then happened was almost of the nature of a scientific experiment, for, as Sir Percy Bassett-Smith reminds us in his letter published this week (p. 385), one of the ships was supplied with lemon juice and had very few cases of scurvy. During the war the clinical evidence that lime juice is inferior to lemon juice as a preventive of scurvy was conclusive, and it was confirmed by experiments at the Lister Institute and at the Royal Naval Hospital, Greenwich. Sir Percy Bassett-Smith then succeeded in devising an evaporated lemon juice which could be made up into tablets each containing the equivalent of half a lemon, and kept well. When and why lemon juice, recommended by Lind in the middle of the eighteenth century, and forced upon the Admiralty by Blane at its end, was abandoned for lime juice nobody seems to know; but in spite of all that was learnt before and during the war the Admiralty continues to issue lime juice and not lemon juice, although it now admits that lime juice is not an antiscorbutic, and issues it merely as a temperance beverage which many people find palatable. So long as the Admiralty remembers that it is not an antiscorbutic this, as has been said, probably matters very little nowadays, except in special circumstances. Such circumstances are sometimes afforded by vessels stationed in the Persian Gulf, and certainly might easily arise in any expedition to the Arctic or Antarctic. The memory of the Admiralty is said to be long; we hope it will prove to be so in this instance.

#### "PHYSIOLOGICAL ABSTRACTS."

*Physiological Abstracts* is the title of a journal published monthly by the Physiological Society of Great Britain and Ireland in order to present promptly and in a concise form abstracts of papers published throughout the world in journals of physiology and the allied sciences. Some idea of the huge extent of physiological literature at the present day may be gathered from the statement that abstracts are taken from about 250 journals, and that the total number of abstracts in the yearly volume is about 5,000. The work is done by fifty abstractors, each an authority on the particular kind of original work dealt with. The abstracts are grouped into twenty-three sections, so that a note on an original paper on any subject can be readily found. Each number has an author index, and a complete author

<sup>1</sup> *Atlas du Cancer*. Par L. Bazy et A. Peyron. Deuxième Fascicule (Juin, 1923). Paris: F. Alcan. 1923. (9½ x 12½, not numbered; 5 plates. Fr. 25.)



and subject index is published in the March number in each year. Volume X begins with the issue of next April. The price of a single number is 5s.; the annual subscription is 42s., payable to Messrs. H. K. Lewis and Co., 23, Gower Place, London, W.C.1, or payment may be made through any bookseller. Back numbers can in most cases be supplied, but an extra charge is made for some the stock of which is nearly exhausted. The value of the publication in enabling workers in biological and medical sciences to keep abreast of contemporary research is great, and is, we believe, fully appreciated by them. The periodical is included among those filed in the Library of the British Medical Association.

#### LECTURES AT THE ROYAL COLLEGE OF PHYSICIANS OF LONDON.

THE courses of spring lectures at the Royal College of Physicians of London will begin on March 5th, when Dr. Salisbury MacNalty (medical officer, Ministry of Health) will give the first of a course of three Milroy Lectures on epidemic diseases of the central nervous system. Dr. J. A. Rylo (Guy's Hospital) will deliver the first of his Goulstonian Lectures, on the study of gastric function in health and disease, on March 17th. Dr. Hector Cameron (Guy's Hospital) commences his Lancelian Lectures, on some forms of vomiting in infancy, on March 26th. The Oliver-Sharpey Lectures, on the interpretation of the electromyogram, will be given by Dr. E. D. Adrian, F.R.S. (University lecturer in physiology, Cambridge), on May 5th and 7th. The first of the course of four Croonian Lectures by Dr. S. A. Kinnier Wilson will be delivered on June 9th; the subject is disorders of motility and of muscle tone, with special reference to the corpus striatum. The lectures will be given at 5 o'clock on each day. Any member of the medical profession will be admitted to any of the lectures on presentation of a visiting card.

THE Lettsomian Lecturer before the Medical Society of London this year is Sir Bernard Spilsbury, whose subject is "Wounds and other injuries in their medico-legal aspect." In the first lecture, delivered on February 16th, he discussed bruises, crushing injuries of the chest and abdomen, and wounding by firearms. The second lecture, on Wednesday, March 4th, will deal with incised wounds and punctured or stab wounds; the third, on Monday, March 16th, with fractures of the skull. The lectures will be given at 9 p.m. at the house of the society (11, Chandos Street, Cavendish Square, W.).

### Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

#### Ministry of Health.

No bills on medical subjects or on public health have come under discussion in the House of Commons as yet, and the Supplementary Estimates for the Ministry of Health were passed without any mention of the health services, a long debate being occupied solely with housing. A token vote of £10 for the Ministry of Health covered an additional grant in aid of £650,000 for medical benefit, sickness and maternity benefits, and other expenditure under the National Health Insurance Acts. The expenditure was offset by savings which included £54,000 anticipated saving on maternity and child welfare, £55,000 on the treatment of tuberculosis, and £48,000 on the treatment of venereal diseases.

Sir John Gilmour, the Secretary for Scotland, has introduced a Public Health (Scotland) Amendment Bill to authorize local authorities to make arrangements for providing medicines and treatment to persons suffering from diabetes, and for purposes connected therewith. Its purpose is to ensure the legality of the supply of insulin by public bodies.

Bills presented by private members include a Sale of Food and Drugs Act (1875) Amendment Bill, to regulate the liability of

milk producers in respect of milk adulteration, supported by a group of agricultural members. There is also a Public Health Bill, to amend the Public Health Acts, 1875 to 1907, and the Baths and Washhouses Acts, 1816 to 1823, in respect of matters for which provision is commonly made in local Acts, and for other purposes relating to the public health, presented by Mr. Womersley (U., Grimsby).

#### Medical Committee.

The Medical Committee of the House of Commons, which has been joined by Dr. Vernon Davies (U., Royston) and Mr. H. Haslam, D.Sc. (U., Newcastle), a bacteriologist, will meet on Monday to discuss the Nursing Homes (Registration) Bill which Mr. Gerald Hurst (U., Moss Side) is to introduce on the following day. The bill has been prepared by the College of Nursing. Mr. Hurst will attend the meeting to explain its proposals to the Medical Committee, and Dr. Cates, the county medical officer for Surrey, will also attend.

#### Salaries of Medical Officers of Health.

Mr. Albery (U., Gravesend), on February 12th, asked the Minister of Health whether his attention had been called to the controversy affecting the scale of payment of medical officers of health; whether he was aware that friction had already arisen with the British Medical Association on the subject; and whether he would consider, to avoid these disputes, the fixing of a scale of salaries which would be agreeable both to the local authorities and to the medical profession. Mr. Groves (Lab., Stratford) and Mr. Evan Davies (Lab., Eltham Vale) further asked the Minister to consider the calling of a conference between the representatives of local authorities, the British Medical Association, and the Ministry of Health with a view to arriving at an agreed scale of remuneration for medical officers of health. The Minister of Health replied that discussions had taken place on this subject between representatives of these interests, and certain suggestions had been made which were still under consideration. He did not think that any useful purpose would be served by calling a conference at present. Further inquiries on the same subject were put down by Major Steel (U., Ashford) and Mr. Robert Wilson (Lab., Jarrow).

**Pensions Medical Officers.**—Major Tryon said, in reply to a question, that the chief considerations in determining the continued employment of medical officers in the Ministry of Pensions were efficiency and the possession of the necessary qualifications for the duties to be performed. Subject to these conditions preference was given to a medical officer with overseas service, more especially if he had a war disability. Out of 378 whole-time medical officers of the Ministry of Pensions 263 had served overseas.

**Public Health Salaries in Scotland.**—Sir Robert Hutchison (L., Montrose) asked the Secretary for Scotland if he was aware that the grant given by the Government towards the salaries and expenses of medical officers of health and sanitary inspectors in Scotland was less than the grant given towards these officers in England; and whether he would see that Scotland got a grant equal to that given in England for this purpose. Sir John Gilmour replied that the difference between Scotland and England arose from the fact that in Scotland the statutory provisions which regulated the distribution of the sums paid into the Local Taxation Account appropriated a fixed annual sum of £15,000 in aid of the cost of medical officers and sanitary inspectors. In England a grant of 10s. per £1 was paid on approved expenditure. The Scottish scheme of distribution could only be revised by Act of Parliament.

**Tuberculosis.**—In a written answer the Minister of Health has stated that in 1921 71,702 cases of tuberculosis were notified in England and Wales, in 1922 69,259, and in 1923 79,388. The last figure included cases not officially notified. On January 1st, 1923, there were 20,629 beds in approved residential institutions and 15,563 persons received treatment from local authorities in such institutions. On January 1st, 1924, there were 21,419 beds and 16,918 persons received treatment; on January 1st, 1925, 22,088 beds and 18,158 persons. In 1923, the last year for which returns were available, the death rate from all causes per 1,000 persons was 11.582, and from all forms of tuberculosis, per 1,000 persons, 1.062.

**Polygythæmia.**—In reply to a question by Colonel Wedgwood (Lab., Newcastle-under-Lyme) about the occurrence of polygythæmia in direct connexion with workers in ammonium sulphate, the Home Secretary said that he had heard of only one case of this disease, the cause of which was obscure, and there was no information to justify its being classed as an industrial disease. He did not want to add to the number of scheduled diseases.

#### Notes in Brief.

The total estimated increase in population of England and Wales from the armistice to December, 1924, is 1,402,000.

It is not likely that special facilities will be given this session for the passage of a bill requiring manufactured food to be labelled with full details of its ingredients.

The question of introducing a scheme of compensation for the grinding trades to cover silicosis, or silica poisoning, as it is known, has been referred to the Ministry of Health for consideration as compensation for silicosis. No further action is expected.

The Government is not prepared to support an appeal to the Spanish and French Governments to give facilities for sending a medical mission and medical supplies to the Rif.

## THE HUNTERIAN FESTIVAL OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

### THE ORATION.

JOHN HUNTER A MARTYR TO SCIENCE.

SIR D'AREY POWER, K.B.E., delivered the Hunterian Oration at the Royal College of Surgeons of England last Saturday, February 14th, the anniversary of the birth of John Hunter. The President, Sir JOHN BLAND-SUTTON, was in the chair.

The orator first discussed Hunter's limitations, remarking that these were partly personal and partly due to the backward state of chemistry, physics, and physiology at the time. Writing to Jenner in 1777, Hunter was careful to explain the exact method of using a thermometer which registered by means of a movable scale of ivory attached to the stem of the instrument. But even with such an imperfect instrument he gave the first correct explanation of the cause of animal heat when he stated that "the blood has an ultimate standard heat in itself in health and nothing can increase that heat but some universal constitutional affection." He thus gave the death-blow to "calidum innatum," but missed the opportunity of putting the thermometer to practical use as a measure of fever in the body.

Examples were given of the shifts to which John Hunter was put in order to explain the causes of disease in his ignorance of the part played by micro-organisms. The statement that "true specific disease is one that probably cannot arise but only from one cause and which probably always belongs only to morbid poisons" made it clear that he had some premonition of the real cause, for he gave as an example "scrofula, which is one of those diseases which is supposed to be hereditary; but it is only a readiness to fall into a peculiar action when properly irritated that is hereditary, and when such a cause does not exist we find no scrofula." Surely, said the orator, "nil nisi clavus deest": the key alone is wanting, and the key was not forged until Pasteur and Lister—the master locksmiths of the nineteenth century—came to maturity more than seventy years after John Hunter's death. He was even a little in advance of Lister's early work, for he showed by experiment that "air simply has no power to excite inflammation."

The origin and growth of the Hunterian school were then traced. It began from a desire on the part of surgeons for better teaching than was provided by the United Company of Barber-Surgeons. It spread rapidly as a result of the personal magnetism of John Hunter, who was known to his pupils as "the Dear Man." These pupils were a small band of young men who afterwards became the leaders of surgical thought in England and in America. Sir William Blizard, Sir Astley Cooper, William Hey, John Abernethy, Philip Syng Physick, and John Syng Dorsey in the first generation; Sir Benjamin Brodie, Sir William Lawrence, John Collins Warren, and Valentine Mott in the second; Sir James Paget and Sir William Savory in the third; Professor S. G. Shattock and Sir Arthur Keith amongst ourselves.

Attention was drawn to the physical disabilities under which John Hunter laboured during the last twenty years of his life—disabilities which were the direct outcome of the venereal poison with which he deliberately infected himself to determine whether syphilis and gonorrhoea were due to the same cause. His health began to fail from the time of the inoculation, until during the last eight years of his life he had daily attacks of angina pectoris, often associated with symptoms of syphilitic disease of the brain. His courage was dauntless and his intellectual faculties were so little impaired that he continued to give sound judgements in consultation, to invent new operations in surgery, and to collect the specimens which are now housed in the magnificent museum of the College.

Hunter being dead still speaketh, continued Sir D'Arcy Power, and his work has been crowned since the last oration was delivered by the genius of Professor Elliott C. Cutler—a young American—who has subdued the diseased heart to

the hand of the surgeon by the successful removal of portions of the valves in mitral stenosis.

The oration ended with brief eulogies of surgeons who have died lately. Sir William MacEwen, a pioneer in the surgery of the brain, lung, and bone. Sir Frederick Treves, who took upon himself the heavy responsibility of postponing at the last moment the coronation of King Edward VII. Professor S. G. Shattock, the humble-minded disciple of John Hunter. Sir Alfred Pearce Gould, the friend and helper of all who had fallen on evil days. Mr. Harrison Cripps, who possessed the rare combination of first-rate business capacity, great powers of administration, and high surgical skill. Sir Charles Ryall, genial and trustworthy. Sir William Thorburn, the exponent in England of the surgery of the spinal cord, dead at the very moment when he was beginning a life of leisure, saddened by the domestic afflictions which the war brought to him. Nor did Sir D'Arcy Power forget to mention Mr. G. P. Newbolt, Mr. R. A. Bickersteth, and Mr. George Heaton, pupils of his own who so worthily upheld the position of surgery in Liverpool and Birmingham.

A series of lantern slides were exhibited, after the oration, made from water-colour sketches by Jesse Foot, who wrote a scurrilous life of John Hunter. They showed Hunter as he appeared to his contemporaries and not as he was idealized by Sir Joshua Reynolds. Sir D'Arcy Power stated that he was indebted to Mr. C. J. S. Thompson, M.B.E., for permission to show the drawings, which are contained in a book in the possession of the Wellcome Historical Museum.

### THE BANQUET.

In the evening the President and Council entertained a large party to dinner in the library of the College.

After dinner the Lord Chief Justice of England, in proposing the toast of "The Royal College of Surgeons of England," compared in light vein the two great professions of surgery and of the law, and in sketching their early history said that it might be difficult to prove his belief that though surgery was very old, law was slightly older still. Then, becoming more serious, he said that surgery and law resembled each other in this, that their practitioners were called in emergencies; but there was a difference, which was in favour of the law. The lawyer, at any rate, was not suddenly called upon, in a case which seemed likely to be fatal, to do the best he could then and there, on the spur of the moment, with the high probability that death might follow, "and with the distinct risk that there might be a prosecution for negligence."

The President (Sir John Bland-Sutton) also began his reply in light spirit, suggesting that the connexion between the profession which the surgeon so humbly followed and that which Lord Hewart so eminently adorned was, from the point of view of the anatomist, as direct as the hangman's rope, which in the past had furnished surgeons with subjects for anatomical dissection. He then turned to the Museum and its conservators, and recalled how Richard Owen had from a fragment of bone reconstructed, with extraordinary accuracy, a creature the skeleton of which was only much later discovered. Sir John Bland-Sutton recalled the famous passage from Ezekiel about the valley full of dry bones: how God directed the prophet to prophesy upon the bones, and how, when the prophet obeyed, there were shakings and the bones came together, bone to his bone, and the sinews and the flesh came upon them, and the skin covered them. Then, passing to Job, the President recalled the rhapsody about behemoth: how his bones were strong, were as strong pieces of brass, like bars of iron. The Royal College of Surgeons possessed a great collection of bones, and much had been learnt from their study by succeeding conservators; but the collection had never been better or more sanely handled than by the present conservator, Sir Arthur Keith, who possessed the sagacity of Owen, the imagination of Ezekiel, and the rhetoric of Job.

The toast of "The Guests" was given by Sir HOLMUR WARRING, one of the vice-presidents, who, after sketching the growth of the Museum, expressed the hope that the Historical Section would expand, and mentioned incidentally that the guests would be able to see after dinner a rib

of King Robert the Bruce, showing that it had at some time been fractured in the place where such an injury most commonly happens—the convex part of the body. The toast was acknowledged by the SPEAKER of the House of Commons. The toast of "The Orator" was given by the Rev. Dr. NAIN, and acknowledged by Sir D'ARCY POWER.

#### A Portrait.

Afterwards the guests had the opportunity of seeing a number of specimens of historical interest, including some presented to the College by Sir Astley Cooper. In the conservator's room there was displayed a portrait, said to be of John Hunter and to have been painted by Thomas Gainsborough; but these attributions have not been definitely established in respect of either the subject or the artist. It is certainly a very lifelike portrait, three-quarter length, full face, with the lips parted as though speaking. The figure holds a monkey's skull in the left hand. The face is that of a man past middle age, with a fresh complexion and scanty hair, very full of life and vigour, and evidently very earnest in what he is telling his audience—a very different Hunter from the inspired prophet of the Reynolds portrait; but those so minded could trace a resemblance to the face of the well known portrait of Hunter with the head of his wolf-dog on his knee, a copy of which had been hung beside it.

## TRAFFIC DANGERS AND A REMEDY.

BY  
CHARLES BUTTAR, M.D.

THE dangers in traffic which arise from the increase in motor driving have an interest for members of the medical profession, for probably a large majority now drive a motor vehicle of some kind, and so are exposed to motoring accidents. As the Government is contemplating a new Road Bill, which will probably supersede to some extent the Motor Car Acts, it would be well for a profession which is closely in touch with the use of motor cars, and is concerned also in remedying the accidents arising therefrom, to consider whether its experience may not be of some use in the moulding of the bill.

When the Motor Car Act of 1903 was framed most people were quite unaccustomed to speed on the public roads, and speed was regarded as the main source of danger. It was useless for the motorist to urge that at a given speed his car could be pulled up in half the distance in which it was possible to stop a hansom cab. The bugbear was the speed of these new-fangled vehicles, and a speed limit was introduced to satisfy the nervousness of the public. The concession of a limit of twenty miles an hour was regarded as most generous, considering that previously all mechanically propelled vehicles had been compelled to crawl behind a man on foot carrying a red flag. In certain places this limit was reduced by half, so that theoretically it was possible for an easily controlled vehicle that could be stopped in half the distance to be passed by a trotting horse or by a bicyclist. The public has probably learnt by now that speed in itself is not necessarily a danger; yet the dangers of the street are very real. If rumour speaks the truth, it is now proposed to abolish the speed limit, and to base charges against motorists solely on the ground of "danger to the public."

The charge of driving to the danger of the public will be brought by a policeman, who in most cases will be quite untrained in motor driving. Have the authorities who are drafting the Road Bill asked how the policeman will form his opinion of danger, and whether the magistrate will have any criterion on which to form a judgement on the evidence? After twenty-three years of motor car driving, during which period I have covered about 150,000 miles in London, and have observed many accidents in which a motor vehicle has been involved, I am convinced that no standard is recognized by which dangerous driving can be gauged. It seems probable, therefore, that the new bill may propose to inflict a great deal of injustice on motorists; and this injustice will result from the fact that there is practically no rule in existence for street users, whether

drivers or pedestrians. The only semblance of a rule is the convention that vehicles in this country, when passing one another in opposite directions, keep to the left-hand or near side of the road.

Since there is no rule for street traffic in any way comparable to the rules laid down for ships at sea, it would appear that the only rule observed by the drivers of motor vehicles is that the first man in gets the prior right to the road. This leads to all sorts of misbehaviour—and possible danger—such as cutting in from the near side, turning corners without observing if the road is clear, crossing roads without regard to oncoming traffic, and so on. Yet in any of these contingencies it should be possible to know which person has the right of the road. To meet some of these contingencies another convention has been set up—namely, that traffic from "side roads" should give way to that on "main roads." But very little examination of the roads in London will show that even if this convention is valid to some extent for main road traffic in the country, it is hopeless as a rule for town driving. In countless spots it is impossible for the motorist to know which is the main road and which the side road.

#### The Right-hand Rule.

In searching for ways to reduce the dangers of the street many suggestions have been made, such as signposting side streets, codes of signals by means of the arm and hand, and semaphores. These methods are open to objection either on the score of expense, or of possible misinterpretation of the signals, or because they take no account of pedestrians. In any case they all involve complication. What is wanted is a rule in which the safety of the public is the first object—a rule which is simple, easily taught, and applicable to both drivers and pedestrians. Some years ago such a rule was proposed, and obtained the notice of the writer on motor matters in the *Pell Mell Gazette*. This motoring expert set out to find objections to the rule, or what he called the "limiting case"; and the only limiting case he could discover was one which made the position absolutely safe.

The proposal was that every user of the street should be made responsible primarily for avoiding collision with any car or person on his right hand, so that in the event of an accident the onus should be placed on the person colliding with someone on his right-hand side of showing why he did so. Thus, at cross-roads a driver would wait for, and pass behind, any vehicle approaching from his right; at street crossings a pedestrian would always look first to the right; a driver cutting in from the near side, as so often happens in London, would have to explain his reasons for doing so in the event of accident. The limiting case of the *Pell Mell Gazette* was that if four cars were approaching one another on four cross-roads, all the cars would stop, as each driver would have a car on his right hand. And the reply was that the position was, at all events, safe; and safety is the first object of any rule.

The proposed right-hand or off-side rule in driving is not only safe; it would seem also to fulfil the other requirements named above. It is plainly simple, and anyone who uses it consistently will find that the need for signals, semaphores, or signposts marking side roads will completely disappear. Being simple it is also easily taught. Children in primary schools could easily be taught by repetition to look to the right before crossing roads. As soon as any complications are introduced teaching becomes much harder. The police force can be instructed on the importance of watching for any infraction of the rule when an accident occurs. Motoring schools can teach their pupils. Magistrates and judges can raise the point in any case that is brought before them. A small amount of advertisement, together with a few decisions in the law courts, based on the rule, will speedily teach the public. It has already been mentioned that the rule applies with equal validity to pedestrians and drivers.

#### Order out of Chaos.

Most people are now impressed by the number of casualties which occur annually in the streets. Many people think that there is some sort of code of rules by which motorists drive. But there is no such code in exist-

ice; the decisions of the judges and magistrates are based on no standard; no one has yet defined dangerous driving. The right-hand rule would give a standard and a definition in a very large proportion of cases. It has one disadvantage only: it is so simple that in many minds it arouses suspicion that there is "some catch in it." No rule, of course, can ever completely abolish accidents. But that the right-hand rule can prevent many, if not most, accidents should be plain to anyone who cares to study the circumstances in which a medical man recently lost his life. He was standing on the pavement near the crossing of two roads of equal importance from the traffic point of view. Along one road a lorry approached a small car travelling in the other road. Having no rule in driving except that of the "first man in" having the prior right, neither the lorry nor the car was able to pull up. One vehicle skidded on to the pavement and killed the medical man. Both drivers were arrested, and nobody knew whether either or neither was responsible for the accident. The right-hand rule would have required one of the drivers to account for his action in crossing the bows of the other vehicle; and had both drivers been aware of the rule probably no accident would have occurred. Both would have been careful of taking risks.

Before adopting a definite line of action it is well that every objection should be met. The right-hand rule so far as brought forth no objection except that of the so-called limiting case. With the increase of street accidents it is surely fair that some thought should be given to the proposal, some arguments—if they exist—adduced against its adoption. So strongly do I believe in the rule that I think the only sufferers from it would be the lawyers with fewer cases to defend, the motor repairers with fewer cars to mend, and the doctors with fewer patients to treat, and fewer policemen would be required to control traffic. The public, I am convinced, would gain in safety to life and limb.

## ROYAL COMMISSION ON LUNACY AND MENTAL DISORDER.

(Continued from page 278.)

PROPOSALS OF THE NATIONAL SOCIETY FOR LUNACY REFORM. The whole of the most recent sittings of the Royal Commission on Lunacy and Mental Disorder on February 9th and 10th was devoted to the further evidence of Mr. MONTGOMERY PARKER, chairman of the National Society for Lunacy Reform. The general submissions which Mr. Parker made to the Commission on behalf of his society were set out in the BRITISH MEDICAL JOURNAL of January 31st (p. 230), and the report of his evidence was continued in the issue of February 7th (p. 277).

Much of the discussion on this occasion related to alleged cruelty in mental institutions. Mr. Parker said that his society had numerous statements from patients which left no room for doubt that on many occasions physical violence took place. The reports of the Board of Control had a constant record of broken ribs and limbs, all of which were accounted for by the Board as resulting from accident, but when no such record was noted the Board claimed that the result was due to the care and kindness of the attendants. But to some extent what he called chemical violence had superseded physical violence, and the use of drugs as a punishment was infinitely harder to detect or prove. Dr. Hubert Bond had stated before the Commission that medical restraint was now largely substituted for mechanical restraint. Some explanation was called for as to the use of hyoscine, an injection of which was described by Dr. Stoddart, in *Mind and its Disorders*, as "a refined substitute for hitting the patient on the head with a club." The report of the Cobb Committee indicated that hyoscine was hardly ever used in certain asylums, but at Prestwich its consumption was heavy (60 tubes were bought in 1919-21, of which 39 were used). He went on to speak of the use of croton oil, the most painful and virulent purgative known. Of 22 hospitals selected by the Cobb Committee for investigation 2 showed large weekly doses, 3 showed smaller doses, and 17 used no croton oil. He begged the Commission to address a questionnaire to all mental institutions, requiring a return of purchases during the last five years. His society had also evidence of systematic restriction of the use of latrines at stated times; this attempt—especially when purgatives had been administered—to regulate the functions of nature by written order and then to punish patients for want of cleanliness, reflected on the mentality of the administration.

On the question of punishment in general Mr. Parker said that he noticed a remarkable silence in the evidence so far given to the Commission. By a process of subtle suggestion one was left to infer that it formed no part of the asylum system. He admitted the necessity of maintaining discipline, but it appeared that in the absence of statutory provision all necessary action directed to this end was left in the hands of the medical staff. As a direct con-

sequence, all the acts so common in the daily life of the sane, such as quarrels, slander, violence, assumed an exaggerated importance in the life of the insane, and instead of being judged on their merits and overlooked or dismissed with a suitable punishment, they went to swell the growing record of bad behaviour which prolonged the detention of the patient. The deplorable effects which must result from combining the functions of medical officer with those of judge and gaoler were self-evident. Punishment was always indefinite, "pending the doctor's pleasure," and this in itself was an irritating and depressing feature. Apparently it took one or more of three forms—loss of privileges; seclusion, generally with confinement to bed; and relegation to an inferior or refractory ward. His society submitted that the practices at present in force for maintaining discipline were in many cases cruel, and, difficult as the subject was, it was an urgent necessity that other means of maintaining discipline should be devised.

With regard to diet, there had been an improvement in recent years, which, the patients said, became apparent soon after Dr. Lomax's disclosures. In spite of official figures it was impossible to believe that bread and margarine for breakfast and the same diet for tea every day of the week was conducive to the restoration of physical and mental health, or that the absence of any food between 4.30 p.m. and breakfast next morning produced a standard of comfort to which the bulk of patients had been accustomed before they became paupers by law. It was admitted, however, that steps had been taken in some asylums to mitigate these conditions. Occupational treatment, again, was very deficient, the opportunities for congenial occupation being very limited.

Finally, Mr. Parker drew attention to the diversity of standards set up. The report of the Royal Commission of 1908 adopted the term, "of unsound mind" as the sole criterion of lunacy, and defined a person of unsound mind as one "who requires care and control owing to disorder of the mind, and is consequently incapable of managing himself or his affairs." This was too vague a term by itself, and in the hands of a medical practitioner was a terrible menace to the liberty of the subject. The society submitted that conduct was the most valuable test of sanity, and that both the criteria adopted in the past by the law—namely, "the capacity to manage himself," and "the safety of the person and the public"—should be applied in all cases of certification; further, that where incapacity extended to a person's affairs only, the detention was not necessary if a receiver was appointed.

The Commission adjourned until February 24th.

## Canada.

[FROM OUR OWN CORRESPONDENT.]

### CANADIAN MEDICAL ASSOCIATION.

THE annual meeting of the Canadian Medical Association will be held in Regina, Saskatchewan, on June 22nd to 26th; the President-Elect is Dr. David Low of Regina. The business meetings of the council will be held on the first two days, and the remaining three will be devoted to the regular medical and surgical programme.

### HOSPITAL ADMINISTRATION.

In October last the first annual convention of the Ontario Hospital Association met in Toronto at the Academy of Medicine; eighty or ninety hospitals sent representatives. Dr. J. J. Walters of Kitchener stated in his paper that in his opinion municipalities should pay the expenses of erecting hospitals so that there should not be the usual hospital deficits. One of the most important suggestions made at the meeting was that a central purchasing bureau should be established for the procuring of supplies at the lowest possible rate, an arrangement which I believe has worked well for the hospitals of London. One speaker considered that the hospital costs for private and semi-private patients (be it remembered that nearly all the hospitals in this country have private and semi-private wards and that nursing homes are uncommon) were far too high. He also disapproved very strongly of the action taken by the Workmen's Compensation Board in refusing to pay extra charges for the use of operating rooms, etc., for workmen treated in the hospitals. It was resolved to send a resolution to the Provincial Secretary protesting against this injustice.

### ROTARY CLUBS AND CHARITABLE WORK.

In recent years Rotary clubs or similar organizations have been established in almost every city of the United States and Canada. The members consist, generally, of a representative from each of the learned professions and of the various forms of business enterprise. The members meet at luncheons and discuss various questions of interest to them all and learn each others' points of view. In a very praiseworthy manner these clubs undertake schemes of charitable work and carry them through with a right good will. A

great deal of good is done by them in this way. The Gyro Club of Calgary, for instance, has recently established and agreed to maintain a clinic for the infants and young children of the poor. The medical work is done by the Calgary Medical Society, aided by the nurses of the Victorian Order. There is a Rotary Club Tuberculosis Clinic in Vancouver, and in Montreal the Kiwanis Club has lately erected a pavilion for the Children's Memorial Hospital to afford additional space for the open-air treatment of surgical tuberculosis and other diseases. The Mystic Shriners, who I believe form a body within the Masonic Order, have also done much, in the same way, on a large scale and have financed the building of a children's hospital in Montreal.

#### MEDICAL STUDENTS IN EASTERN CANADA.

It may be of interest to give the numbers of students in some of the medical schools of Eastern Canada. At Queen's University, Kingston, Ontario, 254 are registered for the session 1924-25. These students are almost equally divided amongst the five years, but none will graduate this year, as the course has been lengthened from five to six years. The last class of the old five-year course obtained their degrees in May, 1924. At the University of Toronto 797 students (68 women and 729 men) are registered. Of these, seven students are seeking the diploma in public health, two the diploma in radiology, three the degree of Bachelor of Science (Med.), and three are doing post-graduate work. At McGill University, Montreal, the medical course lasts for five years, but before admission to the first year the student must have completed two years in a Faculty of Arts or its equivalent. In these two years chemistry (inorganic and organic) must have been studied for two years, and physics and biology each for one year. The total number of students registered for the five years is 490, including a small proportion of women.

#### AMALGAMATION OF MEDICAL JOURNALS.

The *Canada Lancet*, founded in 1866, and the *Canadian Practitioner*, established in 1875, both in Toronto, have been combined under the name of the *Canada Lancet and Practitioner*, the first number of which appeared in January. These journals formerly reflected the opinions of the two medical schools—Trinity Medical School and the Toronto School of Medicine. These schools were amalgamated several years ago, so it is very fitting that their publications should combine. The editorial board, largely composed of those on the staff of the old journals, is a strong one. Problems of preventive medicine and of the various branches of hygiene, rather than those of general medicine, will be treated in this journal. The veteran Dr. Adam H. Wright is one of the editors, but his companion in the *Practitioner*, Dr. W. H. B. Aikins of Toronto, who died last October, at the age of 65, will be sadly missed. Dr. Aikins came of a family many of the members of which distinguished themselves in their various callings. He was educated in Toronto at Upper Canada College, and graduated in medicine there; later he studied in New York, the British Isles, and Europe. He was an active worker in the various medical associations in Canada and acted as secretary for Canada at the International Medical Congresses held in Lisbon, Budapest, and London. He was one of the first here to recognize the value of radium in medicine, and at one time was president of the American Radium Society.

#### CANADIAN NATIONAL COMMITTEE FOR MENTAL HYGIENE.

Six years ago the Canadian National Committee for Mental Hygiene was formed, and its annual meeting was held at Montreal on November 14th, 1924. At the meeting of the board of directors it was decided to devote 30,000 dollars a year for five years to research studies, particularly in Toronto and Montreal. An energetic educational programme will also be carried out. Her Excellency Lady Byng of Vimy early identified herself with the work, and the Lady Byng of Vimy Fund has now reached the sum of 275,000 dollars, 200,000 dollars being subscribed by Canadian citizens and 75,000 dollars generously given by the Rockefeller Foundation.

At the general meeting open to the public the President, Dr. Charles F. Martin, outlined the work already done,

which included raising the standard of treatment and care of those who are mentally abnormal, the institution of preventive measures, the stimulating of universities to greater interest in educating teachers, students, social workers, and the public generally, and the introduction of the principles of mental hygiene into schools, reformatories, gaols, hospitals, and courts. He said that the Government had been educated in the importance of all these problems, and improved methods of immigration had been introduced by insisting upon better examination of those entering Canada. Most important was the formation in the secondary schools of classes for the mentally defective. Mr. E. R. Embree, secretary of the Rockefeller Foundation, spoke of what could be done in the future by the study of feeble-mindedness, especially in the child. Sir Arthur Currie, Principal of McGill University, said that the University was doing all it could to forward the movement, and that several members of its staff were investigating the problems of mental hygiene, their work being supported partly from the funds of the University and partly by funds allocated by the Committee. Dr. C. F. Martin was re-elected president, and Dr. C. M. Hincks was elected the medical director.

## India.

#### INDIAN LEPROSY CAMPAIGN.

The Viceroy, Lord Reading, has appealed for funds to provide the Indian Council of the British Empire Leprosy Relief Association with the means to organize an attack on leprosy with a view to its elimination. In a speech on January 27th he laid emphasis on the need for research, the establishment of out-patient clinics, and improvements in leper institutions. A strong general committee for the whole of India has been appointed under the chairmanship of Sir Frederick Whyte, and generous support by the newspapers and the people generally appears assured.

#### TREATMENT OF RABIES AT LAHORE AND IN WESTERN INDIA.

It is announced that antirabic treatment is now available at the Punjab Bacteriological Laboratory in Lahore throughout the year, of a similar kind to that given at the Pasteur Institute at Kasauli, Coonoor, and Shillong. The course of treatment ordinarily lasts about a fortnight, during which the patients are confined to bed. No in-patients are received at the laboratory, but any in a serious state of health, as a result of wounds or other causes, can be treated in the Mayo Hospital, Lahore. The antirabic treatment is given free, and railway concessions are granted to Government servants and necessitous patients unconnected with Government service. The agent to the Governor-General in the States of Western India has issued a notification that from January 8th a centre for antirabic treatment will be opened at the West Hospital, Rajkot. The need for this has long been felt in view of the many cases of disease occurring in Kathiawar. Until the opening of the rather nearer station at Ahmedabad patients were required to travel to such distant treatment centres as Kasauli.

#### PUNJAB SCHOOL OF MEDICINE FOR WOMEN.

The new maternity block of the Memorial Hospital for Women and Children, Ludhiana, which is connected with the Women's Christian Medical College and the Punjab School of Medicine for Women, was opened recently by Lady Hailey. The principal of the college, Dr. Edith Brown, explained that a gift of 80,000 rupees from the Punjab Government had made the building of this new block possible. The addition provides seven private wards and three free wards, accommodating altogether twenty-four patients. During last year the in-patients numbered over 2,000, and more than 78,000 visits were paid by out-patients. Patients came not only from the Punjab but from all parts of India, and some even from Burma, Persia, and Africa. The hospital and college trained Indian women as doctors, nurses, compounders, and midwives for the whole of the Punjab, and for other parts of India.



Since 1900 134 medical practitioners, 100 nurses, and many compounders and midwives have received their education in the college.

#### BURMESE INSTITUTE OF PUBLIC HEALTH.

The Governor of Burma, when laying the foundation stone of the Burmese Institute of Public Health, dwelt on the urgent need of a progressive public health policy. Hitherto, he said, the advantages of preventive medicine had been insufficiently appreciated in Burma, even though the majority of the population showed signs of a strong natural inclination towards personal hygiene and cleanliness in the home; with the expansion of this existing interest in personal hygiene into community hygiene, the way for a great advance in public health would be prepared. The new institute will provide a training school for the public health service, a provincial public health laboratory, and an institute for research in public health problems. Moreover, it is proposed that the institute shall serve as a centre for the dissemination of instruction in health matters, and as a meeting place for the various societies interested in public health propaganda. The institute will also help in obtaining for Burma the much needed legislation with regard to adulteration of food and drugs. The Governor referred to the recent formation of a public health advisory board for Burma, and to the steps taken to combat venereal disease and leprosy, both very prevalent in the country. He added that a medical committee was at present engaged in investigating the conditions of leper asylums with a view to improving their administration and the treatment of the disease.

### Ireland.

#### FREE STATE MEDICAL BILL PASSED THROUGH FINAL STAGES.

THE SENATE of the Irish Free State considered last week the committee stage of the Medical Bill (1924), which provides for the continuance of the existing arrangements for medical registration. Mr. P. McGilligan (National University), Minister for Industry and Commerce, said the bill was only a temporary measure, covering a period of twelve months. The object of the bill was to enable Irish medical practitioners to have their names inserted on the *British Medical Register*. The delay in connexion with the bill was due to prolonged negotiations between the British and Irish Governments in reference to some points in dispute. It was decided and agreed that legislation should be introduced both in Dublin and at Westminster. That legislation would not be identical. He had recently received two intimations—one from the Irish Medical Council, that it desired that the Irish bill should become law before February 23rd; the other communication was from the British Colonial Office, to the effect that the point that had been in dispute was no longer in dispute. In the circumstances he felt it was necessary and right to meet for the purpose of getting the bill passed, so that it would become law on February 23rd. Senator Dr. Gogarty said that the sooner the position of the medical profession was defined and legalized the better. Behind the whole matter lay the question whether or not the medical profession in Ireland, and those entering it, should have the right to practise in any part of the British Empire. When the contribution that Ireland had made to the empire was considered, it was not a matter of "saving faces," but a matter of asserting a right. If the bill were not rapidly put through the Oireachtas, Free State medical students would be no longer entitled to exercise freely their rights in the British Empire. If they did not have that right it would mean debasing the degrees of Irish colleges and the closing of them eventually. The ordinary wear and tear of the profession in the Irish Free State depleted the ranks by about twenty every year, whereas the medical institutions turned out about 150 qualified men every year.

The bill passed through all its stages, and now only awaits the signature of the Governor-General. The bill authorizes the General Medical Council to continue temporarily to exercise authority in respect of medical practitioners in the Irish Free State. Persons registered under the Medical

Acts are, in the Saorstát, to have the same rights, privileges, and immunities, and be subject to the same obligations as in Ireland before the Saorstát came into existence. The General Medical Council is to have, in relation to persons and matters in the Saorstát, all the old powers, jurisdictions, and authorities; the Branch Council for Ireland will similarly retain its powers; the General Council and the Branch Council will continue to be constituted and elected as before; and universities and medical corporations in the Saorstát continue to have powers of granting diplomas and holding qualifying examinations under the Medical Acts.

### Scotland.

#### GLASGOW ROYAL INFIRMARY: SUGGESTED EXTENSIONS.

AT the annual general meeting of the Glasgow Royal Infirmary Lord Provost Montgomery presided and moved the adoption of the annual report. Mr. James Macfarlane, LL.D., chairman of the board, stated that the subject of greatest concern to the managers was the congestion of wards and the long list of patients waiting admission. As this affected hospitals throughout the country, it was really a matter of national importance and urgency. There had been a suggestion that another infirmary should be added to the three already in existence in Glasgow, but in his opinion before this was carried out care should be taken to see that the fullest advantage was taken of those already in existence. He would therefore suggest that the present pressure could be relieved, in the first place, by the erection of an auxiliary or convalescent hospital outside the city to which cases might be removed after short treatment in the general hospitals. Secondly, he thought a fully equipped nursing home should be established for the accommodation and treatment of patients who could pay the charge necessary to cover the cost of running the home although they could not afford the expense of an ordinary nursing home. Professor Glaister, who moved a vote of thanks to the medical and surgical staffs, also stated his opinion that there was clamant need for the institution of a nursing home situated in the open country which could relieve the pressure on the wards at the Royal Infirmary by the transfer to it of patients after the critical period of their illness had passed. In the annual report it was stated that 13,969 patients had been treated in the wards during the past year, an increase of 1,210 on the figures of the previous year. The daily average number of patients was 726.6, and the average period of residence nineteen days. In the out-patient department 51,954 patients had been treated, an increase of 3,261 as compared with the previous year; the total number of attendances had been 235,570, as compared with 220,193 in the previous year. At the Ophthalmic Institution connected with the hospital 919 in-patients and 15,424 out-patients had been treated. Mention was made of the prospective formation in the infirmary of a new biochemical department for investigation and research in relation to disease, towards the expense of which donations had been given of £5,000 by the executors of the late Dr. F. H. Clarke, Dumfries, and £500 from the executors of the late Mr. F. L. O. Rottenburg. The ordinary expenditure had been £110,194 and the ordinary revenue £85,189. An exceptional sum of £100,143 had been derived during the past year from legacies, and this sum had been drawn upon to meet the deficit on ordinary expenditure as well as to provide for the extraordinary expenditure of £3,739. Out of the surplus £30,000 will be devoted to the reconstruction fund. Mr. D. Bruce Warren, son of the retiring treasurer, was appointed honorary treasurer in succession to Mr. Timothy Warren, who had held this position for twenty-five years.

#### EDUCATIONAL PROGRESS IN VETERINARY SCIENCE.

At a meeting of the Scottish division of the National Veterinary Medical Association held at the Royal (Dick) Veterinary College, Edinburgh, Principal Charnock Bradley, who presided, delivered an address. He said that the war had very clearly demonstrated the national value of veterinary science in times of peace. The eyes of the public had

been opened to the bearing which land cultivation and animal husbandry had upon national well-being. There was an increasing number of members of the veterinary profession who did not follow general practice, and the schools now offered facilities for specialized training and for those seeking official appointments. The last sixteen or twenty years had seen advances greater than any that had occurred since veterinary education was first established in Great Britain. Real education had been made more natural and the student was asked to verify facts for himself, so far as circumstances permitted, and not merely to listen. This, however, could not be effected with the institutional equipment formerly provided. The institution of post-graduate distinctions, such as university degrees and diplomas of veterinary State medicine, would exert a growing influence upon the veterinary profession as a whole, and slowly but surely the time was coming when the possession of post-graduate distinctions would be indispensable for candidates for appointments. The primary duty of an institution like a medical or veterinary school was so to train students as to make them proficient in a professional capacity, but the medical or veterinary school ought to do more. No profession could afford to rest solely on the professional performances of its members, and it must be impressed upon the public that the profession had an atmosphere and a dignity as well as an achievement.

## England and Wales.

### WEST LONDON HOSPITAL EXTENSION.

ON February 10th Princess Mary opened a new wing at the West London Hospital, Hammersmith. The chairman of the hospital, Mr. Reginald E. Watson, announced that this addition provided a further 60 beds, bringing the number now available up to 220. The new accident ward contained 16 beds, and, in addition to two cancer wards containing 7 beds, and two new operating theatres, a block of twenty private rooms has been erected to accommodate twenty-two paying patients. The whole of the new wing was opened entirely free of debt, money for the cancer wards having been provided by Mrs. Hull Martin, whilst Mr. Dan Mason had contributed £20,000 and the cost of the equipment of the private wards. In the course of the ceremony the Countess of Ilchester presented a cheque for £1,100, on behalf of the Ladies' Association, to endow the Princess Mary bed in the Hull Martin ward. It was announced that a second bed in the ward had been endowed by Mr. Charles Pascell.

### PUBLIC HEALTH IN LIVERPOOL.

At a meeting of the Liverpool Medical Institution on February 12th, Dr. E. W. Hope gave an account of the sanitary advances of Liverpool and of the measures taken to ameliorate the conditions resulting from the singularly rapid growth of the city at a time when sanitation was very imperfectly understood and when no legislative powers existed to check or remove the rapidly growing evils. Much of the earlier local legislation had formed the basis of the Public Health Acts of the country, but the sanitary needs of Liverpool had made necessary many applications to Parliament. The great housing operations, both within the city and in its outskirts, were illustrated, as well as the measures which led to the present unstinted supply of water, transported from the purest sources sixty miles away. It was available for delivery to every floor in every house at the moderate cost of 1½d. a ton. The steps which led to the establishment of the present efficient hospital and sanatorium system were traced, and it was pointed out that the term "infectious hospital," as applied to properly spaced institutions upon an area of some 200 acres, had a very different significance from that applied to hospitals of half a century ago. A description was also given of the development of the individual as well as of his environment. Hygiene, the uses of health visitors, ante-natal and post-natal centres, maternity homes, infant welfare centres, control of food supplies, and other important accessories were dealt with. With a view to making sanitary problems intelligible and interesting to the general public the University School of Hygiene had been established.

### MANCHESTER ROYAL INFIRMARY.

At the annual meeting, on February 13th, of the Manchester Royal Infirmary attention was drawn to the present rather anxious financial position. The deficit for 1924 was £24,147, compared with £12,300 in the previous year. The combined income of the infirmary and the Barnes Convalescent Hospital during 1924 was £87,000, as compared with £85,000 in 1923; whereas the expenditure in 1924 was £113,011, compared with £103,894 in 1923. The total number of patients treated has decreased from 61,032 in 1923 to 54,734 in the year under review; but a striking feature of the report is the steady increase in the number of casualties treated in the accident rooms, though not admitted as in-patients. This number has increased from 18,000 in 1921 to 24,000 in 1924. The annual report of the board includes a statement of the desirability of increasing the number of nurses as soon as may be possible, so that the present working hours of sixty-three a week for those engaged on day work, and seventy-three for those engaged on night duty, may be reduced to an all-round week of fifty-six hours. For this purpose extra accommodation is required for seventy additional probationers and thirty maidservants. Accommodation is also necessary for the massage school, which is at present housed in temporary premises. The cost of this additional housing will amount to £50,000 at least; and the board feels that adequate funds ought to be raised for the large extra annual expenditure.

### L.C.C. SLUM CLEARANCE SCHEMES.

The latest addition to the housing programme which the London County Council has undertaken, involving the displacement and rehousing of 2,700 persons in the Oulton Street area of St. Pancras, was referred to in a leading article in our last issue (p. 320). The programme of the Council now embraces slum clearance schemes in nineteen areas, situated in eleven boroughs, but chiefly in Southwark, Shoreditch, and Stepney. The total area to be cleared is 88 acres, the number of persons who have already been or will be displaced is 25,168, and of these the Council is under an obligation to rehouse 23,000. The total estimated cost of the clearance and roadwork, not including the provision of the rehousing accommodation, is £1,145,200. The Council has also in hand a number of building schemes at Becontree, Downham, Roehampton, Hendon, and elsewhere. The number of houses still to be erected under these schemes, and for which specific provision has been made in the estimates, is 12,194, all for letting at weekly rents.

### TRAINING OF HEALTH VISITORS.

Brief mention was made in our last issue of a memorandum issued by the Ministry of Health giving details of the grants to be made for the training of health visitors in connexion with the decision that, after April 1st, 1928, no first appointment as a whole-time officer of a local authority, with health visiting duties, will be made unless the candidate has obtained a certificate from a recognized central examination body. For the purpose of the grant it has been decided to approve, in the case of a trained nurse, a whole-time course of training in public health work lasting for a minimum period of six months, and normally covering two academic terms. Students who are not trained nurses may be approved for the payment of a grant if they are undertaking a course of two years' duration, together with six months' training in a hospital, and are seeking the certificate of the Central Midwifery Board. The position of existing health visitors ought, it is stated, to be fully safeguarded, but it is hoped that these will take steps to obtain the new certificate, and will receive encouragement and assistance in this endeavour from their local authorities. The Minister of Health announces that he is prepared to approve the payment by local authorities of the reasonable expenses incurred by health visitors in attending whole-time "refresher" courses lasting from two to four weeks, and designed to afford additional practical and theoretical knowledge. It is hoped that such courses will be organized in London and other large centres. Grants will be payable at a rate not exceeding £15 for each duly qualified student who has completed the six months' course, and at the rate of £20 for each year of training for those who have completed the longer course.

## Correspondence.

### LIME JUICE AND LEMON JUICE FOR PREVENTION OF SCURVY.

SIR,—In the old days of sailing ships with voyages of long duration the danger of scurvy was much greater than it is now; little was generally known of the etiology of the disease, and catering difficulties were much more marked. Dr. Lind and Sir Gilbert Blane, the pioneers of naval hygiene, were both very active in studying this scourge of the navy and endeavouring to eradicate it. Fresh fruit, lemon or orange juice, with vegetables as prophylactic and curative agents for scurvy, had been used by the Dutch as far back as 1564, and had been successfully employed by Sir Robert Hawkins in 1600; but their use had been more or less forgotten until Dr. Lind insisted on their value. His *Treatise on Scurvy* was published in 1754. In 1757 Lind's friend Mr. Ives, the surgeon to the squadron, induced Admiral Watson to provide the ships in the East Indies with an ample supply of lemon juice. Lind, however, recommended preserved juice on long voyages. The fresh juice was concentrated by heat to a thick syrup; as this was done in glazed earthenware vessels soluble lead salts were found, and Lind drew attention to this danger as "death in the pot." Trotter strongly opposed the use of this form of preserved juice, as it was said to undergo fermentation and become mouldy. It was Gilbert Blane's teaching and powerful influence which brought Lind's recommendation into use, for in 1786, when Blane was one of the Commissioners of the Navy Board, the use of lemon juice was ordered as an essential part of the naval dietary; this quickly resulted in the practical disappearance of scurvy from the service fleet. In 1782 two-thirds of an ounce of lemon juice a man a day protected the whole ship's company of H.M.S. *Suffolk* during a voyage of twenty-three weeks without touching port. In a discussion on the probable cause of this disease, which he attributed to "the lack of a certain element which is necessary for growth and repair," Blane foreshadowed the present deficiency theory.

From that time to the present so-called lime juice has been a standing ration, but its efficacy has disappeared. The reason for this has been ably shown by Mrs. Alice Henderson Smith. As originally prepared the lime juice was made from sweet limes (*Citrus medica*), with lemons imported chiefly from Spain. In 1793 war stopped these supplies, but in 1802 delivery was resumed, and scurvy, which had obtained a temporary hold, was again almost eliminated. About 1860, by the development of the cultivation of limes in the West Indies, a large quantity was made available, and the contracts entered into for the navy caused these, the sour lime (*Citrus medica*, var. *acida*), to supersede the sweet limes and lemons formerly in use, and for a time this new lime juice was believed to be better than the old. In Ross's polar expedition the original lemon juice had been used, but Sir G. Nares in 1875 was provided with the new West Indian lime juice. The former escaped scurvy, the latter suffered severely, thus demonstrating the failure of the new preparation as a prophylactic. The sister ship in the latter expedition, the *Investigator*, was supplied with lemon juice, and for twenty-seven months after leaving home she had few cases of scurvy, though the crew suffered great hardships.

The clinical evidence is clear that lemon juice is far more effective than lime juice in preventing scurvy, and this has been fully confirmed by a large number of laboratory experiments, carried out at the Lister Institute, at Greenwich, and elsewhere, which have determined the exact relative values. Recent history has shown that during the war scurvy was prevalent in Mesopotamia, Serbia, Russia, and Eastern Europe, and much has been written on the subject. In the Persian Gulf naval crews frequently develop a form of scurvy which is cured by issue of fresh fruit.

Recognizing that the necessary antiscorbutic could not be supplied by the preserved lime juice from West Indian sources as at present made, I endeavoured to provide an efficient, portable, and palatable substitute for the use of special ships and for such expeditions as those for polar

exploration. The experiments were carried out at Greenwich on guinea-pigs, which are extremely susceptible to the disease. Lemon juice was evaporated at room temperature *in vacuo*, and then made into tablets with sugar of milk. Each tablet contained the equivalent of half a lemon, and was protective even after a year's storage.<sup>1</sup>

Dried orange juice, which has practically the same antiscorbutic value as lemon juice, has been largely employed by Givens and McCluggage, who found that it retained its protective power for a considerable time, but in these preparations a certain amount of heat is used, which diminishes the efficiency of the product. Zilva, of the Lister Institute, found that when evaporated down and kept anaerobically the antiscorbutic properties are retained for a long while. The use of concentrated lemon or orange juice has thus been found effective in animals, and we may with confidence apply its use to man under conditions of service which preclude the regular provision of fresh fruit and other well known preventive substances. For general service, when large quantities are required, the unheated concentrated syrup, as obtained before being mixed with lactose, might be kept in bottles, and the equivalent of 24 c.cm. of fresh lemon juice be given to each man, after solution in water to which sugar has been added at the time of issue. This acid viscid syrup keeps well, as moulds will not grow on it—an important fact to note. The Admiralty are fully aware that the lime juice is a non-effective scorbutic, and it is only issued as an agreeable beverage; but nothing else is at present supplied as an antiscorbutic.—I am, etc.,

London, S.E.3, Feb. 15th.

P. W. BASSETT-SMITH.

### THE RURAL PRACTITIONER AND MATERNITY.

SIR,—It appears from a letter by Dr. T. H. C. Stevenson in your issue of January 24th (p. 191) that he has suggested that there was an increase in puerperal sepsis during four years after the war, owing to more women being attended in their confinements by medical men.

Perhaps my own experience in an average practice during those years may throw some light on the question. In the first place, I totally disbelieve that more women were attended by doctors than previously; quite the other way round—during the war years there was plenty of money, and in consequence more were attended by medical men. However, what is certain is that during those years there was an extensive prevalence of virulent influenza. In two cases full-time women died directly from bronchopneumonia—one died undelivered, and the other a few days after delivery. Five pregnant women died from influenzal pneumonia, all of whom miscarried before death, in each case the symptoms becoming hopeless in about twenty-four hours after delivery. On several occasions I have had difficulty, when called in by a midwife, in deciding whether the pneumonia was due to sepsis or to influenza. Many cases of influenzal pneumonia must have been certified as puerperal fever. I knew one case where a woman was cured by a specialist and was afterwards found to be suffering from pleurisy, which cleared up after the fluid had been drawn off.

In my practice there was an epidemic of puerperal sepsis in the cases of a midwife—a clean and good nurse—and I hesitate to say how many of her cases I attended and how many died. Not only so, but in some cases she attended for a neighbouring practitioner and the same result was observed. This medical man tells me that she never examined in some of the cases, the fatal infection being apparently conveyed by the infection of the diapers—droplet infection, I presume. The one thing certain about the source was the fact that she had contracted ozaena, perhaps after influenza. In many midwifery books an epidemic in the practice of a medical man in New York, of a similar nature, is quoted. Is it not time that salicylic acid absorbent wool should be used for diapers, or some similar antiseptic material?

The practice of midwifery has improved amongst the rank and file of the profession, as it has in the hospitals: then

<sup>1</sup> See Report War Section, Royal Society of Medicine, 1920, vol. xiii, pp. 51-69, read May 10th, 1920.

why this bitterness? We use forceps much less frequently, although our patients occasionally still bully us into applying them before they are theoretically required. Pituitrin saves many forceps cases, and is a most valuable improvement, if not altogether without risk. Scopolamine and morphine soothes many a hysterical patient over a long and painful first stage; like forceps, if used wholesale, it would, in my opinion, slightly raise the death rate; none the less it is an improvement we should not care to be without, and invaluable in its place. We use gloves instead of the naked hand; we use anal examinations to finish up after a careful abdominal palpation, and only examine per vaginam when in doubt or when interference is required; we examine the pelvis of our patients carefully at the sixth or seventh month, and if necessary induce labour four weeks before the date of the confinement. The progress is immense, and will continue: bitter criticism is uncalled for. We lag behind the specialist a little, as is unavoidable, but not so much as formerly. Of course, the specialist sees our mistakes and not our successes. Twenty-three years ago, whilst doing locumtenent work up and down the country, I was impressed with the skill of the general practitioner, and I am sure that the general improvement since then is immeasurable.

Pre-natal clinics and all similar institutions should be staffed by the general practitioners of the neighbourhood, and the specialist used for consultation or supervision; otherwise much valuable clinical material is perforce stolen from the most deserving branch of the profession. In the same way, cottage hospitals should be established in every parish, so that the necessary facilities for the practice of modern medicine might be within the reach of all. Work-house hospitals and all other hospitals, with the exception of the big teaching hospitals, should similarly be thrown open to the general practitioners of the neighbourhood. This is particularly important in the case of the junior practitioner waiting for his practice to grow; not so important, perhaps, in the case of the elderly man, who has already gained his experience and built up his practice.

In conclusion, I would say that any medical man who is called out to midwives' cases, and sees again and again women dying and beyond help for the lack of more skilled knowledge promptly applied, must know that every woman requires the assistance of a fully qualified medical practitioner at her confinement. This is so, not only in cases of haemorrhage, adherent placenta, concealed haemorrhage, placenta praevia, face presentations, transverse and breech, twins, and so on, but because we are an unhealthy and unnaturally living generation, full of all sorts of ailments that render us liable to sudden death in the most unexpected manner. As the perfect is not always obtainable (and sometimes, perhaps, not even desirable: faunticism is rife, and is itself a danger), he should see her at least before delivery and should be available quickly when required. It is unnecessary to enumerate all the medical and surgical complications that render this so desirable.—I am, etc.,

Wallasey, Jan. 25th.

F. WILLIAM INMAN.

#### CANCER IN AFRICAN NATIVES.

SIR,—Dr. J. Bell Walker has kindly sent me Dr. Charles F. Harford's remarks in the *BRITISH MEDICAL JOURNAL* of November 8th, 1924 (p. 884). These, and Dr. Leitch's that he quotes, diverge from my points. My cases of malignant disease (*BRITISH MEDICAL JOURNAL*, 1924, vol. ii, p. 689) were all living the old primitive native life, with years varying between famine and plenty. I take it that in every case there is an abnormal local factor; in sarcoma, perhaps, a blow had concentrated the unconscious mind on the spot. In carcinoma everybody admits the local irritant. Increased introspection would be favourable in a native. Why should an animal need an intellect to favour abnormal unconscious action? Perhaps the law of correlation has a bearing on the causation. We need the practical help of the psycho-analyst. As in the case of delusions and obsessions, a special sector of the unconscious mind is probably at work. In a case of bad suggestion in a human being the conscious and unconscious minds would both be specially directed to an unhealthy spot in their

system. I ren-on the causation, therefore, as follows: (1) a local, chronic, unhealthy irritation; (2) concentration of the unconscious mind on the spot; (3) this sector transmitting its vital action—electric or whatever it is proved to be—thus being responsible for the malignant cell change at the site. Let hospitals and experts come to the rescue.

May I mention the following example, as the result of environment governed by the law of correlation, in my view? I have seen very many reedbucks in Nyasaland (natural colour a brownish-grey), but, omitting albinism and one instance of a light rufous colour, I know of three cases of a silver-coloured reedbuck, and those from one place only. I think one each were shot by Major Grogan and Mr. de Fries, and one by myself (now mounted). Other parts, normally dark, remained so. Antelope at the place in question, could often be seen grazing amongst native cattle. It was an open grassy place with a good many pools. In the wet season more shallow ones were formed. I submit that the silver-grey colour was developed *in utero* to match the bright sun-reflection on these waters, and render invisible at a distance.—I am, etc.,

Limbi, Nyasaland, Dec. 13th, 1924.

J. E. S. OLD.

#### MYELOID LEUKAEMIA ENDING AS LYMPHATIC LEUKAEMIA.

SIR,—The case recorded by Dr. Walter Broadbent under the above title (*BRITISH MEDICAL JOURNAL*, February 14th, 1925, p. 306) is more probably an instance of an acute myeloblastic termination, a recognized ending of chronic myeloid leukaemia. Before the output of myeloblasts takes place the number of leucocytes has usually fallen very low—for example, to 3,000 or 1,500 per c.mm.—and the occurrence suggests exhaustion of the bone marrow.

The initial number of leucocytes in Dr. Broadbent's case was high—892,000 per c.mm.—and x-ray treatment was continued until the figure fell to 11,600. When a reduction is taking place it often continues for some time after x-ray treatment is discontinued, and when the initial number is large, as in this case, it is advisable to stop the treatment when the count is between 30,000 and 50,000. Otherwise the liability to this sudden ending is considered to be increased.—I am, etc.,

London, W.1, Feb. 17th.

H. LETHBRIDGE TIDY.

#### REX v. BATEMAN.

SIR,—The public as well as members of the profession are to be heartily congratulated on the quashing of the sentence passed upon Bateman at a recent trial: the public, because the confidence placed in the doctors will be reinstated; and the profession, because members will feel it is, as it has always been, their duty to act courageously, with the skill they are capable of and the knowledge they possess, knowing full well their action will receive the support of right-minded men. Bateman is also to be congratulated because he has not been sacrificed in vain. His trial has awakened a sense of right and of justice in his professional brethren, which will amount in the course of time to far greater value than any compensation that could be given him.

The trial has in addition made us consider, Where do we stand? In this as in other trials for criminal negligence in the conduct of cases, it has hitherto been possible to find two camps of doctors—one for and the other against.

The facts elicited in these cases are alike for both sides; but there is always room for speculation on their interpretation. The final interpretation of all the facts brought out lies with the judge. As interpretation of technical facts is difficult, even to the man of special knowledge, experience, and skill, it would, it seems to me, be advantageous in the administration of justice if the judge were able to consult during the proceedings with someone capable of giving him real assistance in medical matters.

Is it not possible to arouse doctors to ask for the principle adopted in the Workmen's Compensation Act to be applied in such cases as *Rex v. Bateman*? If that were granted assessors for this purpose should be independent of external influence, also they would prove worse than useless. The presidents of the various medical corporations would be, I think, fitting persons to select an assessor in medicine,

in surgery, in obstetrics, or in the science of drugs, as the case may be.

No doubt it is a source of satisfaction that Bateman retains his professional position, and that his name will remain on the *Medical Register* and, if he so desires, on the roll of the panel of doctors under the National Insurance Act.—I am, etc.,

Cambridge, Feb. 16th.

JOSEPH GRIFFITHS.

#### PULMONARY TUBERCULOSIS TREATED BY SPAHLINGER'S SERUM.

SIR,—Most of the tuberculosis workers with whom I have discussed the value of Spahlinger's serum are sceptical of its value, for a variety of reasons, and the information given under the above heading in your issues of January 3rd and February 7th does not tend to dispel this feeling.

In the *JOURNAL* of January 3rd (p. 43) we are told that a case of pulmonary tuberculosis with such extensive disease and such grave symptoms that the condition of the patient was "wellnigh hopeless" was treated first with Spahlinger's serum in Geneva on August 1st, 1924, and that ten weeks later (that is, October 10th, 1924) the disease seemed to be "completely arrested." Like your correspondent of January 10th (Dr. J. M. Johnston), I marvelled at the radiograms and should have welcomed the information he suggested.

On February 7th (p. 277), however, you were able to publish a further report under the same title, showing that the man died on November 3rd, 1924, and a letter is published, in which M. Spahlinger is said to attribute the cause of death to "typical pneumonia."

Now "typical pneumonia" conveys the impression of acute lobar pneumonia of pneumococcal origin, and the inference from the whole letter would seem to me to be that death was not due in any way to pulmonary tuberculosis. This impression of mine may be wrong, but I should be glad to know what others think. The further information which you publish in the same article puts a different complexion on the affair. It is there shown that the case of pulmonary tuberculosis which was "arrested" on October 10th, 1924, had a copious pulmonary haemorrhage on October 25th, 1924, developed "pneumonia" on October 27th, and died on November 3rd, 1924.

Whether pneumococci were or were not found in the sputum at the last illness, no one can doubt reasonably that the cause of death was bronchopneumonia following pulmonary haemorrhage due to pulmonary tuberculosis; and it seems to me that when M. Spahlinger wrote as to the termination of the case he either was not in possession of all the facts or did not appreciate the need for a complete statement.—I am, etc.,

CECIL G. R. GOODWIN.

Newcastle-upon-Tyne Sanatorium, Barrasford,  
Northumberland, Feb. 8th.

#### CANCER OF THE OESOPHAGUS.

SIR,—Sir Charters Symonds (February 14th, p. 330), referring to Mr. Souttar's introduction of spiral wire intubation funnels in lieu of gum-elastic ones, restricts their use to those familiar with the oesophagoscope, and mentions that this will set a limit to their application—an opinion with which all will agree. On the other hand, he states that "the elastic tube can be introduced after a little experience, and has been used somewhat extensively by a number of surgeons." Again, that malignant obstruction of the lower end of the oesophagus can "usually be traversed by a condé bougie, or feeding tube when the straight variety cannot be passed"; and that "once such a tube can be passed and retained for three or four days, then the thin-walled rubber tube carrying the silver wire suggested by Dr. Hill can easily be inserted and worn indefinitely" (the italics are mine).

Surely Sir Charters Symonds does not advise—in these endoscopic days—the blind insertion of an intubation tube or a funnel in a malignant stricture of the oesophagus, in the haphazard way in which it has been used in the past?

So far as Dr. William Hill's intubation tube is concerned—and I have had considerable experience in its use—the

designer introduced it with the same restrictions as Sir Charters Symonds has placed on Mr. Souttar's tubes—namely, for perendoscopic use only, and for those skilled in endoscopic procedures.

It is admitted that the danger of perforation, especially in certain cases of tortuous cicatricial varieties of cancerous growths, is real, even in the hands of the most experienced endoscopists. Surely such a catastrophe is more likely to occur after the blind passage of a bougie or other appliance.—I am, etc.,

London, Feb. 16th.

IRWIN MOORE.

#### WHOLE-TIME MEDICAL OFFICERS.

SIR,—If Major Hefferman will do me the honour of re-reading my letter as a whole his alarm will be allayed. He will then see that the sentence which he quoted as indicating the policy of a particular hospital was merely the statement of a hypothetical case put forward during the course of an argument.

The reasons for the conclusion drawn in that sentence were set out in the two preceding paragraphs, and he will perhaps forgive me for thinking that as a scientific man he would have been better employed in a critical examination of those reasons than in turning over the pages of the *Medical Directory* in search of irrelevant material.—I am, etc.,

Sheffield, Feb. 14th.

A. E. NAISH.

#### ISOLATION HOSPITALS FOR SCARLET FEVER.

SIR,—*"Life is not designed,"* said Robert Louis Stevenson, "to minister to a man's vanity. . . . It is a friendly process of detachment. When the time comes that he should go, there need be few illusions left about himself. *Here lies one who meant well, tried a little, failed much—surely that may be his epitaph.*"

His word fits the broad tombstone of humanity, but it sits with peculiar felicity upon the graves of physicians. Life for them is a procession of disappointments aggravated by the circulars of credulous chemists. It is a poor day that brings no flattering promise, a bright night that has seen no disillusionment. They hope so much, persist so patiently, and achieve so little.

In the current *JOURNAL* Dr. H. Cameron Kidd's letter on isolation hospitals (February 14th, p. 332) drives home the point. Just two short weeks ago you recorded Dr. W. Robertson's tale of "a series of 200 consecutive cases of scarlet fever treated in their own homes in Leith, the largest proportion of which were working men's dwellings, and among which not a single instance of spread of infection took place"—a plea for the Milne method of treatment. Dr. Robertson is now M.O.H. for Edinburgh. One hoped that his word from such a city might carry the method into the therapeutic position it ought by right to occupy.

Instead comes a call for "more stately mansions" in the isolation camp. Thus the "friendly process of detachment" goes on. Yet after thirty years of general practice I recall, amid ventures, advances, failures, no measure in treatment which has so consistently fulfilled expectation. I do not say that scarlet fever handled thus is never fatal, never severe, never complicated; but I am convinced that by this method the majority of cases run a milder, safer course. And there is never any infection. That is certain. Isolation becomes unnecessary. General recognition of the fact would mean an immense economy to these islands.

Have isolation hospitals had so much credit from their scarlet fever patients that more money should be spent on them? Scientific precision is never within reach of the system. At the end of a dangerous and expensive seclusion the patient returns to society a potential risk to his fellow creatures. How real the risk is we learn too often. And always the scarlet fever hospital is itself a menace to the community—parents, friends, nurses even, spread infection from it. Doctors and staffs do their best, and these reflections are not directed at them. They are the victims of a system in which the dice are loaded against them—they do their best with no chance of kudos.

Sometimes the Milne method has been tried in these institutions. But principles and routine, the spirit of these



places and their great airy spaces, are dead against the test. You cannot deal faithfully with this thing by the perfunctory injunction of a few children in a draughty ward. Milne himself always gave "careful injunctions to avoid cold for three weeks and to have the children warmly clad." The method is simplicity itself. But unless its few plain directions have been followed to the letter, it is futile to criticize or condemn. On the Continent there is a growing interest in this method, and the exigencies of medical work under war conditions proved its value to more than one French observer.—I am, etc.,

Belfast, Feb. 15th.

ROBERT WATSON.

#### A JOURNALISTIC INDISCRETION.

SIR,—In view of the recent articles that have been appearing about 86, Brook Street, in the *Daily News*, I feel compelled to ask you to be good enough to publish this brief note, in which I would desire emphatically to dissociate both myself and any of my colleagues from the etiology of those articles.

I may just add that our united disapproval has found expression not only in an attempt on my part to suppress the publication of the last two articles, but also in a letter repudiating all knowledge and responsibility of them, written to the General Medical Council.—I am, etc.,

DRURY PENNINGTON,  
Medical Director.

86, Brook Street, W.1, Feb. 16th.

#### HISTORY OF HARLEY STREET.

SIR,—I am engaged upon a short history of the Harley Street and Wimpole Street district from a medical point of view, as that has, I believe, never been done before. I should be very grateful to any of my professional brethren for personal or topographical information relating to any of the houses in these or adjacent medical streets, including Cavendish Square.—I am, etc.,

26, Welbeck Street, W.1, Feb. 16th.

C. EDWARD WALLIS.

### Obituary.

#### E. E. KLEIN, M.D., F.R.S.,

Formerly Lecturer on Histology and Advanced Bacteriology,  
St. Bartholomew's Hospital Medical School.

DR. EDWARD EMANUEL KLEIN died at his residence in Hove on February 9th, in his 81st year. He was born on October 31st, 1844, at Ersee, near Vienna, the son of a Hungarian merchant, and received his medical education at Vienna. He devoted himself to microscopical anatomy, and before the age of 24 had published a monograph on the oesophageal musculature. In 1869 the New Sydenham Society decided to publish a translation of the *Manual of Human and Comparative Histology*, edited by Professor Stricker of Vienna, and Klein was sent by Stricker to London to make arrangements for this translation. Among those whom he met during this his first visit to England were Huxley, Burdon-Sanderson, and John Simon. He returned to Vienna in the autumn of the same year; but following a parliamentary subsidy of £2,000, voted to enable the medical department of the Local Government Board to undertake special investigations, Sir John Simon, medical officer to the Privy Council and afterwards general medical officer to the Local Government Board, invited Klein to return to England in April, 1871, in order to undertake certain researches of a kind for which he seemed peculiarly fitted.

Those who came in contact with him here recognized him as a brilliant young histologist, well trained in what was then a very brilliant school—Vienna. At that time the earliest work in this country on the particulate nature of contagion was being done by Sir John Burdon-Sanderson; but bacteriology was quite in its infancy. Klein was allotted quarters in the Brown Institute under Burdon-Sanderson, then its superintendent. His early papers are to be found in the Local Government Reports from 1871 onwards; they are essentially the work of a histologist, dealing with the microscopical morbid anatomy of such diseases as sheep-pox, typhoid fever, and scarlet fever. In particular he worked out the histology of the lymphatic

system, and in 1873 published a book on that subject which is justly regarded as a classic. This was followed two years later by another on the lymphatic system of the lungs.

He began bacteriology, after the manner of a histologist, by looking for the infecting agent with a microscope; then after a year or two he got on to cultural work. If Burdon-Sanderson be not so reckoned, Klein was the earliest bacteriologist in England. Burdon-Sanderson went off on physiology; Klein abandoned histology and stuck more and more to bacteriology. The sort of work he did may be judged from the succession of papers he poured out year by year in the Local Government Board Reports. He cannot, of course, be placed alongside Pasteur, who founded bacteriology, or Koch, who developed it as a working science. But Klein did great things for bacteriology in England. He made many mistakes, as we can see now, but he was a pioneer and kept himself and this country abreast of what was going on on the Continent. He did far more than any other man to develop the subject in England. In recognition of his pioneer investigations he was elected a Fellow of the Royal Society in 1875.

Klein had not long settled in London when the Medical School of St. Bartholomew's Hospital secured him as a lecturer on histology, though his broken English was at first a source of merriment to the ribald student. He held this post for many years, and subsequently lectured also on general physiology jointly with Dr. J. S. Edkins, until the latter took over the whole lectureship. In 1890 he opened a private school of bacteriology in Great Russell Street, taking pupils to train, of whom Sir Ronald Ross was one. Sir Frederick Andrewes and Sir William Hamer also worked there under him. A year or two later the Medical School authorities of St. Bartholomew's allotted him a laboratory at the top of the school buildings, where Sir Frederick Andrewes continued to work with him; and was joined later by Dr. Mervyn Gordon and Sir Alexander Houston. To these pupils and fellow workers Klein allotted particular pieces of investigation commissioned by the Local Government Board, for the practical distribution of the annual grant by the Board for research was usually left to him. He went on working in his laboratory at Bart's up to the time of his retirement.

In 1873 he had collaborated with Burdon-Sanderson, Michael Foster, and Lauder Brunton in the preparation of *A Handbook for the Physiological Laboratory*; his section on histology, though very useful to advanced workers, was rather over the head of the ordinary student. In 1879 he published jointly with the medical draughtsman, E. Noble Smith, an illustrated *Atlas of Histology*. In 1883 his well known *Elements of Histology* appeared; this proved very successful, and later editions were translated into French and German. In 1884 he published *Micro-organisms and Disease; an Introduction into the Study of Specific Micro-organisms*, which was considered to be one of the most important books from the point of view of the establishment of bacteriology as a science. In the eighties, in conjunction with Dr. Gibbs, he undertook an investigation of Asiatic cholera, and subsequently produced a form of prophylactic treatment for this disease. He was concerned with several important inquiries: thus, in 1876, he gave evidence before the Royal Commission on Viriscence; in 1893 he investigated the typhoid epidemic in Winchester and Southampton, and the scarlet fever outbreak in Glasgow; subsequently he turned his attention to the bacteriology of food decomposition. He continued his researches for the Government, retaining his appointment under the Local Government Board for about forty years in all. One of his more important investigations was in connexion with the cause of plague; his *Studies in the Bacteriology and Etiology of Oriental Plague* appeared in 1906. Indeed, some of Klein's best work was done late in life. In the course of his inquiries for the Fishmongers' Company he established standards for shellfish pollution, which still hold good. For some years he was an active member of the Scientific Grants Committee of the British Medical Association.

Dr. Klein married in 1877 Sophia Mawley; she died in 1919. He leaves a son, Dr. Bernard Klein, and a daughter. The funeral was on February 12th at Hove Cemetery.

**JAMES WATSON ALLAN, M.B., C.M.,**  
Late Physician Superintendent, City of Glasgow Fever Hospital.

DR. JAMES WATSON ALLAN of Broughton, Peeblesshire, who recently died, was educated at Glasgow, where he graduated M.B., C.M. in 1869. He was elected a Fellow of the Royal Faculty of Physicians and Surgeons of Glasgow in 1918. He spent several years of his early professional life as surgeon to the Belford Hospital at Fort William. At that time he took a very active interest in the geology and natural history of the surrounding country and erected a meteorological outfit in the hospital grounds. Dr. Allan later became physician superintendent to the Belvidere Fever Hospital of Glasgow, where he remained for many years. He was subsequently appointed physician and lecturer to the Royal Infirmary, and established a consulting practice. He was also for some time physician superintendent of the City of Glasgow Infirmary at Bellefield, from which he retired a year or two ago. Dr. Allan was chairman of the Glasgow Central Division of the British Medical Association from 1905 to 1907, and was a member of the Glasgow and West of Scotland Branch Council from 1900 to 1902. He was the author of several publications on infectious diseases and industrial medicine. He was a Fellow of the Society of Antiquaries.

A colleague writes: Dr. Allan was for many years physician superintendent of the City of Glasgow Fever Hospital, Belvidere, and as "Allan of Belvidere" was held in affectionate remembrance by a wide circle of former assistants. Few men can have exerted such a deep influence on his subordinates as he did by his example. He was a man of great sympathy, tact, and consideration for others; while he commanded respect by his wide professional knowledge and devotion to duty, he earned affection by his kindness, unselfishness, and unfeigned sympathetic interest in his subordinates. This interest followed them throughout their subsequent careers. He was a man of wide reading and extensive culture, to whom the saying *Nihil humanum a me alienum puto* was specially applicable. He was a member of the Glasgow Philosophical Society and a Fellow of the Archaeological Society (Scotland). He took an active part in the proceedings of local medical societies, and was at one time president of the Glasgow Southern Medical Society. Dr. Allan was unmarried. He was a brother-in-law of the late Sir William Macewen, who was a fellow student and contemporary at Glasgow University.

**EVAN JONES, M.R.C.S., L.S.A.,**  
Formerly of Aberdare.

THE news of the death of Dr. Evan Jones, formerly of Aberdare, has caused much sorrow in South Wales and will be received with great regret by many old members of the Council of the British Medical Association, who had learnt to respect his sound judgement and to admire his genial character. He was born in 1837 and received his medical education at St. Thomas's Hospital. He took the diplomas of M.R.C.S. and L.S.A. in 1858, and immediately afterwards went as assistant to Dr. Roberts at Aberdare, the centre of a large colliery district. He soon became extremely popular among the workmen, and continued to direct a very large practice in the Aberdare valley until, in 1909, he retired and took up residence in London, where he was often seen at medical dinners and other public functions.

He must have been one of the oldest members of the British Medical Association, for his name appears on the list for 1864—the earliest available. He was a member of the South Wales and Monmouthshire Branch Council for several periods, and became honorary treasurer in 1905; he was elected by the Branch to be its representative on the Central Council of the Association in 1887 and continued to serve until 1904. He was at one time a member of the Journal and Finance Committee. He was also, from 1894 to 1901, a member of the Parliamentary Bills Committee, which at that time did much of the work now conducted by the Medico-Political Committee. He held many appointments in the county of Glamorgan, was one of the oldest magistrates, and an income tax commissioner. He was an

ardent Freemason and was twice Master of the St. David's Lodge, Aberdare—first in 1873, and again, showing how well he was still remembered, in 1923. He joined the Volunteers early in life, rose to the rank of colonel in the Welsh Brigade, and received the V.D. The funeral, which took place at Treccynon, Aberdare, on February 13th, was of a private character.

DR. FRANK W. A. GODFREY of Scarborough died in a nursing home on February 3rd, aged 64. He was born at sea during the voyage of his parents to Australia, and he received his early education in that country. He subsequently studied at the University of Edinburgh, where he graduated M.B., C.M. with honours in 1883. After serving as resident surgeon to the Edinburgh Royal Infirmary and resident medical officer at the Edinburgh Royal Maternity Hospital, he went to Scarborough, and held the post of house-surgeon to the Scarborough Hospital and Dispensary. Later he joined Drs. John and Everley Taylor in partnership, and ultimately became head of the practice. He was appointed to the honorary medical staff of the Scarborough Hospital in 1892, and on his resignation in 1909 was appointed honorary consulting surgeon; he was also president of the hospital in 1917 and 1918. During the war he worked at the Scarborough Hospital. Dr. Godfrey was an ex-president of the York Medical Society, and was president of the Yorkshire Branch of the British Medical Association in 1909. He is survived by his widow and three daughters. Before the commencement of business at the Scarborough Police Court on February 4th the Mayor paid tribute to the memory of the late Dr. Godfrey, who, he said, was a man who did a very great deal of public service and would always be remembered as an ideal citizen.

DR. FREDERICK HENRY DE GRAVES BEST of Waltham Cross died on January 23rd, aged 55. He was educated at St. Bartholomew's Hospital Medical School, and took the diplomas of the Conjoint Board in England in 1895. Three years later he succeeded Dr. Rentzsch in practice at Waltham Cross, and subsequently became medical officer and public vaccinator for the Cheshunt District of the Edmonton Union. He was highly esteemed by his patients and all with whom he came in contact. He was a member of the East Hertfordshire Division of the British Medical Association. The funeral was attended by a number of friends and by representatives of various local bodies.

DR. HENRY G. DEANS of Edenfield died on January 23rd in North Wales, whither he had gone for the benefit of his health, aged 57. He was the son of the late Mr. George Deans, J.P., of Kintore, Aberdeenshire, and was educated at Aberdeen University, where he graduated M.A. in 1887, M.B., C.M. in 1890, and M.D. in 1912. He had practised at Edenfield for about thirty years and was held in high esteem by his patients. He was a member of the Bury Division of the British Medical Association. Dr. Deans was a keen golfer, and in 1923 was chosen to represent the Rosendale Golf Club in the final for the Bury Infirmary gold trophy in aid of the cot fund. He is survived by his widow.

Professor TRENDLENBURG, whose death on December 16th, 1924, in Berlin, was recently announced, was born in 1844. Part of his medical education was obtained in Edinburgh and Glasgow, where Allen Thomson, professor of anatomy, gave him special help and instruction. Having taken part in the wars of 1866 and 1870, Trendelenburg was appointed in 1874 director of the surgical department in the newly erected municipal hospital of Friedrichshain. In the following year he became a professor in the University of Rostock, and subsequently was appointed to the University of Bonn. In 1895 he joined the University of Leipzig, and became director of the surgical clinic. His pioneer work in joint surgery is well known, but he was

also renowned for his work on gastrostomy; he published also monographs on diphtheria and tracheotomy. The Trendelenburg position for operations on the bladder and other pelvic organs may be said to have put surgery of the pelvis on to a systematic basis. He was also responsible for some definite improvements in the treatment of varicose veins, and operations on the nose and face.

Dr. ARTHUR ERNEST HAYWARD of Truro died from pneumonia following influenza on January 27th, aged 62. He was the son of the Rev. G. A. Hayward of Colchester, was a student at St. George's Hospital Medical School, and took the diplomas of M.R.C.S. and L.S.A. in 1884. After a short period of work at Teignmouth and Brixham he went to Australia and practised at Southport near Brisbane, Queensland, and later at Hobart Town, Tasmania. He was honorary secretary and treasurer of the Tasmanian Branch of the British Medical Association in 1916-17, and on the offices being divided he served as treasurer of the Branch for 1918-21. On returning to England three or four years ago he settled at Truro, taking the practice of the late Dr. Aitken. He is survived by his widow and two daughters.

Professor ROBERT GERSUNG, a well known surgeon of Vienna, and one of Billroth's most distinguished pupils, has died at the age of 80.

## Universities and Colleges.

### UNIVERSITY OF OXFORD.

At a congregation held on February 14th the following medical degrees were conferred:

D.M.—W. R. Brain, G. J. D. Hodder.  
B.M.—J. L. Cox, T. H. Cathrall.

### UNIVERSITY OF CAMBRIDGE.

At a congregation held on February 7th the following medical degrees were conferred:

M.B., B.Chm.—E. A. B. Fritchard, B. Broadbent, R. Whittle, W. I. Daggett.  
B.Chm.—E. G. Morris.

### UNIVERSITY OF LONDON.

THE following have been recognized as teachers of the University in the subjects mentioned and at the institutions indicated:

St. Thomas's Hospital Medical School.—Dr. P. H. Mitchiner (anatomy)  
Mr. W. T. ...

D. McAlpine (neurology).  
of Medicine for Women.—Dr. ...  
University College Hospital Medical School.—Dr. Francis M. R. Walsho (oecology).

Lister Institute of Preventive Medicine.—Dr. R. Robison (biochemistry)  
The Royal Dental Hospital and London School of Dental Surgery is continued as a school of the University in the Faculty of Medicine (in dentistry only) for a period of one year from January 1st, 1925.

The date for the commencement of the M.B., B.S. examination has been changed from the fourth Monday in October to the second Monday in November.

The Ph.D. degree in science has been conferred upon Isaac Cohen and Dr. Edward C. Dodds, both of Middlesex Hospital.

Professor F. R. Fraser has been appointed External Examiner in Medicine for the year 1925.

The ceremony of Presentation Day will be held in the Royal Albert Hall on Wednesday, May 13th, at 3 p.m. A graduation dinner will be held at 8 o'clock on the same day in the Drapers' Hall, Throgmorton Street, E.C.

A course of lectures on mental deficiency for medical officers of local authorities and institutions and medical men engaged in work for defectives will be given at the central buildings of the University from May 18th to 23rd; the lectures will be supplemented by a course of clinical instruction.

A Carpenter Medal, together with a money prize, of the value of £20 in all, will be awarded in 1925 for a thesis of exceptional distinction in statistical, genetic, comparative, or experimental psychology, including the functions of the central nervous system and special senses, for which a doctor's degree (other than the Ph.D. degree) has been awarded during the three years ending May 31st, 1925. Applications to be sent in by June 10th to the Academic Registrar, from whom further particulars may be obtained.

Applications for grants from the Dixon Fund for assisting scientific investigations must be sent in by May 15th to the Academic Registrar.

Applications for grants from the Thomas Smythe Hughes Medical Research Fund for assisting original medical research must be sent in not earlier than May 1st and not later than June 15th, 1925. Particulars can be obtained on application to the Academic Registrar.

A University Studentship in Physiology, of the value of £50 for one year, and tenable in a physiological laboratory of the University or of a school thereof, will be awarded to a student qualified to undertake research in physiology. Applications must be received by the Principal Officer by June 1st, 1925.

### NATIONAL UNIVERSITY OF IRELAND.

THE Calendar for 1924 of the National University of Ireland contains an account of the establishment and constitution of the University, its regulations, constituent colleges, and various examinations. The names of the successful candidates in the examinations held in 1923 are published, and a list is supplied of the professors, lecturers, graduates, and diplomates of the University.

## MECHANICAL RESTRAINT OF LUNATICS.

A REGULATION, dated January 7th, 1925, has been made by the Board of Control under Section 40 of the Lunacy Act, 1890. This section deals with mechanical means of bodily restraint, and declares that this shall not be applied to any lunatic unless the restraint is necessary for medical and surgical treatment, or to prevent the lunatic from injuring himself or others. By the new regulation the Board determines that "mechanical means of bodily restraint" shall include all instruments and appliances whereby the free movements of the body or of any of the limbs of a lunatic are restrained or impeded, but that the following instruments and appliances only shall be used for such purposes:

I. A jacket or dress, made of strong linen or some other strong material (a) laced or buttoned down the back, having long outside sleeves fastened to the dress only at the shoulders, with closed ends to which tapes may be attached for tying behind the back when the arms have been folded across the chest; or (b) of some other pattern approved under the seal of the Board, a sample bearing the seal of the Board being in this case kept at the institution or workhouse for inspection.

II. Gloves without fingers, so fastened at the wrists that they cannot be removed by the wearer, and made of linen, leather (chamois or other), or some strong material, padded or otherwise.

III. Sheets or towels, when tied or fastened to the sides or ends of a bed or to other objects.

IV. If, in the opinion of the medical officer or medical practitioner who gives the certificate required by the section, some other mechanical means of bodily restraint is necessary in a particular case where the circumstances are exceptional, such means may be used with the previous sanction of the Board for such period as they may authorize.

During the use of any of these forms of restraint, except No. II, the patient must be visited frequently by a medical officer and be kept under continuous special supervision by an attendant. The following are not to be regarded as mechanical means of bodily restraint within the section, but are to be used only under medical order, and their use must be entered on the clinical records:

(a) The continuous bath. A cover shall not be used unless the aperture therein for the patient's head is large enough for his body to pass through.

(b) The dry and wet pack. No straps or ligatures of any kind shall be used, and the patient shall be released for necessary purposes at intervals not exceeding two hours.

(c) Splints, bandages, and other like appliances when used in accordance with recognized surgical practice for operations or the treatment of fractures or other local injuries, and not so as to interfere with the free movement of the body or limbs more than is necessarily incident to their use for such purpose.

(d) Gloves, if so fastened as to be removable by the wearer.

(e) Sheets or towels used only for the purpose of artificial feeding, and merely held, not tied or fastened.

(f) Trays or rails fastened to the front of chairs used by idiot children, cripples, or aged infirm adults to prevent their falling out and thereby injuring themselves, provided in the case of adults that it is within the patient's power to undo the fastening.

In framing this regulation, which defines the mechanical means which may alone be used, the Board has merely discharged the duty cast upon it by Subsection 6 of Section 40. It desires to guard itself most strictly against the supposition that it has thereby given any greater countenance to the employment of this form of treatment than it has hitherto shown. While recognizing the possible occurrence of cases in which its employment may be necessary and consistent with humanity, it remains of opinion that the application of mechanical restraint should always be restricted within the narrowest possible limits, that it should not be long continued without intermission, and that it should be dispensed with immediately it has effected the purpose for which it was employed. The regulation will come into operation on April 1st, 1925.

## Medical News.

A TELEGRAM from New York was published in the newspapers last week announcing that "a chemical compound which kills all germs in the kidneys and urinary tract" was being used with success at Johns Hopkins Hospital, Baltimore. It was said to have been discovered by Dr. Veador Leonard, working in co-operation with Professor Treat B. Johnson of Yale. The compound is stated to be hexylresorcinol. Mr. Frank Kidd has pointed out to us that Leonard published a full account of his researches in the *Journal of Urology*, December, 1924, and was careful to state that the drug seemed to act powerfully against Gram-positive cocci but to have an incomplete effect in the human being against the colon bacillus, except in very mild infections. Mr. Kidd adds that he has found that less than 10 per cent. of kidney infections are due to the coccal group of bacteria, the majority being due to the colon bacillus.

IN connexion with the arrangements recently entered into by the London School of Hygiene and Tropical Medicine with the Government of Southern Rhodesia for the development of research work in that country, the London School has appointed for a term of three years G. R. Ross, M.B., Ch.B., D.P.H., Ph.D., to be Rhodesian Research Fellow. Dr. Ross is at present lecturer in bacteriology in Leeds University. He will go to Salisbury, Southern Rhodesia, early in March, and will first study the etiology and pathology of blackwater fever. The laboratory at Salisbury has been placed by the Government of Southern Rhodesia at his disposal, and later investigations on lines from time to time to be agreed by Dr. Andrew Balfour, the Director of the School, in consultation with Dr. Andrew Fleming, the Medical Director, Southern Rhodesia.

THE Home Secretary issued on February 16th new regulations for workers exposed to the danger of silicosis. They will come into force on May 1st and apply to industries dealing with materials containing over 80 per cent. total silica. The Home Secretary is to appoint a medical board, and a company will be formed to collect funds from employers and distribute them to workers who have been awarded compensation by the board. Medical examinations of the workers are to be made at prescribed intervals, with a view to suspending from employment any found to be suffering from silicosis or tuberculosis. Workmen will also be examined when beginning such employment for the first time, in order that any with cardiac or pulmonary impairment may be excluded.

THE Fellowship of Medicine announces that Professor H. Maclean will lecture at the Royal Society of Medicine on March 20th, at 5.30 p.m., on renal disease, its diagnosis and treatment. On March 2nd also a three weeks' course in medicine, surgery, and gynaecology will commence at the Royal Waterloo Hospital, and, beginning on March 9th, the Central London Ophthalmic Hospital has arranged a four weeks' afternoon course. The Chelsea Hospital for Women and the Hospital for Diseases of the Chest (Brompton) have each arranged a two weeks' course to begin on March 16th. The last fortnight of March will be devoted to an intensive course arranged by the Royal Northern Hospital with the Royal Chest Hospital. The second week of the intensive course at the Prince of Wales's General Hospital, Tottenham, begins on February 23rd. An informal discussion on post-graduate study, open to all members of the medical profession in London as well as members of the Fellowship of Medicine from the provinces and overseas, will be held on March 18th, at 6 p.m., at the Royal Society of Medicine. Copies of the syllabus of each course may be obtained from the Secretary to the Fellowship at No. 1, Wimpole Street, W.1.

A COURSE of three lectures, on the history of influenza, diphtheria, and typhoid fever respectively, will be delivered by Dr. Charles Singer at University College Hospital Medical School on March 5th, 12th, and 19th. The lectures, which will be given at 4.15 p.m. on each day, are open to medical students of the University of London.

A MEETING of the Federation of Children's Rescue Committees will be held at the Kingsway Hall, Kingsway, W.C., on Friday, March 6th, at 5.15 p.m., when the Duchess of Atholl, D.B.E., M.P., will take the chair. The speakers include the Bishop of Kingston, Dr. A. H. Norris (Chief Inspector, Children's Branch, Home Office), and Dr. Elizabeth Sloan Chesser.

THE next meeting of the Maternity and Child Welfare Group of the Society of Medical Officers of Health will be held on Friday, February 27th, at 5.30 p.m., at 1, Upper Montague Street, Russell Square, W.C. Mr. Somerville Hastings, F.R.C.S., will give a lecture, with lantern illustrations, on "Measures to prevent aural defects."

At the meeting of the Industrial Applications Section of the Royal Microscopical Society on Wednesday next, at 20, Hanover Square, Dr. James A. Murray will at 7.30 p.m. begin the first of a series of three lecture demonstrations on the making of microscopical preparations. The first lecture will deal with wet preparations. The first lecture

THE jubilee of the Metropolitan (Queen's) Nursing Association for Nursing the Poor in their own Homes will be celebrated by a service in St. Martin's-in-the-Fields at 2.15 p.m. on March 18th.

THE trustees of the Ella Sachs Plotz Foundation for the Advancement of the Scientific Investigation announce that applications for grants to be held during 1925-26 should be in the hands of the executive committee before May 15th. If all the funds are not assigned in the spring, further consideration will be given to applications received before September 15th. Such applications should be sent to the secretary of the executive committee, Dr. F. W. Peabody, Boston City Hospital, Boston, Massachusetts, U.S.A., from whom further information may be obtained. Researches will be favoured that are directed towards the solution of problems in medicine and surgery, or in branches of science bearing on apparatus and supplies needed for special investigations. Thirty-two applications were received during last year, and grants were made in eight instances—six in the United States, one in France, and one in Switzerland.

THE metropolitan borough council of Bermondsey has adopted a scheme of health propaganda. The programme covers a wide range, including questions of preventable and other diseases, housing, personal hygiene, food, and industrial diseases, and the propaganda is to be undertaken by leaflets, advertisements, electric signs, town-hall lectures, open-air demonstrations, and the establishment of a central office of information. There are indications that the enterprise of Bermondsey may stimulate other bodies, including the London County Council, to similar efforts.

THE King has granted permission to Dr. A. J. Ornstein to wear the Cross of Chevalier de l'Ordre de la Couronne conferred upon him by the King of the Belgians in recognition of valuable services rendered in combating malaria in the Katanga province of the Belgian Congo.

THE half-yearly election for the admission of fatherless children to the Royal Infant Orphanage, Wanstead, E.11, will be held in May next. Children are received from birth up to 7 years of age and maintained and educated until 16. Application should be made as early as possible to the secretary at the orphanage.

THE University of Bari, in Southern Apulia, which was inaugurated on January 15th, possesses a medical faculty with chairs in clinical medicine, clinical surgery, gynaecology, and obstetrics, ophthalmology, hygiene, medical anatomy, and pharmacology and therapeutics.

THE late Dr. Herbert Williamson, physician accoucheur to St. Bartholomew's Hospital, who left estate of the gross value of £62,932, with net personally £61,336, bequeathed £1,000 to the endowment fund of St. Bartholomew's Hospital Medical College.

THE issue of the *Paris Médical* for February 7th is devoted to physiotherapy. Professor Regaud contributes an account of the physiological basis of radiotherapy of malignant growths, and A. Lacassagne reviews the present position of radio-active substances in internal medicine. J. Lavedan discusses the cardio-vascular reactions due to x rays, and R. Proust and R. Coliez consider the possibility of improving the penetration of x rays and radium emanations.

THE widow of the late Dr. Paul Delbeuf, whose death we announced in our issue of January 31st (p. 246), has offered an annual prize of 1,000 francs to be awarded by the Société de Chirurgie for the best work on a gynaecological subject. The typescript should be sent to the general secretary, M. Barbarin, Avenue du Président Wilson, Paris, before March 1st.

AN Italian League against sexual dangers has recently been formed under the presidency of Professor Ettore Levi. Two courses in tropical medicine and medical parasitology will be held during the year at the Hamburg Institute for Marine and Tropical Hygiene. The first will take place from March 9th to May 16th, and the second from October 2nd to December 12th. Further information can be obtained from the Institut für Schiffs- und Tropen-Hygiene, Bernhardstrasse 74, Hamburg 4.

AN institute for the study of occupational diseases has been founded at Leningrad under Government auspices. The new institute for the study of criminal psychology in Paris is to be named after Lombroso. THE Minister of Health has appointed Mr. Howell E. James to be secretary of the Welsh Board of Health.



## Letters, Notes, and Answers.

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the *BRITISH MEDICAL JOURNAL* alone unless the contrary be stated. Authors desiring reprints of their articles published in the *BRITISH MEDICAL JOURNAL* are requested to communicate with the Financial Secretary and Business Manager, 423, Strand, W.C.2, on receipt of proof.

ALL communications with reference to advertisements as well as orders for copies of the *JOURNAL* should be addressed to the Financial Secretary and Business Manager, 423, Strand, London, W.C.2. Attention to this request will avoid delay. Communications with reference to editorial business should be addressed to the Editor, *BRITISH MEDICAL JOURNAL*, 423, Strand, W.C.2. Communications intended for the current issue should be posted so as to arrive by the first post on Monday or at latest be received not later than Tuesday morning.

The telephone number of the *BRITISH MEDICAL ASSOCIATION* and *BRITISH MEDICAL JOURNAL* is Gerrard 2630 (Internal Exchange). The telegraphic addresses are:

EDITOR of the *BRITISH MEDICAL JOURNAL*, *Antiology Westrand*, London.

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate Westrand*, London.

MEDICAL SECRETARY, *Mediscera Westrand*, London.

The address of the Irish Office of the *British Medical Association* is 16, South Frederick Street, Dublin (telegrams: *Barillus, Dublin*; telephone: 4737 Dublin), and of the Scottish Office, 6, Rutland Square, Edinburgh (telegrams: *Associate, Edinburgh*; telephone: 4361 Central).

### QUERIES AND ANSWERS.

#### SNORING.

DR. SAMUEL SAMUEL (Leeds) writes: In reply to "Wiltshire," the snoring is probably due to the patient recently acquiring, owing to some state of health, the habit of sleeping on his back. If the patient will make an effort to resume sleeping on his side the "flapping" of the soft palate causing the snoring will cease.

#### INCOME TAX.

##### Assistant's Expenditure.

"A. G." who qualified in 1922, acted during the year ended April 5th, 1924, as a temporary assistant, then as a ship surgeon, and afterwards as a locum tenens. During 1924 he had been holding an appointment as an assistant. Can he deduct any of the following expenses: (1) Agents' fees, (2) travelling expenses, (3) purchase of necessary instruments, (4) cost of sea kit (ship's uniform, etc.)?

\*. The governing principle is that expenses must be incurred wholly, exclusively, and necessarily in the performance of the duties of the office. Applying this rule as judicially interpreted: (1) Agents' fees are incurred prior to the performance of the duties and strictly are not allowable; we believe, however, that they are often allowed in the case of locum tenens, on the ground that the person doing such work is not so much holding a succession of appointments as exercising his profession in a particular way. The position as to (2)—travelling expenses—is the same as in the case of agents' fees. (3) Expenditure on the purchase of instruments is allowable only in respect of sums spent on their replacement and maintenance—the cost of acquiring or improving the equipment is capital outlay. (4) The cost of the sea kit would not be allowable.

### LETTERS, NOTES, ETC.

#### A DISCLAIMER.

THE EDITOR OF THE "LANCET" (423, Strand) writes: As communications have reached this office suggesting that a compliment paid to the *Lancet* recently in a Sunday newspaper was inspired by some member of the staff, will you let me assure your readers that this was not the case, and that the views expressed are not ours.

#### INUNCTION TREATMENT OF SCARLET FEVER.

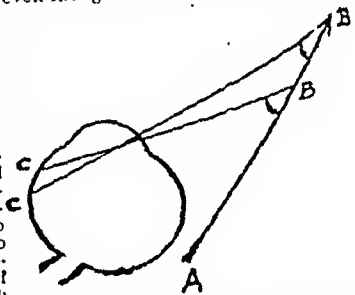
DR. JOHN BROWN writes: A letter issued by Dr. W. Roberts referred to in the *JOURNAL* of Jan. 10, 1925, I can support by many years' experience. I used pure carbolic oil, which was given freely in all cases of scarlet fever. The results were excellent and fully justified the Milne method of treatment. I published a paper on the prophylactic advantages of early and continued inunction of carbolic oil in scarlet fever in the *BRITISH MEDICAL JOURNAL*, 1887. Moreover, I am confident that scarlet fever should not be treated in hospitals if this can be avoided. The disease tends to be more severe when so many are in one hospital. With plenty of fresh air and isolation in the home, with inunction, results are more favourable. Burning a little brimstone on hot cinders in the sick room should be done.

#### TREATMENT OF DIABETES INSIPIDUS.

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DR. R. C. EVERITT ATKINSON, Commissioner of Public Health in Western Australia, has published a small book entitled *Hygiene Jingles* (Hospital Electrical and Radium, Ltd., Adelaide), with lyrics in sound principles. The author's intention in his preface is as follows: "in a sentence in his preface, tragically of elegantly of a rubbishy bin, tragically of a mosquito, feelingly of a fly, or sympathetically of your 'inside,' and see how really difficult it is." His success may be judged perhaps by the following stanza:

A girl who's nice  
May once or twice  
Have ulits or leo  
Within her hair,  
But self respect  
Will soon detect  
And then eject  
Them from their lair.

#### VACANCIES.

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## An Address

ON

## SOME ASPECTS OF CHOLELITHIASIS.

DELIVERED BEFORE THE LISTERIAN SOCIETY, KING'S COLLEGE HOSPITAL, ON JANUARY 21ST, 1925,

BY

SIR BERKELEY MOYNIHAN, Bt., K.C.M.G.,  
M.S. LOND., F.R.C.S.

SENIOR SURGEON, LEEDS GENERAL INFIRMARY.

THE surgery of cholelithiasis has two objects: it is concerned primarily with the health or the rescue of the individual patient; it is now concerned also with an attempt to discover the causes of the condition, so that its prevention may, in some degree at least, become possible. Research, no less than therapy, is an aim of all the methods of surgery.

In an investigation of cases of cholelithiasis the conclusion has been reached that two factors are of chief importance in respect of causation: infection, and an increase in the cholesterol content of the blood.

Infection may be derived from any source—from the teeth; from the facial sinuses; from any part of the alimentary canal; from the urinary system; from other foci within, or without, the abdomen. Theoretically there is no infection which cannot, when uncontrolled, gain access to the blood and so find its way to any part of the body. The infections so arising find their way to the gall bladder by several routes. If they are alimentary in origin they may ascend from the duodenum along the common duct; they may reach the liver, through the portal circulation, and thence descend with the bile. They may be borne by the blood, or by the lymph stream; or may attack the gall bladder by direct invasion from a neighbouring organ. The immediate effect produced upon the gall bladder varies in different instances. If contaminated bile is the direct source of the infection the mucosa is first attacked, and the inflammatory changes pass outwards through all the walls of the gall bladder. If the disease is blood-borne, little clumps of organisms are first seen in the submucosa, and a crowd of leucocytes surrounds them. The inflammatory process thence extends inwards to the mucosa and perhaps outwards to the peritoneum. The infection of the gall bladder found in typhoid fever seems to start with great frequency in this fashion. If the invasion occurs through the lymph stream or by direct contiguity, the serosa is first infiltrated by organisms, which make their way slowly inwards towards the mucosa. Sections made of the gall bladder have demonstrated quite clearly these several paths of infection. In cases of multiple gall stones infection is invariably present in the gall-bladder wall. The view has been expressed that infection is the consequence, and not one of the chief causes, of the development of calculi. Such evidence as I have been able to gather seems to indicate quite indisputably that infection always precedes the deposit of stones. Indeed, our search now inclines to the recognition of infection in the gall bladder during the period before the stones are formed. The most frequent agent of infection in the gall bladder is the *Bacillus coli*. It is found in all stages of cholelithiasis, from the earliest to the most advanced. Table I shows this unmistakably. In many cases of cholelithiasis a history of other forms of *B. coli* infection, especially of the urinary tract, may often be elicited. Women are afflicted with gall stones at least twice as often as men. They are apt to suffer from bacilluria; and in the periods of pregnancy pyelitis or cystitis of *B. coli* origin is no uncommon event. There would appear to be a connexion between the infections of the urinary tract and those of the gall bladder. Walton in particular has emphasized the truth of this observation.

The infection which sets going a process of calculus formation must be mild and is often recurrent: it waxes and wanes. If it is severe an acute cholecystitis develops, and gangrene or perforation may occur. As this acute infection subsides it may leave a crippled gall bladder incapable alike of secreting or of discharging its contents; and stasis

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A.—Showing the Relation between Degree of Lesion and Type of Infection.

	Streptococci	B. coli	Double Infection	B. proteus	Other Infection: B. lactis, Staphylococcus, Pneumococcus
Early lesion	5	19	1	1	14
At acute	1	7	2	—	5
Subacute cholecystitis	2	14	2	1	9
Chronic cholecystitis	—	2	—	—	2
Empyema of gall bladder	—	1	—	—	4
Total percentage	8	45	5	2	33

B.—Showing the Organisms found on Histological Examination of the same Cases.

	In Mucosa	In Peritoneum	All 4 rough	Total
Streptococcus	4	6	—	10
Pneumococcus, etc.	17	15	3	35
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and a milder sepsis may then together lead to the growth of stones. If the infection is mild there appear to be pauses in the growth and activity of the organisms, for after cholecystectomy the bile may be found sterile, and the walls of the gall bladder, though crowded with organisms, may show only an attenuated growth, or even none, on culture. The incidence, the abeyance, and the recurrence of infection are shown by the existence of several generations of stones in the gall bladder, each generation having stones of the same size—larger if of older date, smaller if more recent. Three generations are often found.

When infection, from whatever source derived, reaches the cavity of the gall bladder, where an excess of mucus is quickly secreted and produces stagnation, the process of calculus formation may begin. An examination by a rare of the gall bladder after removal shows that, as a rule, the smaller the stone the larger the proportion of cholesterol that it contains—the smaller stones, that is, are almost translucent. As they grow larger calcium begins to be deposited upon a spot here and there; the area covered increases, and finally the complete closure of a cholesterol nucleus in a calcium capsule may be seen. In other instances the calcium seems to infiltrate the stone, swelling in towards the centre. In still others the nucleus of the stone is a dark spot of calcium and cholesterol is deposited around it. The calcium is no doubt derived in part from the mucus secreted in excess and in part from the inflammatory fluids poured into the gall bladder when the infection has aroused a great response. We do not at present know why in one case cholesterol is the chief constituent of gall stones, and why in another calcium is the component. The connexion between a preponderance of cholesterol in the stones and a high cholesterol content of the blood is clearly suggested by our experience to be presently mentioned, and calcium is doubtless an evidence of a subdued, though persistent, local infection, and perhaps, too, an evidence of a deranged calcium metabolism of which in this connexion I know nothing. The infective origin of multiple gall stones can hardly be disputed; and the aphorism I ventured to express many years ago, that "a gall stone is a tombstone erected to the memory of the stones within it," remains true. These buried organisms are not always dead. I have found typhoid organisms viable twenty-eight years after the occurrence of typhoid fever; and Finney relates a case in which living typhoid organisms were found in the centre of gall stones thirty-five years after an attack of enteric fever.

## Letters, Notes, and Answers.

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the BRITISH MEDICAL JOURNAL alone unless the contrary be stated. Authors desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Financial Secretary and Business Manager, 429, Strand, W.C.2, on receipt of proof.

ALL communications with reference to advertisements as well as orders for copies of the JOURNAL should be addressed to the Financial Secretary and Business Manager, 429, Strand, London, W.C.2. Attention to this request will avoid delay. Communications with reference to editorial business should be addressed to the Editor, BRITISH MEDICAL JOURNAL, 429, Strand, W.C.2.

Communications intended for the current issue should be posted so as to arrive by the first post on Monday or at latest be received not later than Tuesday morning.

The telephone number of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is Gerrard 2630 (Internal Exchange). The telegraphic addresses are:

EDITOR of the BRITISH MEDICAL JOURNAL, Aitiology Westrand, London.

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), Articulate Westrand, London.

MEDICAL SECRETARY, Medicisera Westrand, London.

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 4737 Dublin), and of the Scottish Office, 6, Rutland Square, Edinburgh (telegrams: *Associate, Edinburgh*; telephone: 4361 Central).

### QUERIES AND ANSWERS.

#### SNORING.

DR. SAMUEL SAMUEL (Leeds) writes: In reply to "Wiltshire," the snoring is probably due to the patient recently acquiring, owing to some state of health, the habit of sleeping on his back. If the patient will make an effort to resume sleeping on his side the "flapping" of the soft palate causing the snoring will cease.

#### INCOME TAX.

##### Assistant's Expenditure.

"A. G.," who qualified in 1922, acted during the year ended April 5th, 1924, as a temporary assistant, then as a ship surgeon, and afterwards as a locumtenent. During 1924 he had been holding an appointment as an assistant. Can he deduct any of the following expenses: (1) Agents' fees, (2) travelling expenses, (3) purchase of necessary instruments, (4) cost of sea kit (ship's uniform, etc.)?

The governing principle is that expenses must be incurred wholly, exclusively, and necessarily in the performance of the duties of the office. Applying this rule as judicially interpreted: (1) Agents' fees are incurred prior to the performance of the duties and strictly are not allowable; we believe, however, that they are often allowed in the case of locumtenents, on the ground that the person doing such work is not so much holding a succession of appointments as exercising his profession in a particular way. The position as to (2)—travelling expenses—is the same as in the case of agents' fees. (3) Expenditure on the purchase of instruments is allowable only in respect of sums spent on their replacement and maintenance—the cost of acquiring or improving the equipment is capital outlay. (4) The cost of the sea kit would not be allowable.

### LETTERS, NOTES, ETC.

#### A DISCLAIMER.

THE EDITOR of the "LANCET" (423, Strand) writes: As communications have reached this office suggesting that a complimentary paid to the *Lancet* recently in a Sunday newspaper was inspired by some member of the staff, will you let me assure your readers that this was not the case, and that the views expressed are not ours.

#### INUNCTION TREATMENT OF SCARLET FEVER.

DR. JOHN BROWN (Blackpool) writes: The circular letter issued by Dr. W. Robertson, M.O.H. for Edinburgh, and referred to in the JOURNAL of January 31st (p. 323), is one that I can support by many years' experience as M.O.H. for the borough of Bacup. I used pure carbolic oil, which was given freely in all cases of scarlet fever. The results were excellent and fully justified the Milne method of treatment. I published a paper on the prophylactic advantages of early and continued inunction of carbolic oil in scarlet fever in the BRITISH MEDICAL JOURNAL, 1887. Moreover, I am confident that scarlet fever should not be treated in hospitals if this can be avoided. The disease tends to be more severe when so many are in one hospital. With plenty of fresh air and isolation in the home, with inunction, results are more favourable. Burning a little brimstone on hot cinders in the sick room should be done.

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Empyema of gall bladder	—	4	—	—	4
Total percentage ...	8	46	5	2	33

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	In Mucosa.	In Peritoneum.	All thorough.	Total.
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and a milder sepsis may then together lead to the growth of stones. If the infection is mild there appear to be pauses in the growth and activity of the organisms, for after cholecystectomy the bile may be found sterile, and the walls of the gall bladder, though crowded with organisms, may show only an attenuated growth, or even none, on culture. The incidence, the abeyance, and the recurrence of infection are shown by the existence of several generations of stones in the gall bladder, each generation having stones of the same size—larger if of older date, smaller if more recent. Three generations are often found.

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So far I have spoken of multiple gall stones. On occasion we find not many stones but one only. A solitary stone is composed of pure cholesterol; it is not caused by infection, though it may set infection going by becoming impacted once or oftener in the cystic duct. It causes no "inaugural" symptoms. No evidence of its existence is given until it suddenly becomes lodged in the pelvis of the gall bladder and occludes the cystic duct. This event rarely takes place until the stone is of the size of a nutmeg. The stone is irregular and warty on the surface, like beeswax in appearance, almost translucent; and on section shows a characteristic appearance of spokes radiating from the centre. When the stone is larger calcium may be deposited between these spreading lines, or upon the surface. The solitary cholesterol stone, then, is not caused by infection, but results from a condition of hypercholesterolaemia. The diagnosis of "solitary cholesterol stone" is easily made when one remembers that none of the prodromal symptoms of cholelithiasis are present. The first symptom is an agonizing attack of pain coming quite suddenly, seizing the right half of the abdomen, piercing through to the shoulder blade, spreading across the epigastrium, and producing infinite unrest, difficulty in deep breathing, sweating, and prostration, until, in an instant, relief comes. The stone is released as quickly as it was engaged. When such events are repeated infection in the gall bladder is a necessary consequence.

The question of the cholesterol content of the blood is one for close examination in all suspected cases of cholelithiasis. With the skilful help of Dr. Cecilia Shiskin 280 patients suffering from various abdominal diseases requiring operation have been examined (Table II). Of

TABLE II.—HYPERCHOLESTEROLAEMIA IN RELATION TO DIAGNOSIS.

## A.—Types of Disease.

Type of Disease.	Hyper-cholesterol-aemia.	"High Normal."	Total.
	Per cent.	Per cent.	Per cent.
Gall bladder cases ... ..	65.0	23.0	88.0
Gastric and duodenal cases ...	16.4	11.2	27.6
Other diseases ... ..	22.9	13.0	35.9

## B.—Details in 280 Cases.

Nature of Case.	Cholesterol in Blood.			Total.
	Below 0.160 per cent.	160 to 0.200 per cent.	Over 0.200 per cent.	
Gall bladder disease—				
(a) Stone ... ..	12	29	60	101
(b) Cholecystitis, etc. ...	4	6	8	18
Gastric ulcer ... ..	8	13	5	26
Duodenal ulcer ... ..	25	10	5	41
Jejunal ulcer ... ..	5	—	1	6
Carcinoma (gastric, pancreatic)	8	2	4	14
Chronic appendicitis ...	5	9	2	16
Acute yellow atrophy ...	1	—	—	1
Hædatid cyst of spleen ...	—	1	—	1
Abdominal adhesions ...	—	—	—	—
Visceroptosis ... ..	22	12	11	45
Pernicious anaemia ... ..	1	—	—	1
Splenic anaemia ... ..	3	—	—	3
Haemolytic jaundice ... ..	7	—	—	7
Total ... ..	—	—	—	280

these, 101 were cases of cholelithiasis. Cholesterol is a member of the important group of substances known as lipoids. It is an invariable constituent of all active cells of the body, both in its free form and in combination as ester.

In disease it may occur in abnormal amounts in various organs, tissue fluids, and calculi. It is present in the blood in very variable quantities. The normal amount may be stated as 0.160 per cent., and in older people as rather more than this. For purposes of classification (Fig. 1) we regard

Less than 0.133 per cent. as indicating hypocholesterolaemia.  
Between 0.133 and 0.160 per cent. as being normal.  
Between 0.160 and 0.192 per cent. as being high normal.  
Above 0.192 per cent. as indicating hypercholesterolaemia.

Hypercholesterolaemia is found in cases of arterio-sclerosis, chronic nephritis, diabetes, the later months of pregnancy, and in cholelithiasis.

Of 101 cases of cholelithiasis (proved by operation) 66.4 per cent were females. The average cholesterol value

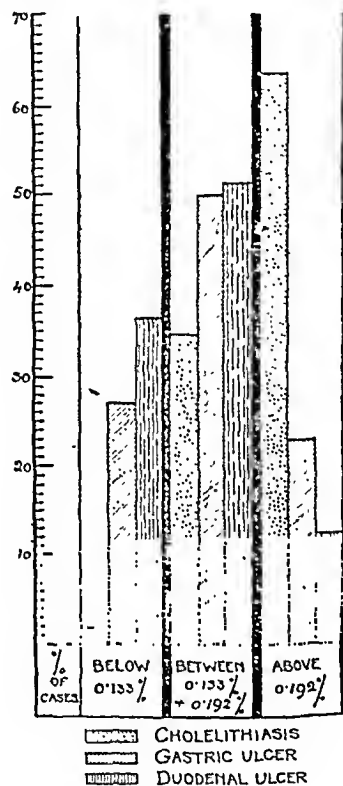


FIG. 1.

was 0.217 per cent.; 65 per cent. of cases showed hypercholesterolaemia; 23 per cent. had high normal values; 11.5 per cent. had normal values; and 2 cases only showed hypocholesterolaemia—one patient was a man aged 76, the other suffered from an acute empyema of the gall bladder. In both a low value was therefore to be expected.

It is interesting to compare these figures with those obtained in cases of gastric and duodenal ulcer. Twenty-six cases of gastric ulcer were examined; the average cholesterol value was 0.167 per cent.; 27 per cent. of the cases showed hypocholesterolaemia; 50 per cent. gave normal values; and 23 per cent. hypercholesterolaemia. Forty-one cases of duodenal ulcer were examined; the average value was 0.149 per cent.; 36.6 per cent. of the cases showed hypocholesterolaemia; 51.2 per cent. gave normal values; and 12.2 per cent. showed hypercholesterolaemia; and in some of these arterio-sclerosis was noted.

The diagnostic significance of an increased cholesterol content of the blood is therefore important. Over 75 per cent. of patients in whom hypercholesterolaemia was found were suffering from cholelithiasis. The blood examined after operation shows that after all operations of magnitude there is a fall in the cholesterol content. This fall is followed slowly, as a rule, by a rise which may carry the content up to or beyond the normal. A condition of

hypercholesterolaemia may then persist unless measures are taken to reduce the accumulation of cholesterol. To this end a careful supervision of the dietary is necessary. I have followed Chaulffard in this matter, and I now give to all patients after operation the following chart.

#### DIETARY.

This régime seeks to achieve three objects: to avoid any digestive disturbance; to decrease, or at any rate not to increase, the cholesterol content of the blood; and to prevent intestinal infection which might give rise to infection of the biliary tract.

#### Forbidden.

Fat and eggs.

Stews and fried foods.

Sweetbreads and liver, goose, duck, kidneys, black pudding. Pork, game, high or spiced dishes, oily fish, soft roe, caviare.

Cooked butter.

Peas, cabbage, raw vegetables.

Strong cheeses.

(Sweets made with eggs may be taken.)

Avoid aerated waters, alcoholic beverages, beer, and liquors. Take alkaline drinks and a drink of hot water at the end of each meal.

Frequent small meals, rather than a few heavy meals, should be taken.

#### Admitted.

Skimmed milk.

Soups made with milk, vegetables, rice, semolina, tapioca.

White meats, lean meats, boiled, grilled, or roasted.

Salt-water fish, containing little fat or oil (for example, sole, whiting, turbot, brill), and river fish, provided they are fresh and not fried.

Cereals.

Potatoes, mashed or in their jackets, turnips, endives, spinach, artichokes, asparagus, vegetables in purées, rice, vermicelli and macaroni.

Mild cheeses.

Fruit—after three months.

The greater frequency of cholelithiasis in women may be in some measure due to their blood condition. Dr. Cecilia Shiskin has found that just preceding and during the first day or two of menstruation the cholesterol content is high (Fig. 2); and that during pregnancy this value steadily augments (Fig. 3) until in the ninth month it is approximately double the normal. Percent.

We did not derive much help in diagnosis from an examination of the stomach contents by the Rikhsuss method. Out of 77 cases we found complete achlorhydria in 17, hypochlorhydria in 3, a low normal in 14, a normal in 18, a high normal in 8, and hyperchlorhydria in 17. The "types," of course, were not significant. The only point here which needs comment

is that which concerns the rather large proportion of cases in which achlorhydria was present. In all these the administration of dilute hydrochloric acid after operation (50 drops in a tumblerful of water once or twice daily at meal times) is necessary. The rate of emptying the stomach in these cases was: rapid in 27; normal in 34; delayed in 16. The normal period for emptying after the test meal is from one and three-quarters to two and a half hours.

#### DIAGNOSIS.

The diagnosis of cholelithiasis does not, as a rule, present much difficulty, for the formation of stones in the gall bladder, and those attempts at migration which cause hepatic colic, are terminal events. Cholecystitis precedes

cholelithiasis in all cases except those in which the solitary cholesterol stone is present. Our endeavour should be to recognize the presence of the infected gall bladder before the stones have had time to form. The symptoms to which I drew special attention in 1908<sup>1</sup> as "inaugural" are amply sufficient to indicate the existence of cholecystitis. They are symptoms referred by the patient to the stomach. The complaints are of a fullness, weight, distension or oppression in the epigastrium, coming as a rule within half or three-quarters of an hour after meals, relieved by belching, and dismissed almost on the instant by vomiting. These sensations are elicited with remarkable constancy by certain articles of diet, especially those containing greasy or acid material. There is a sensation of tightness, which, if unrelieved, may become acutely painful; by it the patient is made restless, and from it he obtains relief by bending the body forwards, by flexing the right thigh on the abdomen, or by loosening all garments which press upon the waist. There is often a complaint of acidity or heartburn, and in the act of belching there may be bitter and acid regurgitation. Many patients notice that quite suddenly there may be a great gush of saliva into the mouth. While discomforts last there may be a "catch in the breath." When a deep forced breath is taken an acute stabbing pain may be felt on the right side, of such severity that the act of respiration is suddenly checked. Faintness, nausea, sweating of the face and neck, and a sense of great prostration may be followed by vomiting. There may be a slight sensation of chilliness and of shivering, especially in the evenings; "goose-flesh" is mentioned repeatedly in the clinical histories as a very disagreeable experience. Upon all these symptoms, which may exist for years, a series of attacks of colic may be imposed. Our efforts, however, should now be directed to the recognition of the precalculeous stage of the disease. Recently, with the very skilful co-operation of Dr. L. A. Rowden, this aspect of our work has received close attention.

The radiological evidence of a pathological gall bladder

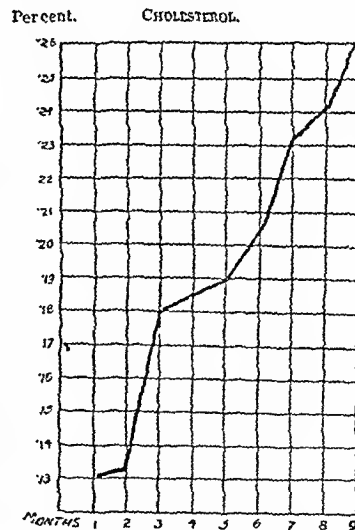


FIG. 3.—Changes in cholesterol contents of blood with the progress of pregnancy. (After Shiskin.)

may be direct or indirect. There are times when stones are quite clearly seen in the x-ray photograph, and there are times when the gall bladder shows an opacity greater than that of the stones which lie within it, when what may be called a "negative shadow" is seen. The appearance of the shadows of stones is variable. When the stone consists chiefly of calcium the shadow is very opaque. When the stone is composed largely of cholesterol and a surface deposit only

of calcium is present a "new moon" shape, or a "wedding-ring" shape may be recognized in the shadow. Sometimes a mosaic pattern is found, and is due to the overlapping of shadows when stones are superimposed one on another.

The indirect effects produced by disease in the gall bladder are due either to pressure or to traction. A greatly enlarged gall bladder must make room for itself in the abdomen, and it does so by pushing aside the stomach or the duodenum or the colon. The outline of these displaced viscera, when they are filled with an opaque meal, is changed in greater or less degree from the normal. A "half-shadow" is seen in place of the usual shadow. When, on the other hand, the gall bladder after contracting attachments to these viscera begins to shrink it drags them away



and a conspicuous distortion in their shadows is then seen. A large pouch may form in the duodenum, or the colon be so hitched up to the gall bladder that no effort can displace its shadow.

It may be taken, I believe, as indisputable that a gall bladder which is clearly visible on ordinary radiological examination (apart, that is, from inflation of the peritoneal cavity) is pathological. The following table has been drawn up by Dr. Rowden.

TABLE III.—*Radiological Evidence of a Pathological or Calculous Gall Bladder.*

*Direct Evidence.*

1. Shadow of stones—
  - Opaque and solid;
  - "New moon" shape;
  - "Wedding-ring" shape;
  - "Mosaic" due to overlapping.
2. Shadow of gall bladder—
  - Every clearly visible gall bladder is pathological.

*Indirect Evidence.*

1. Pressure effects on—
  - (a) Duodenum;
  - (b) Pyloric part of stomach (half-shadows).
2. Traction effects—
  - (a) Pouching of duodenum;
  - (b) Displacements of duodenum;
  - (c) Displacements of colon;
  - (d) Fixity of duodenum or colon.

It is to be hoped that, by a combination of the several methods of inquiry I have mentioned—inquiry into the clinical history, into the cholesterol content of the blood, and into the radiologist's evidence—an accurate diagnosis of "pre-calculous" cholecystitis may become more frequently possible. When the knowledge gleaned from these sources is correlated with that gained by a chemical and bacterial examination of the gall bladder and its contents, then some clue as to the prevention of cholelithiasis may happily be discovered. I have now had the opportunity of removing a number of gall bladders in what I think may truthfully be called the "pre-calculous" stage; and a number of patients are being treated by large, intermittent doses of urotropine in the hope that they may be enabled to escape the attention of the surgeons.

When stones have formed in the gall bladder the morbid changes are generally extensive and well advanced. It is certain that the walls of the gall bladder are deeply infected, and the muscular layer destroyed; in many cases the infection has spread from the gall bladder to parts around, as is indicated by significant adhesions. Hepatitis in an early or advanced stage is often, though by no means always, present, and the pancreas is not seldom affected. In a large proportion of cases a condition of chronic appendicitis is found, and to all appearance is often of an older date than the disease in the gall bladder. In a small proportion of cases ulceration of the duodenum, or of the stomach, or of both, may be found also. The research work of the surgeon has shown the close affinity, the common causation, or the etiological relationship between these several diseases.

#### TREATMENT.

When the diagnosis of cholecystitis has been made, or the existence of stones within the gall bladder confidently asserted, the question as to the most appropriate treatment will arise. In the days to which we look forward with hope, and some expectation, it is possible that a recognition of earlier stages in the disease may enable us to prevent, or to delay, those advanced or terminal stages with which our therapeutic activities are now chiefly engaged. By the time that stones have developed, medical treatment can do nothing more than ensure a degree of clinical silence; it does not seem able to retard a steadily progressive pathological change. For the experience is not infrequent which shows that an inhibition of the symptoms of the disease, or more rarely their complete relief, may be witnessed, when in later days it is recognized that morbid processes have been steadily developing in the walls of the gall bladder; and perhaps cancer at last reveals itself.

The conditions which make it necessary to decide against surgical relief must be extremely few. I have often hesitated in days gone by as to whether the condition of a patient's heart would forbid the operation I was otherwise inclined to advise. But, under the tuition of Sir James Mckenzie, before he left Burnley, and after, I learnt that the removal of a diseased gall bladder was in many cases a sure method of giving relief to the heart. Glycosuria is often an effect of cholecystitis, and disappears after an operation which has not been too long delayed. Nephritis, too, need cause no anxiety if deliberate preparation for operation is made to extend over many days. The danger in the operative treatment of cholelithiasis comes from delay, which has led to infection of the ducts, and of the liver, to the "cholecystitic heart," and so forth. Yet the dangers of operation are very small. In the last ten years of my private work, including all cases—malignant cases, cases of stone in the ducts, in the ampulla, in every stage of activity—the gross mortality is 3.1 per cent. Hysterectomy, gastrectomy, colectomy, gastro-enterostomy, and splenectomy are included among the operations performed at the same time as the operation upon the gall bladder or bile ducts. In over half the number of cases the appendix was removed; in many it had been taken at an earlier operation. Some of the cases had been operated upon two, three, four, or more times before I saw them. The mortality is still too high; but it is almost certainly less than the mortality from cancer of the gall bladder alone, in cases not submitted to operation. There is, however, more than the death rate to consider. Operation is not only safer than continued medical treatment, it is also far more merciful. The agonies of hepatic colic are sometimes considerable; they are repeated on occasions which are perhaps very close together; they are sudden and unexpected in their incidence; and no sooner is one attack over than a dread of the next is felt. An operation for cholelithiasis is not always without pain, even when the nerves are blocked with quinine and urea; yet no patient will admit that the pain of the operation is equal to that experienced in one attack of colic. The surgery of cholelithiasis is difficult, sometimes extremely difficult. I held it to call for greater technical skill, and to present more problems for immediate accuracy of judgement, than any other branch of surgery; and the after-treatment too has its own grave problems.

If I might presume to offer any advice to the surgeon who has no great or continued opportunities for practical work, I would suggest to him never to do gastro-enterostomy in the absence of a demonstrable lesion which requires it; and to leave the surgery of the gall bladder alone. The fact that in my own work nearly one-quarter of the patients suffering from cholelithiasis have been operated upon before is an argument, not against the surgical treatment of the disease, but against an attempt by the inexperienced or untrained operator to deal with conditions which may tax all the energies and call out all the reserves of even the most proficient. Surgery is not only a craft, though craftsmanship of a high order is essential. It is a profession to which a man should feel not only complete devotion but also a sense of special dedication. Its practice requires the most flawless integrity in thought and act. It is not lightly to be undertaken by any who have not first surrendered to an iron discipline of training by the masters of their art. No one acquainted with the truth can deny that far too many operations nowadays are done by those who, having perhaps a measure of success in the trivial cases (none are trivial to a patient!), rashly embark upon procedures which they are not fully competent to undertake. And the good repute of surgery is wounded.

#### CHOLECYSTECTOMY.

In the surgical treatment of cholelithiasis when the stones lie only in the gall bladder, cholecystectomy has displaced cholecystostomy. I feel confident that this decision, which is almost universal, is sound and finds an ample warrant in the bacteriology and morbid anatomy of the gall bladder. The results of drainage of the gall bladder were often good, but they were bad in too large a proportion of cases: for

stones recurred, carcinoma sometimes developed, and the symptoms of an infected gall bladder persisted. Removal of the gall bladder was at first found difficult; the mortality was certainly a little higher, and the complications which ensued, due no doubt to lack of technical experience, were occasionally disastrous. But surgery is growing out of the indiscretions and the sins of its youth. Cholecystectomy rightly performed is as safe as drainage of the gall bladder, and the after-results are far more satisfactory.

The first problem is to decide, in the absence of gall stones, as to those appearances of the gall bladder which justify its removal. What are the signs of a diseased gall bladder? I should say that a gall bladder is infected when it has lost its normal blue colour, or its sheen; when it has lost its suppleness and its walls are thickened by fibrous tissue, or by the deposit of fat, especially along the lines of the vessels; when the cystic gland is definitely enlarged and changed in structure; when adhesions have been contracted to the parts around, especially to the duodenum, or the stomach; or when the cystic duct is thickened and the pelvis of the gall bladder has settled, in a mass of adhesions, firmly down upon the common duct.

In the operation of cholecystectomy there are dangers to be avoided, and there are points to be carefully remembered. The operation begins almost always at the cystic duct. I described this method twenty years ago, and was amused to hear it announced as a novelty, under the title of "retrogrado cholecystectomy," just before the war. In this operation, more, I think, than in any other abdominal operation, the exact position and relation of every structure that is encountered must be clearly defined. If the operation begins at the fundus blood trickles down on to the pedicle where the duct and vessels lie; they become stained and difficult to define clearly, and a rash blind clamping of the pedicle may result in almost irreparable disaster. The cystic duct is first clearly defined; it is almost always adherent to, and lies side-by-side with, the common hepatic duct before these join to form the common duct. When the duct is cleared it may be surrounded by a ligature and divided. It must not be cut flush with the common duct, but divided not less than an eighth of an inch away. If cut closer than this to the common duct it is possible that a stricture may form, and be the source of great difficulties. It is no uncommon thing for the cystic duct to be so tightened in elevating the gall bladder that the common duct is dragged upon and is made to look very like the cystic duct. I have operated upon not a few cases in which portions, sometimes even a length of  $1\frac{1}{2}$  in., had been cut out of the common duct. It is an elementary principle that the three ducts at their junction shall be clearly demonstrated. The cystic duct being divided, the cystic artery (there may be more than one) is ligatured, an aneurysm needle, or the cholecystectomy forceps, being first passed round it. I have not infrequently seen a broad forceps applied to the artery, which is then severed; this is a dangerous practice. To clamp ducts or vessels when the gall bladder is being forcibly elevated, and then to cut beyond the grip of the forceps, is a clumsy and perilous method of work. A ligature should be passed round every structure to be severed, and pains taken to make it indubitably certain that nothing but the duct or vessel is embraced. This no doubt sounds very elementary advice; but many patients would have been saved if only it had been understood and observed.

In my gall-bladder operations I was formerly much impressed by two events. Occasionally I would have a long struggle for the life of a patient, or even lose a patient, when I had expected an easy and untroubled convalescence. And occasionally I would find, on visiting a patient in the evening after the operation of cholecystectomy had been performed, that the dressings were saturated with bile. During operations I was struck by the irregular arrangement of vessels, and by the occasional discovery of an anomaly in the ducts. I therefore suggested to my colleague Mr. E. R. Flint that he should examine a series of bodies and endeavour to discover the variations—which were apparently not very infrequent—in the anatomy of the parts concerned in the operation of cholecystectomy. His work<sup>2</sup> has made matters plain. It is quite evident that

unless unremitting care is exercised it is easily possible to ligature the right hepatic artery instead of the cystic artery. A "cystic artery" that appears larger than normal, or has a "hump" in it, is often the right hepatic artery! Ligature of the right hepatic artery in a patient whose liver cells are already damaged as a result of an infection which is a part of his disease may be a serious or even fatal matter; and an accessory right hepatic duct is present in not less than 15 per cent. of cases. However watchful one may be, the wounding or the division of an accessory right hepatic duct may occur. If this should happen it is hardly worth while to repair the duct, or to anastomose its cut end with the divided cystic duct. But it is essential that a drainage tube should be left in the wound. I have closed the abdomen without drainage after removal of the gall bladder on many occasions; but I never do so now. A small tube does no harm: it leaves no gap in the abdominal wall if the rectus muscle is displaced outwards, and it gives a measure of safety obtainable in no other way.

Many of the patients who must submit to operation for cholelithiasis have been martyrs to their disease for long periods. Stones may have escaped into the common duct, or have passed upwards into the hepatic ducts, and biliary cirrhosis may have developed. The functional activity of the hepatic cells may be greatly impaired. A recognition of this truth must guide every stage in the care of the patient. In the day or two preceding operation as much glucose as possible should be given. During the operation the liver cell must not be made to suffer the burden which chloroform, a deadly drug, imposes upon it. The anaesthesia should, as far as possible, be induced and maintained by gas and oxygen. Hepatic insufficiency and acidosis are difficult conditions to master. Of the former we now recognize two types. There is one in which the amount of bile discharged ceases or is greatly reduced; jaundice deepens ominously; the mind becomes obtuse; vomiting develops; the pulse becomes slower, the patient more and more enfeebled; drowsiness precedes coma, and the blood urea steadily increases; renal failure, consecutive to hepatic failure, is then the cause of death. And there is another in which, after a normal course of from three to eight days, the bile discharged becomes copious, thin, and pale; jaundice does not change perceptibly; restlessness, great prostration, profound muscular weakness, and a peevish irritability are noticed; vomiting is present but is not as a rule severe; blood urea remains low; failure of the liver function is the cause of death.

Another menace, happily infrequent after operation upon the gall bladder or the ducts, is acidosis. Of this one seems to learn little from the textbooks on physiology; yet there are few conditions more necessary for the surgeon to understand.

#### Acidosis.

(A) Acidosis or ketosis is a condition in which certain acids gain access to the blood and therein threaten to diminish the alkali reserve in consequence of the very urgent necessity that they should be neutralized. The neutralization in the blood is effected chiefly by sodium bicarbonate. As this is accomplished the carbonic acid, whose ratio to  $\text{NaHCO}_3$  is constant, would be in excess but for the controlling mechanism which preserves the reaction of the blood at its normal level. Acidosis may therefore be considered as a condition brought about by the excessive withdrawal of bases in consequence of the formation of acids within the body. It is that state of metabolism of which the most

lucation in abnormal quantities of acid, lactic acid, and acetone). acidosis only the slightest alteration in the reaction of the blood is perceptible. The steady maintenance of the normal reaction depends on the presence of certain alkaline salts—the "buffer salts"—of which the chief is sodium bicarbonate,  $\text{NaHCO}_3$ .

For a stable blood reaction the ratio between the  $\text{CO}_2$  and the  $\text{NaHCO}_3$  is maintained at a constant value. When acids are added to the blood they react with the buffer salts, forming sodium salts of the respective acids, and these are excreted in the urine. If, therefore, large amounts of acids are continually poured into the blood, the buffer salts may decrease to a degree which renders it beyond the power of the body to replace them. Their concentration in the blood is therefore reduced below the normal, and the ratio between  $\text{CO}_2$  and  $\text{NaHCO}_3$ , being kept constant, and the carrying capacity of the blood for  $\text{CO}_2$  is also reduced, and accordingly  $\text{CO}_2$  may accumulate in the tissues. The blood under such conditions will, of course, cause stimulation of the respiratory centre; a more thorough ventilation of the lungs and of the

blood then results in an urgent attempt to prevent further accumulations of CO<sub>2</sub> in the tissues. This hyperpnœa is one of the clinical symptoms of acidosis.

(B) The acids which gain access to the blood are intermediate products in fat katabolism.

(C) The imperfect combustion of fats is associated with, and is perhaps due to the absence, or diminution, of, that product of carbohydrate metabolism which sets alight this combustion.

(D) A primary deficiency in carbohydrates is therefore an essential preliminary fault in cases of acidosis.

It may be due to an insufficient supply of food, such as occurs in cases of, say, pyloric stenosis, vomiting, or to an imperfect metabolism of carbohydrates of which there is no lack. The anaesthetic chloroform probably interferes with carbohydrate metabolism by its direct action upon the liver cell.

(F) In cases of carbohydrate deprivation the deficiency may be at once made good by the administration of glucose. This cannot be given in adequate quantities by the mouth to patients afflicted with acidosis, on account of the vomiting which is so persistent. If administered by the rectum its absorption, when considered in relation to the urgency of the patient's need, may appear slow. If it is given subcutaneously the quantity taken up is small, owing to the enfeebled systemic and lymphatic circulations. When administered intravenously there is no reasonable limit set to the amount which can be given. Either a 5 or a 10 per cent. solution may be injected; an isotonic solution contains 4.15 per cent. of glucose. Matas of New Orleans, a surgeon to whom our debt of gratitude is very heavy, was the first to suggest (in 1911) that glucose might be given by continuous instillation. He has recently<sup>3</sup> described an apparatus which renders easy the "continuous drip" intravenous administration of a glucose solution maintained at an equable temperature. About 8 pints may be introduced in the period of twenty-four hours; I have once introduced as much as 18 pints. A reaction is seen not infrequently—the patient shivers and then sweats, a miniature rigor occurring; no anxiety need be felt on this account. The cause of the reaction is doubtful; it may perhaps be the too rapid administration of the fluid.

(G) The mere accumulation of glucose within the blood is not, however, all that is necessary. The glucose must be utilized by the tissues. We owe to Thalimier of Milwaukee<sup>4</sup> the supremely important suggestion that this may be done by the injection of insulin.

My experience of the method is small, but it is enough to say that a new remedy of considerable importance is now at our disposal. Insulin must not be injected until there is a good store of glucose in the blood lest a hypoglycaemic reaction be caused; not less than 15 ounces of a 5 per cent. solution should have passed into the vein, and unless there is great urgency it is well to introduce an even larger amount, or to have a stronger solution. Lilian Farrar<sup>5</sup> has used a 20 per cent. solution for intravenous administration. As she points out, glucose is not only a food and source of energy, but also a stimulant to the tissue cells and to metabolism; the liver function is conserved by it and the glycogen store increased.

Fisher and Snell<sup>6</sup> record cases illustrating the value of the insulin treatment in pre-operative and post-operative non-diabetic acidosis.

Vomiting is often the warning symptom of impending acidosis. It is present along with great prostration and a considerable degree of air hunger, and with a sweet "new-mown hay" smell in the breath. The urine gives the characteristic reactions for acetone and diacetic acid.

Lavage of the stomach is the sovereign remedy for relief of the vomiting, which is most distressing. But in acidosis, as in cases of obstruction, or of adynamic distension of the stomach and duodenum, the lavage may need to be repeated so frequently as to be a tax upon the surgeon and a sore trial to the patient. Happily a most excellent method of lavage is made possible by the Jutte tube, or the Levin tube—tubes of about the same size as the Reliefs tube. If passed through the nostril they may remain for hours without distress to the patient, who may then drink fluids freely.

I have, I fear, wandered discursively over a large field in dealing with the subject of cholelithiasis. There are so many problems that confront us as we cope with this very formidable disorder that it is not easy to choose among them. There is so much still to learn. The relationship of the liver to the spleen, of both to the pancreas, and of all three to the reticulo-endothelial system, and the effect which injury to the liver cell has upon the kidneys, are matters calling for fullest inquiry. Though we seem to know so little of any of these organs, and still less of their interplay, the work of the surgeon which has so marvellously contributed to our clinical knowledge may still hope to prove not unworthy of regard as one of the most fertile of all methods of research.

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## Lectures

OR

## THE SYMPATHETIC INNERVATION OF STRIATED MUSCLE.\*

BY

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## LECTURE III.—PART II.

## THE PRACTICAL APPLICATIONS (continued).

## THE CONTROL OF TONE BY THE BRAIN.

## THE SELECTION OF PATIENTS FOR RAMISECTION.

I SHALL now consider the reflex arcs concerned in maintaining the two elements of tone, and the scientific principles for the selection of patients for ramisection.

Plastic tone is enhanced in degree in the decerebrate animal. It may appear as a component of postural contraction immediately after the mid-brain is cut across, so that, normally, prespinal pathways are employed by the impulses maintaining it. When decerebration is performed, plastic tone is increased in degree as a result of the release of this prespinal sympathetic reflex arc from higher levels of control. In addition to this, contractile tone is enhanced in value because of the release of a somatic prespinal reflex arc. In animals recently decerebrated this increase of contractile tone selects the antigravity muscles, and their antagonists are reflexly inhibited. The increase in plastic tone rigidly maintains the extended posture, which is endowed by contractile tone upon all four limbs of the quadruped, and maintains the condition of "reflex standing" for long periods of time. When the relaxation from the posture of extension occurs, plastic tone still remains, as is proved by the presence of "lengthening and shortening reactions."

The prespinal reflex arcs subserve the two components of tone of the normal skeletal muscle, and overactivity of these arcs accounts for the phenomena exhibited by the musculo in decerebrate rigidity. It was shown by Sherrington that cutting across the medulla oblongata led to flaccid paralysis of the limbs. More precisely, as Magnus has shown, the limits within which section of the brain stem produces decerebrate rigidity are as follows: The cranial limit is a plane passing dorsally at the level of the caudal limit of the superior colliculus and ventrally in the region immediately caudal to the mammillary bodies. The decerebrate rigidity persists until the level of entrance of the eighth nerve is passed. Obviously, therefore, the nuclei that constitute the cell stations of the prespinal reflexes responsible for decerebrate rigidity lie within these limits.

The work of Thiele in 1905, which is supported by the recent results of Bazett and Penfield,<sup>22</sup> indicates that the integrity of the lateral vestibular nucleus of Deiters is essential for the development of decerebrate rigidity. It may be concluded that this nucleus takes part in the completion of one of the reflex arcs, the hyperactivity of which is responsible for decerebrate rigidity. The vestibulo-spinal tract (Fig. 13), which lies in the region of the emerging motor root fibres of the spinal cord mainly on the same side as the nucleus from which it originates, constitutes the descending limb of the reflex arc.

The nucleus of Deiters is a special afferent somatic nucleus, and the reflex arc in which it is incorporated constitutes, therefore, the somatic prespinal reflex pathway. It subserves contractile tone, which has a selective incidence upon antigravity muscles maintaining the body erect.

The question arises whether the nerve cells incorporated in the sympathetic prespinal reflex arc can also be identified. The levels between which section of the brain stem produces decerebrate rigidity suggest that the formatio reticularis of the pons supplies the cell station of this arc. The reticulo-spinal tracts of the pons are anatomically of special

\* Delivered by Professor Elliot Smith at University College, February 2nd, 1925.

importance. Collier and Buzzard have termed them the ponto-spinal tracts. The anterior ponto-spinal tract, which is uncrossed, descends in the lateral zone of the medulla oblongata and the anterior funiculus of the spinal cord. The lateral ponto-spinal tract crosses to the opposite side and lies in the lateral zone of the medulla oblongata and in the lateral funiculus of the spinal cord.

Sherrington's experimental results are compatible with the view that the vestibulo-spinal and ponto-spinal tracts convey impulses to the spinal cord that are responsible for decerebrate rigidity. Section of the lateral half of the bulb abolishes the rigidity on the same side as the lesion. Section of one ventro-lateral column of the spinal cord in the cervical region destroys the rigidity in fore and hind limbs of the same side, while section of one lateral column in the upper lumbar region abolishes the rigidity in the hind limb of the same side as the section. The ascending limbs of these arcs are also in the antero-lateral funiculus: for section of the posterior funiculus does not abolish decerebrate rigidity.

In an experiment to study this point I have found that plastic tone does not disappear after removal of the nucleus of Deiters. First, decerebrate rigidity was produced by cutting across the mid-brain between the superior and inferior colliculi. Extensor rigidity developed rapidly and well. Now, in a phase of relaxation, when plastic tone was well shown in the right hind limb, I isolated the region of the lateral angle of the fourth ventricle on the right side by a crescentic incision, removing Deiters's nucleus and severing the vestibulo-spinal tract by this procedure. But the "lengthening and shortening reactions" were still exhibited. A second section at the junction of the pons and medulla was then made. The limbs became flaccid immediately. The "lengthening and shortening reactions" were no longer to be elicited. Obviously plastic tone depends upon a reflex arc that attains a level between the mesencephalon cranially and the medulla oblongata caudally. This is compatible with the view that the ponto-spinal tracts subserve the function of plastic tone.

It is possible for an incomplete lesion of the spinal cord to affect the pyramidal and concomitant descending tracts, so releasing the primary spinal arc from control, without affecting in any considerable measure the vestibulo-spinal and ponto-spinal tracts. Riddoch and Buzzard<sup>22</sup> have recently described cases of quadriplegia from high cervical lesions of the spinal cord, in which the distinctive qualities of decerebrate rigidity were reproduced. Riddoch reports that a tumour examination of one of these patients revealed a tumour in the region of the posterior and lateral columns of the fourth and fifth cervical segments of the spinal cord. The ventral portion of the cord was relatively little affected. It is clearly to be borne in mind that the extensor posture is a relatively unimportant character in establishing an analogy between the condition of spastic paralysis in man and decerebrate rigidity experimentally produced. The posture assumed is due to the selective incidence of contraction upon the skeletal musculature. Riddoch and Buzzard recorded that, in their patients, the position of flexion was sometimes encountered. On these occasions the flexors were more spastic than the extensors. This condition could sometimes be induced by holding the limbs in the flexed position for a short time. Further, McAlpino reported a case in which rigidity was not confined to extensor muscles, and flexor rigidity of the knee-joint was sometimes obtained.

Graham Brown has demonstrated beyond all doubt that plastic flexor tone may be exhibited in the limbs of the

monkey. These observations are of added significance in the light of Bazett and Penfield's work on chronic decerebrate rigidity. These authors describe two kinds of decerebrate rigidity—extensor and flexor. Their observations prove that the somatic reflex arcs producing contractile tone may selectively act upon either the extensor or flexor muscles. In extensor rigidity the reflex, of which the vestibulo-spinal tract is the descending limb, is involved. In flexor decerebrate rigidity the primary spinal reflex is, no doubt, responsible for the activity, for severe injury to the spinal medulla produces paraplegia in flexion. In both types of decerebrate rigidity plastic tone, which is enhanced in degree, and coexists with contractile tone, is maintained by the sympathetic prespinal reflex arc. In each case it is inhibited in the antagonists of the muscles exhibiting the rigidity.

Inhibition in the antagonists is not so complete in man as it is in the condition of acute decerebrate rigidity. Dr. Royle has called attention to this point. Riddoch mentions the fact that though the antagonistic muscles are relatively relaxed "they are certainly in stronger contraction than the corresponding muscles of a healthy individual."

I believe the explanation of this is that in an animal that has recently been decerebrated the extensor reflex arcs, chiefly through the nucleus of Deiters, immediately manifest increased activity. The isolated flexor spinal arcs regain activity only after a period of inaction of contractile tone on the extensors is not so complete, for the spinal arc endows this aspect of tone upon the flexors also. Reflex inhibition is now not complete. Bazett and Penfield's experiences with the chronic decerebrate animal support this view. Moreover, in patients suffering from spastic paralysis, plastic tone is not inhibited in antagonistic muscle groups; which accounts, in some measure, for resistance to active, reflex, or passive movement of the limb.

I have commented on the work of Bazett and Penfield to emphasize the fact that the posture of the patient is not the all-important criterion of rigidity. Even the flexed position may be due to a combination of both contractile and plastic tone which together cause rigidity in the sense in which this term is employed in this lecture. Contracture is employed in this category.

versely, the extensor position may be wholly due to contractile tone. Sympathetic ramification in such a case would be of no avail. Extensor fits usually fall into this category. This is beautifully illustrated in a case recently reported by Walshe,<sup>23</sup> in which two stages of the illness were observed. In the first stage the patient exhibited a condition of decerebrate rigidity. The limbs were extremely "plastic" and tended to remain for a considerable time in any position passively imposed upon them. The lower extremities were extended and adducted and the feet were semiflexed at the elbows, with the forearms pronated and the wrists and digits flexed. This attitude often replaces that of extension of the fore limbs of quadrupeds because the upper extremities are no longer "simple locomotor props." Passive movement revealed the presence of the "clasp-knife" character of the spasticity. The tendons-jerks exhibited tonic prolongation, and in some instances in response to repeated taps "step-ladder" shortening of the muscle was observed. In recording these features, Walshe established beyond doubt the identity of this condition with decerebrate rigidity experimentally produced.

In the second phase of the illness this condition was replaced by the progressive failure of reflex activity and deepening coma. In this stage tonic fits appeared as a con-

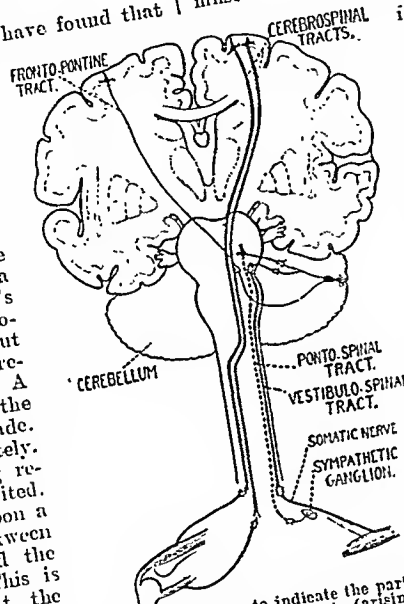


FIG. 13.—Diagram to indicate the part played by the vestibulo-spinal tract (arising from Deiters's nucleus) and the ponto-spinal tract (arising from the reticular nucleus of the pons) in the two reflex arcs concerned respectively with contractile and plastic tone.

comitant of cardiac and respiratory irregularities. In these fits the respiratory muscles were fixed and the limbs became so rigid in their customary posture that no tendon reflexes could be elicited. In severe fits of this kind the head retracted forcibly. At this stage none of the essential qualities of decerebrate rigidity, enumerated as characterizing the first phase of the illness, were exhibited, for plastic tone was not apparently enhanced in degree. The second phase was in all probability due to hyperexcitability of the somatic reflex pathways due to asphyxia or anaemia (cf. Walshe, Stewart and Pike, Warner and Ohnsted, Hunter and Royle). The fits are not comparable to decerebrate rigidity in which the enhanced tone is due to release in function of two prespinal reflex arcs—somatic and sympathetic. Yet the posturo displayed in each condition is the same. Taking into account the results of tests for the presence of plastic tone in addition to posture Walshe and Riddoch have been able to establish the essential identity of decerebrate rigidity and the condition of spastic paralysis, such as that which occurs in hemiplegia, quadriplegia, and the extended form of spastic paraplegia.

The only patients who can be expected to benefit from the operation of ramisection are those whose voluntary control of their muscles is intact, but whose movement is hampered by excessive plastic tone. By cutting the sympathetic nerves plastic tone is eliminated and the limbs freed from the spasticity. The presence of "lengthening and shortening reactions" is an indication for the operation of sympathetic ramisection for the relief of spastic paraplegia. Slowness in execution of the tendon reflexes is an important indication for the operation.

Conversely, rapidly executed reflex movements usually constitute a definite contraindication. The greater number of spinal injuries are accompanied by this type of reflex and plastic tone is at a minimum. This is due to the fact that a prespinal reflex is essential in higher forms for the maintenance of this property of muscle, and usually, though not always, as will be proved subsequently, this reflex is rendered inactive when the spinal cord is injured.

#### HIGHER LEVELS OF THE BRAIN CONTROLLING THE TONIC REFLEX ARCS.

Magnus has shown that in animals, such as the rabbit, cat, dog, and monkey, the whole of the cerebral hemispheres, including the corpora striata, may be removed and the tone of skeletal muscle remain of normal intensity. Nor is the tone altered when the brain stem is cut across behind the thalamus. Such a "mid-brain" animal, unlike the decerebrate preparation, is capable of a great variety of reflex activities—as walking, running, and jumping. It can right itself if overturned, the head at once resuming its normal posture. These are the "postural reflexes" of Magnus. Obviously, therefore, in these animals, the mid-brain provides an important part of the nervous mechanism utilized in the regulation of posture. It is when this region is taken away that release of the prespinal reflex arcs takes place to produce decerebrate rigidity. For instance, in higher forms, at least, as Magnus's observations upon the monkey reveal, the connexions of the visual pathway with the mid-brain play an important part in the nervous regulation of posture. Tecto-bulbar connexions therefore control the prespinal reflex arcs in these forms. Moreover, decerebrate rigidity develops after the removal of the red nuclei, and, as Walshe mentions, "it seems as though removal of the greater part of the red nucleus is an essential preliminary to the development of rigidity." In this process rubro-reticular fibres, which in man have attained special importance, are severed. The cells of the

substantia nigra are also known to send axones to the tegmental region of the brain stem.

In view of prevailing conceptions it is noteworthy that in the animals described by Magnus the postural reactions are carried out by the mid-brain in the absence of the corpus striatum. It would, however, be unwise to argue that in man the mid-brain structures exhibit this independence of the corpus striatum, for the principle of the shifting forward of function in the nervous system must not be lost to sight in this connexion. Moreover, it may well be that the physiological value of the corpus striatum is only adequately expressed in the presence of voluntary activity. In such a case the symptomatology of lesions of the corpus striatum, with the cerebral cortex intact, will be different from the experimental results of complete removal of both the cerebral cortex and corpus striatum.

For these reasons the observations of Magnus that "thalamus" and "mid-brain animals" exhibit tone of normal intensity and distribution cannot unreservedly be applied to man. It is possible that the corpus striatum in man, with the cortex intact, controls through the intermediation of subthalamic nuclei, as the substantia nigra, the sympathetic prespinal are subserving plastic tone. To study this point I have removed the corpus striatum on one side in birds, employing the domestic fowl and the sea-gull for this purpose. Birds represent a group widely divergent from mammals. In birds the corpus striatum has attained a relatively enormous importance, both structurally and functionally, and in certain respects its influence may present a closer analogy to that of man than is the case in most mammals. The operation is easily performed on birds because the corpus striatum constitutes, except for the septum and a small superficial area of cortex, the entire cerebral hemisphere. Further, in removing the corpus striatum, which is readily accessible because it forms the greater part of the surface of the hemisphere, the cerebral cortex may be lifted up and left in communication with the septum. In this way the tractus cortico-septo-mesencephalicus is left intact.

This operation produces rigidity of all the limbs. Standing is not evenly maintained owing to rigidity of the hind limbs. On this account in sea-gulls a tendency to rise on the toes is constantly exhibited and the bird does not maintain any given position for long. Birds in this condition often squat down, presumably to avoid balancing on the rigid limbs. The wings are also rigid, and here the nature of the rigidity may readily be studied. The wings are sometimes maintained in a position somewhat higher than usual, so that the adjacent borders are almost in contact with one another. The rigidity maintains its intensity during passive movement, and on account of its rigidity the wing remains fixed in the new position assumed. This occurs even though the position be so abnormal, as when the wing is folded over the mid-line of the back, that the fibrous structures contained within are put upon the stretch. Dependent positions are maintained equally well. Both wings exhibit this phenomenon after the unilateral operation, but the rigidity is greater on the same side as the injury. The rigidity is responsible for slowness of movement, especially on the same side. This is readily seen on watching the movements of the wing during attempted flight while the bird is held captive in the hand. A greater effort is necessary to carry the wing through a smaller range of upward movement than on the less affected side; increased effort marks downward movement also; and the wing seems to overshoot the position at which it normally

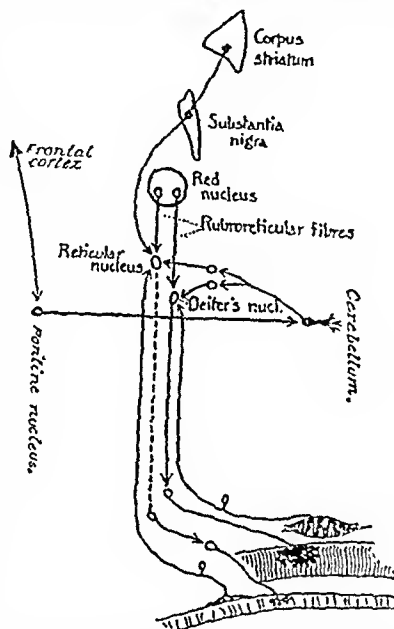


FIG. 14.—Diagram to represent in an entirely tentative way the influence of the cerebral cortex (acting via the corpus striatum, substantia nigra, and red nucleus) upon the activity of Deiters's and the reticular nuclei. Only those tracts which are mentioned in the text have been represented. The relays in the ascending spinal tracts have not been indicated.



ends. These alterations in the nature of the movement of the wings are greater on the side of the injury, so that the flight of such a bird, when released, is always in a circle, the bird tending to fly toward the more affected side.

This diffuse muscular rigidity is strongly reminiscent in an exaggerated form of the condition of the wing already described, in which, after the removal of contractile tone, plastic tone is accessible for independent study. I cannot avoid the deduction that increased plastic tone in both flexor and extensor muscles of the wing is responsible for the diffuse muscular rigidity which follows the removal of the corpus striatum in birds. This element of tone is so enormously increased that manifestations of the presence of the contractile component are in the background.

The condition of rigidity of the wing of birds above described is remarkably similar to Parkinsonian rigidity in man. Its diffuseness, resistance to stretching, and the tendency for fixation of the muscle at any length passively imposed upon it, are common to the two conditions; and in both conditions poverty and slowness of voluntary movement, which are probably due in part to the underlying phenomenon of rigidity, are notable concomitants.

Removal of the influence of the sympathetic innervation by section of the cervical sympathetic trunk caudal to the brachial plexus abolishes the rigidity of the wing. This property, like normal plastic tone, is subserved therefore by the sympathetic system. It is difficult to escape the conclusion that the basis of the rigidity following lesions of the corpus striatum is increased plastic tone, which is exhibited in all muscle groups, and that this is due to removal of control from the sympathetic prespinal reflex arc which maintains the plastic tone of normal skeletal muscle.

The different manifestations of excess of plastic tone in those cases of spastic paralysis which resemble experimental decerebrate rigidity, and in the condition of Parkinsonian rigidity, are capable of reconciliation. The fundamental difference between the two conditions is that, while plastic tone is increased in both, an excess of contractile tone is also exhibited in spastic paralysis, while it is not greatly in evidence in Parkinsonian rigidity. Contractile tone is selective in its incidence, and the plastic tone of the antagonists of the muscles selected by it is, to a very varying degree, reciprocally inhibited. In Parkinsonian rigidity this selective incidence upon muscles, and consequently the selective inhibition of plastic tone in the antagonists, are absent. In spastic paralysis resistance to passive movement is considerable till the position imposed upon the limb by contractile tone is overcome, when the resistance becomes less. A combination of contractile and plastic tone is responsible for the initial position in spastic paralysis. The posture assumed in Parkinsonian rigidity is due to plastic tone only exhibited in agonists and antagonists, and therefore resistance to passive movement is the same throughout the whole range of movement. The fact that postural reactions and intercurrent reflex movements are not exhibited in Parkinsonian rigidity as in spastic paralysis is a further indication that somatic activities, which include contractile tone, are in abeyance in this condition. The mechanism which inhibits plastic tone in order that a movement may be performed or to allow a new posture to be assumed is no longer active. This effect is probably the cause and not the result of the rigidity—that is to say, a predominant function of the corpus striatum is to regulate plastic tone. From a consideration of the other effects of corpus striatum lesions it seems that this regulation is especially in the interests of automatic and associated movements, and of emotional expression. These functions are no doubt impaired by the lesion; the rigidity itself may limit these activities still further.

It remains to be proved that the rigidity of paralysis agitans and allied conditions is subserved by a proprioceptive mechanism in order to establish completely the identity of the tendency in this condition to fixation of the muscle at any length imposed upon it, with the "lengthening and shortening reactions."

In the first place it must be borne in mind that the sympathetic reflex arc subserving plastic tone is not necessarily at the same level as the somatic connexions. There-

fore, in posterior root section, contractile tone may be affected without removing plastic tone.

Surgical operations upon the posterior nerve roots have necessarily been less complete than is possible under experimental conditions.

Leriche's cases, in which posterior root section was performed for the relief of paralysis agitans, are evidence of this. In one case the fifth, sixth, and eighth cervical posterior nerve roots were divided. In this case the rigidity was undiminished. Obviously, however, the sympathetic afferent connexions of the skeletal muscle of the limb were left intact by this operation because the posterior root of the first thoracic nerve was not attacked. Therefore this case does not disprove that rigidity is maintained by a proprioceptive mechanism. The first principle of posterior root section in man should be to include the posterior root of the first thoracic nerve in the case of the upper limbs, and of the first or second lumbar nerve in the operation for the lower extremities.

However, Walshe has recently brought forward strong evidence that the rigidity of paralysis agitans is due to the activity of a proprioceptive reflex mechanism. He has shown that injection of 1 per cent. novocain into the muscle at its motor point causes rigidity to disappear. While admitting the possibility that this effect may be due to direct action upon the muscle, he shows convincingly that the balance of evidence is in favour of the view that the afferent nerve terminations are affected.

Walshe's investigations upon the rigidity of paralysis agitans beautifully illustrate the fact that the tremor exhibited in this condition and the rigidity are subserved by two different nervous mechanisms. For although novocain abolishes rigidity the tremor is totally unaffected. The indications are that impulses through the cerebro-spinal tracts are involved in the production of spontaneous tremor, for it disappears after hemiplegia. This is in accord with the results of sympathetic ramisection in this condition. The rigidity is markedly diminished, voluntary power is increased, and movements are more ample and rapid, but the tremor is not appreciably affected when well established. But a patient with Parkinsonian rigidity without tremor, as for instance as a sequela of encephalitis lethargica, may derive sufficient benefit to justify the operation.

In a recent paper McAlpine<sup>22</sup> has described a patient who, as a sequela of epidemic encephalitis, developed Parkinsonian rigidity on the right side and a condition strongly resembling decerebrate rigidity on the left side. According to views advanced here, the diffuse muscular rigidity on one side was due to a generalized increase of plastic tone, lack of selective incidence being due to the absence of increase in contractile tone. The rigidity on the other side, however, was sometimes flexor and sometimes extensor. Therefore contractile tone was present and acted selectively on different groups of muscle at different times. Plastic tone was also enhanced in the upper and lower limbs of this side. It was exhibited by the presence of the "lengthening and shortening reactions." It was shown to the greater extent in the flexor and extensor muscles at any particular time according to the selective incidence of the contractile tone at the time. In the erect posture tone predominated in the extensor muscles of these limbs. Since the tone responsible for this decerebrate attitude consists of the two normal components of tone, the term "plastic tone" alone is clearly inadequate to describe the condition. Sherrington's term "postural tone" may be used for this purpose. Contractile tone reflexly imposes the position upon the body and plastic tone maintains this position once it is assumed. On passive movement the characteristic "lengthening and shortening reactions" indicating the presence of plastic tone are elicited.

In a natural attitude such as standing contractile tone is responsible for selective action upon the antigravity muscles and plastic tone fixes the length of the muscle fibres necessary to maintain this position. To accomplish voluntary movement from this position the prespinal reflex arcs responsible for postural tone must be controlled by the cerebral cortex. Evidence is accumulating that the cerebral cortex not only causes contraction of the appro-

prate muscle groups by way of the cerebro-spinal tracts, but inhibits the reflexes responsible for postural contraction. It effects this purpose through the intermediation of the cerebellum (Figs. 13 and 14).

An inhibitory pathway leads from the cerebral cortex to the anterior part of the superior vermis of the cerebellum through the medial part of the crus cerebri and the pontine fibres. Stimulation of the crus in a decerebrate cat leads to complete rigidity in the limbs of the same side and diminution of rigidity in those of the other side. Warner and Olmsted<sup>20</sup> have traced the origin of this inhibitory tract to the frontal region of the cerebral cortex. When the motor area was cut away no increase of extensor tone was observed on either side of the body. Definite rigidity developed at once in the opposite fore and hind limbs when the frontal area was removed. This observation is of great significance in view of the fact that, in man, pure cortical lesions of the pyramidal tracts do not produce spasticity. On the other hand, lesions of the area of the frontal lobe from which the fronto-pontine tracts originate (Campbell) are associated with a condition of "tonic innervation" expressed as inability to relax a contracted muscle group.

Warner and Olmsted have elucidated the course of this tract arising in the frontal region by studying the inhibition of rigidity obtained by electrical stimulation of the eut surface of the brain in various situations. They found that the inhibitory effect of the tract is bilateral, but predominantly on the crossed side. The tract passes from the frontal lobe through the medial part of the internal capsule. Below the level of the superior colliculi it crosses, in greater part at least, to the other side of the brain stem. It continues to the cerebellum by way of the middle cerebellar peduncle. The inhibitory tract is therefore fronto-ponto-cerebellar in its connexions. (See Figs. 13 and 14.)

Warner and Olmsted state that when this tract is stimulated a limb "becomes limp or rigidity goes 'limp and flaccid.'" They describe the effect of stimulation of the anterior surface of the cerebellar vermis as being "immediate and general relaxation of the rigidity." Obviously the inhibition affects both contractile and plastic components of tone which are enhanced in degree to produce decerebrate rigidity. The fronto-ponto-cerebellar tract, therefore, inhibits the effect produced by the somatic vestibulo-spinal and sympathetic ponto-spinal tracts. When this tract is ineffective the power to relax the muscles after being employed in muscular effort is defective. In the absence of a case purely of this nature in Dr. Royle's series it is interesting to note that the effect of sympathetic ramisection improves the power of relaxation of contracted muscles in spastic paralysis. It is to this fact that the increased control and rapidity of effecting voluntary movement are due. The patient need no longer inhibit plastic tone. His cortical control is mainly concentrated on executing movement.

It is worthy of note that tumours of the middle lobe of the cerebellum give rise to fits of a tonic character in which the extensor attitude of decerebrate rigidity is assumed (cf. Hughlings Jackson). Sherrington found that a rigidity somewhat similar to that ensuing on removal of the cerebral hemisphere set in after median section or ablation of the cerebellum. He was not convinced that the two conditions were identical. Thiele,<sup>21</sup> however, regarded the bilateral rigidity which followed removal or bisection of the vermis as being like decerebrate rigidity. He explained it as being due to loss of the inhibitory control of the vermis over the nucleus of Deiters. No doubt also the ponto-spinal tracts are released from control. It will readily be seen that the only effect of sympathetic ramisection upon tonic extensor pathway is to diminish the degree of rigidity during the extensor spasms. Since contractile tone remains practically unaffected after this operation the extensor attitude will still be assumed. This is another instance of posture alone not being an indication for ramisection.

The fact that the cerebral cortex employs the cerebellum as an intermediate organ through which it exerts an inhibitory influence over the postural reflex arcs of the brain stem is of great general significance. It confirms the

suggestion of Walshe that "the cerebellum is the organ through which the cerebral motor cortex influences postural activities and regulates posture in the interests of co-ordinated purposive movement." "It may be," he proceeds, "the subordinate mechanism employed by the cerebral cortex in the refined correlation of posture and movement." This view indicates that the cerebellum is employed by the cortex in the performance of active movements also. It reinforces postural tone in order to maintain the attitude of the body assumed during the performance of the movement initiated and executed by motor impulses which have their origin in the cerebral cortex.

In 1900, discussing the significance of the cerebello-cerebellar pathway which passes through the brachium pontis, Sherrington said: "Thus one and the same cerebral discharge may perhaps pour upon the motor root nerve cells a combination of cerebral and cerebellar impulses." It is on account of the influence of the cerebral cortex in the regulation of posture through the intermediation of the cerebellum that lesions of the cerebellar hemisphere cause inco-ordination of voluntary movements.

When a voluntary movement is completed cortical impulses reinforce contractile tone to determine the attitude assumed by the body. Plastic tone aids in maintaining this position because the muscle fibres exhibiting it are fixed at their new length. After sympathetic ramisection this necessary contribution is lost, but the influence of the cerebral cortex on contractile tone remains. In this connexion it is well known that tone is increased by attention. Dr. Royle has noticed that during the first period of re-education after sympathetic ramisection when the patient's attention is focused on the performance of a voluntary movement, under orders, the cortex greatly increases the amount of contractile tone exhibited in the limb. This increases the difficulty of the patient in performing the movement. On this account gently executed movements are far more effective than considerable effort in this stage of the re-education process.

Evidence is not wanting that plastic tone is of use also during the performance of voluntary movement. In ordinary circumstances a patient who has been subjected to the operation of sympathetic ramisection cannot detect any disability in consequence of the loss of the sympathetic nerve supply of his voluntary muscles. However, to test this matter closely I have observed the effect of sympathetic denervation after the exercise involved in the flight of a bird. During the flight of a sea-gull in which the unilateral operation has been performed, no obvious difference is to be detected in the movement of the two wings. After completing a flight of one hundred metres, however, the position of the wing on the operated side is in marked contrast to that on the normal side (see second lecture). It is drooped and abducted to a remarkable degree, although hardly any deviation from the normal position may have been visible prior to undertaking the flight. The explanation of this observation seems to be that plastic tone enables the fixing muscle fibres to follow up the contraction of the active fibres and assist in maintaining the intermediate positions assumed at all stages of the movement. When plastic tone is removed, voluntary effort is increased in order to maintain these intermediate positions against the action of gravity as well as to perform the movement.

It appears, therefore, that in voluntary movement postural tone, made up of a contractile and a plastic component, is first inhibited; the "movement" muscle fibres then contract and are assisted in maintaining the advantage gained by the plastic tone of neighbouring "fixing" fibres which are passively shortened; and finally cortical impulses determine that contractile tone is exhibited in the muscles whose contraction is necessary to confer the required position upon the body; the length of the muscle when this position is attained is maintained by plastic tone exhibited by "fixing" muscle fibres.

In certain cases of spastic paralysis plastic tone is in excess. This interferes with voluntary activity, because it is imperfectly inhibited at the outset of voluntary effort. When excessive voluntary effort initiates movement the exaggerated degree of plastic tone, which is present in both agonists and antagonists, as Dr. Royle has shown, tends to provide resistance to the execution of the movement by

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fixing, to an abnormal degree, the length of the muscles of the limb at all the intermediate positions through which the moving part passes. In this way the effects of diminished voluntary power are enhanced in degree on account of excess of plastic tone, which is no longer adequately controlled by the cerebral cortex. In fact this defective control is not infrequently the greater disability, and an account of it the voluntary motor pathway may be unable to function to the full extent of which it is capable. This desideratum is attained by removing the plastic tone entirely, when the rigidity of the muscles disappears. The result is that the initiation and the execution of voluntary movement are both improved.

Dr. Royle found that one patient, with a gunshot wound of the cerebral cortex, who illustrated the presence of excess of plastic tone to a striking degree before the operation, was able to inhibit the tone of the extensor muscles of the knee following ramisection. He was unable to flex the knee voluntarily, but he could inhibit the tone of the muscles sufficiently to let the leg fall into the flexed position. This was impossible prior to inhibit plastic tone. After ramisection he was able to inhibit the contractile component of tone which alone remained. This patient illustrates that the cerebral cortex normally inhibits both components of postural tone, and that injury may affect the control over the plastic component to a greater extent than that of the contractile element. This accounts for the marked improvement in control which follows sympathetic ramisection.

Consideration of these facts reveals the far-reaching influence in the interpretation of the functions of the cerebrum and cerebellum the further investigation of the central control of muscular tone is likely to exert.

[Hunter was in the midst of his experimental work when he received the invitation from the American College of Surgeons to deliver the Murphy Oration in New York. He and the team of collaborators who were inspired by his enthusiasm were preparing to investigate a host of problems—anaatomical, physiological, pharmacological, and clinical—suggested by this work; and it was with the utmost reluctance that he left his laboratory last September. But he realized the value of a personal exposition of his results, and felt it his duty to accept the invitation from America. He fully realized how profound a revolution his work was destined to create in anatomy and physiology; and it is unspeakably tragic that he was not permitted to develop these investigations himself.

I refer to these matters to call attention to the fact that circumstances forced Hunter at times when he had announcements of his results at times when he had their incompleteness. One of these I have just mentioned—the call to New York just at the moment when he had got a clear vision of the host of fascinating problems, the solution of which seemed to be made feasible by his working hypotheses. The first announcement of his work on the sympathetic was made in 1923, during the Association in Sir William MacEwen to the British Medical Association in Australia. The work was then still in the early experimental stage; but as the results were being applied to surgery it became necessary to explain the purpose and the principles underlying it for the guidance of those surgeons who felt it their duty to make use of a procedure that seemed to afford a certain hope of alleviating the chief troubles of the spastic paralytic patient.

Hunter had become keenly interested in the problems of the influence of the sympathetic upon visceral functions (which have not been discussed in these lectures); and if he had lived he had intended to embark upon a far-reaching inquiry as to the similarities and differences between the non-striated, cardiac, and striated muscles, and to correlate the actions of the sympathetic system on all three kinds of muscle.

In preparing these lectures for publication I have made free use of the work of Dr. T. K. Potts, published in the *Journal of Anatomy* (January, 1925), and the reports of the Murphy Oration in *Surgery, Gynecology and Obstetrics* (December, 1924); and I have to express my thanks to the editors of these journals (Sir Arthur Keith

and Dr. Franklin H. Martin) for their generosity in allowing me to quote freely and copy illustrations. The drawings illustrating these lectures were made by Mr. T. Poulton, mostly from illustrations selected by Hunter himself. Dr. John Beattie and Miss Audrey Russell made special dissections for me to check some of the anatomical points in the relations of the sympathetic rami in man and the fowl. Professor Hunter is in no sense responsible for Figures 2 and 14, which I constructed to give pictorial expression to the implications suggested in his argument.—G. E. S.]

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<sup>1</sup> *Lancet*, 1923, p. 644. <sup>2</sup> *Brain*, 1924, p. 178. <sup>3</sup> *Ibid.*, 1921, p. 307. <sup>4</sup> *Journ. Physiol.*, 1905, p. 369.  
<sup>5</sup> *Ibid.*, 1923, p. 189.

## THE EARLY DIAGNOSIS AND TREATMENT OF PYLORIC STENOSIS IN INFANTS.\*

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A CLEAR understanding of the nature of pyloric stenosis in infants and the recognition of the importance of early diagnosis, and so treatment, are most essential. We are quite sure that if the condition could be recognized early many lives would be saved. It is more common than is usually thought. By pyloric stenosis we mean a great hypertrophy of the circular and longitudinal muscles which control the passage of food from the stomach to the duodenum. The muscle here becomes enormously thickened and hypertrophied, so as to block the pyloric canal. The consequence of the block is that the stomach wall also increases in thickness and size as it tries to force its contents through the constricted opening into the duodenum. The food, not being able to pass through the pylorus, is forced the opposite way up the oesophagus, and we get the forcible vomiting so characteristic of the disease.

### DIAGNOSIS.

**Sex.**—In the great majority of cases the infant is a boy, but the cause of this is quite unknown. This fact, however, is a help in diagnosis. Eight or nine out of ten cases are boys.

**Place in Family.**—Many cases occur in the first-born; this looks as if the mother had not been able to produce a perfectly normal infant, but one different in some way. There is, by the way, a special liability of first-born children to abnormalities.

**Age.**—The condition is often called "congenital hypertrophic pyloric stenosis." This term is somewhat misleading and wrong, for the infants are, for a time anyhow after birth, perfectly well, and they show no symptoms till they are a few weeks old.

**Symptoms** do not appear till the infant is at least two weeks old, and the commonest time for the vomiting to start is from two to four weeks after the age of six weeks.

**Vomiting.**—This is perhaps the most characteristic sign. Vomiting takes on the character peculiar to the disease. The vomiting is forcible, and the food is shot out of the mouth, as he lies in his cot. The infant does not vomit after each feed, but usually twice or three times a day, but when it does vomit more than one feed comes up at a time. The infant who vomits after each feed does not usually have pyloric stenosis. The vomit often has much mucus mixed with the food, showing that the stomach has become inflamed.

**Constipation.**—As the vomiting begins the infant becomes constipated to a marked degree. The bowels are only moved by enemata, and then only a little at a time. The reason being that little food gets through the pylorus. The intestines become atrophied from disuse, and this is a hindrance after operation, when the food gets through the pylorus.

\* Read before the Lancashire and Cheshire Branch of the British Medical Association on November 20th, 1924

into the intestines. The vomiting of ordinary digestive disturbances is associated with diarrhoea, not constipation.

*Wasting* becomes rapid simply from lack of food and fluid, which are not retained, and the child may easily lose 4 or 5 ounces a day. Another characteristic sign is that the baby is greedy for the feeds and takes them well. This is quite unlike the ordinary dyspeptic infant.

*Peristalsis*.—Waves of peristalsis may be seen passing across the abdomen, due to contractions of the stomach, and they are best noticed while the baby is having a feed. This peristalsis may be seen in other conditions, but it is specially well marked in pyloric stenosis.

*Tumour*.—The pyloric tumour is usually situated about an inch above the umbilicus, under the right rectus. Some observers state that they can feel the tumour in a high percentage of cases. Personally, we lay little stress on this, as it is often an exceedingly difficult matter to feel the pylorus. The infant is generally cross and holds the abdomen too rigid, and even under the anaesthetic the tumour frequently cannot be felt, as it may be placed deeply under the liver. The failure to feel the hypertrophied pylorus should not prevent a diagnosis of pyloric stenosis.

The reason that cases of pyloric stenosis are often not recognized, or recognized late, is that the food is thought not to agree, and that it is in consequence of this the infant vomits and wastes.

Two things may occur in infant feeding: the baby's food may be wrong and the baby right—this is the commonest thing to happen; or, as in pyloric stenosis, the food is right and the baby wrong. A baby with pyloric stenosis is weaned from the breast because he vomits; the food is thought to be wrong. The vomiting, however, persists, no matter what food is tried, and the breast milk is lost. A baby should never be weaned without a very definite and good cause.

#### TREATMENT.

The treatment of pyloric stenosis in infancy may be either medical or by operation. It is only within recent years that the real value of operative treatment has been recognized. Directly the condition is diagnosed we are quite convinced that surgical intervention alone will give the best results. In the past much valuable time has been lost by trying medical treatment. Medical treatment has undoubtedly been successful in a certain number of cases, but it is not improbable that some of the cures were really cases of pyloric spasm, and not hypertrophic stenosis. It is doubtful if cases of well marked hypertrophic stenosis are often cured except by operation. As already stated, the condition found is one of true hypertrophy of the pyloric ring, producing obstruction to the outlet from the stomach. Any treatment to relieve this must provide a free exit from the stomach, and experience has shown that this can only be satisfactorily obtained by operation. Further, the ideal operation is obviously one that restores the continuity of the alimentary canal through the pylorus.

#### Rammstedt's Operation.

The best procedure at the present time is that described by Rammstedt in 1912, and taken up in this country in 1918. This operation consists in transperitoneal incision of the hypertrophied pyloric ring, leaving the mucous membrane intact, thereby restoring the continuity of the alimentary canal. This method has now become widely adopted, and we ourselves are so convinced of its superiority that we carry it out in every case where surgical treatment is decided upon. To anyone familiar with the technique it is easy and quick to perform, and has such obvious advantages over other methods of treatment that it has received almost universal approval, whilst the fact that no suturing of the stomach or intestine is necessary makes it an extremely simple operation. Further, we have met with no cases of recurrence of symptoms necessitating a second operation, as has been recorded after other methods of treatment.

Once operation has been decided upon the pre-operative preparation of the patient is of considerable importance. If the child is in good condition we advise operation at the earliest possible opportunity, as nothing is to be gained by delay. In those cases, however, where symptoms have been

present for some time and the child is in a semi-starved condition a delay of perhaps twenty-four hours is justifiable to introduce fluids and thereby improve the chances of success. All cases are treated as urgencies once the diagnosis has been made. Prior to operation fluid in the form of saline and 2 per cent. glucose is introduced into the body by the rectum and subcutaneous injection, and the infant's weight can by this means be raised by as much as 6 ounces in the twenty-four hours. The stomach is washed out with saline to rid it of curds and other offensive contents; this also renders the stomach itself more healthy.

At the time of operation the child is warmly clad and laid on a hot-water bottle in a well heated theatre. All these details are of importance as they help to minimize shock in an infant which has often little reserve power to spare. With regard to the anaesthetic, we now as a general rule prefer warm ether. We have found this more satisfactory than local anaesthesia and gas and oxygen, owing to the poor relaxation so frequently obtained, which adds to the difficulties and time occupied in the operation.

The abdomen is opened by a 1½-inch incision above the umbilicus to the right of the mid-line. The dilated stomach usually presents and is gently delivered through the wound, the pylorus being thereby readily identified. The stomach is then held by an assistant, and this both draws down the pylorus and leaves the operator the free use of both hands. The pyloric ring, which appears as a hard white cylindrical swelling, is incised longitudinally along its upper border with a sharp scalpel. In this situation there are usually no vessels of any size and the bleeding will be practically negligible. The incision is carefully deepened with a blunt dissector till the mucous membrane beneath bulges freely into the gap. In this, the essential step of the operation, two dangers must be watched for: First, haemorrhage, and this can be avoided by making the incision as described, whilst any vessel that may be cut should be under-run and ligatured. Secondly, if the incision is prolonged too far into the thin-walled duodenum the mucous membrane may be wounded and result in leakage of the contents; this can be avoided by dividing the muscle with the blunt dissector rather than with the scalpel.

Having successfully completed this stage and seen that there are no bleeding points, the stomach is returned to the abdominal cavity and the wound closed, saline being introduced into the peritoneal cavity meanwhile. With ether anaesthesia little difficulty will be found in closing the small incision, and the whole operation should take less than ten minutes to perform.

To secure success in these cases, rapidity in operating and the least possible amount of handling of the viscera are of vital importance. Both of these conditions are attained in the Rammstedt operation, and shock is thereby reduced to the minimum. The child should be given saline immediately after the operation, and fluids by mouth are allowed as early as possible. Whenever possible the mother should be encouraged to suckle the baby; this we regard as one of the most important steps in the after-treatment. A doubtful case may be brought through successfully if the mother's milk is available for the child. If breast-feeding is not possible, peptonized milk is likely to suit the baby.

#### PROGNOSIS.

The prognosis depends largely on the duration of symptoms and the condition of the child when submitted to operation. In early cases there is usually a rapid improvement immediately following operation. If the patient has been ailing for some time and there has been a progressive loss of weight and it is in a semi-starved condition, the mortality is bound to be high. Recovery after operation is uncertain in babies weighing less than 7 lb. As, however, the disease is becoming more readily recognized—and the symptoms are so typical that mistakes should seldom be made—the prognosis will become increasingly more favourable. With earlier diagnosis and opportunity to operate before the child is wasted and collapsed, the death rate should be reduced to less than 10 per cent. This ideal will only be attained when cases are recognized sooner.

In considering the results of treatment, statistics collected from the Hospital for Sick Children, Great Ormond Street, London, show that, during the years 1915-17, 54 cases were

ated, the majority without operation, and the total mortality was 80.5 per cent. Prior to the introduction of the Rammstedt operation in 1918, the operative mortality in this hospital was 100 per cent., not one single case being recovered after operation. In the following year, when the Rammstedt operation was adopted, it fell to 41 per cent. after surgical treatment, whilst in 1923 for 55 collected cases the operative mortality was 29 per cent.

During the past twelve months we have operated on 10 cases, with 5 deaths. This gives a death rate of approximately 30 per cent. Death occurred in 2 cases within twenty-four hours of operation, and was due to post-operative collapse in weakly and debilitated infants. In cases it occurred four, seven, and twelve days later, and appeared to be due to gastro-intestinal disturbances and inability of the infant to assimilate its nourishment.

In cases with a long history it is not unusual to find the testicles small and shrunken when examined *post mortem*, and it appears that death is due to their atrophy from disuse and their failure to recover their digestive function. The average age in these cases was 7 weeks, and the duration of symptoms twenty-one days. The condition most commonly appears in the third week of life.

Whilst fully realizing that the figures here cited are too small to allow deductions to be drawn, they serve none the less to illustrate the average results of surgical treatment of the disease at the present time.

#### CONCLUSION.

We would conclude by again urging that, once the condition has been recognized, surgical aid should be sought at the earliest possible moment, for in operation lies the quickest and most certain chance of success.

After surgical treatment the infant usually shows rapid improvement and within a few weeks is frequently able to be discharged as cured. Medical treatment, on the other hand, may require months of careful attention, and the ultimate result is often uncertain. If recovery takes place after operation it appears to be permanent; in fact, the majority of those who recovered after operation in infancy are in later life a good deal above the normal weight for age.

## A NEW TUBERCULIN.\*

BY

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Organic analysis is not likely to yield any single substance capable of producing antibodies to the tubercle bacillus, and if it is carried too far it is not even likely to yield any mixture of substances capable of antibody formation. The most efficient antigen is likely to be a suspension of culture or of pulverized bacilli in normal saline. There are technical difficulties in the way of obtaining ideal products, and these difficulties are aggravated when the antigen is required for immunization experiments or for therapeutic use.

Bevredka's antigen is prepared at a high temperature, and most tuberculins are made from bacilli killed by heat. The analytical processes employed to determine the composition of tubercle bacilli mostly involve the use of heat, to kill the organisms if for no other purpose. Heat is required for extracting the acid-fast material from the organisms. I know of no simple solvent that can extract this substance without the prolonged action of heat. A number of observers have noted that hydrochloric acid added to a simple fat solvent is able materially to assist the process of extraction.

If any chemical substance could be found to dissociate this acid-fast substance from its union with other constituents of the bacillus, at a comparatively low temperature and without loss of time, it would make the protein constituents of the bacillus more easily accessible to simple solvents, and would yield them up in a state more nearly resembling the parent substance. Phosphorus trichloride seems to have

this action, but it also reacts with the protein constituents of the bacilli. Very definite considerations led to the use of this reagent for the purpose of preparing a tuberculous antigen directly from living organisms. It is not always possible to foretell exactly what will happen when a new reagent is tested. A number of reagents were previously tried, with more or less futile or even alarming results. The process adopted is offensive, and must be conducted with due precautions for safety. Phosphorus trichloride gives a colour reaction with all bacilli and with other organic substances containing protein. The colour is purplish-brown. Enough water must be present to act catalytically; too much will interfere with the reaction, and there will be no reaction with absolutely anhydrous materials. Under proper conditions violent effervescence takes place, and a voluminous evolution of irritating fumes occurs, which cause coughing and headache, which may last for several days.

Although the original mixture is liquid, the end of the reaction is indicated by its becoming a firm pasty mass, which can be liquefied by the addition of water. All the bacilli can be precipitated along with the phosphorized fats by the addition of acetone. This precipitate is the basis of the tuberculin about to be described. Its antigenic action is feeble, but is much enhanced by cholesterol.

Sound guinea-pigs bear relatively large doses of tuberculin, but tuberculous animals are readily killed in thirty-six to forty-eight hours by comparatively small doses. A healthy animal bore a large dose of this new preparation with impunity. A seriously diseased animal also bore the same dose, and even appeared to be better twelve hours afterwards. Twenty-four hours later a second dose, even larger than the first, was given, and borne equally well. Forty-eight hours after the first dose a third dose was given, and next day the animal was markedly better in health. Clearly this substance had not the lethal property of old tuberculin towards tuberculous animals. Its therapeutic action on the same animal was then tried. A weekly dose was thereafter administered until all the enlarged glands became palpable, while the animal actually became the healthiest and heaviest in the establishment. When it was at last killed no trace of the diseased glands could be found, but there were a few scars of healed tubercles in the spleen, and an area of perisplenitis. An emulsion of the spleen injected into another guinea-pig produced no disease.

The various strains of human and bovine tubercle bacillus differ in virulence, so a culture of bovine bacilli of well established virulence was obtained from the National Collection of Type Cultures for the purpose of the next experiments, which were performed on rabbits.

The rabbit never survives an infection of bovine tuberculosis, no matter how contracted. If the bacilli be inoculated into one of the hind limbs an enlargement soon arises. After the swelling upon the mass of the bacilli inoculated, general symptoms supervene. General military tuberculosis sets in and rapidly kills the animal. On post-mortem examination none of the lesions shows any evidence of circumscription. They tend everywhere to spread diffusely.

Five young rabbits were each inoculated intraperitoneally with 5,000 million virulent bovine tubercle bacilli. One was kept as a control without subsequent treatment. In six days its temperature had risen two degrees, and in eleven days four degrees. Its weight varied, reaching a maximum in eighteen days; it died in thirty days, weighing exactly the same as at the beginning.

The second rabbit was treated with the new tuberculin. It gained weight for twenty-one days. It was accidentally injured, and died on the twenty-second day.

The third rabbit became ill five days after inoculation. On the eleventh day its temperature was 105.3° F. Treatment was then commenced. It gained weight for thirty-one days, but the temperature remained high, and it died on the fortieth day.

The fourth rabbit became ill one day earlier than the others. Treatment was commenced on the tenth day, and it died on the thirty-fifth day.

The fifth rabbit became ill on the sixth day. Treatment was begun on the eleventh day, but in this case human, not bovine, tuberculin was used. All the other rabbits were treated with bovine tuberculin. This animal trebled its weight in fifty-five days. The local infection soon became sharply delimited from the surrounding healthy tissues and began to heal. The animal was killed at that stage on account of my holiday arrangements. *Post mortem* the lungs showed large, well defined tubercles in process of healing.

\* A paper read before the Birmingham Branch of the British Medical Association, November 20th, 1924.



A pair of larger rabbits was infected by the subcutaneous instead of by the parenteral route. Both were decidedly out of sorts in seventeen days. Treatment was commenced on the twenty-sixth day. The first had already begun to decline seriously eight days before, owing to the infection having been intentionally accelerated by massage of the infected glands. Tuberculin of human origin was administered to both animals, but the first died thirty-five days after infection, without having made the slightest sign of rallying.

The second rabbit of this pair was seriously ill within sixteen days of infection, and treatment was commenced ten days later, and continued to the fifty-sixth day after the original infection. Only seven doses of tuberculin were given altogether. This animal increased in weight long after treatment was stopped, for nearly five and a half months. Eventually it was seized with nasal catarrh and signs of pneumonia. Nasal catarrh had never been observed in any of the other animals; it was probably a superadded infection by one of the pasteurilla group of organisms, and on this supposition the animal was promptly killed. *Post mortem* large healing tubercles were found in both lungs as well as fresh haemorrhagic patches. The site of infection was completely healed, but there was a large subscapular tuberculous gland, circumscribed by healthy tissue, though otherwise certainly capable of rekindling the infection.

This case and the last one of the other series were both decidedly encouraging, because rabbits at the best are difficult to manage under experimental conditions. Many die from accidental causes, and it says much for the care and skill of my assistants that the death rate of both rabbits and guinea-pigs is the lowest that I ever heard of. All these animals were very severely infected before treatment commenced, and they were all treated with very excessive doses of tuberculin. Not one reacted fatally to this excessive dosage.

Man has a much greater natural resistance to tuberculosis than the guinea-pig or rabbit, and his treatment is accordingly more satisfactory. Still, I have little fear about the results of my next animal experiments, if I think it necessary to resume them. As soon as it was thoroughly ascertained that the use of this tuberculin was perfectly safe for animals, I took advantage of the courtesy of Mr. Gemmill, and later of Mr. Naughton Dunn, who enabled me to treat cases of lupus vulgaris and of surgical tuberculosis. These cases responded very favourably.

Lupus erythematosus has responded to treatment even more rapidly than lupus vulgaris. But I consider an apparent cure not to be beyond danger of relapse, and would advise further treatment for eighteen months. I am indebted to Mr. Yates and Mr. Heath for cases of this disease.

I am indebted to Dr. Taylor of Syston, Leicester, for the first reports on the treatment of pulmonary tuberculosis with this tuberculin. I deliberately avoided treating this disease until I had studied the effect of treating the other forms of tuberculosis. Encouraged by Dr. Taylor's reports on advanced chronic cases, I undertook the treatment of a very advanced case of phthisis. I am indebted to Dr. Castellain for an introduction to this case, and to Dr. Garbutt for permission to attend and give the necessary treatment.

There were physical signs in both lungs and large cavities in the upper lobe of the right lung. The prospects were as hopeless as could be desired for the trial of a new method of treatment, and in that opinion we all concurred. The patient was aged 23, was quite sure she was recovering. She had three doses of the bovine tuberculin, followed by a course of antogenous tuberculin, beginning with a dose of a milliliter of a gram. All anorexia rapidly ceased, the appetite became excellent, and sleep was restored; sweats ceased, sputum was reduced from about two pints a day to about a quarter of a pint. The pulse became regular and much slower (144 at first, afterwards 88), respiration was calm, tubercle bacilli were comparatively scanty in the sputum, and the physical signs greatly improved. The temperature became more equable, but was slower in coming under control than any other symptom. Flesh was put on quite obviously.

Later the patient had a complete pneumothorax of the right side. The temperature rose to nearly 103°, but it afterwards returned to normal, and she made some progress. Nineteen days after the occurrence of the accident the lung apparently collapsed again suddenly and death quickly ensued. She had been examined regularly all the time, and the lung was found to be expanding.

The principle I have enunciated is probably applicable to the treatment of leprosy and certain other diseases. The nasitin treatment of leprosy by Professor Deycke of Constantinople is akin to it, but nasitin is very toxic.

I am indebted to the Director-General of Medical Services, Ministry of Pensions, for permission to publish this paper.

## PLEURAL REFLEX ASSOCIATED WITH FRACTURE OF THE TWELFTH RIB.

BY

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HOVE.

THE following case seems worthy of record as a striking and unusual complication of fractured rib.

An unmarried woman, aged 41, fell from a stool on the night of July 15th, 1921, striking her back against a chest of drawers. There was no abrasion of the skin extending vertically upwards from a point below the level of the last rib about four inches from the right border of the spinal column. The twelfth rib was fractured about midway between its junction with the vertebra and the abrasion.

Strapping was applied, and the patient remained in bed, experiencing, for the first few days, considerable discomfort and pain even on slight movement. Four days after the accident she had an attack of hiccup lasting for some hours; both before and after this she had an occasional single hiccup. Progress was otherwise uneventful, and on July 28th the patient got out of bed for the first time. The next morning, when out of bed, she stooped for something and was suddenly conscious of a feeling of faintness, breathlessness, and palpitation, accompanied by severe pain in the upper part of the sternum. She felt very ill and thought that she was going to die. When seen an hour later she was pale, anxious, and dyspnoeic. The pulse (136 a minute) was feeble, and small, but regular. The heart was not enlarged. Harsh, rapid, and shallow breath sounds were heard all over the lungs. There were no areas of diminished resonance and no adventitious sounds. The temperature was 99° F. Adrenaline and cardiac stimulants were administered and the breathing improved; the general condition, however, remained serious during the day. In the evening the pulse rate was still 135, and the temperature had risen to 100.8° F. There were no physical signs in the chest and no pain at the site of fracture.

After this improvement was steady. The pain in the upper part of the sternum was continuous until the third day; it was not increased by breathing or movement. The temperature fell gradually, and was normal on July 31st (fourth day). On August 2nd the pulse rate was 72, the respiration rate 20, and the general condition good. The patient was allowed to get up. From about August 1st onwards, when all acute symptoms had subsided, involuntary sighs occurred from time to time, seeming to the patient to arise from the mid-sternal region. They continued two or three times a day for about a week, ceasing gradually. There was no further interruption to convalescence.

It seems probable that the sudden movement of stooping irritated the nerves of the pleura, either by tearing an adhesion or by friction, and so gave rise to a pleural reflex of the vasomotor type.

A consideration of the anatomy of the part shows that the pleura and diaphragm are in close proximity to the twelfth rib at the site of fracture, the external arcuate ligament of the diaphragm being attached to the tip and lower margin of the twelfth rib and to the transverse process of the first lumbar vertebra. The lung is above, reaching only to the eleventh rib, while the pleura extends to below the twelfth. In the normal subject the kidney would be liable to injury through the pleura and diaphragm, but in this patient it was movable and well below the level of the rib.

Pleural reflex or pleuro-pulmonary reflex has usually been recorded in connexion with operative thoracentesis. Stivelman<sup>1</sup> concluded that in over 75 per cent. of cases there was injury to the visceral pleura and underlying lung tissue. Capps,<sup>2</sup> however, has shown experimentally that the reflex can be occasioned by irritation of the pleura alone, the healthy pleura being much more tolerant than inflamed pleura. It is probable that, in the case reported, the pleura had been injured. The patient experienced more pain and discomfort than usually attend simple fractured rib, while the hiccup during the first week points to involvement of the diaphragm and therefore of the diaphragmatic pleura. The inflammatory reaction may well have persisted till the thirteenth day, when the cardio-respiratory symptoms occurred.

The sighing which arose during convalescence calls for some comment. Physiologists explain sighing as a deep inspiration following, and compensating for, a temporary cessation of breathing.<sup>3</sup> Various causes which depress the respiratory centre may give rise to sighing—for example, cerebral anaemia and the excessive use of tobacco. It also occurs when the mind is deeply engaged, so that people unconsciously sigh at their work.

In the case under review a cause for suppression of respiration might be found in the injured pleura and

diaphragm; or, since the patient was up and about, the sighing may simply have resulted from cerebral anaemia connected with the recent vasomotor disturbance.

## REFERENCES.

<sup>1</sup> Stievelman: *Amer. Journ. Med. Sci.*, June, 1923, 876. <sup>2</sup> Capps: *Oxford Medicine*, 1920, vol. ii, 163. <sup>3</sup> Hutchison: *Applied Physiology*, Arnold, 1903, p. 221.

## ARSENICAL POISONING TREATED BY SODIUM THIOSULPHATE.

BY

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AND

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The following case is of importance as a sequel to the communication from Dr. H. C. Semon in the *BRITISH MEDICAL JOURNAL* of April 12th, 1924.

A woman, aged 30, became infected with syphilis towards the end of her fourth pregnancy. She had been treated by intravenous injections for ten months, and had then been advised to take six weeks' rest from treatment. Three weeks after the last injection, and five weeks before she came under our care, she became jaundiced, and noticed loss of power in the arms and general weakness; she passed dark urine and pale stools. For seven days prior to admission she had vomiting, anorexia, constipation, insomnia, and failing vision.

On admission there was deep generalized jaundice, the mouth was dry and dirty, and answers to questions were correct but monosyllabic and very slow. There were no physical signs of neuritis, but the hands could not be lifted, and the vision was bare perception of light. The liver dullness was diminished; the urine contained albumin and bile.

While awaiting a supply of chemically pure dehydrated sodium thiosulphate we gave the patient 30 grains of the stock salt in

solution by the mouth every four hours, and continued this method of administration throughout the first week. There were no resultant toxic symptoms (colic or diarrhoea), but there was no arrest of the arsenical symptoms. By the third day the patient was apparently moribund; she vomited frequently and in excess of intake; she was restless, apathetic, and doubly incontinent; the bowels acted only after enemata.

At this stage the first intravenous injection was given, and for ten days the patient had 0.45 gram daily, followed by seven similar doses on alternate days, making a total of 7.65 grams spread over a period of twenty-six days. In addition, during the first week she took about 80 grams by the mouth, but probably much of this was lost by vomiting. From the first intravenous injection the downward trend was arrested. After five doses the mental condition was perfectly clear, muscular power of the arms was good for all movements, and the patient could read small print. She was still jaundiced, incontinent, and vomiting. There was still bile in the urine, and leucine was seen in the deposit. At the end of the third week she was convalescent and able to be up for half the day, eating well, and not vomiting; the jaundice was almost gone, and the urine normal.

The levulose tolerance was tested and seemed to show a definite derangement of liver function during the height of the illness, with rapid recovery under treatment. The deterioration in her general condition during the first two days clearly demonstrated the progressive nature of the disease and emphasized the remarkable improvement following intravenous administration of the specific remedy.

Levulose Tolerance.	April 25th.	May 13th.
Fasting blood sugar ... ..	0.131	0.103
Half an hour after levulose ... ..	0.137	0.086
One hour after levulose ... ..	0.218	0.100
One and a half hours after levulose ... ..	0.206	0.166
Two hours after levulose ... ..	0.206	0.100

We should like to express our thanks to Dr. Thackray, Medical Superintendent, for permission to publish this case.

## Memoranda:

### MEDICAL, SURGICAL, OBSTETRICAL.

#### MALIGNANT CERVICAL ADENITIS SIMULATING ANEURYSM.

THE case here recorded, though disappointing from a diagnostic point of view, is interesting as illustrating how very closely cervical adenitis may simulate aneurysm. An exploring needle would have settled the diagnosis, but as nothing was to be gained by the procedure it was not carried out.

A woman, aged 79, was admitted to the Tooting Bec Hospital in August, 1923. She showed evidence of specific disease, and her history confirmed this. On October 14th, 1924, she suddenly developed a tumour about the size of a hen's egg above the right clavicle. As far as can be ascertained this took only about a week to become apparent. The tumour was slightly irregular in shape and was distinctly expansile. Two little flaps, one on either side of it, separated about a quarter of an inch with each beat of the heart. The heart rate was 66 and the blood pressure 130. There was no appreciable difference in the two radial pulses, but the right radial pulse gave a tracing exactly similar to that of a subclavian aneurysm portrayed in Hutchison and Rainy's *Clinical Methods*. There was a distinct systolic bruit over the aneurysm and over the aortic area. This is interesting as an illustration of a contribution I sent to the *JOURNAL* some time ago entitled "An aortic murmur."

A month later the tumour was noted as much larger—the size of a small orange—and the radial pulse as being much altered. The patient was treated with potassium iodide, being rapidly advanced to 40 grains every four hours, and showing no unpleasant symptoms from the drug. The size of the tumour in a week's time was distinctly less and there was a constricting band at the back of the mass. The following week the mass increased in size and the potassium iodide was discontinued. The blood pressure was 135, and the radial pulse tracings were similar, with no morbid characteristics. All this time there was little or no complaint of pain, and the patient died on December 5th from a low form of terminal pneumonia.

At the necropsy a large mass of cancerous glands was found completely encircling the subclavian and carotid arteries with secondary deposits in the mediastinal glands and deep in the liver.

The diagnosis made was a carotid aneurysm involving the subclavian and possibly innominate arteries, and several persons of wide experience saw the patient and found no

fault with the conclusion arrived at. When the change in size was brought about by administration of potassium iodide it was thought that that clinched the diagnosis. The systolic bruits were, of course, caused by compression of the artery, and not by the constriction at the entrance or exit of an aneurysmal sac.

I am indebted to Dr. E. H. Beresford for permission to publish the case.

Tooting, S.W.

THOMAS LINDSAY, M.D.,  
F.R.C.S.Ed.

#### IMMUNITY, SPECIFICITY, AND NON-SPECIFIC FACTORS.

IN the issue of December 13th, 1924 (p. 1098), Dr. R. A. O'Brien says: "It may be that the administration of *coli* vaccine does materially influence the course of typhoid fever and of arthritis, but we feel that we must have more evidence before accepting the claim." In view of this the following case of colitis and arthritis cut short by an attack of typhoid fever, and the recovery from the typhoid fever, is of interest.

A girl, aged 18, suffered since the age of 13 from attacks of subacute arthritis rheumatism. She had suffered for some years before this from five or six loose motions a day. An examination of the stools showed enormous number of *B. coli*. The arthritis was most probably caused by the colitis. At 18 years of age she contracted typhoid fever. The fever was complicated by severe haemorrhage on the twenty-third day of the disease. Vidal's test was positive. The temperature fell to normal on the forty-second day of the illness, and health and strength gradually returned. The arthritis and stiffness of joints disappeared and have not returned, though it is now more than three years since recovery from the typhoid fever. The motions are now one or two a day.

One case proves nothing, as it may be entirely coincidence, though even coincidence has a cause; but the recovery from the typhoid fever and the cutting short of arthritis and of colitis appear to me to be sufficiently interesting to record, especially to those who successfully treat typhoid fever by *coli* vaccine, or those who successfully treat arthritis by intravenous injections of *B. coli* or typhoid bacilli.

Queen Camel, Somerset.

J. E. BOLTON.

## Reports of Societies.

### THE MILK SUPPLY AND HEALTH.

At a meeting of the Medico-Chirurgical Society of Edinburgh held on February 4th, the President, Sir DAVIN WALLACE, in the chair, Sir ROBERT PHILIP opened a discussion on the milk supply of the country and its bearing on health.

Sir Robert Philip pointed out that in February, 1913, a committee of the society had been appointed to inquire into the relation between the milk supply of Edinburgh and the prevalence of tuberculosis. The committee came to the conclusion—largely on the findings of Mr. Fraser and Mr. Mitchell—that the infection of children with bovine tuberculosis was prevalent in Edinburgh. It recommended: (1) that the members of the society should advocate strongly the advisability of boiling milk, (2) that the town council should be asked to reorganize milk examination and the supervision of cows, and (3) that the Government should be urged to carry through at an early date a milk bill along the lines of such bills as had been previously considered by Parliament. The further efforts of the society had been interrupted by the war. Reference was made to the Milk and Dairies (Scotland) Act, 1914, and the causes for its delayed operation due to the war. The Amendment Act of 1922 was also cited; it was probable that this Act would come into operation in September, 1925. Among other important provisions the Act allowed the Scottish Board of Health on January 1st, 1923, to make regulations for the production and sale of graded milk and to grant licences to producers and dealers accordingly. In June, 1923, the Board issued a Milk (Special Designations) Order (Scotland), and later a short Amending Order regarding the conditions applicable to pasteurization. Apart from pasteurization three grades of milk were recognized, which were shortly summarized. Since this Order was passed there had been a marked increase of interest and activity amongst producers in the direction of higher grades of milk. In England on December 31st, 1920, the number of licences for the production of certified milk was 9; on December 31st, 1923, it was 55. In Scotland at present there were 9 licences for the production of certified milk, and 19 for grade A (tuberculin tested) milk. Reference was made to the experimental dairy farm at Gracemount, under the management of the Royal Victoria Hospital Tuberculosis Trust of Edinburgh. The purpose of grading milk was then discussed, the essential point being cleanliness. The composition of milk was briefly detailed and some observations were made about its bacteriological content. It was estimated that 50 per cent. of milk cattle in this country were tuberculous, 2 per cent. being in an advanced state of tuberculosis. Much attention had been devoted to the question of freeing herds from tuberculosis in Denmark and the United States, and more recently in Great Britain. Bang's experiments in Denmark were cited. Reference was made to the danger of contamination from the milker's hands, etc., and to the question of housing cattle, with comments on the habits of milkers, the mode of milk transit, and the process of bottling in many dairies. Sir Robert Philip then outlined the present outlook, and referred to the need of close veterinary inspection, a healthier life for cows, instruction to dairy workers in cleanliness, and the significance of proper cooling of milk. Many of these objects had been achieved by the influence of the National Clean Milk Society and similar agencies, while clean milk supply was to be provided it should be plentiful, for the people generally ought to consume more milk. It had been estimated broadly that only about half as much milk per individual was consumed in Great Britain as compared with the United States. Public education was required to popularize milk, and reference was made to some of the methods adopted by American milk vendors to instruct their customers. The producer must also be trained to realize the value of having a sound herd, and that better education of the people would create an adequate demand for certified milk. The providing by some authorities of pre-

served, dried, or tinned milk at child welfare and maternity centres was deprecated. Good milk was at times more difficult to obtain in country districts than in the town. The question of pasteurization was discussed and the risks of inadequately carrying out this procedure were pointed out. If pasteurization was permitted at all it should only be considered a provisional measure, the scientific finger of preventive medicine pointing clearly towards an ultimate goal of a pure natural milk supply. Legislative and administrative measures were mentioned, and also the duty of the medical practitioner in helping to establish the demand for a clean milk supply. In conclusion Sir Robert Philip said, "It is my earnest hope that the discussion will lead somewhere, and that the collective view of the profession may be effectively expressed in support of the legislative proposals and the administrative endeavour by the Board of Health to secure and develop for the nation an abundant supply of sound milk."

Professor T. J. MACKIE discussed the bacteriology of milk. He compared the bacteriological content of milk with that of accepted water supplies, to the disparagement of the former. He referred to some of the organisms found in milk and the dangers which might arise from consuming milk so contaminated. The well known fact was noted that in this country the main hygienic problem in regard to milk are related to tubercle bacilli and the etiology of infant diarrhoea, and the established fact that bovine tuberculosis is commoner in children was cited. He thought that tuberculous milk would still be used for a long time, and that the only immediate remedy lay in destroying the bacilli. Reference was made to infantile diarrhoea and the various causative factors, including the dysentery group of organisms in the severer cases. He doubted the value of pasteurization, since it was a technical process, and therefore might fail; he favoured boiling as the more simple procedure, and the nutritive deficiency of boiled milk could be compensated in infant feeding. Finally he referred to the necessity of education of the public both from the point of view of purity of milk and increased efficiency in the dairy.

Dr. J. F. TOCHER discussed the variations of the constituents of milk in normal cows, the chief variation being in the quantity of butter fat. He drew attention to the difference between the readings of "bulked" milk from a large herd and the readings from individual cows. Under the auspices of the Scottish Interdepartmental Committee on Milk, samples from individual cows were obtained from local authorities all over Scotland throughout every period of the year. These were analysed, and a monograph on the subject would be published this year. The average figures and range of variation in individual cases were shown by means of diagrams: 10 per cent. of the samples gave less than 3 per cent. butter fat. In the case of "solids not fat" 24 per cent. of individual samples gave less than 8.5 per cent., which was the prescribed presumptive limit; this did not show in "bulked" milk from a large herd. The important non-fat constituents were lactose, ash, casein, and albumin. The percentage of lactose varied from 2.7 to 5.5, the numbers for the low percentages being small compared to the high percentages; the reverse held good for albumin. It was noted that a heavy-milking cow on the average gave a higher percentage of lactose than a poor-milking cow; also, the higher the percentage of lactose the lower was the percentage of albumin. It seemed probable that in each individual cow there was a lactose secretion sufficient to secure osmotic pressure in secretion of milk equal to the osmotic pressure of the blood. Age and breed had important bearings on the various constituents of milk. The percentage of butter fat fell in cows from 3 to 12 years: young cows gave a higher percentage of lactose than old ones, while the percentage of albumin was greater in older cows. The percentage of lactose first rose, then fell, during the lactation period, while the reverse took place with albumin. The lactation period showed a wide range—from twelve to sixty weeks. The data regarding the composition of human milk were scanty: in order to get approximate results several thousand samples would have to be submitted to the same careful statistical analysis as that applied to cow's milk.

## PITUITARY DISEASES.

Dr. GERALD LEIGHTON of the Scottish Board of Health discussed the law in respect of the control of the infection of milk with tuberculosis. He first pointed out what the law did not contain, because no full system of control had ever been put into operation in Scotland. He referred to the lack of compulsion in having dairy cows inspected regularly, the failure to slaughter or isolate the tuberculous cows in country districts, and the omission of a health certificate when selling a cow; milk sold in shops was not regularly examined to ensure its freedom from disease. He then described briefly certain aspects of the Dairies, Cowsheds, and Milkshops Orders of 1885, 1887, and 1899, and passed on to certain aspects of the Public Health (Scotland) Act, 1897, in so far as it related to the examination of milk supplies relative to infectious diseases. The Milk and Dairies (Amendment) Act, 1922, was mentioned in reference to the clauses dealing with the sale by farmers of tuberculous milk, but it was pointed out that there was nothing to prevent a farmer from selling a cow with a tuberculous udder. The Burgh Police (Scotland) Act, 1903, was discussed with reference to certain sections which referred to cows and tuberculosis. These provisions did not appear to have been much used owing to technical and other difficulties. The Milk and Dairies (Scotland) Act, 1914, was a very important statute, though its operation was postponed in consequence of the war, and was not yet into operation applied to burghs and districts, and when put into operation would go far to clear up the defects in the existing law. The Scottish Board of Health had power to make it operative on or after September 1st, 1925. In Section 3 it provided that the Scottish Board of Health might require the appointment of veterinary inspectors for the purpose of examining cattle in every burgh and district. In the cattle to be examined once a year in each district. In Section 14 dairymen were required to notify the local authority of the existence of any cow with any sores on the teats accompanied by bleeding or suppuration, or of any cow known to give tuberculous milk. In Section 17 it was provided that milkers must show a medical certificate that they were not suffering from an infectious disease. There was, however, no prohibition from sending diseased cows to market. The grading of milk had made steady progress since it was instituted by an order of the Scottish Board of Health in terms of Section 3 of the Milk and Dairies (Amendment) Act, 1922.

Mr. ARTHUR GORTON, chief veterinary inspector of Edinburgh, described the application of the tuberculin test to cattle. In cattle practice the subcutaneous, ophthalmic, and intradermal tests were employed, Koch's old tuberculin being used. Bovine tuberculin was generally used, but that made from human bacilli of proved potency was as useful. An avian tuberculin test in detail, pointing out the precautions to be taken before the test was performed and during it: he added that a large drink of cold water might temporarily reduce a febrile temperature to normal limits. Tuberculin, he explained, was harmless to pregnant cows provided that parturition was not imminent or they had not recently calved. In the application of the subcutaneous tuberculin test to a dairy herd it was usual to find a decrease of milk secretion which might vary from 3 to 15 per cent. without a single reactor being present in the herd. This decrease was only temporary. Tuberculin was probably a factor in this decrease, but the unusual disturbance and handling of the cows during the decrease, also an undoubted factor in this temporary decrease. Reference was made to the interval necessary between tests; two months was considered adequate. The ophthalmic test and the intradermal or intracutaneous test were then described. Summarizing the comparative value of these tests, Mr. Gorton said that not one of the three was infallible. The subcutaneous test had the highest diagnostic value, despite some of its imperfections; errors would rarely exceed 5 per cent. The ophthalmic test took a place midway between the other two. Under the Milk (Special Designations) Order combined subcutaneous and ophthalmic tests were required in respect of herds supplying tubercle-free milk. Finally, a brief reference was made to the question as to what period of time must elapse after

infection before an animal would react to tuberculin. Experimental evidence went to show that the shortest and longest periods were eight to fifty-one days after infection. From his own experience, if it was desired to eliminate the risk of introducing into a clean herd an animal which harboured infection in latent form, newly purchased animals should be tested at once and again three months later, isolation being maintained during this time. A cinematograph film to illustrate the production of "certified milk" at Gracemount Farm was shown by Dr. J. C. SIMPSON. The preparation of this film was arranged by the Royal Victoria Hospital Tuberculosis Trust, which owns the farm.

Dr. DRUMMOND SHIELDS, M.P., stated that he had long been interested in this question since Fraser and Mitchell had published their results in tuberculosis of bones, joints, and glands, as well as their reports on the frequency of tubercle bacilli in milk. He gave some statistics of the occurrence of tuberculous infection in milk in Manchester, and referred to Griffith's findings with reference to the diminishing frequency of bovine bacilli as ago advanced. He also gave some recent figures for Edinburgh. He urged that the medical profession should acquaint the authorities with the serious position of the milk supply of the country so that parliamentary action might be taken.

Dr. CHALMERS WATSON referred to the difficult question of the relation between the producer of certified milk and the demand for it. He also touched on some of the important bacteriological questions in relation to the subject, and referred to other organisms besides the coliform and tubercle bacilli. He was convinced that the society should make appropriate use of the discussion for educative purposes.

Dr. KEPPIE PATERSON and Dr. JAMES YOUNG urged the necessity of vigorous action to obtain a pure milk supply. A resolution, proposed by Sir ROBERT PHILIP, that the council of the society should be empowered to bring to the notice of all those concerned, including members of Parliament, the urgent need for a clean milk supply, was carried unanimously.

## PITUITARY DISEASES.

A MEETING of the Clinical Section of the Royal Society of Medicine was held on February 13th, with Dr. NEWTON PITT, the President, in the chair.

Dr. DOUGLAS FIRTH showed two cases. The first was a case of Fröhlich's syndrome in a boy, aged 17, who showed extreme obesity with absence of axillary and pubic hair. His memory was defective, and he suffered from frontal headaches. The blood sugar curve indicated the existence of an increased sugar tolerance. X-ray photographs of the skull showed an apparently normal pituitary fossa. Dr. Firth's second case was one of syphilitic anterior and posterior pituitary derangement, exhibiting polyuria, thirst, and hyperglycaemia. A comparison of recent x-ray photographs with those taken some months previously appeared to indicate some thickening in the region of the sella turcica, which was believed to be a bony reaction to syphilitic infiltration. Dr. C. C. BEATTY showed a case of pituitary tumour, with infantilism, in a young man, who had ceased to grow at the age of 13. He was now 4 ft. 4½ in. in height, and weighed 4 st. 12 lb. No hair was present on the face, nor in the axillary and pubic regions. The breasts were enlarged, and the external genitalia were of the infantile type, neither testis having descended into the scrotum. Although the intelligence of the patient was good, signs of an intracranial lesion were present, including optic atrophy and bitemporal hemianopia. The urine was normal and the Wassermann reaction negative. An x-ray examination showed enlargement of the sella turcica. Dr. Beatty advocated operative treatment in this case on account of the progressive failure of vision. Cases of acromegaly were shown by Dr. NEWTON PITT, Sir PERCY BASSETT-SMITH, and Dr. GEORGE RIMMOCH.

Dr. F. PARKES WEBER showed a case of developmental deformity of the right forearm, similar to that occurring sometimes in cases of multiple exostosis (diaphyseal aclasis). The patient, aged 18, was a large and powerfully built young man, with a shortened curved right forearm, and

marked ulnar deviation of the hand. X-ray examination revealed new bone formation in the ulnar concavity along the attachment of the interosseous membrane, similar in nature to that seen in cases of multiple exostosis. Although no exostoses were present in this case the other bony changes were similar to those frequently seen in association with this condition. Mr. PHILIP TURNER showed a girl, aged 14, with enormous and increasing enlargement of both breasts. As he considered that the enlargement was probably due to multiple and rapidly growing fibroadenomata he proposed to amputate, for in his experience x rays had little or no effect upon this condition. Mr. N. ST. J. G. D. BUXTON showed a case of hairy black tongue. The black part was limited to a V-shaped portion of the back of the tongue, and could be removed with gauze. The condition was said to be due to an overgrowth of the fungiform papillae, and, according to the more recent theories, was not associated with the growth of fungi or any special bacteria. This case was discussed by Sir STCLAIR THOMSON, who had seen between thirty and forty similar cases, mostly discovered accidentally during routine examination. Rubbing the affected part with hydrogen peroxide had generally been curative. Dr. C. F. T. EAST showed a case of diabetes insipidus following syphilis, the symptoms of which had been controlled by subcutaneous injections of pituitrin. This case was discussed by Dr. PARKES WEBER, who had had a similar case in which the disease was familial; there was said to have been an unbroken history for two hundred years.

### DISEASES OF THE CLIMACTERIC.

A MEETING of the Chelsea Clinical Society was held on February 17th, with Dr. GORDON LANE, the President, in the chair.

Sir THOMAS PARKINSON opened a discussion on the diseases of the climacteric in both sexes. Many men at this time of life showed changes in arterial tension with or without renal changes. He pointed out the uselessness of attempting to reduce the blood pressure in these cases by means of drugs, and said that alteration in the environment, with lessened diet and rest in bed, were the best methods of relief. He then gave an account of the changes seen in the female at the climacteric. He considered that the flushings occurring at this time were due to the loss of ovarian secretion, and that this loss interfered with the action of the thyroid and adrenals. At this period of life in both sexes the endocrine organs were very erratic in function. The upset of the normal mental condition was due, in many cases, to the thyroid, and the cause of the excessive headaches was, he thought, affection of the pituitary gland. It was most important that men should be treated before definite changes had been established in the vascular system. He believed that people of both sexes ate far too much generally, and that such excess was most harmful at this period of life.

Mr. A. RALPH THOMPSON put the climacteric age as being about 55 to 63 in the male. He showed that sepsis was more common in the male than in the female at this time of life, and that the chief septic changes were associated with gangrenous or necrotic processes. He referred to the occurrence of growths of the bladder, and thought that the practical side of this question was very different from that described in the textbooks. He also drew attention to the comparatively early age at which enlargement of the prostate gland gave rise to symptoms. He operated upon this condition, not so much for the mechanical obstruction that it produced, but because the enlargement so frequently led to disease of the kidney, sometimes chronic interstitial nephritis. He thought that the general rule with regard to growth of the prostate should be the same as that applying to other organs of the body, and said that he had had several patients with malignant disease which had not been anticipated when the enlargement of the prostate was first diagnosed. He thought that to wait for fixity and irregularity of a large prostate was to put off adequate treatment until too late, since these were symptoms of the involvement of other organs. The speaker then reported

certain clinical facts he had observed in connexion with cancer of different parts of the body. He gave figures showing that in malignant cases the thyroid was, on an average, of greater capacity by 6 c.cm. in malignant than in non-malignant cases of death; some of the thyroids in cases of malignant disease were very large. Acting on these and other observations, he had been in the habit of giving calcium and thyroid extract, and in inoperable carcinoma of the bladder some success had been obtained by this treatment. In one case the growth had apparently disappeared and in others it had seemed to make no headway; in some cases weight had been gained by the patients. He thought cancer was a deficiency disease.

Dr. THEODORE HYSLOP pointed out that many men exhibited mental symptoms at about the age of 50, and he thought that this was associated with the periodical retention of uric acid in the system. He advocated saline purges for this condition with diaphoresis.

The PRESIDENT drew attention to the possibility of the patient having started life in a wrong manner, initial errors being emphasized as the patient grew older. He agreed with Sir Thomas Parkinson that the diet was too liberal in many cases. He mentioned, in particular, arteriosclerosis, chronic nephritis, and glycosuria as being the common diseases of this period of life.

### CHOLECYSTOGRAPHY.

At a meeting of the Liverpool Medical Institution on February 12th, Dr. R. E. ROBERTS and Dr. HENRY COLES read a short note recording their observations on cholecystography by Graham's method. This method was based on the use of a salt, opaque to x rays, which, when injected into the blood stream, was excreted by the liver, entered the gall bladder, and was there concentrated, thus rendering the gall bladder under normal conditions opaque to x rays. In their investigations the sodium salt of tetrabromophenolphthalein was used throughout. Details of the technique adopted were given, emphasis being laid on the necessity for slow injection of the dye and for the control of the patient as regards diet during the ensuing forty-eight hours. In most cases a slight reaction due to vasomotor shock was observed after the injection, but in no case was any serious symptom encountered. Radiographs of the gall bladder area were taken at four, eight, twenty-four, and thirty-six hours after the injection. The rationale of the method was explained and radiographs, illustrating the appearances in normal and pathological gall bladder conditions, were shown. Records of ten cases in which the gall bladder was investigated by this method and in which operations were subsequently performed were detailed; also of four cases which were not operated on. Of seven cases where a pathological condition of the gall bladder was found at operation, only one case had given the slightest x-ray evidence of this by the ordinary method, whilst all had given evidence of pathological changes when examined by Graham's method. Of two cases where a definitely normal gall bladder was found at operation, both had given definite indication of a normal gall bladder by Graham's method. In the remaining case a pathological gall bladder was deduced from the findings by Graham's method, but at operation no gross disease was found, a slight adhesion in the region of the neck of the gall bladder being the only abnormality present. This method was thus seen to be of definite value as a diagnostic aid in the examination of the gall bladder in those cases where by the ordinary direct method of radiography a negative finding was obtained; by no other means short of operation could it be ascertained whether a negative finding signified a normal condition of the gall bladder or not.

Mr. H. DE LISLE CRAWFORD described a rapid method of doing appendicostomy by a stab incision at the close of an abdominal operation, the purpose being to give large quantities of water and glucose for several days. The method was useful in emaciated or shocked patients where there was a danger of post-operative vomiting. He described also a new technique for permanent colostomy through a one-inch incision, by which a neat, well controlled opening



was obtained. The principle involved was that the colon was drawn out through an opening that barely admitted its passage, and that as a result the knuckle of bowel obtained was empty, stretched on its convexity, and could be immediately opened without soiling the wound.

### THE PSYCHOLOGY OF THE CRIMINAL.

At a meeting of the Medico-Legal Society on February 17th, Dr. NATHAN RAW in the chair; a paper was read by Dr. GODFREY CARTER entitled "The psychology of the criminal."

Dr. Carter remarked that a judge had recently observed to a grand jury that he wondered in many cases whether the cause was "uncontrollable impulse," or rather "impulse which ought to be controlled." Such a pronouncement from so high an authority made one realize afresh how complex was the problem of the mentality of the criminal. As a consequence of the war there had been let loose a primitive willingness to fight, to maim, or to kill, which, followed as it was by the mass butchery of the Russian revolution, had led directly to an aftermath of callousness and indifference to the sanctity of human life and morals which were alien to the spirit of our generation. Murders were being committed for causes which formerly would have evoked mild retribution only. As it was, the controlling centres of the brain were the first to give way under disease or stress, allowing the basic passions to reassert themselves and assume control easily. Much crime was only vicious and not the outcome of insanity as they knew it. Analysing the mental states of murderers in cases coming under his personal observation, he asked, Were they genuinely insane—the victims of irresponsible impulse as the result of disease of mind—or were they sane people whose criminal intentions ought to have been, and could have been, controlled? The legal defence of insanity was that the accused, at the time of committing the crime, was suffering from a defect of reason due to disease of mind, so that he did not know the nature and quality of his act, or, if he did know it, then he did not know that what he was doing was wrong. Dr. Carter pointed to cases where the impulse might become uncontrollable from temporarily emotional causes, yet the mind might be free from disease of an organic character, and he cited a case where the accused man told him he "seemed to see red," and so lost all control. This case would be found fairly typical of the majority—a wave of sudden passion, a failure to damp down a wrongful impulse, a reversion to the savage. Society must be protected, and unless overwhelming evidence of definite mental disease were produced there seemed no alternative but to rid the community of those who slew others whilst under impulses which ought to be kept in abeyance. Dr. Carter said he had observed it was almost impossible to secure a conviction for murder where the accused had once been an inmate of an asylum, and he did not consider this was altogether right. It had been said, no doubt with a good deal of truth, that no man was absolutely sane on all subjects at all times. Did they not all know of many most estimable people, level-headed members of society, who had at some time in their lives been subjected to the temporary seclusion of a "mental home," or who ought to have been so? Was this fact to grant immunity from the dread punishment of the law should they ever be indicted for murder? Rather than would he sympathize with those borderland people who just managed to keep outside the walls of detention, yet who were painfully aware of abnormal predisposition and thoughts, and had had to fight hard to keep to the road of approved conduct without falling into the ditch of insanity. He did not think definite insanity was often directly transmitted as such from parent to child, as was congenital idiocy. They knew that heredity was a potential disturbing factor, but nature was a still more powerful factor, working hard to restore mankind to the normal standard of mentality. He did not know that the interests of justice would be damaged if considerations of heredity were excluded altogether in judicial inquiries. For if it could be clearly shown that a man's parents, grandparents, and uncles and aunts, had all been insane, such evidence would afford no proof whatever that the man himself was insane.

As a matter of fact, did medical men often find certifiable people the children of similarly afflicted parents? Dr. Carter criticized the form of the verdict "Guilty, but insane," and asked how a person could be at the same time insane and guilty. If insane, the crime was merely a manifestation of the insanity. He referred to a case of infanticide where a mother, badly treated and half starved, had attempted to drown herself and her two children, but where she and one child had been saved. Such a verdict was returned, and the accused woman had been sent to a criminal lunatic asylum. This was a real case of uncontrollable impulse, not due to disease of mind, but to a temporary defect of reason, and he suggested that the verdict in such a case should be, "Not guilty of murder because suffering from temporary insanity at the time of committing the deed." Infanticide by the unmarried domestic class of woman was usually lightly punished, or the women were bound over under the care of philanthropists; it seemed to him that of the two, this class of case gained the most, for here the mother did not wish the child to live. Neither lawyers nor doctors appeared as yet to have reached a satisfactory definition of what constituted criminal responsibility. Some people were liable under great stress to suffer from defects of reason not due to disease of the mind, during which they lost the power of reasonable control over their actions, often with tragic results. Such cases were in a totally different category from those in which, either when "seeing red" or not, an individual put another to a violent death. Murder was the last thing which entered the distracted minds of these women. They decided at last that with so unbearable a lot hitherto, they would rather throw themselves on the mercy of God than on the compassion of mankind, and, in doing so, would take with them their helpless infants, whom by reason of their love they could not leave behind to face neglect and misery. When restored to considered reason a lifelong punishment awaited them in remorse. Was it necessary to brand them also as murderesses and consign them to associate with those of depraved mentality in the wards of a criminal lunatic asylum? The broad question to determine was: Was there a real uncontrollable impulse—a mental defect present which placed the culprit's action beyond his power of control? If it was a case of not exercising due powers of inhibition, control being really possessed by the individual, "impulse which ought to have been controlled" would be the right finding. He really did not consider that to the doctor evidence was of very much value except in cases of obvious delusional insanity of which he might observe indications. The medical evidence as to the mental condition of the accused was very contradictory and unsatisfactory, and he feared often trammelled the judge. The medical witnesses did their best, but he did not think they would ever be able to formulate in black and white an accurate definition of what constituted an insane impulse. He was not sure that the McNaghten definition, good as it was, could be used in every case, either by judge or medical expert, to decide directly the vexed question: "Was it an uncontrollable impulse or an impulse which ought to have been controlled?"

At a meeting of the Buxton Medical Research Society held on February 12th Dr. KNYVET GORDON read a paper on anaemia, with special reference to the clinical value of the examination of blood films. The paper was based on a combined clinical and haematological examination of 1,834 cases of anaemia, and was illustrated with lantern slides by a direct three-colour process and drawings of the different types of blood cell. The speaker emphasized the importance in diagnosis of first excluding the leukaemic group and then the other primary anaemias—namely, pernicious anaemia, and Banti's disease with its allies. The conclusion was drawn that pernicious anaemia was a congenital disease, and that haemolysis was not commonly a cause. Stress was laid on the value of the blood film in distinguishing in secondary anaemias between bacillary and coecal infections, and as a guide to a suitable vaccine in the treatment of the condition. Bacterial infection was described as the cause of the great majority of the cases of secondary anaemia, and the methods of discovering and dealing with the focus were discussed. Details were given of the technique of vaccine therapy, including laboratory tests for pathogenicity of the organisms isolated.

## Rebicus.

### DIGITALIS.

PROFESSOR A. R. CUSHNY in his monograph *The Action and Uses in Medicine of Digitalis and its Allies*<sup>1</sup> gives a clear and critical account, which will be of the very greatest value to the profession, of the present state of knowledge regarding the mode of action of these important drugs.

The book commences with a short summary of the conflicting evidence concerning the nature and number of the active principles present in digitalis. The author suggests that many of the substances that have been given distinctive names are really mixtures of two or more glucosides.

Considerable space is devoted to a consideration of the mode of action of digitalis on the frog's heart. The account is of particular value since it is critical, for the work on this subject is very uneven in quality. The author remarks in one place, "These experiments are chiefly of interest in suggesting that there are limits beyond which the much-enduring frog's heart is unable to beat." He is at pains to distinguish carefully between valid and worthless experiments, and thus is able to give a clear and coherent account of the important fundamental facts that have been ascertained from experiments on the frog.

The evidence derived from mammalian experiments is next considered, and here also the author distinguishes carefully between effects produced by the drugs in therapeutic doses and those which are only to be observed when several multiples of a lethal dose are administered. The experimental section occupies nearly two-thirds of the volume, but the author points out that during the whole nineteenth century our knowledge regarding the therapeutic action of digitalis was at a standstill and that the rapid progress of the last fifteen years has been dependent on the accurate analysis of the mode of action of digitalis, which was gained by animal experiments. As regards the therapeutic use of digitalis, chief attention is devoted to its effects in cases of auricular fibrillation, and a very clear account of this action is given. A cautious attitude is adopted towards the vexed question of the benefit produced by digitalis in heart disease without disorder of rhythm; the conclusion (p. 237) is:

"There is no doubt of the benefit attending the use of digitalis in some of these cases, whilst there is as little question that in others the treatment is valueless; and at present it is not possible to differentiate between these."

The question of the value of digitalis in the treatment of pneumonia is also discussed, and the author concludes that—

"The routine treatment of pneumonia with digitalis is therefore not established as advisable, and the general view is that it should not be given until some special indication is presented."

An interesting account is given of the toxic effects of digitalis, and details are given of the experiment Koppe made on himself. It is particularly interesting, because Koppe took a milligram of digitoxin by mouth without any certain toxic effects, but a dose of 2 milligrams taken four days later nearly produced a fatal result. This shows the unpleasantly narrow margin between the therapeutic and the toxic dose of digitalis.

The final chapter in the book deals with the mode of administration of digitalis and its allies, and details are given of the various intensive methods of treatment that have been introduced in America.

Regarding the choice of preparation, Professor Cushny makes some interesting criticisms of the innumerable proprietary preparations that have been introduced as alternatives to digitalis. He points out that the claim so frequently made that a particular digitalis preparation does not produce cumulative action or nausea must of necessity be unfounded, since any digitalis preparation which does not produce these effects must either be inert or else so weak as to be valueless. He concludes (p. 264):

"These proprietary preparations are often carefully prepared, standardized, and put on the market in attractive forms, so that some of them have been widely used; but none of them is superior

to a carefully standardized pharmacopoeial preparation, and all are sold at extravagant prices. In some instances the strength has been found to vary widely, and this is a source of danger."

Professor Cushny has devoted many years of his life to the study of the action of digitalis, and we are indebted to him for much of our present knowledge of this subject. His volume may with reason be considered a masterpiece of its kind, since all aspects of the subject are considered and all are subjected to a shrewd critical judgement based on the author's wide first-hand knowledge of the problems involved.

### SUNLIGHT AND ULTRA-VIOLET RAYS.

THE healing powers of natural and artificial sunlight are exciting wide-spread interest at the present time in view of the work of Dr. Rollier in Switzerland and Sir Ilar, Gauvain and Dr. Leonard Hill in this country, and the new books on ultra-violet ray therapy here reviewed will probably be welcomed by medical men looking for a concise description of the way to use the various apparatuses which generate ultra-violet rays, and what may be expected from them. Dr. FRANCIS HOWARD HUMPHRIS's book is entitled *Artificial Sunlight and its Therapeutic Uses*. It has been written for medical practitioners. The author does not forget that many years have probably elapsed since such readers studied physics, and he explains the scientific basis of light therapy in a clear and simple way. He has a brief chapter—perhaps a little too brief—on apparatus used for generating ultra-violet rays, and the remaining two-thirds of the book are devoted to description of the treatment of disease. Here the different maladies for which light treatment is beneficial are discussed in turn, with a recommendation as to which particular form of apparatus is most suitable for each. The book is set up in an attractive way, and will prove useful to those seeking special information on this subject. Of more general interest is the author's contradiction of the claims of many "ultra-violet ray apparatuses" as used in the "beauty parlours" (p. 25) and his reference to the proposed institution of sun baths in Ken Wood, adjoining Hampstead Heath. Many quotations are scattered throughout the earlier chapters, to which, for the most part, Dr. Humphris attaches no references, only giving the name of the author. Quotations are often an ornament to a book, and to attach references to such as are borrowed from well known or illustrious writers is sometimes unnecessary and might be pedantic; but passages are cited in this book the exact origin of which many readers may wish to know; such a one appears on page 26. Being curious as to the source of certain quotations, we took the trouble to trace one imputed to Dr. Rollier (without chapter or verse) which is made rather much of on page 28:

"Sun and ultra-violet rays bear much the same relation to one another as crude drugs do to their synthetically prepared chemical substitutes."

We found these words eventually in Dr. Rollier's book *Heliotherapy*, but in the section of this book written by Dr. Amstad, the surgeon at Rollier's institution at Leysin. This, therefore, is Amstad's opinion and not Rollier's. A reading of the context makes it questionable whether Dr. Humphris has put this remark to a use with which Amstad would agree. A less important point in terminology arises when Dr. Humphris speaks of ultra-violet rays as antigenic.

"In brief, ultra-violet rays assist the development of antibodies. They are therefore antigenic and capable of destroying bacteria within the body" (p. 51).

The term "antigen" is commonly limited to any substance which, when inoculated into the body, is capable of causing the production of antibodies. Radiation may result in the development of some antigen within the tissues, though whether it acts in this way and what the hypothetical substance is remains undetermined. We should not speak of a holiday at the seaside as an antigen, or even as acting antigenically.

<sup>2</sup> *Artificial Sunlight and its Therapeutic Uses*. By Francis Howard Humphris, M.D. Brux., F.R.C.P. Edin., L.R.C.P., M.R.C.S. London: H. K. Mulford, Oxford University Press. 1924. (Demy 8vo, pp. xiv + 170; 12 figures. 8s. 6d. net.)

<sup>1</sup> *The Action and Uses in Medicine of Digitalis and its Allies*. By A. R. Cushny, M.A., M.D., LL.D., F.R.S. London: Longmans, Green and Co. 1925. (Med. 8vo, pp. xi + 303; 77 figures. 16s. net.)

To Dr. PERCY HALL's book *Ultra-Violet Rays in the Treatment and Cure of Disease*<sup>3</sup> both Sir HENRY GAUVAIN and Dr. LEONARD HILL have written introductions. Dr. Hall addresses himself not only to medical men, but also to educated members of the laity, particularly such, he observes, as are public-spirited citizens and interested in the health and welfare of the poorer members of the community. The book has been written to encourage the establishment of light departments in hospitals and light clinics in big centres of population. The earlier chapters, on the history of light therapy, the value of sunlight, heliotherapy, artificial light, and ultra-violet radiation, provide interesting reading for everybody. After reviewing the different sources of ultra-violet light, Dr. Hall concludes that the tungsten arc lamp is the handiest and generally most serviceable:

"In effecting a final choice as to the source of ultra-violet radiation to be employed, one can safely decide upon the tungsten arc as being of the widest utility, and of yielding a spectrum which is the richest in amount and variety of ultra-violet emanations."

He mentions, but does not give much detail about, the Finzen lamp, mercury vapour lamp, and other appliances. The remainder of the book discusses the value of ultra-violet radiation in skin diseases, rheumatic disorders, neurasthenia, pulmonary tuberculosis, and catarrhal conditions of the respiratory tract and various other diseases. The whole book can be read from cover to cover in about two hours without any break of interest. Both classes to whom it is addressed will find it an instructive introduction to ultra-violet ray therapy.

#### INFLAMMATION OF BONES AND JOINTS.

IN the textbooks of a generation ago much space was devoted to the subject of inflammation of bone, yet it is probably true that the student was more often puzzled than informed, and landed in an obscurity from which he rarely emerged. The obscurity still exists to some extent and in some quarters, and the virtue of Professor ELY's book on *Inflammation in Bones and Joints*<sup>4</sup> is that it discards the old notions of "rheumatic osteitis" and "sclerosing osteitis" regarded as entities, and starts afresh on a more rational basis. The changes which occur in the bone tissue itself are probably of a purely passive kind, consisting of absorption or atrophy, production or hypertrophy, and death or necrosis, and they result from the more important and essential changes in the contained marrow. The old distinction between osteitis and osteomyelitis, therefore, has probably no foundation in fact, and there is much to be said in favour of the custom of some recent writers who discard the terms "osteitis" and "periosteitis" altogether, the essential lesion in these processes being a myelitis or osteomyelitis. A similar confusion of ideas was prevalent with regard to the term "arthritis," which was applied not only to lesions strictly confined to the joint, but also to conditions in which the disease was chiefly and primarily a marrow lesion. The term should, as the author points out, be restricted to lesions of the synovial membrane, arthritis and synovitis being regarded as synonymous terms.

The practical application of these views to the group of diseases under consideration greatly simplifies our conceptions, since the two essential lesions involved are clearly distinguished. These terms adequately define the lesions when they occur singly, and it might be supposed that some such term as "myelo-synovitis" would be appropriate for the combined lesions. Professor Ely has, however, hesitated to push his views to their logical conclusion; he states that

"the custom is almost universal to describe the chronic arthritides as separate from inflammation in the shafts. This custom has decided merit, for, when the joint is involved, the symptoms of the arthritis usually dominate the picture. Most arthritides are, however, the result of a previously existing myelitis."

<sup>3</sup> *Ultra-Violet Rays in the Treatment and Cure of Disease*. By Percy Hall, M.R.C.S.Eng., L.R.C.P.Lond. With introductions by Sir Henry Gauvain, M.A., M.D., M.C.Camb., and Leonard E. Hill, M.B.Lond., F.R.S. London: William Heinemann, Ltd. 1924. (Demy 8vo, pp. xvi + 110; 20 plates, 7s. 6d. net.)

<sup>4</sup> *Inflammation in Bones and Joints*. By L. W. Ely, M.D. Philadelphia and London: J. B. Lippincott Company. 1923. (Med. 8vo, pp. 433; 144 figures; 30s. net.)

Hence an incorrect nomenclature is deliberately adopted, in deference to custom. He regards the red marrow of bone as being analogous to lymphoid tissue, and, like it, peculiarly subject to tuberculous infection—a view that goes far to explain both the frequency of its infection and the local incidence of the disease within the bones. Further use is made of the analogy in explaining the beneficial effects of rest and ankylosis on the tuberculous process. In the bones of a joint which has been put out of function by immobilization there occurs a reduction of the lymphoid marrow, which is thus rendered less favourable for the growth of the bacilli. A similar reduction, and even a complete conversion into fatty marrow, has been described by Ollier and Maclaure as occurring after bony ankylosis, the synovial membrane disappearing and the bone ends assuming more or less the internal structure of the shaft.

From principles based on these views and on the opinion that tuberculosis of the joints is in itself a comparatively harmless disease, and only becomes serious when a secondary infection is added, the author deduces the general lines of treatment to be adopted. For children he advocates conservative treatment in all cases, while for adults he considers that it should be practically always radical, the object being to cause permanent destruction of the joint, rendering it an unsuitable habitation for the bacillus. Professor Ely's work is marked by original and independent thought, and is a valuable contribution to the pathology of the subject.

#### EXPERIENCES IN SURGERY.

WE have already had occasion to mention a book on practical surgery written by M. VICTOR PAUCHET, and issued in parts. We formed a favourable opinion of it, and are therefore not surprised to find that the book has been translated by Dr. F. R. B. ATKINSON and issued, with a general introduction by Sir CHARLES GORDON-WATSON, in four volumes with the title *Practical Surgery Illustrated*.<sup>5</sup> It is a personal production and does not claim to be a textbook of surgery. The author's method is to illustrate each step of an operation by drawings taken from nature by M. S. du Pret, who made the illustrations for Testut's *Anatomy*.

For the treatment of inguinal hernia he suggests what he calls the "endo-peritoneal method." He opens the peritoneum above the sac and inserts a finger into the sac from within, pulls the structures of the cord off the sac, and invaginates it and brings it through the opening in the peritoneum. In this way there is, he says, very little disturbance of the cord; a portion of the rectus sheath is used to cover it. In appendix abscess he cleans out the abscess cavity with ether and does not search for the appendix. In perforated appendix he believes in multiple drainage. In quiescent appendix he considers invagination of the stump unnecessary. For ventral hernia he employs bronze wire suture for all the structures outside the peritoneum. These are twisted over gauze pads after the skin has been approximated by Michel's clips.

Adenoma of the breast is treated by submammary incision, and the illustrations are so clear as almost to render the text superfluous.

Local or sacral anaesthesia is employed for pile operations. In the ligature method he sutures the pile stumps to the skin. He has a good deal to say about carcinoma of the rectum; his conclusion is that of "four cases applying for treatment, one will be inoperable, two will be operable by the two-stage perineal method, and one by the abdomino-perineal method." The latter he describes fully with the help of excellent illustrations. On the subject of intestinal stasis he is an enthusiastic apostle of Lane. Kinks and bands are fully illustrated, as are the operations for treating them. Gastrectomy is advocated for gastric and pyloric ulcers, and also for jejunal ulcers. Though other methods are also discussed, gastro-enterostomy is not advised in cases of perforated ulcer unless pyloric stenosis is present. In cancer

<sup>5</sup> *Practical Surgery Illustrated*. By Victor Pauchet. Translated by F. R. B. Atkinson, M.D., C.M. Edin. Univ. With an introduction by Sir Charles Gordon-Watson, C.M.G., F.R.C.S. Vols. I to IV. London: E. Benn, Ltd. 1924. (6½ x 11: Vol. I, pp. xiii + 293, 217 figures; Vol. II, pp. ix + 252, 199 figures; Vol. III, pp. x + 248, 368 figures; Vol. IV, pp. xi + 255, 207 figures. 18s. 6d. per volume.)

of the cervix radium is employed before operation. For carcinoma of the stomach total gastrectomy with jejuno-jejunostomy is described, and the en-Y operation for duodenal ulcer is preferred. In performing colectomy for cancer of the rectum the author brings the colon through the rectus with a half-twist in the hope of obtaining sphincteric control. In the two-stage operation he performs colectomy, inserts radium, and a month later completes the perineal excision.

In Volumes III and IV the author continues in the same strain, and in some places amplifies subjects previously dealt with. In posterior rhizotomy he turns up the spinous processes as a bony flap, opens up the laminae with gouge forceps, and replaces the flap to prevent deformity. The remarks he has to make on the operative treatment of fractures are illustrated by an account of the use of steel bands, devised by Professor Putti, which encircle the bone. On the subject of cancer of the tongue Pauchet is very dogmatic; every lesion not proved innocent should, he says, be treated as malignant, and he regards improvement from antisyphilitic treatment as a dangerous illusion. When the front of the tongue is involved the buccal route is advised, when the posterior half is affected the submaxillary; the jaw is split when the floor of the mouth is encroached upon. The external carotid is invariably tied when the glands are removed.

In gastric ulcer he advocates partial gastrectomy, and has devised a special clamp for this purpose. For duodenal ulcers posterior short-loop gastro-enterostomy is advised, and when the acidity is high, partial gastrectomy. He states that 5 per cent. develop jejunal ulcers, that 25 per cent. are partial cures, and 70 per cent. cures. He believes that the symptoms are due to cholecystitis, appendicitis, or intestinal stasis. When discussing recurring dislocation of the shoulder he advises excision of the redundant capsulo and suture of the overlapped margins; the incision is along the mid-axillary line and the approach along the neurovascular bundle, which is retracted forwards. Pauchet holds strong views on the formation of gall stones and their relation to the pancreas. He believes that the gall bladder is infected by way of the portal vein, the *Bacillus coli* being eliminated by the liver into the bile; he thinks also that all stones are formed in the gall bladder, which he regards as a mechanical shunt for the bile when the ampulla of Vater becomes blocked, and that in this way it prevents pancreatitis. He does not believe in medical treatment for gall stones, and prefers cholecystectomy to cholecystostomy.

In an opening chapter he describes how a surgical clinic can be established in a provincial centre.

### NOTES ON BOOKS.

ALTHOUGH the number of pages in the thirty-fifth edition of *Burdett's Hospitals and Charities*<sup>1</sup> is approximately the same as in the last edition, it contains considerably more information, the size of the page having been increased both in length and width. The statistical tables benefit to a large extent by this change—a most important point, since this year book of the British Empire in respect of hospitals and kindred charities. The various financial details and summaries are set out more clearly than has been hitherto possible. Among important subsections added for the first time is one devoted to holiday homes and homes of rest, which will be found under the heading "Convalescent Homes." This list enables a distinction to be made between those homes which provide for patients in need of rest and change of air and others for persons recovering from serious illness; the addition will be found valuable. A list has been made of all the hospitals throughout the world where accommodation is reserved exclusively or specially for British seamen. A new sub-section has been added to the section dealing with missionary description of London, provincial, and Scottish settlements for social work. Under the heading of "Africa" the Gambia hospitals, the hospitals in T and those in Uganda have now separate sections. It is interesting to note that the account of hospitals of South-west Africa has been increased from a single sentence in the last issue to thirteen entries in the present, whilst the lists of hospitals in other parts of Africa have also been greatly

enlarged. The considerable progress made lately in contributory schemes receives recognition. The great advance by King Edward's Hospital Fund for London is recorded, and tables are supplied giving the analysis of the receipts and expenditures of this fund and of the League of Mercy since their inception. The directory of London and provincial hospitals, universities, and other institutions has been brought up to date, and the present issue represents a decided advance in value and interest, even over the high standard of its predecessors.

The third edition of *Diseases of Women*,<sup>2</sup> by Ten Teachers, has been issued under the general editorial direction of COMYNS BERKELEY, H. RUSSELL ANDREWS, and J. S. FAIRBAIRN. This valuable book has made a place for itself and little need be said in regard to the present edition, which contains only minor alterations and improvements. The size of the book has not been increased, and we venture to express the hope that in subsequent editions it will not be allowed to grow in bulk. We congratulate the publishers on having reduced the price—a rare phenomenon in these days. The teaching, both from the pathological and clinical sides, represents the authoritative opinion of British gynaecologists in general; the section on operative technique is clearly written and clearly illustrated, and should suffice for the needs of students and practitioners and all save those who are making a specialty of gynaecology.

The monograph on *Josef Skoda*<sup>3</sup> by Professor MAXIMILIAN STERNBERG, which forms the sixth volume of a series of biographies edited by Dr. Max Neuburger, contains a full account of Skoda's activities as pathologist, writer, and lecturer, and a sketch of contemporary medical life in Vienna. Apart from his work on auscultation and percussion for which he is chiefly remembered, Skoda took an active interest in practical hygiene and wrote on such subjects as the macadamizing of roads in the new city park, compulsory vaccination, and especially the water supply of Vienna. A report made by him on medical education contained several new ideas which were not realized until many years later, particularly as regards the creation of an Institute for experimental medicine. In spite of his scepticism in therapeutics Skoda had a large consulting practice, which increased still more when he gave up his hospital work and was able to devote himself entirely to his private patients. In private life Skoda does not appear to have been altogether the top-heavy and somewhat inhuman old bachelor described by Garrison; he was generous to the poor, and he deserves special credit for championing the cause of Semmelweis. A bibliography of Skoda's writings and of works written under his influence is given.

A new quarterly medical periodical has appeared with the title of the *British Journal of Venereal Diseases*. It is edited by Lieut.-Colonel L. W. HARRISON and Dr. E. R. T. CLARKSON, and published under the direction of the Council of the Medical Society for the Study of Venereal Diseases. Sir Humphry Rolleston, in an introduction to the first number (January, 1925), remarks on the need for intensive study in attempting any real advance in knowledge, owing to the complexity of modern medicine; he adds that the study of venereal disease deserves to be considered, and has indeed become a legitimate specialty. The existence of venereal disease departments at the hospitals and of venereal clinics in connexion with the Ministry of Health is held fully to justify the appearance of a special journal. It is proposed to cover the whole subject of venereal disease, apart from the important, but thorny, problem of moral considerations. Original articles and critical reviews of recent knowledge will be published, summarizing the most recent research and appealing to general practitioners as well as venereal specialists. Colonel Harrison contributes to the January issue an article on the public health services and venereal diseases; Dr. E. P. Cumberbatch and Dr. C. A. Robinson discuss the use of diathermy in cases of gonococcal infection; Dr. W. J. Tulloch contributes notes on the complement fixation reaction in gonorrhoea; Dr. E. T. Burke considers the administration of bismuth in syphilis; Dr. Svend Lomholt of Copenhagen deals with the pharmacology of bismuth, with reference to its therapeutical employment in syphilis; Dr. R. N. Ironside describes the treatment of general paralysis by malarial inoculation; and Dr. H. C. Semon considers in detail skin affections commonly mistaken for syphilis. There would appear to be a need for such a journal, and the high standard of its first number should commend it very widely.

<sup>1</sup> *Diseases of Women*. By Ten Teachers. Edited by Comyns Berkeley, H. Russell Andrews, and J. S. Fairbairn. Third edition. London: Edward Arnold and Co. 1924. (Med. 8vo, pp. xi + 641; 215 figures. 25s. net.)

<sup>2</sup> *Josef Skoda*. By Maximilian Sternberg. Vienna: Julius Springer. 1924. (5 1/2 x 8 1/2, pp. 92; 1 plate.)

<sup>3</sup> *Burdett's Hospitals and Charities*, 1925. Founded by Sir Henry Burdett, K.C.B., K.C.V.O. Thirty-fifth year. London: The Scientific Press, Ltd. 1925. (Demy 8vo, pp. lxxx + 1014. 17s. 6d. net.)

# British Medical Journal.

SATURDAY, FEBRUARY 28TH, 1925.

## SIR CLIFFORD ALLBUTT.

It is too soon yet to attempt to write what the eighteenth century would have called "a character" of Sir Clifford Allbutt. We are too near to him; we feel too vividly the presence of that slight, alert figure, the mobile face, with eyes looking, not through you, but into your mind; often, when seated, leaning forward in his eagerness to grasp the proposition that was being put before him, for he was by no means a man to take anything for granted. Though always kindly and generous, his mind was of the critical cast, and one could watch him turning over for a moment or two what had been put to him in conversation. Sometimes he would reach a judgement quickly and would agree, perhaps with a reservation; sometimes he would quite frankly disagree; and sometimes, after a rather longer pause, he would say, "I am not sure about that, and would like to think it over." It was a great compliment to the younger or lesser men, who could always be quite sure that the idea was not rejected or judgement about it suspended merely because it was new. It was part of the alertness of his mind to be ready always to examine new ideas and to accept the teaching of new facts, but he was not in the least dazzled by newness. His critical faculty awoke at once, and he applied it to his own work or his own theories as readily as to those of others.

As a physician he will probably be remembered for his work on the circulation—the heart, the aorta, and blood pressure. What he did as a young man about the optic disc in relation to general diseases was perhaps even more original, but the whole neurological and ophthalmological world descended upon this new method, and in it his reputation is that of a pioneer. About angina pectoris, heart strain or stress, and high blood pressure it was different; these are still matters of keen dispute; they were in his mind throughout the whole of the second half of his life, and one of his latest public utterances was the speech he made last May after the lecture at the Royal College of Physicians of London in which Professor Wenckebach of Vienna gave his reasons for adhering to Allbutt's original doctrine that angina pectoris was related to the condition of the aorta. He would, we feel pretty sure, have agreed that medicine was a science, with its own data and its own methods. He kept himself well acquainted with the advances of physiology, and made free use of them in his writings and addresses, but as sidelights. He based himself on bedside observation confirmed or corrected by pathology.

Allbutt was very human. Many as were his distinctions, great as he must have known his reputation to be, there was never the smallest trace of pomposity. He was ever the friend of the general practitioner, whose qualities, trials, and difficulties he got to know well during his time in Leeds, when he journeyed far and wide in West Yorkshire, into its teeming industrial towns and into its rugged valleys, where in a harsh climate a hardy peasantry wrings a living from an unkindly soil. He was therefore, in this respect as in every other, well qualified to be President of the British Medical Association. About this all that

need be said is well said by Dr. Brackenbury in the few moving sentences he has contributed to our biographical notice. Allbutt was a scholar and never let his knowledge of Greek and Latin writers rust. Of this his book on *Greek Medicine in Rome*, published in 1921, is sufficient evidence, but his interest in science was lively and continuous. In this he was like the great men of the later renaissance. He was a great physician and a very perfect gentleman.

## THE SYMPATHETIC INNERVATION OF STRIATED MUSCLE.

It is fortunate that Professor Elliot Smith was willing to undertake the preparation, delivery, and publication of the lectures to have been given by the late Professor J. I. Hunter, the tragedy of whose death we must lament the more as we read of the far-reaching influences of his brief life of research. Professor Elliot Smith has not only marshalled in orderly sequence all the numerous aspects of Hunter's investigations which shed light upon his fundamental thesis with regard to the sympathetic innervation of skeletal muscle, but has indicated the wide effects of these researches upon neurology, and has suggested how they will probably harmonize many views which hitherto have appeared to be discordant.

The careful investigations of Professor Kulchitsky, whose death we regretfully reported only a fortnight ago, suggested the earlier experiments which led to the discoveries reported in the lectures. Kulchitsky demonstrated in 1922 that medullated and non-medullated nerve fibres never terminate in the same muscle fibre. Hunter and his co-workers have confirmed this, and overwhelming evidence has been advanced from various sources in support of the belief that there are two kinds of skeletal muscle—the one innervated by somatic medullated nerves, and the other supplied by non-medullated sympathetic fibres. The experimental and clinical evidence demonstrating the different and distinct functions of the two kinds of striated muscle is equally convincing. In addition to the knowledge of the important effects of sympathetic denervation upon the spinal and decerebrate animal, which was conveyed in recent papers by Hunter and Royle, we are now presented with a lucid account of the most illuminating experiments upon birds. For anatomical reasons, which are set out in the lectures, the bird's wing offers a unique opportunity for studying the postural activity of voluntary muscle, and for determining the influence of the somatic and sympathetic nervous supply individually. These experiments, and particularly those in which "contractile" and "plastic" tone were dissociated so clearly, must dispel any doubt or uncertainty which previously existed in the minds of people who were only aware of the earlier experiments. The accurate descriptions of the results of these experiments cause the essential and distinguishing characteristics of contractile and plastic tone to stand out in bold relief, and demonstrate how so many previous workers in this field have been misled by an obsession regarding the contractile element of tone.

The researches of Hunter and his co-workers will do much to eradicate widespread misconceptions about tone, and will assist a larger proportion of the profession to appreciate the real significance of the fundamental doctrines arising out of the discoveries of Sherrington. It is absolutely essential for every surgeon to have a clear vision of the two elements of



tone which are together responsible for the production and maintenance of posture before he can attempt to investigate a patient suffering from muscular rigidity. Unless he has a correct conception of the meaning of contractile and plastic tone, it is impossible for him to determine the cause for the rigidity and decide whether there is an excess of one or the other or both elements. Both the experimental and clinical evidence prove—and this must be insisted upon most emphatically—that sympathetic ramisection can only have any beneficial effect when there is an excess of plastic tone. It has been demonstrated that posture alone is not an indication for sympathetic ramisection, and that posture may be misleading. On the other hand, the presence of the "lengthening and shortening reactions" of Sherrington, and the slowness in execution of the tendon reflexes, are important indications for the operation; it will, of course, be understood that benefit can only be expected in patients who retain considerable voluntary power, much of which may be hampered seriously by the increased plastic tone. Failure to determine the presence of an excess of plastic tone and voluntary control must inevitably lead to disappointing results, and may thus bring unfair discredit upon this valuable work. It is probable that this may threaten the progress and future development of this work more than the risks of failure from faulty technique and neglect to cut the appropriate sympathetic rami, since the latter is a straightforward anatomical and surgical problem, whereas the former demands very considerable neurological experience, training, and foresight. Quite formidable difficulties are to be encountered in both cervical and lumbar ramisection, but Royle has presented a very complete account of both operations, and has devised several advantageous manœuvres to surmount the most serious difficulties.

It has been found that even in the most suitable patients the effect of the ramisection upon plastic tone is quite frequently not manifested to any extent until some days or even weeks after the operation. Allusions are made to comparable conditions in some of the experiments, and in this connexion it is of considerable interest to remember that the most striking effect upon decerebrate rigidity was in that case where the longest interval had intervened between sympathetic denervation and the decerebration. It is not easy to see why the "fixing" fibres should slowly lose this characteristic function, and Hunter and his co-workers have as yet been unable to advance an adequate explanation for it. The analogy with smooth muscle is a fascinating suggestion, but, as is stated in the lectures, there are some very serious objections to it. It is one of the several problems which are being vigorously investigated further, and it is possible that its solution may add further knowledge of considerable importance. The delay in the effect of the operation upon plastic tone, and the persistence of the effects for long periods after ramisection in cases recorded by Royle, refute the suggestion that the beneficial results are solely due to vaso-dilatation, since the vasomotor changes are most marked immediately after sympathetic denervation and diminish or disappear later. The investigations which have been carried out to determine the reflex arcs concerned in maintaining the two elements of tone will be studied with the utmost interest. It is to be hoped that the publication of these researches upon the control of tone by the brain will in particular stimulate clinical and experimental investigation, so that this most brilliant work inspired by Hunter may be developed further and completed—it is a duty we owe to his memory.

## ON GALL STONES AND ON ACIDOSIS.

MANY points of great interest are raised by Sir Berkeley Moynihan in the thoughtful and informing address with which this issue opens. No one has done more than he to elucidate the problems which gall-bladder pathology has set us, and in his present paper he is able to advance a little further. He has always been an upholder of the theory of cholecystitis as an entity, regarding gall stones as a necessary corollary of the later stages of the disease. That a gall stone cannot come into being in a moment is, of course, sufficiently obvious. Our knowledge of its precise method of development is still most incomplete, but that a period of profound change in the gall-bladder wall must precede the formation of a stone is certain. It is also certain that this diseased gall bladder may often give rise to symptoms before stones are present—that "acalculous cholecystitis" is a definite entity, and should be treated by removal of the offending organ. Yet there are many surgeons who, having opened the abdomen in the confident expectation of finding gall stones, and, being disappointed, retreat with perhaps a prophylactic appendectomy as a sort of rearguard action. In spite of a most clear clinical history of biliary trouble, they feel that they have been mistaken in their diagnosis when no stones are found. Much depends in these cases on the appearance of the gall bladder, for the changes occurring when disease processes exist are now well known. It is noteworthy that a sterile culture made from aspirated bile (whether at operation by needle puncture or by the duodenal tube beforehand) is not an absolute criterion of normality. Sir Berkeley gives some statistics of the results of cultures taken from the different parts of the gall-bladder wall. These would have been even more instructive had some figures been added relative to the finding of stones in these cases and the bacteriology of their contents. They show, however, that *Bacillus coli* is the commonest infecting agent. The interest of this observation lies, as the author points out, in the frequency of gall stones in women on the one hand, and their proneness to urinary infections with this organism on the other. It would be interesting to know whether the colon bacillus produces an increase in the cholesterol content of the blood. Such an increase is known to occur in infections by *B. typhosus*.

This leads us to a portion of the address which is of outstanding importance—namely, the estimations of blood cholesterol which have been carried out at Leeds. In 65 per cent. of gall-bladder cases hypercholesterolaemia was found, whilst in another 23 per cent. the figure was "high normal." The reverse findings were no less important, for a low figure (below 0.133 per cent.) was present in only 2 per cent. of the gall-bladder cases, whilst such a reading was not uncommon in cases of gastric and duodenal ulcer. These results seem to us to mark another milestone on our way to a complete understanding of gall-stone pathology. For it is known that the blood cholesterol concentration rises in pregnancy and during menstruation. It is also known that cultures of the colon bacillus will precipitate cholesterol from the bile *in vitro*. It appears that we are within a measurable distance of being able to piece together the story of gall stones.

Other points of importance are raised in the course of the paper. Of these the most urgent for note at the moment is the section on the treatment of acidosis or ketosis. Sir Berkeley pays tribute to Dr. Thalheimer of Milwaukee, who apparently first tried the simul-

taneous injection of glucose and insulin as a remedial measure for this distressing post-operative malady. Dr. Lillian Farrar of the New York Women's Hospital had published (in 1921) an account of the value of intravenous injection of gum-saline-glucose in preventing and combating ketosis, particularly after long operations. She showed that the range of combining power of carbon dioxide in the blood of women is less than that of men, the danger point being thus sooner reached; this no doubt accounts for the greater tendency of the female to develop ketosis. But it has been found that to run glucose into the veins may not be enough. Dr. Thalhimier's first case was one in which supravaginal hysterectomy had been performed for fibroids; ketosis developed, and 500 c.cm. of 5 per cent. glucose was administered intravenously without effect; 600 c.cm. of the same solution was then given together with 10 units of insulin, and the picture was entirely altered; within a period measured in hours the danger mark had been passed. Most surgeons give glucose by rectum after severe operations, but its absorption by the bowel is uncertain. In a child at least it is often insufficient to prevent the appearance of diacetic acid in the urine, and when such cases recover, as they often do, it may well be that the rectal glucose has really had little influence. Subcutaneously glucose is irritating, and cannot be given in the large amounts necessary without fear of sloughing. On the other hand, it is not easy to sterilize, though fortunately the blood is usually well able to look after itself. In the combined use of glucose and insulin we seem to have a method of treating acidosis more hopeful than any which has gone before, though experience is needed to standardize its application.

## THE EVIDENCE TO THE ROYAL COMMISSION ON NATIONAL HEALTH INSURANCE.

The draft Memorandum of Evidence proposed to be given by the British Medical Association before the Royal Commission on National Health Insurance, which appeared in the SUPPLEMENT of January 3rd, has been considered by local meetings of the profession throughout the length and breadth of Great Britain. The views of some 200 such meetings upon the questions submitted with respect to the more important matters dealt with in the Memorandum have been considered by a joint meeting of the Insurance Acts and Royal Commission Committees of the Association on February 5th, and by the Council on February 18th. In effect the views of the local meetings show general agreement with the draft Memorandum of Evidence, and the amendments made by the Council, after considering the various opinions expressed, are designed to give emphasis and do not in the main involve any alterations of substance. The Memorandum as revised is printed in this week's SUPPLEMENT.

For the assistance of readers we propose to summarize quite shortly the general purport of the revised document as it now stands for final consideration before it is submitted to the Royal Commission on behalf of the Association. This summary must not be taken as in any way official. It is intended to serve only as a guide to one who has not yet read the document with the attention its importance demands. We shall then indicate for purposes of comparison the principal changes that have been made.

After the preamble in Part I, it is declared in the early paragraphs of Part II that a National Insurance scheme is not necessarily the best means of promoting

the national health, for no fewer than seven other possibilities would be likely to produce even more satisfactory results; that once a National Health Insurance scheme is decided upon it should have regard to the maintenance of health and prevention of disease, and not merely be concerned with the alleviation or cure of morbid conditions after they have arisen, and that consequently the existing machinery and medical personnel of the public health service should be brought into closest possible touch with the scheme; and that the measure of success which has attended the experiment of the provision of medical benefit under the National Health Insurance Acts has by general agreement sufficed to justify the profession uniting to ensure the continuance and improvement of an insurance system. At this point the advantages and disadvantages of the present insurance system are set out. The five fundamental principles of any National Health Insurance scheme are stated. Next follows a section on the persons to be provided for. In the next section, on the extent of the provision to be made, the Memorandum urges that, besides the general practitioner service, there should be complete arrangements for consultant and specialist advice and treatment, full laboratory facilities for clinical purposes, residential institutional treatment so far as compatible with present limited accommodation, dental advice and treatment, such ancillary help as can be given by nurses and masseurs, and an ambulance service—all equally available to every insured person. These additional services should as a rule be available only upon the recommendation of the insured person's general practitioner. It is urged further that, besides a cash maternity benefit, there ought to be a complete maternity service for insured women and for the wives of insured men, comprising medical examination (not compulsory, of course) and supervision during pregnancy, attendance by a midwife during normal labour and the puerperal period, and attendance by the practitioner of choice when necessary during the puerperal period and pregnancy, with access to a consultant and specialist service.

The next section deals with Regulations and Terms of Service. It opens with a declaration that the free choice of doctor now obtaining provides facilities for abolishing all minor complaints by insured person or practitioner. It urges that the insured person should be required to choose his doctor before illness arises and to prove his title to benefit or be liable to a penalty or the payment of a fee; the practitioner on his side being subject to penalty if he wilfully charges a fee for any service within his contract or if his general conduct is detrimental to the interests of the service. It holds that a practitioner should not be liable to complaint for any honestly made statements in records or reports or certificates, but that refusal to keep records or make reports or furnish certificates on proper occasions, and wilful false statements, should lay him open to serious official action. It urges that all complaints against a practitioner should be sent in the first instance to the chairman of the Local Medical Committee and the chief administrative medical officer of the local authority, and that an effort should be made to settle the matter by agreement between the parties; that all questions of general conduct and of false certification should be reported upon in the first instance by the Local Medical Committee; that the practitioner should have a right of appeal to the Courts, not only on the ground of improper procedure, but because the penalty is out of proportion to the offence; and—a most important point, in our view—that no practitioner ought to be

removed from the panel without the right of appeal to a central professional committee, nor removed except on the advice of such committee.

The last two sections deal with administration and remuneration. Here the Association urges that the administration of cash benefits should be separated from medical benefit, and the latter linked up with all other local health services under an *ad hoc* local authority or a statutory committee representative of all interests, with a chief administrative medical officer and a statutory local medical committee. It declares that the remuneration of the profession should be settled centrally on its merits by negotiation between the Ministry of Health and a central negotiating body; that the general practitioner service should be remunerated by capitation fee, and the consultant and specialist service according to a tariff; that the profession should be completely assured that the calculation of the Central Practitioners' Fund and its division between areas is as nearly as possible exact; that, as a matter of principle, insurance remuneration ought to compare not unfavourably with what is earned in private practice of a corresponding kind; and that the present capitation fee of 9s. is still too low, while the additional grant to rural practitioners needs reconsideration.

We propose now briefly to indicate for purposes of comparison the changes of substance that have been made.

Part I is entirely new, and is intended to make clear to the Royal Commission the fact that the Association is in a position to voice the opinions of the medical profession of the country in this matter. Details are given of the steps taken by the Association in order to secure that every registered practitioner in Great Britain has been afforded an opportunity of forming an opinion upon the Evidence and of making known his views thereon to his fellow practitioners.

Paragraphs 1 to 9 of Part II remain unchanged. In paragraphs 10 and 11 minor corrections only have been made. Paragraph 12 consists of the first part of the earlier paragraph bearing that number amplified to make clear the Association's view that provision for medical advice and treatment for certain of those persons comprised in the second and third groups, referred to in paragraph 11 (workers not under a contract of service but in an economic position like that of present insured persons and those economically dependent upon such persons), should be by way of a family doctor with free choice, rather than by State-paid or rate-paid medical officers or by the establishment of treatment clinics; and that similarly the same conditions should be observed in any provision made for the fourth group—namely, the destitute. Paragraph 13 brings together the second part of old paragraph 13 and the first sentence of old paragraph 14, amended by drawing attention to the body of opinion in the profession which doubts the possibility of including dependants of the poorly paid earners, and the equally large body of opinion as to the urgent need for medical attendance upon the same class of dependants. Here it should be observed that the Memorandum of Evidence is emphatically against any suggestion of admitting all dependants, and indicates the considerable difficulties that might arise in the way of admitting dependants of the poorer insured, though it is in favour of doing this if it can be managed, subject to certain conditions. Around this matter there has been wide divergence of opinion, and it is important to note the terms in which the controversial point is settled. The next four paragraphs have been recast in form.

but not in substance, with the object of putting certain points more clearly and forcibly. To paragraph 18 has been added a sentence making quite plain that the interests of existing medical officers shall not be allowed to suffer as a result of any change. Paragraphs 19 to 27 remain as they were. Paragraph 28 has been amended so as to make clear that any change does not mean the immediate abolition of appointments of whole-time tuberculosis and venereal disease medical officers.

Paragraph 29, which deals with maternity work, has also been amended in three directions. The second sentence now includes words which place it beyond doubt that the maternity scheme referred to shall only apply to insured women and the wives of insured men. Further conditions have been added which the Association holds must be observed if any maternity scheme is included under the Insurance Acts—namely, (a) that any insurance practitioner must be free to undertake or decline this work without in any way affecting his interests otherwise, and (b) that any complaint as to treatment must be referred to a solely professional committee on which the local administrative authority should be represented by its medical officers. Thirdly, it is stated plainly that any registered practitioner must be at liberty to place his or her name upon the list for maternity purposes. In order to clear up some misunderstandings arising out of this paragraph, it may be well to point out that medical supervision of any woman during pregnancy means that the medical practitioner undertaking the work would be responsible for the general supervision of the health of the patient during pregnancy. Except for a few verbal amendments, the remaining paragraphs of the document and its appendices are as in the original draft Memorandum.

#### MEDICAL ASPECTS OF HOLIDAYS.

SIR HUMPHRY ROLLESTON, Bart., President of the Royal College of Physicians of London, read, on February 20th, an interesting paper before the Liverpool Medical Institution on some medical aspects of holidays. He touched historically on the evolution of the modern holiday from the holy days and saints' days of bygone generations. Holidays, he said, were essential to the well-being of mankind, and as in the individual's life the law of fluctuation between complete activity and complete rest was physiologically necessary, so similarly, in the stress and strain of life, a diastolic period was needed wherein the organism might be recreated physically and mentally. It had, indeed, been said that overwork was no more meritorious than overeating or other form of excess. He mentioned the lives of Sir James Paget and Sir Henry Holland. The former did without a holiday for fifteen years during his hard struggle as a young surgeon-pathologist. The latter for nearly sixty years spent every year two months in travel. In both men the span of life was the same. As years increased the zest for holidays became less keen. Inertia and a clinging to home comforts took the place of the keenness of youth for change and new experiences. Some medical men seemed to keep well on no holidays at all, and relied on walking exercise to keep them fit for their work. On the other hand, many holidays had been beneficial in warding off the collapse of a medical man who had been too preoccupied to take one until a warning had aroused him to the importance of recreation. Sir Humphry proceeded to consider two different aspects of holidays—first, that of recreation, and secondly, that of rest and repair. The holiday should be in essence a complete change from the daily routine, and naturally would depend largely on

temperament and taste. A well arranged week-end habit, involving bodily and mental ease, might obviate a prolonged holiday of six to eight weeks. On the other hand, a Continental holiday well planned had the great advantage of removing effectively from the intended recipient calls, consultations, and certificates. Such holidays were educative and pleasurable, and when taken in a leisurely way were of inestimable benefit. Medical congresses were in this respect of value, and corrective in preventing an all too common tendency to insularity in our ideas and thoughts. Holidays might fail if judicious preparation were wanting, especially in those who missed too much the comforts and amenities of their home life, by suddenly embarking on strenuous physical exertion. He mentioned "diseases due to holidays," and divided them into two—(1) those while actually away from home, and (2) those arising after return but due to infection acquired while on holiday or on the return journey (for example, in sleeping cars). Apparently acquired immunity to microbial infection runs the risk of being lost after a long holiday, and Sir James Paget was of that opinion. In advising patients about the health resort where holidays should be taken, Sir Humphry thought that much more careful consideration should be given to each case, and mental and physical factors should be taken into account. He cited the late Sir Hermann Weber, who paid particular attention to hydrology, climatology, and balneology in the important matter of holidays for his patients. Several members spoke and gave their own experience of holidays, supporting the views expressed by the lecturer. The President, Mr. R. C. Dun, expressed on behalf of the members the pleasure they had in listening to the paper and the value of the suggestions it contained.

#### ON VARIATION OF BACTERIA.

DR. BERGSTRAND of Stockholm has published, in English, in *Acta Pathologica et Microbiologica Scandinavica*, vol. i, Fasc. 2, 1924, an interesting and important article on variations of bacteria. He shows from his observations that an original culture of *Bacillus coli* contained a motile and a non-motile variety; the latter soon formed varieties, but the former only after a fairly long interval. Photomicrographs are given of varieties appearing in the form of secondary colonies on agar plates, implanted from pure cultures of the motile as well as of the non-motile type; the latter were the more numerous. Not only did the form and colour of the varieties and the morphology of the separate micro-organisms vary, but also the biological characters—for example, the power of producing mucus and fermenting sugars. Serological characters have been considered most stable and specific, and Bergstrand gives a summary of the important investigations of Weil on the agglutination of a *proteus* strain X by serum of typhoid. "If we did not know," says Weil, "that the strains (of *proteus*) originated from one single cell we could not believe them to be identical, at most we might suppose that they were related, so serologically different are they." Weil's co-workers showed also that bacteria belonging to the typhoid, paratyphoid-enteritidis, and dysentery groups behave in a similar manner. The discovery of the Twort-d'Herelle phenomenon showed that all bacteria exposed to a lytic agent actively give rise to varieties. Bergstrand refers to the investigations of Hansen on the varieties occurring from an absolutely pure culture of yeast, and concludes "that everything now goes to show that bacteria and yeast behave in an identical manner." The modifications occurring in bacteria are of great importance, for they may afford a solution of many problems concerning the spread and changing character of epidemics. We see that in these beginnings of life mutation and evolution are constantly occurring.

#### THE OPIUM CONFERENCES AT GENEVA.

THE conferences called by the League of Nations to consider certain aspects of the traffic in opium and dangerous drugs in the light of the International Convention signed at the Hague in 1912 have at last terminated their labours. The two conferences or their committees have been more or less continuously in session since November last. The first and smaller conference, representative of those countries only which produce opium, at first prepared a draft agreement which was not signed by any of the delegations except that of India. It finally prepared a convention and protocol which were signed on February 11th by all the delegates except the Chinese. It provides for Governmental control of opium, the cessation of opium farming, the prohibition of sale to minors, a reduction of the number of retail shops for sale of the drug, and measures for stopping illicit traffic. The suppression of the export trade in opium for smoking, which the Hague Convention of 1912 sought to prohibit at once or as soon as possible, is to take effect within fifteen years after the League of Nations is satisfied that smuggling shall have been effectively stopped. The Japanese delegate, Mr. Sugimura, criticized the suspensory character of the proposal, and expressed the opinion that the withdrawal of China rendered its operation very difficult. The second and larger conference, which comprised delegates from forty-one States at its commencement, held its final session on February 19th, when a convention and protocol representing the outcome of its labours were signed. These dealt with the means for regulating the trade in dangerous drugs. Unfortunately the delegations of the United States and China withdrew from the later sessions of the second conference, and for the present, at any rate, they are not parties to the agreements arrived at. M. Zahle, the chairman of the second conference, in reviewing its work, said it had been "the most difficult in the history of the League," and that it "could not boast of having reached complete success." The new convention is intended to implement the Hague Convention of 1912, and to furnish machinery for giving effect to its provisions. A permanent Central Control Board is to be set up consisting of eight persons appointed by the Council of the League, the United States, and Germany. This board is to collect information as to the amount of drugs required for medical and scientific purposes in each country for internal consumption, and also as to the raw materials imported, the amount of drugs manufactured, and the stocks in hand. If excess of stock is proved export to such country will be suspended. Import and export of the drugs are to be effected only under Government certificates, and steps are to be taken to put down contraband trade. The convention is not to come into force until it has been ratified by ten Powers, including seven of the States who nominate the central board, and two must be permanent members of the Council of the League.

#### BOARDING-SCHOOL FOOD.

THE Home Office has issued a most instructive pamphlet entitled *Some Problems of Feeding in Home Office Schools*.<sup>1</sup> It should make a wide appeal to those who have the care of children in resident schools, whether private or under some authority. The problem is the same in all. It is now evident that a diet table based upon caloric values alone is not sufficient. Our conception is widened to include significant though less defined constituents of food. The importance of a practical application of the known facts of dietary in regard to children cannot be too strongly emphasized. Proper feeding plays an essential part in the production of a fit and efficient race. In a school where the children reside for long periods, practi-

<sup>1</sup> H.M. Stationery Office, 1924, pp. 12. Price 3d.

cally without holidays, as in the Home Office schools, the feeding arrangements must be arranged with particular care. The pamphlet is written by Dr. G. H. Culverwell, medical inspector of the Children's Branch, Home Office, and is based upon a paper read by him at the triennial Conference of Managers and Superintendents of Preventive and Reformatory Institutions in Glasgow last June. He deals with the "growth impulse" and the power that can be exercised over it; the need for the recognition of individual variations; the need for variety, and especially the avoidance of anything that will bring about a rotation of meals the sequence of which will be known to the children: "We should never be satisfied with an arrangement by which the same meals recur monotonously on the same day of each week, nor with one in which the particular first course is always followed by the same pudding. A rota of dinners covering at least two weeks is very desirable, and even then it is well to provide for the insertion at intervals of a surprise meal of some food which cannot ordinarily be supplied." Stress is laid upon skilful cooking. The balance of food as determined by vitamin selection is very clearly set out, and will be understood by the lay reader; it is put in such fashion that its importance cannot be missed. Finally, there is a summary, which might well be printed in large type, framed, and hung in the office of every school steward; it is as follows: "Care is necessary to meet the food needs of the individual child. Try to secure the free supply of bread and fat. Try to include in your dietary a full supply of readily assimilable protein food. Include all the milk you can afford. Regard a failure in the fresh vegetable supply much as you would a failure in the school water supply. If you cannot get fresh vegetables, give oranges and increase the dripping. Bear in mind that dried pulses cannot take the place of fresh vegetables. Avoid overcooking. Never forget that bread, margarine, lard, rice, and tinned meat will not help with your vitamin supply. If any number of the children in your school are not making the physical progress that they should, make certain the fault is not with the dietary."

#### INFLUENZA.

THE deaths from influenza in the great towns in England increased last week from 291 to 354, in London from 76 to 92. Six cities other than London recorded 10 or more deaths—namely, Birmingham (10), Liverpool (10), Manchester (18), Salford (10), Rochdale (11), Leeds (12). Notifications of primary pneumonia were less numerous—namely, 1,742 (1,778 in the previous week); and the epidemic appears to be waning in the North, although in the South it is still perhaps not at its height. Last week's increase of deaths was not, however, so large as might have been anticipated, and in general the disease continues to be mild. It is satisfactory to find from the bulletins, the issue of which has now been suspended, that the King is making a slow if sure recovery, although at the time of writing convalescence has not been established. The attack of influenza from which His Majesty suffered was at the onset somewhat severe, and the bronchitis by which it was complicated extended to the bases of the lungs—a form of the malady which is apt to be tedious and resistant. The King's medical advisers have recommended, in order to secure complete restoration of health and fitness, that when the stage of convalescence has been reached His Majesty should proceed to the South of Europe and cruise in his yacht for a few weeks. His Majesty will probably accept this advice without reluctance, for since his days in the Royal Navy he has retained his love of the sea, as is shown by his keenness as a racing yachtsman. It is announced that the royal steam yacht *Victoria and Albert*, which is at Portsmouth, will be ready to sail at short notice to meet His Majesty at a Riviera port.

#### THE CARE OF CRIPPLES.

WE owe to Mr. W. A. Cochrane, assistant surgeon to the Edinburgh Royal Infirmary, an apology for an unfortunate confusion which arose in the notice of the *Cripples' Journal* for January published on February 21st (p. 376). That issue contained an article on crippled children in Scotland by the Rev. T. Ratcliffe Barnett, to which Mr. Cochrane added an appendix. It was Mr. Ratcliffe Barnett, and not Mr. Cochrane, who confessed that it was during the war he learnt the first meaning of the word "orthopaedic." The attribution of so unlikely an opinion to Mr. Cochrane ought to have been observed before the paragraph was printed; even Homer sometimes nodded, and an ordinary everyday editor may hope to be forgiven an occasional lapse. The point Mr. Cochrane sought to enforce was that, though the experience of past years has gone far to determine the value of particular methods for securing the welfare of crippled children, yet, if the cripple is ever to become an economic asset, organization will be necessary to make certain of continuity of supervision and after-treatment all through the growing period of the child. In severe cases, he said, there must be institutional care, so that quite apart from removing the physical handicap the educational and vocational training of the crippled child may go on. The people themselves, he went on to say, must be educated about the crippling disabilities of the children in their homes. Not only must the parents be induced to take advantage of the resources even now available, but the public must be stimulated to realize its responsibilities. He referred to the colossal scheme for the care of crippled children in America, which has resulted in the system of Shriners' Hospitals within the last two years. After preliminary negotiations among a few individuals there sprung up a national scheme for the treatment of cripples which now embraces the whole of America, and has a hospital as far west as Honolulu. He made reference also to what is now being done in England through what is commonly called the Shropshire organization, which is rapidly spreading to other parts of the country. Mr. Cochrane appealed to Scotland to do at least as well, and we do not doubt that his appeal will meet with a generous response.

#### SCIENTIFIC HISTORY.

SCIENTIFIC inventions have a certain fascination for the minds of most people. It is never difficult to get an audience to listen, at any rate for a few minutes, to a description of a new machine for digging coal, a new type of sailing ship, a new disease, or a new helicopter. Newspaper proprietors are well acquainted with this public thirst for elementary scientific knowledge, and they cater for it generously, serving up the discovery in an attractive little article, accompanied by a picture on the back page. But popular curiosity about scientific things is quickly set at rest, and most people are content with a sentence or two of explanation. Ordinary people continue to use the telephone, to "listen in" with wireless, to enjoy electric light, and to travel about rapidly, with little if any accurate knowledge of the discoveries and scientific principles on which these conveniences depend. This ignorance may not persist in the future, because children will learn about scientific discoveries at school. It is interesting to speculate on the way in which scientific discoveries may alter the plan of teaching the school curriculum. Of course, physics will have to be taught in a different way, and be made more interesting by its practical application to familiar things. The method of teaching history is likely to be changed also. Chapters in history books are no longer divided by the deaths of kings, or even by battles and peace treaties. In the history books of the future a chapter may begin with the discovery of the steam engine, another may date from



the first successful aeroplane flight, another from the discovery of microbes, another, perhaps, from the synthetic manufacture of gold. This train of thought has been suggested to us by a recent book by Dr. Franklin Harris of Brigham Young University, entitled *Scientific Research and Human Welfare*.<sup>1</sup> It is a history book of scientific discovery. Beginning with health, the author describes the discovery of causes of disease, the development of painless surgery, the story of x rays, and the successful search for specific remedies. In a section on communication he gives the history of the telegraph, the telephone, and wireless. Succeeding sections deal with discoveries in transportation, illumination, agriculture, engineering, mining, and manufacture. This ambitious programme is covered in about 370 pages, and the book ends with a chronology of scientific discoveries extending from 600 B.C., when the Greeks first learnt how to extract iron and the precious metals, to A.D. 1922, when the African sleeping sickness remedy, Bayer 205, was discovered. It must have been a great labour to collect together all the information, for the book is a veritable encyclopaedia, and ordinary readers will be bewildered by the enormous number of facts they can never hope to remember. But it would do a great deal of good if it made the general public realize how much comfort and convenience they owe to scientific research.

#### ANTIQUE MICROSCOPES.

SALES by auction have a fascination for certain people, apart from the value or beauty of the articles offered for sale. No doubt those habitual frequenters of Christie's who never bid find pleasure or excitement in watching a keen contest between rival buyers, and their pleasure is akin to that experienced by the spectators of a race or any other competition. Of all London auction rooms Stevens's may be reckoned one of the most attractive. Although it specializes in scientific instruments, its activities are by no means confined to them. At the sale on February 17th the antique microscopes were cheek by jowl with the bulbs and evergreen shrubs which lingered from the sale of the previous day, and we have known a parcel of hams to figure in the same catalogue as photographic lenses and other optical instruments and the most intimate personal effects. The genial presence of the veteran auctioneer who has occupied the rostrum for more than sixty years adds the finishing touch to the scene, and embodies the genius *loci*. Here the antique microscopes to which reference was made in our issue of February 14th were sold last week. Some high prices were paid, one lot—a large ornate silver instrument—fetching £360. An original modification of the Hooke microscope dating from the last quarter of the seventeenth century fetched £160. The auctioneer asserted this to be oldest microscope known, but it does not seem at all certain that it was made by or for Hooke himself. Other lots fetched good prices. One of the smallest but most perfect instruments in the sale—a tiny compound microscope by an Italian maker—went for £45. It is to be hoped that some of the best lots have been secured for our museums, for at present the national collections are not rich in this respect. In the Science Museum at South Kensington there is, it is true, a collection which, though small, is representative, but the majority, if not all, of the exhibits are only lent, and might be removed at any time. Although doubtless most of these instruments were used more for amusement than for scientific research, they are none the less of interest as the types from which scientific modern microscopes were developed. The dissecting microscopes of Lieberkühn's pattern, which really were used for

anatomical and physiological purposes, seem, however, to have left no modern descendants. These—one of them dating from the middle of the eighteenth century fetched £12—look at first sight like anything rather than microscopes. It has been stated in the press that Sir Frank Crisp had frequently expressed his intention to present his collection to the Science Museum at South Kensington. We judge from the comments made on this statement by Dr. R. T. Gunther in a letter to *Nature* that Sir Frank Crisp did not make up his mind as to the disposal of his collection, although it is quite clear that he wished it to be made of use in the preparation of a comprehensive history of the microscope. Its dispersal is all the more grievous a calamity because, as Dr. Gunther tells us, "many parts of the instruments have got mixed, that historic examples have been divorced from their history," and "that the collection has been distributed without having been properly catalogued." In this connexion it should be noted that a loose-leaved illustrated catalogue, which was stated to contain voluminous notes and descriptions of only the more modern part of the collection, formed Lot 175 in the sale and fetched £9.

#### IODINE FOR INTERNAL USE.

A COMMUNICATION we have received from Dr. P. C. Brett directs attention to a change in the composition of the tincture of iodine of the French *Codex*. It is now officially prepared from iodine with potassium iodide, whereas formerly it consisted only of iodine dissolved in alcohol. Dr. Brett suggests that it is being prescribed with increasing frequency in this country, and expresses a doubt whether it is known that the name does not designate what it must be presumed the prescriber desires, for the new tincture of the *Codex* is not unlike that of the *British Pharmacopoeia*. Iodine is so briskly reactive that it enters into chemical reaction with the first portion of food or tissue met. We have seen a mixture in which the iodine had been reduced in a few days to half the amount originally present, the rest having been consumed by the cork. Some of the compounds formed with food would be stable; others would slowly set the iodine free again. Thus the character of the therapeutic effect might vary according to the quantity of food in the stomach. When prescribed with potassium iodide, iodine wanders a little less readily into other combinations; its combination with potassium iodide, although weak, depends on chemical affinity. We do not know whether the old formula of the French *Codex* was expressly designed to produce a tincture devoid of potassium iodide, or whether it was considered that the amount of potassium iodide in the new tincture was so small as to have no appreciable physiological effect. It occurs to us that there are other ways open to exploration for the exhibition of iodine by which the rapidity of its chemical action might be moderated. If the iodine were dissolved in an inert oil such as liquid paraffin, and the oil dispensed as an emulsion, the chemical reactivity of the iodine would be damped, and there would be less interference with the simplest form of its physiological action.

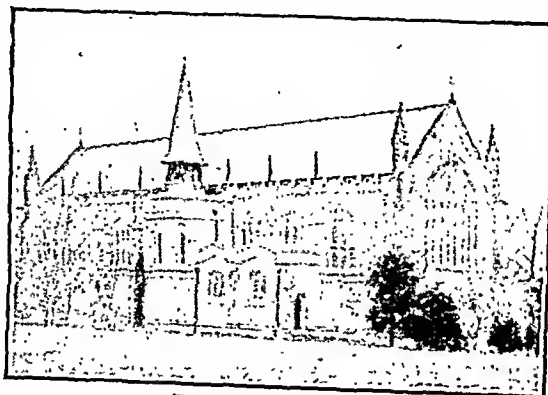
Among the fifteen candidates recommended by the President and Council of the Royal Society last week for election to be Fellows are: Dr. C. A. Lovatt Evans, professor of physiology at St. Bartholomew's Hospital Medical School (University of London); Dr. F. Wood Jones, professor of anatomy in the University of Adelaide; Dr. Edward Mellanby, professor of pharmacology in the University of Sheffield and physician to the Royal Infirmary there; and Dr. James A. Murray, director of the Imperial Cancer Research Fund.

<sup>1</sup> *Scientific Research and Human Welfare*. By Franklin Stewart Harris, Ph.D., with the collaboration of Newbern I. Butt, B.S. New York: The Macmillan Company. 1924. (Post 8vo, pp. 406. 12s. net.)

## EPSOM COLLEGE CHAPEL.

CONSECRATION BY THE BISHOP OF WINCHESTER.

The nave of Epsom College Chapel, which has been rebuilt on an enlarged scale as a memorial to the 140 Old Epsomians who fell in the war, was consecrated by the Bishop of Winchester on February 21st. The addition completes the original design of thirty years ago, when the late Sir Arthur Blomfield designed the chancel, which was built by Messrs. Dorey and Sons. Mr. Arthur Blomfield, the architect of the new nave, has continued his father's designs, and Mr. John Dorey has similarly completed the work begun by his father. Sir Henry Morris, Bt., who was present as a boy at the opening of the school in 1855, was a member of the council for thirty-six years and recently resigned the office of treasurer, which he held for eighteen years, was one of the most energetic supporters of the project, and it was largely due to his advocacy that this work was started at a time when the available funds seemed hardly adequate. The cost of the rebuilding has been £11,500, of which about £2,000 remains to be raised. The money has been subscribed mainly by the relatives of the fallen, by Old Epsomians, and by parents of boys now in the school. To provide for the increased number of boys the nave has been enlarged in width and length even beyond the original designs, and, with the addition of the western gallery, furnishes accommodation now for 650. The nave is built of red brick inside and outside, with Bath stone windows and dressings; the roof is covered with green slates; and the spire of the bell turret over the new organ chamber, on the south side of the nave, has been finished with split oak shingles. A new oak front has been fitted to the organ chamber to match the other woodwork in the chapel, which is of Austrian oak. The floor of the nave is laid with oak blocks, and the seating is by chairs.



EPSOM COLLEGE CHAPEL.

Fourteen hexagonal coronas of wood, decorated in colour, carry the electric lighting for the nave, the chancel being also illuminated by strips on the walls. A new hot-water system has been introduced. A tablet has been inserted on the north wall with a list of 140 names, omitting honours and awards. During the ceremony three wreaths were placed beneath it by the head prefect, the second master, and the president of the Old Epsomian Club.

The Bishop of Winchester in his address took for his text Revelation xxii, 2: "The leaves of the tree were for the healing of the nations." He referred to the legend which

connected the Tree of Life in the Garden of Eden with the Cross of Calvary. When Adam was dying, Seth, his eldest son, was said to have endeavoured to bring a branch of the tree to save his father's life, but arrived too late. Solomon subsequently endeavoured to incorporate the tree in the Temple building, but nowhere would it fit. It was then cast aside to be used as a bridge; and, when afterwards it was thrown into a well, it conferred healing properties on the water. Eventually, the legend concludes, the tree was used for the Cross. So in later times the sign of the Cross had

stood for the healing of the nations. Those who had died for the healing of a sick world from its commercialism, crass nationalism, and individual selfishness, had in very truth made the sign of the Cross, and henceforth the school that sent them forth was holy ground. The day was, therefore, one of solemn dedication for the school, and the consecration of the chapel would find its completion in the future lives of those who would worship within its walls. The present generation had received a challenge to effect the completion of the healing of the world. This was most particularly true of the medical profession, into which so many boys of Epsom College were intending to enter. The very foundation of healing, whether of nations or of individuals, was service and sacrifice.

## England and Wales.

DR. WARDROP GRIFFITH OF LEEDS.

DR. T. WARDROP GRIFFITH has tendered to the council of the University of Leeds his resignation of the professorship of medicine. In his letter to the council he pointed out that in harmony with the rules of the General Infirmary at Leeds he becomes a member of the consulting staff next September, by which time he will have served for twenty years on the full staff. It was this fact, he said, which had led him to anticipate the age limit for the tenure of office which attaches to professorships in the University; for although in Leeds members of the consulting staff have, happily, the privilege of admitting a limited number of patients to be under their care in the infirmary and continue to work within its walls, he felt that the best interests of the University would be served if he did not retain the professorship after he had retired from the full staff and the regular routine teaching which that involved.

At its meeting on February 18th the council of the University adopted the following resolution:

The council accepts the resignation of the senior professor—Professor T. Wardrop Griffith—with deep regret. He was appointed to the chair of anatomy in 1887 and transferred to the chair of medicine in 1910, a continuous record of thirty-eight years. He began work in the old medical school in Park Street, and took an active share in the construction of the new school in Thoresby Place, in which he established one of the best anatomical departments in the kingdom, filling it with many valuable collections, and in his own hand. His assiduous attention rendered his tenure of office of the chair of anatomy little different from a full-time office, as every hour spared from hospital work and consulting

practice was spent with energy in the department, and there is no department of its kind more entirely the creation of one man's zeal and love. In his tenure of the chair of medicine he has added to the lustre of its history by the high quality of his observations in clinical fields and able exposition of his subject, attaining an eminence acknowledged by his admission to the Order of St. Michael and St. George and the conferment of the honorary Doctorate of Laws by his own University of Aberdeen. In both departments his courses of lectures have been noted for their vivid quality and the perfection of arrangement and delivery. In the Faculty and University he has played an important part by sound advice and an example of devotion, for which a heavy debt of gratitude and affection is due. His resignation marks the completion of one of the soundest pillars on which the school has been reared, and the council, looking forward to the support which will remain in his work and the effects of his work, desires to record its appreciation of his most valuable and enthusiastic services, its grateful thanks for the distinction he has brought to the University, and its cordial hope that he will, for many years to come, enjoy the ability to pursue the practice of his profession and add to the many contributions by which he has advanced the cause of medicine.

The rule of Leeds Infirmary, which permits a consulting member of the staff to retain a certain number of beds (we believe six) is a wise one, and we could have wished that Dr. Griffith had considered that it justified him in retaining his chair, though perhaps the pressure of private work, in the prosecution of which neither the profession nor the public in the West Riding is likely to allow him to relax, has had something to do with his decision; there will be nothing to prevent him from giving us in the future further examples of his great capacity as a clinical lecturer.

ARTIFICIAL SUNLIGHT TREATMENT AND THE PUBLIC  
TUBERCULOSIS SERVICE.

THE London County Council has had before it a request from the Bermondsey Borough Council for a grant towards the cost of a scheme for the provision and equipment of

premises suitable for giving artificial or natural sunlight treatment to tuberculous or other persons, the scheme to be regarded as a development of or adjunct to the existing tuberculo-is dispensary service in the borough. The Public Health Committee of the County Council has reported that while, in expert hands, the success of artificial light treatment in lupus is incontestable, it is still to some extent in an experimental stage in surgical tuberculosis, and appears to be not at all suitable in all types of cases of pulmonary tuberculosis. The committee has also pointed out that treatment by artificial light is available at various general and special hospitals in London, and is not limited to tuberculous cases. The London Hospital, Guy's, and St. Thomas's are increasing their facilities therefor. It appears unquestionable, according to the committee, that there is sufficient provision in the hospitals to enable a large-scale test of the treatment to be made, and it is taking steps with a view to arrangements for such a test being proceeded with as speedily as possible. It is felt, therefore, that provision by borough councils of facilities for treatment by artificial light as part of the arrangements at tuberculosis dispensaries should not at present be approved by the County Council for the purposes of grant.

#### MEDICAL HYDROLOGY IN GREAT BRITAIN.

The Committee for the Study of Medical Hydrology in Great Britain has arranged for a third course to be held at the University of London, from April 27th to May 2nd. The subjects to be dealt with include: types of water which occur in nature; hydro-geology; the capillary circulation of the skin; and the use of medicinal waters, baths, and heat in the treatment of disease. Demonstrations on the analysis of waters and of the effects of open air and sunshine on the body will be given. In connexion with this course visits will be paid to Buxton and Matlock. Full particulars may be obtained from Miss Hilda Fox, c/o University Extension Department of the University of London, South Kensington, S.W.7.

## Scotland.

#### EDINBURGH UNIVERSITY CAMERON PRIZE.

At a meeting of the University Court of Edinburgh University on February 16th it was announced that the Senatus had resolved, on the recommendation of the Faculty of Medicine, to award the Cameron Prize for 1925 to Professor R. Magnus of Utrecht University, Holland. This prize, of the value of about £200, is awarded annually to a person who, in the course of the five years immediately preceding, has made some highly important and valuable addition to practical therapeutics.

#### ROYAL SOCIETY OF EDINBURGH.

The following are among the thirty-eight candidates recommended for election as Fellows of the Royal Society of Edinburgh on March 9th: Dr. T. W. Naylor Barlow, O.B.E., past-president of the Incorporated Society of Medical Officers of Health; Dr. Sahay Ram Bose, professor of botany in the Carmichael Medical College, Calcutta; Dr. Henry Dreyer, lecturer in physiology, University of Edinburgh; Dr. Dr. Middleton Greig, conservator of the museum of the Royal College of Surgeons, Edinburgh; Dr. W. Henry Lang, F.R.S., Barker professor of cryptogamic botany, University of Manchester; Dr. Richard L. Sutton, professor of diseases of the skin, University of Kansas School of Medicine, U.S.A.; Wing Commander Harry M. S. Turner, M.B.E., Royal Air Force Medical Service; and Mr. David P. D. Wilkie, O.B.E., professor of surgery, University of Edinburgh.

#### EDINBURGH EDUCATION AUTHORITY AND MENTAL DEFECT.

A joint conference of representatives of the Edinburgh and Lothians Education Authorities was held on February 11th to consider the question of accommodation for mentally defective children. Dr. Sym (Edinburgh) occupied the chair, and in opening the discussion referred to the position

in Edinburgh, where he said that in special schools and in special classes in ordinary schools about 420 defective children who were educable were under training, and in other institutions there were uneducable children to the number of 25 or 27. The problem of mental defect had two very difficult aspects. One was what type of education should be given, and the other was what would become of the children after the age of 16. It was useless to send children to special schools and then turn them adrift. Means must be devised for dealing with mentally defective adolescents and adults. The Rev. Charles Dunn (Uphall) said that in Linlithgowshire there were 186 mentally defective children, of whom 26 were not educable. The authority had special classes, but was not satisfied that these classes fully met what was wanted. It had before it a proposal to establish a farm colony for educable mental defectives, who might be made self-supporting so long as they were under supervision; a farm colony which had been established near Manchester had been found very satisfactory. Dr. Inch recalled that five years ago the Midlothian authority convened a meeting of representatives in the seven south-eastern counties of Scotland, but no conclusion was reached owing to failure of support from the Education Department, Board of Health, and Board of Control. In Midlothian the education authority had started a special school, and meant to start another. Mr. Kemp (executive officer, Midlothian) said that he was a strong believer in not removing the children from their homes if possible, for when children were taken away parents lost interest in them, and they were afterwards looked upon as a nuisance. It was wonderful what could be achieved by a sympathetic teacher in the special classes of day schools. Mr. William Taylor (Edinburgh) said the proper place to deal with educables was in special classes, and it was unwise to remove children to an institution, which had the effect of branding them as mental defectives. He estimated that 80 per cent. of the children who attended the special classes in Edinburgh found occupation on leaving school. It was agreed that the representatives should report to their various authorities, and that another conference should be held after they had received instructions, particularly in regard to a proposal for co-operation with parish councils.

#### REDLANDS HOSPITAL FOR WOMEN, GLASGOW.

Redlands Hospital for Women, formerly known as the Glasgow Women's Private Hospital, is situated in the west end of Glasgow, and was formerly a large mansion. It has been altered and enlarged, and is now a well equipped hospital of fifty beds. It is the only hospital of its kind in the West of Scotland, and with the exception of four honorary consulting officers is staffed by medical women. The patients all contribute to their maintenance. Those in the wards pay 30s. weekly, but receive free medical and surgical attendance. There are rooms with four beds, two beds, and one bed; the payments for these range from £2 2s. to £4 4s. a week, and the patients occupying them may be charged a modified fee by the doctor in attendance. There is also a well equipped maternity department, having a ward and single-room accommodation and an up-to-date labour room. At the formal opening of the hospital by Viscountess Rhondda, Mrs. Greenlees occupied the chair, and among those present were Miss Melville (convener of the executive committee), Mrs. D. M. Ross, Dr. Alice McLaren (senior member of the staff), Miss McLean (matron), and Mrs. Craig (honorary secretary). Mrs. Greenlees said that the hospital had started in 1903 with eight beds. It had removed to larger premises (sixteen beds) in 1915; but that accommodation soon proved too limited, and finally, in August last, the hospital was moved to Redlands, which provided ample accommodation for fifty patients. Lady Rhondda, in declaring the hospital open, said that in all the big towns the need for such hospitals was felt and supplied. The demand was often inarticulate, but nevertheless urgent. Undoubtedly many women went on suffering too long where there was no facility to consult one of their own sex. She sincerely hoped that the £20,000 required by the new hospital would soon be oversubscribed. After votes of thanks had been adopted to Lady Rhondda and Mrs. Greenlees, those present had an opportunity of inspecting the hospital.

## GLASGOW CONVALESCENT HOME.

The report presented to the sixtieth annual general meeting of the Glasgow Convalescent Home stated that during the past year 1,428 patients had been admitted, of whom 422 were convalescents from the Royal and Western Infirmarys, while 985 had been admitted on subscribers' recommendations from other sources. The average stay of patients had been 13.4 days, and the cost had been 11s. 4d. a patient per week as compared with 12s. 3d. in the previous year. The ordinary income for the year had been £3,887, which was £304 less than the ordinary expenditure. The Lord Dean of Guild (Dr. R. T. Moore), moving the adoption of the report, stated that the home was established sixty years ago, and observed that it was of special interest to find from the records that the late Lord Lister had been intimately connected with the founding of the institution; for a number of years from 1865 onwards he had been one of the board of managers, and had assisted from the very commencement of the home in raising funds and in drafting rules. Mr. Kerr, who moved a vote of thanks to the directors and staff of the home, mentioned a further point in connexion with Lord Lister, in that he had carried out some of his experiments in a druggist's shop at the corner of Glassford Street and Wilson Street, an establishment which had celebrated its hundredth year in 1924; the exterior of the premises had remained unchanged during the whole of that period.

## Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

The House of Commons has been chiefly occupied with Supplementary Estimates and the Air Estimates this week. The Supplementary Estimates for Expenses under the National Health Insurance Acts were reported without discussion, and there was only a brief debate on the Supplementary Estimate for the Ministry of Pensions, the point at issue being final awards. On this point Major Cohen and other members have put down a motion asking for a Select Committee of Inquiry.

## Indian Medical Service.

Lord Sydenham has given notice that at an early date he will, in the House of Lords, ask the Secretary of State for India the present position of the British element in the Indian Medical Service as regards strength on the establishment and recruiting in this country; and also whether measures are in contemplation adequately to fulfil the medical requirements of the Indian Army, British residents (official and non-official), and the civil hospitals, and to secure the progress of medical science in all its branches throughout India.

## Public Health Commissioner, India.

Mr. William Graham, on February 23rd, asked Earl Winterton, the Under Secretary of State for India, whether he was aware in the post of Public Health Commissioner with the Government of India an officer who did not hold a diploma in public health, notwithstanding the fact that it was specifically laid down that no officer was to be accepted for any post in the public health department of India unless he possessed such a diploma; and whether he was aware that when in 1918 a similar case arose the officer holding Earl Winterton replied that the answer to both questions was in the affirmative.

Mr. Graham further asked why the appointment was confirmed in the case of the present officer, "thus blocking promotion to men in the service who held the obligatory qualification for the post." Earl Winterton, in response, promised that he would furnish a detailed statement of the high qualifications and wide experience in the opinion of the Government of India fitted the officer in question for the post of public health commissioner.

This statement, which was circulated to members, showed that the officer to whom Mr. Graham referred was Lieut.-Colonel Graham, who graduated M.B., C.M. Glas., with high commendation, and spent four and a half years in post-graduate work and hospital resident posts before passing into the Indian Medical Service in January, 1900. He was, the statement added, first in the London examination and again headed the list in passing out of Netley University, and obtained the certificate of the Liverpool Tropical School, taking the first place, on both occasions. In April, 1908, from then, with the exception of one and a half years during which he acted as a civil surgeon, he was engaged on research, epidemiological, and public health work until mobilized for the

great war in 1911. During this period he served on sanitary and public health committees in the United Provinces. During the war Colonel Graham was employed exclusively on sanitary and public health work. After service in Egypt he was transferred uneventfully to Iraq, where, in December, 1916, he was appointed Chief Sanitary Adviser to the Forces, which position he retained for three and half years. He was responsible for the commencement of all civil health control throughout the occupied area in Iraq, where he became Inspector-General of Health Services. On his return to India in 1921 Colonel Graham was appointed officiating Public Health Commissioner with the Government of India, which post he still holds.

**Welsh Regional Pensions Office.**—The Parliamentary Secretary to the Ministry of Pensions, Colonel Stanley, on February 23rd, informed Mr. Morris that he could not reconsider the decision to close the Welsh regional pensions office at Cardiff. The Welsh members during debates in the previous week had made a protest which was supported by Mr. Lloyd George, against the decision. It was stated that the saving in administration would be £500 a year.

**Nursing Bill.**—The introduction of the Nursing Homes (Registries) Bill to provide for their registration and inspection was postponed from February 24th to February 25th. The bill was introduced by Mr. Gerald Hurst, who, on February 23rd, attended a meeting of the Medical Committee of the House of Commons, which had been called to hear from him an explanation of the measure. Mr. J. P. Rawlinson, K.C., was also invited to attend this meeting.

**National Insurance.**—Mr. Hayday, on February 24th, asked the Prime Minister whether he was prepared to recommend the extension of the terms of reference of the Royal Commission on National Health Insurance. Mr. Baldwin replied that the Government did not propose to extend the terms of reference of the Royal Commission constituted to deal with the particular questions of national health insurance. Mr. Hayday also asked Mr. Baldwin whether as an alternative he would set up a separate commission with a view to a comprehensive inquiry into all forms of social insurance, and into the possibilities of fuller co-ordination. Mr. Baldwin referred Mr. Hayday to replies given on February 16th, which announced that the inquiries promised by the King's Speech into the "all-in" scheme of insurance were proceeding and that no statement was yet possible.

## Notes in Brief.

In any revision of the Milk (Special Designations) Order the Minister of Health will consider enforcing the use of coloured labels to indicate the grades of milk.

The Minister of Pensions denies that there are general complaints about the periods of waiting undergone by men attending medical boards for "reboarding."

The records of the Pensions Appeal Tribunal do not show the number of appeals for pensions made during 1924 by men suffering from tuberculosis.

Approximately 450,000 final pensions awards have been made since January, 1922, 46 per cent. of them for injuries.

The Home Secretary has asked for fuller information in regard to a request from the Labour benches that "burstis" should be added to "miner's heat-knee" in the schedule of industrial diseases.

Returns in 1923 from education authorities in England and Wales show about 30,000 educable mentally defective children, and about 106,000 physically defective children, including about 49,000 classed as "delicate." About 11,000 mentally defective and about 36,500 physically defective children are attending public elementary schools.

The Minister of Health does not recommend local authorities to adopt generally the proposal to erect flats with cubicle rooms for large families.

Mr. Neville Chamberlain maintains the decision of previous Ministers of Health that officials of his Ministry should not serve on local authorities.

In 1923 statutory declarations of conscientious objection to vaccination were received in respect of 284,551 children.

The Government contemplates a Smoke Abatement Bill, but fears it cannot be introduced this year.

Information on the number of Poor Law medical officers in England and Wales is not available, nor on their salaries. The approximate total remuneration of Poor Law medical officers, dispensers, and nurses in 1922-23 was £1,900,000.

In 1914 the number of bodies removed from Poor Law institutions to medical schools in England and Wales for the purposes of dissection was 301, and in 1923 388.

In the year 1924 approximately £11,700,000 was paid by the workers for national health insurance, £12,700,000 by the employers, and £6,800,000 by the State.

Some 400,000 children in England and Wales leave school each year at the age of 14. The Government is prepared to introduce this session legislation authorizing local authorities to compel unemployed children between 14 and 16 to attend continuation centres.

The Government will not agree to allow the removal of the bodies of those fallen in the great war from abroad to this country.

The Under Secretary of State for India stated that the Government of Bombay was considering the question of the administration of opium to children. According to official statistics, infant mortality in Bombay during 1921 was not 666 per 1,000 as had been suggested, but 178.11 per 1,000.

The Government of India and the London Customs have been asked to report on the export of monkeys from India to Germany and this country.

## Correspondence.

### THE POSSIBILITIES OF EXPLORATORY THORACOTOMY.

SIR,—Professor Gask, in his very interesting article (February 21st, p. 343), does such scanty justice to the contributions of British civil surgeons to the surgery of the chest some decades before the outbreak of the war that some brief epitome of its evolution appears desirable. Your leading article upon the same subject offers some compensation, as the writer has apprehended clearly the real significance of Macewen's operation in 1897. The successful removal of a tuberculous lung was not the essential feature of his work—as might be gathered from a perusal of Professor Gask's article—but that he had opened the chest to its fullest extent to enable him to do so without respiratory embarrassment of a disconcerting degree. This free opening was made deliberately and with full confidence based upon the teachings of Lord Kelvin (Sir William Thomson as he was then), who had proved conclusively that lungs would not collapse under the direct influence of atmospheric pressure when the human thorax had been opened. Macewen showed this patient in good health at the International Congress of Medicine, London, 1913, and again expounded the physical principles enunciated by Lord Kelvin.

Those of us who were familiar with this work and with the work of other British surgeons who had followed Macewen's lead were merely amazed that pressure cabinets of the types of Sauerbruch, Willy Meyer, and Tuffier should be deemed worthy of anything more than a mere passing notice. By the time that they had been invented the problem of chest surgery had long passed the stage of being a problem of lung collapse: it had become one merely of control of infection. Within a few years of Macewen's operation, and many years before pressure cabinets had begun their ephemeral existence, Professor A. E. Barker at University College Hospital had operated quite successfully, as far as the physics of the chest were concerned, upon cases of gangrene of the lung, and during the year 1902, when it was my good fortune to be his house-surgeon, I assisted him at two or three of the operations. From him I learnt the technique of stitching the healthy area of extracted lung to the parietes before excising the enclosed patch of gangrene, so as to limit the spread of infection to the rest of the pleural cavity. In the year 1904 an opportunity came to me of putting Barker's procedure and Macewen's principles into practice; and the following epitome has just been extracted from the official medical notes of the Hospital for Sick Children, Great Ormond Street, of the year 1904:

W. R., a boy aged 10 years, was admitted under the care of Dr. F. G. Penrose on April 6th, 1904. From the fetid expectoration and other signs the diagnosis of gangrene of the lung or lungs was obvious. The patient had been ill for many weeks and his condition was very critical.

Operation was decided upon and carried out on April 7th. Localizing signs of the main area of gangrene were ambiguous, and it was decided to open the right side of the chest first. Nearly the whole of the seventh rib on that side was resected and a digital examination was made of the posterior, lateral, and phrenic surfaces of the lung. As no gross area of disease could be detected the chest was closed on that side, and with full assurance, based on Macewen's teaching, that no collapse of lung need be anticipated, a similar operation was immediately carried out on the left side of the chest. Nearly the whole of the lower lobe of the left lung was easily discovered to be in a gangrenous condition, and after pulling it through the chest wall to enable healthy lung to be stitched to parietes by Barker's method a large mass of it was excised. At no stage of the operation was collapse of the lung or respiratory embarrassment present. The notes state that "after the operation the patient's condition was very good." He became progressively worse, however, and died on April 8th.

At the post-mortem examination no collapse of lungs apart from ordinary post-mortem changes was present: but multiple small abscesses and focal areas of gangrene were scattered throughout both lungs. These latter conditions, present before the operation, but not clearly indicated by physical signs, were the only factors that robbed the operation of success, and not discarded hypotheses about the physical reasons for collapse of lungs.

In a review of "Fifty-five Consecutive Cases of Empyema" (*Lancet*, February, 1909) the mechanics of collapse of lung were elaborated in some detail, and attention was called to the soundness of Macewen's principles by allusion to the

regularity with which lungs expanded on opening the pleural cavity in cases of recent empyema: in fact, as many operators were fully aware, the exuberant resilience of the lung under such conditions became quite frequently an embarrassment to the establishment of effective drainage for the infected cavity.

Finally, decortication of a collapsed lung is no new operation—it was frequently performed by Stansfield Collier at the Great Ormond Street Hospital during the years 1903 to 1908; and the boldness with which the operation was planned and executed was based upon a sound knowledge of Macewen's teaching. During all this bygone period lung abscesses due to foreign bodies were sought for by "exploratory thoracotomies," at a time when radiography was little help in aiding clinical methods to localize their site, and pieces of string and husks of dried grass that had been inhaled were successfully removed when the operator was fortunate enough to localize the abscess. The landmarks of chest surgery were not set up by French, German, or military surgeons of the year 1916! They had been erected long previously by British surgeons and scientists, who were the teachers of my generation and of a generation earlier than mine. Honour to them has long been overdue: to render it in some humble degree is the sole motive of this letter.

Professor Gask has done noble work on the surgery of the chest that has secured him his niche in fame. That other niches are already occupied by pioneer associates of British origin too should not make it any the less acceptable to him.—I am, etc.,

London, W.1, Feb. 22nd.

GEORGE WAUGH.

SIR,—I have been interested in Professor Gask's paper on the possibilities of exploratory thoracotomy. I cannot, however, agree with his view of the position of thoracic surgery at the advent of the great war, for some of us for years before the war had been performing thoracic operations of the kind to which he refers.

Professor Gask mentions that Macewen removed a lung in 1897. I may refer him to the following accounts of cases published by me: (a) A case of successful excision of a portion of the right lung for pulmonary tuberculosis (*Lancet*, July 21st, 1906); (b) the surgical treatment of chronic pleural effusions (*Practitioner*, February, 1911). For more than forty years it has been my practice to drain cases of empyema by means of a double incision with a large tube threaded through; this admits as much air into the pleural cavity as would be admitted by an incision for exploratory purposes. I have performed a very large number of these operations without the aid of any of the costly pressure chambers mentioned by Professor Gask.

Hence it is evident that surgeons before the war were not all imbued with the "widespread, though ill founded, belief that on the opening of one pleural cavity under ordinary atmospheric pressure not only one lung, but both lungs, would collapse and the patient die of asphyxia."—I am, etc.,

Kiddleminster, Feb. 23rd.

J. LIONEL STRETTON.

### CANCER OF OESOPHAGUS.

SIR,—May I make a plea for earlier gastrostomy in the treatment of cancer of the oesophagus? Many cases present themselves in this district when the disease is already somewhat advanced. If in these conditions oesophagoscopy is performed, not only is the ulcerated constriction seen to be irritated by endeavours to pass food, but it bleeds easily, is oedematous, and generally bathed in foul mucus, rendering any dilatation or the passage of tubes difficult, and, when the trouble is situated just behind the aortic arch, very hazardous.

The result of gastrostomy is very marked. After ten days or a fortnight much of the irritability disappears, and manipulations through the oesophagoscope are thus rendered more easy of performance. Particularly did I notice this in the case of a lady with a malignant stricture thirteen inches distant from the teeth, into which I endeavoured to pass a radium cylinder. The attempt failed owing to free bleeding. Gastrostomy was then performed under local anaesthesia, and ten days subsequently



it was found quite easy to insert the radium, the stricture having been rested and bleeding being absent. Senn's method of gastrostomy is easy of performance, is readily done with a local injection of novocain and adrenaline, and causes no shock and very little discomfort to the patient; feeding can immediately be commenced, the patient rapidly gains in weight and strength, and the rest given to the stricture renders further treatment considerably easier. And, after all, is it not carrying out an important surgical principle of giving rest to a diseased structure, and analogous to colostomy in rectal carcinoma?—I am, etc.,

Portsmouth, Feb. 16th.

C. A. SCOTT RIDOUT.

### THE INFECTIVITY OF SMALL-POX IN THE INCUBATION STAGE.

SIR,—It seems to me highly important that the general statement contained in Dr. Rolleston's book on *Acute Infectious Diseases* that "the small-pox patient is infectious in all stages of the disease, even in the incubation period, before any symptoms have appeared," should be fully considered.

Quotations from foreign publications to the effect that patients in the incubation stage may be infectious do not seem to me to be final. More convincing evidence for such a heterodox view is called for. Our administrative procedures are built up on the contrary hypothesis.

1. When a person has been in known contact with a small-pox patient it is regarded as sufficient that that person should be visited on the twelfth day after the appearance of the rash on the patient and for about six days afterwards. My experience of many hundreds of cases of small-pox has never led me to regard this as a defective procedure. In other words, I have never had reason to suppose that the infection could have been contracted at a time prior to the appearance of the rash.

2. The course recommended officially by the Ministry of Health, and adopted, I believe, in most areas, of not taking any steps for the isolation of contacts, would lead to disaster, if it be admitted that the ordinary case of small-pox is infectious in the incubation stage.

3. If the twelve days' incubation period is really an infectious period, it would be impossible for any local authority to cope with an epidemic of small-pox, except by general vaccination; if every patient were a medium of infection for twelve days before any symptom of illness, no policy of isolation could be successful; yet in practice—with adequate staff and systematic following up of contacts—small-pox is one of the most easily controlled of the infectious diseases, in spite of the disregard of vaccination and in spite of the anomalously mild character of the present epidemic.—I am, etc.,

Coventry, Feb. 17th.

E. H. SNELL.

### THE HYPOTONIC (FLABBY) CHILD.

SIR,—Dr. Donald Paterson's paper (February 14th, p. 301) on the hypotonic child brings forward points of great interest and importance. He rightly points out that a large proportion of the children attending an out-patient clinic present the characteristics of this type of child, and it is from amongst them that many of the rheumatic, cardiac, tuberculous, orthopaedic, and eye cases are recruited. Whilst the muscular hypotonia is possibly the most striking defect, yet with the hypotonia there almost always exists a toneless state of the other systems, especially the circulatory and the vasomotor, in the nervous tissues, and in the mucous surfaces with their underlying lymph nodes.

In discussing the factors at work in the production of this health defect Dr. Paterson refers to a paper of mine (*Lancet*, August 2nd, 1924) with reference to the "debilitated child," and quotes me as stating that a toxæmia plays an important part in the production of this physical defect. This is not quite as I expressed it. The child discussed by me was the child of school age rather than the child between the ages 2 and 7 discussed by Dr. Paterson, and although I used the word "hypotonia" in relationship to the muscular system, yet the words "toneless" and "wasted" are perhaps more

applicable to the age period I was considering than the hypotonia of the flabby younger child. I think, however, it only a question of degree, and that the same etiological factors are at work in the case of both age periods. I gave it as my opinion that there are two main factors—a dietetic and a toxic—to be considered, the former bring the cause of the toneless condition, and the latter the cause of the numerous superadded symptoms, such as the limb pains, headaches, nervous irritability, and glandular hyperplasia. I am therefore in agreement with Dr. Paterson in believing that the hypotonia has a dietetic origin; and while he would make wast of muscular exercise an additional cause—and no doubt this and other hygienic defects are contributory factors—yet I hope and believe that he will agree that the dietetic is far and away the most important. It appears to me that Dr. Cameron (*BRITISH MEDICAL JOURNAL*, November 24th, 1923) was referring to this same type of case in his paper to which Dr. Paterson also refers, and also Dr. Lapar (*BRITISH MEDICAL JOURNAL*, July 2nd, 1921) when he drew attention to certain problems in connexion with the toxic states of childhood.

I suggest that all of us have attempted to draw attention to, and give reasons for, certain very common defects in health which in the past have been neglected in favour of what one may call the "graveyard conditions," and the rare types of case which, while of interest to the few, are of little importance as compared to these health defects which are the forerunners of most of the common diseases of childhood, and indeed of adult life. I hope, therefore, that Dr. Paterson's contribution, and Dr. Lucy Wills's report upon her investigation of this type of case published in the same issue, may stimulate further study and draw attention to a subject of first importance from a national standpoint.—I am, etc.,

Leeds, Feb. 16th.

C. W. YINING.

SIR,—Under this heading Dr. Donald Paterson (*BRITISH MEDICAL JOURNAL*, February 14th, 1925) unwittingly gives an accurate though incomplete account of chronic intestinal stasis as seen in children. His observations on the causes of the condition prove that he is, in fact, describing stasis. The lines of treatment which he favours include some of those most useful in stasis. His treatment would be even more remarkable in its results were it preceded by a search (clinical, radiological, bacteriological, and chemical) for evidences of stasis. Radiological observations might disclose the need for surgery, and in every case colloidal kaolin (kaylene) and liquid paraffin should be prescribed.—I am, etc.,

London, W.1, Feb. 19th.

A. C. JORDAN.

### TESTS FOR DRUNKENNESS.

SIR,—The letter in your issue of January 31st (p. 240) by Sir Charles A. Ballance and Dr. Maurice Cassidy comes at a very opportune time.

With regard to the reply of Sir James Purves-Stewart of February 7th (p. 282), may I observe that there is, unfortunately for the medical profession, another side to the question? What are the magistrates on the bench to conclude when, on the one hand, they hear several police constables, whom they know to be thoroughly reliable officers, as well as independent lay witnesses, supported by the police surgeon, probably a man of great experience and integrity, state on oath that the defendant was drunk (as Sir Francis Champneys happily suggests, "the worse for drink"); on the other hand, on the part of the defendant, if a substantial person, medical men of eminence can be found to take oath and say that he was perfectly sober?

It must not be presumed that because the court in the circumstances does not record a conviction that the magistrates have any real doubt in their minds on which side the truth lies.

In conclusion, I give this for a moral. A few years ago the certificate of a duly qualified medical man was always accepted in any court of law. At the present time no court will accept a medical certificate.—I am, etc.,

Here, Feb. 18th.

H. H. TAYLOR, J.P., F.R.C.S.

SIR,—To those interested in tests for drunkenness the following facts may appeal.

When I was appointed a police surgeon I had been in active practice for ten years and considered myself perfectly capable of diagnosing drunkenness; but my self-reliance was misplaced, as two instances among many will show.

I was called to one of my stations to see a man who denied being drunk, and in furtherance of my scheme of investigation I talked with him for probably half an hour, during which the usual tests were applied. I then said to the inspector, "I do not think this man is drunk." On this the officer told the prisoner that "as the doctor said he was sober he might go." Much pleased with this result he relaxed his tension (which I had failed to estimate), fell down the station steps, and came to rest in a confused heap on the pavement. Much to my disgust I had to withdraw all I had said and certify him.

On another occasion an alleged "drunk," similarly allowed to go, fell into the hands of another officer, who knew nothing of the previous charge, and was brought in again by him. After years of experience I got to know, although my nephew, Dr. George Grant, required some convincing in the matter, and he got his lesson in this way:

Going with me to the station one evening he disagreed, in somewhat indignant terms, with my diagnosis of drunkenness in regard to a prisoner. However, I certified and told the police to put the man in a cell. I then took my nephew for a short walk, and on our return to the station, probably in a quarter of an hour, we went to visit the accused. He was asleep on the wooden bench, breathing stertorously; he was awakened with difficulty and was unable to stand when pulled up. In addition, his confusion of ideas was so obvious, and the alcoholic odour in the cell so marked, that when I said to the doctor "Is that man drunk or sober?" he replied, as other medical men similarly instructed have replied—"Drunk."

*Experientia docet.*—I am, etc.,

London, E.C., Feb. 18th.

GRAHAM GRANT.

#### ISOLATION HOSPITALS FOR SCARLET FEVER.

SIR,—Dr. Robert Watson's interesting letter is little help as a reply to my question. Purposely I said nothing on the well worn topic of the failings of isolation hospitals in respect to scarlet fever.

Everyone with experience is agreed that individual cases—with or without inunction treatment—would best be treated at home; but practically the difficulties are so great that the balance has inclined inevitably to the removal of the patient to hospital. I could point to pages in old annual reports, especially twenty to twenty-five years ago, where the whole question was discussed. Faith in the inunction treatment is not sufficiently firm and universal to satisfy the public, and hardship is very great when a case occurs in a small shop, such as a stationer's, or in a house used as a day school for small children. We have committed our generation to hospital isolation, and the important thing is to make the best of it. I now believe that the want of protected exercising space is one of the weakest points in the administration of these hospitals, and my query was whether, with building prices as they are, it would be justifiable to insist upon extra expenditure in this direction. Dr. Watson calls this "a call for 'more stately mansions' in the isolation camp." I still hope that some correspondent may see my point and give the help of his opinion.—I am, etc.,

Bromsgrove, Feb. 21st.

H. CAMERON KIDD.

\* \* We hope that we shall not be asked to allow this correspondence to drift into a discussion of the value of inunction in scarlet fever.

#### THE LAW OF THE ROAD.

SIR,—It would seem that many writers on traffic dangers are not conversant with the law of the road. Under the Highway Act of 1835, the driver of every cart, carriage, or other vehicle is bound to keep to the left, or near, side of the road when meeting another cart, etc. Mark carefully it is *side*, not *half*, to which the driver has to keep. During the many years (over sixty) I have been a driver of different vehicles I have even found stipendiary magistrates ignorant of this law. The penalty is—for an owner driver, not exceeding £10; for a hired driver, not exceeding £5.—I am, etc.,

Bury, Feb. 21st.

JAMES HOLMES.

SIR,—The suggestion of Dr. Charles Buttar—the "right-hand" rule—has sense and simplicity to recommend it, and at sea, applied as the "starboard" rule, has the experience and tradition of the sailors to speak for it.

The executive of the British Medical Association, entitled to speak with authority on behalf of a very large body of motorists, and also in the interests of public health, might well bring this suggestion before the Minister of Transport, and the thing is done and done quickly.

Dr. Buttar's article tells the old sad story of the lonely furrow, which apparently he has fruitlessly ploughed for many years.—I am, etc.,

London, S.W.1, Feb. 23rd.

REDMOND ROCHE.

#### A JOURNALISTIC INDISCRETION.

SIR,—I associate myself entirely with Dr. Drury Pennington's statement to you that neither he nor any of his colleagues knew that the recent series of articles in the *Daily News*, dealing with 86, Brook Street, was being prepared or written. It was, indeed, part of the scheme of the articles that they should be the outcome of visits paid on precisely the same terms and under the same conditions as would be accorded to an ordinary member of the public. For that reason, obviously, we did not disclose to those conducting the establishment the fact that they were dealing with a representative of the *Daily News*.

I confess, however, that I do not see how you justify the use of your headline, "A Journalistic Indiscretion." Surely it is a matter of legitimate enterprise for a newspaper to make an actual and genuine test of a scheme which is so important from the public point of view.

I hope, in justice to the *Daily News*, you will publish this letter.—I am, etc.,

London, E.C.4, Feb. 21st.

J. HUGH JONES,  
Managing Editor.

#### THE DUODENAL FLORA IN ACHLORHYDRIA.

SIR,—May I ask you to publish a small correction of your report (p. 360) of my few remarks concerning the duodenal flora in achlorhydria? In cases showing marked anaemia I have certainly been impressed by the large number of living streptococci recoverable from the duodenum and by the fact that these cultures so frequently contain strains producing haemolysin. It is impossible, of course, to detect the haemolytic varieties in direct films.—I am, etc.,

Wimbledon, Feb. 21st.

F. A. KNOTT.

#### ANAESTHETICS FOR REGISTERED DENTISTS.

SIR,—From letters which I have received I gather that some practitioners are in doubt as to the bearing of the following paragraph in the Warning Notice issued by the General Medical Council:

"5. Association with Unqualified Persons.

"Any registered medical practitioner who, either by administering anaesthetics or otherwise, assists an unqualified or unregistered person to attend, treat, or perform an operation upon any other person, in respect of matters requiring professional discretion or skill, will be liable on proof of the facts to have his name erased from the *Medical Register*."

I am directed to say that this warning does not apply to any person whose name appears upon the *Dentists Register*, whether so entered in virtue of a diploma or under the Dentists Act, 1921. A registered medical practitioner is entirely at liberty to give an anaesthetic for such a dentist.

In the SUPPLEMENT to the BRITISH MEDICAL JOURNAL of January 5th, 1924 (p. 23), there was a paragraph relating to this matter, in which it was stated:

"In these circumstances medical practitioners need have no hesitation in administering anaesthetics for a dentist without diploma when asked to do so, once they are satisfied that he is actually on the *Dentists Register*. There is, in fact, no legal justification for refusing to do so."

I think it might be helpful if the attention of medical practitioners was again drawn to their position in regard to this matter.—I am, etc.,

London, W.1, Feb. 24th.

NORMAN C. KING,  
Registrar, General Medical Council.

## Obituary.

### THE RIGHT HON. SIR T. CLIFFORD ALLBUTT, K.C.B., M.D., LL.D., D.Sc., F.R.C.P., F.R.S.,

Regius Professor of Physic in the University of Cambridge;  
President of the British Medical Association, 1916-21.

(With Portrait by J. Palmer Clarke, Cambridge.)

THE medical profession has learnt with sorrow that Sir Clifford Allbutt died suddenly in the early morning of Sunday, February 22nd, at St. Radegund's, Cambridge, in his 89th year. His bodily powers had failed somewhat in recent months, but his mind was clear and active to the last day of his life. He woke up, and after a severe attack of breathlessness passed away in about ten minutes. In him British Medicine loses a great and venerated leader, full of years and honours, a scholar-physician and a great-hearted gentleman.

Thomas Clifford Allbutt was the son of the Rev. Thomas Allbutt, at one time vicar of Dewsbury, Yorkshire, and later rector of Debach-cum-Boulge in Suffolk, who married Marianne, daughter of John Wooler of Dewsbury, and was a friend of the naturalist Waterton. He was born at Dewsbury on July 20th, 1836. His early education was received by private tuition at Ryde, Isle of Wight, and his school days were passed at St. Peter's, York, then under the headmastership of Archdeacon Hey, the entomologist.

He entered Gonville and Caius College, Cambridge, in 1856, gaining a classical scholarship in his first year and others subsequently. About that time the Cambridge Medical Faculty was waking from its long sleep, and as many as six medical students were in residence together; they had to complete their course in Arts before commencing medicine. Natural science was already making enormous strides in the University. Allbutt graduated B.A. in 1859, and in the next year was placed in the first class in the Natural Sciences Tripos with distinction in physiology. His clinical education was received at St. George's Hospital, London, and he also studied for a time at Paris. He took the degree of M.B. at Cambridge in 1861, the M.A. in 1867, and proceeded M.D. in 1869. While at St. George's Hospital he formed a friendship with Dr. J. A. Lockhart Clarke, the anatomist and pathologist, and George Henry Lewes. The latter was then devoting a good deal of his time to preparing the chapter on the anatomy of the nervous system for his *Physical Basis of Mind*. Lockhart Clarke, although he had been qualified for several years, was taking out hospital work again at St. George's Hospital for the M.R.C.S. diploma at the time Allbutt was studying there. His microscopical work on the nervous system, which he carried out by a new method that revolutionized histological research, interested Allbutt and influenced him towards a similar line of study, and he published some of his earliest papers on diseases of the nervous system in the *St. George's Hospital Reports* and in the *Transactions of the Pathological Society*. He maintained his friendship with Lewes until his death in 1878, and George Eliot, writing of her tour in Yorkshire with Lewes in 1868, says: "We went on from Leeds to Bolton. Our visit to Yorkshire was extremely agreeable. Our host, Dr. Allbutt, is a good, clever, graceful man, enough to enable one to be cheerful under the horrible smoke of ugly Leeds. . . ." We also read of Allbutt visiting George Eliot and Lewes at their Witley home at a later date. There is good evidence that he was the original of Lydgate in George Eliot's *Middlemarch*.

In 1862 he was appointed honorary physician to the Leeds House of Recovery, and in 1864 honorary assistant physician to the Leeds General Infirmary, Dispensary, and Fever Hospital, and also lecturer in the practice of physic in the Yorkshire College, Leeds. Two years later he began to lecture in anatomy as well. He remained on the active staff of the Leeds General Infirmary until 1884, when, in accordance with the rules of the institution at that time, he gave up the charge of beds and joined the consulting staff. He continued in consulting practice until 1889, when he was appointed a Commissioner in Lunacy, and held this post for three years until his appointment as Regius Professor

of Physic in the University of Cambridge and his election to a Fellowship at Caius College.

He became a Member of the Royal College of Physicians of London in 1878, and a Fellow in 1883. He was an examiner for the College in 1899, censor in 1905-6, and member of the council in 1906-7. In 1900 he delivered the Harveian Oration before the College, the Gombstonian Lectures in 1884, and the FitzPatrick Lectures in 1909-10. He was awarded the Moxon Medal in 1921.

His election in 1892 to succeed Sir George Paget in the Regius Chair of Physic at Cambridge University was generally applauded as likely to result in advantage to the University and to import into the region of medicine there a certain element of freshness and originality which could not be too highly rated. How fully that expectation was fulfilled is now a matter of history. Concurrently with his election to the professorship he was appointed physician to Addenbrooke's Hospital.

Allbutt's professional life naturally falls into two distinct periods—his Leeds consulting life, and his Cambridge academical work with an interregnum of lunacy commissionership.

At Leeds he lived the fullest possible life of a consulting hospital physician, clinical observer, and teacher. For many years his practice there was phenomenally big for a provincial consultant, and, in addition, he had his teaching. In his earlier years he was actively engaged in clinical research and writing papers, diseases of the nervous system and the effect of overstress on the heart chiefly interesting him. He was also collecting material for this work on the use of the ophthalmoscope in medicine (1871), and in the preparation of this he received much help from Dr. (afterwards Sir James) Crichton-Browne, who was then medical superintendent of the West Riding Asylum, and who had, in the face of considerable opposition, established a research laboratory there. This had for its title *The Use of the Ophthalmoscope in Diseases of the Nervous System and of the Kidneys and also in certain other General Disorders*. The book was dedicated to Hughlings Jackson in a prefatory letter in which Allbutt pointed out that they both had begun about the same time to use the instrument in the investigation of cerebral diseases, and paid a tribute of respect to Hughlings Jackson's friendship and help. Allbutt had received his first ideas of the probable value of the ophthalmoscope in the diagnosis of cerebral disease from Dr. Ogle when he was at St. George's Hospital, and he had continued his work on the subject at Leeds. In this book Allbutt traversed the whole field of the knowledge of the time, and gave his own experience, whether as original observations or in support of those of other observers. Perhaps the most original chapter is on the condition of the disc in mental diseases, especially in general paralysis of the insane. He carried out a series of observations in this disease, and discussed the atrophy of the discs which he found in the *Medico-Chirurgical Transactions* in 1868. He afterwards learnt that von Graefe and others had previously noticed similar appearances in general paralysis, but from a less extensive series of cases. Many of his clinical observations were confirmed by subsequent microscopic observations. He also described the ophthalmoscopic appearances in a large number of cases of tuberculous meningitis, and pointed out that the neuritis in these cases might disappear with recovery from the general disease. It was he who suggested the use of the term "choked disc," now generally used in English ophthalmology, instead of von Graefe's *Stauungs-pupille*, for the swollen disc met with in many cases of intracranial disease. Only one edition of the book was published; it was succeeded by the fuller and more extensively illustrated work of Gowers on the same subject, published eight years later.

In 1873 he read before the Royal Society a paper on the effect of exercise on the bodily temperature (*Journ. Anat. and Phys.*, 1873, vol. vii). He had been for some years previously engaged in the study of the temperature of the body in health and disease, and had published his results in various papers. He felt that such a study could only find a satisfactory basis in a knowledge of the temperature of the healthy body, and he knew of no observations on the effects of hard and prolonged exercise on the body. Such



Clifford Hillier





# SIR CLIFFORD ALLBUTT.

FEB. 28, 1925]

observations he, however, afterwards heard had been made during ascents of Mont Blanc in 1869. His own investigation was also carried out while climbing in Switzerland in the following year (1870). His conclusions were that the normal effect of exercise was to increase temperature slightly during the day, and to favour the early occurrence of the evening's fall when the day's work was done. When the day's work continued to 6.30 or 7 the fall was postponed until the time of rest, when it quickly set in.

Here we may take the opportunity of mentioning that one of Allbutt's chief recreations as a young man and in early middle life was climbing in Switzerland, a difficult art in which he acquired great skill. He was a member of the Alpine Club. As a boy, and indeed throughout the whole of his life, he was very fond of the Lake Country, and his last published letter, which appeared in the *Times* a week or two ago, was a plea for the preservation of the simple beauties of Grasmere. He enjoyed, indeed, walking anywhere, and was one of the band of Sunday Tramps organized by Leslie Stephen. He took to cycling also in the early days of that recreation, and kept it up till old age; in fact, a few years ago he met with a rather awkward accident while cycling in Cambridge which laid him up for several weeks.

Allbutt published many other important papers on various subjects in the medical journals, but as he rewrote and amplified the most valuable of them for the great medical work with which his name will always be so honourably associated—of which he was editor and driving force—we may refer to them in connexion with this work. The first volume of the *System of Medicine* appeared in 1896 and the last, or eighth, in 1899. Allbutt contributed articles to all of the volumes except the first. Those which he wrote were on grain and mushroom poisoning, opium and other intoxications, mountain sickness, chlorosis, neuroses of the stomach, dilatation of the stomach, scrofula (with Mr. Pridgin Teale), functional disease of the heart, mechanical strain of the heart (title changed to overstress of the heart in the second edition), diseases of the aortic area of the heart, adiposis dolorosa, senile paraplegia, and neurasthenia. These were subjects on which with his large practical experience he could write with authority and illumination, and some of them—especially those on the stomach and heart, and on neurasthenia—were as good and useful as any articles in the whole *System*. The labour involved in the editing of the *System*, which included its planning, the choice of subjects and writers, and the cross-referencing in the articles, even with the unofficial help of Dr. (now Sir Humphry) Rolleston, must have been enormous. The many writers who contributed articles to the *System* were chosen for their special experience in the subjects about which they wrote, and although there was some unevenness in the value of the articles, as must necessarily be the product of a much needed work of reference of the first order. Its reception by the profession was such that a new edition was soon called for, but as considerable changes and additions were found desirable it was not until 1905 that its first volume could be published.

In producing this second edition Allbutt had the very active and valuable, and this time official, assistance of Dr. Rolleston in the editorial work. The last volume of the new edition was published in 1912. It was more than a mere revision. Inequalities in the first edition were corrected; many new articles were added, and those which required it were brought up to standard form by judicious revision; considerable rearrangement in the order of the articles was also carried out. The bibliography, which is such a valuable feature of the *System*, was carefully revised and the indexes elaborately and accurately drawn out by Dr. A. J. Jex-Blake. This is work which if ill done mars the accuracy of this subediting work was very commendable. In the case of Allbutt and Rolleston's *System* were increased to nine, and as two of these consisted of two parts, each a separate book, the whole work ran to eleven large volumes. Allbutt himself, besides refreshing his original articles, contributed a new one, with the collaboration of the late Dr. J. F. Payne, on the history of

medicine. It is an excellent example of the historical type of article which he wrote so well and with so much pleasure. The *System*, especially the second edition of it, is one that the medical literature of any language could be proud of, and must stand as a worthy monument to its originator and first editor. We may refer more fully to some of his more important articles in the *System*.

Allbutt's opportunities for studying the effects of over-stress on the heart—first, among the athletes at Cambridge, and, secondly, among the manual workers of the Leeds and Bridge University—were unusually wide, including as they did two different types of hard muscular labour, forced and voluntary, at different ages and under vastly different conditions of feeding and training. He divided his subject into three parts—namely, static and permanent disease of the heart and arteries, due or attributed to extraordinary effort; dynamic and almost insensible spoiling of the vascular system due, really or apparently, to the wear of hard muscular labour during long terms of years, especially when the freshness of youth is past. In all three series the problem is complicated by various obscure contributing influences; the first division he dealt with chiefly under the separate heading of diseases of the aortic area; the third was more concerned with diseases of the arteries, and the second formed the main part of this section on over-stress of the heart. He defined his subject as being the dynamic change in persons of otherwise healthy body, who by single or persistent exertion may have urged muscular effort to degrees menacing or hurtful to the organs of the circulation, or in whom efforts, if less severe, have told upon a vascular system already somewhat impaired by other causes. The article is a very full account of the subject as it is met with in school and adult life, due credit being paid to the work of other observers in the same field, especially to Dr. R. W. Michel of Cambridge (who was killed in action in 1916). He concluded his long article with the opinion, founded on thirty years of close observation of heart stress, "that the importance of muscular effort as a factor in cardiac injury has been much exaggerated. In the sound adult organism the effects of physical stress upon the heart are promptly counteracted by equilibrating machinery, and especially by large expansion of muscular and pulmonary areas."

The section on diseases of the aortic area of the heart is also very full and authoritative. The most interesting cause to him is apparently overstress. In 1870 he wrote that such acute strains as mountain climbing and the like were apt to tell rather upon the right side of the heart, the chronic effects of years of labour on its left side. Broadly speaking, he always maintained this opinion, but he was well aware that an aortic valve might give way as the result of overstress with consequent disastrous effects on the left heart muscle. The subject of neurasthenia also was one on which he could write with much experience and authority. His article on it in vol. viii of the second edition of the *System* is one of the most useful and practical in the whole work. It occupies sixty pages, and is a most illuminating, thorough, scientific, and instructive account of a condition which in its varied manifestations presents so many difficulties in diagnosis and treatment, and provides the basis for so much argument in law courts.

The effect of exercise on the blood pressure was also a subject that interested him greatly, and to which he devoted a considerable amount of investigation. He found, as did other observers also, that muscular exercise tends to the long run not to raise, but even to reduce, the mean arterial pressure of the twenty-four hours. On the other hand, the blood pressure of men who, as athletic habits are laid aside, lead sedentary lives without denying themselves at least as great an abundance of food, is prone to rise. Under the name of senile plethora or "hyperpirosis," as he called the condition (*Med.-Chir. Trans.*, London, 1903, vol. 86), he described irregular and indefinite variations in health in people beyond middle life which were associated with persistent elevation of the arterial blood pressure. This condition may exist for years, especially if untreated, and may never be associated with renal disease, although both conditions might arise from the same cause. The patients complain of insomnia, cerebral confusion, despond-

ency, and nervousness, but are not necessarily dangerously ill, especially if tension-lowering remedies be prescribed. He recurrd to the subject in his contribution to the important discussion on blood pressure in relation to disease, held in the Section of Medicine at the Annual Meeting of the British Medical Association at Toronto in 1906, when he followed the late Professor Gibson of Edinburgh and the late Sir William Broadbent. His paper, which was published in the *BRITISH MEDICAL JOURNAL* of October 20th, 1906 (p. 1004), contains a summary of his views and a classification of the cases founded on clinical observation.

No one but a man of methodical habit and business capacity could edit successfully such a large work as the *System*, and write so many articles and papers or prepare so many addresses, as the Regius Professor of Physic did. And he was such a man of system and method, constantly watching for any fact, opinion, clinical or scientific observation, or case that interested him, that whenever he came across anything of this nature he made a careful note of it, with the source from which it was obtained and any comment that struck him. This he filed away, either to swell the number of other notes already there, or to form the nucleus of some new batch. It was by such constant vigilance and daily systematic collection of notes that he was able to contribute so much to medical literature. A batch of notes on one subject would form the nucleus of an article, and he wrote them up with a literary skill that made all his papers a delight to read. He had a very extensive command of good English and a wide knowledge of general literature, from which he would draw apposite quotations as sidelights to the subject proper. Aiming at a high standard of writing himself, he desired others to do likewise.

Allbutt was a charming speaker; at first hearing his style seemed loose, but the construction of his sentences, if sometimes complex, was always rigidly correct, and he never failed to convey his meaning with clearness and force. His style, indeed, reflected his mind—full, eager, impetuous, but disciplined. Allbutt once described to a friend how his book *Notes on the Composition of Scientific Papers* came into existence, and the story is characteristic of his sanguine temperament and of his thoroughness. It was his duty as Regius Professor—a duty he most religiously fulfilled—to read a great many theses, and not infrequently his soul was vexed by faults of literary expression and logical arrangement of ideas. On one winter afternoon, when the evil was borne in upon him, he turned to the desk in the big room in which he worked, and picking up half a sheet of notepaper prepared to set out on it certain aphorisms or guiding principles. He failed to get all he had to say on the half sheet of notepaper that day, and turning back to the subject at odd times the notes gradually grew into a book, which may be perused with advantage, not only by the writers of theses and medical articles, but by all who aspire to write on scientific subjects. It appeared first in 1904, and was reissued in 1905; the third edition, long called for, was delayed by the war and other preoccupations until 1923.

The publication fifty-four years ago of his first book, *The Ophthalmoscope in Medicine*, not only taught the profession the value of a new means of investigating disease, but revealed a new clinical observer of the highest promise. It was at this stage of his career that he invented the short clinical thermometer. Realizing the impracticability of the cumbersome instrument, some ten inches long, which was then little more than a curiosity of hospital wards, Allbutt in 1867 instructed a Leeds firm to make him a series of experimental thermometers, with a chamber above the bulb, and managed to reduce the length of the tube to three inches. The pocket clinical thermometer thus devised by him came rapidly into general use. It was a mechanical improvement that greatly helped medical men in their daily work, and the need for it could only have occurred to a physician actively engaged in clinical practice. To those days, too, as already indicated, belonged his epoch-making researches into the cause of certain diseases of the brain and spinal cord, and into the effects of strain on the heart and great vessels. The high expectations built on the originality and the wide grasp of essential principles displayed during this early period were more than justified.

Besides many shorter contributions to the history of medicine, Allbutt published in 1901 *Science and Medical Thought*, and in 1905 a collection of lectures delivered in America entitled *The Historical Relations of Medicine and Surgery*. In 1921 appeared *Greek Medicine in Rome*—an expansion of his FitzPatrick Lectures, together with other historical essays. This monumental work he dedicated most appropriately to Sir Norman Moore. It contained abundant evidence that the veteran Regius Professor of Physic had never lost his delight in classical studies, for it was as a classical scholar of Caius College that he began his Cambridge career. The book was regarded by competent authorities as the crown of his labours as a medical historian.

Allbutt was elected a Fellow of the Royal Society in 1880, and served on the council for two periods, 1885-88 and 1914-16, when he was also vice-president. The honours conferred on him by scientific and learned bodies at home and abroad form an imposing list. His honorary degrees included the D.Sc. of Oxford, Manchester, and Leeds; the M.D. of Dublin; the LL.D. of Glasgow, McGill, Toronto, St. Andrews, and Durham, and of his own University. He was a Fellow of the Linnean Society and of the Society of Antiquaries; an honorary member of the American Association of Physicians and of the American Academy of Arts and Sciences; an honorary Fellow of the Royal College of Physicians of Ireland, the New York Academy of Medicine, and the Royal Society of Medicine. He was a member of the Hellenic Society, and had served for some years on the Managing Committee of the British School at Athens. In 1907 he was created K.C.B., and in 1920, during the Annual Meeting of the British Medical Association over which he presided at Cambridge, he was made a Privy Counsellor of Great Britain. He was an original member of the Medical Research Council, and from 1908 to 1918 represented the University of Cambridge upon the General Medical Council. The King Edward VII Sanatorium at Midhurst, the Belgrave Hospital for Children, and the Mount Vernon Hospital for Consumption, each counted him among its consulting physicians.

Sir Clifford Allbutt's services to the British Medical Association cover a period of more than fifty-five years. At the Annual Meeting at Leeds in 1869 he was Secretary of the Section of Medicine; he was Vice-President of that Section in 1876 at Bath; President in 1882 at Worcester, when the Association celebrated its jubilee in its native city; and President of the Section again in 1889, when the Association met once more at Leeds. In his Presidential Address to the Section of Medicine in 1882, and again when he delivered the Address in Medicine at the Glasgow meeting of 1888, he pleaded for a broader outlook and demanded that inquiries into the nature and causes of disease should not be limited to man, or even to the animal kingdom, but should extend to plants, which presented in a simpler form problems not dissimilar. At first his was a solitary voice, but he lived long enough to witness the beginning of a realization of his ideals.

When the Association met in 1914 at Aberdeen, on the eve of the war, Sir Clifford was appointed President-Elect. The Annual Meetings were not resumed until 1920, but in 1915 he was reappointed President-Elect; in 1916, a few days after his 80th birthday, he was elected with acclamation President of the Association, and was re-elected year by year until the Annual Meeting of 1921. Thus it came about that Sir Clifford Allbutt held the highest office in the Association for a far longer time than any man had ever held it before, and during that period, notwithstanding the incessant strain of war time—for he was Honorary Colonel Eastern Division R.A.M.C., and did much work in an advisory capacity in many directions—he managed to interest himself in every side of the Association's work, and to attend with great diligence the many meetings to which he was summoned. His long presidency brought him into close and affectionate contact with officers, officials, councillors, committeemen, and representatives. When, a few months after the armistice, a special clinical and scientific meeting of the Association was held in London to discuss and demonstrate the lessons learnt in the war, he opened the proceedings with an illuminating address entitled "The

New Birth of Medicine." In the summer of 1920 the long-deferred Annual Meeting was held at Cambridge. The subject of the Presidential Address was "The University in Medical Research and Practice," but the subject-matter of this singularly suggestive discourse went far, though not unduly far, beyond its title. The Cambridge meeting was a great success; its President, for all his years, seemed ubiquitous, indefatigable, and a source of inspiration to everyone. At this meeting his portrait, by Sir William Orpen, R.A., was given to him, on behalf of an immense number of members of the medical profession. Sir Norman Moore, who made the presentation, aptly described him as a devoted servant of the profession of medicine, deserving a place in the very front rank and side by side with the great ones of the past; one who had never spared himself if he could add to the knowledge of medicine, or stimulate anyone else to add to that knowledge. The portrait now hangs in the Fitzwilliam Museum.\* At the Annual Meeting of 1922 in Glasgow Sir Clifford received the Association's Gold Medal, together with an engrossed testimonial setting out the grounds of the award. This opened with the words: "We delight to honour in you a great physician, a great teacher, and a wise friend in counsel," and ended: "In token of our respect and affection for you as a man, of our admiration for you as a physician and teacher, and of our gratitude to you for the generous spirit in which you gave freely of your time and wisdom to the Association during a period of unexampled strain and difficulty, we ask you to accept at the hands of our President the British Medical Association's Gold Medal for Distinguished Merit." During his period of office as immediate Past-President, Sir Clifford attended regularly the meetings of Council, and he continued to serve the Association as a valued member, and for some time chairman, of the Science Committee. He was throughout his professional life a true friend to the *BRITISH MEDICAL JOURNAL*, helping it in matters great and small with unfailing courtesy and the kindest encouragement. Nor must we forget the powerful support he gave, by pen and by word of mouth, to the insurance practitioners of the country in their long-drawn-out struggle for fair payment and proper professional status.

Sir Clifford Allbutt married in 1869 Susan, daughter of Thomas England of Headingley. They had no children. To Lady Allbutt the sympathy of the whole medical profession goes out in her sorrow.

The funeral service was held on Wednesday, February 25th, in the little chapel of Gonville and Caius College, where William Harvey worshipped and John Caius lies buried. At the same time a memorial service was held in Great St. Mary's Church. The coffin was carried out through the Gate of Honour, and along Senate House Passage and King's Parade to Trumpington Churchyard. At the funeral service the British Medical Association and its *JOURNAL* were represented by three Cambridge medical graduates: the Association by its President, Mr. J. Basil Hall (Pembroke College), and its Treasurer, Mr. N. Bishop Harman (St. John's); the *JOURNAL* by the Assistant Editor, Dr. N. G. Horner (Caius). The *Lancet* was represented by the Editor, Sir Squire Sprigge (Caius). The large congregation in the University Church included many personal friends and Cambridge colleagues, and official representatives sent by learned bodies and public institutions throughout the country.

Sir ARCHIBALD GARROD, K.C.M.G., F.R.S., Regius Professor of Medicine in the University of Oxford, writes:

To medical men of any living generation it will be hard to realize that Sir Clifford Allbutt has passed away. To those of us who are senior members of the profession his name was already well known in our youth, and to the young of to-day he has been a leader, counsellor, and guide. Generations of his pupils will retain grateful memories of his teaching and affection for their teacher. His writings, and especially

the great *System of Medicine*, which he edited, have gained for him thousands of pupils whom he never saw. At a period of life when most men flag, and claim a well earned rest, Allbutt maintained his bodily vigour; and his keen interest in all the subjects which he had made his own was unimpaired. Despite his years he never grew old. He will be remembered by all who knew him as the ideal physician; as an investigator who approached the study of medicine in a truly scientific spirit; as a scholar, learned in the history and literature of our science and art, and of much which lies outside that field. He held that clear diction and literary form were as desirable in the sciences as in the humanities, and practised what he taught. A knightly figure, and a fitting champion of our aims and ideals, he died, as surely he would have wished, in harness.

Sir HUMPHRY ROLLESTON, Bart., K.C.B., President of the Royal College of Physicians of London, writes:

A friend of my father, Sir Clifford Allbutt had for more than thirty years constantly helped me in innumerable ways, and his sudden death is an irreparable and unexpected break in the established order of things. For though he was in his 89th year he was astonishingly young for his length of days, the only real evidence of age being deafness; in his full sympathy with the young and with fresh ideas and in his broad outlook he indeed compared favourably with many a man of half his years. Aristocratic in appearance and courtly in manner—somewhat resembling the great Lord Dufferin—he was the most approachable of men; obviously a great gentleman, he had indeed a genius for friendship, and I do not think he ever spoke ill of anyone, though he shrewdly estimated the points of character. Like Sir Henry Acland, the Regius Professor of Medicine at Oxford, he had a refreshingly wide and original outlook on medicine, and was more concerned with principles than details. Among his many activities reference may be made to two: his general influence on medical education and culture, and the special subjects in which he initiated advances. He was a scholar in the broadest sense, a profound medical historian, an omnivorous reader, and a persistent advocate of the need for a sound general education as the basis of medical training. With a highly critical literary taste, he was as careful in his own writings as he urged others to be in the choice and use of words. But he was far more than a scholar or a learned man, for his combination of wisdom, humanity, and versatility was of a kind that appears to be dying out in a world that has seen many changes in a comparatively short time. His public addresses were on broad lines and fearlessly independent; thus, in the Goulstonian Lectures for 1884 he satirized the vagaries of the contemporary gynaecologist with a masterly touch, and later, in 1920, expressed his stern disapproval of the practice of psycho-analysis; while in the St. Louis address on the historical relations of medicine and surgery (1905) he insisted on the artificiality of the distinction between the surgeon and the physician. Since his address in medicine at the Glasgow meeting of the British Medical Association in 1888 he had urged the recognition of comparative pathology, and it is a happy outcome of his appeals that there is now an institute for this branch of research at Cambridge, and a Section for its study at the Royal Society of Medicine, of which he was appropriately the first President. No one could write more charmingly of others, as is shown to perfection by his introduction to the volumes dedicated to the late Sir William Osler (1919) and to Karl Sudhoff (1924) on their seventieth birthdays.

He rapidly formed a sound judgement on new work, and was ever alert to welcome the germ of a real advance; thus, in his review (*BRITISH MEDICAL JOURNAL*, 1902, ii, 250) of the book on the pulse by the then little known James Mackenzie of Burnley he generously described it as destined to "take a permanent place in the standard records of the subject." It is indeed remarkable how many matters of now common knowledge in medicine he either originated or made more widely known, though in some instances his share therein has from lapse of time been, perhaps naturally, forgotten. For many years he described hyperpiesia—or, as he originally called it, senile plethora (1895)—and while so doing was largely responsible for the

\* A few copies of the engraving by H. Macbeth Raeburn, after Sir William Orpen's portrait, are still obtainable from the Financial Secretary and Business Manager of the British Medical Association.

introduction of the sphygmomanometer into ordinary practice. His advocacy of the aortic origin of angina pectoris dated from 1894, and those who heard him speak after Professor K. F. Wenckebach's lecture on angina pectoris and the possibilities of its surgical relief at the Royal College of Physicians on May 5th, 1924, were impressed with his mental and physical vigour. He was one of the first, if not the first, to describe syphilitic disease of the cerebral arteries (1868); he was the first in this country to record a case of tabetic arthropathy, a year after Charcot's description in 1868, and he early insisted on the effects of strain on the heart and arteries (1870), on the value of morphine in cardiac disease (1869), on the use of the stomach pump, and of the ophthalmoscope in medicine (1871). Together with the late Mr. Pridgin Teale he advocated the operative treatment of tuberculous glands in the neck (1885), and in 1867 he invented the present short form of clinical thermometer.

Such are a few achievements of the professor, the philosopher, and the physician; but greater even than them were the character and personal influence of the man, the like of whom his friends can hardly hope to see again. He died as he would have wished, in the full tide of his activities; he was to have given the Lloyd Roberts Lecture at the Royal Society of Medicine this autumn, and had a new book ready for the press. Our sorrow is for those left behind; for him there is no feeling but of thankfulness that he had lived so fully and so finely right up to the inevitable end.

In response to our request for a few words from a contemporary in Leeds, Dr. J. E. EDDISON (Woodroft, Cuckfield, Sussex), Emeritus Professor of Medicine in the University of Leeds, has written as follows:

Sir Clifford Allbutt's time in Yorkshire was one continuous success from beginning to end. If I may presume to speak for the medical profession in Leeds and Yorkshire, I should say that he was singularly welcome for his knowledge of his work, for his kindness, and for a gracious manner that he retained all his life. His industry was great, and he had the gift of grasping the points of a case that was always a help to the man who called him in. It was a bad day for Leeds when he left us, and I am glad to remember that I did all I could to prevent his departure. If his career at Leeds was (as it was) a great success, his career at Cambridge may be called a triumph. The medical world began to understand how great a physician he was, and he had a wider field in which to show his various accomplishments and his infinite charm of manner. Now and again in recent years he came down into Yorkshire, and I think each visit he paid only increased the regret we all felt that he ever left Leeds.

Professor W. E. DIXON, F.R.S., who was Sir Clifford Allbutt's assessor in the Chair of Physic at Cambridge, has been good enough to send us the following tribute:

Sir Clifford Allbutt at the time of his death was without doubt the most prominent and courtly figure in British medicine. For a third of a century he had been an outstanding personality in Cambridge and one of the most cultured and learned physicians of the times. He leaves behind him a name which passes to history as representative of all that is noble and great in medicine. His charm of manner, kindness of nature, and graciousness of reception immediately impressed itself on all who came in contact with him.

But apart from this great personality, Sir Clifford was a great man. In his earlier and middle life he had been an active investigator, both experimental and clinical, and in his later years his mature judgement, sense of proportion, and unlimited knowledge of literature enabled him to speak authoritatively on many subjects of medicine, but perhaps especially on cardio-vascular diseases. I remember how Wenckebach delivered before the Royal College of Physicians last May, in which the lecturer said: "Here I knew I would meet the best authority on angina pectoris of this time—your highly honoured, even Right Hon. Nestor of teachers of medicine, my faithful friend in sunny and dark years, Sir Clifford Allbutt." I refer to this only as an example

of the standing and authority in which Sir Clifford was held abroad. Experimental evidence has now placed Sir Clifford's theory of angina on a sure basis, and an ever-increasing number of physicians are adopting his views.

Sir Clifford was an omnivorous reader of medicine and science, and was always ready to discuss or criticize any recent hypothesis or view that had been advanced. As a writer he was facile and graceful; he once told me that in all matters of importance he invariably wrote his manuscript three times. The first time the facts were put down crudely, in the second transcript they were put into good English, and in the third the English was given that graceful style which was so characteristic of the master's hand. He advised his students to get their English from Foster or Darwin; Huxley he regarded as too big for them. The kindness of Sir Clifford's nature was well seen at meetings of his M.D. Degree Committee. On these occasions, whoever the referees for the thesis might be, Sir Clifford himself invariably contributed and read two or more typewritten pages giving his own review of the thesis. In these reports always the good in the thesis was brought to the fore, and he was the most lenient of examiners. Nevertheless, when the thesis had been accepted he ruthlessly informed the successful candidates of their weaknesses, absence of controls, and the like, and if the thesis was really good he would return to the man his own private copy with marginal comments. How he found time to peruse the mass of M.B. and M.D. theses, to take an interest in current subjects of the day, and to read the immense mass of literature—German, English, and French—which he did, was a source of wonder to his juniors.

I often discussed health and longevity with Sir Clifford, and he always insisted that the important factors in good health were moderate exercise, teeth and mouth hygiene (I have even heard him say that all of us at 45 would be better without natural teeth), and nose hygiene.

Sir Clifford was, at all events in the last ten or fifteen years of his life, supersensitive to all kinds of drugs: tea, coffee, and tobacco affected his heart, which even dropped beats if he travelled in a smoking compartment, whilst bouillon at night served to keep him awake. Nevertheless, he was not fastidious, he ate freely of almost everything, though sparingly of meat. Only occasionally did he partake of a little wine, though he was an authority on all that pertained to vintage clarets. A few days before his death he laughingly remarked at dinner that that was always expected from the successful Yorkshire practitioner.

Sir Clifford was the happiest of men; he loved his home, his garden, his work, his University, and his surroundings; exceeding great in his praise of merit in his colleagues and juniors, and tolerant to a fault of their weaknesses. It was the delight of his friends and students to spend Sunday afternoons in his house in the cheery and happy company of himself and Lady Allbutt.

To all who knew him Sir Clifford was not only a great man, but also a great friend, and on Cambridge he has made an abiding impression. Never was honour meted out more worthily than to this, the greatest, humblest, and most beloved physician of our time, whose glory is imperishable.

Dr. H. B. BRACKENBURY, Chairman of the Representative Body of the British Medical Association, writes:

Tributes to Sir Clifford Allbutt's personality and work will come from all branches of the profession. Among these there must certainly be some on behalf of general practitioners and, perhaps especially, of insurance practitioners. Sir Clifford's understanding of the difficulties of these practitioners was remarkable. His appreciation of their opportunities and achievements was always ready. He regarded their work as of the highest importance to the profession and to the public, and was genuinely interested in it. He showed this in many ways. During the four years that he was a member of the Insurance Acts Committee he attended the meetings frequently, and unreservedly placed all his great influence at its disposal. On several occasions during those years, and since, he wrote short memorandums for the Committee and accompanied them on deputations to the Ministry of Health when matters of great moment were under discussion, and as lately as in preparing the case for the Court of Inquiry, early in



# OBITUARY.

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1924, he came readily to the Committee's assistance. His knowledge, foresight, understanding, and help in this sphere, as in others, will long be gratefully remembered. His mere presence, indeed, was always an encouragement, and general practitioners of all classes throughout the empire hold him, and will hold his memory, in the most affectionate regard.

We are indebted to one who knew Allbutt well for the following tribute:

It was delightful to watch Allbutt's keen interest in new projects for the advancement of science in connexion with medicine, but he always maintained, nevertheless, that inspiration for advance in medicine must be derived from observations made upon patients. One of the greatest pleasures of his last few years was the realization of a hope he had long cherished of seeing a school of animal pathology working in the closest relations with a school of human pathology. He was delighted when Professor Buxton was appointed under a grant from the Ministry of Agriculture to develop a school of animal pathology, and still further delighted when the splendid benefaction of the Rockefeller Trustees rendered it possible to erect a new laboratory in which the two branches of pathology could develop side by side. He was a lover of art and music, and fortunately, though he found it difficult to hear conversation in his later years, he retained his power of hearing music, which gave him much delight. I cannot put into words the admiration and love I have, and always shall have, for Allbutt. He was a truly great man, great not only in intellect, but in his heart. He was a severe critic, but I never heard him speak unkindly of anyone.

## THOMAS LOWE BUNTING, M.D.Ed., Physician in Charge X-Ray Department, Sick Children's Hospital, Newcastle-upon-Tyne.

THE announcement of the sudden death of Dr. Bunting, on February 18th, has been received with deep regret by the medical profession of Newcastle and Tyneside. It was known to his intimate friends that his health had recently given cause for anxiety, owing to attacks of precordial pain, which were believed to be anginal. Some months ago he had taken a rest from his professional duties, but he had returned to work and was quietly carrying on when the blow fell. Dr. Bunting was a distinguished graduate of the University of Edinburgh. He was a gold medalist in 1904. The writer of this note had the opportunity of reading the thesis which won this distinction for Dr. Bunting—it dealt with the structure and function of lymphatic glands—and was much impressed by the originality of the views therein expressed, many of which have since been accepted. Dr. Bunting, over thirty years ago, commenced practice in the Scotswood district of the city, where is housed a large proportion of the better paid artisan classes of Newcastle. There he built up a large general medical practice; his services were much appreciated and he was held in high esteem. Eventually he took up the study of radiology and visited various important centres where x-ray work was being carried on, and he had already achieved considerable success in the practice of it when the war broke out; this gave him the opportunity he required. He was appointed radiologist to the Northumberland War Hospital at Gosforth. Those of us who were his colleagues have cause to remember his patience, his urbanity, and the great assistance he rendered to the visiting staff. Nothing seemed to be a trouble to him if he could be of service in clearing up a doubtful point in diagnosis.

Dr. Bunting was keenly interested in the politico-social movements of the times. A man of rather advanced views, he did not hesitate to express his opinions, but he never unpleasantly enforced these, nor did he disagreeably differ from an opponent. It was this circumstance which made him so beloved by all, and caused him to be chosen as the mouthpiece of the medical profession when disputable matters had to be considered by a joint body of the profession and insurance, health, or education authorities. At committee meetings on national

insurance matters there was no one, quite independently of the subject under discussion and the divergent views expressed, who was more carefully listened to than the subject of this memoir. He had a wonderful grasp of the intricacies of the Act, what it could and what it could not do, and as he invariably spoke from conviction the opinions he expressed carried great weight and were received with respect. He was a great believer in and a defender of the panel system.

On February 21st his body was laid to rest in Old Jesmond Cemetery. The members of the medical profession attended in large numbers; the various organizations with which he was connected were well represented, as well as the public generally. The British Medical Association was represented by Dr. R. A. Bolam. Dr. Bunting passed away at the comparatively early age of 57 years, before he had time to enjoy the fruits of the greater success which we all believed was in store for him. He left a widow, one son, and a daughter, who is in the medical profession.

T. O.

## R. G. ROWS, C.B.E., M.D.Lond., Hon. D.Sc.Manch., Pathologist, Prestwich Mental Hospital.

DR. RICHARD GUNDRY Rows, who died at Prestwich on January 28th, was born at Tresprisson, Cornwall, the son of Mr. R. G. Rows, chairman of the Cornwall Education Committee. He was educated at Queen's College, Taunton, and shortly afterwards entered University College, London, to study medicine. He graduated M.B.Lond. in 1891, in which year he also took the diplomas of M.R.C.S., L.R.C.P.Lond., and became M.D. in 1892. After a short period in general practice at Reading Rows found his true walk in life. He took up the study of mental disorders, and commenced his life's work at the City Asylum, Birmingham, and after eighteen months there he entered the asylum service of Lancashire, where he found the opportunity of developing the advanced ideas which laid the foundation of his reputation.

A colleague (D.O.) writes:

Rows from the beginning, and while he was in charge of a generously equipped laboratory at the Mental Hospital, Lancaster, based his original investigations on the sure foundation of neuro-pathology. His histological work, his technique, his accuracy, and his criticism, made his opinion of the pathological anatomy of all that concerned morbid processes affecting the nervous system well worth having. On this experience he passed on to the study of functional nervous disorders at a time when a new school of psychiatry was in process of being founded in this country, and his opportunity of assisting this school came during the war. He immediately volunteered, and under the auspices of the Red Cross Society and the Board of Control, assumed the directorship of the large hospital for shell-shock cases at Maghull, near Liverpool. His task was by no means a light one. He had difficulties to counter. His outlook, however, was broad, scientific, and vastly sympathetic; but, guided by his training, and his reading, and scientific insight, he made Maghull such a success that ultimately it became a training school for those who afterwards filled posts under the Ministry of Pensions for the treatment of functional nervous diseases. In addition to all this, his administrative capacity was of the highest, and those who were associated with him spoke in the warmest terms of what they had learnt from him. While in charge of Maghull he held the rank of colonel, and received the C.B.E. and the honorary D.Sc. degree from Manchester University. When he left Maghull he was appointed to two hospitals under the Ministry of Pensions, in which he utilized his experience and inspired a great deal of remarkably useful work. In the spring of 1924 he returned to the Lancashire asylum service at the Prestwich Mental Hospital, where he reorganized the pathological laboratory and at the same time completed a comprehensive work on epilepsy. This was only just finished when, unfortunately, he died unexpectedly, leaving a new and important research incomplete. Rows was a great personality in psychiatry. He was valued as much as a



pathologist as a clinician. His contributions on the inflammatory infections of the central nervous system are well known throughout the world. He was Morisonian Lecturer at Edinburgh in 1920, choosing as his subject "Functional mental illnesses." It was characteristic of Rows's broadmindedness that he broke away from the stereotyped classification of mental disorder. He was right in refusing to pigeon-hole his cases, and he treated each individual case on its own merits with a due regard to individual reactivity. His constant argument was that environment was of more importance than the vague theories of heredity advanced up to the present, and he had a special faculty of entering into the mental conflicts so commonly found in the neuroses. Apart from being a student, Rows's love of outdoor games, of music, and of general literature made him a delightful companion. He was a worker, but played with equal zest, a sportsman in every sense of the term, and combined his capabilities with a becoming modesty. His death has left a gap in psychiatry which will not be easily filled.

## The Services.

### INDIAN MEDICAL SERVICES.

#### PAY OF OFFICERS IN MILITARY EMPLOY.

The Secretary of State for India announces that he has sanctioned the extension to Indian Medical Service officers in military employ of the concessions regarding overseas pay recently introduced for officers of the Indian Medical Service in civil employ and detailed in Statutory Rules and Orders No. 1,395 of 1924, copies of which are obtainable from His Majesty's Stationery Office. The extension has effect from April 1st, 1924. Officers now in the United Kingdom who have been in receipt of rupee rates of pay for any period after this date, and who accordingly have claims for retrospective adjustment under this concession, should address the Controller of Military Accounts by whom they were last paid in India. Indian Medical Service officers in military employ are not eligible for the passage concessions recently introduced for those in civil employ, but will be included in concessions which are being announced separately for the Indian military services.

#### PASSAGE FOR OFFICERS OF THE INDIAN MILITARY SERVICES.

The Secretary of State for India announces that passage concessions as previously foreshadowed have been sanctioned for officers of the Indian military services. They will apply to any passage beginning on or after February 14th. Detailed rules have yet to be drawn up, but the provisional arrangements, which have been approved, are being communicated by the India Office to all officers concerned who are now under the orders of the India Office.

## Universities and Colleges.

### UNIVERSITY OF OXFORD.

AN examination for the Theodore Williams scholarship, value £100 a year, and tenable for four or five years, will begin on June 9th. Full particulars can be obtained on application, before May 9th, to the Senior Tutor, Pembroke College, Oxford.

### UNIVERSITY OF LONDON.

#### ELECTION TO SENATE.

THERE are two candidates for election to the Senate to represent the Faculty of Medicine: Sir Holburt Waring, M.B., B.S., F.R.C.S., surgeon to St. Bartholomew's Hospital, the sitting member, who was until recently Vice-Chancellor; and Sir G. Lenthal Cheate, K.C.B., F.R.C.S., surgeon to King's College Hospital. Sir Holburt Waring is understood to be in favour of the Haldane report; Sir Lenthal Cheate pledges himself to "oppose the Haldane recommendations root and branch, and to support the authority of the medical faculty on every occasion."

#### ST. THOMAS'S HOSPITAL MEDICAL SCHOOL.

**Puerperal Sepsis.**—A course of four lectures on puerperal sepsis will be given at St. Thomas's Hospital Medical School by Professor B. P. Watson, M.D., F.R.C.S. (Professor of Midwifery and Diseases of Women in the University of Edinburgh), at 5 p.m. on March 2nd, 3rd, 4th, and 5th. At the first lecture the chair will be taken by Dr. H. Russell Andrews, senior obstetric physician to the London Hospital. Admission to these lectures will be free.

#### UNIVERSITY COLLEGE.

**Vital Statistics.**—A course of two lectures on vital statistics will be given at University College by Professor Harald Westergaard (late Professor of Political Economy in the University of Copenhagen) at 5.30 p.m. on March 9th and 11th. The lectures will be delivered in English. Admission will be free.

**Primary Fellowship Examination.**—A special course for the Primary Fellowship of the Royal College of Surgeons of England, in preparation for the June examination, will begin at University College on Monday, March 2nd.

### UNIVERSITY OF BRISTOL.

THE following candidates have been approved at the examination indicated:

**FINAL M.B., Ch.** . . . . . Crellin, \*† Constance I. Hall, \*† A. I. Alford, A. S. K. F. Platt, I. Terrell, Maria M. Tewater. In E. R. Clutterbuck. In Surgery (completing examination): A. H. Marshall, Dixon. In Public Health (completing examination): Elizabeth E. Denoon, (In Group I only (Surgery and Obstetrics): Margaret P. Posthumus, H. J. Entchwell, Kathleen M. Whitmore. In Group II only (Pathology, Medicine, and Public Health): C. F. R. Killick. PART I (including Forensic Medicine and Toxicology): G. W. R. Bishop, J. F. O. Bodman, Muriel E. Drew, F. S. Dymond, G. L. Foneley, F. R. Gedye, A. P. Gorham, Mildred B. Harver, T. P. Lalonde, M. E. J. Packer, C. B. Perry, L. B. Phillips, E. S. Rogers, A. A. B. Vincent. D.P.H.—V. Ryan. In Part II (completing examination): J. Ledingham. In Part I only: Nora A. McD. Rodger, W. W. S. Sharpe. \* With second-class honours. † Distinction in medicine. ‡ Distinction in surgery. § Distinction in obstetrics. ¶ Distinction in pathology.

### ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AN ordinary council meeting was held on February 12th, when the President, Sir John Bland-Sutton, was in the chair.

#### Diplomas.

Diplomas of Membership were granted to 208 candidates. Diplomas in Ophthalmic Medicine and Surgery were granted jointly with the Royal College of Physicians to nine candidates. (The names were printed in the report of the committee of the Royal College of Physicians of London, published in our issue of February 7th, p. 289.)

Diplomas of Fellowship were granted to two candidates (Frederick H. Scotson and Clement Sturton), who, having previously passed the examination, had now attained the age of 25 years.

#### Court of Examiners.

Mr. A. P. Dodds-Parker, surgeon to Radcliffe Infirmary, Oxford, was elected a member of the Court of Examiners in Surgery in the vacancy caused by the retirement of Mr. John Murray.

#### Lecturers.

Mr. James Sberren was appointed Bradshaw Lecturer and Professor Wright was appointed Thomas Vicary Lecturer for the ensuing year. The subject of the Thomas Vicary lecture will be "The mediæval conception of the anatomy and physiology of the central nervous system."

#### Note of Thanks.

The best thanks of the Council were given to Mr. H. R. Hope-Pinker for his gift of a plaster model of his bust of the late Sir George M. Humphry.

#### Council Election.

A meeting of the Fellows will be held at the College on Thursday, July 2nd, at 2.30 p.m., for the election of three Fellows into the Council in the vacancies caused by the retirement in rotation of Mr. V. Warren Low, Mr. James Sherree, and Sir John Lynn-Thomas. Notice of the meeting will be given to the Fellows by advertisement and by circular on March 6th. March 16th will be the last day for the nomination of candidates, and a voting paper will be sent to every Fellow whose address is registered at the College on March 31st.

### SOCIETY OF APOTHECARIES OF LONDON.

THE following candidates have passed in the subjects indicated:

**SURGERY.**—J. H. Clapp, J. L. Hopkins, O. W. Percival, C. C. Po, J. Shutt, R. F. Stubbs, B. Temple-Raston. **MEDICINE.**—K. V. Mead, C. C. Po, P. B. Skeels, B. L. Steele, R. F. Stubbs. **FORENSIC MEDICINE.**—A. Henson, K. V. Mead, T. K. Natesan, R. F. Stubbs. **MIDWIFERY.**—N. E. Challenger, T. K. Natesan, O. W. Percival, C. C. Po, J. Shutt, B. Temple-Raston, I. Waynik, G. H. Weber.

## Medico-Legal.

### ILLEGAL PRACTICE BY A DRUGGIST.

A CASE was recently heard in the Nuneaton County Court, before Judge Staveley Hill, in which the Society of Apothecaries of London were plaintiffs and Mrs. Ashton of the Coton Drug Stores, Nuneaton, was the defendant.

The action was brought under the Apothecaries Act, 1815, to recover a penalty of £20 from the defendant for having acted as an apothecary without qualification. From the evidence it appeared that the defendant had treated a child for a cold who was suffering from small-pox, and that as the result of the failure of the defendant to diagnose the disease correctly other people had been infected. The Judge said that, having carefully considered the authorities, he was of opinion that the defendant had brought herself within the statute, and gave judgement in favour of the plaintiffs for the penalty and costs. A stay of execution was granted for fourteen days.

## Medical News.

THE programme has now been issued for the fifth International Congress of the History of Medicine to be held at Geneva from July 20th to 25th, as announced in our issue of October 11th, 1924. On the first day, after addresses by the president of the congress, the president of the Medical Society of Geneva, and others, M. Eugène Pittard, of the Geneva University, will open a discussion on prehistoric medicine with an illustrated lecture on operations in the Stone Age. In the evening a reception will be held by the president of the congress, Dr. C. G. Cumston. Other subjects to be considered include "Albert von Haller and the *disputationes chirurgicae selectae*," by Sir D'Arcy Power; "Robert Whytt, an eighteenth century neurologist," by Dr. J. D. Comrie; the history of typhoid fever in the child, by Professor P. Gautier; a letter of Tronchin and the Suttouian method of inoculation, by Dr. J. G. de Lint; "Voltaire and medicine," by Dr. J. D. Rolleston; "Goitre and Geneva in the Middle Ages," by Dr. E. Wickersheimer; "Lavater and his successors," by M. Fosseyeux; a note on the history of diagnosis in medicine, by Dr. F. G. Crookshank; a letter of Girolamo Fracastoro on poetry, by Dr. J. W. S. Johnson of Copenhagen; historical researches in the history of anatomy in the Ateneo Romano, by Dr. P. Capparoni; medical literature of the seventeenth century, as exemplified in the Elzevir Press, by Dr. E. B. Krumhaar; hygiene and public health in the early civilizations, by Mr. C. J. S. Thompson; the origin of veterinary art, by Sir Frederick Smith; the history of magic in the cure of disease, by Professor Jeanselme; Martin Luther and his noises in the ear, by Professor G. Bilancioni; a medical congress at Rome in 1681-2, by Dr. C. G. Cumston; and Benjamin Waterhouse, an American pioneer, by Dr. J. W. Courtney. On July 23rd an excursion will be made round the lake, visiting the Château of Chillon and the baths of Evian. The subscription, including the cost of excursions and a dinner on July 24th, is 45 Swiss francs. Further information can be obtained from the general secretary, Dr. A. de Peyer, Rue Général Dufour, Geneva.

THE National Union of Scientific Workers informs us that the decision of the Treasury to provide in the estimates for 1925-6 an increase in the grant to the Royal Society towards the cost of scientific publications from £1,000 to £2,500 was due to its representations. It is not intended that the Royal Society should spend the grant on its own publications, but that it should administer it for the benefit of such societies as the Biochemical, the Chemical, and the Physical. It is hard put to it to find money for reports the results of researches in the union, which was started in 1918 to watch the economic interests of scientific men, has its offices at 25, Victoria Street, S.W.1. Its position with regard to the scientific professions is described as corresponding with that of the British Medical Association towards the medical profession. In its relations with Government departments its claim that scientific men should be placed on the same footing as members of the other professions has been largely successful. A similar campaign is being conducted to convince the large industrialists of the benefits to industry arising from the employment of scientific workers.

THE Fellowship of Medicine announces that Sir Arnhthnot Lane will preside at a discussion on post-graduate teaching in London to be held at No. 1, Wimpole Street, on March 18th, at 6 p.m., and open to all members of the medical profession in London. On March 2nd, at 5.30 p.m., Professor H. Maclean will give a lecture on renal disease, its diagnosis and treatment, at the Royal Society of Medicine. A three weeks' course in medicine, surgery, and gynaecology will begin at the Royal Waterloo Hospital on March 2nd, with special reference to gynaecological diagnosis, hernia, diseases of the stomach, intestines, etc. From March 4th to 28th Dr. Frederic Thomson will give a series of demonstrations on the diagnosis and treatment of the acute infectious diseases at the North-Eastern Fever Hospital on Wednesdays and Saturdays at 11 a.m. The Central London Ophthalmic Hospital has arranged an afternoon course in ophthalmology from March 9th to April 4th; for those desiring operative work a class can be held at the Chelsea Hospital for Diseases of the Eye and at the Brompton Hospital for Diseases of the Chest. There will be a fortnight's course to include artificial pneumothorax, bronchitis, demonstrations of cases, x-ray work, protein tests, and the varying phases of chest affections. The Royal Northern Hospital, in conjunction with the Royal Chest Hospital, will hold an intensive course in medicine, surgery, and the special departments from March 15th to April 4th. Copies of the syllabus of these courses may be obtained from the secretary to the Fellowship, No. 1, Wimpole Street, W.1.

SIR W. I. DE COURCY WHEELER (Dublin) completed on February 19th a course of four advanced lectures in surgery at St. Bartholomew's Hospital. The subject chosen was "Fractures of the pelvis and lower extremity treated by conservative methods." The lectures, delivered under the auspices of the University of London, were illustrated by numerous lantern slides.

At the meeting of the Medical Officers of Schools Association on Friday, March 6th, at 4.30 p.m., at 11, Chandos Street, Cavendish Square, a discussion will be opened by Dr. E. W. Goodall and Dr. G. E. Friend on the differential diagnosis of scarlet fever, rubella, measles, and allied rashes.

A MEETING of the Röntgen Society will be held at the British Institute of Radiology, Welbeck Street, London, W.1, on Tuesday, March 3rd, at 8.15 p.m., when a paper on the photometry of fluorescent screens will be read by Leonard A. Levy, D.Sc., and D. W. West, A.I.C.

A MEETING of the Royal Sanitary Institute will be held at the Town Hall, Halifax, on Friday, March 6th, at 4 p.m., with Professor A. Bostock Hill, M.D., in the chair. Two discussions will take place, one on the working of the Milk and Dairies (Amendment) Act, 1922, which will be opened by Mr. John Pollard, M.R.C.V.S., veterinary inspector, and the other on some food dangers, by Mr. H. T. Lea, M.Sc., borough analyst. On the morning of Saturday, March 7th, visits will be paid to certain manufactories and in the afternoon to the corporation salvage plant for domestic refuse and the Bermerside Open-air School and Home.

On the recommendation of the Society of Medical Officers of Health, the Ministry of Health has nominated Dr. James Fenton, M.O.H. Kensington, and Dr. Alfred Greenwood, M.O.H. Kent, for the interchange of health officers to Yugoslavia during May and June next under the auspices of the Health Section of the League of Nations. For the interchange in Belgium about the same time the Society recommended Dr. R. J. Maule Horne, M.O.H. Poole, who has been duly nominated by the Ministry. On the recommendation of the Chief Medical Officer of the Ministry of Home Affairs of Northern Ireland, the Ministry of Health has nominated Dr. Norman C. Patrick also for the Belgian interchange.

SIR AUCLAND GEDDES, President of the Society for the Prevention of Venereal Disease, will head a joint deputation of the National Council for Combating Venereal Diseases and the Society for the Prevention of Venereal Disease which the Minister of Health has consented to receive on March 3rd. The object of the deputation is to urge the Minister of Health to give effect to the recommendation of Lord Trevethin's Committee "that the law should be altered so as to permit properly qualified chemists to sell *ad hoc* disinfectants provided such disinfectants are sold in a form approved and with instructions for use approved by some competent authority."

A PORTRAIT of Dr. Isabella M. Macdonald, painted by George Harcourt, A.R.A., has been presented by her friends and patients to the Elizabeth Garrett Anderson Hospital as a memorial of her work there for several years as senior physician.

DR. P. MAUCLAIRE, surgeon to the Hôpital de la Pitié, Paris, has been elected a member of the Académie de Médecine and Professor Barthe of Bordeaux a corresponding member.

THE second Franco-Polish Medical Congress, due to the initiative of the Franco-Polish Medical Society of Warsaw and the Franco-Polish Medical Committee of Paris, will be held in Paris, under the presidency of Professor Roger, dean of the medical faculty, next April, and will be followed by visits to Lyons, Vichy, Strasbourg, and Nancy. Further information can be obtained from the general secretary, Dr. Hinfagel, 10, Rue Freycinet, Paris XVI.

THE fifth international congress for the protection of Infancy will be held at Madrid from April 12th to 20th, under the presidency of Professor Martinez Vargas, rector of the University of Barcelona, who is also president of the International Union for the Protection of Infancy. Further information can be obtained from Dr. Bardclae de Pariente, 10, Square Mouëzy, Paris.

THE fifth Salon des Médecins will be held from March 8th to 20th, at 117, Boulevard St. Germain, Paris, for the exhibition of paintings, sculpture, engravings, and sketches by medical men, veterinary surgeons, pharmacists, and members of their families. Further information can be obtained from the Secretary, Dr. Paul Rabier, 84, Rue Leconrbo, Paris XV.

THE fall in the number of medical students in Germany is shown by the following figures given in the *Deutsche medizinische Wochenschrift*. In the winter term 1922-3 there was a total of 13,489 students, of whom 1,736 were women, and 2,204 foreigners, of whom 336 were women; while in the summer term of 1924 there was a total of only 9,316 students, of whom 1,373 were women, and 1,962 foreigners, of whom 280 were women.

THE West African Medical Staff List, revised up to the end of January, 1925, may be obtained from the Crown Agents for the Colonies, 4, Millbank, S.W.1. Three lists are provided, officers being classed in grades, according to colonies, and according to their qualifications and services.

MESSRS. W. HEFFER AND SONS, publishers and booksellers of Cambridge, have issued a catalogue of new and recent scientific books published by them, or of which they have copies for sale. It is arranged under suitable headings, ranging from mathematics and physics to physiology, anatomy, and medicine. It also contains a list of portraits of men of science the firm has for disposal, and a list of complete sets of journals which can be obtained from them. Copies of the catalogue can, we presume, be obtained from them at 4, Petty Cury, Cambridge.

On his retirement from the post of medical officer of health for Hornsey to take up a similar appointment at Plymouth, Dr. A. T. Nankivell has been presented with an inscribed silver cigarette box by the Mothers' and Fathers' Committee of the Hornsey Maternity and Child Welfare Centre.

In consequence of the outbreak of plague in the Sitapur district, the Government of India has instructed the railway authorities to cancel special trains in connexion with the religious fairs at Nunsar and Misrikh.

## Letters, Notes, and Answers.

ORIGINAL ARTICLES AND LETTERS forwarded for publication are understood to be offered to the BRITISH MEDICAL JOURNAL alone unless the contrary be stated. Authors desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Financial Secretary and Business Manager, 429, Strand, W.C.2, on receipt of proof.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—not necessarily for publication.

ALL communications with reference to advertisements as well as orders for copies of the JOURNAL should be addressed to the Financial Secretary and Business Manager, 429, Strand, London, W.C.2. Attention to this request will avoid delay. Communications with references to editorial business should be addressed to the Editor, BRITISH MEDICAL JOURNAL, 429, Strand, W.C.2.

Communications intended for the current issue should be posted so as to arrive by the first post on Monday or at latest be received not later than Tuesday morning.

The telephone number of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is Gerrard 2630 (Internal Exchange). The telegraphic addresses are:

EDITOR OF THE BRITISH MEDICAL JOURNAL, Antiology Westrand, London.

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), Articulate Westrand, London.

MEDICAL SECRETARY, Mediscera Westrand, London.

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 4737 Dublin), and of the Scottish Office, 6, Rutland Square, Edinburgh (telegrams: *Associate, Edinburgh*; telephone: 4361 Central).

## QUERIES AND ANSWERS.

### SNOING.

DR. C. W. M. CAMERON (Grantbam) writes in reply to "Wiltshire": In late adult life the muscles which keep the mouth closed tend to relax in sleep more than they do in earlier life and allow the jaw to drop, with the result that the person breathes mainly through the mouth. This causes the soft palate to sag, which produces the snoring noise. I think if "Wiltshire" were to use an elastic chin-strap at night for his patient he would get a satisfactory result.

### INCOME TAX.

"G. R. H." inquires as to the calculation of the amount of profits made on letting a house furnished.

The following expenses are deductible: rent, rates, repairs, agents' fees, and a reasonable amount for use of furniture, say 5 per cent. per annum on the insured value. If the house is owned by the person letting, then in lieu of rent the amount assessed to income tax, Schedule A, is deductible. In addition to the above, any wages paid for gardener and so on would be deductible. With regard to any articles for daily use specially purchased for the use of the tenants and likely to wear out during the period of letting, we think that the inspector of taxes may object that any such allowance would be covered by the general wear and tear allowance based on the insured value of the contents of the house. It may be worth while to claim the deduction, but whether the claim can be successfully pressed depends on the whole of the facts.

## LETTERS, NOTES, ETC.

### CENTRAL MIDWIVES BOARD.

THE Secretary of the Central Midwives Board for England and Wales writes with reference to the paragraph in our issue of February 14th (p. 329) to say that out of nine bodies which send up representatives to the Board, representatives from only three have been reappointed up to the present.

### PLEASANTRIES AT BATH.

IN view of the Annual Meeting of the Association being held this year in Bath, the following verses, from *Eccentric and Humorous Letters*, an olla podrida concocted in 1824, may interest and perhaps amuse.

At the time that Dr. Cheyne and Dr. Winter were the two principal physicians at Bath, they adopted very opposite modes of practice; but the former gained some credence for his prescription of milk diet by making it the principal article of his own maintenance. On this occasion Winter wrote him the following stanzas:

#### To Dr. Cheyne.

Tell me by whom, fat-liver'd Scot,  
Thou didst thy system learn;  
From Hippocrate thou hast it not,  
Nor Celsus, nor Pitcairn.

'Suppose we own that milk is good,  
And say the same of grass;  
The one for babes and calves as food,  
The other for an ass.

Doctor, no new prescription try;  
A friend's advice forgive:—  
Eat grass, reduce thyself, and die,  
Thy patients then may live.

To this effusion Dr. Cheyne replied as follows:

My system, Doctor, is my own.

No tutor I pretend;

My blunders hurt myself alone,  
But yours your dearest friend.

Were you to milk and straw confined,  
Thrice happy might you be;  
Perhaps you might regain your mind,  
And from your wit get free.

I can't your kind prescription try,  
But heartily forgive;

'Tis not I, but you should bid me die,  
That you yourself may live.

Dr. George Cheyne, the target of Dr. Winter's shafts of wit, was a native of Aberdeenshire, and was born in 1671. He was at first intended for the ministry; his leaving, however, was towards medicine, and he was persuaded to adopt that profession by Dr. Pitcairn, under whom he studied. Having obtained the degree of M.D., he commenced practice in London, though without belonging to the College of Physicians. On coming to London he suddenly changed his former temperate, sedentary habits, and frequented the society of "the younger gentry and free livers," with whom he became extremely popular, for he had a genial temper and a ready wit. This life was greatly to his liking—it was not only pleasant but was of use in bringing him professional business; it, however, aggravated a natural tendency to corpulence, which, with other troubles, caused him much distress. He therefore abandoned his free habits of living and adopted a rigorous moderation, which brought some alleviation but cost him the loss of his pleasant companions and a good deal of his professional work. His health was eventually fully restored after a course of the Bath waters. Some time later he relinquished his abstemious for a "moderate" diet, and his old enemy, corpulence, so gained upon him that he eventually attained the enormous weight of 32 st. and was hardly able to walk. To reduce his weight he adopted for the remainder of his life a milk and vegetable diet; it is to be gathered, too, that he recommended this regimen to his patients, which seems so to have roused Dr. Winter's ire that he penned the gibe printed above.

Dr. Cheyne was a voluminous writer, though few of his works were purely medical. It was one of his earliest works, *Fluxionum Methodus Inversa*, one authority asserts, that procured his admission to the Royal Society.

### CORRECTION.

DR. R. H. COLE asks us to correct two errors which appeared in the summary of his address, delivered before the Kensington Division, on "The present legal disabilities in the early treatment of mental disorders," published last week at page 357. In column 1, line 15 from foot, for "1884-5" read "1844-5." In column 1 of page 358, line 22 from top, for "and rate-supported hospitals" read "but not over rate-supported hospitals." The Board of Control has no power over rate-supported mental hospitals.

### VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals will be found at pages 44, 45, 48, and 49 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 46 and 47.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 53.

## An Address

ON

## ENCEPHALITIS LETHARGICA.

GIVEN TO THE SOUTH MIDLAND BRANCH OF THE BRITISH MEDICAL ASSOCIATION

BY

C. M. HINDS HOWELL, M.D., F.R.C.P.,

ASSISTANT PHYSICIAN, ST. BARTHOLOMEW'S HOSPITAL, LONDON.

In the spring of 1918 a series of cases appeared in this country which presented certain novel features. Professor Arthur Hall and Dr. Wilfred Harris independently drew attention to this occurrence in adults, whilst the late Dr. F. E. Batten published an account, under the title of "Epidemic stupor in children," of a series of cases which had been under his observation at the Hospital for Sick Children, Great Ormond Street, London. The suggestion was made tentatively that the cases might possibly be examples of botulism, with which they had some features in common—namely, ocular palsies, drowsiness, muscular weakness, and sphincter troubles. The food supplies at that time were not of the best, but it soon became obvious that the cases, which were appearing in increasing numbers, had nothing to do with *B. botulinus*, but were evidence of a widespread epidemic. Attention had already been called to its occurrence in 1917 by von Economo in Austria and by Netter in Paris.

Since that date we have had the disease constantly with us. In January, 1919, notification was made compulsory by the Local Government Board. The number of cases notified since then has been: 541 in 1919, 890 in 1920, 1,470 in 1921, 454 in 1922, and 1,123 in 1923. So far as I can judge, the figures for 1924 are likely to be as high as those for 1923, or even higher. It is, of course, probable that all cases of the disease are not notified, as many atypical cases occur in which the diagnosis is likely to be missed.

## ETIOLOGY.

Certain facts have been brought out as the result of notification. The incidence of the disease is highest in the winter months January, February, and March; in this respect it offers a striking contrast with the seasonal incidence of poliomyelitis—a matter of some importance when considering the etiological relationship of these two diseases.

The age incidence is fairly evenly distributed. The disease may occur in babies or septuagenarians. In this respect also it offers a striking contrast with poliomyelitis, as in the latter 80 per cent. of the cases occur under the age of 20. The disease is contagious to only a very slight degree; in my own experience I have not come across more than one case in any one family, nor have I any experience of infection occurring in hospital, either among patients or nurses, in a ward in which cases of encephalitis were being cared for. In this respect the disease resembles poliomyelitis and meningococcal meningitis. But cases are on record of direct spread by contagion, though their numbers are few. In 1919 I had under my care a woman with a typical attack of encephalitis lethargica who was nursing a baby a few weeks old, and who had done so for at least a fortnight. The mother's attack was very severe, but the baby escaped infection. Hall, in his monograph, quotes a similar case in which the child became infected and died, and another which shows perhaps that there is a possibility of infection being carried through the mother's milk. In this case a pregnant woman developed the disease two weeks before her child was born. The child was at birth quite healthy, lively, and active. After being put to the breast it gradually developed torpor and somnolence. It was weaned, and almost immediately recovered and remained well.

The actual infecting organism has not been satisfactorily identified. From von Economo's cases von Weisner recovered a streptococcus growing in pairs, and in one of two monkeys he reproduced certain symptoms of the disease—lethargy, dysphagia, and paralysis—but subsequent investigations have failed to confirm these findings.

In 1919 and 1920 Strauss, Hirschfeld, and Loewe succeeded in reproducing the disease in a monkey (*Macacus rhesus*),

and in rabbits, by using emulsion of brain from cases of encephalitis lethargica. They were also successful with washings from the nasopharynx of living patients. They isolated a virus from this material which proved to be a filter-passer, and also to be capable of preservation in glycerin. In these respects it closely resembles the virus of poliomyelitis.

It is probable that in both these diseases, as also in meningococcal meningitis, the infecting agent gains access to the central nervous system through the nasal mucosa, and that in all of them "carriers" exist. The separation of a virus from cases of herpes labialis, which experimentally reproduces many of the symptoms of encephalitis lethargica, is a matter of great interest, but does not lessen—indeed, it rather increases—the difficulties. This virus also is a filter-passer and can be preserved in glycerin.

Levaditi and his co-workers conclude that encephalitis lethargica is due to a specific virus with the characteristics already referred to, and that it exists in an attenuated form in the saliva of healthy persons, in a more virulent form in the vesicles of herpes labialis, and in its most virulent form in the saliva of carriers, and in the nasopharyngeal mucosa and nervous tissues of persons suffering with encephalitis. These results have not been universally confirmed; Flexner and others having failed to get any positive results with inoculations from cases of encephalitis.

At this point I want to say a few words about the possible relationship of encephalitis lethargica to influenza.

Experience of the last few years has shown that outbreaks of the two diseases are apt to occur simultaneously. Further, a review of past influenza epidemics reveals the fact that cases presenting a clinical picture very similar to that of encephalitis lethargica occurred at these times. It seems clearly established that epidemiologically there is a close connexion between influenza and a group of diseases affecting the nervous system, of which encephalitis lethargica, cerebro-spinal fever, and poliomyelitis are members. The suggestion was made in the early days of the encephalitis epidemic that it might be a cerebral form of influenza. If such were the case we should expect to find cases of encephalitis lethargica and influenza occurring in the same household, as no disease is more highly contagious than the latter. This relationship, however, is far from existing. Moreover, we have seen that encephalitis lethargica appears only exceptionally to be contagious to any marked degree. We must leave it to the future to determine to what extent these diseases are mutually related.

Epidemic hiccup has occurred in various outbreaks since the appearance of encephalitis lethargica, and the question has arisen whether it may not be a manifestation of the latter disease. There is no positive evidence that it is, and some evidence to show that it is not; persistent hiccup is not a common symptom in definite cases of encephalitis lethargica, and cases of hiccup do not as a rule exhibit other symptoms suggestive of encephalitis. Recently, however, I had under my care a medical man with epidemic hiccup, who also had definite evidence of an encephalitis, as the result of which he developed hemianopia. Epidemic hiccup would appear to be more definitely contagious than is encephalitis lethargica.

## SYMPTOMS.

We are dealing with an infection which produces tissue reactions scattered at random throughout the whole nervous system; the main incidence is now in one place, now in another. The clinical picture will be determined by the extent of the damage done to the several parts of the nervous system involved. Meninges, cortex, centrum ovale, basal ganglia, mid-brain, pons, medulla, spinal cord, and even at times peripheral nerves, may each and all of them become involved. It is true that the chief focus of the disease is apt to be in certain localities more than others, the mid-brain and basal ganglia perhaps especially; the result is that what has been described as the oculo-lethargic type recalls the clinical picture that we all should regard as probably most characteristic of the disease. It is indeed a picture which is rarely produced by other conditions, and in its most typical form by none. To multiply types of this disease by naming some dozen or more syndromes by their most striking features serves no useful purpose.

The onset of the disease may be acute and dramatic in the suddenness and severity of the symptoms produced, or it may be very insidious. In my experience the oculo-lethargic group of cases are likely to belong to the latter category. I have seen a number of such cases, referred to me on account of a diplopia of doubtful origin, and complaining of little else. The initial period in these insidious cases may be prolonged, constituting what may be regarded as a prodromal period in which the chief symptoms are lassitude, somnolence, slight headache, depression, and irritability. When the disease enters on a more active stage, and in cases of sudden and acute onset, fever is, I think, always present. Its duration may be a matter of hours, or it may be present for weeks, but the febrile period is as a rule short: I have had two cases under my care in which the patient was febrile for a period of eight weeks. One of these patients recovered. Cases in which the febrile period has lasted for months are on record, but these are fortunately quite exceptional. Although commonly of low grade, high degrees of fever, sometimes even hyperpyrexia, may occur. The latter is usually, but not always, a terminal event. A steadily rising temperature at the end of a prolonged period of pyrexia is an ominous sign. The tongue is heavily furred, often greenish or brownish-white, the breath foul, and the bowels usually severely constipated. Abdominal pain, associated sometimes with vomiting, may occur. I have recently seen a case which was admitted to hospital as appendicitis.

There is nothing remarkable in the condition of the pulse, nor in the lungs, but there may be peculiarities in respiratory rhythm during the active stage of the disease. Polypnoea with periods of apnoea has been observed on several occasions, due almost certainly to disturbance in connexion with the respiratory centre in the medulla. Drowsiness is one of the striking features of the disease, both in its active stage and as a sequel. It is often one of the earliest symptoms.

I saw in May, 1924, a man of 60, who gave the following history. He had started the year with an attack of influenza, which left him with sciatic pain, for which he took salt baths at Southend. In the middle of April he had his usual bath and then sat down on a seat on the parade. Here he found that he had diplopia, felt sleepy, and complained of slight headache. He travelled to London, arriving about 8.15 p.m. On his way home from the station he went to sleep in the road, lying down against a tree. He was awakened by a policeman, who suggested he should go home to bed, and evidently thought that my patient had been drinking. He started for home, but was overcome with sleep a second time. He reached his home about 4 a.m. Normally he should have got there in fifteen minutes from the station.

Another patient—a man of about 40—was playing in a two-day cricket match. On the evening of the first day he noticed that he heated atmosphere and went home to bed. He put this down to the next day with success, and with no visual troubles. He played cricket all ride home on a motor bicycle about 5 p.m. to go perhaps thirty or forty miles. He has no recollection of anything after that till 4 o'clock the next morning, when he found he had been asleep by the side of the road about a mile from home. He was able to waken his chauffeur, who lived close by, and was assisted home by him.

The condition of drowsiness frequently advances to one of seemingly profound lethargy; it is remarkable how a patient in such a condition can be roused to answer a question intelligently, but at once relapses again. The lethargic periods often show remarkable remissions. A boy under my care would be profoundly lethargic during the morning, going to sleep whilst the nurse was endeavouring to give him food, but in the afternoon would become quite wide awake and alert, and demand comic papers.

With this pronounced lethargy the patient may frequently suffer from insomnia. This may simply be inability to sleep at night, but is sometimes accompanied by nocturnal excitement. A girl in St. Bartholomew's Hospital was profoundly lethargic by day, but at night became extremely excited, sang songs at the top of her voice, wanted to jump out of bed, and threw anything left within her reach at any nurse who happened to be near. Mental symptoms are frequently observed: the mildest is a lack of restraint comparable in many respects to the mental condition of one not drunk, but "having drink taken." A young man recently under my care suffering from diplopia, slight fever, and a moderate degree of drowsiness, insisted on explaining at great length how badly he had treated a girl to whom he had been engaged, by breaking off the engagement in a most incon-

siderate manner. In his normal mental condition he is a very reserved personality. Delirium of a "busy" kind is common. I have heard patients carrying on imaginary conversations on the telephone, dictating letters, smoking imaginary cigarettes, and so on. Sometimes, though I think only occasionally, a patient becomes maniacal.

One very striking case of the kind occurred in a patient under my care in 1918. He remained more or less comatose for about six weeks, and then became maniacal. Arrangements had just been completed for his removal to more suitable surroundings when the attack of mania ended as suddenly as it had begun, and he became quite normal, all trace of lethargy passing away at the same time as the mania.

Among symptoms due to lesions in the nervous system ocular phenomena take first place. Any or all of the oculomotor nerves may be involved, the paralysis usually being of the nuclear type with conjugate movements affected. Ptosis is extremely common, and helps to add to the appearance of somnolence which is so characteristic. The pupils show a variety of changes—small, dilated, unequal, the Argyll Robertson type, failure to react to light or accommodation. Much interest attaches to the condition of the optic disc. Papilloedema, which at one time was thought never to occur, is now recognized as being present occasionally; usually it is of low grade with but little swelling; haemorrhages are rarely met with. An intense papilloedema with much swelling and haemorrhage makes the diagnosis of encephalitis lethargica extremely doubtful.

I recently saw a patient who was suffering from intense headache, was drowsy at times, had a nuclear paralysis of the third nerves with loss of upward movement of the eyes. All this was sudden in its onset and the patient was thought to be suffering from encephalitis lethargica. Examination of the disc revealed the presence of an intense papilloedema with haemorrhages. A diagnosis of mid-brain tumour was accordingly made, and verified, unfortunately, at a subsequent autopsy.

Other cranial nerves may be affected, the commonest in my experience being the seventh. I have never seen examples of paralysis of the fifth or twelfth nerve, though it has been observed. The patient may quite early exhibit the Parkinson facies, with characteristic attitude of the arms and hands, rigidity, and, less commonly, tremor. Where these symptoms occur early I have thought the prognosis, even as regards life, to be grave and that the Parkinsonian sequel was assured in the event of the patient surviving. This view may, however, prove quite erroneous.

A girl of 17 was admitted under my care at the National Hospital in the early and acute stage of the disease. She had already developed a very severe degree of the Parkinson syndrome—was quite unintelligible in her speech, saliva dribbling from her mouth, and incontinent. I gave an extremely bad prognosis as regards recovery, and said that if she did recover she would be a hopeless case of paralysis agitans. Both predictions happily were entirely wrong. She made a complete and uneventful recovery, and is at present a member of a theatrical company, and very successful, I understand, as a dancer.

Buzzard and Greenfield first drew attention to the occurrence of hemiplegia as a symptom of encephalitis lethargica, and many such cases have since been observed. There is, of course, nothing characteristic in the hemiplegia itself, and often the diagnosis can only be made by a careful consideration of the circumstances in which the condition developed, and by a reasoned process of exclusion. Katatonia has been present in a large number of cases, and when present may be an important aid to diagnosis. Considerable interest also attaches to a number of other motor disorders of an irritative character. Among them must be mentioned fits, choreic movements (of which many cases appear to have occurred in the recent outbreak), a more pronounced type of involuntary movement designated under the title of choreo-athetoid movements, myoclonus, and muscular spasm. Epileptic attacks may occur as an initial symptom, during the course of the disease, or as an after-effect; they are more likely to occur in those cases in which the cortex is most involved, and in such cases present the common picture of clonic convulsions; but in cases where the mid-brain is chiefly involved "tonic fits" may occur, associated with rigidity and extension of the limbs. Fits, however, are not a common symptom in the disease. Involuntary muscular movements are more frequently met with. Two cases were admitted recently to St. Bartholomew's Hospital as chorea, but in the wards the nature of the cases became clear. Cases of choreo-athetosis are much less common. I have seen only one of the kind; it was



treated in the National Hospital. The movements and gesticulations exhibited were of a particularly striking character, though they did not develop until eighteen months after the initial illness.

Myoclonus occurs in a fair number of cases; the muscular contractions may involve the whole or part only of any particular muscle, sometimes causing movement of a limb and sometimes not. The muscular contractions are usually painless, but severe cramp-like pain may be experienced, and this, I think, more particularly when the abdominal muscles are involved. Muscular spasm sometimes persists for a long period, and I have seen one patient with a residual torticollis, which still persists. Peripheral nerve palsies rarely occur. I have seen two or three such cases in which the external popliteal nerve was affected, with resulting foot-drop; and another remarkable case in a boy of generalized weakness with moderate muscular wasting and absence of reflexes which suggested widespread peripheral neuritis.

Pain, apart from muscular spasm, has been noted in a number of cases. I have already referred to the case of a boy who was admitted to hospital with abdominal pain and vomiting as the result of which he had been diagnosed as a case of appendicitis. In other cases the diagnosis of rheumatic fever has been made. I have seen two such cases recently. It is interesting to note that a similar mistake is sometimes made in connexion with poliomyelitis.

#### SEQUELAE.

I must now briefly refer to the sequelae. With regard to these it may at once be said that the diagnosis of encephalitis lethargica is in many cases more easily made in the presence of its consequences than during the initial attack.

One of the most striking sequels is paralysis agitans. I have referred already to the early appearance of Parkinson symptoms; they may entirely disappear, or pass into a chronic and persisting residual condition. On the other hand, cases in which the patient appears to have made a good recovery may begin many months later to develop the characteristic symptoms of paralysis agitans. Its features resemble very closely those of the ordinary senile type—facial immobility, weakness and rigidity of the limbs, the flexed attitude, the gait, are all present. Tremor is the symptom which is most likely to differ, in that it is not, in my experience, either so common, or when present so constant, as in the senile form. It may have a partial distribution, usually hemiplegic. I have several patients who show this well.

Residual ocular paralysis is common—the degree very variable. When all other movements have returned it is not uncommon to find that convergence is still faulty. Mental changes are also unfortunately very common. The bright child becomes dull, the "easy" child "difficult." Depression, sometimes amounting to melancholia, is not uncommon, and easily to be understood, in the cases with the Parkinson syndrome. More than one of my patients has stated, "I have forgotten how to laugh"; in some all emotional response has disappeared.

Impulsive tendencies are noticeable in a few cases; one of my patients always felt the strongest impulse to get in front of express trains, or if water were rushing under a bridge to jump into it, though she had no wish to commit suicide. She presented Parkinson symptoms, and the rapid movement made an almost irresistible appeal to her. A certain number of cases drift into asylums, but fewer than might be expected. Disorders of sleep may persist long after the acute stage of the disease is over—somnolent by day, the patients may awake to an excited activity at night. I do not know the meaning of this inversion, but its presence I have noted many times.

Involuntary movements, spasms, and ties of various kinds are not uncommon; several cases of the latter I have seen in connexion with the respiratory movements. Residual paralysis in the form of monoplegia or hemiplegia is met with in those cases in which it has been present during the initial stages. It does not tend to develop after apparent recovery in the same way as paralysis agitans commonly does. Seborrhoea of the scalp and forehead, sometimes to a most striking degree, may be noted. Lastly, obesity,

possibly as the result of some disordered function of the pituitary, has occurred in a number of cases.

This list does not pretend to be in any way comprehensive, and I have no doubt that other sequelae have been observed. I have stated here those which in my own experience have proved most likely to occur.

I must not leave this aspect of the disease without making some reference to relapse. This occurs in an acute form in a number of cases. It is uncertain at what period we can regard a patient who has suffered from the disease as free from danger of relapse or the development of the dreaded Parkinson syndrome. I have observed what I thought was relapse in a case of this kind exactly two years after the original attack. The very long interval made me somewhat doubtful of the correctness of the original diagnosis, but reports of similar intervals, though unusual, have been made.

#### PATHOLOGY.

Macroscopically there is very little to see in these cases. Occasionally there are meningeal haemorrhages, usually quite small, but sometimes moderately extensive. The meninges may have a milky appearance if the superficial cellular exudate has been considerable. The brain on section is softer than normal, and numerous punctate haemorrhages are visible. These haemorrhagic points are probably the most constant macroscopic finding.

Microscopically the most striking and obvious appearances are furnished by a perivascular collection of small round cells which fill the Virchow-Robin space and form a cuff to the blood vessels. The cells in this exudate are for the most part lymphocytes, but plasma cells are also to be found. The exudate may be seen in connexion with capillaries, veins, and arterioles. The majority of observers regard this as a cellular exudate, though Buzzard and Greenfield are of the opinion that the cells are entering and not leaving the blood vessels.

There is for the most part no cellular reaction in connexion with the vessel wall, but a remarkable occurrence is calcareous arterial degeneration, which has been frequently observed. This is chiefly to be found in the vessels of the anterior part of the globus pallidus of the lentiform nucleus; it is sometimes accompanied by thrombosis of the affected vessel. It is remarkable how early this calcareous degeneration may occur. Far from being a late change in the neighbourhood of an inflammatory focus, calcification has been noted as early as the seventh day of the disease. Collections of cells are also met with, apart from the vessels, in the tissues. The vascular changes and cellular foci here referred to may occur throughout the whole of the nervous system, not excluding the spinal cord. The pains, myoclonus, and muscular spasms that occur as clinical manifestations of the disease no doubt owe their existence to these scattered lesions.

Changes in the nerve cells are met with, similar in character but much less extensive than are found in poliomyelitis. The changes consist of (1) neuronophagia, in which the nerve cell appears to be undergoing a destructive change as the result of the activities of proliferated neuroglial satellite cells; (2) chromatolysis, with swelling of the nerve cell, eccentricity of its nucleus, and diffuse staining of Nissl granules; (3) neuroglial proliferation. In cases of the Parkinsonian type many observers have described profound degenerative changes in the cells of the substantia nigra in the mid-brain. This has opened up a wide field for further investigation which is likely to throw light on the physiological functions of the cells of the substantia nigra. In addition to these changes, fatty globules, which tend to become agglomerated and to undergo calcareous deposition, have been observed in many cases.

Contrary to what might have been expected, the cerebrospinal fluid usually shows few changes from normal. But changes may be met with in connexion with the cells and the protein and sugar content. Although the count of cells is usually lower than 10 cells per cubic millimetre, there may be a considerable increase—counts of 30 to 80 cells per cubic millimetre are met with occasionally. It is very rare to find more than 100 cells, and if such a number are present it suggests meningitis as opposed to encephalitis lethargica. These cells are almost entirely lymphocytes,

in which respect this disease resembles poliomyelitis, and incidentally tuberculous meningitis—a disease which often causes a good deal of difficulty in diagnosis.

The protein content of the cerebro-spinal fluid rarely shows any marked increase, whilst the reverse is the case in meningitis, but 0.03 per cent. is sometimes met with. The chlorides are not altered—another point which in a doubtful case may prove of use in making a diagnosis of encephalitis as against meningitis. In the latter the chlorides constantly show a small reduction. Any figure below 0.68 per cent. would suggest meningitis very strongly. So, too, with the glucose content. In encephalitis this is unaltered, or even slightly increased, whilst in cases of meningitis, and more particularly tuberculous meningitis, the quantity is substantially diminished or absent. Changes in the blood are not striking—a small leucocytosis with a total count of 10,000 to 12,000 may be expected.

#### DIFFERENTIAL DIAGNOSIS.

Encephalitis may be extremely easy or impossible to diagnose. Often it is much easier to recognize from its sequels than during the initial stages. Whilst it is true that in many cases the disease has escaped recognition, it is no doubt also true that in the interest aroused by the advent of a new disorder—at any rate new within our experience—many cases have been labelled encephalitis lethargica which were nothing of the kind. Of acute infections, those most likely to cause trouble in diagnosis are influenza and tuberculous meningitis. The former suggests encephalitis in those cases in which headache, prostration, drowsiness, and fever are the prominent symptoms, whilst the latter may exactly reproduce the clinical picture of encephalitis.

The absence of such signs as retraction of the abdomen, rigidity of the neck, Kernig's sign, and tache cérébrale should help in the diagnosis, though the intrinsic value of each as a diagnostic sign is slight. A careful comparison of the cerebro-spinal fluid in conjunction with the clinical picture should help materially in the recognition of tuberculous meningitis and make the diagnosis certain if other forms of meningeal inflammation are present.

I have already referred to possible difficulties in connexion with chorea, and to errors which occasionally arise in connexion with abdominal pain and rigidity. Vascular lesions may cause great difficulty, and I think that in connexion with these the diagnosis of encephalitis is more likely to be made in error than the converse. The age of the individual is no help in this connexion, as we have seen that encephalitis has no regard to age. Tumour or abscess of the brain sometimes suggests encephalitis, but the presence of papilloedema of a marked type would be much in favour of tumour, although we have seen that a low-grade papilloedema sometimes occurs in encephalitis. The absence of any probable cause for abscess should help in its exclusion, but the presence of an ear discharge, present or recent, does not exclude the possibility of encephalitis.

#### PROGNOSIS.

Even more difficult than diagnosis is prognosis. Two points have to be considered: will the patient recover, and, if so, will recovery be complete? or will one or other of the sequelae arise? The answer to the first question may remain long in doubt. No definite answer can possibly be given to the second.

Severity of onset does not necessarily imply a fatal issue, nor should too optimistic a view be taken with regard to a case of insidious and apparently mild onset. It would be possible to quote many cases to illustrate the truth of this. Cases with a prolonged febrile period are, I am sure, dangerous. I have referred already to the ominous significance of a slowly rising temperature after a febrile period of two or three weeks. Statistics of the mortality of the disease have varied from 30 to 50 per cent.—figures which are, of course, quite useless in helping to make a prognosis in any individual case.

With regard to sequelae, one can say that of the cases which recover perhaps 50 per cent. will have residual symptoms, from some of which, notably the Parkinson syndrome, they may die. Many of these sequelae no doubt will be slight, and not in themselves disabling. It is important to

remember that a case which has made an apparently perfect recovery may develop some sequel at any time in the next two years. After that period I should say the risk was negligible, and the majority of patients show evidence of incomplete recovery within twelve months.

#### TREATMENT.

There is unfortunately no specific treatment that has proved its value. I am convinced of the importance of recognizing the early ambulatory type of the disease and putting the patient to bed. There treatment on general lines must be carried out in so far as diet and regulation of the bowels are concerned. Most of the patients suffer with obstinate constipation.

A gargle of potassium permanganate may well be used by the patient, if he is in a condition to so do—and by those in contact with him.

With regard to any special therapeutic measures, it is safe to say that none has so far offered convincing evidence of success. Hexamine has had an extended trial, by the mouth, hypodermically, and intravenously, but the results have been disappointing. In some cases serum, either from the patient, or simple horse serum, and in some cases anti-meningococcal serum, has been used apparently with advantage. Repeated lumbar puncture has been recommended, although it is difficult to see on what logical grounds; I have, however, seen an improvement in the depth of the lethargy follow a lumbar puncture. Insomnia, delirium, or excitement can be dealt with on ordinary lines. The residual symptoms or sequelae are extraordinarily resistant to every therapeutic measure.

## THE ANTE-NATAL CLINIC.\*

BY

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I HAVE chosen the subject of the ante-natal centre, not because I am the best fitted to deal with it, but as an act of atonement for a certain lack of faith in the first instance. Those of you who, like myself, have worked for years amongst the very poor know how, with their poverty, goes a certain pride, which resents interference in their affairs. I thought of the difficulties we should have in getting the confidence of these people, and I was unable to anticipate the results that have followed the working out of the scheme. I was reckoning without their enthusiasm and tact that sisters and health visitors have brought to the work, and the enthusiasm again and knowledge that those responsible for the medical side have shown.

I am surprised sometimes at reading the statistical results of fifty years ago, and we occasionally come across to-day despondent remarks as to the progress made in midwifery. These are mainly based on mortality results, and more particularly on those relating to puerperal fever. I have no doubts as to the progress made, having watched the results over a period of forty years. To begin with, figures are not always reliable, and we must remember further that the range of work dealt with to-day is enormously greater than it was at that time, and that mortality results are more accurately stated. When we remember that our armamentarium consisted of a bottle of ergot, often administered too soon, and a Higginson-syringe, which was used indiscriminately for the rectum and the uterus, we may wonder that the results were so good as they were.

But, however we may argue about death rates, who can doubt the enormous improvement that has taken place in the morbidity results? Where are the cases of vesico-vaginal fistula that were a commonplace in the operating theatre of a few years past? Where are the sequelae of severe injuries and sloughing of the vaginal passage, the atresias, the entire loss of the urethra or of the posterior bladder wall? I never see them to-day.

During the last year or two there has been a complete revolution in the hospital practice of midwifery. For many

\* The Purvis Oration, delivered before the West Kent Medico-Chirurgical Society, December 12th, 1924.

years after I started work it was a case of "alarums and excursions," almost invariably at night. Nothing was foreseen. Operations were extemporized in the bedrooms of the poor. I do not know that it was, but it ought to have been, one long nervous strain.

Gradually some improvement came when hospital beds were provided for urgent cases, and we managed to get the more severe cases of pelvic deformity to attend earlier for adequate arrangements to be made. This diminished greatly the number of cases in which the cephalotribe was used. To-day one has peace of mind. Nearly everything is foreseen; very little is left to chance. The extern goes to the patient with a complete history of his case. The cephalotribe and the high forceps will soon, I hope, be a matter of past history.

I will describe shortly the working of the Salomon Infant Welfare Centre at Guy's Hospital, the only one of which I have any knowledge.

In 1918 the hospital received from the executors of the late Mr. Leopold Salomon £10,000 to endow an infant welfare centre, and on receipt of this money a committee, composed of representatives of the governors, the hospital staff, and outside persons interested in infant welfare, was appointed, and as a first step took over three houses adjoining the hospital, and by their conversion provided accommodation for ante-natal and post-natal clinics, and for the residence of a sister superintendent, six health visitors, and a domestic staff. The medical staff consists of the two obstetric assistants who are responsible for the ante-natal clinics, and two medical officers who are responsible for the post-natal treatment of the mothers and for the welfare of the children up to the age of 5 years.

I like to mention the names of the two men who during these six years have organized the ante-natal work, who have made this department the success that it undoubtedly is, and who will no doubt bring before you one day something more solid than the scraps I bring with me. They are Mr. McNair and Mr. Cook, and to them I owe a great deal that this paper contains. The area of the ante-natal clinic is that of the old maternity district, which extends about a mile round the hospital.

The procedure is shortly as follows. Pregnant women living in the maternity district apply to the almoner of the hospital for a card entitling them to attendance by the hospital during their confinement. Their circumstances having been inquired into, and it being found that they are eligible for treatment, they are referred to the ante-natal clinic, where they undergo a thorough examination by the medical officers. Attention here is paid not only to the complications directly due to pregnancy, but also very particularly to such conditions as heart trouble, phthisis, the teeth, and the health generally.

Great stress has been laid upon the teeth, the condition of these in poor people leading to much anaemia and debility. In consequence a special dental clinic has been instituted under the care of a special dental officer, to whom expectant mothers are sent to have their teeth seen to. We are satisfied that an enormous improvement in health has resulted, the patients becoming better nourished and better able to nurse the children. The mothers attend at regular intervals, according to instructions, up to the time of the confinement, the number of these visits depending naturally upon the presence of some abnormality relating to the pregnant condition or to the general health. In 1923, 2,210 mothers attended during the year, with a total number of visits of 6,773. It will be seen that this represents a large out-patient department, and that it throws a lot of work on my junior colleagues. Not only are the cases seen here, but they are referred when necessary to the different departments of the hospital for special opinions and advice, some of them being admitted either to the obstetric or to the medical wards.

I referred at the beginning of this paper to difficulties that I anticipated. But I underrated the importance of the hospital connexion. For a long period the district surrounding the hospital has depended on the maternity charity for its confinements, and in this way has grown up a trust in us that was stronger than I realized. It may be some such faith in us that has led to the centre being known in our district as "Salomou's welcome centre."

A most important factor, again, in bringing expectant mothers to us early in their pregnancy is the fact that they have to apply for a card for their confinements. As I have pointed out, after the card is given they are sent to the ante-natal centre, thus enabling us to examine and keep a watch, during their pregnancy, on all cases that we shall subsequently attend at their confinements. The most important details of these examinations, with any possible difficulties likely to be encountered during labour, are entered on a card, which the student or pupil midwife takes with him or her to the case. It is difficult to exaggerate the importance of this procedure.

Another difficulty I expected was due to competition, mainly that occurring as the result of the Midwives Act. The better class artisan was, I thought, likely to depend on the local midwife. Apart from the long tradition of dependence on the hospital, the poverty of the neighbourhood has helped us, by eliminating largely competition by midwives. Attending the hospital, not only for their confinements but also for all other ailments, the idea of anything like compulsion does not seem to have arisen, and they readily accepted new measures.

Not only has the hospital as a centre helped us in establishing our ante-natal and post-natal clinics, but it affords us another great advantage over clinics not so situated. I refer to the ease with which patients can be sent to the various departments of the hospital for further advice.

As examples of assistance that has been of the greatest use to us I may mention that obtained in the tuberculosis department from Dr. Marshall, and Dr. Hunt's advice with regard to heart cases. I will refer to these again. The facility with which chemical and bacteriological examinations can be made must be mentioned, and also the ease with which any accessory department, such as the dental, can be set up; and last, but not least, the clinic provides invaluable scope for the teaching of students and for research. Whilst the hospital has been of use to the welfare centre, there can be no doubt as to the importance that this centre has been to the obstetric staff of the hospital. The two have helped one another, and through this close association great improvement in the treatment of women during pregnancy and labour has resulted.

Serious operations during the course of and often late in labour, that at one time occurred with comparative frequency, and had to be dealt with as matters of urgency, are now anticipated, and those that are likely to be attended with difficulty are admitted to hospital before labour begins. The importance of this in avoiding any delay in operative procedures is obvious, and not only is unnecessary maternal suffering avoided, but a reduction both of the death rate, and more particularly of ensuing morbidity of mother and child, results. Dr. Eason, the superintendent of Guy's Hospital, in a paper describing the institution and working of the Salomon centre, from which I have most unblushingly stolen what I wanted, concludes with the following paragraph:

"The experience which the hospital authorities have derived from the establishment of the infant welfare centre makes it quite clear that infant welfare centres should, if possible, be closely associated with, or actually established in, hospitals, and that infant welfare centres should in all cases, if possible, include ante-natal clinics, so that the mother and the child can be kept under continuous observation by the same set of medical officers."

In addition to being seen at the infant welfare centre the mothers are visited at their homes by the health visitors, who give them advice as to domestic hygiene and the feeding of the infant. To show the importance of their assistance to the mothers I will only mention the fact that owing to their encouragement 96 per cent. of the women feed their babies at the breast.

It is too early yet to give anything like a statistical history of results, but as seven out of every ten people seen at the centre have been seen before, and as notes relating to them are kept, we should in time have invaluable material.

There are one or two subjects I should like to refer to shortly, and the first of these is heart disease complicating pregnancy. This has interested me considerably during the last two or three years. As showing the importance of the subject, approximately 200 cases have been seen since the opening of the centre. Only a small proportion of these

are serious enough to admit to hospital, the majority going through pregnancy and labour without serious symptoms or risk. It will be interesting to see as time goes on what happens in subsequent labours.

There are a few cases, however, in which the heart is so seriously affected that one anticipates a fatal result, either during labour or shortly afterwards. There is no doubt at all as to the serious effect on the heart of prolonged efforts at expulsion. I used to be asked to see these cases with a view to induction of labour. But I rarely agreed to this. If anything, induction is a more serious trial than labour at term, and I hold the view that those patients who would survive induction would pass equally well through labour at full time, and that those who appeared likely to die in the course of labour were equally likely to die as the result of induction.

I think it was with Dr. French that I first discussed the question of Caesarean section in these cases, over a case of mitral stenosis and auricular fibrillation. From her condition it seemed abundantly clear to both of us that the patient was not likely to survive a labour lasting some hours. I do not think Dr. French imagined that she would stand a Caesarean section, but in any case he thought it would cause less distress. I was more hopeful. I had had some experience in abdominal sections of cases with very bad hearts, and I knew that, provided they were not asphyxiated, they took anaesthetics and stood the operation better than might be anticipated. I found it to be the same in this case. She gave no particular anxiety either during the operation or subsequently, and although when she left the hospital her heart was still very irregular, she was able to walk about without marked dyspnoea. Since then I have performed Caesarean section on a few more cases after consultation with Dr. Hunt.

One case that suffered from paroxysmal tachycardia had severe mitral and aortic disease. Beyond a little bronchitis she did well after the Caesarean section, and suckled the baby. A month later she had an attack of confusional insanity, and ten months later was again admitted to hospital, when she died.

It appeared to me that the very bad cases suffered mainly from mitral stenosis and auricular fibrillation, and, having a talk recently with Dr. Hunt, I asked him what conditions he considered would cause the gravest anxiety as regards labour. He thought that cases with auricular fibrillation, very large heart, and those having very bad exercise tolerance would give the worst prognosis. As regards anaesthetic, C.E. was given with oxygen. The most important thing is to avoid asphyxiation and anything like overstimulation of the heart. I think Dr. Hunt has been as much struck with the results as I have been. The relief to the mothers has been much greater than either of us could have anticipated, and recovery has been speedy. Instead of twenty-four hours, perhaps, of the greatest distress during labour, with death hanging over their heads—and I have little doubt that few of the cases I have operated upon would have survived this ordeal—there has been comparatively little distress for the patients and very little anxiety for those who had to look after them.

Only recently I had a patient sent to me with a history that she had nearly died during her last confinement, that she had adopted precautions against further pregnancy, which, as generally happens in such cases, had failed. She was four to five months pregnant. Dr. Hunt considered that pregnancy should be terminated in the interests of the patient, who was rapidly becoming worse. Induction at this stage of pregnancy is often a tedious business, requiring more than one anaesthetic, and as opening the abdomen allowed me to sterilize her, I did a subtotal hysterectomy. She gave us not a moment's anxiety, which we can usefully compare with her narrow escape at the previous confinement. The results have been such that I shall not hesitate in any future case in which the risks of labour appear to be such that death is likely to result to perform as an alternative Caesarean section.

**Albuminuria.**—Finding albumin in the urine at an early stage in pregnancy, we ought theoretically to avoid the risk of eclampsia. We have not done so. Out of 4,000 cases in the last two years we have had one case. This was a patient who, suffering from chronic nephritis and a high

blood pressure, had in the course of her first pregnancy a stillbirth at seven months.

She was admitted during her second pregnancy at about the twenty-eighth week for albuminuria. This improved so much that she was allowed to go home. She did not carry out the instructions given her, and she came back in a week with eclampsia. The Dublin treatment was employed, but failed to check the fits. Caesarean section was then performed, and the patient recovered. The failure in this case was clearly due to the patient, who, probably tired of the rigid treatment as regards diet endured for some time, allowed herself a little more licence than was good for her. This will probably always prevent us getting those theoretically perfect results I have mentioned above.

The only criticism I would make on the treatment above is this: that I dislike Caesarean section as a late measure when other methods have failed. It has brought it into discredit in the past, and although it succeeded here it generally fails. The vexed question of Caesarean section *versus* the Dublin treatment we still have to leave to the future to decide.

**Phthisis** as a complication of pregnancy presents considerable difficulties. Roughly one can say that whilst some cases became rapidly worse, in others no alteration was perceptible, whilst in a few there seemed to be some improvement even in the general condition.

This vague position has been cleared up for me by Dr. Marshall, and from some notes on the subject he has kindly made for me I select the following. It is in early cases of phthisis that pregnancy produces an exacerbation of the disease. In these early cases the general condition of the patient remains good during the first few months of the pregnancy, and symptoms may even be ameliorated. Deterioration, with pyrexia, wasting, and increased cough, often commences about the seventh month of pregnancy, and there is rapid extension of the disease after childbirth.

A number of cases have been seen during pregnancy who had had pleural effusion or open pulmonary tuberculosis at an earlier date, but in whom the disease had been arrested. With careful supervision most of these patients have gone through their pregnancy and puerperium without any ill effects on the lungs. In a few there has been a lighting up of the old disease, though in most of these cases it has become inactive again under treatment. When the phthisis is of some years' standing and the patient does not show severe toxæmia pregnancy does little harm. There may be a slight increase in pyrexia and sputum at the latter end of pregnancy, but as a rule there is no gross deterioration in the general condition.

It is clear from these remarks of Dr. Marshall's that the cases that call for interference are the early ones, the arrested and chronic cases being allowed to go to full term, rest and extra nourishment being the most important details of treatment. The mother is allowed to nurse her baby if there is no toxæmia. Dr. Marshall holds that the baby is more robust and better able to withstand infection if it is allowed to take its natural food.

For some years past cases have been sent to me from time to time in the early stages of pregnancy, to have this terminated by the induction of miscarriage. It was not long before I discovered that this was a useless procedure. The patients of the hospital class invariably returned, in a few months' time, again pregnant; and even in people of a better class who had been warned of the risks involved, and who had taken measures of precaution against conception, it was by no means uncommon to find that pregnancy had recurred. As a result I refused for a time to entertain any idea of induction.

Another thing I found, which I am glad to see Dr. Marshall agrees with, is that induction either of miscarriage or labour seemed to do as much harm to the pulmonary condition as allowing the pregnancy to go to full term. I am not at all clear as to the reason of this.

As a result of all this I adopted another line of treatment. When it was made clear to me that not only should the existing pregnancy be terminated but that it would be unsafe for the patient to have any children at a future date, I opened the abdomen and emptied the uterus through the abdominal route, sterilizing the patient by removal of the Fallopian tubes. In early cases, in place of this, removal of the uterus by supravaginal hysterectomy can be

considered. Here again, as in heart disease, I was pleased to find that the results were better than anticipated, and attended with less ill effects than appeared to attend induction of miscarriage and labour. Dr. Marshall, who sees these cases over a long period of time, is so satisfied with the results that he states definitely "that the best results are obtained by Caesarean section" (meaning by this the emptying of the uterus by the abdominal route at any time of pregnancy).

I think the number of cases in which an operation is likely to be called for is small, and I still feel that interference in any case should be most carefully considered before it is undertaken.

I have already mentioned that cephalotripsy is becoming an operation of the past. Curiously enough, we have found that when obstructed labour occurs calling for destruction of the infant it is more likely to be found in a multipara than in a primipara. Every now and again a woman of about 40 who has had a series of children born without mishap gets obstruction. This has been explained by saying that the children get progressively larger. I know no very satisfactory evidence of this. It may be due to falling forwards of the sacral promontory owing to increasing weight of body, and possibly to working hard shortly after confinements, when the pelvic joints are still lax. My colleague Mr. McNair suggests that it is due to lack of play in the pelvic joints during labour, the joints becoming ankylosed. We have had one such case recently, in which we performed Caesarean section.

Time does not allow me to go into the question of contracted pelvis. I might, however, conclude with a few remarks on the subject of induction of labour. If one were to classify obstetricians it would be into those who like induction (or say they do) and those who frankly do not. I put myself in the second class.

In theory nothing is simpler. For some reason or another it is decided to induce labour at the thirty-sixth week. When this time arrives a few bougies are introduced into the uterus, and in twenty-four hours labour starts and the child is born without further anxiety. This assumes two things—that we know exactly when the thirty-sixth week has arrived, and that the infant is going to remain the same in size as on the preceding occasion. These assumptions being fallacious, we have to fall back in addition on the rather difficult procedure of estimating the relative sizes of the child's head and the pelvis.

In some cases we find ourselves inducing earlier than we intended, and possibly lose the child from prematurity; in others we have a shrewd suspicion that induction has coincided with labour at term. In one case labour comes off with such ridiculous ease that we wish we had waited for labour at full term; in another we meet with more difficulty than we anticipated, and perhaps lose the child.

Further, instead of labour coming on shortly after the introduction of bougies, it often hangs on for a week or more, to the anxiety of the doctor, the discomfort of the patient, and the mental distress of the relatives, who will not be convinced that everything is right. This operation is, as far as I can gather, an essentially English one, and perhaps the most uncertain and uncomfortable one we possess.

The margin of cases suitable for induction is very small and none too easy to detect. Perhaps its most important indication is in post-maturity. I have always preferred, where possible, to go to full term. It is curious in what a number of cases in which one was tempted to induce labour, the pregnancy is terminated without undue difficulty. In the few remaining one can wait till labour starts, if necessary, and, satisfactory progress not being made, perform Caesarean section; and I do not believe that many of these cases would have proved satisfactory if induction had been performed earlier as an alternative.

As I remarked, I am in a position at the present time to make a few scattered remarks only, and these mainly in reference to recent experience in heart and lung cases. I feel certain, however, that the establishment of these centres has already proved of very great value to us, and that they will enable us in the future to work out the many difficult problems that still confront us in obstetric practice.

## THE THYROID AND MANGANESE TREATMENT IN VARIOUS DISEASES.

(First Report.)

BY

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In the course of work as a general practitioner cases are constantly encountered, due to some toxæmia or chronic infection which one tries in vain to remove. I noticed that many of these chronic cases presented the signs of thyroid inefficiency, and was thus led to study Colonel McCarrison's well known books, *The Thyroid Gland in Health and Disease* and *Studies in Deficiency Diseases*. As the idea of this treatment was evolved entirely from this study, whatever merit may in the future be found to pertain to it will be due to the vast amount of work he has done.

The treatment consists in the administration of rectal injections of a solution of pure potassium permanganate, of various strengths, given at various intervals, according to the severity of the infection or the length of time it has existed. The standard solution used is 1 grain of permanganate to 1½ pints of sterile warm water, and, as evidence is accumulating that the tablets or solids of the manufacturing chemists are more reliable than are the ordinary commercial crystals of the drug, it should be made from these. As the oxidizing power of potassium permanganate is somewhat reduced by boiling water, a pellet of the drug is crushed to powder in an earthenware basin with a teaspoon or some metal crusher; cold water is poured on to it, and hot water is added to the required volume and temperature. There should be no undue delay in using the preparation, as it is believed reduction in its power takes place fairly quickly on exposure. A metal or painted basin should not be used.

An injection is given with the patient lying on his left side, and it must be administered slowly by means of a funnel and tube or Higginson's syringe. It should be given after the bowels have acted; it should not be used to effect the purpose of an ordinary enema, as it is given with the intention of its being retained.

Patients sometimes have to be encouraged during the first few days, but as they soon feel better they are willing to continue. When subjects of stasis are beginning the treatment, a larger volume of the solution is needed during the first few days until the bowels are cleared. Doses of liquid extract of cascara are given two or three times a day to cultivate an action of the bowels every twelve hours. As the neuro-muscular functioning of the bowel improves, it is more readily stimulated, so that smaller doses of the liquid extract are soon found to be sufficient, until, by degrees, none is required. Those who have difficulty at first in retaining even a small quantity of the solution should remain lying down for twenty minutes or half an hour, when the desire to return it will have passed off. Or, by assuming the knee-elbow position, the fluid runs higher up the bowel, and the desire to void it passes away completely in most cases.

The quantity and the strength of the solution to be used in any given case can only be estimated by experience and by studying the individual. For instance, two doses of a quarter of a pint in the day may be found more effective than one dose of half a pint. In every case it is necessary to warn the patients that they may feel some pain in the epigastrium within a few minutes after the injection is given. It does not last long as a rule, and it is not often complained of after the first few days. They should also be warned that, from three days to two weeks after treatment has commenced, they may pass long white skins or strings of mucus in the stools. Unless this warning is given some may be frightened, thinking they are suffering from tapeworms. Complete mucous casts of the bowel from three to fifteen inches in length are sometimes passed. Eumeshed in these casts enteroliths, and perhaps grape skins, etc., may be seen occasionally.

Thyroid extracts in compressed form, as supplied by most manufacturers, are now very reliable, and these are



given in doses according to the degree of inefficiency the individual shows, or to the inefficiency which can be inferred from his family history. The usual well known signs of inefficiency are depended upon, but when in doubt recent photographs are of value in deciding changes in the eyebrow, in the expression of the eyes, or changes in the shape of the neck and configuration generally. In ladies a hint is sometimes given by hearing that, a few months previously, they had suddenly found their gloves too small, and had been forced to wear a larger size. Or they may, on inquiry, be found to be using cold cream or emollient applications to their thickened eyelids. One-grain doses are given twice daily on the average, but doses of half a grain to 5 or 10 grains daily are in some cases desirable, with proportionate doses in children.

In a very small percentage of cases of rheumatoid arthritis some increase in swelling and pain has been noticed for the first few days after commencing treatment. When this happens it should be stopped for some days; and when resumed the injections should be given alone for three or four days before resuming the thyroid extract.

Another method of administering potassium permanganate in an easily absorbable condition is by cachet. From one-eighth to half a grain of the pure powdered drug is enclosed in the smallest sized cachet. One is swallowed with half a pint of hot water on waking in the morning, when the stomach is empty, and four minutes later, when the cachet will have opened, another long drink of hot water is taken. This is by no means so effectual as is the injection method; but where continuous treatment is desired, and on occasions when injections are not practicable—as, for instance, when travelling—this method will make it possible to continue the course. Very seldom is any sickness caused, but some people appear to be unable to include an egg in their breakfast without feeling sick when this oral administration has been ordered. Nor should more than twenty-one cachets be ordered at a time, for some loss of oxidizing power may result by keeping the cachets too long, especially if exposed to damp.

In every case it is advisable to take the blood pressure before starting treatment. Patients with low blood pressure should be carefully watched in case it is further lowered, when sickness and giddiness may result. This, as a rule, quickly subsides if small doses of tincture of digitalis and nux vomica are given two or three times daily. No case has been recorded yet of anyone being so sickly that the treatment could not be resumed after suspending it for a day or two. Self-administration is easy for some, difficult and impossible for others. Men, if only requiring from three to six ounces of the solution occasionally, can give it to themselves in an upright position and retain it with ease; but women and invalids who are anxious to carry out the treatment themselves will succeed better after they have had instruction from a nurse. Throughout the treatment suitable dieting is of consequence, correction being imperative in cases where diets have been obviously faulty in their carbohydrate or vitamin content and balance.

Having found that this treatment yielded results far better than those obtained by other methods I had previously employed, I sought the co-operation of others in testing it. My object was to ascertain, from the experience of as many doctors as possible, in what conditions it did good and in what conditions it did not. Accordingly a circular letter was sent out setting forth the nature of the treatment, the principles which I conceived to be underlying it, the results I had already achieved, and requesting the recipients to use it in cases of toxic origin, and to submit their results, good or bad, to me. This letter was sent to sixty-eight medical men and specialists in various branches of medical practice, of whom thirty-four were kind enough to employ the method and to post the results. To these whose names appear at the foot of this report I am greatly indebted for their willing and active co-operation. The reports showed that a great variety of conditions had been treated by this method. An informal committee was arranged and the reports were submitted to it. In certain types of cases the results were no better than were to be expected from other lines of treatment; in others the cases were too few at present to enable any appreciation of the value of the method to be

arrived at; while in the remainder the results were such as appeared to warrant the submission of this report. The total number of cases treated by myself and the doctors mentioned is 227.

#### RESULTS OF TREATMENT.

Except where the treatment is being carried out for long-existing chronic disorders, signs of improvement will be seen very early in the majority of cases. For instance, in mild cases of gout with depression and irritability, a change will often be seen in from three to six days. There is an early improvement in the patient's expression, complexion, and mental condition. He feels brighter and more hopeful, even in cases where a long course of treatment may be necessary. The complexion is a good guide. It is not uncommon to see pale, gouty, and livery people take on a healthy appearance within ten days. In the list that follows perhaps the cardiac group showed the most dramatically quick improvement. For instance, all the angorinal cases lost their anxious expression within five days. Even in hopelessly crippled cases of rheumatoid arthritis some degree of comfort is often obtained, with some signs of increase in vigour as their sleep becomes less disturbed.

#### Acute Infection Group.

The cases under this head may be classified as follows.

*Pneumococcal Meningitis.*—A boy, aged 31, had a severe attack of pneumonia and developed meningitis, with typical signs and symptoms. The fluid obtained by lumbar puncture was examined bacteriologically and confirmed the diagnosis. Treatment was begun four days after the report was received, and continued for a week without much change in the child's condition or temperature. During the second week the temperature began to run lower and he was taking food more easily; it was still lower in the third week, with increasing strength and less rigidity, less meningeal cry, and more appetite. The temperature became normal in less than four weeks. At the end of the sixth week he was able to feed himself; rigidity was hardly noticeable, and he played with his toys. He left his bed a month later. The strength of the potassium permanganate was doubled at the end of the third week, with apparent benefit; on an average he received two injections of four ounces of this fluid daily, and they were always retained. On several days three injections were given (whenever a rigor occurred), and he took daily doses of thyroid extract equivalent to 1 grain each week.

*Cerebro-spinal Meningitis.*—A girl, aged 11, was admitted to hospital with a temperature of 101° F. She had been ill for over a week with marked rigidity, and was covered with petechial rash. She showed the gravest symptoms. This treatment was used, and her temperature dropped at once to normal. It was continued for the next ten days, and the temperature did not rise again. The rigidity was passing off on the fourth day, and on the seventh she was able to sit up in bed, with only a few marks left on the skin where severe haemorrhages had occurred. She made a complete recovery.

*Acute Bacillus coli Infection.*—A man, aged 60, had a sudden rise of temperature to 103.2° F. Bacteriological examination of the urine twenty-four hours later showed that he was suffering from a severe infection. Two injections were given daily, from time of onset. Slight signs of cystitis disappeared in three days, and the temperature dropped to normal. A specimen examined sixteen days after seizure was sterile. There has been no return of the disorder during the past four months. No thyroid extract was given during the inflammatory attack.

Two cases of chronic *B. coli* infection are reported as follows:

A lady, aged 29, for two years had chronic *B. coli* cystitis, which had not responded to treatment in spite of treatment in bed with alkalis, boric acid, urotropine, and the usual diet. After three weeks' treatment she began to have less discomfort; six weeks later the pathologist's report showed the urine to be sterile, and it has remained sterile for six weeks.

A man, aged 62, had suffered from *B. coli* infection, with chronic cystitis and occasional rigors, for twelve years. All treatments, including vaccines and urinary disinfectants, had proved useless over a long period. He began treatment eight months ago, during a rigor, when his temperature was 103.2° F. The temperature sank below normal in two hours. He has continued treatment for six months, and has had no rigors or cystitis, but finds it necessary to continue the cachet method of treatment daily, together with his thyroid extract; for, if discontinued for a few days, pelvic discomfort returns, with neuritic pains in the legs. His anaemic complexion has become a healthy, ruddy one; his hair has grown considerably, whereas he had been very sparsely covered for some years.

#### Diseases of Joints.

Recent infections of joints are often rapidly controlled, whereas long-standing cases of chronic arthritis with deformity are difficult to influence for the better, if at all. The number of cases treated in this group was 36 (acute rheu-

matoid arthritis 3 cases; chronic rheumatoid arthritis 33 cases).

**Acute Rheumatoid Arthritis.**—Of the three cases in this group all were cured. If the complaint has only been present for two or three weeks two injections daily, for five or six days, will sometimes arrest it; and when continued once a day for the ensuing week, and on alternate days during the third week, the joints may be found quite normal and free from pain. This rule also applies in cases when an acute infection has occurred upon long-standing disease. The increased pain and swelling of the fresh infection will often quickly disappear; and, in some cases, the improvement will be continued to a point of a reduction being made in the original deformity. The following case is recorded as an example.

A woman aged 49. Her trouble began four weeks previously with a rise in temperature to 101.2° F., with diarrhoea, supposed to be due to a chill. No notice was taken of it. Three weeks later the finger-joints, wrists, and knees became much swollen and painful; there was a slight temperature. She had been very anaemic for fifteen years, for which she was frequently treated without success. After eight days' treatment the swelling and pain had gone, and her anaemia had been replaced by a good colour, which she has retained, without any return of the pain or swelling, for the past six months. The treatment was continued in her case for three weeks in succession.

**Chronic Rheumatoid Arthritis.**—Of the 33 cases reported 8 were cured, 14 relieved, and 11 not improved. Some cases of many years' standing can be expected to improve greatly. Much will depend upon the general condition of the patient's health and the degree of deterioration which has occurred, as evidenced by radiograph, and on the degree of ease and rest obtainable by the patient during treatment. Careful nursing homo type of management will give better results than irregular domiciliary treatment. Much, too, will depend upon the individual's temperament. Those who are patient and submit to care, with restricted dieting, will do better than the impatient.

A woman aged 51. Watched for eighteen years, with slowly progressing increased swelling of joints, chiefly affecting the finger-joints and knees. She had difficulty in walking and rising from her chair. She was often treated with courses of thyroid extract without benefit. She paid many visits to spas, and had electrical heat, vaccines, and other treatments. After three months' treatment her hands are much more comfortable, the knees less swollen with freer movement, but bony alteration precludes perfect movement ever being obtainable.

#### Heart Diseases.

Three cases of cardiac failure are reported (the ages ranged between 65 and 73) with advanced anasarca, and described as "in extremis"; they had ceased to react to tincture of digitalis; rapid relief ensued a few hours after the first injection. The dropsy disappeared quickly, and all of them were able to leave their beds after one week's treatment. With the help of small doses of tincture of digitalis and one injection weekly they have been kept comfortable, able to move about their houses, and, in one case, do some light work in the garden for a few hours each day.

**Cardiac Asthma and Dropsy.**—A woman aged 66; a very serious and advanced case. She was striving for breath, and was loaded with dropsy to the extent of hard board-like abdominal walls. There was no valvular lesion; no albumin in urine. The pulse was small and running. She was pale, cyanosed, and looked anxious. Albumin had been present in large quantities, three months previously, when a milder degree of cardiac asthma was noticed and warded off by rest in bed for five weeks. One injection of half a pint of the standard solution was given and retained for ten minutes. It was quickly followed by free diuresis, and the asthma was noticed to be lessening in from three to four hours. A second injection was given twelve hours later. Diuresis continued, and asthma was hardly noticeable at the end of twenty-six hours. Two more injections were given during the next twenty-four hours; then one daily for four days, when no dropsy was visible. She was out of bed and walking in her room on the seventh day. She was given 1 grain of thyroid extract twice daily, and tincture of digitalis, *n.x.*, twice daily. A weekly injection is found necessary to keep her free from dropsy.

**Angina Pectoris.**—Five cases are reported; all of them were cured; four were diagnosed by well known consulting physicians. They were in various stages of the complaint, one having suffered from the disorder for over five years. All obtained relief in less than one week. In two of these cases, where injections had been regularly carried out twice daily, relief from pain and oppression was experienced in

four days. Seldom do they find it necessary to resort to their customary remedies as time goes on.

A woman, aged 52, had suffered from "indigestion" and muscular rheumatism for many years. She spent most of last winter in the South of France, chiefly in a nursing home, lying in bed for many months, and was definitely declared to be suffering from angina. She was brought to this country as a "cot" case. It required very little exertion to bring on the pains, and she was seldom if ever free from the anxiety and feeling of cardiac oppression experienced in this disorder. The feeling of oppression and dread had almost entirely gone after four days' treatment. At the end of three weeks, with two injections daily, she had only experienced one slight attack of pain since it was begun. Her colour began to improve about the tenth day. Nine weeks after beginning treatment she had a very good colour and was able to take longer walks than she had done for some time. As there was a history of myxoedema and other signs of advanced subthyroidism in her family, her dose of thyroid extract was increased to 5 grains after two weeks' treatment. At the end of seven months' treatment she still continues to take the same dose of thyroid extract and an injection every third or fourth day. She has no signs whatever of angina, and is living a healthy out-of-door life.

#### Disorders of Pregnancy.

**Morning Sickness.**—Four cases of this disorder are reported as having done particularly well. One was showing alarming symptoms. She was a primipara, aged 23, whose vomiting had become so severe at the end of the third month that even drinks of water were being returned. After one injection a great improvement was noticed; and after three days' treatment she was able to take ordinary diet. This method is not so successful in cases where the sickness has developed in the later stages of pregnancy.

**Eclampsia.**—One case of this condition is reported as follows:

A woman, aged 26, was found with a white swollen face and distorted eyelids. She was holding her head and complaining of terrible headache. She said her sight was affected and that she was going blind. She was slightly delirious, had not slept for fifty-six hours, and had been perambulating the room for two nights. She had been vomiting frequently for two weeks, and had suffered from occasional nose-bleeding. Her limbs were dropsical, deep pitting being made by pressure over the tibia; she was expecting her confinement in a month. An injection of 2 grains of potassium permanganate in 14 pints of water was given at once. She retained a pint for ten minutes. She left the bed and returned the injection followed by a chamberful of urine. She immediately declared her headache had gone; she said she could see quite well, took a drink of milk, and fell asleep twenty minutes after the injection was given. She was awakened every two hours for a similar injection. Visited seven hours after the first occasion, she was found sitting up in bed, drinking a glass of milk, smiling, and said she felt better than she had done for weeks. There was only slight evidence of puffiness in her face, and no pitting could be obtained over the tibia on pressure. Nine hours later she was confined, without giving any concern to the nurse or trouble to herself. The urine, tested before the injection was given, contained only the slightest trace of albumin; there was none on the following day. She received an injection twice daily for a week, and a daily injection was given for one month. The infant thrived very well.

There are two cases of the pre-eclamptic condition. One is reported in the following words:

A woman aged 30. After her last confinement she had a large haemorrhage which had left her very anaemic, with breathlessness and oedema of ankles and legs, with a large amount of albumin in the urine. She was apparently not treated for the condition, and came with the above symptoms when eight months pregnant. Injections were given, and thyroid extract 5 grains daily. After one week the urine contained only a trace of albumin, and the oedema had gone. The general condition gradually improved. She was delivered at full term of a healthy child, without complications.

The second case is more interesting, as she had suffered from actual eclampsia with convulsions over her confinement four years previously. She was carefully watched throughout her seventh and eighth months. Early in the ninth month she had feelings of dizziness with headache. The urine contained a slight amount of albumin. She was immediately treated with injections of the standard solution, twice daily for three days. She could not retain more than half a pint. The headache, dizziness, and albumin disappeared on the third day. The injections were given once daily for the following ten days, and continued every third day till she was confined. On this occasion she has had an abundant supply of breast milk, and a contented infant whose weight has increased by 1 lb. in his first twelve days of life. Over the previous confinement she had a poor secretion of milk, and, as the child did not thrive, weaning was required at an early date.

#### Disorders of Metabolism.

**Acute Gout.**—The following case, in which the condition had been present for many years, is reported.

A woman, aged 66, had often attended over a period of twenty years for acute attacks of gout, accompanied by gouty patches of eczema, chiefly affecting the shins. Recovery under ordinary treatment was slow, and there were early recurrences. Three days after

treatment was begun the vividness of the blush and area of the eczema were reduced by nearly one-half. The swelling and pain of the ankle-joints had entirely gone by the end of the first week. In less than three weeks a normal condition was restored. She has had no return of the complaint at the end of six months, and she keeps the eczema in abeyance by one or two injections each month. No alteration was made in diet, or other remedy used.

**Diabetes Mellitus.**—Two cases of this disease are reported as follows:

A man, aged 54, had been under treatment and observation for four years when the onset of disease was first noticed. Throughout this time his weight had very slightly varied between 12 st. 10 lb. and 13 st. 3 lb. On May 17th of last year he suddenly became much weaker. He lost 11 lb. in weight during the last three weeks of May, and was confined to bed for about ten days. He looked as if insulin would have to be given at any time, and had heavy acetone odour in his breath, and a constant cough. The treatment was begun on June 1st, and in sixteen days his weight had increased by 10 lb., while still on his usual diabetic diet. His colour and vigour rapidly improved, but there was no alteration in the percentage of glucose. Seven months later he is found ruddy coloured, 15 lb. heavier than he was at the end of May, with still no change in percentage of glucose. This result is the more interesting when it is considered that he took 2 grains of thyroid extract daily for the first two weeks of treatment. Another significant feature about his case was the quick relief he had from a persistent pruritus from which he had suffered for some years before he developed glycosuria.

A woman, aged 63, with 6 per cent glucose, and who has persisted in taking ordinary diet during the last three years, in spite of her disorder, has increased her weight by 4 lb. after seven weeks of the treatment, taken in the cachet form. The percentage of glucose has been reduced by half. No thyroid extract has been given in this case.

#### Disorders of the Digestive System.

**Gastric Ulcer.**—The following two cases of this condition are reported.

One, a man aged 53, who had a very severe haemorrhage in December, 1916, and who had the operation of gastro-enterostomy in the following month, was taken in hand immediately after a severe haemorrhage in August, 1924. He had had a similar recurrence in August, 1922, from the effects of which he took nine weeks to get over. Injections in the latter recurrence were given twice daily, and no other treatment besides careful dieting and a few doses of morphine. He left his bed at the end of a month, looking very much better than he did after the attack in August, 1922. Injections have been continued, once weekly, for the last three months. He is looking stronger, and is weighing heavier than he has done for the past five years. His diet has not been restricted in any way, and he is taking cod-liver oil, with occasional doses of a finely graded powder containing sodium bicarbonate, calcium carbonate, and magnesium carbonate, 20 grains of each, occasionally after meals.

The second case is a young woman who was treated by this method within an hour of her haematemesis. She did exceedingly well; left her bed on the seventeenth day, and has remained well for the last six months.

**Colitis.**—Five cases, all reported cured on an average in three weeks. One of these cases, a woman of middle age, had suffered very severely from the complaint for over two years.

#### Nervous Diseases.

**Infantile Convulsions (Post-convulsive Condition).**—The following case is reported of a male infant who was seen one and a half hours after having had convulsions.

A well developed child, aged 9 months, with no history of illness except slight diarrhoea during the past three days, with restless nights. When seen he was very excited and screaming; there was no rise of temperature. Two ounces of the standard potassium permanganate solution were given and retained. The screams and excitement stopped suddenly in two and a half minutes. His expression altered completely, and he became quite calm, smiled at his mother, his mother's knees his eyelids began drooping and he fell fast asleep within seven minutes from the time the injection was given. He remained asleep for three hours, woke up calm, and after having sent to sleep, remained asleep for eleven hours, and when seen being better than he had been for a week. He was described as 'other remedy has been needed during the two and a half months which have elapsed since this seizure.'

**Chorea.**—A girl, aged 7, was quickly relieved of all symptoms after injections had been continued for from three to five weeks. She was the fourth of her family to be affected with the complaint, and her eldest sister had died of it, owing to cardiac involvement.

**Sciatica.**—Six cases are reported—three cured, two much improved, one slightly improved.

A man, aged 39, with twelve years' history of fibrositis in deltoids, infraspinati, and hamstrings. Relieved temporarily by courses of massage, etc. No evidence of infection in the accessory sinuses or teeth. Slight constipation. Blood pressure 110 mm. of mercury. After three weeks' treatment (during which all other treatments were stopped) the pains improved. After five months' treatment he is now more comfortable than for the past twelve years, although there is occasional discomfort in the hamstrings. (This is a doctor's description of his own case.)

#### Pulmonary Diseases.

**Chronic Bronchitis.**—Eleven cases have been reported, some of them accompanied by bronchitic asthma. All are described as considerably improved. One observer expresses the opinion that the treatment, in some cases, seems to act in preventing catarrhal conditions of the mucous membrane extending. Six of these cases are reported as having had the character of the sputum altered, a purulent appearance having become lessened in each case, though no bacteriological examinations have been carried out. The opinion seems to be that the younger cases obtain very great benefit, and are likely to be cured; the older patients are relieved considerably—they have less cough, less expectoration, and more rest. Their coughs are stronger, they can get rid of the expectoration more freely, and they are noticed, when moving, to be less wheezy. The patients express satisfaction—they feel better and stronger, and do not require so much "cough mixture."

**Asthma.**—Six cases are reported as having been cured, or relieved almost to the extent of cure. In the opinion of two observers the treatment acts as a preventive in the development of the complaint, when used early enough.

#### Skin Diseases.

A case where the condition of the foreskin and glans penis of a man, aged 61, was giving grave concern to those in attendance, on account of its malignant appearance, is reported as follows:

He had been suffering from a chronic balanitis for many years. For fifteen months before this treatment was used several different local applications and tonic remedies had been ordered without effect. The foreskin had become dull red coloured, indurated, and friable, with complete retraction impossible. The glans penis had developed several ulcerated, peduncular excrecences on its surface. By the end of nine weeks' treatment a normal condition was restored. A change began to be seen after two weeks' treatment. The colour and induration began to improve first; two weeks later a more velvety condition of the skin was noticeable, and all signs of discoloration had gone, as also the ulcerations.

**Chronic Seborrhoea.**—Several cases, both of the dry and moist variety, have been reported cured, and others relieved, whilst under treatment for various disorders. This has been accompanied by increase of hair in the baldness of men, and an increase of growth, with a healthier appearance of the hair, in women; this has been seen at various ages up to 70.

**Pemphigus Foliaceus.**—One case, in a woman aged 35. She had taken thyroid extract, and had been in a nursing home for close on four months, many remedies having been tried with little success. In less than a week after commencing thyroid extract accompanied by injections of potassium permanganate she began to improve and made a complete recovery.

**Acne.**—Four cases: three cured, one improved.

**Acne Rosacea.**—A man, aged 38, had suffered from this complaint since the age of 16. All forms of treatment had been used throughout his life. He improved slightly in hot weather, but in winter existed as a severe and disfiguring case. After two months' intermittent treatment there was very slight trouble this winter. (This is a doctor's description of his own case.)

**Varicose Ulcers.**—Three cases are reported, all of which healed rapidly.

One, a large ulcer on the lower third of the leg, which was very septic and odorous, and which had existed for over two years, was clean-looking and odourless in four days. At the end of a week large and vigorous granulations were seen to be springing from the base. At the end of two weeks the ulcer was covered with healthy skin in its whole extent. The granulations began to heap in the centre, and the ulcer was irrigated twice daily by a weak solution of permanganate. Rapid subsidence of the granulation occurred, and a healthy integument.

ment had spread across by the end of the fourth week. No other treatment was used with it except a little boracic ointment and light bandaging.

### Goitre and Myxoedema.

**Myxoedema.**—Three advanced cases of this complaint seem to require less thyroid extract than the average dose which is given to keep such cases in moderate health. What is chiefly noticeable is that they have some colour in place of the usual anaemic appearance presented by those receiving thyroid extract only.

**Parenchymatous Goitre.**—Four cases are reported to have quickly responded to the treatment, two of them without the use of thyroid extract. One is inclined to relapse, unless she keeps up the treatment occasionally.

**Exophthalmic Goitre.**—Three mild cases find themselves very much better, with increased weight, and diminution of symptoms, after a few weeks' to a few months' treatment. Two advanced cases describe themselves as "less nerry," and the swelling of the neck has diminished in size. One case of enlarged thyroid gland is reported as having been on the point of having the operation of thyroidectomy, but shortly after the treatment was used operation became unnecessary. In another very severe case no relief at all was obtained after five weeks' continuous treatment, with injections.

### Diseases of the Breast.

**Chronic Mastitis.**—Three cases are reported. Two had been operated upon during the previous two years. One had a severe recurrence in the affected breast, which disappeared entirely by this method of treatment in eight weeks. The other had both breasts badly affected. In this case complete disappearance resulted after less than seven weeks' treatment. The third case is interesting, inasmuch as, after seven weeks' treatment, a small cyst became easily discernible in place of a thickened tender mass which had existed at the beginning of treatment; but this cyst disappears, and the tender mass returns, on cessation of treatment for six to eight weeks. She also develops a typical chlorotic lemon-coloured complexion whilst the mastitis increases in size, but after seven daily injections her complexion clears and some colour appears in her cheeks. She is also interesting, inasmuch as her defective hearing is almost normal whilst she is taking the treatment, but she loses her hearing very soon after the treatment is stopped.

### Composite Cases.

The following three typical examples, in which more than one pathological condition was present, are reported.

1. A man, aged 44, presented himself last September with a large pustular swelling in the left axilla, which required the usual surgical help. He was noticed to be paler, thinner, and with a more haggard and anxious expression in his face than was justified by knowledge of his circumstances and surroundings. He was also suffering from, and receiving treatment for, pain of pyloric origin after meals, for pruritus and of a persistent nature, for heavy acne of the back extending from the neck to his waist, for which he had received many courses of autogenous vaccines and other remedies, and his scalp was so persistently irritable that shampooing was required weekly. Quick relief was given to the pruritus first; the indigestion disappeared at the end of the third week; threatening pustules in the axillae were found subsiding about the end of the fourth week. His head required less shampooing a few weeks later; his acne is now quiescent. His colour and expression have improved and his weight has increased by 7 lb. Beginning with two injections daily, he finds now that one every third or fourth day keeps him comfortable.

2. A married woman, aged 25, had been anaemic since the age of 16. At 19 the anaemia was more profound, in spite of treatment. From the age of 20 to 25 she had been listless, tired, always suffering from asthmatical bronchitis, and had a woe-begone expression, with black rings under her eyes. She married three years ago and all the symptoms became intensified, to which was added a heavy leucorrhoeal discharge. Suspected to be tuberculous, she was further depressed by the thought she might have to enter a sanatorium. Beginning treatment last August, some colour was visible in her cheeks in nine days; the leucorrhoeal discharge was much lessened in a fortnight; vigour was returning; the cough and expectoration were less noticeable at the end of three weeks. Treatment was continued throughout the autumn, and when seen at the end of December she was hardly recognizable. Her weight had increased from 6 st. to 7 st. 1 lb.; her bronchitis and leucorrhoeal discharge had entirely disappeared; her face was full and round, her complexion better than the

average woman of her age; her hair was healthy and her eyes brilliant. She gave up dancing at the age of 18; this winter she is attending two dances a week.

3. A married woman, aged 24. Similar case to the above, but with the added infirmity of periodic fits of sneezing. Life had been made miserable by fits of thirty or forty sneezes in succession, often interfering with sleep. This had been going on for four years, in spite of the use of the electric cautery, which gave only a few weeks' relief when resorted to. These troubles have been removed, including the fits of sneezing, after three months' treatment.

### A WARNING.

By a method of treatment so easy and so cheap it will be readily understood that temptation exists for patients to pass on their prescriptions to friends. The writer knows of many instances of this, and he knows of many nurses having undertaken the treatment of cases similar to those they have attended under instruction. Irresponsible and ill judged treatment, given in this manner, is certain to lead to disaster at some time, for these two drugs can produce poisonous symptoms, as we all know. Besides which, if secret and uninstructed use is being made of this remedy, we shall be liable to be called to sickly, cyanosed, and collapsed individuals, who never were subjects fit for the treatment from the first. The writer is of opinion that those who prescribe it should order only a few pellets of the drugs at a time; that the prescription should be marked "Not to be repeated"; and that a copy of it should be kept for reference, as a check on the number of pellets used. In all cases it will be advisable to write instructions carefully, explaining how much of the standard  $1\frac{1}{2}$  pints of solution is to be injected on each occasion, and how often in twenty-four hours.

In a very small percentage of cases peculiar little local infections seem to become activated. People who are not in the habit of developing pustules or small boils will occasionally be found with a diminutive boil or two on their scalps, or somewhere on their bodies. These clear up quickly; nor has there been any need to stop the treatment, for wherever they have developed the individual patient has been one who has gained great relief from the treatment eventually. In this connexion it will be remembered that in his book *The Parathyroid Glands in Relation to Disease* Vines states that occasionally, when using parathyroid therapy in chronic infective states, certain septic foci have appeared to be activated which had shown no evidence of existence before the therapy was used, and this is perhaps what happens when the potassium permanganate is used in conjunction with thyroid extract.

In addition to the cases here noted I have received reports on a certain number of others which may be roughly classified as follows: Gynaecological, obesity, chronic gout, acidosis in children, pyloric spasm, chronic alcoholism, high blood pressure, epilepsy, neuritis, migraine (improved), lupus erythematosus, alopecia areata, seborrhoeic eczema, psoriasis, and certain eye diseases. These cases, some of which are as yet incomplete, I hope to report in a later communication.

The following is a list of the doctors from whom I have received reports of the results they have obtained with this method of treatment:

- |  |   |
|--|---|
| Dr. E. H. Crisp, London.                               | Dr. W. A. Newall, Chester.                    |
| Dr. Cyril Dobie, Chester.                              | F. G. Norbury, F.R.F.P.S.,<br>Chester.        |
| Dr. A. G. Duncan, Talke, Stoke-<br>on-Trent.           | Dr. H. J. Norman, Camberwell<br>House Asylum. |
| Dr. W. Edgecombe, Harrogate.                           | Dr. G. Okell, Winsford.                       |
| Dr. W. M. Farr, Ellesmere Port.                        | Dr. H. S. Pemberton, Liverpool.               |
| Dr. H. T. Finlayson, Formby.                           | Dr. Lionel J. Picton, Holmes<br>Chapel.       |
| Dr. W. Hardy Fleetwood, Had-<br>leigh, Suffolk.        | Dr. F. C. Plummer, Liverpool.                 |
| Dr. S. W. Foster, Barrow,<br>Chester.                  | Dr. Mona D. Roberts, Liverpool.               |
| Dr. W. H. Grace, Chester.                              | Dr. J. S. Kellie Smith, Cheltenham.           |
| Dr. J. T. Grierson, Rock Ferry.                        | T. E. Stowell, F.R.C.S., North-<br>wich.      |
| Dr. F. V. Hanratty, Hudders-<br>field.                 | Dr. Carlyle Sutton, Chester.                  |
| Dr. A. R. Jackson, Chester.                            | Dr. George Taylor, Chester.                   |
| Dr. W. M. Kerr, Ellesmere Port.                        | K. V. Trubshaw, F.R.C.S.,<br>Chester.         |
| Dr. F. C. Logan, County Mental<br>Hospital, Prestwich. | Dr. George Wallace, Liverpool.                |
| Dr. R. W. McKenna, Liverpool.                          | Dr. S. Wilkinson, Liverpool.                  |
| Dr. R. MacLelland, Matlock.                            | Dr. Arthur C. Wilson, Formby.                 |
| Dr. J. Graham Martin, Liver-<br>pool.                  | Dr. J. Cowan Wilson, Blantyre.                |
| Dr. T. W. Moreton, Bridlington.                        |   |

## PEPTONE AND SERUM PEPTONE IN ASTHMA.

BY  
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IN this paper I wish to put on record a few points on the peptone treatment, and to add something on serum peptone in asthma.\* A note on the latter was published by me in this JOURNAL on September 27th, 1924.

Peptone acts by changing or desensitizing the interior of the body, so that the disease has little chance of attacking. It is found that some persons are better for this purpose than others in whom the anti-anaphylactic reaction is defective or even wanting. Those who have had much disease, and especially suppurative lesions, are resistant. The peptone (Armour's No. 2†) is given usually intravenously, and slowly, and when the patient is as free from asthma as possible. It has been stated by several observers (who have not used this method) that the intravenous use is dangerous. I may therefore affirm that in the thousands of injections I have made with this peptone there has never been a single case of accident. I must claim it to be absolutely safe, even for the youngest child. In some cases, certainly, the peptone may be given intramuscularly in doses of 7.5 per cent., especially in children and old weakly people. When this does not act satisfactorily, however, the intravenous use of the 5 per cent. solution should be made.

As a general rule, peptone overcomes any tendency to asthma derived from foods and animal epithelial substances, though if the latter be found it ought to be got rid of as far as possible. At the same time, peptone fails to affect the skin reactions. This is in contrast to what occurs after a pyrogenic dose. A young man gave a severe reaction to horse dander. He was treated (not for this) with typhoid vaccine, intravenously, which raised his temperature to 104° F. Next day it had fallen to subnormal, when the skin reaction to horse dander had entirely disappeared. This shows that a great desensitization had taken place, but the skin reaction shortly returned. Again, with small doses of peptone, the endothelial cells of the capillaries are first rendered slightly more permeable, quickly followed by a "blockade" in which the lymph is less and gets less concentrated to 9 per cent. below pre-injection level (Petersen<sup>1</sup>). The pyrogenic reaction, on the other hand, causes large molecular aggregates to pass through for a long time.

The skin reaction to peptone may be useful before beginning treatment, although I have had cases which contradicted it. Intravenously, 5 minims of the 5 per cent. solution is an excellent beginning, continued twice a week by an increase each time of 3 minims, until 26 minims (1.5 c.c.m.) are reached. Continue the last dose for two more doses, which makes the tenth dose. By this time it will be found that there are three classes of cases. In one the patient is quite well, and usually expresses surprise at his condition; in another he is much better, but not yet well; and in a third he is but little better. In the first class it is only necessary to increase the dose by about 4 minims for two more doses, and then giving weekly 25, 15, and 10 minims, when the treatment is finished. In the others, if the patient is standing the peptone well, go on increasing the dose to 2 c.c.m., then 2.5 c.c.m., or in some people even 3 c.c.m.; then reduce weekly by about 10 minims to 33, 23, 13 minims. If, however, during this time the patient has an attack of asthma, reduce the dose considerably, say to 25 minims. Continue about this for two or three weeks, then reduce weekly to 15 and 10 minims. When the patient is weak and has severe attacks, the dose must be kept low. Failure with the peptone treatment is more often due to the practitioner's want of realizing the needs of a case. Each case requires careful watching, and sometimes one finds that thyroid extract (1 grain daily) or iodine (in hyperplasia of thyroid) or ovarian substance (5 grains) at the menopause, are all useful.

Some of these points may be illustrated by a few cases in which it is unnecessary to give the clinical details.

\* This substance has been successfully used in other allergic conditions. † This peptone is used because it contains the correct quantities of proteose, and is free from histamine. Witte's peptone, which contains histamine, should not be given intravenously.

## CASE I.

A lady, aged 53, began to suffer from asthma after influenza four years ago. The attacks were very sudden and severe, and were getting worse. She was sent to me by Dr. Windle of Southall. I gave her peptone up to 26 minims intravenously, and during this time she had no attack of asthma. She then got about 30 minims for a week or two, and it was reduced by 5 minims a week to 10 minims. Part of this time she was laid up with an influenza cold and high temperature. No asthma resulted, and she remains quite well.

## CASE II.

A lady, aged 39, had severe asthma since 1913; an enormous quantity of expectoration accompanied it. She also had hay fever as long as she can remember. She was sent to me by Dr. Hackett-Overy. She had the same treatment as the last case and has never had the slightest asthma since. She had an enlarged thyroid, which was improved by iodine in small doses.

## CASE III.

A man, aged 41, who had had asthma from the age of 5, was sent by Dr. Morley of Mill Hill, who had treated him with some intramuscular injections of peptone some time previously, which had benefited him considerably. His mother had asthma, and he himself has it every night. During the first nine intravenous injections he was quite well and had no nocturnal asthma. Then he took slight asthma, when the dose was reduced. This passed off, and the dose was slightly raised until in about a month he was able to take the usual dose, about 2.5 c.c.m. During this month he was practically quite well and had no asthma. In the following month he got weekly small doses and is now quite well, and feels very fit during the day.

Sometimes the peptone acts very quickly, as in the following case.

## CASE IV.

A lady, aged 51, who had been confined to bed with severe asthma for about three months, whom I was asked to see by Dr. Mould of Oakham, after the first injection or two of peptone entirely lost her asthma and got up. She also had 1 grain of thyroid a day and 5 grains of ovarian substance, as her menses were scanty and irregular. Dr. Mould has written that she "never has an attack of asthma, her chest is quite clear of râles, the pulse rate is normal; walks now three or four miles a day, and is getting stouter."

When bronchitis is present a vaccine may be considered. In this case first give peptone for about two weeks, which will render the patient well able to stand the vaccine, to which asthmatic patients are often very sensitive. This effect of peptone has been clearly demonstrated by Warren Crowe.<sup>2</sup>

Many asthmatic patients vomit when the attacks come on, and this often gives relief. There may be a rash also. These symptoms show the presence of a poison. But we are to a large extent ignorant of the mode in which peptone acts, especially when we consider the rapid cures, lasting a long time, produced by very small doses. The histamine fraction in Witte's peptone I held to be entirely useless,<sup>3</sup> and this has been confirmed by Abel and Geiling,<sup>4</sup> who found that only the alcohol-insoluble portion produced immunity. Evidently the passage of peptone into the blood is all-important. The proteoses do not enter the blood when swallowed. Vivi-diffusion experiments by Abel and others have shown amino-acids and also a non-soluble proteose in the blood, a proteose united with protein. This does not come from the alimentary canal, and when peptone is swallowed, especially when it contains some histamine, the effect is a considerable secretion of gastric juice, which is of importance in dealing with injurious substances.

## SERUM PEPTONE.

In 1922 Dale and Kellaway<sup>5</sup> found that the normal guinea-pig's serum (2 to 5 c.c.m.) could, after about two hours, protect a sensitized guinea-pig from an otherwise fatal dose of antigen. Dale thought this power was due to a detachment of antibodies from the cells into the blood; but some time afterwards Kellaway and Cowell<sup>6</sup> found this was not so, but that an entire disappearance of antibodies occurred from both cells and blood. Working also with Armour's No. 2 peptone, they found that in guinea-pigs sensitized to horse serum the circulating antibodies were reduced to one-third, while the tissue antibodies were unaffected. In the latter case, although the conditions for intoxication appeared to be unique, the animals withstood a dose of antigen two to three times above a lethal one for the sensitized guinea-pig. Now in man we do not get much result from the injection of 2 or 3 c.c.m. of his own serum (a quantity in any case too small), but when his blood is incubated with peptone *in vitro* a change occurs in the serum and the peptone which renders the mixture highly suitable for the treatment of asthma.



When blood is drawn from a patient it becomes altered in quality just before it clots, getting temporarily poisonous. If, to the freshly extracted serum, agar, starch, or peptone be added, and the mixture incubated at 37° C. for an hour or two, the poisonous quality becomes greatly increased and permanent, owing to the production of anaphylatoxin. In making serum peptone it is always the patient's own blood that is used, more especially just previous to an attack. At first I tried adding peptone to the prepared serum and incubating, but I found that mixing the patient's blood with the peptone and incubating at 37° C. was best. The peptone solution (Armour's No. 2) is prepared by making a 10, 15, or 20 per cent. solution in physiological saline (10 c.cm.). The patient's arm is bound above the elbow, and a two-inch serum needle, over the end of which a small (two-inch) piece of rubber tubing is drawn, is inserted into a vein. The peptone tube is held under the tubing, and in about a minute 30 c.cm. of blood will have flowed into it, the tube being shaken gently all the time, then turned and twisted so as to mix the blood and peptone. If the vein is not prominent, or the blood comes only slowly, a 20 c.cm. syringe may have to be used. The tube, well sloped, is then put in the incubator at 37° C. for a few hours, or until the serum peptone has separated out. It is then removed and kept at room temperature until next day, when the serum peptone will appear as a clear solution, which is carefully poured (except the last part) into a bottle. If acid, it is neutralized with soda, and 0.5 per cent. phenol is added. From the 40 c.cm. about 14 to 18 c.cm. serum peptone will be obtained. Both the bottle and tube may be left for another day, if necessary, and pipetted or re-poured out. No measures involving any speed are adopted.

The 10, 15, or 20 per cent. solutions of peptone are made according to the case. In weakly delicate persons, having severe attacks, it is well to begin with the 10 per cent. and increase upwards if necessary. With strong persons the 15 and 20 per cent. solutions are used. Nory and de Kruij state that serum much reduces the potency of peptone, and that the anaphylatoxin makes up for this reduction. Now it must be remembered that a 10 per cent. peptone solution represents 2½ per cent. over the whole mixture and the 20 per cent. represents 5 per cent. But whether the resulting serum peptone contains more or less we cannot tell as they are so combined. It is nevertheless true that 2 or 3 c.cm. of the 20 per cent. mixture does not produce reactions in man as a rule. The dosage is as follows when the patient is as clear of asthma as he can be: 0.5 c.cm., 1 c.cm., 1.5 c.cm., 2 c.cm., 2.5 c.cm., 3 c.cm., given twice a week intravenously. If the higher doses produce any reaction, reduce it slightly. Then give 2.5 or 3 c.cm. for two weeks, and 1.5 c.cm. one week, and 1 c.cm. the next week. The latter doses are given once a week. This is, of course, only a general statement. Great variations may be required.

This solution is used for cases which have not proved satisfactory to peptone alone. Of these I shall give a few.

## CASE V.

A gentleman, aged 35, at the end of the war had been in Durham. He had had asthma since 1903. In 1908 and 1909 he had operations in his nose; these had no effect on the asthma. In Durham his asthma was very bad, and Dr. Thomson treated him with vaccines (autogenous) from the chest and also from the intestines. This gave him relief for two or three weeks. He was going then to England, and Dr. Thomson advised him to see me. I found him a healthy-looking man; he gave some reaction to horsehair and to pollen. I treated him with peptone, which suited him very well, and it kept the asthma away for about six months. Every six months he used to return for some more injections. Last year he got serum peptone—at first six injections, then after a little time he got eight injections. At first the chest was troublesome (for about two weeks), then the asthma entirely disappeared, and he has never felt so well as now.

## CASE VI.

The next case is altogether different. A man, aged 50, suffered very badly from asthma for years. He was very stout; he weighed 14 st., and had been 19 st. He looked healthy, but was very subject to bronchitis. In 1917 he was advised to leave London for Devonshire, where he was better of asthma till August, 1920. Dr. Erskine-Collins of Watchet, Somerset, sent him to me, after failing to do him much good. He remained in London and I gave him eleven intravenous injections of serum peptone, after which he was much better and returned home. He has since written me to say that he is feeling very fit, and except for some morning trouble is practically free of asthma.

## CASE VII.

A little girl, aged 11, was sent to me by Dr. Dunlop of Crouch End. After treatment with peptone her asthma greatly improved, but still she had a little. During the summer it returned somewhat, after the holidays, when she was put on serum peptone. The result was that she lost her asthma and continues well.

There are cases of asthma which prove very stubborn, and of such is the following one:

## CASE VIII.

A lady, aged 53, was sent to me by Dr. Swindells of Grimsby. She had had asthma since 1909. Her father, grandfather, and grandmother all had asthma. She was thin and cachectic-looking, and had some cyanosis of her lips. She breathed asthmatically, and told me she was never really free from asthma. Now, without going into particulars, it may be said that Dr. Swindells tried peptone without avail, and then the serum peptone was used and given by her doctor for over three months, with moderate benefit.

The following may be added:

## CASE IX.

A lady, aged 57, about fourteen years ago had asthma when in Greencock. The asthma was very severe. No effect from injections received at the time, nor afterwards. She was an intense sufferer, and went to live in Leicester in June, 1924. In July she saw Dr. Greer, who sent her to me. I asked him to try her with peptone, which he did, but gave it up as she was no better. She then came back, and I made serum peptone, which was sent on to Dr. Greer with instructions as to its use. Notwithstanding, she had several bad attacks the first two or three weeks. She then returned, and a fresh lot, stronger, was made, which was sent on to Dr. Greer. Then the asthma stopped entirely, and except for about one or two attacks she has been quite free. "She feels much better, sleeps soundly, and has no asthma."

## CASE X.

This is the case of a boy, aged 6½. He was sent on from Sheffield by Dr. Young, with a history of asthma since the age of 9 months. The attacks last three days, and come on about every three weeks. He was a healthy-looking boy. Dr. Young was asked to try peptone, which he did, but the boy took his usual asthma attack just the same. The peptone, however, was only given a month, when he returned here, and I made serum peptone and gave him five injections. During this time he had no asthma. He then went north and took the serum peptone with him, which was given by Dr. Young as prescribed till finished, 1.6 c.cm. being the dosage. The boy has since been quite clear of asthma.

I may now add a case which shows that serum peptone may act quickly:

## CASE XI.

This is a lady, aged 58, who has been subject to asthma for many years. She consulted me about three years ago, and, after peptone treatment, got much better—in fact she remained clear for a long time, except for a little now and then. During the past two or three months she had asthma every night and was obliged to inject adrenaline frequently. I made serum peptone (20 per cent. peptone) and after four intravenous injections by Dr. Gardner of Sutton Valence she entirely lost her asthma.

It has been mentioned that peptone produces anaphylatoxin on incubating it with serum. But it also produces a great deal more, and it is worth considering how far the anaphylatoxin goes in treatment. When anaphylatoxin is injected into a guinea-pig it produces anti-anaphylatoxin, and if the blood of this animal is injected into another guinea-pig the latter becomes immediately resistant to a dose of anaphylatoxin (Dale and Kellaway\*). Now in the human subject an allergy differs greatly from an artificially produced sensitization, and it would seem from the minute doses of peptone often required that something else happens, which we are ignorant of, and which lasts a long time.

In man, the injection of 2 to 3 c.cm. of serum peptone does not as a rule produce reaction. Man resembles the dog in his anaphylactic reactions (Dean\*), and according to Dale† the dog is not affected by a dose of its own anaphylatoxin. But the guinea-pig and other animals readily show effects from anaphylatoxin of man.\* Anaphylatoxin does not appear if the mixture be heated to a point which destroys complement, whence it would seem that complement is necessary, but this has been doubted. The whole subject requires investigation. But the treatment is independent of this.

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## MENTAL SYMPTOMS IN AURICULAR FLUTTER.

BY

W. S. DAWSON, M.D. OXON., M.R.C.P. LOND.

THE following case is of interest from the point of view of the relation between the mental symptoms and the physical state.

A business man of middle age had for years lived a "high-pressure" life, had smoked heavily, and had been a steady drinker. A friend stated that for some weeks he had had occasional "heart" attacks and had complained of giddiness when crossing roads. On one occasion he had collapsed on climbing some stairs and was taken to a hospital, where he was detained for a few hours before being sent home. He had then stayed in bed for three weeks. Two days before he came under observation he had attempted to resume his work, but returned home early and could not say where he had gone or what he had been doing. He appeared not to recognize his friends, and kept anxiously inquiring as to the state of his affairs.

When first seen he walked with difficulty and appeared to be extremely confused, replied to questions in monosyllables and was quite unable to give any account of his symptoms. His pulse was rapid but regular, about 140 a minute, and the cardiac dullness was a little increased. The pupils were not quite equal and reacted a little sluggishly to light, but the consensual reflex and the reaction on convergence were normal. There were no l. bial, lingual, or digital tremors, and the tendon and cutaneous reflexes were normal.

On the following day he was perfectly clear and well orientated and could give a good account of himself except for the period of the five preceding days, which seemed to him to be almost a blank but for a great fear that he was about to die. He stated that he had been subject to fainting attacks for about a year, and that he had been ordered to lead a quiet abstemious life and to restrict his diet. He had lost weight in consequence and had felt much better in health, while the fainting attacks had become less frequent and less severe. Latterly, however, he had felt faint even when confined to bed. Tincture of digitalis was now prescribed, but appeared to have little effect, as the pulse rate continued to vary between 130 and 160. He remained clear in mind, but was often anxious and worried and had bad dreams at night.

I am indebted to Dr. C. F. T. East for the reports on the electro-cardiograms. The first report was as follows:

"The case is one of auricular flutter. The auricular rate is 360 and the ventricular 180 a minute. There is therefore 2:1 heart block. There is preponderating hypertrophy of the left ventricle."

The patient was now given Nativelle's digitalin subcutaneously in doses of 1/600 grain thrice daily. He improved considerably and became much less restless, but continued to feel faint at times. The pulse rate was still high and became irregular. The report on the electro-cardiogram was:

"The rhythm is now irregular and the intervals between the ventricular complexes are quite dissimilar. There is variation in the ventricular complexes. The regular sequence of P waves is not seen in this graph as was the case before. Instead there are a number of coarse deflections occurring irregularly. In some cases there is still somewhat of a resemblance to flutter in the P waves. The condition is now one of coarse fibrillation of the auricles somewhat transitional in type between true flutter and complete fibrillation. Preponderating hypertrophy of the left ventricle is well marked. This change may be the result of digitalis medication."

The injections of digitalin were now omitted and the pulse fell from 120 to 72. The next electro-cardiogram showed

"regular rate of about 72 a minute with very slight sinus arrhythmia. There is no delay in the conduction of impulses. Normal rhythm has now been restored and the impulse arises normally and pursues a normal course. The only abnormal feature is the preponderating hypertrophy of the left ventricle."

The patient appeared to be restored to complete health.

The pupils reacted normally in all respects, and mentally he was alert and clear and had lost his feelings of anxiety. There was a history of syphilis thirty years ago and his blood was found to give a +40 Wassermann reaction. It was not anticipated, however, that the cerebro-spinal fluid would show a similar reaction with a large excess of cells and protein. The patient was given a course of 16 grams of tryparsamide, but the blood remained +40 while the cerebro-spinal fluid was +20 with 15 cells per cubic millimetre, 50 mg. of protein per cent., and a paretic Lange reaction of 5555543210. The patient has been at work for several months, and when seen recently did not show any physical signs beyond slight enlargement of the left ventricle.

Although dizziness and complete loss of consciousness are not uncommon features in auricular flutter, mental confusion of several days' duration is unusual. The mental picture of this case was extremely suggestive of general paralysis, except that the symptoms disappeared as the condition of the heart improved. Visceral hallucinations such as have been described by Head were absent.

Intensive treatment with digitalin caused the vicious circle to be broken and converted the flutter into fibrillation, which in turn was followed by a normal rhythm when the drug was discontinued.

## PANNICULITIS: ITS SIGNS AND TREATMENT.

BY

WILLIAM BAIN, M.D., F.R.C.P.

HARROGATE.

PANNICULITIS can be correctly defined as a chronic interstitial inflammation of the fibrous tissue, the peripheral nerves, and blood vessels in the panniculus adiposus. Stockman<sup>1</sup> prefers the somewhat lengthy term "chronic subcutaneous fibrosis," but Professor Salin<sup>2</sup> had previously denominated the affection panniculitis, and most probably this concise term will be permanently adopted. The condition is quite common, and is not infrequently associated with fibrosis; indeed, it may be regarded as a superficial form of fibrositis, although it can be easily distinguished from the latter affection.

Unquestionably infection plays a part in the causation of some cases. There is generally a history of gastro-intestinal disturbance for months or years, which I regard as the predisposing cause in the majority of cases, and the exciting cause is usually a series of slight chills—not severe enough to confine the patient to bed. Although this affection occurs frequently in patients with neurotic symptoms, the question arises whether the panniculitis is not the cause of the neurosis. In a certain number of cases there are no symptoms referable to the nervous system. This fact must be emphasized, because the opinion is held that panniculitis is always associated with symptoms of neurosis.

There is a good deal of confusion regarding the signs of this affection. The description of the physical signs given by some writers is misleading. For example, one observer<sup>3</sup> describes hard nodular masses varying in size from a bean to a walnut; another<sup>4</sup> mentions that nodules were found running down among the branches of the brachial plexus; and a third<sup>5</sup> states that patchy areas of panniculitis give rise to thickening, and even tumours of a fibre-fatty nature. A nodule means a knot, knob, or lump. If this be the accepted meaning of the term, I have not met with a nodule in any case of uncomplicated panniculitis, and I have seen 85 cases during the last two years. Although it probably consists of pannicular deposits among the masses of subcutaneous fat, I exclude Dercum's disease from consideration, chiefly because it is not common, and the treatment of adiposis dolorosa is somewhat different from that of simple panniculitis.

Panniculitis occurs in small circumscribed patches, from about one to two inches in diameter. The seats of election are the supramammary regions in the female, the upper intercostal muscles (the left side being most frequently

affected, and, if both sides are attacked, the left is generally the worse), the costal margins, the abdomen, and over the fascia lata. Very occasionally patches may be found in other localities, but, apart from the fascia lata, as a rule they are confined to the trunk. Stockman's description of the microscopical appearance is as follows:

"The fibrous tissue is found to be thicker and denser than normal with numerous fibroblasts; the small nerve twigs running through it are in a condition of interstitial inflammation, and the small blood vessels show periarteritis and endoarteritis."

These observations upon the morbid histology of a patch established panniculitis as a distinct entity and explain the character of the physical signs. There is not much to be felt. The sensitive areas are generally smooth; when they are uneven they give the impression of a conglomeration of small shot-like particles. If pressure is applied perpendicularly to the surface the tenderness is slight, but if applied from the circumference of the patch it is most marked. A patch is evidently an aggregation of smaller ones. When the patch is disappearing under massage it splits up into its component parts. The contour of these can be made out, and before they finally disappear they feel like small pin-heads. On picking up the skin and subcutaneous tissue over a patch between the fingers, it feels firmer and less elastic than normal tissues. If the sensitive area is compared with a healthy portion, the practitioner will soon acquire the tactile discrimination necessary to diagnose this affection.

The implication of the nerves produces the symptoms, which are aching pain in the affected part, tingling, stiffness after exertion, numbness, muscular lassitude, and often a distinct loss of energy. Sometimes in early cases the patient is not conscious of any discomfort until the patch (or patches) is manipulated during an examination. The characteristic sign is the exquisite tenderness on picking up the sensitive part between the fingers.

Errors of diagnosis are not uncommon: for example, a case of left intercostal panniculitis was mistaken for angina; a patch over the right costal margin for cholecystitis, and another over McBurney's point for appendicitis. It is comparatively easy to distinguish between a hyperaesthetic skin area and a patch of panniculitis. In the former a slight stroking of the skin produces tenderness; whereas in the latter lateral pressure causes more or less severe pain.

#### TREATMENT.

The first essential is to improve the digestion. Over-eating or dietetic errors are usually the cause of alimentary irregularity. Secondly, to impress upon the patient the advisability of guarding against chill. If there is any septic focus it should be immediately dealt with. The fundamental principle of removing the cause, if possible, applies with special force to panniculitis. If the pain is severe, or interferes with sleep, a cachet consisting of magist, pyramidon, and caffeine citrate may be given occasionally; otherwise drug treatment, apart from a digestive aid, is of doubtful value. The best treatment for this affection is skilled massage, given preferably by one who has obtained the Swedish diploma. I generally begin treatment with mild electric massage (d'Arsonval) and then go on to dry massage. In very sensitive ladies the masseuse uses a cream consisting of menthol, methyl salicyl, and cremer rosae. It takes a few weeks before the patches completely disappear. About once or twice a week it is sometimes advisable to substitute for dry massage a massage douche to improve the general health. Dry massage may become somewhat irksome, and a douche is always pleasurable. The vacuum tube (d'Arsonval) has a soothing effect upon the tender area, but the remedy to promote absorption of the effused inflammatory products is massage skilfully given—at first tentatively, and as the tenderness diminishes more vigorously.

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## CONGENITAL MEGACOLON WITH ABSENCE OF VAGINA.

BY

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EXTREME constipation and distension of the abdomen present at birth as in the following case without organic obstruction, but with hypertrophied, dilated, and elongated sigmoid colon, are typical of the condition first adequately described by Hirschsprung.

M., a girl now aged 18, the second of eight children, was the only one born with abnormalities. The mother ascribes the daughter's defects to conception having occurred at a time of great distress caused by her first daughter's death from meningitis.

M. suffered from extreme constipation from birth—the midwife had to use aperients and enemata to get away the first motion, which was sepyulous, and a doctor had to be consulted. The abdomen became greatly distended. When 5 years old colostomy—in the mid-line below the umbilicus—was performed by another surgeon, and then, for six years, injections had to be used three or four times a week and the bowels were only opened naturally per anum about once in three months. The mother says she could not afford a colostomy apparatus and by the time her daughter was 11 years old begged for something to be done.

On August 10th, 1917, I excised the faecal fistula with an enormously hypertrophied and dilated sigmoid colon. End-to-end anastomosis was done, and a tube passed through the anastomosis and stitched to the anus (Lane's technique). The large bowel not removed seemed almost normal in size but to have thick walls. Since then the bowels have acted naturally; the abdomen is not distended; there is no incisional hernia. The girl earns her living as a shop assistant.

Since she reached the age of 16 there have been mild attacks of abdominal discomfort, sometimes with vomiting, about every three weeks, but as menstruation did not appear she again came under my charge. No trace of vagina or of uterus could be found, even after deep incision into the perineum. The urethra is normal; the rectum roomy and unobstructed, and the secondary sexual characters, though backward, are definitely feminine. If she insists on getting married at some future date it is proposed to fashion from a segment of the ileum a substitute for the missing vagina (Baldwin's operation).

In the textbooks cases like this are not sufficiently separated from those with organic obstruction—for example, of 100 cases collected by Mummery organic obstruction was found in 23. The same authority says: "Curiously enough associated congenital abnormalities are apparently not common." Of his 100 mixed cases, only 15 presented some other congenital abnormality—in 10 abnormality of the anus; in 2 stricture of the colon; in 2 deaf-mutism; in 1 imbecility. Such abnormalities are nothing like so striking as those here recorded.

In another condition where hypertrophy of muscle is present at birth—congenital hypertrophic pyloric stenosis—there is also but rarely found an association with other congenital abnormalities (for example, club-foot). These two conditions—apparently closely comparable—were both first properly described by Hirschsprung. It seems idle to guess why, how, or when such defects arise. At any rate, we can summarily dismiss many of the hypotheses put forward to explain congenital megacolon, because they fail to take into account such facts as the absence of organic obstruction, the presence sometimes at birth of distension of the abdomen, as well as hypertrophy and dilatation of the colon, and the not rare extension of the dilatation right down to the anal canal, and because they do not throw the origin back far enough.

Probably at the present time the help of the sympathetic nervous system would be invoked: a "sympathetic block" might account for achalasia or for a zone of reversed peristalsis or of want of peristalsis, but it is very doubtful whether any neuro-muscular defect could produce hypertrophy even if it caused spasm. We can produce deformed starfish at will by shaking, needling, or otherwise interfering with the segmenting ovum. So in attempting to explain congenital deformities in the human species we can go right back to the egg stage—some "impression" on the ovum might result in an abnormal trophic control (nervous or chemical), with the result of overformation of muscle. At any rate, in the present case the mother was on safer ground than is usual in placing her "maternal impression" at the time of conception.

Even as regards the treatment of megacolon, there is much difference of opinion. In the case here related treatment was of necessity surgical: colectomy was demanded, and the result surpassed expectation.

Colostomy may be done as a first stage, but should, if possible, be followed by excision of the artificial anus with colectomy and anastomosis. Mummery advises the lumbar route for colostomy, saying that inguinal colostomy is very dangerous, as the heavy bowel tends to tear away, that a spur cannot be formed, and the obstruction is often not relieved, and that he has only found two cases in which any real benefit resulted.

Colectomy, no doubt, is a very formidable undertaking in a toxic, undernourished patient, especially in the presence of a faecal fistula; but most people would prefer to take the risk to passing adolescence and maturity in the alternative condition.

## TREATMENT OF GENERAL PARALYSIS BY MALARIA.

BY

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DURING the past two years (from November, 1922, to November, 1924) 608 acute male cases have been admitted to this hospital. Most of the patients giving a history of syphilis, or showing signs and symptoms, definite or suggestive of a late specific infection, have been subjected to the diagnostic biochemical tests. The Wassermann and Sachs-Georgi tests have been applied to the blood and cerebro-spinal fluid, and the colloidal gold test to the latter. Of the two years' admissions, 89 (14.6 per cent.) have been diagnosed as suffering from general paralysis. This percentage may later prove to be greater, as many patients recently admitted have not yet been subjected to the various tests.

The youngest patient (acquired infection) was aged 27, the oldest 61. The duration of the attack before admission, as shown by change of conduct, varied from seven days to five years. As a cause of death general paralysis accounted for 44 out of 95 deaths in the two years—that is, 46.3 per cent., a remarkably high figure.

In November, 1923, the malarial treatment of general paralysis was commenced. Professor W. Yorke of the Liverpool School of Tropical Medicine kindly provided the mosquitos (*Anopheles maculipennis*) infected with an Indian strain of *Plasmodium vivax*. During the year 53 cases were treated. The infection was conveyed by the mosquito in 23 cases; by inoculation in 30 (intravenous 16, intramuscular 13, subcutaneous 1). The incubation period, measured by the appearance of parasites in the peripheral blood and the occurrence of fever, varied according to the mode of infection, thus:

	Average.	Shortest.	Longest.
Mosquito ... ..	14 days	7 days	20 days
Intravenous ... ..	7 "	4 "	19 "
Intramuscular ... ..	16 "	10 "	23 "
Subcutaneous ... ..	20 "	—	—

In two cases the incubation period following intravenous inoculation was four days.

(a) April 14th, 1924: Inoculation of 2 c.cm. of blood from donor during apyrexial period after six double tertian rigors. Pyrexia of 102° F. on afternoon of 17th; blood positive on April 18th.

(b) May 28th, 1924: Inoculation of 2 c.cm. of blood from donor after three single tertian rigors. Pyrexia of 101° F. on night of May 31st; blood positive on June 1st.

The infected patients were allowed to have rigors; ten was the number aimed at, but in thirty instances, owing to the poor general state of the patient, the malaria was cut short with quinine sulphate somewhat sooner. Thirty grains daily for three days were always given. Seven rigors was an average number. Spontaneous cure with disappear-

ance of the parasites occurred in 8 of the remaining 23 cases (34.7 per cent.) after three to nine rigors. This percentage would probably have been greater had the malaria been allowed to run a longer course in some of the other cases.

It is generally considered that large doses of the arsenical compounds are contraindicated in cerebro-spinal syphilis. Doses of 0.15 to 0.3 gram novarsenobillon were given at first; this dosage was increased, and finally 0.9 gram was given intravenously at the height of the pyrexia. Seven cases were treated with this maximum dose and no ill effects were observed. The parasites became scanty within two days, but quinine in the usual dosage was finally given to clear the blood.

When remission in the general paralysis occurred it took place at any time; in some during the period of malarial pyrexia and in others as long as six months later.

### Results of the 53 Cases Treated.

1. Complete remission ... ..	7=13.2%
2. Improving both mentally and physically ...	9=16.5%
3. Slight mental with improved physical health ...	17=32.0%
4. No change mentally or physically ... ..	5=9.4%
5. Deaths from time of treatment up to one year after, including 6 who collapsed ...	15=28.3%

In Class 3 seven of the patients were bedridden, dull and confused, and wet and dirty in their habits; following treatment the mental condition improved slightly, but the physical change was marked. The patients put on weight, regained control of the sphincters, and were soon able to be up and about in the ward. Two patients have been in this state of partial remission for twelve months.

Relapses of the malaria have been frequent (14 up to date). Of the original 23 mosquito infections, 13 (56.5 per cent.) have relapsed, whereas of the 30 inoculated cases only one (3.3 per cent.) has relapsed. The relapses in the mosquito-infected cases have occurred at periods varying from twenty-one days to eleven months after. The usual three-day course of quinine was given, but in a number of instances two, and even three and four, further pyrexial attacks were observed.

Wagner-Jauregg,<sup>1</sup> Mühlens,<sup>2</sup> Kirschbaum,<sup>3</sup> and Grant and Silverston<sup>4</sup> have already pointed out the infrequency of relapse in inoculated cases of malaria. The high percentage of relapses in the mosquito-infected cases is similar to the percentage of relapses in the naturally infected cases of the late war—38 to 100 per cent. of relapses following courses of quinine (Yorke and Macfie<sup>5</sup>). It would appear that passage through the mosquito in some way produces an infection which is more difficult to cure than the inoculated disease, though the two infections would appear to be identical as regards the type and severity of the pyrexia and the blood picture. Following the hypothesis of Yorke and Macfie, the mosquito strain, whilst reacting to quinine, in many instances soon becomes resistant to the immune body; some parasites persist, though not found in the peripheral blood, there being a state of balance. Sooner or later the balance is lost by decrease or weakening of the immune body; the parasites multiply and relapse occurs, with or without a rise of temperature according to the reaction of the host. On the other hand, the inoculation strain responds to quinine, and would appear to be completely destroyed by the immune body formed. The question still remains, however, why patients infected by the mosquito relapse so frequently as compared with those inoculated under the same conditions. In these experimental cases it would appear that the mosquito strain is more resistant, rather than that there is variation in the capacity of the host to produce immune body.

Infection followed feeding by mosquitos, or the injection of malarial blood, in all cases treated, but in two instances there was no pyrexial attack, simply the appearance of parasites in the blood. Blood infection only, without pyrexia, occurred also in a third patient who already had had an attack of inoculated malaria. The circumstances are of interest.

### CASE I.

The patient had been treated with malaria in a general hospital four months previous to admission to the Mental Hospital. He had had eight to ten rigors, followed by spontaneous cure, but parasites persisted in the peripheral blood. On January 7th, 1923, when malaria treatment was considered, the blood was found to be positive. Quinine sulphate, 10 grains daily, was given

from February 15th to 23th. Infected mosquitoes were fed on February 20th, and thus 60 grains were given before the infection and 90 grains after. No pyrexia followed, but the blood showed scanty parasites from March 14th for a few days, thereafter becoming negative. On April 23rd parasites again found. From April 23rd to 25th quinine sulphate, 30 grains daily, was given. On May 24th an intramuscular injection of 2 c.cm. of infected blood was given, but no infection followed, the blood remaining negative.

## CASE II.

The patient gave a history of malaria previously. On August 23rd, 1924, an intramuscular injection of 2 c.cm. of infected blood was given. No pyrexia followed, but the blood became scantily positive from September 2nd to 6th; thereafter it was negative. On September 16th the patient was again inoculated intramuscularly with 2 c.cm. of infected blood. The blood became positive from September 20th to 27th, but there was no temperature. On December 7th, 9th, 12th, and 15th intramuscular injections of 1 c.cm. of adrenalin were given; and on December 10th 1 c.cm. of milk. The blood continued to be negative until December 15th, when two infected cells were found in the blood film.

## CASE III.

The patient was infected with mosquitoes on November 23rd, 1923; double tertian infection followed; he was allowed to have twelve rigors. Quinine sulphate, 30 grains daily, was given from December 23rd to 25th. As there had been little mental change an attempt was made to reinfect on July 20th by intramuscular injection; no temperature followed, but the blood was positive from August 1st to 4th; after that it was negative. Even here, however, the parasites appear to have become resistant to the immune body, for there was relapse with parasites in the blood from August 24th to 30th, but no temperature.

## SUMMARY.

1. The malaria treatment of general paralysis is justifiable and hopeful, provided the patients are in fair physical health. The earlier the case the better the prognosis. The treatment is contraindicated where the patient is likely to have a fatty heart or where there is poor physical health. It may be added that the administration of strychnine, with digitalin or strophanthin to steady the heart, is advisable and helpful, especially during the later pyrexial attacks.

2. Relapses of malaria do occur, but practically only in mosquito-infected cases.

3. Compared with infection by the inoculation of trophozoites, it would appear that infection by the sporozoites from the mosquito produces a parasite which readily becomes resistant to the immune body, and thus relapses frequently occur.

4. A previous attack of malaria would appear to induce partial immunity; although scanty parasites appear in the peripheral blood, there is no rise of temperature.

I wish to thank Professor Warrington Yorks for providing the infected mosquitoes and for his encouraging advice; Dr. G. A. Watson, pathologist to Rainhill Mental Hospital, for assistance with the biochemical tests; and Dr. F. M. Rodgers, medical superintendent of Winwick Mental Hospital, for permission to publish these notes, and for his kindly supervision and guidance.

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## CONGENITAL NYSTAGMUS.

BY

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The occurrence of congenital nystagmus is sufficiently uncommon to justify the record of a series of cases in a single family in which the condition appears to be hereditary.

A woman, aged 55 years, recently consulted me about her eyesight. She had marked nystagmus of the lateral movement type, without rotary movements of the eyeballs or spasm of the eyelids. Her optic discs were pale, but beyond a moderate degree of presbyopia there was no visual defect. The woman volunteered the information that her father and grandmother (both of whom she remembered well) had always suffered from a similar condition. The patient had six children—five daughters and one son. Of these children, the son suffered from marked nystagmus, but with the exception of one of the daughters (who suffered from slight nystagmus) the female children showed no trace of the condition. The son married recently, and his young

daughter has nystagmus. Hence it can be seen that in five generations of this family nystagmus makes its appearance, and is transmitted through both male and female members of the family. I cannot recall any instance of an abnormal condition transmitted so definitely both by male and female. In haemophilia, and in the muscular dystrophies, transmission of these diseases is through the female to the male, the female very rarely suffering from the condition.

Some points of general practical interest also arise in this connexion. Some time ago a coal-miner suffering from nystagmus endeavoured to establish a claim for compensation on the ground that his nystagmus was due to his occupation. It was subsequently discovered, however, that at an early age the patient had been seen by the surgeon who was now examining him for compensation. The surgeon's notes showed that the patient had suffered from nystagmus, which had manifested itself at an early age, before he entered a coal-mine. Hence the claim for compensation failed.

During the recruiting days of 1916 one of the male members of the family whose history I have outlined was called up by the army authorities for examination as to his fitness for service. The examiner noticed that the man had nystagmus, so in view of the man's statement that he was a coal-miner he told him that he was unfit for service. A careful examination, however, would easily have excluded miner's nystagmus, for apart from the movements of the eyeballs and slight nodding spasm there were no other signs to justify this diagnosis.

## Memoranda:

## MEDICAL, SURGICAL, OBSTETRICAL.

## GREEN TEETH FOLLOWING PROLONGED JAUNDICE IN INFANCY.

The occurrence of green teeth following jaundice in infancy is so rare that the following case is worth recording.

## History.

Caroline F. is now 2 years and 4 months old. She was born at full term after a normal labour. The mother, now 39 years old, enjoyed good health during the pregnancy and had no illnesses or fevers of any kind; she has had no miscarriages. The father is 44 years old, and is well. There are three brothers (aged 24, 18, and 14), and three sisters (aged 20, 8, and 4), alive and well; none of these children showed jaundice at any time. One sister (the third child) died when a week old; it suffered from imperforate anus, which apparently could not be relieved; it was not jaundiced. There is nothing else noteworthy in the family history.

C. F. was born jaundiced—"as yellow as a duck's foot" the mother said; the skin of the whole body and limbs was coloured yellow, and so were the sclerotics. The jaundice continued to be intense and quite constant for three months, then it became gradually less, but it had not entirely disappeared until the child was 7 months old. All this time the child was "fairly well in itself." The motions (two or three a day) were green, loose, and slimy for six months. The child for six months was given a grey powder each day. All that the mother can tell about the urine is that it stained the clothes a deep yellow for several months. The umbilical area was "septic" for three weeks after separation of the cord. At birth the child weighed 5½ lb., and it regularly increased in weight, so that at 8 weeks it weighed 8½ lb., at 24 weeks 13 lb., and at 1 year 21 lb. It was never at the breast, but was fed on cow's milk (diluted suitably) until it was 9 months old, and thereafter there were the usual additions to its dietary.

With the exception of the prolonged jaundice and "a slight bronchitis every time she cut a tooth," the child has had no illnesses of any kind. The first tooth, a lower incisor, was cut at 9 months, and teeth appeared regularly after that in this order: lower central incisors, lower lateral incisors, upper central incisors, upper lateral incisors, first molars, then, at 2 years, the lower canines, and lastly the upper canines (not yet fully erupted). The first tooth "came in green," and all the others have done the same.

## Condition on Examination.

The child is well developed and well nourished, and weighs 28 lb. There is some rickety thickening of the bones about the wrists and ankles; otherwise the chest and limbs are well formed. Nothing abnormal was found on examination of lungs, heart, nervous system, or abdomen. The spleen is not palpable. The liver edge can just be felt at the costal margin. The urine and stools are normal. No jaundice is now present. Mentally the child is normal. The Wassermann reaction is negative.

I am indebted to Dr. Crombie, dental surgeon to the hospital, for the following report on the teeth: "The temporary teeth are stained green, to the extent of the whole of the crown of the central incisors, about three-quarters



of the crown of the lateral incisors, a good tip of the cutting edge of the canines, and fully half of the crown of the first molars. The second molars are not erupted. I think the staining is confined to the dentine, as the enamel at the cutting edges of the incisors seems to be free of stain. Still, it is quite possible that there is some staining of the enamel, and it will be interesting to see if this is so, or not, when you get sections, some years hence, of a shed tooth. The staining approximates very closely to the amount of dentine that has been formed at the period just after birth."

JOHN CHAIR, M.B., CH.B.,  
Assistant Physician, Royal Aberdeen  
Hospital for Sick Children.

### NASAL DIPHTHERIA.

I HAVE recently been impressed by the large number of cases of nasal discharge which I have seen at the Birmingham Children's Hospital, in which nasal swabs have yielded the Klebs-Loeffler bacillus. These cases rarely exhibit general symptoms. The nasal discharge is usually bilateral, but in at least two cases it was unilateral.

There seems no particular characteristic whereby the disease can be recognized clinically. In no case have I noted a definite membrane on the nasal mucous membrane, though in two cases the nasal pus was coagulated, and in two others coagulated with blood. The other cases resembled chronic purulent rhinitis.

The importance of the condition seems to me to be twofold:

1. It is unwise to operate for tonsils and adenoids in ignorance of the nasal condition.
2. These cases are diphtheria carriers, and may be contributory to the prevalence of diphtheria at the present time.

Birmingham.

F. D. MARSH, M.B., B.Ch., F.R.C.S.

### SHOCK DOSES OF *B. COLI* VACCINE IN EXOPHTHALMIC GOITRE.

The following notes are founded upon eighteen cases of exophthalmic goitre treated with shock doses of *B. coli* vaccine. The dose was 500 million. No case required more than six injections, which were given every seven days. At first patients were kept in bed for four weeks. Later this proved unnecessary, except in severe cases. Every patient had the classic symptoms. The benefit from the vaccines persisted long after the cessation of the injections. In nearly every instance *B. coli* were found in the urine. Every case resulted in cure. The vaccine treatment of simple goitre, in my hands, proved to be less successful. Four cases of exophthalmic goitre and one of simple goitre in a dog call for comment.

Case 1.—A lady who had lost 4 st. in weight and had been in bed for ten weeks was (1913) given an injection; three or four days later the pulse had fallen from 160 to 100. Six injections sufficed for recovery. To-day she is in perfect health.

Case 2.—This patient, in addition to exophthalmic goitre, had bacilluria, pyuria, and an infected right kidney. Her first symptoms calling for medical advice were those of appendicitis. After fourteen weeks in bed convalescence was complete.

Case 3.—In this instance the vaccine always caused a local reaction in the thyroid gland.

Case 4.—This patient had been treated by several physicians by, among other remedies, x rays. Six injections removed all nervous symptoms, with a gain, in twelve months, of 2 st. in weight.

The object aimed at was to produce a slight and fleeting pyrexia. On one occasion a dose of 1,000 million produced pyrexia of 102° to 103° for three days. This served no useful purpose; 500 million proved both safe and satisfactory.

The following instance of simple goitre in a dog is not without interest.

A spaniel was brought to me with a thyroid enlarged to the size of a lemon, which was causing dyspnoea. After a first injection of 250 million the swelling was reduced in a fortnight to the size of a Tangerine orange. After a further injection of 500 million the tumour in another fortnight was the size of a walnut. No more injections were given, and in eight weeks from the start there was no sign of the swelling. A year later the dog remains in perfect health.

Such a result does not point to a specific effect of the vaccine; rather does it indicate an alteration of the metabolic balance, the difference between health and disease. The following case points to a specific effect.

A girl, aged 14, with endocarditis and pericarditis, had been given the usual remedies, and also rheumatic vaccine. No effect was produced on the pyrexia; the urine contained *B. coli*. She was given 250 million *coli* vaccine. In three days the temperature dropped to normal, though it rose again at the end of another four days to the old condition of 102° to 103.5°. After injection of 500 million the temperature fell to normal for seven days. Thereafter weekly injections prevented pyrexia and brought about gradual convalescence.

Formby, Lancs.

ARTHUR C. WILSON, M.B., CH.B.

### ACUTE CALCULOUS CHOLECYSTITIS AND MALIGNANT DISEASE.

As the carcinomatous condition in the following case was not apparent at the time of operation, it lends support to the opinion that cholecystectomy is the operation of choice for cholecystitis rather than drainage of the gall bladder; had the gall bladder not been excised the malignant condition would not have been detected.

A married woman, aged 60, was admitted to hospital on January 13th suffering from acute epigastric pain and vomiting. Both recti were rigid, particularly the upper half of the right, and the whole abdomen was tender. The maximum tenderness was over the gall bladder. Acute cholecystitis was diagnosed and laparotomy decided upon.

The gall bladder was explored through an incision splitting the upper fibres of the right rectus. She had suffered from previous attacks of a similar but milder nature, and this was apparent during the operation by the numerous adhesions around the gall bladder. When exposed the latter was found to be acutely inflamed, but small and very hard. The liver appeared normal. Cholecystectomy was performed, working from the fundus towards the cystic duct. The fossa was drained for forty-eight hours. She made an uninterrupted convalescence, and was discharged from hospital within three weeks of her admission.

Examination of the gall bladder after removal showed that it was neatly inflamed and contracted upon its contents, five mulberry-shaped calculi. These were not faceted, were about the size of peas, and mottled brown and white. In addition to the calculi, and lying near the fundus of the gall bladder, was a hard patch which cut like an unripe pear. This was thought to be carcinomatous, and histological investigation verified this assumption.

I am indebted to Dr. J. T. Bailey for permission to record this case, also to Dr. Norman Kletz, pathologist to this hospital, and to Dr. David Greig, conservator of the museum of the Royal College of Surgeons of Edinburgh, for kindly reporting on sections made of the hard area. Their reports agree that the hard area is a carcinoma.

This case appears to be of interest, in the first place, because it affords another instance of the association of gall stones with cancer of the gall bladder; secondly, because such an association, although undetected at the time of the operation, amply justified the performance of cholecystectomy; and thirdly, because the possibility of such association adds to the mass of evidence in support of cholecystectomy, as opposed to cholecystostomy, in the treatment of acute cholecystitis.

Stockport Infirmary.

LAMBERT ROGERS, F.R.C.S. Edin.

### A CASE OF TRUE EPISPADIAS.

A boy, aged 15, was sent to me by Dr. Hornsby of Greenock. The patient's general development, both physical and mental, was rather below par. The penis was little more than an inch in length, but, except for the deformity and absence of the prepuce, was otherwise well developed and of fully normal diameter. The glans was well formed, and the ventral median raphe clearly defined, as it appears after circumcision. Thus there could be no question as to which was the dorsal and which the ventral aspect of the penis, and it was therefore clear that the penis was not twisted, and that the cleft was definitely on the dorsal aspect, from which it extended downwards, between the corpora cavernosa, to the position of the urethra. The cleft was deep and narrow, and ran from the normal urethral orifice, backwards through the dorsal aspect of the glans, to near the root of the body of the penis.

A simple flap operation was easily performed, and was entirely successful in removing the deformity and in forming the urethra.

JOHN A. C. MACGOWEN,  
Surgeon, Royal Infirmary, Glasgow.

## Reports of Societies.

### DRUGS AND SOLUTIONS USED IN LOCAL ANAESTHESIA.

At a largely attended meeting of the Section of Odontology of the Royal Society of Medicine on February 23rd, Mr. J. G. TURNER presiding, a report was given by Mr. F. N. DOUBLEDAY on some experimental work which he had undertaken, with the help of others, on the drugs and solutions used in local anaesthesia.

Mr. Doubleday explained that his purpose had been, in the first place, to secure evidence with regard to the chemical structure and reactions of certain of the drugs so as to lay a more certain foundation of knowledge regarding their use and to enable dental surgeons and others to estimate more effectually the probable value of new drugs offered for their use. A second object of the experiments, which had extended over a year, had been to offer evidence as to the causation of minor discomforts, such as stiffness, swelling, and after-pain, which were, in his experience, the only ill effects following the use of local anaesthetics for dental and minor surgical operations. In the chemical part of the work he had been greatly assisted by his colleague Professor Gibson, of the chemistry department of Guy's, who had drawn out for him tables (which he exhibited) of the graphic structure of some of the local anaesthetic drugs which had been used; these included novocain, stovaine, alypin, atropine, and others. With regard to tests, Mr. Doubleday considered that the tables given in the second volume of Martindale's *Pharmacopocia* were the best extant, but they were not absolute for all. There was no absolute test for novocain and other local anaesthetic drugs, and that was a serious drawback. He had hoped to have been able to dialyse solutions of novocain against other drugs and examine the filtrate, but that was prevented by the absence of absolute tests.

Some important experiments were carried out on the question of temperature and evaporation. A local anaesthetic solution was boiled, in the same way as for patients, and the solution was loaded into a syringe which had been previously boiled and allowed to become absolutely cold. A thermometer was kept in a tumbler of water at boiling point in order that the initial temperature of the thermometer should not in itself be a cause of alteration of temperature to the fluid in the barrel of the syringe. By using a cold syringe and a hot solution in that way the result was, as shown by a number of tests, within a degree of the body temperature. If the fluid in the containing mugs supplied for the purpose were allowed to boil furiously for one minute, or even for half a minute, at the end of that time only 2.5 c.cm. remained instead of the 3 c.cm. intended, so that the injection of this solution, which originally was approximately isotonic with the fluids of the body, became unduly concentrated, resulting in the swelling, after-pain, and stiffness of which patients complained. The same was true of test tubes. Long test tubes were best because any fluid evaporated recondensed on the upper part, and found its way back to the bottom again. Another point was the reaction of the glass itself upon the fluids. If the glass contained much soda then its effect upon the degree of alkalinity of the solution was quite definite.

Experimental work previously carried out had been along the lines of injection into the blood stream or into the heart. The effect produced by injecting into the blood stream was different from that produced by injecting into the connective tissue. Some might think that the material injected travelled along the course of the nerve until it came to the cells of the central nervous system; it was necessary, however, that the drug should come directly into contact with the protoplasm of the axis-cylinder process, and so inhibit its activity. Mandibular sensations—in their control experiments on man he and his co-workers had carried out many mandibular injections upon themselves—were definite under local anaesthesia: there was first tingling of the lips, and after five, seven, or ten minutes the tactile sensation of the periodontal tissue was

"doughy"; the sensation of the pulp was the last to go. If, on one attempting to extract a tooth, the patient protested, an interval of ten minutes would enable one to extract it without protest. Sensation was restored in the inverse order to that in which it was lost, and this depended on the rate of diffusion of the local anaesthetic and on its linkage with the axis-cylinder process.

When considering the effects upon human beings, one came upon the complicated psychological problem, including the influence of the operator on the patient, the degree of alarm felt by the patient as to what was going to be done to him, and so forth, so that one could not get a standard. That was one of the reasons why frogs were chosen for experiment. It was necessary to avoid injecting towards the spinal cord, for if that were done the whole sacral nerves would be paralysed and double hemiplegia result. On using  $\frac{1}{2}$  per cent. solution of novocain and adrenaline, it was found that the frog recovered from a 5-minim dose in from one to one and a half hours, and that was comparable with the recovery period of the human being. The dosage for the frog in proportion to the human was very heavy. The experiments showed that merely exposing the frog's heart or injecting the saline did not interfere with its action. With novocain and adrenaline 2 minims produced slight alteration in the heart, 3 minims showed a slowing of the ventricular contractions; with 5 minims the auricular contraction began to fail, and fifteen minutes later there was a great inhibition of the heart, and that became progressive.

His conclusion was that adrenaline and novocain produced a definite depressive action on the heart. Novocain alone caused the heart to drop a beat or two, but did not seriously affect it. Adrenaline alone, 1:20,000, produced a progressive slowing of the heart with failure of its auricular contractions. He had tried to find a more suitable drug to combine with adrenaline so as to minimize the effects of the latter. Caffeine failed to prevent the depressive action of the other drugs. Strychnine had been widely recommended as a supposed antidote to novocain and adrenaline, but it was powerless to stop failure of the heart. Trials of 5-minim injections of novocain and adrenaline with atropine resulted in the heart contracting vigorously. He was of opinion, therefore, that atropine was the best drug to combine with novocain and adrenaline to prevent the effects of adrenaline poisoning. The disadvantage of atropine was the resulting dryness of the mouth.

Mr. Doubleday showed a number of blood films which were taken after the use of local anaesthetics, and he proceeded to demonstrate that the best effect of local anaesthetics could not be obtained unless the injection was into connective tissue and muscle. He also showed sections of the kidneys of the experimental frogs, and the lecture was illustrated by a very large number of graphs and other exhibits.

#### Discussion.

Mr. F. ST. J. STEADMAN expressed his admiration for the paper, and said that this kind of research was very much needed if the odontologist was to be sure of his facts. He had long been convinced that adrenaline had a definite action on the human heart. If  $\frac{1}{400}$  grain of adrenaline was given to a patient there was nearly always complaint of throbbing in the head and general illness. This was prevented by giving a smaller dose. He strongly supported what Mr. Doubleday had said about the effect of the composition of the glass: he had confirmed this by powdering glass and adding to it sulphuric acid. He was convinced also that there was a personal idiosyncrasy in the matter of these drugs.

Dr. A. LIVINGSTON considered that the frog was not an ideal animal upon which to base conclusions for the human subject; in the case of the smaller animals the time factor was so very much shorter. The time of general anaesthesia for a frog should be one-sixteenth that of the human subject. He also asked whether Mr. Doubleday was sure that the experiments were carried out under exactly the same conditions with regard to temperature, draught, moisture, and other physical conditions. It was clear that the danger drug was adrenaline.

Mr. COLIN KEAY asked whether Mr. Doubleday had found any relation in the results obtained when using potassium

sulphate instead of Ringer's solution. Before the war two Germans suggested the use of 0.5 per cent. of sodium chloride and 0.4 per cent. of potassium sulphate, and claimed that this increased the potency of the novocain almost to that of cocaine.

Mr. DOUBLEDAY said that at a previous discussion in the society he had mentioned that he had only had three patients who were specially susceptible to novocain poisoning; he had since had the opportunity of proving absolutely, in two out of these three, that the danger arose from the adrenaline, not from the novocain. In the doses used by dentists, however, he did not think it constituted a harmful factor. In answer to Dr. Livingston, he thought that the frog, being a cold-blooded animal, readily adapted itself to the heat and other conditions of the ordinary investigating laboratory. With regard to the point raised by Mr. Keay, among the other things inquired into was the degree of alkalinity and acidity of the fluids used, and he got two colleagues, one in London and one in Cambridge, to work this out; independently they got the same result—namely, that the acidity of the solution was 7.68. One of them had suggested that acid sodium phosphate should be added to the solution to increase its isotonicity.

### PREVENTIVE CONTROL OF DIPHTHERIA.

At a meeting of the Section of Epidemiology and State Medicine of the Royal Society of Medicine held on February 26th, the President, Dr. JOHN McVAIL, in the chair, Dr. WILLIAM ROBERTSON, M.O.H. Edinburgh, read a paper on the preventive control of diphtheria.

Dr. Robertson, having remarked that the usual measures with regard to diphtheria had somewhat the taint of locking the stable door after the steed was stolen, and referred to the anxiety given to all public health departments by the presence of carriers, described the methods adopted in Edinburgh to secure a systematic immunization of the school population. Explanatory leaflets and consent forms were distributed to all scholars under the age of 10 years. Parents were asked to consent to a preliminary Schick testing, then, if necessary, three preventive inoculations and a final Schick testing. In the better class schools as many as 86 per cent. of the parents consented, but in the poorer districts the percentage sometimes fell to 40; when the percentage of consents was 50 or less a second appeal sometimes brought the figure up to 70. When skilled workers were employed and the co-operation of teachers secured, it was possible to make the tests at the rate of 100 to 120 an hour. It was found, as elsewhere, that the proportion of positive reactors was much higher in the better social strata. It also appeared that passing through an attack of diphtheria did not confer a lasting immunity, as judged from the Schick reaction. Experience had shown that in young children, aged 2 to 5, immunization could properly be done without a preliminary Schick test. From the preventive point of view it would be expedient to concentrate attention upon children of pre-school age. It was essential that the method should be applied only by trained persons.

Sir WILLIAM HAMER wished to have more information as to the results, in particular with regard to the New York experience.

Dr. O'BRIEN remarked that the mixture used in Edinburgh was, so far as guinea-pigs were concerned, much less toxic than that employed in New York. He referred to improvements already effected in the production of antitoxin, and looked forward to yet greater improvements.

Dr. S. MOSKOTON COPEMAN remarked that in England, so far, only schools attended by the wealthier classes and Poor Law schools had made much use of the method. The higher percentage of immunes in the poorer classes was apparently due to more frequent normal exposure, because, in a higher grade school in Norfolk, where there was definite exposure to risk, the proportion of negative reactors had been found to be very large.

Sir GEORGE BRENNAN hoped that it would be possible to ascertain whether the subsequent attack rate of the immunized children in New York was lower than that of those

not immunized. He congratulated Dr. Robertson on this piece of work, and inquired whether reactions on inoculation had given rise to trouble, and whether it had been found necessary to warn parents.

Dr. MAJOR GREENWOOD deprecated any premature attempt to "prove" the efficacy of the process by statistics. At present the method should be regarded as a reasonable one—one to be accepted by intelligent people; in time a statistical assessment would be possible.

Dr. RANDALL asked whether immunization had reduced the number of carriers. Dr. TROTTER thought that the public health services in Scotland had a considerable advantage over those in England both by virtue of having somewhat greater powers and of being in closer contact with the people. Dr. HUMM thought that the small size of Edinburgh compared with London, and the prestige of its medical school, explained the greater willingness of the population to follow medical advice. Dr. SCOTT thought that the variation of the proportion of natural immunes was one of the most interesting problems from the standpoint of immunology; the explanation by subinfection was not really very satisfying. Dr. FOMMERS said that Edinburgh stood alone in dealing with the school population. In the South the method had been practically confined to large institutions. Dr. REGINALD DUNN remarked that, as in the matter of tuberculosis dispensaries, Edinburgh was doing pioneer work. He inquired as to the verification of a history of previous diphtheria, and also asked for information on the subject of carriers.

The President tendered his congratulations and those of the Section to Dr. Robertson. It was difficult not to be envious of New York. Probably the medical profession required more education, and he thought that Dr. Humm's remarks on the medical atmosphere of Edinburgh were highly relevant. He also deprecated any premature statistical "proofs."

Dr. ROBERTSON, in his reply, said that it was too early to give statistical results, but in a school which had formerly given much trouble no cases had occurred among the immunized. It had not been found necessary to issue warnings as to reactions. There were some reactions at the age of 10 to 11, but they were confined to slight rises of temperature and local induration. The method was not serviceable in the elimination of carriers: the carrier did not react. Histories of alleged diphtheria were verified from notification records.

### THE CONTROL OF TUBERCULOSIS AND THE MILK SUPPLY.

The general debate on this subject was resumed on Monday evening, March 2nd, when the chair was occupied by the President of the Section of Epidemiology, Dr. JOHN C. McVAIL. (For report of opening of discussion see *BRITISH MEDICAL JOURNAL*, February 14th, p. 309.)

Dr. M. J. ROWLANDS gave a description of the methods he employed on his farm to keep his cows and pigs in a high state of health, placing in the forefront the feeding by means of fresh vitamin-rich foods, and abandoning the artificial cake feeding so common. The latter he found to be absolutely deficient in vitamin A. He said it was not within Nature's scheme that cows should be continually supplying milk for human consumption; it was only intended that they should supply sufficient for their own progeny.

Dr. STANLEY GRIFFITH spoke from the bacteriological side, and exhibited tables showing the high proportion of bovine tuberculosis in children under 5 years of age. In cervical gland tuberculosis at this period of life 85 per cent. showed the bovine variety, the adult percentage being 18.2. In bone and joint tuberculosis in children under 5 years the bovine proportion was 30.27 per cent., and from 5 to 10 years 23.5 per cent. At the same age 58.3 per cent. of cases of scrofuloderma with tuberculous abscesses under the skin were bovine. In the cases in which the bacillus had obviously entered by the intestinal tract, 80 per cent. were of the bovine form. He did not think the two types could be clinically distinguished.

Mr. G. P. MALE, speaking as a veterinarian, referred to the reduction in the proportion of reactors with improvement in the hygiene of the cattle and cowsheds. In one area 50 per cent. of reactors had been reduced to under 5 per cent. He spoke highly of the work in this direction which had been done by Dr. Stenhouse Williams. The increase in the price of Grado A milk need be only trifling, and reactors which were transferred to other localities should be kept in touch with, and samples of milk taken by inspectors in such districts with unusual frequency. He considered that the Tuberculosis Order should be reintroduced without delay.

Dr. STENHOUSE WILLIAMS gave an account of his work at Reading in raising the standard of hygiene and general cleanliness of dairies in Berkshire, and argued that the health of the populace would be immensely improved by the more general consumption of Grado A milk delivered in sealed bottles. He declared that the unjustly maligned farmer was really most anxious to do his best to maintain a pure milk supply. The speaker said he did not think the American system was suitable to this country. In the United States and Canada milk was transported over immense distances, and temperature extremes were much greater than in this country.

Sir LAYTON BLENKINSOP also spoke from the veterinarian point of view, and, while agreeing with Dr. Rowlands's attitude, thought that he attributed undue importance to vitamin feeding. The use of tuberculin for testing should be in the hands only of qualified veterinarians.

Dr. DAVID NAUARO said that in such a subject as this, with so many interests concerned, it was necessary to look all round the matter and more cautiously. Herds could undoubtedly be freed from tuberculosis, and kept free of the disease for a time; but this meant that the immunity conferred on an immunity against the disease, and this was to the disease of those cattle would be lowered. He was not convinced that it was desirable to free herds from tuberculosis. The taking of small doses of killed tubercle bacilli conferred an immunity against the disease, and this was constantly being done unconsciously. People working in sanatoriums were constantly immunizing themselves by small doses of antigens. The boiling of milk killed the bacilli, and even if a few survived they would not do harm. He agreed that no cow with a gross lesion of the udder should be used for milking, but was that embargo to be placed on all reacting animals? He expressed general agreement with the arguments advanced at the last meeting by Professor Cunnings.

Dr. NATHAN RAW said that the provision of a pure milk supply was one of the most difficult problems of the time. It had been said that a million cows in this country were tuberculous, and that 5 per cent. had gross disease of the udder. Slaughtering infected animals would not help materially, as the young were continually being infected. Attention should be given to immunizing calves as they were born. He favoured the reintroduction of the Tuberculosis Order as soon as possible.

Dr. SCRIFIELD maintained that the only way to keep a herd tuberculosis-free was to breed within the herd, as fresh importations quickly spread the disease. Mr. FREDERICK HODDAY said it was most important that tuberculin should be procurable only by medical men and veterinarians. Mr. HENRY GRAVE urged that the only method of dealing effectively with the problem was to carry out the total eradication of tuberculous cows.

Sir WILLIAM HAMER said that the same methods of cleanliness and hygiene as had been so beneficial in the case of the human being should be applied to cattle, and from that importance of the increasing consumption of Grade A milk, and related some experiences which he had in India.

The following resolution was proposed by Mr. MALE, seconded by Dr. RAW, and carried unanimously:

"That this meeting of the Sections of Epidemiology and State Medicine, Comparative Medicine, and Disease in Children strongly urges the council of the society to press the Government to re-enact the Tuberculosis Order as soon as possible, with the view to reducing the incidence and mortality from tuberculosis in children and to providing a pure milk supply."

## EMPYEMA.

A MEETING of the Section of Medicine of the Royal Academy of Medicine in Ireland was held on February 6th, the President, Dr. F. C. PURSER, in the chair.

Dr. F. J. O'DONNELL described a series of cases of an insidious type of pleural empyema, in which the classical symptoms were absent. This type might be suspected only from: (a) the failure to reemperate rapidly after the crisis of lobar pneumonia despite the subsidence of acute symptoms; (b) the early onset of facial pallor with cyanosis of the lips; (c) the constant increase of the pulse rate. The temperature chart might give no indication of the presence of empyema, but both debility and anaemia after pneumonia were always to be regarded as strong presumptive evidence of the condition. This type of empyema might develop slowly during convalescence, and physical signs the early stages. The diagnosis of pus in the upper thorax might be particularly difficult, as in the case of a boy of 9, who was believed to be suffering from acute tuberculosis of the left upper lobe, but who eventually developed an abscess over the precordium, which ruptured and discharged completely at this site. The prognosis of pneumococcal empyema was good if diagnosed reasonably early and efficiently treated, but rapid pneumococcal septicaemia might occasionally produce a fatal issue. In treatment the series of cases supported the conclusion that patients acutely ill, or in a low condition, withstood operative treatment badly, and that in such patients aspiration was preferable until the critical period had passed.

Dr. G. E. NESBITT said that Dr. O'Donnell had not referred to the use of x-rays in diagnosis, which he had personally found helpful in all varieties of chest cases. He had recently seen a case of liver abscess, similar to the one described by Dr. O'Donnell, in which he had found what he took to be typical signs of empyema at the base of the right lung; on putting in a needle he had only found a little blood-stained fluid. By an x-ray examination it was discovered that the trouble was a liver abscess. An operation was performed, and a large quantity of pus came away; the patient did well for a time, but another abscess developed in the left lung. This also was drained, and the patient recovered.

Dr. J. SREANES referred to the abnormal sweats which occurred in patients who had suffered from pneumonia and recovered. He had seen a good many cases of liver abscess, and said that even in cases of tropical abscess a little fluid was obtained, and there were usually also crepitations present. Out of eleven cases of this condition which he had seen he had only found cysts in one case. He had recently seen a youth, aged 19, who had become suddenly ill; the abdomen was rigid. There was no previous history of illness. A needle was inserted, and a good deal of fluid came away. It was decided that it was a case of empyema and an operation was performed, but empyema was not found. The boy died, and at the necropsy perforation was found, the fluid having apparently come from the abdomen. He referred to the difficulty of cases of double empyema, and agreed with Dr. Nesbitt that x-rays in these cases were a valuable aid to diagnosis.

Dr. A. R. PARSONS had recently had a case of unresolved pneumonia, somewhat similar to the one described by Dr. O'Donnell. The patient, a man, came to the crisis, and his temperature rose afterwards, suggesting empyema. A radiologist was not certain whether fluid was present, so Dr. Parsons explored, with negative results. He then watched the case, and the condition gradually cleared up, but not for about five or six weeks. He drew attention to the importance of getting the surgeon to define the position of the pus after it had been found by the physician in cases of empyema, before any operation took place, owing to the difficulty in some cases of finding pus at the operation. He had seen a girl, aged 16, who on admission had a rash over her body; he could not determine whether there was pus or fluid present. No decision was obtained by an x-ray examination, so he explored, and withdrew about 1 c.cm. of pus, which was found to be purely streptococcal. He could not find any primary cause; although the girl was never drained she gradually improved and finally recovered.

Dr. D. J. CANNON was convinced that in cases of empyema, whether the infection was pneumococcal or streptococcal, aspiration alone would not cure the patient. On the other hand, if a rib was taken out at once the patient would probably die. The pus should always be examined bacteriologically; if it proved to be pneumococcal an operation should be performed at once, but if streptococcal it was wiser to temporize. The essential thing in the surgical treatment of this condition was efficient drainage; for this it was necessary to resect the rib and explore the cavity before putting in a drainage tube. He personally did not think it mattered whether open or closed drainage was used.

Dr. ELLA WEBB believed that x rays were the only certain aid in looking for empyema: the diagnosis between a tuberculous condition and an empyema was often difficult. She had seen a child, who had recently suffered from pleurisy, or what was said to be pleurisy. The child was very badly nourished, the parents were very poor, and the general appearance suggested tuberculosis. The occurrence of sweats with the history made the case very puzzling. She frequently saw similar cases: in some of them empyema was found, but other patients steadily grew worse, and at the autopsy generalized tuberculosis was found.

Dr. R. H. MICKS referred to a rare case in which the patient had measles and also typical empyema; on two occasions a diffuse growth of influenza bacilli was obtained. The patient was operated on; before it there was no fever, but after it the temperature rose.

Dr. L. ABRAHAMSON said he always had a vaccine prepared in cases of empyema, lest the opening should not close satisfactorily after operation, as in these circumstances he had found vaccines helpful. He drew attention to the danger of putting a needle into a case of abscess of the lung unless an operation was done very shortly afterwards. He mentioned a case in which a man was operated on, and it was found that the muscles of the chest wall were infiltrated with pus; gas bubbles escaped, and the patient afterwards died, probably of exhaustion. He had seen another case, in which, the x-ray examination being rather indefinite, an operation was performed for a subphrenic abscess, and an enormous quantity of pus came from the liver.

Dr. W. G. HARVEY did not think it was always difficult to get the needle into the pus, but in all cases where he suspected empyema he had a glass slide ready and blew any needle contents on to the slide for microscopical examination. By this means he had often found pus where he would not otherwise have done so. X rays were usually very useful, but in some cases even they failed. About a year ago he had had a case of a large empyema which was operated on; after the operation it ran a very unsatisfactory course, and he thought there must be some pus present. The patient was examined with x rays, but there was nothing abnormal seen. After the patient had returned home he coughed up about an ounce of pus.

Dr. V. M. SYNER said that as loud breathing was frequently found in cases of empyema in children as in cases of consolidation. In children empyema was often primary, and not preceded, as in adults, by pneumonia.

The PRESIDENT referred to leucocytosis as an aid to diagnosis in cases of empyema. He also had found clear fluid in the pleura in a case of abscess of the liver. He thought the case was one of empyema, and persuaded the patient to be operated on, but before the operation was done perforation into the lung occurred and the patient died of acute pneumothorax. He had recently had two cases in which pneumonia in the lower lobe of the right lung had failed to resolve until after two months, when all the physical signs disappeared.

### DEEP X-RAY THERAPY.

A MEETING of the Section of Pathology of the Royal Academy of Medicine in Ireland was held on February 20th, the President, Professor J. T. WIGHAM, in the chair.

Dr. L. CASSIDY read a report of deep x-ray therapy as practised by himself and Dr. Stumpf at the Coombe Hospital for nine months.

Dr. Cassidy stated that selected cases could be clinically cured, but cases which were surgically inoperable and had

been sent for this treatment as a last resort were usually disappointing, only a very small percentage (15 to 20) of cures resulting. Gynaecology provided the most successful field of operation for deep x-ray therapy, and next in order came sarcomata. In post-operative cases, when properly treated, good results were obtained; 8 cases had been treated. In 8 cases of abdominal and general tuberculosis 2 patients had died after the first sitting, but they had had a poor prognosis from the start; 3 patients were cured. In general deep therapy x rays were not so efficacious as in gynaecology, but many inoperable cases could be cured, or at least benefited, by the treatment. Out of 10 patients with cancer of the oesophagus 5 had died and 3 remained alive, with satisfactory results. In one case a growth was present 12 inches from the teeth; a snipping from the growth showed it to be a squamous cancer. Under treatment the discomfort disappeared, the weight improved, and a radiogram showed the condition to be almost normal. In cancer of the stomach the prognosis was worst, but cancer of the rectum was more favourable. Many cases showed improvement as regards pain, and there was permanent healing in a small percentage. Of cancer of the face 3 cases were treated; one canceroid of the nose was cured, one epithelioma reacted to one radiation, and one remained under treatment. Good results were obtained in cancer of the upper jaw: 3 patients were treated; the first two had finished treatment and no tumour was now visible. Treatment was given to 4 patients, with cancer of the lip, tongue, and mouth; glandular metastases were present in all. Improvement was obtained in all the cases. No success whatever followed treatment of 13 cases of cancer of the larynx, the difficulty being that the great sensitiveness of the larynx to the rays led to induration. In 6 cases of cancer of the pharynx only temporary improvement was obtained. One patient with cancer of the thyroid showed improvement, the tumour apparently becoming cystic. Many cases of sarcoma reacted favourably. Sometimes the primary tumour disappeared only to be followed by the appearance of metastases later. Lymphosarcomata reacted most favourably. In 4 cases of mediastinal tumour treated the results were very good, but bone sarcomata did not show any improvement. One case of laryngeal tuberculosis showed partial improvement, and treated cases of tuberculous glands in the neck were almost completely cured. A case of Basedow's disease showed some improvement after treatment.

The PRESIDENT considered that a great advance had been made in the treatment of malignant disease, even if it could only be said that by deep x-ray treatment the patients had been freed from pain for a few months, as had been achieved in some cases by Dr. Cassidy. Some of the patients had died soon after the treatment, and he wondered if this was merely a coincidence or had some connexion with the treatment. He referred to the difficulty of treating very advanced inoperable cases, and asked if squamous-celled carcinoma was more amenable to treatment than columnar-celled carcinoma.

Dr. W. STEVENSON referred to the number of hopeless cases in which some kind of radiation treatment was alone possible. All these patients must eventually die from cancer, since very often before they commenced radiation treatment the disease had spread over the system; all that could then be expected from treatment was that it would relieve the part of the body where the primary growth had started. He had found that by radium treatment he could prolong the life of patients, relieve their pain, and make them more comfortable; but it was a very different matter to cure them. There were many difficulties in radium treatment. Patients too often failed to come back for further treatment. He had been using radium in cases of tuberculous peritonitis for some time now with good results. He usually gave small doses of radium, and continued the treatment for a long time. He had treated one such patient for fifty-six days, and she ultimately recovered. In cancer of the breast radium treatment acted well; but he regarded this condition as a more or less superficial one which could be removed. He had treated a case of cancer of the bladder nearly three years previously; the patient had come in to see him recently, and was apparently quite



well. He felt that every patient should be given a chance of radiation treatment, because sometimes, even in cases which appeared hopeless, improvement was effected. The patients were made much more comfortable, and the mental relief also was very great; they realized that nothing else could be done for them and were very grateful for any alleviation of the pain. He had treated one case of cancer of the oesophagus; the patient had been much better for some time and free from pain; he had not died until nine months later. While he recognized that it was not a cure for cancer it was a means of combating the disease which would always be of use, and should never be cast aside. He thought that radium had some advantages over the treatment by deep therapy in that it could be given in very small doses and for a considerable length of time.

Mr. M. HAYES said that cases of cancer had been treated for many years by x rays before this method was adopted: some patients whom he had treated fourteen years ago were still alive. The newer method of deep x-ray therapy was introduced during the war, and he himself had only started to use it since last July, and therefore only in a few cases. There was at present a difference of opinion as to whether the treatment should be given without intermission, or whether it should be given with intervals between each treatment. There were points in the Erlangen technique which he could not agree with. He thought that the table of dosage suggested was likely to lead them astray; different forms of malignant disease responded differently to radiation, therefore in some cases large doses were required, while in others the dose had to be small. In cases of tuberculous peritonitis, unless the patient was in a condition to respond to the treatment, no good results would be obtained by deep x-ray treatment. He referred to a patient with cancer of the rectum, sent to him for treatment after the operation. He had received radium treatment, with the result that he was freed from symptoms and enabled to get back to work. He thought that without the operation the result would not have been so good. The results in carcinoma of the stomach were always bad, and always would be until some form of technique was invented which would save the suprarenals. In cancer of the parotid the results obtained by treatment by x rays were on the whole encouraging. Although by the use of deep x-ray therapy an advance had been made in the treatment of cancer, he did not think that it was going to solve the cancer problem. He thought it much safer to use radium for tumours in the region of the eyelid owing to the dangerous action of x rays in the rods and cones.

Dr. BETHEL SOLOMONS inquired as to the physical effects of deep x-ray therapy. Patients of his had refused to undergo a second application owing to the extreme discomfort suffered. He thought that the Government should be urged to allow post-mortem examinations in hospitals: the absence of these examinations retarded progress. With regard to cancer of the bladder, Paschikis had stated that radiation caused more suffering than the disease itself. An important economic problem arose in considering the question of deep x-ray therapy: should this expensive apparatus be constructed, or should the patients be treated with radium?

Dr. T. O. GRAHAM had seen no permanent good results in cases of cancer of the oesophagus, although he had had cases of his own treated by deep x rays, and also by radium; in some of them he had combined the treatments, but others had only had one or the other. In two cases the original growth apparently was cured by radium, but in a short time a second growth appeared lower down. He wondered if radium or deep x-ray treatment was likely to induce secondary growths by stimulating the cells to produce a growth if the treatment were not properly applied. He had had one case of cancer of the upper jaw in which there was proptosis and a very large secondary growth in the nose, which was reported to be carcinoma. The patient at that time seemed to be in a hopeless condition. He was blind in the proptosed eye, could not breathe through his nose, had very severe headaches, and was in great pain. This was about nine months ago; the patient was then treated by deep x rays, and when he

came back, three months later, for further treatment there was no visible growth. In another somewhat similar case, in which the growth had not involved the eye, improvement followed treatment, though the effect was not so extraordinary as in the previous case. This patient had had three treatments, and the swelling of the cheek and the roof of the mouth had decreased, but there was still a growth in the nose, which bled readily on the application of a cotton swab. It seemed that the time had now come when a radiotherapeutic institution was required in Dublin.

Dr. JOHN SPEARES referred to a case of mediastinal tumour. The patient had definite dullness under the sternum, extending up to the right upper lobe. After the first deep x-ray treatment the patient was extremely prostrated, he suffered from pyrexia, and said that he felt "knocked out." After a second treatment he was still more prostrated, again suffered from pyrexia, and died about ten days later. At the autopsy it was found that the sarcoma commenced in the mediastinal region and extended up to the right lobe; the lung was breaking down.

Dr. CASSIDY, replying, said that in tuberculous peritonitis the treatment lasted for one hour—half an hour for the back and half an hour for the front. Three applications were given, spreading over a period of a month or six weeks, and then the patient was considered as cured. Both patients with cancer of the parotid gland had died; but two with cancer of the lower jaw had been treated, and he had heard that both of them were completely well.

### ENCEPHALITIS LETHARGICA.

At a meeting of the Cardiff Medical Society held on February 10th, with Dr. E. E. BRIERLEY in the chair, Dr. ABEL EVANS read a paper on encephalitis lethargica.

Dr. Evans pointed out that the view, widely held, that this disease was first observed and established as a separate entity by von Economo of Vienna, who studied an outbreak in 1916, and published a full report in May, 1917, neglected the fact that a more extensive outbreak had occurred in France in 1915 and 1916, from which a series of forty cases was recorded by Cruchet, Moutier, and Calmette, in April, 1917. It was not described in England until 1918, when Professor A. J. Hall and Dr. Wilfred Harris published their first cases. Compulsory notification was instituted in this country as early as January, 1919, with the result that the statistical records of the epidemic issued by the Ministry of Health were singularly complete. The epidemic could not be said to have already spent its force. The mortality was high: it reached 48.3 per cent. in a series of 1,273 cases reported by the Ministry of Health. If, however, allowances were made for the very large number of mild cases which were not notified, this percentage would be much reduced. It was universally recognized that the infectivity of the disease was low, but there was abundant evidence that it was of long duration. The pathological changes seen by the naked eye were slight, amounting in most cases to a congestion of the superficial vessels of the central nervous system. On section, similar signs of congestion and minute haemorrhagic points were found in the substance of the brain and cord. The grey matter showed these changes more than the white, and they were seen with greater frequency in such situations as the basal ganglia and mid-brain. The microscopic changes were constant in well established cases, the most obvious being perivascular cuffing. The perivascular lymph spaces about veins of a small size were infiltrated by mononuclear lymphocytes and occasional plasma cells. Other less constant changes were degeneration of nerve cells and proliferation of astrocytes. No organism had yet been isolated, but the disease was now believed to be due to a filterable virus. This virus had been obtained from brain emulsions in fatal cases and from the washings of the nasopharynx; by inoculation the disease had been produced in animals. The cerebro-spinal fluid showed very few changes: it was clear and colourless; in the early stages the pressure might be somewhat raised, and the cell count might show from 50 to 100 lymphocytes per

cubic millimetre. The onset of the disease was as a rule gradual, but it might be dramatically sudden. The nervous symptoms were due to a general or to a local disturbance of the central nervous system which caused either an exaltation or a depression of function. Delirium and lethargy were typical general disturbances, while involuntary movements and paralysis were typical focal derangements. Focal symptoms might occur with little or no general disturbance. Gastro-intestinal symptoms occurred in the initial stages of the illness. The tongue was thickly coated, the breath very offensive, the fauces were infected, and obstinate constipation was present in a number of cases. In children, moral and temperamental changes were the most important residua. No line of treatment having curative or preventive value had yet been evolved.

Dr. IVOR J. DAVIES referred to a case of a man, aged 58, who died, after an illness of one month's duration, from a tumour of the lenticular nucleus, secondary to a growth (lymphosarcoma) at the root of the lung. The physical signs bore a close resemblance to those of encephalitis, lethargia, and were mainly of the general type (Walshe), with the negative signs of marked lethargy and Parkinsonian mask, as well as moderate ptosis, paresis of one external rectus muscle, and of the limbs of one side of the body. The ordinary signs of a cerebral tumour were absent.

### PREVENTION OF PUERPERAL DISEASE.

At a meeting of the London Association of the Medical Women's Federation held on February 10th, Miss M. CHADBECK in the chair, Miss FRANCES IVENS read a paper on the prevention of puerperal morbidity and mortality, with a view to indicating how far the immediate and remote morbidity after childbirth was preventable. Five years ago she had undertaken the supervision of the new maternity home in Liverpool, to which, since its opening in 1920, there had been 1,000 admissions. So far as possible Miss Ivens saw every case before admission, and made an examination, a specimen of any abnormal discharge being sent to the city bacteriologist for report. Cases of active syphilis or gonorrhoea were referred to a special institution, and cases of albuminuria, cardiac disease, or hyperemesis were admitted for ante-natal care. Patients requiring Caesarean section were transferred to the Stanley or Maternity Hospital. At this home, before any internal examination was made, the vulva was shaved and washed with lysol solution; in emergency cases tincture of iodine was also used. During labour all those concerned with the case wore sterilized overalls and boiled gloves. The matron or sister conducted all normal cases with the assistance of the tutor midwives, who were all trained nurses. Any perineal rupture was repaired at the earliest possible moment with silkworm gut. The wound was kept dry and was painted once daily with tincture of iodine. During the puerperium the vulva was swabbed over a douche-pan four-hourly during the day with lysol solution, and a large sterile pad was applied. The patient was encouraged to lie on her side for part of each day and to sleep in an exaggerated Sims's position which was not uncomfortable; anteversion of the uterus was thus encouraged. In cases of ruptured perineum micturition was performed in the hands and knees position so that the wound should not be soiled; catheterization was avoided. Of the 1,000 patients admitted, 206 were pre-maternity cases and 679 were maternity cases, of which 390 were primiparae and 289 multiparae; 115 were post-natal cases. Miss Ivens said that there had been no maternal mortality among these cases and no maternal morbidity as defined by the Central Midwives Board rules among the cases delivered in the home. Miss Ivens classified the cases as follows: Contracted pelvis occurred in 130 cases, the high percentage being probably due to the fact that a proportion of the cases were referred from outside clinics, doctors, and midwives for special observation and care. Of the total number of maternity cases (679) natural delivery took place in 601, or 88 per cent. Among the complications encountered were post-partum haemorrhage (3 severe and 2 slight), adherent placenta, perineal tears, fibromyomata, twin

births (8 pairs), unreduced occipito-posterior position, placenta praevia (8), prolapse of cord, pelvic presentations (25), face presentations (2), eclampsia (1), an emergency. Induction of premature labour was employed in 48 cases, delivery by forceps was effected in 30 cases, and 29 patients required Caesarean section. Of the infants 39 were stillborn or died in the first ten days, 22 being premature. Miss Ivens described 11 cases where there had been some morbidity not amounting to the standard recognized in the Central Midwives Board rules. Full details of this investigation would shortly be published. She recognized that it was unwise to draw definite conclusions from so small a number of cases, but she was inclined to believe that the results pointed to the following conclusions. Latent or pre-existing infection was responsible for a considerable percentage of cases of puerperal sepsis; the organism might not infrequently be isolated from the urine during pregnancy, and intermittent albuminuria during pregnancy was an indication for bacteriological examination of the urine. Cases should be removed from unsuitable surroundings, and the accommodation in homes should be sufficiently ample for patients to be admitted a day or two before labour was anticipated. A rigidly aseptic technique was important. Well trained midwives could deliver a very high percentage of maternity cases if ante-natal care had been given by a doctor, and if skilled medical help and, if necessary, institutional treatment could be obtained when required. In view of the need for study of the origin and character of the infecting organism in cases of fulminating puerperal fever, such cases should be placed at the earliest possible moment under the care of an obstetrical specialist and a bacteriologist.

Dr. VIOLET RUSSELL described the technique adopted in private cases, and emphasized the need for efficient sterilization of the surgeon's hands and of the patient's body. Gloves should always be used, and she did not consider that swabbing was much good. The vulva, vagina, and cervix should be freely painted with tincture of iodine.

Dr. E. PHILLIPS mentioned the contrast between home conditions found in the practice of specialists and those which obtained in the East End of London.

Lady BARNETT was specially interested in the cases described by Miss Ivens where there was a pre-existing focus of infection. She was abandoning the theory that wound infection was the most important cause of puerperal sepsis. The factors to be considered were: (1) the focus in the mother; (2) low resistance in the mother; and (3) infection by the attendant. A mask might be a more important preventive than a gown. She was not certain that the banished theory of air infection would not have to be recalled in view of some recent experiences of her own.

At a meeting of the Edinburgh Obstetrical Society held on February 11th, the President, Professor B. P. WATSON, in the chair, Mr. D. M. GREIG, conservator of the museum of the Royal College of Surgeons, Edinburgh, read a paper entitled "Is plagiocephaly ever a birth deformity?" Mr. Greig described typical plagiocephaly and its measurement, briefly indicating the usual causes to which it had been ascribed. While doubting whether decubitus could bring about plagiocephaly, he admitted that injury during birth was by no means always a precursor of the deformity. The formation of plagiocephaly had been ascribed to pressure during birth, especially in a flat or a Nägele pelvis; but he thought that the combination which contributed most commonly to it was a normal child, a young primigravida with a powerful contracting uterus, and a "justo minor" pelvis. He gave details of a case illustrating his remarks, with photographs of the infant, and he instanced several cases, reported by various writers, in which plagiocephaly had been associated with this combination. Mr. Greig then pointed out that if a normal head passing through a "justo minor" pelvis could bring about plagiocephaly, the same deformity ought to follow when an unduly large head had to pass through a normal pelvis. He gave particulars of three cases in support of this suggestion, illustrated by drawings, photographs, casts, and the actual skulls. In conclusion, he demonstrated other skulls in which, together with plagiocephaly, there was evidence of undue pressure during birth. He emphasized the difficulty in obtaining full and accurate details of the birth of any individual after the lapse of even a few months, and suggested that the solution of the question as to this cause of plagiocephaly lay with the accoucheur.

## Robieus.

### WALKER'S "DERMATOLOGY."

EIGHT editions in twenty-five years, the number attained by Sir NORMAN WALKER's well known textbook, must almost constitute a record among publications dealing with skin diseases, and at any rate ensures for it a prominent place among the "best sellers" of dermatology, a place that it thoroughly deserves. Modestly enough the author still persists in calling it an *Introduction to Dermatology*,<sup>1</sup> and states that it does not profess to deal with the rarer pathological conditions of the skin, such as are more fully discussed in larger works; but as a matter of fact there are few points of any importance which are omitted, although the plan of the book very properly demands the more generous allocation of space for the commoner diseases. Every writer who permits himself to produce a textbook betrays a special weakness for certain portions of his subject, and these usually form the most interesting part of the book. In this instance we would direct the reader's attention particularly to the subjects of dermatitis venenata and dermatitis atopica, which have always been favourite objects of study to Sir Norman Walker, and which lend themselves appropriately to treatment in his characteristic racy style. It is long since the entity "eczema" has been admitted to exist by the Edinburgh school, and here the term is mentioned only that it may be severely condemned and its use proscribed; whether anything is gained by substituting for it the word "dermatitis" is doubtful, and we are interested to note that even in these pages the author resorts to the term "eczema," permitting himself the luxury of employing it if only the printer will place it between inverted commas. In using any word the most important thing is that the writer and the reader should both understand clearly what it means, and if it is clearly understood that eczema is merely an inflammatory condition of the skin of unknown etiology but associated with certain features, what is the harm in employing this time-honoured term? If we may permit ourselves to criticize one omission it would be that there is no description of the primary lesion in syphilis; surely this comes within the scope of such a book. It is true that it is most often seen by the venereal specialist, who too seldom is a dermatologist; but surely the general practitioner has a right to be introduced to one of the most important manifestations of disease upon the skin in an introduction to dermatology. Similarly we think that there should be mention of rashes of the acute specific fevers, some of which are always cropping up, and have to be distinguished from other skin eruptions. These, however, are minor defects, if they be defects, in a deservedly popular manual, which has grown stouter with age but which still remains of convenient size. This is due to the care with which the inclusion of all modern advances in the subject has been balanced by a ruthless pruning of superfluous matter, or matter which has become obsolete. The result is a thoroughly up-to-date volume. A special word of commendation must be given to the excellent and numerous coloured plates. They had been growing in number in the earlier editions, and further additions have now been made. They are mostly taken from excellent wax models, and are far more lifelike than is usual even in more elaborate and expensive works. We have no doubt that the present edition will worthily uphold the tradition set by its predecessors and will soon be exhausted.

### DEVELOPMENTAL ANATOMY.

PROFESSOR AREY has published, as the title of *Developmental Anatomy*<sup>2</sup> suggests, a textbook which includes more post-natal development than most other manuals of embryology. The outline presented of the more important developmental changes manifested after birth is a very valuable addition; it is indeed to be hoped that in subsequent editions this

feature may be still further amplified, as it is of greater significance to the student of medicine than much of the detail which frequently obscures fundamental knowledge and principles.

The book is divided into three sections. The first deals adequately with the early stages of development, and although the accounts refer primarily to human and mammalian embryology, the requisite amount of comparative embryology is introduced. The second section traces the origin and differentiation of the organs and systems, the derivatives of the three germ layers being considered consecutively. The description of the various developmental processes are concise and very clear, and can readily be followed and appreciated by the junior student. At the end of each chapter is a list of the commoner anomalies, and in every instance a brief reference is made to the mode of occurrence. The third section consists of a laboratory guide for the microscopic study and dissection of chick and pig embryos. In this part the author acknowledges very free use of the text and illustrations of the well known manual by Prentiss. The inclusion of this section enhances the value of the book considerably and renders it a particularly attractive and suitable textbook of embryology for medical or science students, presenting as it does within the one cover both the systematic and practical aspects of the subject. References are given throughout to the more important papers on subjects of special interest or where considerable difference of opinion exists. The book is excellently illustrated by over four hundred figures, all of which are clear and serve their purpose admirably.

Professor Arey is to be congratulated on the production of a textbook of embryology which may be highly recommended and is likely to be used very widely.

### SYNTHESIS OF DRUGS.

*Organic Medicaments and their Preparation*<sup>3</sup> is an English translation of a textbook written a few years ago by Dr. E. FOURNEAU, the head of the laboratory for therapeutic chemical chemistry at the Pasteur Institute. He was invited to go to Madrid in 1917 to arrange and direct a course of theoretical and practical instruction in the synthesis of important drugs, and the volume under review was based on this course he arranged. The book is therefore of an introductory and illustrative character, for the author has selected certain typical processes which appeared to him to be of outstanding importance, and has given a full and detailed account of the problems they raise. This method has made it possible to produce an easily readable introduction to a very technical subject.

Dr. Fournau deals with all the problems concerned in the synthesis of drugs, for not only does he describe the chemical processes employed, but he explains also why one process is used in preference to another, and even describes the way in which the price of raw materials and the percentage yield of final product influence the cost of the synthesized drug.

The general purpose of the book is well stated by Dr. Roux in his preface, where he says of the book:

"Above all it is a programme. Research in chemotherapy is of little renown in our country. Most new medicaments that we use are of foreign origin. This comes about partly because we have few chemists who have specialized in drug synthesis, and further, because no instruction in the subject is given in either technical schools or universities. M. Fournau is a recognized missionary convinced of the need for making France no longer dependent on the foreigner for important pharmaceutical products."

Most of these words apply with equal if not greater force to our own country, and therefore we have special pleasure in welcoming an English translation of this work. It is divided into two sections. The first and larger gives a general description of the mode of preparation of a large number of drugs. The most important classes dealt with are antipyretics, hypnotics, antiseptics, local anaesthetics, and organic compounds of arsenic and mercury. A certain number of general problems are dealt with, and the author makes some very interesting remarks on the difficult

<sup>1</sup> *An Introduction to Dermatology*. By Sir Norman Walker. Eighth edition. Edinburgh: W. Green and Son, Ltd. 1925. (Demy 8vo, pp. xxviii + 375, 92 plates, 80 figures. 20s. net.)

<sup>2</sup> *Developmental Anatomy*. A Textbook and Laboratory Manual of Embryology. By Leslie Brainerd Arey. Philadelphia and London: W. B. Saunders Co. 1924. (Sup. roy. 8vo, pp. 433; 419 figures. 27s. 6d. net.)

<sup>3</sup> *Organic Medicaments and their Preparation*. By Dr. Ernest Fournau. Authorized translation by W. A. Silvester, M.Sc. Sheffield. London: J. and A. Churchill. 1925. (Med. 8vo, pp. x + 262; 22 figures. 15s. net.)

problem of the relation between chemical constitution and pharmacological action. He realizes the enormous complexity of this particular problem, and carefully avoids sweeping generalizations; consequently his ideas are of great interest and value. In the second half of the book detailed descriptions are given of the methods of preparing a large number of drugs on the laboratory scale.

The book is one that will be of great interest to all concerned in the synthesis of drugs; its special value depends, of course, on the fact that the author is a master of his subject, and hence everything that he says is of importance. The translation is excellent and the book is well got up and well illustrated.

#### MACCALLUM'S "PATHOLOGY."

THE fact that Professor W. G. MacCALLUM's *Text-Book of Pathology* has had such a successful career is ample justification for the novel method of presentation of his subject which the author first adopted. The third edition<sup>1</sup> has just appeared, but in the eight years since the book was published it has been revised and reprinted seven times. The general structure of this textbook differs from other systematic textbooks on pathology chiefly in the fact that it departs from the customary method of treating general and special pathology separately, and in the way in which it is planned to discuss disease as far as possible on the basis of etiology. Its beautiful pictures and the discursive style of the text have always made it an easy book for students and a pleasant field in which the teacher could browse. No doubt this book has often been taken down from the laboratory shelf to verify some small point, not to be replaced immediately the information sought has been obtained; it is apt to beguile the reader, enticing him to some stimulating thought. It teaches ideas rather than facts. The present edition improves on its predecessors chiefly in the chapters on rickets and diabetes, including in these subjects the new knowledge gained in the last four years; certain of the infectious diseases also, such as encephalitis lethargica and typhus fever, have been handled in a different way. A little has been added and a little taken away, but this trimming has not changed the distinctive character of the whole. Printed on thinner paper, it is slightly less bulky, but unfortunately still costs £2 5s.

#### OBSTETRICS.

THE fourth edition of Professor DE LEE's *Principles and Practice of Obstetrics*<sup>2</sup> has, according to the preface, been submitted to a thorough and painstaking revision, both in regard to text and illustrations. Some additions and alterations have been made, and unfortunately it has been found impossible to reduce the size of the volume, which remains encyclopaedic in its proportions, and therefore a book for reference rather than for the student. As is well known, Professor De Lee is the editor of the obstetrical volume in the Practical Medicine Series of "year books," and the secretarial organization used in that connexion must have made him familiar with all the obstetrical literature of the world in the last decade. Indeed, traces of this are to be found in this volume; there is so much in it that in many places the matter is not very coherently arranged; views and observations are mentioned which are really hardly worthy of consideration, and might have been eliminated during passage through the editorial mill. Readers in this country must bear in mind the fact that the book is intended, in the first place at any rate, for practitioners in the United States, where conditions in many respects are very different. For example, in this country there is not the same likelihood of practitioners undertaking such operations as Caesarean section in circumstances unsuitable and for indications of questionable validity.

There is a "tide of obstetric operating now prevalent with its resultant maternal and foetal mortality. While the expert obstetrician in his specialistically manned maternity hospital can obtain more

nearly ideal results from his work by extending somewhat the indications for interference, at the present time it is the general practitioner who conducts the largest number of the births, either in the home or in the frequently poorly equipped small hospital. He must be given advice and methods applicable to the milieu in which he works, and non-interference with the processes of Nature, with their careful supervision, i.e., watchful and armed expectancy, has been proved to give the best results. Accordingly the indications for Caesarean section, forceps, version, pituitrin, bag dilators, have been very closely drawn."

The "tide of obstetric operating" does not flow with such perilous force in this country, but "watchful and armed expectancy" ever remains the soundest general principle of obstetric treatment. A series of twelve new illustrations, showing the low cervical Caesarean section, have been inserted, and the editor expresses the hope that this procedure will be adopted for abdominal delivery, since he is convinced "that if it should become established practice when abdominal delivery is indicated, it will directly and indirectly reduce the present frightful mortality from Caesarean section." While we agree that the lower segment operation is a most valuable modification of the classical operation, it ought to be emphasized that it is an operation that can safely be undertaken only by one familiar with general abdominal operative technique, and we cannot entirely share the author's expectations of a greatly reduced mortality by the indiscriminate adoption of this method. As in previous editions, the illustrations are remarkably numerous and on the whole remarkably good. It is quite an education to turn over the pages of this book and look at the pictures. Both the author and the publishers are to be congratulated on a really very fine volume and upon the continued popularity which it evidently maintains.

Professor HENRY JELLETT is to be congratulated on the appearance of a ninth edition of his *Short Practice of Midwifery*.<sup>3</sup> The book is so well known that anything in the nature of a detailed review is quite unnecessary. Many generations of students, both in Dublin and elsewhere, have learned most of their midwifery from earlier editions: that now before us has been revised and brought into line with the latest generally accepted doctrines in midwifery, and particularly such as are taught at the Rotunda Hospital, Dublin. In the appendix is a summary of the carefully compiled statistics of this hospital for the past thirty-three years, covering more than 57,000 consecutive cases of labour—an exceedingly valuable piece of work in itself. The illustrations are clear and useful, and the size of the volume has been kept within limits which make it convenient for the use of the medical student. Altogether there is no sign of decrepitude in this volume, and we are quite sure that it will continue to be as popular as the preceding editions have been.

#### MALIGNANT DISEASE OF THE KIDNEY.

*Cancers du Rein*,<sup>4</sup> by LECÈNE and WOLFROMM, forms part of the Bibliothèque du Cancer, published under the direction of Professors Hartmann and Bérard. Under the term "cancer" the authors include malignant growths of all kinds, whether sarcoma or carcinoma. These growths are among the most frequent of those met with in early life, representing from 38 to 50 per cent. of the tumours of infancy. The classification of carcinomas adopted is:

1. Tumours derived from the renal epithelium, subdivided into tubular and papillary carcinomas;
2. Tumours derived from adrenal rests—namely, hypernephromas; and
3. Tumours of the renal pelvis subdivided into papillary and non-papillary carcinomas.

The non-papillary tumours are classified as squamous, alveolar, and adenocarcinomas.

While devoting a separate section to hypernephroma, the authors state that the nature of this growth is still obscure and it is impossible to affirm that it is really due to aberrant inclusions of adrenal tissue. The frequency of its occurrence has been overestimated in recent years, and it is often impossible to say whether a renal tumour is a hypernephroma or derived from the renal epithelium.

<sup>1</sup> *A Text-Book of Pathology*. By W. G. MacCallum. Third edition, thoroughly revised. Philadelphia and London: W. B. Saunders Company, 1924. (Sup. roy. 8vo, pp. xv + 1162; 575 figures, 45s. net.)

<sup>2</sup> *The Principles and Practice of Obstetrics*. By Joseph B. De Lee, A.M., M.D. Fourth edition, thoroughly revised. Philadelphia and London: W. B. Saunders Company, 1924. (Sup. roy. 8vo, pp. xv + 1123; 1,128 illustrations on 523 figures, 201 of them in colour, 55s. net.)

<sup>3</sup> *A Short Practice of Midwifery*. By Henry Jellett, B.A., M.D. Dublin Univ., F.R.C.P.D. Ninth edition. London: J. and A. Churchill, 1924. (Post 8vo, pp. xvi + 591; 258 figures, 18s. net.)

<sup>4</sup> *Cancers du Rein de la Glande Surrenale et des Voies Urinaires Supérieures*. Par P. Lécène et G. Wolfromm. Paris: Gaston Doin, 1923. (Roy. 8vo, pp. 207; 32 figures. Fr. 15; franco, fr. 36.50.)



The presence of doubly refracting lipoid is not characteristic of hypernephroma, since it occurs in chronic nephritis and in epithelial tumours of other organs. The presence of lecithin is probably of more importance as indicating a relation to the adrenal gland. Speaking of the lymphatics of the kidney, the authors state that they pass in a kind of mesonephron into the lateral aortic glands, the posterior lymphatics going to the upper, the anterior lymphatics to the lower set. They are numerous and lie in very vascular tissue, and although it has been recommended that they should always be removed the operation is difficult and dangerous. Haematuria may precede the other symptoms by several years—eleven and a half years in one case—showing that the evolution of a renal carcinoma may be long. The duration of life after the tumour has been recognized may also be relatively long; Gillet mentions six cases of survival for from ten to sixteen years. Carcinoma of the kidney recurs after nephrectomy in the proportion of 80 per cent.; in 100 cases 22 died from the operation, and of the 78 survivors there was rapid recurrence in 61, while in 16 only was there prolonged survival. With regard to carcinoma of the pelvis, Derovenko in 54 cases, of which 30 were operated on, witnessed rapid recurrence in the majority. Necker observed a recurrence in the form of vesical papilloma six months after nephrectomy, and Asch a similar recurrence ten weeks after the operation.

### NOTES ON BOOKS.

It is not surprising that Professor FINDLAY'S volume *Chemistry in the Service of Man* should have reached a third edition.<sup>8</sup> The basis of the little work is a course of lectures delivered in 1915 to an educated audience without any knowledge of the science of chemistry, and as published it is intended for readers of that class. The present edition is brought up to date by the introduction of three new chapters on (1) radio-activity and atomic structure, (2) the rare gases of the atmosphere, and (3) metals and their alloys. From beginning to end it is clearly and attractively written, needless technicalities are avoided, yet it is pervaded by the spirit and character of really scientific instruction, so that it is not to be galloped through with novel-reading speed. A brief historical introduction, beginning with the philosophy of Empedocles and Aristotle, is a notable feature. In these times doctors have a hard task to maintain even a reasonable acquaintance with the advances in strictly professional knowledge; yet if a man does want to bring up to date his acquaintance with the chemistry he was taught at college he can not do better than spend an occasional hour over the Aberdeen professor's new edition.

We ought to have announced long ago that Professor PICKERILL'S book on *The Prevention of Dental Caries and Oral Sepsis* had reached a third edition.<sup>9</sup> A large part of it is devoted to an elaboration of his now well known thesis that the safeguard against all dental ills is a plentiful flow of alkaline saliva. The criticism that was made on the appearance of his first edition that adhesive food covered by mucus defies all the powers of abundant and alkaline saliva appears to us still to remain unanswered. Indeed, Professor Pickerill is disinclined to recognize this particular property of food-stuffs, and though he has invented a new and terrible word, "lodgeability," and has divided foodstuffs accordingly, he seems to attach more importance to the circumstance that the "lodgeable" articles "are originally either alkaline or neutral in reaction," while the "unlodgeable" are "originally acid in reaction," than to adhesiveness or the reverse. Briefly the theory is that slightly acid and sapid foods produce an abundant and prolonged secretion of highly alkaline saliva which will neutralize the acid formed from carbohydrate debris and so will prevent dental caries, while alkaline and tasteless foods produce only a limited flow of less alkaline saliva useless as a preventive. To it has been objected that the flow of saliva is not continuous and that mucus, which soon coats all food debris, and perhaps the debris itself, is impermeable to saliva. This latter point touches the vexed question of the hardening of enamel after eruption of the tooth, and in this connexion the author states that mucus is a non-electrolyte and that hence viscous saliva would hinder the diolysis necessary to the hardening. In addition to saliva

the author has explored practically every avenue by which the discussion of dental caries can be approached, and his experiments, observations, and conclusions are clearly and concisely stated. No point is too trivial for notice and no problem too impeachable for attack. Occasionally his observation seems to be at fault, as in his failure to find constriction of the jaw before the age of 6, and occasionally we may question his data, as with regard to the storage of berries by the Eskimos or the extent of dental caries among the Guachos; but the reader's interest is kept keenly alive and our critical faculties are thoroughly roused from cover to cover.

Dr. CECIL WEBB-JOHNSON has written a book entitled *Woman's Health and Happiness*,<sup>10</sup> the object of which is to help the average woman to a better and clearer knowledge of herself, and thus to prevent ignorance and false ideas from wrecking lives which should be serene and bright. The author takes his readers through the various biological epochs with their surrounding duties and dangers, and among the topics considered are some aspects of marriage; sexual love; the expectant and nursing mother; food and good health; exercise, dancing and other recreations; nerves; women and employment; obesity; the approach of age; and danger signals. The book contains much common-sense advice, is wholesome in tone, and may be recommended as a useful guide to those for whom it is intended.

The fifth edition of Waller's *German-English Medical Dictionary*<sup>11</sup> has been improved and enlarged by M. WHITE, though the actual size of the volume has been decreased. A considerable number of new words have been added, particularly with reference to anatomy and chemistry, but there is still some uncertainty about pathological terms, as in the previous edition. In some cases short definitions are given and descriptions of the composition of certain remedies. The third edition of the *English-German Medical Dictionary*<sup>12</sup> of WALLER and KATZ includes a large number of technical terms, together with many simple words which can be found in the ordinary dictionary. It will probably prove of more use to German readers of English books than to English students of German.

The forty-fourth volume of the *Transactions of the Ophthalmological Society of the United Kingdom*<sup>13</sup> is well up to the standard of previous issues, both in the interest of its contents and in the excellence of its illustrations. A considerable part of the book is devoted to the Oxford Ophthalmological Congress of 1924, and the annual reports, are published of the Midland, the North of England, and the Irish Ophthalmological Societies. Included in the list of communications made to the Ophthalmological Society of the United Kingdom during the year under review is a report of the discussion of the physiology and pathology of the pupil-reaction.

The *Medical Register*<sup>14</sup> for 1925 contains 49,958 names, as compared with 48,140 for last year. During the year 2,796 names were added, and of these 1,190 were registered in England, 935 in Scotland, and 441 in Ireland; 226 were colonial, and 4 foreign. There is again a considerable increase in the numbers registered in Great Britain and Ireland, and both the total of registrations and the numbers registered in each of the three countries are the highest yet recorded. The number of names removed from the *Register* was 978, being 55 more than in the previous year. Of these 849 were removed on evidence of death; 124 because of failure to reply to the inquiries of the Registrar as to cessation of practice or change of address; and 5 were struck off the *Register* under the disciplinary powers conferred on the General Medical Council by the Medical Act of 1858. The large number of new registrations during the year has caused an increase of some forty pages in the size of the volume. The *Dentists Register*<sup>15</sup> for 1925 has been issued simultaneously. It contains 13,818 names, representing an increase of 345 over the corresponding figure in the previous volume. During the year 524 dentists were registered with qualifications and 210 without; 524 names were restored and 916 were removed from it for various causes, including 147 on evidence of death. The *Register* this year contains for the first time a local list of names, the London names being grouped under the postal

<sup>8</sup> *Chemistry in the Service of Man*. By Alexander Findlay, M.A., D.Sc., F.I.C. Third edition, revised and enlarged. London and New York: Longmans, Green, and Co. 1925. (Cr. 8vo, pp. xix + 300; 25 figures, 4 plates. 6s. net.)

<sup>9</sup> *The Prevention of Dental Caries and Oral Sepsis*. By H. P. Pickerill, C.B.E., M.D. Third edition. London: Baillière, Tindall and Cox. 1923. (Demy 8vo, pp. xii + 340; 80 figures. 18s. net.)

<sup>10</sup> *Woman's Health and Happiness*. By Cecil Webb-Johnson, M.B., B.Ch. London: Methuen and Co., Ltd. 1925. (Cr. 8vo, pp. xii + 242. 6s. net.)

<sup>11</sup> *German-English Medical Dictionary*. By Joseph R. Waller, M.D. Fifth edition, improved and enlarged by M. White, M.D. Leipzig and Vienna: F. Deuticke. 1925. (Med. 16mo, pp. 383.)

<sup>12</sup> *English-German Medical Dictionary*. By Joseph R. Waller, M.D., and Moritz Katz, M.D. Third edition. Leipzig and Vienna: F. Deuticke. 1925. (Med. 16mo, pp. 193.)

<sup>13</sup> *Transactions of the Ophthalmological Society of the United Kingdom*. Vol. xlv. Session 1924. London: J. and A. Churchill. 1924. (Demy 8vo, pp. ii + 452; 43 figures, 18 plates. 30s. net.)

<sup>14</sup> London: Constable and Co., Ltd. *Medical Register*, £1 1s.; *Dentists Register*, 12s.; *Students Register*, 7s. 6d.



districts and subdistricts, the remainder under the cities, towns, or villages in each country. The Navy now has 43 dentists, the Army 75, the Royal Air Force 27, and the Indian Medical Service 1. The General Medical Council has lists of medical and dental students' numbers with 545 in 1923 and 1,833 in 1922; Scotland again heads the list. Registrations of dental students numbered 200, as compared with 107 in 1923 and 424 in 1922.

The *Alliance Year Book and Temperance Reformers' Handbook for 1925*<sup>15</sup> gives a review of the situation in the different countries of Europe. The position of temperance legislation in the British Commonwealth during 1924 is explained, and, under the heading of "Some medical aspects of total abstinence," the publication of the Medical Research Council, entitled *Alcohol: Its Action on the Human Organism*, is considered, and also Professor Starling's *The Action of Alcohol on Man*. Several statistical tables are supplied.

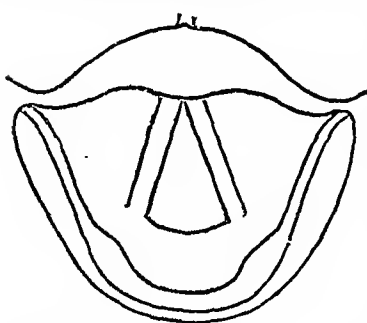
<sup>15</sup> *The Alliance Year Book and Temperance Reformers' Handbook for 1925*. Edited by George B. Wilson, B.A. Lond. London: United Kingdom Alliance and Hendley Brothers. 1925. (Deary 8vo, pp. 262, 2s.)

## MEDICAL AND SURGICAL APPLIANCES.

### OUTLINE DIAGRAM OF THE LARYNX.

#### Rubber Stamp.

SIR STCLAIR THOMSON writes: The conventional diagram of the larynx has descended to us from the early days when the chief interest of a laryngeal case was "to see the cords" and anything growing thereon. This diagram was particularly



unsatisfactory for displaying the interarytenoid region which, with the neighbouring area above each vocal process, is the most frequent site for the deposit of tubercle. Dr. H. Smurthwaite has most kindly come to my assistance with his artistic skill in making a design to my suggestion. The outline drawing here figured is, of course, semidiagrammatic, for it is impossible in

the larynx to view both the interarytenoid region and the laryngeal surface of the epiglottis at one and the same time. Still, this conventional outline will enable laryngologists to indicate changes in any part of the larynx, including the posterior wall, both sides of the aryepiglottic folds, the sinus pyriformis, and the post-crioid region—all of which are inadequately represented in the usual diagram of the larynx. This rubber stamp has been put on the market by Messrs. Mayer and Phelps, 58, New Cavendish Street, London, W.1.

## ROYAL COMMISSION ON LUNACY AND MENTAL DISORDER.

(Continued from page 351.)

### EVIDENCE OF NATIONAL ASYLUM WORKERS' UNION.

At the sitting of the Royal Commission on Lunacy Law and Administration on February 24th, with Mr. N. MICKLETH, K.C., deputy chairman, presiding, evidence was taken from the National Asylum Workers' Union, which, it was stated, comprised 11,000 members working in 128 institutions in Great Britain. The evidence was tendered by Mr. Walter Blood and Mr. George Gibson, respectively president and honorary secretary, and by Miss Maud Wiese, chief charge nurse at Claybury.

In its evidence the Union advocated that the mental health authorities should have powers conferred upon them to inquire into the incidence of insanity in their respective areas, to provide out-patient clinics at mental hospitals, and to organize similar clinics in conjunction with general hospitals, and they should be able to commit patients for treatment for a limited period without certification. The Union held that the conducting of mental hospitals as profit-making institutions should be abolished. Another reform which was urged was that medical superintendents should confine themselves to medical affairs, whilst still retaining the guiding disciplinary authority in the institution, but with powers of suspension only. Medical superintendents were professional men, and it seemed absurd that their energy should be wasted in office routine as at present. The minimum proportion of medical officers to nurses should be defined by law, and in the case of nurses at least 50 per cent. of the whole staff should be qualified mental nurses. It was stated to be no uncommon occurrence under existing conditions for a nurse to be left alone during the day-

time with thirty or even fifty patients, and an instance was known to the witnesses in which a nurse had control in the airing court of over a hundred patients. This constant understaffing was detrimental to the patients and unfair to the staff. A proportion of one to ten on actual duty should be insisted on. The introduction of female nurses into male wards was deplored. Over 10 per cent. of the male cases of insanity were of syphilitic origin, and many more of the patients were sexually abnormal, and their conduct could not be predicted. With regard to private mental hospitals, the experience of the witnesses was that these were constantly changing their staffs, and that little effort was made to engage or retain qualified mental nurses. A further objection was that the greatest safeguard of the personal liberty of the patients—namely, regular visitation by a publicly elected committee—was absent.

The witnesses believed many criticisms of the lunacy system to be well founded, but strongly denied that cruelty to patients was at all common. It had to be remembered that the mental nurse was compelled to put up with abuse and assault by patients daily, and occasionally the provocation to retaliate overcame the will. The chief trouble was the constant changing of staff in mental hospitals, and in nine cases out of ten it was the inexperienced nurse who was at fault when any breach of discipline occurred. The vast gulf between mental and general nursing was pointed out. The general nurse performed her duties among sane people, who retained the instincts of decency and good conduct, and were inmates of the hospital of their own volition, and were generally grateful for what was done for them; the mental nurse had to carry out her duties amid circumstances generally the opposite to these in every respect. Only by the general adoption of the three-shift system—already widely adopted in the Midlands—could justice be done to patients in mental hospitals. Among reforms suggested by the Union on behalf of patients were the following: that certification should not be resorted to until after at least three months' treatment; that the principle of single care should be extended; that the dietary in institutions should be improved and a light supper instituted; that more outdoor recreation should be provided; that there should be a system of credit vouchers to patients who did useful work; and that nurses' key chains should be abolished. The Association also urged that, to protect the staff, special disorders common to mental hospitals should be scheduled as "industrial diseases" under the Workmen's Compensation Act; these were colitis (asylum dysentery), typhoid, and phthisis.

Asked whether there was an excessive use of sedatives or purgatives in mental institutions, Mr. Blood replied strongly in the negative. Croton oil he had never known to be used in his experience of asylums. As to sedatives, the only drug given was a sleeping draught, and that but seldom. Miss Wiese said that in her experience these things were not given unless they were absolutely necessary, and even when the patient had been put upon any of them it was within the nurse's discretion to withhold. Mr. Gibson said that twenty years ago it was the custom to have a stock-pot apertent, but to-day nothing of the kind was given unless it was definitely prescribed, and it was the practice to return into store such medicines as were not administered.

### THE EVIDENCE OF DR. LOMAX.

At the sitting of the Lunacy Commission on February 25th the evidence of Dr. Montagu Lomax, author of *The Experiences of an Asylum Doctor* (1921), was taken.

The Chairman (Mr. H. P. MACMILLAN, K.C.) said that the Commission had had the advantage of reading Dr. Lomax's most interesting book, also the Cobb Report and Dr. Lomax's reply thereto. He wished to pay a tribute to the very great care Dr. Lomax had taken in considering this whole topic and the zeal he had shown in elucidating it. As the Commission had already received evidence from the National Society for Lunacy Reform, he thought it would be well if Dr. Lomax confined himself to those points on which, he understood, the witness was not in entire agreement with the proposals of the society.

#### The Position of the Medical Superintendent.

Dr. Lomax said that he had been for many years in general practice, and was now doing mental work. His interest in this topic of lunacy reform originated in the service in which he was engaged in two asylums—Lincoln and Prestwich—during the war. In consequence of his experiences in those two asylums he came to the conclusion that the present system stood in need of reform. He dealt first with the position of the medical superintendent. He urged an entire separation of the offices of medical superintendent and executive chief of the institution. This was specially necessary in large asylums, containing more than 1,000 patients. The Chairman suggested that if this large type of asylum, of which there were a good many examples in this country, gave place to the more modern form of villa asylums, with a limited number of inmates in each institution, the objection would disappear. Dr. Lomax maintained that it would still exist; villa asylums, as a rule, were not small, they were on a different system, and the medical superintendent of such institutions would still have to be appealed to on all sorts of questions involving responsibility.

The Chairman: The treatment of mental patients differs from the treatment of ordinary patients in this respect, that curative treatment in the former case must necessarily bring in questions of environment, occupation, recreation, &c. so forth to a very large extent. The medical doctor, therefore, is interested in many matters in which the ordinary physician has no concern. If you remove the medical superintendent from his control over the whole establishment the result might be to interfere with the very means most desirable in the treatment of the cases.

Dr. Lomax: In everything affecting the welfare of the patient the

medical superintendent must, of course, be supreme, but the appointment of the various outdoor officials and workpeople, such as engineers or farm hands, does not seem to be part of the superintendent's work at all.

The Chairman: But suppose the supervisor in a workshop was tactless, ought not the medical superintendent to be allowed to intervene?

Dr. Lomax: Certainly; that is part of his department, but I am thinking of the medical superintendent's engrossment in clerical and administrative work generally. He has in his hands the ordering of the whole establishment from the executive point of view—for example, alterations and repairs to buildings, engagement and discharge of workmen.

The Chairman: But if I were a medical superintendent, I should be very interested in getting my ideas carried out.

Dr. Lomax: There is surely no need for that. The medical superintendent is engaged in painting, the engineering and electrical work, the stores, and so forth. I have known superintendents spend the whole morning in their office dealing with accounts.

The Chairman: But even the choice of wallpaper might have a medical importance.

Dr. Lomax went on to say that an asylum committed thought much more of a medical superintendent who was a good executive officer than of one who was a good medical man. He was regarded as a good superintendent if he economized. He had a free hand in the wards so long as he kept expenses down. The Chairman asked what was his security of tenure, and Dr. Lomax replied that there was none at all; his tenure depended on the whim of the asylum board, and as long as he ran the asylum economically, however unpopular he might be with the patients, he would be as difficult to remove as a clergyman from a country living. He (the witness) was in favour of the medical superintendent being appointed by the Ministry of Health. Earl Russell asked if a superintendent who made reports involving capital expenditure and advocated reforms would lose his job. Dr. Lomax said that he did not think he would lose his job, but he would be warned that those were not the kind of reports he was expected to make. He was of opinion that it would be better for an asylum to be governed by a lay superintendent, and for the present superintendent to be a senior medical director. The Chairman said that in that case a progressive medical man might be hindered in his justifiable work, and the layman might not appreciate medical requirements. He had difficulty in seeing that any province could be withdrawn from the medical man. The two solutions might be the delegation of some routine work to efficient subordinates. Dr. Lomax said that seven-eighths of the superintendent's work was at present executive. The superintendent ought to go round the wards with his officers, but in the majority of cases this was never done. In many instances a patient was never seen by the medical superintendent at all.

Before passing from the subject of the medical superintendent, Dr. Lomax referred for corroboration to the report of the conference of medical superintendents held under the chairmanship of Sir Frederick Willis in 1922, and quoted some statements from medical superintendents themselves, including one by Dr. M. A. Archdale, that the medical superintendent was a sort of mixture of prison governor and hotel manager (*BRITISH MEDICAL JOURNAL*, January 25th, 1922, p. 149).

#### *Alleged Ill Treatment of Patients.*

On the subject of ill treatment of patients, Dr. Lomax said, in reply to the Chairman, that he had never actually seen any cases of ill treatment by an attendant—indeed, the doctor was the last person to see such cases—and he feared that in some instances the patient was too cowed to make a complaint, fearing what might happen to him at the hands of the attendant afterwards. Asked by the Chairman whether he did not think that instances of ill treatment occurring while he himself was a doctor in an asylum would be of more value than the repetition of hearsay evidence of alleged cases years after leaving the asylum service, he said that he appreciated the Chairman's point, but while he himself was engaged in the work he had not suspected what he now believed went on.

The Chairman: It is a very serious allegation to make against attendants, first that they are cruel (although you have not seen instances of it yourself), and that then, when they are taken to task by the authorities, they visit it upon the patient.

Dr. Lomax: I am only the spokesman of patients who came to me. I do not speak of anything I have myself observed in the asylum. But I believe there are such cases, hundreds of thousands of them.

The Chairman: Hundreds of thousands!

Dr. Lomax: Yes, all over the world.

The Chairman: My colleagues and I are satisfied that cases of cruelty, possibly of gross cruelty, do occur, but it does not assist us very much to carry the matter into the region of statistics. Such cases must occur inevitably, just as accidents happen on the best administered railways. The problem which interests us is how that kind of thing can be stopped. Your outlook seems a little pessimistic. You tell us that the medical superintendent is a remote person who does not see anything or is kept in ignorance of what is going on. How are we to get the facts? The patients will not make statements.

Dr. Lomax: Out of the asylum they will. What converted me into a lunacy reformer and a critic of the administration was the volume of this testimony, its character, spontaneity, and consistency, from hundreds of sources.

Lord Russell: You do not tell us what value you yourself attach to these complaints.

Dr. Lomax: I attach the greatest value. It took me two years to convince myself, and then I became an absolutely convinced man.

The Chairman: That is a generality. Take a thousand cases, investigate them with such means as are at your disposal, how many would you find well founded?

Dr. Lomax: I think in every case the patient was telling the truth about the facts that had occurred. His charges were specific. They dealt with names and dates and persons. There was no reason why he should be lying, and, if not lying, the only other possibility is that he may have been deluded. But these are specific assertions made by people who left the asylum perhaps years ago and are living normal lives and are of sound mind.

The Chairman: Do you believe them all?

Dr. Lomax: By no means all, but the great majority.

The Chairman: What is your criterion for distinction between those which are true and those which are not?

Dr. Lomax: To certain trivial things I do not pay much attention, but when it comes to broken limbs and patients practically killed, there is not much question of a dividing line.

Mr. Snell: Do these allegations of cruelty extend to the female side?

Dr. Lomax: Certainly. You hardly find a case, if the patient has been in the asylum for any length of time, in which there are not allegations as to cruelty, either inflicted upon himself or observed by him to be inflicted upon others.

Sir D. Drummond: What steps did you take to corroborate their statements?

Dr. Lomax: I took it that the corroboration would be sought by the present inquiry.

The Chairman: You transfer to us the evaluation of your evidence?

Dr. Lomax: The only way to proceed is to take specific instances and examine judicially.

Lord Russell: Short of admission by one of the parties incriminated, should we get any corroboration?

The Chairman: You have had a number of complaints of ill treatment and have tested them as far as you could. You are entitled to draw from that the inference that the convergence of testimony from different sources demonstrates that in fact a considerable amount of ill treatment does go on at the hands of asylum attendants. Many of the cases if explored would turn out to be exaggerated, others might prove to be absolutely trustworthy, but the fact that a large number of complaints have been made converging to one result seems to me to demonstrate that this thing does occur. I do not see, however, that we should be very much advanced if we investigated, say, twenty cases, and found ten proved and ten disproved.

Dr. Lomax: I am asking you to hear not only ex-patients but ex-attendants, some of whom are prepared to come forward and testify.

In further evidence Dr. Lomax referred to a case, particulars of which he had already sent to the Commission, concerning a patient who had died. He held that in the case of all deaths in asylums the medical superintendent should be made responsible for reporting to the coroner any marks of injury or other suspicious circumstances. The Chairman said that the case in question was very fully investigated and reported on to the Board of Control. He had had all the papers before him. Dr. Lomax said that the attendant who had originally reported the case had also made a statement to the Board of Control, and had asked to be called in any inquiry. The Chairman remarked that he did not want to enter into the circumstances, but he understood that the attendant was in the hands of the police at the time. Dr. Lomax denied that this was the case. The complaint was three years old, but the circumstances which had brought the attendant into the hands of the police were quite recent. The Chairman said that he understood that this particular attendant was dismissed from the asylum service for suspected theft. Most of those engaged in law did not pay much attention to allegations made by persons of that character. Dr. Lomax said that he could bring corroborative evidence from outside eye-witnesses independently of this attendant.

A little later the Chairman announced that he and his colleagues were impressed by the suggestion that one or two ex-patients and one or two ex-attendants might usefully be examined, and he invited Dr. Lomax to furnish the Commission with names.

#### *Procedure for Detention.*

On the question of the detention of the harmless but at present certifiable person, Dr. Lomax said that he favoured the boarding-out system as operating in Belgium; there patients were detained but uncertified, thereby avoiding stigma. Under the present law people could be far too easily put away in asylums and kept there. He thought there should be first a medical certificate, called a preliminary detention certificate, to be produced in the case of any person with suspected mental disorder on admission to a mental institution; this certificate should give the medical officer in charge of that institution power of detention for a certain period. A second certificate should afterwards be required if the patient had not in the meantime been discharged, and this should be signed, where possible, by a diplomat in psychological medicine, and countersigned by a magistrate. His great point was that every mental patient should have, say, twenty-eight days in a sort of half-way house for observation and preliminary treatment. Voluntary boarders entering the observation building should sign a document conferring the right of detention for twenty-eight days as a safeguard against a sudden attack of insanity of an impulsive character. With regard to private asylums, all those which Dr. Lomax had seen were well conducted. He believed the private asylums of England were as well conducted as any in the world. The objection to them was the existence of the financial motive, but he agreed that the good recovery rate did not support any allegation that a financial motive was operating to detain a patient after he had recovered.

#### *Evidence of Ex-Patients.*

The Chairman stated, before Dr. Lomax gave his evidence, that the Commission had had to reconsider its procedure with regard to hearing the evidence of ex-patients tendered by the National Society for Lunacy Reform. The original apprehensions of the Commission that a public inquiry might prove very disquieting to an ex-patient had been justified, and in addition the procedure adopted had had the result of creating an atmosphere of controversy and recrimination which the Commission could not allow to recur. In future therefore, ex-patients would not be exposed to the ordeal of public examination; such witnesses would be examined in private, though it was not intended to exclude the chairman and counsel of the National Society for Lunacy Reform, which was tendering the witnesses. The evidence, with the names omitted, would in due course be published.

## Nova et Vetera.

### MEDICAL BIOGRAPHY.

IN 1838-40 appeared Thomas Joseph Pettigrew's *Medical Portrait Gallery: Biographical Memoirs of the Most Celebrated Physicians, Surgeons, &c., who have Contributed to the Advancement of Medical Science*. The work was illustrated with five portraits, and contained most eulogistic and redundant accounts of medical men, still living, and in some cases, such as that of Sir James Annesley, nowise deserving the minute attention bestowed upon them.

Old files of medical journals will perhaps throw light on the manner in which Pettigrew's book was received by contemporaries, but we know of no outcry against its appearance such as was raised against the *Medical Circular*, probably from 1852 onwards, for publishing puffs—for they were little else—accompanied by fine wood engravings, of the medical practitioners of the fifties of last century. In 1854 a "strong and very general verdict of condemnation" was pronounced against the practice of publishing "biographies of living members of the medical profession," and at the general meeting of the British Medical Association, held at Leamington in August, 1865, Dr. Stewart (London) carried a motion to the effect "that this meeting sees no reason to dissent" from this pronouncement.

The occasion of this resolution was the publication of certain lives of eminent living medical men by Dr. Herbert Barker of Bedford. These lives were accompanied by photographs, and, at the time of the debate, did not amount to more than three biographies of medical men of the first reputation. At the time of his death, towards the close of the year, only four such lives had been published, and the collected work did not make its appearance until 1867-8, when a quarto volume was issued with the title *Photographs of Eminent Medical Men of all Countries, with brief Analytical Notices of their Works*. The letterpress was by Barker, and the photographs were by Ernest Edwards.

Barker's notices, though diffuse according to modern ideas, were not objectionable. He avoided, he said, all personal details. The debate, however, condemning his first three lives, and with these his whole subsequent undertaking, was sufficiently condemnatory. In October, 1865, the *BRITISH MEDICAL JOURNAL*, in an article on contemporary biography and the whole question at issue between Drs. Barker and Stewart, was prompted to ask:

"What if contemporary biography is to become a recognized and accepted act of professional propriety, what reason is there why we should not nil and each of us do that very thing which Dr. Barker now proposes to do for us; viz., issue to the profession and the public a calm and modest and truthful account of what we are, what we have done, and what we are doing, adorn it with our photographic presence, and thus scatter our virtues and facial fames throughout the world?"

Yet some of the most valuable medical biographies are autobiographies. Some dozen stand out in recollection, notably those by Sir Benjamin Brodie, Dickinson Webster Crompton, Nelson Congreve Dobson, Michael Lambton Este (Nelson's naval surgeon), Joseph Fayer, Frederick James Gant (who put his recollections in the form of a novel), Henry Power, Augustin Pritchard of Bristol, Sir John Simon, Henry Smith, W. D. Spanton, and Jonathan Toogood. So rare are some of these books, so full of long-forgotten detail about apprenticeship and the lives of the old students and the customs of old hospitals prior to 1850, that one is almost tempted to wish that autobiography had been much more widely written than it has been.

The autobiographer, indeed, is the medical historian's best friend. He writes as a rule in old age, and, far from indulging in self-advertisement, is prone to amiable self-depreciation and to revelations of character, for which we should often look in vain in the pages of his official eulogists. Thus Mr. William Clapton, M.B., F.R.C.S., some time vice-president of the Hunterian Society, and well known in Canterbury, where he died in 1912, used to tell of the rhyme

with which the street boys of the time of the Great Exhibition of 1851 were wont to taunt the luckless apprentices sent out with baskets of medicines by the general practitioners of the time.

"O salts and scum, you would not do for me;  
I'd rather go to Jericho than a doctor's boy I'd be."

Clapton was bred in a hural school and practically educated himself from the early period at which he left Christ's Hospital to the time when, by sheer pluck and perseverance, he was able to enter himself as a student at St. Thomas's. He became literary, employing his meal times in running for books to a library. Gibbon, Grote, and Adam Smith were devoured by the young apprentice, whose memory was so retentive that he could in time repeat the whole of *Paradise Regained*, as well as the Prayer Book version of the Psalms.

The late Mr. Henry Power describes remarkable early experiences in his charmingly written autobiography. His bedroom was rather more luxurious than the lair underneath the counter usually assigned to apprentices.

"It contained an escritoire, a camp bedstead, and a miserable washstand. For fear of my setting the house on fire I had a wire gauze candlestick with a dip inside it, always excessively dirty. Beneath the bed were, what I did not much fancy, a number of perfectly black, injected, shrivelled dissections of arms and legs."

This was in 1844. Young John Higginbottom, afterwards F.R.S., in 1816 underwent much indignity and hardship.

"I had to groom the horse, take it to water night and morning, sweep out the surgery daily, clean all the shop bottles and shelves every third morning, make all the preparations, powder barks and cantharides, and pass them through a fine sieve. I had to make all ointments and plasters, and keep a large stock of pills ready. As there was no fire in the surgery during the coldest weather, my hands were often chapped."

At an earlier date still young Charles Mayo of Winchester was first led to study anatomy by a chance visit to a gallows where, in the open air, hung the skeletons of murderers. Like Tennyson's Rizzani, that tragic mourning mother, he collected the fallen bones, but with a different purpose.

When we come to early practice involving great feats of horsemanship on unmacadamized country roads, the insanitary state of the old hospitals, the primitiveness of urgency surgery performed by candlelight, and a host of similar subjects, it is to the old autobiographers that we turn, or to those autobiographical touches which occur in the midst of the often trite eulogies of the elder biographers.

VICTOR PLANN, M.A.,  
Librarian, Royal College of Surgeons of England.

### ROYAL MEDICAL BENEVOLENT FUND.

At the last meeting of the Committee twenty cases were considered and £378 voted to sixteen applicants. The following is a summary of some of the cases relieved.

Widow, aged 47, of L.M.S.S.A.Lond. who died in 1924. She has tried to support herself and children by keeping a boarding-house; this failed, but she is likely to obtain a post as nurse mistress in a school on the South Coast, when she can have her daughter, aged 4, with her. She asked for £12 to cover three weeks' board and lodging in London, fares for self and child to settle up her affairs in the Midlands before taking the post. Voted £20.

Widow, aged 37, of M.B.Olas. who died in 1922. She has three children aged 10, 8, 6; her total income is 30s. a week, and she has been only able to earn very little by needlework. She was in hospital during the autumn to undergo an operation, has run into debt, and school fees are owing. Voted £5, and £20 in four instalments.

Widow, aged 87, of M.R.C.S.Eng. who died in 1895. She is bedridden and has to have a nurse at night as the daughter, aged 57, is only able to look after her during the day. Her total income is £100, and the rent is £39 a year. Voted £5, and £25 in four instalments.

Widow, aged 71, of L.R.C.P.Ed. who died in 1918. She has cataract and is only able to do a little knitting, by which she earned £3. She is looked after by her youngest daughter, who is only able to do a little spinning. The applicant's income is £34 a year from property and the daughter's £10. Voted £18 in twelve instalments.

Subscriptions may be sent to the Honorary Treasurer, Sir Charters Symonds, K.B.E., M.S., at 11, Chandos Street, Cavendish Square, London, W.1.

The annual general meeting of the Royal Medical Benevolent Fund will be held at 11, Chandos Street, W.1, on Tuesday, March 17th, at 5.30 p.m., when the annual report and financial statement for the past year will be presented and the officers and committees elected.

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SATURDAY, MARCH 7TH, 1925.

## POST-GRADUATE ORGANIZATION IN LONDON.

For some time many of those interested in seeing established in London a complete organization for post-graduate medical study have had to view with a growing feeling of disappointment the results of the efforts made during the last five or six years. While they recognize the good work done by the post-graduate schools at Hammersmith and Tottenham, they are of opinion that it does not supply all that, in their view, is urgently required. The two schools mentioned meet the needs of certain kinds of post-graduates, especially those preparing for promotion examinations, and many of the undergraduate schools also have excellent courses for the higher diplomas and degrees. There is no desire to disturb these activities, although in the matter of giving training in certain special clinical subjects much is to be learnt from Vienna.

But more than this is considered to be desirable; in particular and especially it is thought that medical graduates coming from the Dominions and Colonies, and from the United States of America and other foreign countries, should be able to learn by practical experience the character of London as a centre for clinical and scientific medicine, and, if they so wish, to continue some special line of training on which they have already embarked. The visitor who comes with suitable introductions can usually find what he wants, but it has long been thought that there ought to be a definite organization in London to which any medical practitioner qualified in his own country could apply. The Post-Graduate Medical Association was established, with the help of Sir William Osler and Dr. Hurst, to serve this purpose, and the Fellowship of Medicine was started by Sir StClair Thomson and Sir John MacAlister to collect information as to courses and clinics open to medical visitors, and to promote friendly intercourse between members of the profession in this country and their brethren from overseas. Before very long the two bodies combined, and the efforts then made to meet the needs of the situation are deserving of all praise. Yet it has seemed to many in London that they have not been as successful as might be desired, and that in particular not enough is being done to welcome our brethren from the Dominions and Colonies, and that not in the best way. In consequence several informal meetings have been held during the winter for discussion of the situation and how it can be improved. There is, we gather, general agreement that graduate and undergraduate instruction cannot usefully be given at the same place and at the same time, and evidence of this has been afforded by the fact that the undergraduate schools, which in 1919 had agreed to help the Fellowship, eventually withdrew their offer. At the last but one of the informal meetings to which we have referred Sir Thomas Horder, who was in the chair, undertook to write to teachers in London asking for their opinion as to the possibility of arranging special days on which post-graduates might be received at ward visits reserved

for them, in this way avoiding any disturbance of the opportunities afforded to undergraduates in their routine curriculum. At the last meeting he reported that to seventeen letters he had received sixteen replies, all of them favourable, and all indicating willingness to help, either in this way or by giving demonstrations at some post-graduate centre. In one or two instances all the senior members of the teaching staff of a hospital expressed their sympathy. It was therefore made clear that individual teachers attached to undergraduate schools were available for post-graduate teaching provided the necessary machinery were established. This would appear to be a very important factor in the success of any scheme. It was suggested also that special laboratory opportunities might be arranged in London and in Cambridge. At an informal conference with representatives of the Fellowship of Medicine and Post-Graduate Association the possibility of establishing a hostel was raised, but there are doubts whether this is within the range of practical politics, having regard to financial considerations. The possibility of interesting the British Medical Association, so far at least as to induce it to provide a theatre for clinical lectures and demonstrations and a bureau for information, was mooted.

Meanwhile, it may be said in conclusion that those interested laid particular stress on the international character which it is desired to give to any organization established. By "international" is to be understood not only foreign countries, but the British Dominions and Colonies; indeed, it is hoped that such an organization as is now contemplated may have an imperial character and reflect the Empire ideal.

We note that an informal discussion on post-graduate study will take place at 6 p.m. on Wednesday, March 18th, at the Royal Society of Medicine. It will be open to all members of the medical profession, as well as members of the Fellowship of Medicine from other parts of Great Britain and from overseas.

## THE THYROID GLAND, MANGANESE, AND METABOLISM.

THE arresting results published this week (p. 443) by Dr. Herbert W. Nott bring the value of manganese as a therapeutic agent again into prominence. The efficacy of manganese in the treatment of certain infections—boils, carbuncles, whitlows, lymphangitis, gonorrhoeal infections, tonsillitis, etc.—and certain maladies such as asthma and the toxæmias of pregnancy, was indicated by Mr. J. E. R. McDonagh<sup>1</sup> in 1923. His results excited much interest, and his interpretation of them some controversy; chiefly because of his view that manganese changes the condensation of the protein particles in the plasma into dispersion. Dr. Nott's work in associating the action of manganese with the products of the thyroid gland is of peculiar interest in this connexion, and it will be well to draw attention to certain observations, chiefly from French sources, which appear to have a bearing upon it.

It is now generally agreed that the normal operation of the thyroid apparatus (with which there is an increasing tendency to associate the parathyroid glands) is likely to be deranged in certain acute and chronic infections. The observations of Kottmann and others appear to indicate that thyroid disorder is associated with changes in the state of dispersion of serum

<sup>1</sup> *Proc. Roy. Soc. Med., Dermatological Section*, 1923, vi, pp. 66-70.

colloids. Mr. McDonagh's explanation of the action of manganese has a new interest in the light of these observations.

More attention appears to have been paid to manganese in France than in this country or in America. Hannon, Pétrequin, Lemoine, and others have satisfied themselves that manganese is a potent catalytic agent possessing the property of acting as an intermediary between the tissues and oxygen. It appears to be one of those agents—of which thyroxin, the reputed active principle of the thyroid gland, is another—concerned in regulating the capacity of the tissue cells to utilize oxygen. It is a powerful factor, as is thyroid secretion, in causing regeneration of the blood corpuscles. It may be for this reason that certain French physicians give to manganese so prominent a place in the treatment of such states as anaemia, chlorosis in girls, haemophilia in boys, convalescence from acute maladies, malnutrition, and other conditions in which functional impairment of the thyroid gland is frequent. It would seem that if manganese be so indispensable to the processes of oxidation within the tissue cells, and if, as Kendall states, the function of thyroxin be to regulate the capacity of the cell to utilize oxygen—its rate of functioning being dependent on the physical state of the cell—then the efficacy of thyroxin may be intimately associated with the cell's content of manganese. Dr. Nott's happy combination of thyroid substance and manganese may thus have a physiological basis of much significance; at all events it affords good ground for further investigation.

The distribution of manganese in the animal organism and in foods is of great interest in this connexion. It is found in precisely those situations in which vitamins are found, and it is lost to the body by the same means which lead to the inadequate ingestion of vitamins, and, it may be added, of iodine. Bertrand and his pupils have advanced good evidence for their statement that manganese "is absolutely indispensable to life and is encountered in all living tissues, both vegetable and animal." It is most abundant in those tissues in which physiological processes are most active, as in the liver, the kidneys, the heart, and the mucous membranes. It is present in fruits and in the growing parts of plants, especially in green leafy vegetables. It occurs in wheat and other cereals, being present, like vitamins and iodine, in the outer layers of the grain, and, like them, being removed in the manufacture of white flour. Thus, while wheat bran contains as much as 3.27 mg. of manganese per 100 grams of material, white flour is lacking in it. How significant these observations are will be obvious to all who have followed modern investigations in regard to vitamins. Clearly, then, further study of manganese in relation to the organism in general, and the thyroid gland in particular, is called for. An attempt of this kind has lately been made by Levine and Sohm in America. These observers have found that the administration of small quantities of manganese to rats increased their rate of growth, improved their coats—making the hair longer and more silky—and caused the animals to be more active. Of even more interest are the observations of Camescasse on debilitated children. He found that, despite rest, good country air, sunlight, and regular and copious nourishment, certain children failed to flourish or to increase in weight. Many measures were adopted to improve their metabolism—iron, arsenic, cod-liver oil, preparations of iodine, and general tonics—but without conspicuous success. When, however, minute doses

of manganese were given to these children daily (0.03 to 0.07 gram of manganese dioxide in cachets), within fifteen days striking improvement in weight, in metabolism, and in general appearance resulted in the majority of them (in 9 out of every 10 girls, and in 5 out of every 10 boys). It is of interest to note this difference between girls and boys, since it again suggests some underlying endocrine influence. It is to be noted also that it was unnecessary to do more than recharge the tissues with manganese by a course of fifteen days' treatment; thereafter their weight continued to increase and their general condition to improve.

These observations suggest, as has been said, that Dr. Nott's methods deserve further study both by practising physicians and by laboratory workers.

## FOOD PRESERVATIVES.

We have already mentioned that draft Orders on food preservatives have recently been published by the Ministry of Health, and, in terms in all essential respects identical, by the Secretary for Scotland.<sup>1</sup> They are very much what was expected, for they carry out the recommendations of the Departmental Committee which reported in October last.<sup>2</sup> The Orders would prohibit the use of food preservatives in general, but allow sulphites and benzoates to be used in limited amounts in certain specified articles of food. Certain colouring matters also are prohibited, the most important of which is copper.

In the first place, we welcome the appearance of these Orders as an important advance in public hygiene. The English law regarding food preservatives hitherto has been very lax—indeed, it has been far behind that of most other highly civilized countries—and these regulations introduce necessary reforms long overdue. The almost unrestricted use of food preservatives hitherto allowed in this country has, however, been a convenience to certain trades, and these are naturally objecting to the new proposals.

The appearance of the new Orders was anticipated by a vigorous attack in the columns of the *Times*; this gave rise to a correspondence which included several effective and well reasoned replies. Sir William Pope, who opened the attack, and other critics admitted that some reforms regarding food preservatives were necessary, and confined their attack chiefly to the proposed prohibition of boric acid. The question as to how much damage is done to the consumer by the use of boric acid as a food preservative is a matter of controversy.

It is pretty generally admitted that boric acid may be injurious to infants and invalids, and that some healthy persons are very susceptible to this drug. These facts alone are a sufficient reason for condemning the existing conditions. Hitherto the use of boric acid has been prohibited in milk, and dealers have been required to declare its use in cream, but otherwise no definite restrictions have been placed on its employment, and there has not even been an obligation to declare its presence in food. Sir William Pope and other experts have attacked the proposed prohibition of boric acid on the ground that there is no conclusive evidence that moderate amounts produce harmful effects on normal healthy adults. There is, of course, little likelihood of absolutely conclusive evidence being obtained on this question, since boric acid, like nearly all other substances which have been used as food

<sup>1</sup> BRITISH MEDICAL JOURNAL, February 21st, p. 375.

<sup>2</sup> See BRITISH MEDICAL JOURNAL, November 1st, 1924, pp. 821, 828.



preservatives, does not produce any rapid and obvious harmful effects. Moreover, powerful trade interests are concerned in defending its use, and such interests never lack able expert defenders. As long as trade interests are anxious to maintain the use of boric acid as a preservative there is no likelihood of the evidence against it being universally admitted as satisfactory. Hence we need expect no finality in the dispute as to the pharmacological action of boric acid when used as a food preservative. Our own view is that in such questions the public is entitled to the benefit of the doubt, and that no substance ought to be permitted as a food preservative unless it is certain that it is harmless.

Knowledge regarding the cumulative effects of drugs when these are given daily for years is extremely defective, and we see no reason why the poorer sections of the community should be forced to take unnecessary risks. Other highly urbanized peoples, such as the United States and Germany, manage to feed their populations at a reasonable price without using boric acid, and hence we view with suspicion the statement that prohibition of boric acid will raise the price of food, particularly since this threat has already been both made and disproved in the case of milk. Undoubtedly boric acid can be used as a cheap and convenient substitute for proper care and cleanliness in the preparation of food, but this is not a reason for permitting its use.

We hope the draft regulations will be carried through.

#### THE "ANNALS OF SURGERY."

WITH its January number the *Annals of Surgery* enters upon its eighty-first volume, and at the same time commemorates the forty consecutive years of editorship by Dr. Lewis Stephen Pilcher. He is still editor, but now works in association with Dr. James Taft Pilcher, and has the collaboration in this country of Mr. Sampson Handley. The Lippincott Company is to be warmly congratulated upon the continued success of the undertaking and upon the distinguished list of contributors to this commemorative number. Dr. W. W. Keen, in a short opening paper on the early days of the *Annals*, "when it was not the *Annals of Surgery*," recalls that its starting point was the formation (1878) of the Anatomical and Surgical Club (later Society) of Brooklyn, from which emanated between 1879 and 1884 nine volumes. The first volume—a very thin one, dated 1879—bore the title *Annals of the Anatomical and Surgical Club of Brooklyn*. Later it became *Annals of Anatomy and Surgery*. The first number published under the name now familiar the world over appeared in January, 1885. Dr. Pilcher was the first president of the original society and a contributor to the volumes. In the winter and spring of 1884 he visited Europe. In Germany he became acquainted with Schede, Bergmann, von Langenbeck, Hahn, Hagedorn, and Volkman; and in England he met Lister, James Paget, Timothy Holmes, John Marshall, Lawson Tait, Thomas Keith, John Chiene, William Macewen, C. B. Keetley, and Rickman Godlee. One evening in April, 1884, Keetley was dining with Dr. Pilcher, and the after-dinner talk turned upon the theme of possible future surgical journalism. They speculated upon the value and possibilities of an international surgical journal in which the work of the two nations should be united, but to neither did the idea seem more than a dream. Pilcher had already endeavoured to interest the great medical publishers of New York and Philadelphia in the idea of a journal devoted to surgery, but without success. When he arrived home, however, early in May, he found waiting to see him a gentleman who wished to discuss the feasibility of undertaking

the publication of a journal devoted to surgery. This was James H. Chambers, who had had considerable experience as a publisher of medical journals, and was confident that such a journal of high class would be a business success. The outcome of the discussion was that an agreement was reached and a contract made under which a monthly journal, to be called the *Annals of Surgery*, was to be edited and published. For forty years since that date the journal has continued to appear without intermission. For seven years C. B. Keetley was Pilcher's London collaborator. Keetley, who was surgeon to the West London Hospital, was possessed of great natural ability, with a leaning to orthopaedic surgery, but was much hampered by deafness. Among prominent supporters were Treves, Jacobson, Macewen, and Watson Cheyne, portraits of whom are given. Dr. W. J. Mayo refers to the forty-five years of the American Surgical Association, founded by the historian of American surgery, Samuel D. Gross, as well as to past contributors to the *Annals*—Senn, Murphy, Billings, Parkes, Roswell Park, and others. The connexion with this country, maintained by the collaboration of Mr. Sampson Handley, is emphasized by the inclusion of his portrait. He enters upon his new undertaking with a brilliant communication on lupus in its surgical aspects—furnished with numerous illustrations and observations. Mr. Handley shows that lupus is an infection involving the lymphatics of the skin papillae, and at the same time a rather wider area of the deep lymphatic plexus. By a corrected view of its pathology he proves that excision so as to include the whole of the superficially infected area, together with a slightly larger area of the deep fascia, followed by primary suture, is the treatment to be adopted whenever practicable. Light treatment tends to fail because it does not influence the deep fascial lymphatics. The doctrine of the paper extends beyond the subject of lupus, and has a bearing upon the treatment of rodent ulcer and carcinomas supervening upon lupus scars. Following Mr. Handley are over thirty articles covering the wide field of surgery, ending with one by Royal Whitman on the abduction treatment of fracture of the neck of the femur. The founding of the *British Journal of Surgery*, which has now published a composite index covering ten years, is alluded to by Macewen in a letter, here reproduced in facsimile. Sir Berkeley Moynihan, in contributing a valuable article on acute pancreatitis, shows that British surgeons continue to be warm well-wishers of the *Annals of Surgery*. The BRITISH MEDICAL JOURNAL joins in the congratulations to Dr. Pilcher, well knowing that his editorial work represents but one side of his activities. His *Ex Libris Antiquis*, a list of books of the old masters of medicine and surgery, etc., published in 1918, represents another side. The very success of the *Annals* encouraged emulation, and Dr. Franklin Martin, editor of *Surgery, Gynecology and Obstetrics*, and Dr. Walter Brickner, editor of the *American Journal of Surgery*, add their congratulations.

#### THE LIFE AND DEATH OF CELLS.

THE Japanese Government Institute for Infectious Diseases at the Tokyo Imperial University has recently issued a second volume of its Scientific Reports.<sup>1</sup> It deals with the year 1923, and contains eighteen articles on bacteriology and serology, ten on pathology, and five on chemistry. Most of the papers are printed in English, though a few are in German or other languages. They deal with a variety of subjects: even to give a list of the titles of the articles would occupy a large space, and we must content ourselves by stating that the volume will be placed in the Library of the British Medical Association, so that anyone who wishes

<sup>1</sup> *Scientific Reports from the Government Institute for Infectious Diseases at the Tokyo Imperial University*. For the year 1923. Vol. II. Edited by Dr. Y. Miyagawa. Tokyo: Shirokane-Daimachi, Shibaku. 1924. (Double cr. 8vo, pp. 552; illustrated.)

to refer to experimental work carried out at this institute will know where a copy of the scientific reports is available. There are, however, two or three articles to which we will here call attention, because they suggest a promising method of approach in the study of regeneration and repair of tissues. Dr. Y. Miyagawa has made a study of the biological function of the constituents of dead cells, particularly of the effect of the constituents of red blood corpuscles on the regeneration of red blood cells, of the constituents of the epithelial cells of the kidney on the functions of the kidney, and of the constituents of the liver cells in relation to the secretion of bile. He has come to the conclusion that all the cells of organs and tissues of the body are constantly dying, and that part of their constituents are absorbed into the general circulation and act on homologous cells, promoting their functional activity and performing the important duty of maintaining them in good physiological condition. He holds that two varieties of influences play on all the living cells of the body—that exerted by the nervous system, and that due to direct action brought about by constituents of dead cells absorbed into the general circulation. He calls this latter direct action an “auto-regulation.” This auto-regulation acts directly on homologous cells, and only on these. But it remains to be decided by further research whether or not the substances derived from the constituents of a dead cell really act directly on the living cells or work through the nerve mechanism. The same investigator, in collaboration with three colleagues, has a second article on the influence of the parenteral inoculation of a pulmonary cell suspension into a living animal. Following the injection of a suspension of the parenchymatous cells of the lung into guinea-pigs and rabbits, a remarkable degeneration, and even necrosis, was observed in the lungs of the injected animals; it was associated with serous exudation and partial collapse of the lung. These changes were not inflammatory, but had the character of a true degeneration. Other organs were affected little if at all. The same paper records a good deal of experimental work on the effect of the injection of pneumotoxin. One other paper on a closely related subject has a general interest. Dr. M. Ono set out to discover how many red blood corpuscles perish each day in a healthy individual. Two methods were used for this calculation—the first from the length of life of red corpuscles, and the second from the daily quantity of biliary secretion. It is estimated that the length of life of a red blood corpuscle is about thirty days, and by calculating from the total quantity of red cells circulating in the blood Dr. Ono has worked out that about 500,000 million corpuscles perish each day, a number which corresponds to the loss of about 100 c.cm. of blood. By the second method of analysis, a quantitative estimation of biliary secretion, the author came to much the same conclusion.

#### SHAVING-BRUSHES INFECTED WITH ANTHRAX SPORES.

THE untimely death of Professor Ellermann from using a shaving-brush infected with anthrax spores has led to the publication by the Institute for General Pathology of the University of Copenhagen of an account of the case, and the examination of the brush, by Oluf Thomsen and Vilh. Jensen. Professor Ellermann's illness began on December 17th, 1924, as a small spot on the left cheek. This was followed by much oedema, but without at first any noticeable affection of the general state of health. The brush sent for examination proved to be of a large size model (about 13 cm. long, with handle). It was made to imitate badger, but actually consisted of dyed Chinese horsehair. Bacteriological examination showed that the hairs of the brush were infected with anthrax spores. In spite of the injection of anthrax serum Professor Ellermann died on

December 24th. It will be remembered that the first case of anthrax traced to a shaving-brush occurred in England in 1915. In that year six cases were reported; in 1916 thirteen cases; in 1917 and 1918 none were reported, but there were fourteen in 1919, thirteen in 1920, and four in 1921. No cases have since been observed in England. Consequently, the number of cases observed in the civilian population in England amounts to fifty, with eighteen deaths. Among the troops in Great Britain from December, 1914, to February, 1917, eighteen cases of anthrax were ascertained; of these, four were certainly due to infected shaving-brushes. Among the British troops in France from January, 1915, to February, 1917, there were twenty-eight cases of anthrax, and of these the infected spot was on the cheek, chin, or neck; in no case was it possible to demonstrate that the infection originated from shaving-brushes, but this does not prove that it did not, for shaving-brushes were issued as part of the equipment. In the British Navy, from December, 1919, to January, 1921, there were six cases, and in two of these the infection might certainly be regarded as due to shaving-brushes. A complete account of the cases of infection occurring in England and other countries is given in the article, and it is stated that a considerable number of shaving-brushes made of horsehair from China, but falsely labelled, appeared on the market in 1915. The measures taken by the Ministry of Health are related, and the passage (July, 1919) of the Anthrax Prevention Act, which gave the Government power, by an Order in Council, to forbid the importation of suspected goods, is noted. Such an Order was made prohibiting the importation of shaving-brushes manufactured in Japan, for it was found that infectious brushes were being imported from that country. This, together with the destruction of a large number of shaving-brushes suspected of anthrax infection, appears to have prevented the occurrence of further cases. An interesting point about the case recorded by Thomsen and Jensen is that even where there is reason to suppose that disinfection has been carried out there is no guarantee whatsoever of its efficiency; private disinfection is therefore an additional safeguard. This article, written in excellent English, is published, together with several other articles in English, in *Acta Pathologica et Microbiologica Scandinavica*, vol. i, Fasc. 2, 1924.

#### PATENT MEDICINES.

Dr. J. B. CONES, F.R.S., professor of organic chemistry in the University of Leeds, recently gave an address on “patent medicines” to a meeting of the Norwich Rotary Club. He began by making a quite unnecessary apology for, as a chemist, intruding on the domain of medicine. In the matter of synthetic drugs, to which Dr. Cohen first referred, the medical profession is entirely dependent on the chemist, who has sometimes presented it with drugs of undoubted value, such as, for instance, the arsenobenzol series. The synthetic chemist, Professor Cohen said, produces substances having a definite composition and exerting definite physiological effects; they can be prescribed in doses ascertained by scientific methods. This scientific development of drugs had to compete with the quack nostrum vendor, but on unequal terms, because, whereas the latter advertised, generally in grossly exaggerated terms, the scientific chemist gave his knowledge freely. He recalled how the British Medical Association had published two books—*Secret Remedies* and *More Secret Remedies*—which contained analyses and descriptions of patent medicines and other particulars about them. The revelation was so astonishing that the Government appointed a Select Committee on Patent Medicines in 1914; unfortunately its report was published just before the outbreak of war. The Committee had summarized the situation regarding the sale and advertisement of patent and proprietary remedies

as follows: "For all practical purposes British law is powerless to prevent any person from procuring any drug or making any mixture, whether potent or without any therapeutical activity whatever (so long as it does not contain a scheduled poison), advertising it in any decent terms as a cure for any disease or ailment, recommending it by bogus testimonials, and the invented opinions and facsimile signatures of fictitious physicians, and selling it under any name he chooses, on the payment of a small stamp duty, for any price he can persuade a credulous public to pay." Some patent medicines, Professor Cohen continued, were fraudulent nostrums, dangerous remedies used for improper purposes, or fraudulent preparations used for misleading their victims, such as alleged cures for cancer, consumption, and epilepsy. After dealing in detail with some of the advertised patent medicines, he said that serious injury might be done to the public by misleading prescriptions and excessive claims, yet their sale and advertisement were unrestricted and uncontrolled by law, and so hedged in by legal anomalies that to attempt prosecution for fraud was merely to court failure. He then read out the recommendations of the Committee, which had found that for many secret remedies grossly exaggerated claims of efficacy were made, "causing injury by leading sick people to delay in securing medical treatment; containing in disguise large proportions of alcohol; sold for improper purposes; professing to cure diseases incurable by medication; or essentially and deliberately fraudulent." This class of remedies, the report continued, "contains none which spring from therapeutical or medical knowledge, but they are put upon the market by ignorant persons, and, in many cases, by cunning swindlers, who exploit for their own profit the apparently invincible credulity of the public." This, the Committee concluded, constitutes a grave and widespread public evil. Viscount Astor, when Parliamentary Secretary to the Ministry of Health, prepared a Proprietary Medicines Bill, which was read a second time in the House of Lords. It passed through committee and was reported to the House; this was in July, 1920, but since then nothing has been done. We are, however, glad to note some evidences of an increasing public realization of the evil consequences of this traffic. The discussion by the Publicity Club of London last November (reported in the SUPPLEMENT of November 22nd) is a sign that proprietors of some of these preparations are beginning to realize that their position is open to criticism, and there has recently been gratifying evidence that the newspaper press is becoming alive to its responsibilities.

#### THE HEBREW UNIVERSITY, JERUSALEM.

THE NEW Hebrew University of Jerusalem will be opened by Lord Balfour on April 1st. The Jews have already created in Palestine a network of educational institutions, and with the inauguration of the university the foundations of a complete educational system will have been laid. The purchase of a house on Mount Scopus, built by the late Sir John Gray Hill, had been just effected in 1914, to serve as part of the university, when the outbreak of the war stopped the work for the time being. On July 24th, 1918, the foundation stone of the university buildings was laid, and Professor Geddes and Mr. Mears drew up designs, which were exhibited at the Royal Academy in London. It is proposed that the university shall start as a research centre primarily, with a view to promoting an intellectual atmosphere and the achievement of a very high level of scholarship. The medical department was founded in the spring of 1921, and a research laboratory for microbiology is now almost completed. It is expected that work in this microbiological institute will begin in the late summer of this year. An x-ray, therapeutic, and diagnostic institute has also been equipped,

and the American Jewish Physicians Committee is now engaged in raising funds for the erection of a modern university hospital. As soon as the necessary amount has been collected the committee will begin to erect a medical college, with laboratories for physiology, anatomy, histology, and pathology, lecture rooms, and accommodation for post-graduate instruction and tropical health work. An undergraduate school will slowly evolve. The committee hopes to institute at an early date visiting lectureships in the various branches of medicine and surgery, to be held by the leading medical teachers of Europe and America. A project is under consideration for a chemical institute comprising two departments, one for general chemistry—both synthetic and analytic—and the other for biochemistry. An institute for Jewish studies is planned to be a centre for promoting the knowledge of Hebrew and cognate languages, Jewish literature, history, and philosophy, and also for advanced research and instruction for selected pupils. A Jewish national library is being organized, and there are already 250,000 cards in the catalogue. Many books have been presented by various European Governments, the British Museum, and the New York Public Library. A special medical department of the library was opened in the summer of 1923, and is provisionally housed in the Pasteur Institute. The university will be open to students of all creeds, races, and nationalities.

#### STEEL HOUSES IN LONDON.

A COMMITTEE appointed by the Minister of Health to consider new materials and methods of building for working-class houses has reported on constructions in steel, concrete, timber frame (with external steel plate), and burnt clay block, and it is now proceeding to arrange for domestic architecture in steel to be exhibited for the instruction of the public. On the recommendation of this committee, the Minister of Health has desired the London County Council to arrange for the erection of two small two-story houses having a steel frame or skeleton, after the design of James Wild and Co. (Housing), Limited, of Manchester. A suitable site on one of the Council's housing estates, where the erections can easily be inspected, is likely to be taken for the purpose. The price of erection of these houses, which are to be of the non-parlour type, with three bedrooms, is £435 each, this sum to include the necessary work on drains, paths, and fences. Towards the cost of providing the two houses the Government is prepared to contribute £400, without conditions of any kind, but no further subsidy will be payable, and the houses when erected will be the property of the London County Council. Meanwhile a steel house of another design has been put up, temporarily and for demonstration purposes only, in one of the principal London thoroughfares. This is a one-story dwelling built by the Constellation Company, Limited, on an L.C.C. site in Upper Tooting Road. The house consists of five rooms, the largest measuring 14 ft. by 12 ft., and includes all the appurtenances of kitchen and bathroom. The walls are of galvanized steel laid upon a standardized wooden framework: the treatment of the metal with zinc prevents the rust which would otherwise be inevitable on steel plate, and the sheets are carefully interlocked at the joints so as to make the house weather-proof. An inner and outer sheet of steel are used, each sheet being backed by a layer of felt, and between the two layers is a space of 4 in., which can be left empty or filled with "breeze." All the metal, instead of being left flat as in other steel houses, is stamped in relief so as, with ingenious painting, to resemble externally a rough-cast stone, and internally an oak panelling or a white tiling as desired. Here we have, not the lath painted to look like iron, but the iron, or steel, painted to resemble more usual building constructions, but the result is to give a more

substantial and decorative appearance than might be expected from so uncompromising a material as steel. The gabled roof is of wood, with Somerset tiling, the chimneys and flues are of concrete, the foundation of the house is a concrete raft, above which is a damp-course, and a jointless flooring. The price of the house is £450, or, if the parlour be omitted, £385, allowing for a weekly rental of 15s. or 12s. 6d., including rates and taxes. The house was erected within seven days, and decorated within another seven. The steel-frame house is well known in many parts of the world, especially British Columbia, but it has still to adjust itself to the British climate. On the occasion of the house warming by the Mayor of Wandsworth, the little bungalow, with the daffodils in the front garden, the red tiles on the roof, and the dainty furniture which an enterprising firm had installed, had the appearance of an ideal cottage home. The builders laid stress upon its permanence (claiming for it a life equal to the ninety-nine years of the ordinary lease), its dryness, and the ease with which parts could be replaced or the whole redecorated. They could also claim, of course, that although some people may have a prejudice against being encased in steel, a not inconsiderable and a very healthy portion of the population do in fact live within steel walls already—namely, the officers and men of His Majesty's Navy when serving afloat.

#### EXPERIMENTS ON DOGS.

SIR FREDERICK BANBURY, when in the House of Commons, used to introduce a bill with the title, the Dogs Protection Bill. It was a bill to prohibit any experiment on a dog. It was a hardy annual of varying fortune; once it slipped through the second reading stage, but was eventually rejected by a substantial majority. When its father went to the House of Lords he introduced it there last March; it led to an interesting but one-sided debate, as may be seen by reference to our report of the proceedings (April 5th, 1924, p. 639), for nobody but the mover and his second had a good word to say for it, and Lord Banbury did not think it prudent to go to a division. But it would be imprudent to assume that the last has been heard of it. An article by Dr. Herbert Snow published in the *Nineteenth Century* for January is proof that the antivivisectionists still nurse hopes. His article professed to give reasons why such a bill should be passed. Dr. Snow has been, if we remember right, an antivivisectionist for many years, and his reasons are many years old, and all of them have been shown many years ago to rest on want of acquaintance with the true facts or inability to understand them. Dr. Snow, who has come forward or been put forward as a champion of the antivivisectionists, seems to have befogged himself by much reading of antivivisection "literature" and not verifying his facts. Mr. Stephen Paget, vice-chairman of the Research Defence Society,<sup>1</sup> to whose vigilance and well informed defence of physiology and experimental medicine the profession has long owed a deep debt of gratitude, has made a reply, brief but all the more effective on that account, in the *Nineteenth Century* for March. Mr. Paget takes up a number of the assertions echoed by Dr. Snow, and one by one shows that they are foolish or contrary to the facts, or both. Mr. Paget has unearthed a statement in one of the antivivisection magazines from which it would appear that the antivivisectionists are beginning to pose as martyrs. The writer said, "We and our propaganda are extremely unpopular. We are disliked excessively, I may say loathed." Some of them do not like to be called "antivivisectionists"; but what would they prefer? "Obstructionists" or "obscurantists" would not be sufficiently specific.

#### A MEDICAL STUDENT IN GLASGOW NINETY YEARS AGO.

DR. J. H. ALEXANDER<sup>1</sup> has had the happy idea of publishing some notes of his father's student days in Glasgow in the early thirties, when memories of the Napoleonic wars were still the subject of much reminiscent conversation. Early in his career (1832), as a follower of Hippocrates, he had the experience of watching the invasion of Glasgow by cholera, and of the first death, in a flat above that in which he lodged. The Medical Board exerted itself to stay the plague by fumigating the infected houses, by preventing anyone from entering or leaving towns or villages if it was known that he or she came from an infected district, and by offering senior students a guinea and a half a week to attend cholera patients. But in spite of all the well meant efforts the mortality was such that in some towns carts went round during the night to collect the dead, some in coffins, others without; the corpses were buried in trenches, often in land outside the graveyards; the conditions thus resembled those so vividly described by Walter G. Bell in his account of the great plague of London. The anatomical rooms were in those days largely dependent for supplies upon the body-snatchers, as graphically described by Robert Louis Stevenson's story in *Tales and Fantasies*. William Alexander's account of the activities of the resurrectionists in 1833—which was after the execution of Burke (1829) for murders with the object of supplying anatomical subjects—describes how the exhumed corpse in a sack was placed upright in a gig between the two resurrectionists and driven off from the rifled grave. As much as £12 to £14 was paid for a body, but the risks were not slight, for the relatives of the deceased would lie concealed in the churchyard night after night with arms, fully determined to resist even to bloodshed. He tells the story of a student who, on returning to Glasgow after the Christmas holidays, found his dead sister laid out on one of the dissecting-room tables. The account of operations without anaesthetics and antiseptic or aseptic precautions is enough to make the reader thankful that he did not live in "the good old times."

#### THE HOME AMBULANCE SERVICE.

SHORTLY after the armistice a number of motor ambulances which had been maintained in Northern France by the British Red Cross Society and the Order of St. John were liberated, and the two bodies appointed a Home Service Ambulance Committee, which worked out a scheme for stationing ambulances at convenient points throughout England and Wales and Ireland, so that one should always be available for accidents or for the removal of sick persons or convalescents to hospitals or to their own homes. The scheme met with very general approval, and the ideal put before the committee has now nearly been attained. At the end of last year it had 342 ambulance stations in the country and 33 affiliated stations, making a total of 375. The number of stations in the various counties varies according to local needs, and the number of patients carried varies also: thus, in West Lancashire, with 11 ambulances in service, 63,000 patients have been moved; in the West Riding, with 14, over 21,000; in Durham, also with 14, nearly 16,000; and in Essex, with 15, about the same number. In the agricultural counties the number of patients moved has, of course, been smaller; thus, in Kent, with 16 ambulances, 7,300 patients were handled, and in Cornwall, with 6 ambulances, about 1,900. As a rule the ambulances are controlled by the county director, but in Wales special arrangements are being made. In Southern Ireland the scheme has not been developed to the extent desired, but in Northern Ireland, with 14 ambulances, nearly 9,000 patients have been moved. Since the Home Ambu-

<sup>1</sup> The annual subscription to the Research Defence Society is 10s. It publishes a quarterly periodical with the title *The Fight against Disease* (price 6d.). Its offices are at 11, Chandos Street, Cavendish Square, London, W.1.

<sup>2</sup> *Glasgow Med. Journ.*, 1925, ciii, 37-44

lance Service was instituted municipal bodies have shown a greater tendency to set up ambulance services of their own, but in many cases they have preferred to depend on the Home Service Committee for the control of this work. Thus, the city of Plymouth has delegated the whole of its ambulance transport work, including the carriage of crippled children to special schools, to the Plymouth centre of the St. John Ambulance Association, which works in association with the Plymouth division of the British Red Cross. A private telephone line connects the central police with the ambulance stations, which are also included in the borough fire alarm installation, so that the ambulance is called simultaneously with the firemen, and a car follows each fire engine. At Bolton in West Lancashire the ambulances, working under a joint committee and staffed by members of the brigade, carried nearly 17,000 cases during 1924, and here again the work done includes much for the public health authorities and also for the education authority in connexion with crippled children. Whatever service is eventually set up, it must depend for its efficiency on the co-operation of trained attendants, and the Home Ambulance Committee aims at bringing all its ambulances into the charge of units of the order or society. Already the system has brought many recruits, so that it has promoted and encouraged the acquisition of skill in first-aid treatment. There is a vastly greater incentive to go through a course of first-aid training when the student knows that his skill will be put to constant use in connexion with the ambulances than if he may only be called upon to exercise it occasionally and at long intervals.

#### THE BRITISH ASSOCIATION MEETING, 1925.

ARRANGEMENTS are well on the way to completion for the next annual meeting of the British Association, which takes place at Southampton from August 26th to September 2nd; the programmes will be issued shortly. The President is Dr. Horace Lamb, F.R.S., the author of many papers on mathematical physics, and formerly professor of mathematics in the Universities of Adelaide and Manchester. The sections number thirteen, and the presidents of four of them are as follows: physiology, Professor A. V. Hill, F.R.S., of University College, London; psychology, Professor C. E. Spearman, F.R.S., also of University College; anthropology, Dr. Thomas Ashby, director of the British School of Archaeology at Rome; and education, Dr. W. W. Vaughan, head master of Rugby. The proceedings will include a number of joint discussions between different sections. The sections of zoology and physiology will unite for a discussion on the functional significance of size; those of psychology and education, on recent investigations upon functional guidance; and those of physiology and psychology, on the acquisition of muscular skill. Other discussions set down are on health in schools, the disciplinary value of subjects, the training of teachers, and the teaching of biology.

#### CONGRESS OF RADIOLOGY.

It has now been decided that the Congress of Radiology in London shall begin on Tuesday, June 30th, with a reception, and that the formal opening shall take place on the following morning, July 1st. Sessions will be held on each of the following days until Saturday, July 4th, when the congress will come to an end, but in the following week visits will be paid to other centres of interest. During the congress an exhibition of radiological and electrical apparatus will be held, and there will also be an exhibition of radiograms, in which dental radiograms will be included. The congress is described as a preliminary meeting of international congresses of radiology, and it is intended that arrangements for the first international congress, its

date, and the country in which it should be held, will be decided by an international committee during the meeting in London. Electrotherapeutics and allied subjects will be included within the scope of the congress, and radiological and electrotherapeutic societies are invited to send representatives to serve on the international committee. The congress in London will be of an international character, inasmuch as radiologists from every country are invited to take part. The fee for membership is £2 2s. The object of the congress is to bring together radiologists from all parts of the world. Papers may be read in the language selected by the author, but it is desired that they should be approved by a recognized society of which the author is a member. It is also asked that a short abstract shall be provided, and English translations of all documents "will be much appreciated." The president of the congress is Mr. G. Thurstan Holland, Ch.M., of Liverpool. The chairman of the organizing committee is Dr. Robert Knox, and the secretary-general is Dr. Stanley Melville. The headquarters of the congress are at the British Institute of Radiology, 32, Welbeck Street, London, W.1. The secretaries, addressed there, will be glad to supply full particulars.

#### INFLUENZA.

LAST week the number of deaths in the great towns of England and Wales was almost the same as in the previous week—352, against 354; in London the number decreased from 92 to 88. Four cities or towns other than London had 10 or more deaths—namely, Stoke-on-Trent (10), Manchester (16), Leeds (13), Stockton-on-Tees (11). Two had 8 each—Birmingham and Preston; one 7—Bradford; four 6—Nottingham, Hastings, Liverpool, and Sunderland. The notifications of pneumonia have also decreased—from 1,742 to 1,473; only in the North and in Wales was there any increase. It appears, then, that the wave of influenza is at or near its maximum. If so, this recrudescence is definitely less severe than that of last year, although the total number of cases has probably been very large. The King, we are glad to note, has been able to leave his bed, and may now be considered convalescent.

THE KING has appointed Dr. John M. Cowan, physician to the Royal Infirmary, Glasgow, to be one of the Honorary Physicians to His Majesty in Scotland, in the room of Sir James Mackenzie, F.R.S., deceased.

At the social evening at the Royal Society of Medicine on Monday, March 16th, the guests will be received by the President, Sir StClair Thomson, at 8.30 p.m. The library will be open and various objects will be exhibited. At 9.30 Dr. H. C. Cameron will give an address on "John Locke, the philosopher (1690), on the upbringing of children." No cards of admission are required, and Fellows are invited to bring friends.

THE first award of the Sir Robert Jones Medal and British Orthopaedic Association Prize of £50 has been made to Mr. G. Perkins, F.R.C.S., assistant surgeon to the Royal National Orthopaedic Hospital, for his essay on "The diagnosis, treatment, and end-results of tuberculous disease of the hip-joint." The subject of the essay for 1925 is "The classification and differential diagnosis of the different forms of arthritis." Essays, which must be submitted by December 31st, 1925, should be sent to the Honorary Secretary of the British Orthopaedic Association, Mr. R. C. Elmslie, M.S., 1A, Portland Place, London, W.1.

WE regret to announce the death of Dr. J. J. Graham Brown, a former President of the Royal College of Physicians of Edinburgh, and consulting physician to the Royal Infirmary, Edinburgh.



## PARALYSIS AGITANS AND POST-ENCEPHALITIC CONDITIONS.

### PROFESSOR CRUCHET'S LECTURE.

UNDER the auspices of the University of London, at the Royal Society of Medicine, on February 25th, with Sir James Purves-Stewart in the chair, Professor René Cruchet of the University of Bordeaux gave a lecture on the relation of paralysis agitans to the Parkinsonian syndrome of epidemic encephalitis.

Sir JAMES PURVES-STEWART referred to the closer and more appreciative understanding between English and French physicians which had grown up since the war. It would be interesting, he said, to listen to a lecture by such a distinguished French physician on a malady such as Parkinson's disease, which was so essentially English.

Professor CRUCHET began by explaining how in 1917, when he described what he believed to be a new disease under the name of "subacute encephalo-mylitis," which later became "encephalitis lethargica," he observed in several cases that an immobile face existed from the onset of the disease, and that this Parkinsonian appearance was, however, quite different from Parkinson's disease. Later, with the opportunities afforded by the epidemic of 1919-20, these Parkinsonian symptoms of encephalitis lethargica became much more common, but they were still to be differentiated from true paralysis agitans. Confusion between these two diseases, however, was very evident owing to the fact that they had certain symptoms in common. Such symptoms had been isolated by Professor Cruchet under the term "bradykinetic syndrome."

### The Bradykinetic Syndrome.

This syndrome, he said, consists essentially of slowness of movement; this is associated with immobility, fixed attitude, kinesia paradoxa, and, according to some writers, muscular resistance. The immobility is most strikingly shown in the expression of the face—the so-called "Parkinsonian mask," not, however, described by Parkinson. This immobility is also shown by the absence of many other characteristic little movements which constitute individuality. The fixed attitude generally consists of a bending forward of the body with a neck shrunk between the shoulders and arms slightly flexed with the hands brought towards the abdomen. Slowness of movements is especially striking on the face: emotional expressions lack spontaneity. Even the movements which have become automatic by habit become stiff and slackened. This slowness is strikingly shown in certain occupations where patients take four or five times the usual number of hours to do a piece of work. This slowness of movement is quite different from that seen in people who are slow from birth or by temperament, in that it is stiff and lacks spontaneity. The movements are, however, perfectly co-ordinated. The more a certain act goes on or is repeated the slower it becomes until it finally stops. Paradoxical kinesia, as described by Souques in 1921, is shown by certain patients who, only able to walk slowly and with difficulty, sometimes find themselves able to run for a brief period of time. This sign, occurring in paralysis agitans, was recognized by Parkinson. With regard to muscular resistance, Professor Cruchet thought that the rigid appearance of patients with the bradykinetic syndrome had given rise to a preconceived idea of muscular resistance, and even of hypertonus. This he believed was by no means essential to paralysis agitans he had never found true rigidity occur. The bradykinetic syndrome was common to a certain number of morbid states and, in addition to the two diseases here discussed, could be found in progressive lenticular degeneration, in disseminated sclerosis and pseudo-sclerosis, dementia praecox, and it might even become spasmodic, as described by Professor Cruchet in 1906, in certain forms of spasmodic torticollis. In Parkinson's disease, he said, the bradykinetic syndrome is present, but strangely enough Parkinson did not mention the peculiar immobility of the face which occurs, perhaps because it was such an obvious phenomenon. Parkinson was more concerned with the difference of his disease from ordinary paralysis, where the onset is sudden,

and with two striking features—namely, the shaking and the bending forward of the trunk. The latter has been shown to be characteristic of the bradykinetic syndrome. Parkinson's description of the patients who were "irresistibly impelled to take much quicker and shorter steps, and thereby to adopt unwillingly a running pace," was that of kinesia paradoxa. The tremor particularly attracted the attention of Parkinson; it appears very early in the disease and is often very violent in the later stages. Subsequent writers added the description of "pill-rolling" to some of these movements. Parkinsonian bradykinesia is therefore characterized by its insidious onset at an advanced age, its progressive evolution, its irritable mental state, and the peculiar shaking which exists at rest and disappears in voluntary action.

### Post-encephalitic Bradykinesia.

The bradykinesia of the post-encephalitic state (Professor Cruchet continued) is quite complete, although the fixed attitudes adopted are more complex and varied in nature than in Parkinson's disease. Slowness of movement has been carefully studied; it is shown in a very interesting manner if the patient reads aloud. Sudden stops occur at the end of the lines, and later between words and even in the middle of words, until stops become more and more frequent, the voice becomes imperceptible, and a total cessation of reading occurs. Similar stoppages occur in the habitual movements of eating, dressing, brushing the hair, etc. Paradoxical kinesia is strikingly shown in the post-encephalitic state. Patients quite immobile and infirm will rise from the chair in his (Professor Cruchet's) consulting room and begin to dance! Other patients are able to do gymnastic exercises and throw quoits in a skilful manner. Similar occurrences have been described by Arthur J. Hall, who recorded the case of a man who drove a lorry from Sheffield to London and back, and by G. L. Thornton. As indicated previously, no true rigidity exists, as these paradoxical movements prove. In addition to the bradykinetic syndrome certain other symptoms occur which enable post-encephalitic conditions to be marked off from paralysis agitans. Tremor is rare, and in only three cases out of a series of a hundred was it of the true Parkinsonian variety. In other cases it did not occur at rest, but only periodically in certain positions of the limbs, sometimes increasing in intensity as a result of violent exertion. Tremor, when it does occur, does not become progressively worse. The mental state of the post-encephalitic patient is calm and peaceful, although he may be afraid of the slightest movement and prefer to remain in bed. The intellectual state is often slackened, but ideas are clear, judgement intact, memory conserved, and reasoning lucid. This has been called bradypsychia or bradypraxis by Verger and Hesnard. As a result of this "slowness of intellect" patients seem to have taken on a new personality. The onset of post-encephalitic bradykinesia is usually definite, and not vague as in paralysis agitans. Somnolence, diplopia, infectious symptoms like those of influenza, and toxic symptoms are often definite. The knowledge of the epidemic nature of the disease is also important. The age of the patient is important: in paralysis agitans the average age is about 60, while post-encephalitic conditions are commoner in young people, and children are frequently attacked. The course of the two diseases is different: post-encephalitic conditions can get better and even be cured, especially in the early forms. Late forms appearing between six months and two years after the initial attack have a less favourable prognosis, although cases have recovered from advanced phases of the disease. Other differential signs include salivation, early in encephalitis and late in Parkinson's disease, while pupil changes in the former and various changes in the cerebro-spinal fluid, especially an increase in

Curious torsion spasms occur also in these conditions, patients sometimes twisting themselves into incredible attitudes; these are analogous to the torsion spasms described by various authors in 1910 and 1911, and of the same clinical family as Wilson's disease. Professor Cruchet considers the curious spasmodic torticollis cases described by him in 1906 to be of the same nature.

These cases show athetotic and choreiform movements at rest, slowness of all the voluntary acts, a fixed attitude, and certain vasomotor disturbances. Epidemic encephalitis has greatly increased the number of these bradykinetic forms, and their spasmodic nature seems to be a secondary phenomenon. Such associated forms have greatly complicated the already diverse picture presented by encephalitis lethargica. Professor Cruchot concluded by indicating that since the action of the virus of encephalitis in the nervous system is very diffuse, certain cases of the true Parkinsonian type did occur; but this was rare, and from clinical observation it was possible, in the majority of cases, to distinguish between the two diseases. Although the anatomical findings were interesting, the clinical distinction was the more important one for the physician.

At the close of the lecture numerous slides were shown: these consisted of photographs of patients and microphotographs of sections of brain. Various microscopic slides were also exhibited.

## Scotland.

### ROYAL MENTAL HOSPITAL, MORNINGSIDE, EDINBURGH.

#### PROFESSOR ROBERTSON'S ANNUAL REPORT.

The one hundred and twelfth annual report of the Royal Mental Hospital, Edinburgh, for the year 1924 was presented by Professor George M. Robertson, physician-superintendent of the institution, at the annual meeting in the City Chambers, Edinburgh, on February 23rd, when the Lord Provost, Sir William Sleigh, was in the chair. It was reported that 212 patients had been admitted during 1924; including 804 on the register at January 1st, 1924, the total number of cases treated during the year was 1,016. The patients discharged recovered numbered 48 and those unrecovered 84. The number of patients who died was 55, yielding the lowest death rate yet recorded in the history of the institution. With regard to causation, there appeared to be a falling off in cases due to alcoholic excess; only 5 were definitely diagnosed as cases of alcoholic insanity, while the amount of insanity attributable in part to alcoholic excess was 7 per cent. for men and 0.8 per cent. for women, or a total of 3.3 per cent. for both sexes. This showed a marked diminution as compared with the corresponding figures for the seven years before the war, which were respectively 16.4 per cent., 9 per cent., and 12.6 per cent. Influenza seemed to be reappearing as a cause, 6 cases having been attributed to this disease.

#### Mental Nursing Homes.

Professor Robertson recalled that when the Royal Hospital at Morningside was opened in 1813 it admitted private patients only, and that it now again relied for its prosperity on the admission of this type of patient. Since Craighouse was added to the institution thirty years ago there had been an ever-growing need for expansion. The public had become more and more averse to sending persons suffering from recoverable or mild attacks of mental disorder into mental hospitals, and the managers had given careful thought to the particular form which any new accommodation should take. Seven years ago they decided to establish, quite detached from the mental hospital, nursing homes in which patients suffering from the early stages and curable forms of mental disorder might receive suitable treatment in the expectation that they might recover without being certified or entering a mental hospital. The scheme, initiated in a small way seven years ago, was now fully established. During the whole of last year four fully equipped nursing homes, accommodating about fifty patients, had been in successful operation in the suburbs of Edinburgh, and then a mansion-house in the country for convalescent patients, which accommodated a dozen or more. Recently the managers had purchased Vogrie House, together with 250 acres of land, some distance outside Edinburgh, and in this large building they con-

templated further developments of the scheme. In these homes the family physician could treat his own patients exactly as he did in nursing homes for other diseases. The managers merely provided the appropriately equipped home and the necessary staff under the direction of an experienced matron. In this way early and mild cases of nervous breakdown could receive appropriate nursing and care. These homes were also useful for patients suffering from the mental breakdown that often accompanied old age; such cases were frequently very difficult to care for at home, yet no one liked to send an aged parent or relative in this condition to a mental hospital. The number of patients admitted into these homes during the year 1924 was 111, and the total number treated in them was 145. Professor Robertson mentioned that two matters connected with such homes should not be lost sight of. One was that such homes should start under disinterested management and only under the aegis of bodies who had already had some experience of the provision needed; the other was that such homes must be under the supervision of the department which keeps under observation places for the treatment of patients in an analogous condition—namely, the General Board of Control. Unless this were done he felt that scandals might arise from the adoption of inefficient methods and from the possibility of injustice to certain patients. The necessary supervision need not be obtrusive to be efficient.

#### Voluntary Admission to Mental Hospitals.

The subject of voluntary admission had developed during the last ten years, but mainly during the last five, and it had indeed grown in Scotland into such favour and to such proportions as to amount to a revolution in the practice with regard to mental diseases. The change was initiated by a simple alteration of the existing procedure introduced into the Act of 1913. Previously the sanction of one of the Commissioners had to be obtained before a voluntary patient could be admitted to a mental hospital. The time required to obtain this sanction caused delay, which was both inconvenient and dangerous, and the Act of 1913 gave authority to the medical superintendent to admit the patient at once upon a simple application made directly to himself. The ease, convenience, and promptitude of this procedure had proved so attractive that the admissions of voluntary patients into mental hospitals in Scotland rose from 112 in 1913 to 181 in 1914 and to 263 in 1919; during the quinquennium 1919 to 1923 the total admissions of voluntary patients had amounted to 1,672. In consequence of this it was now found that 40 per cent. of all the private patients entering mental hospitals in Scotland did so as voluntary patients, and that this percentage was increasing every year. This method formed an ideal alternative to certification, and it was not straining language to call this development a revolution of most happy character, and one that was desired by the public. If to the number of voluntary admissions were added the cases placed in the Royal Hospital at Morningside under the authority of a medical certificate of emergency, it would be found that no less than 95 per cent. of all the cases were admitted without a judicial order. It therefore appeared that the abolition of judicial orders was not so revolutionary a step as it would seem, for no harm appeared to have resulted from the absence of an order in the cases mentioned. A hardship existed in relation to the admission of voluntary patients into certain kinds of mental hospitals in that the Government grant-in-aid of £7 9s. 6d. a head, which was given to parishes towards the support of certified patients, was withheld from the support of voluntary patients belonging to a parish. Certain parishes, however, notably in Argyllshire, and recently the Edinburgh Parish Council, had decided that the poor should enjoy in future the advantages of voluntary treatment, notwithstanding that this involved relinquishing the grant-in-aid.

#### Early Treatment.

An important consideration which attached to these two noteworthy developments that had sprung into existence during the last five or ten years was the possibility of earlier treatment. The nursing home offered early treat-

ment to those with ample means, but it did not meet the requirements of those with modest incomes and of the poor. For them, however, early treatment without the hardship of certification could be obtained as voluntary patients in mental hospitals. Professor Robertson expressed the opinion that by avoiding certification and compulsory detention and by great extension of the system of voluntary treatment, especially by placing it within the reach of the poor, a complete change of sentiment towards mental hospitals would in time develop. At present the law, according to modern ideals, provided a Procrustean bed. It was very disconcerting to the medical man who had faithfully carried out the requirements of the lunacy law in accordance with the time-honoured interpretation placed upon it by a Government department like the Board of Control, to find that he might still be mulcted in heavy damages in a court of law.

#### *The Prevention of Mental Disorders.*

Associated with early treatment was the modern medical ideal of prevention, and the most important step that could be taken in this direction was to find the causes of mental disorder. These were no doubt numerous, but it was not likely that any of them would stare us in the face by their obtrusive activity. It was much more likely that their action was subtle, indirect, and prolonged; a good example of what was required was the insight now possessed into the causation of cretinism, which was a form of mental defect. The absence of minute quantities of iodine, which came mainly from the sea, in the food and drink, and which was prepared for the body in the secretion of the thyroid gland, was the cause. The cause was infinitesimal, its action was insidious, and it operated through the agency of a gland, yet its effects on the mind were very marked. The far-reaching effects of the absence of vitamins in other deficiency diseases and the absence of sunlight were similar causative factors in several diseases. In this connexion Professor Robertson mentioned that four cases of pellagra had been under treatment in the Royal Mental Hospital last year. In one instance the patient had been already suffering from delusions following upon experiments in spiritualism, and during the summer the skin eruption characteristic of the disease had developed. For a long time this patient had, in consequence of delusions regarding food, been upon the verge of starvation, and there was strong evidence that the absence of some essential food constituent, or some disorder of digestion preventing the assimilation of an essential constituent of food, was the cause of her mental disease.

Much attention had been directed to the important results obtained from the treatment of general paralysis with malarial infection. Whereas the expectation of life of sufferers from this disease was usually about three years, many patients were now alive and some had been so much improved as to be discharged and resume their duties, who, had it not been for the treatment by malarial infection, would almost certainly have been dead. It was necessary, however, that the general paralysis should be recognized by the general practitioner at an earlier stage if the patient was to get the fullest benefit from the malarial treatment. How malaria acted was still a mystery, but the view at present held was that the high fever produced by the malaria (104° F.) destroyed the organisms that caused the general paralysis. It was possible that the same results might be obtained by other fevers such as influenza, or even repeated hot baths. The question of treatment by mental suggestion had also been studied in the Royal Mental Hospital, and another important field for investigation was the critical analysis of the fantasies which various patients showed.

#### *Improvements in Buildings.*

Important structural alterations were now approaching completion in West House. These involved improved sanitary arrangements, a complete new system of central heating, hot-water supply, electric lighting, lifts, telephones, and fire alarms, together with redecoration of the institution.

#### EDINBURGH CLINICAL MEETING AND DINNER.

The winter clinical meeting organized by the Edinburgh Branch of the British Medical Association was held on February 27th in the Royal Infirmary, Edinburgh, and proved to be one of the best of its kind that have ever been arranged. The programme drawn up by Mr. F. E. Jardine was excellent throughout. The museum, arranged in the pathological department, was open from 10 a.m. to 6 p.m.; the specimens covered a wide range of interest. In the dietetic department of the Royal Infirmary there was a demonstration of foods showing the calorie value of prepared dishes. In the morning a number of demonstrations of a practical kind were given in the various departments, and the afternoon was given up to an organized clinical demonstration with Dr. Robert Thin (president of the Branch) in the chair. The audience, comprising members and a limited number of senior students, filled the large surgical theatre.

The dinner held that evening in the Caledonian Station Hotel, with the president of the Branch in the chair, was attended by 45. The guests included Sir Robert Philip; Mr. Alexander Miles; Colonel St. C. Thom, medical superintendent, Royal Infirmary; Professor Lorrain Smith, Dean of the Medical Faculty; Dr. J. R. Drever, Scottish Medical Secretary, British Medical Association; Dr. W. T. Blakely, president Glasgow and West of Scotland Branch; Dr. J. A. Hume, honorary secretary Perth Branch; Dr. E. E. Dyer, honorary secretary Stirling Branch; Dr. G. F. Whyte, Dundee Branch; Dr. D. G. Anderson, president Edinburgh Royal Medical Society; Dr. Colquhoun, president of the University Union; and Dr. Tingley, representing the resident staff of the Royal Infirmary. The toast of the British Medical Association was proposed by Sir Robert Philip, and responded to by Dr. Drever; that of the Edinburgh Medical School by Dr. W. T. Blakely, and responded to by Mr. Miles. The health of the guests was proposed by Professor George M. Robertson, and responded to by Professor Lorrain Smith and Dr. D. G. Anderson. The President's health was proposed by Dr. J. V. Paterson and acknowledged by Dr. Thin. The toasts were interspersed with an excellent programme of music contributed by members present. A very enjoyable evening was spent.

#### CLINICAL RESEARCH AT ST. ANDREWS.

During the month of June a post-graduate course will be conducted by the staff of the James Mackenzie Institute for Clinical Research at St. Andrews. The ideals and methods of the institute will be described, and clinical lecture demonstrations will be given on such subjects as the mechanism and significance of cardiac irregularities, the meaning of abdominal pain, suspected tuberculosis in children, and case-taking in general practice. Lantern lectures on ophthalmic subjects will be delivered. Professor Waterston will lecture on the structure and development of the heart from the functional standpoint, and also on the innervation of muscle. Physiological lectures will be given by Professor Herring, and Dr. N. MacLellan will deal with clinical pathology. Dr. Hynd will deal with chemical examination of the urine and blood analysis, including the estimation of blood sugar. Clinical lectures will be given at the Royal Infirmary, Dundee, and the radiological section will include the interpretation of radiograms, and consideration of the chest of the normal infant. Further information may be obtained from the Secretary of the Institute, St. Andrews, Fife.

#### GLASGOW STUDENTS' SUPPORT OF HOSPITALS.

A meeting of the Executive Committee of the Students' Representative Council of Glasgow University was held on February 25th, when the proceeds of the Students' Charities Day, held on January 19th last, were allocated. The sum available for distribution was £7,148, and it was agreed as a general principle that part of the proceeds should be used for the endowment of beds in certain of the larger hospitals. Two years ago beds were endowed in the Royal and Western Infirmaries, and it was agreed that out of the amount available this year £1,600 should be allocated each to the Victoria Infirmary and the Royal Hospital for Sick Children, for the endowment of beds.

Other sums allocated were: Glasgow Royal Infirmary £600, Glasgow Western Infirmary £600, Glasgow Royal Maternity Hospital £300, the Ear, Nose, and Throat Hospital £300, the Royal Samaritan Hospital £250, the Eye Infirmary £100, and similar sums to four other medical institutions.

#### GLASGOW WESTERN INFIRMARY.

The annual report of the Glasgow Western Infirmary for 1924, which is the jubilee year of the institution, shows that during the year 9,871 cases were admitted to the wards, and 35,809 were treated in the out-patient department. The training school for nurses, the school of massage, and the x-ray and electrical department were all reported as being carried on with success. One ward was endowed during the year with a sum of £40,000 received from the trustees of the late Mr. John Ross, Bearsden. With regard to the proposed biochemical department, a donation of £5,000 has been received, but progress is delayed as this department would involve an expenditure of about £25,000, for which further donations are solicited. With regard to finance, there is a deficit of £10,937 in the ordinary income, but, after providing for this out of extraordinary income, and for £19,399 of extraordinary expenditure, there is still a surplus of £64,433, which has been carried to capital. Together with a balance from the previous year there is now available an unrestricted capital sum of £124,329. It is pointed out that the deficit in ordinary income of £10,937 is the smallest that has had to be recorded since 1906, and that the ordinary expenditure is still steadily decreasing.

#### GLASGOW ASSOCIATION FOR THE RELIEF OF INCURABLES.

At the fiftieth annual meeting of the Association for the Relief of Incurables in Glasgow and the West of Scotland Lord Provost Montgomery, who presided, said that the association had been founded in 1874 and the home at Broomhill had been opened in 1876 with 39 patients; it was eloquent of the progress of the home that last year 330 patients had been under its care. Amongst those in the home at the close of last year were two women, of whom one had been admitted as a schoolgirl in 1877, while the other, admitted in middle life, was now aged 91 years. This indicated the care and attention bestowed on the patients and the great burden from which relatives were relieved by their admission. The income last year was more than in the previous year, while the expenditure was less, and the subscriptions from employees of works, etc., had increased.

#### CENTRAL MIDWIVES BOARD FOR SCOTLAND.

The examination of the Board, held simultaneously in Edinburgh, Glasgow, Dundee, and Aberdeen, has recently concluded. Out of 123 candidates 115 passed. Of the successful candidates 24 were trained at the Royal Maternity Hospital, Edinburgh; 34 at the Royal Maternity Hospital, Glasgow; 6 at the Maternity Hospital, Aberdeen; 11 at the Maternity Hospital, Dundee; 10 at the Queen Victoria Jubilee Institute, Edinburgh; 10 at the Cottage Nurses' Training Home, Govan, Glasgow; and the remainder at various recognized institutions.

## England and Wales.

#### DISTRICT NURSING IN LONDON.

THE tenth annual report of the Central Council for District Nursing in London describes the activities of the council during the year ending December 31st, 1924. The gaps in the District Nursing Service of the counties of London and Middlesex received special attention from the council's executive committee, which has been able to arrange for extensions into large and needy areas on the outskirts of London. Such large populations as those of Willesden and Tottenham were particularly difficult to deal with owing to the small number of persons of leisure able to render practical assistance. The Southgate Association has been extended, a new association has been established at Hanwell, and the Harringay division of Hornsey has

been taken over by the North London District Nursing Association. Grants have been made to these districts and promised to Tottenham and Willesden, where it is hoped that associations will be started before long. Towards the end of the year under review careful consideration was given to the particulars required from various nursing associations in connexion with the allocation of these grants, and an attempt has been made to prepare a uniform schedule so that the costs of the service may be readily ascertained, and also the nature and extent of co-operation with public authorities. During the year the committee decided to distribute £1,800 from funds in hand. The trustees of the London Parochial Charities entrusted the council with £2,000 for distribution and £300 for administrative work; they also gave £500 primarily for the extension and establishment of district nursing in Greater London. The sum of £617 12s. 2d. was paid to the council by the Ministry of Health in respect of midwifery and maternity nursing arranged by certain associations. Contributions were also received from the Clothworkers' and Grocers' Companies and the Society of Apothecaries. The representatives of the British Medical Association on the Central Council are Mr. E. B. Turner, Dr. T. W. H. Garstang, and Dr. William Paterson.

#### PONTEFRAC INFIRMARY.

The new wing of Pontefract Infirmary was opened by Princess Mary, Viscountess Lascelles, on February 26th. The new building had been originally intended as a memorial to the late King Edward, and tenders for its construction had already been received when the outbreak of war compelled postponement of the undertaking. The original estimate of the cost was £6,000, but the actual expenditure had exceeded £12,000, which had, however, already been raised. A further fund, inaugurated by the Mayor, had provided £1,200. The accommodation of the institute had been thus increased from fifteen beds to forty. The president, Major C. G. Lyon, in welcoming Princess Mary, remarked that Lord Lascelles's grandfather, the fourth Earl of Harewood, was a vice-president of the original institution when it was opened in 1812. Sir Berkeley Moynihan, in a short address, moved a vote of thanks to the Princess, which was adopted with applause.

#### NORTH OF ENGLAND CHILDREN'S SANATORIUM, SOUTHPORT.

At the annual meeting of the North of England Children's Sanatorium, Southport, on February 21st, it was reported that the number of children admitted during 1924 was 1,262, the average duration of their stay being thirty days. The children mostly came from industrial areas, and were suffering from such diseases as chorea, bronchitis, rheumatism, anaemia and debility after fevers and operations. Dr. H. Blumberg, presenting the medical officer's report, remarked that the sanatorium still received a number of patients more or less crippled from infancy, in whom deformity of the limbs had become chronic, and fixation was of little benefit. He regretted that there were not better orthopaedic facilities in the large towns, so that these deformities could be rectified by early and appropriate treatment. Except on one or two occasions, when the admission of patients was suspended owing to outbreaks of infectious diseases, the sanatorium had been continuously full during the year, and for considerable periods there had been a long waiting list. As the result of a ballot organized early in 1924, a sum of £1,741 had been presented to the sanatorium funds, and, apart from this, the income of the institution had increased from £4,717 to £5,253, of which £3,938 represented receipts from patients, an increase of £766 over the previous year. The deficit on the year's working amounted to £107, as compared with £522 in the previous year. It was hoped, therefore, if the beds in the sanatorium could be occupied continuously and public interest sustained, that it would be possible in future years to balance income and expenditure without increasing the charge to patients, and also to clear off the accumulated deficit of past years. In the course of the year Dr. J. B. Stelfox had endowed two cots in the sanatorium in memory of his wife.

## Ireland.

### LOCAL GOVERNMENT COMMISSION: NORTHERN IRELAND.

At a meeting of the Local Government Commission (Northern Ireland) in Belfast on February 25th, when Professor R. J. Johnstone, M.P., M.D., was in the chair, evidence was given on behalf of the profession of Northern Ireland with regard to the public health system of administration. Dr. J. S. Darling, president of the Ulster Medical Society, Professor W. J. Wilson, professor of hygiene in the Queen's University of Belfast, Dr. W. Lyle, dispensary medical officer (County Tyrone), and Dr. W. Burns, dispensary medical officer (Belfast Union), had been appointed by the Ulster Medical Committee to give evidence. The chief points dealt with were:

1. The great abuse in the issuing of red and black "lines," which were sometimes given out by the wives, children, and even servants in the house of the wardens.
2. Anomalies of salaries and of extent and distribution of areas of districts.
3. General lack of co-ordination and unity, and want of a controlling head.
4. A recommendation that there should be a Ministry of Health for Northern Ireland, with a statutory advisory committee. This Ministry could be under one of the existing Ministries, with a specialized officer and a chief executive medical officer.
5. That housing should be under this Ministry.
6. That there should be county health committees of the county councils, each with a whole-time medical officer as its chief executive head, and with representatives from various bodies, such as insured societies, child welfare and school attendance committees, etc. The boards of guardians and rural district councils should no longer be concerned with hospitals, as they were not elected for that purpose.
7. That each whole-time county medical officer of health should be responsible for the health of the county, and the dispensary medical officers, as local health officers, should report all matters to him, and leave prosecutions, etc., in his hands.

Dr. Lyle thought that there was a majority of opinion in favour of reverting to the old dispensary committees. The unanimous considered opinion of the Ulster Medical Committee was that Insurance Acts benefits should be extended to Northern Ireland, provided that the interests of the dispensary doctors were adequately provided for, but that this was more in the interests of the community than of the doctors; the working classes thought they were being deprived of something which was being granted to their brethren in England. Dr. Burns considered the dispensary system out of date, and that the benefits under the Act would have an elevating effect upon the working man. It was recommended that all rate-aided hospitals should be managed by local committees under the county health committees: they should be graded as central hospitals for large areas, and hospitals of the type of cottage hospitals for the smaller centres of population; in addition there should be special hospitals and hospitals for innumerable cases. A large laboratory for pathological work should be set up in Belfast, with a full equipment to undertake all pathological, bacteriological, and biochemical work for the health authorities of Northern Ireland. At present, Professor Wilson stated, the University provided a laboratory free of charge, and paid for a staff of assistants to enable him to discharge this duty; some county councils paid a retaining fee, for which he had to do the necessary work, but it did little more than pay incidental expenses for electric light, and so on.

### THE VETERINARY MEDICAL ASSOCIATION.

The council of the Veterinary Medical Association (Irish Free State) had under consideration at a recent meeting the report of the discussion in the Senate on the amendment to the public health section of the local government bill specifically providing for the veterinary inspection of dairy cows and of meat. From the discussion it might, it was thought, be inferred that veterinary surgeons were only employed under the Public Health Acts for the purpose of inspecting milk and meat as they were presented for human consumption, no mention having been made of their indispensable services in inspecting the sources of these food supplies—the dairy cows and the carcasses of beasts in the slaughterhouse. The veterinary profession, it was said, wished to make its position clear, and to inform

the public of the danger of diseases being communicated from animals to man through the consumption of milk and meat from diseased animals; 80 per cent. of the cases of abdominal and glandular tuberculosis in children were contracted by drinking milk from tuberculous cows. Septic sore throat in the human subject had been attributed to drinking milk from cows with diseased udders. Many fatal cases of meat poisoning had ensued from the consumption of meat from carcasses that had been affected with disease or had been improperly handled. It was, therefore, of vital importance to the health of the community that qualified veterinary surgeons should be made responsible for the inspection of dairy cows and of milk, of carcasses of animals slaughtered for human consumption, and of meat stores. To ensure this it was obviously a wise step on the part of the Minister for Public Health to have had an amendment inserted in the public health section of the bill specifically providing for veterinary inspection under the Public Health Acts, otherwise it would not be compulsory by law to have this inspection conducted by qualified men. Apart from the public health point of view, inspection was essential in connexion with the export trade in meat in order to ensure the standard of the meat exported. In the United States, Canada, Australia, New Zealand, and the Argentine all the meat exported had to be inspected by veterinary surgeons. In all the large cities of Great Britain veterinary surgeons were now appointed for the inspection of dairy cows, milk, and meat.

## France.

[FROM OUR OWN CORRESPONDENT.]

M. JUSTIN GODART, Secretary of State for Hygiene, has declared war on the abuse of the public by advertisements of drugs and the like in the general press. He has written a letter to the editors of the lay papers suggesting, perhaps rather sceptically, that the word "cure" should never be printed, and that anyone who offers his services in a medical capacity should do so under his own name, and accept full responsibility. We are rather afraid that M. Godart's action will not go beyond the stage of good intentions. The publishers who derive a substantial income from so-called medical advertisements are not very likely to commit harakiri unless some stringent law takes hold of their trembling hands. The medical profession would probably be content if, to begin with, the great publicity given to venereal quackery were checked. We think, indeed, that the best way of dealing with these problems is to open wide the doors of our hospitals to the public and to retort on the quacks by making more widely known the help the hospitals are always ready to render. It is a curious, but after all quite explicable, fact that since patients (paupers excepted) have had to pay a small fee, even in the out-patient department, consultations there are far more highly valued.

### *La Robe Rouge.*

It is with great regret that we see the popular master Professor Letulle, retire from the chair of pathology in Paris. He is succeeded by his pupil Dr. Roussy, well known for his work on cancer; he was, with the late Professor Bergonié, one of the founders of the anticancer centres in France.

### *An Ominous Verdict.*

Dr. Roussy's name came rather prominently before the public when he was called to the witness-box some weeks ago in the Umiska case. A patient, a Pole, was shot in his wards by a young actress. It appeared that the man was dying from advanced cancer, and that he himself had begged the woman he loved to put an end to his agony. The mere statement of facts by Dr. Roussy raised such a wave of sentimental pity that the prosecution was swamped, and the jury very nearly congratulated the woman. The consequences of the verdict were practically immediate, for we have just heard of a sister, in similar circumstances shooting a younger sister who was suffering from tuberculosis. It is the old problem of euthanasia confronting us again, but now the public is giving the answer. We are



afraid of what is coming next. Heirs may prove to be too kind-hearted, and certainly we shall have to be more than cautious when asked to give a prognosis. The new world still needs the old commandments.

#### *Bacteriolytic Action of River Waters.*

Professor Arloing has presented to the Academy of Medicine a striking report on the antimicrobial action of the waters of some rivers as regards the intestinal flora. Who would have believed that the river Rhone kills the typhoid bacillus, that our Seine is inimical to the Shiga bacillus of dysentery, and highly polluted waters, such as the Havre harbour, are fatal to the colon bacillus? The antimicrobial action is more marked after the passage through a town, and bacteriolysis seems to be more of a biological than of a chemical character. If these observations are confirmed they may have a far-reaching influence on practical hygiene. But that the waters of our rivers are not the "purée de microbes" they are reputed to be is well proved by a common experience; I refer to the swimming parties of our boyhood which we enjoyed in the Seine near the Pont de la Concorde, when immunity baffled the severe laws of prophylactic hygiene.

#### *The Government and the Profession.*

Underground rumours and many symptoms point towards an impending conflict between the traditional sense of medical independence and the stringent jacobinism of administration. At the Conseil de la Faculté the chair of ophthalmology has not been given to the official candidate of the Government. *Inde ira.* Again, though the Chambre des Députés has voted that a new chair of puericulture should be created, the same Conseil rejected the proposition, pointing out that such teaching was already given by several of our professors. As a matter of fact, the true reason is that our Faculté refuses to be governed by politicians. Now the whole profession is roused by a new bill proposing that we shall keep account books stating the names of our patients with the amount of fees they may have paid us. Our Chamber has failed to understand that such a thing as professional secrecy is at the very base of our dignity and pride. Here we come to a *non possumus*, and tax collectors will have to deal with us in some other way than with the honourable corporation of grocers. After all, we are not so far from the times when Fouquier-Tinville sent some nobleman to the guillotine on the charge of "suspicion of being suspicious."

G. MONOD.

### **Medical Notes in Parliament.**

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

THE introduction of the Nursing Homes Registration Bill, a keen debate on the position of medical referees under the Workmen's Compensation Act, and a second reading debate on the Public Health (Scotland) Amendment Bill have made the past few days in the House of Commons particularly important from the medical standpoint. The estimate for the Ministry of Health in 1925-26 amounts to £19,525,977, against £19,503,771 in 1924-25. The latter figure includes Supplementary Estimates. For the Scottish Board of Health £2,556,885 is asked, against £2,497,842 in 1924-25. The grant for universities and colleges is raised from £1,272,970 in 1924-25 to £1,580,500 in 1925-26.

The Factory and Workshop Acts (Amendment) Bill, which was promised in the King's Speech, has not been introduced yet, and the Government is understood to be reconsidering the proposal in it to transfer certain medical inspection duties from the Ministry of Health to the Home Office. When a similar bill was introduced last year, Dr. Fremantle, on behalf of the Medical Committee of the House, gave notice that he would move its rejection as a protest against this proposed transfer. The Medical Committee will meet again on March 9th to consider whether the Births and Deaths Registration Bill should again be introduced and to debate other medico-political issues.

#### **Bill to Amend the Workmen's Compensation Act: Medical Referees—Nystagmus.**

The Workmen's Compensation Bill, introduced by Mr. Cape on behalf of the Labour party, came up for second reading on February 27th, but, after debate, was rejected by 227 to 147. The debate turned largely on medical issues such as the responsibility and impartiality of medical referees, the scheduling of industrial diseases, and the treatment of miner's nystagmus.

A preliminary question was put on February 26th by Mr. T. Williams, who asked the Home Secretary if he was aware that in certain cases the medical referee under the Workmen's Compensation Act had been known to be almost a permanent representative of employers in compensation disputes, and whether he would take steps to ensure that in future all medical referees should be independent both of employers and employees. The Under Secretary for Home Affairs, Mr. Godfrey Locker-Lampson, said he knew of no such cases among medical referees at present appointed under the Act. It was a condition of appointment that a medical referee should hold no personal employment either on the employers' or on the workers' side. Medical referees were enjoined that they should as far as possible avoid cases likely to come before them in their official capacity. It had not been found practicable to impose any further restriction.

#### *Debate.*

In moving the second reading, Mr. Cape said that in it the Labour party asked for some of the outstanding disadvantages of the Act of 1923 to be amended. The insurance societies, indemnity societies, and employers' organizations were, he said, now so equipped with a medical service that within a day or two of an accident the employer's medical officer had an opportunity of examining the man, and the chances of malingerers were very remote. The Labour party thought the present system put too much on one medical man. Under the present procedure the injured man was first examined by the employer's doctor. He had then to get a report from his own medical man, and very often this was difficult, because as a rule medical men did not take kindly to supplying these reports. All this evidence was submitted to the medical referee, who nearly always lived in the district where the accident happened. The result was that it was difficult to bring in a man who was impartial and not in some way connected with the parties. The referee was only human; he would probably do his best in the examination of the man, but, generally speaking, in the areas where these accidents occurred the medical men were not experts in any particular subject. The examination should be made by three medical men, who should be independent both of the man and the employers so far as the industry was concerned. It was asked also that the referees should not be concerned directly or indirectly in practice in employers' liability or workmen's compensation cases, either on behalf of an employer or a workman, or by an insurer interested in such cases. The Labour party did not ask that this medical board should consist of men whom they approved, but they asked for independence, and that only those of the highest professional standard should be employed on decisions which involved so much to the workers.

Turning to the schedule of the bill, Mr. Cape said that in Cumberland the percentage of cases of miner's nystagmus was high; he met many men who had come out of the mines with nystagmus and were receiving no compensation. The doctors stated that the nystagmus had ceased because oscillation had disappeared from the eye. He drew attention to the appearance, new so far as he knew, of silicosis among miners. Parliament had dealt with that under the Silicosis Act, but the men were at present excluded from the Workmen's Compensation Act. Five deaths had occurred in Somerset and the Radstock district; and other coal-miners were in bad health owing to what the medical authorities declared to be the results of working in stone of a siliceous nature. He knew a coal-miner in Cumberland who had been unable to follow his occupation for fifteen months, and the medical man said this was the direct result of stone dust. The Labour party asked that all these conditions that could be traced as direct results of men following their industrial employments should be included for workmen's compensation.

Mr. Greaves-Lord, in moving the rejection of the bill, said he did not believe in compulsory reference of compensation cases to one referee, and he did not think the position would be improved by increasing the referees to three. It was going too far to say that no medical referee should engage in or be concerned, directly or indirectly, in employers' liability or compensation cases or by insurers interested in such cases, and should not be concerned in private practice in the district. The proposal would deprive referees of any chance of practising in the district of the court, which might be very large. That meant really that the referees would have to be permanent officials of the court. The best system was that which attracted the best class of medical man, and to do that he must have the right to practise, and trust must be put on his honour when appointing him medical referee. The Home Secretary already had power to add diseases to the schedule and modify the conditions of that Order at any time; the Medical Research Council had been considering the matter. There was a great division of opinion among medical men to-day, first as to what miner's nystagmus was, and secondly as to what was the best treatment for it. Dr. Court, who had been connected with the Miners' Federation in Derbyshire for many years, who was known as a man very sympathetic to the workers and as one who had an almost unrivalled experience of miner's nystagmus, held that no compensation should be paid to a man in respect of

nystagmus for more than six months; if compensation were paid longer it was likely to continue the trouble and bring on very serious after-effects.

Sir Henry Slessor said it would not be right to suggest that any accusation or suggestion had been made against the medical profession by the bill's proposal on the medical referees, but there was a feeling among Labour members, with direct experience of the working of the Workmen's Compensation Act, that they would be in a safer position and have a better tribunal if there were three doctors on it instead of one.

Sir Richard Luce, speaking as one who for three years acted as a medical referee, supported the bill. He was not sure that its proposals about referees would be workable in the present form, but he wished to see the question of the referees reopened. Up till now the medical referee had been able to practise in the locality, but had not been supposed to act in a case with which he had come into personal contact. That had not absolutely held good, and in many instances strict enforcement had been extremely difficult. Most medical referees were members of the staffs of hospitals. There they came into contact with many cases of workmen's compensation, the people being their patients, and for this work they received no remuneration, but gave their services as honorary members of the staff. When the medical referee had had to give reports of cases on behalf of the man or of the employer, he had as a rule stood down from being referee. When he had only seen the case as an ordinary physician or surgeon, then he had as a rule been allowed to act. This had brought about considerable difficulties, and he himself had resigned from being medical referee some years ago because he found he was getting mixed between his patients and his duty as a medical referee. While agreeing that some other method of appointing medical referees should be arranged, he foresaw great difficulties, unartificially by the framers of the bill. The value of the appointment as medical referee, even in a large industrial area, was very small. His recollection was that in no year did his remuneration as referee exceed £50. If there were to be whole-time referees under the stringent rules of the bill the working expenses of the Act would be greatly increased. It would, he thought, be difficult to get three whole-time referees for a given case. To do so it would be necessary greatly to enlarge the areas. If there was to be an impartial whole-time man he did not think that three referees would be necessary. It would be better if the schedule were rearranged by the Home Secretary. An alteration should be made in respect of nystagmus. There were many cases which suffered from nystagmus in the early stages—that was to say, from oscillation of the eyeballs. That oscillation passed off, leaving nervous symptoms which caused just as much disability. It was extremely unfair that a man should be deprived of benefit just because he had lost one outward symptom. Many other diseases ought to be added to complete the schedule of the bill, including miner's beat-knee. At present beat-knee and beat-elbow were treated on different terms, though both were caused by constant pressure on hard substances.

Dr. Drummond Shiels said that the Home Secretary had added sixteen diseases to the schedule in twenty years, but they had been recognized for a long time before they were added. Phthisis caused by dust or other irritants which had long been recognized as predisposing causes of the disease should have been on the schedule long ago. The suggestion that if a miner got compensation for nystagmus for more than six months it would considerably aggravate the disease seemed to him in the nature of the new psychology. He feared that the clause of the bill on medical referees was not workable. The Labour party might well consider having three referees—one the man's doctor, one nominated by the employer, and one an outside doctor. There should be a panel of three to obviate groundless dissatisfaction. Very often medical referees were blamed and suspected of bias, owing largely to ignorance on technical points on the part of those affected. He pointed out that in cases of nystagmus it would be impossible to get three eye specialists as a panel, to conform with the conditions of the bill.

Mr. T. Williams said that men who were so far recovered from nystagmus as to have lost the oscillation of the eyeballs were not only deprived of compensation, but were also deprived of their employment. Colliery companies hesitated to re-employ a man who had suffered from nystagmus. In practice the provisions for medical referees did not work out well. It too frequently happened that a man with undoubted medical or surgical skill was constantly found in court taking the side of the employers in compensation disputes. It could almost be said that he was constantly acting as the professional representative of a body of insurers or employers, yet on the morrow they found this representative of employers or insurers acting as referee in a compensation dispute. Without impugning the honesty or devotion of medical men, he submitted that it gave rise to grave dissatisfaction when workmen were called upon to accept as final the decision of a medical referee who was constantly employed and paid by those interested in having these applications rejected.

Mr. G. Locker-Lampson, Under Secretary for Home Affairs, said the Holman Gregory Committee on Workmen's Compensation had unanimously rejected the proposed board of three referees because it would be very costly, because the machinery would move more slowly, and because there was no real case for a change, as the ban against medical referees acting in any compensation cases or appointment of whole-time practitioners in the district would mean that and that would lead to a very heavy extra charge. These practitioners would not get sufficient work unless the areas were grouped into larger districts, and they would lose touch with general practice and gradually become less efficient. He agreed

with the Labour party, however, that a close watch ought to be kept over the present situation, and any representations made would be carefully considered by the Home Office. The question of medical practitioners could, however, be dealt with by an Order of the Secretary of State, or by regulations, and was not a case for legislation. For these reasons the Government could not accept the medical part of the bill, nor could it accept the proposed additions to the schedule dealing with diseases produced by dust and diseases of the eye. The objection to the inclusion of miner's nystagmus was that it would stereotype the description of the disease and would fix the final terms of compensation; it was inadvisable. A Committee of the Medical Referees Council had sat on this, and had reported that the existing description of miner's nystagmus was already very much too wide; it recommended a stricter standard. The Industrial Diseases Committee had advised against the inclusion of phthisis under the Compensation Act of 1906. But if it was shown that in an employment in any industry the individual employed suffered from the inhalation of silica dust the Home Office could include the employment under the Silicosis Act of 1918. No legislation was required. The Mines Department was looking into the question of silicosis, and if a case was made out that in boring through rock to get at the coal there was inhalation of silica dust, then a silicosis scheme would be made by the Home Office and the people affected would get compensation. [As reported above, the bill was rejected by 227 to 147.]

#### IRELAND.

The Secretary for Scotland, Sir John Gilmour, on February 25th moved the second reading of the Public Health (Scotland) Amendment Bill, which he said was identical with the bill introduced in the House of Lords by the late Government and read a second time last year. Its purpose was to empower public health authorities in Scotland to provide insulin for sufferers from diabetes who required assistance in obtaining the treatment. Since early in 1924 some local authorities had provided insulin, and the bill was to regularize their position.

Mr. James Stewart, who had been Scottish Under Secretary for Health in the last Government, pointed out that though the bill only provided for the supply of insulin in diabetes, last year's bill proposed that where the Scottish Board of Health considered any other disease required special treatment and an Order were passed by both Houses of Parliament, then the Board would be entitled, without a further Act, to provide for the treatment of these other diseases. As the price of insulin had fallen since last year and doses could now be provided for a few shillings weekly, the necessity of dealing with the one disease of diabetes was not quite so great. He asked the House to consider the possibility of the discovery of an effective treatment for cancer. If the procedure by Order were not adopted deaths might occur while another bill was being passed.

Sir John Gilmour appealed to members to read the bill a second time. He would do everything he could to ensure that insulin was supplied as freely as necessary to those who really required it, but he could not undertake that when the bill was in Grand Committee the extended provisions of last year's bill would be inserted.

Discussion was interrupted by other business, and the second reading of the bill was postponed.

#### NURSING HOMES REGISTRATION BILL.

The Nursing Homes Registration Bill, presented by Mr. Gerald Hurst, was read a first time in the House of Commons on February 25th. Mr. Hurst had previously explained the provisions of the bill to the Medical Committee of the House of Commons, which, subject to minor amendments suggested by the British Medical Association, had approved it. In introducing the bill Mr. Hurst said that it was uncontroversial and was backed by members from all parts of the House. At present the phrase "nursing home" had no meaning. Any person could call his or her institution, however ill run, a nursing home, however unskilled or untrained the nurses might be and however extortionate the charges. The prevalence of these bogus institutions dragged down the prestige of deserving ones, and their expense was a drain on public resources. The bill provided for the registration and inspection of nursing homes, so that no institution could be carried on as a nursing home by unqualified or unsuitable persons, or where the nursing or domestic staff was ill accommodated, the ventilation bad, or the lighting and warming inadequate. From January 1st, 1930, those having charge of the management must be State registered nurses. Nothing in the bill was intended to preclude anyone unconnected with the nursing profession being registered, but the matron or person in charge must be fully registered. A person refused registration could appeal to the Minister of Health, who could appoint a referee to deal with the complaint. The question of proprietorship was unaffected. Though the bill had been drafted by the College of Nursing, it was not intended to favour any section of nurses, but to help all. The promoters were anxious to meet all interested in the question so that the bill would be regarded as non-controversial. He appealed to the House and the Ministry of Health to help its progress.

The backers of the bill include Dr. Fremantle, chairman of the Medical Committee of the House, and Sir Henry Slessor, ex-Solicitor-General.

In consequence of alterations suggested by the Ministry of Health and by the Medical Committee of the House, the publication of the bill has been postponed for a few days.

**Maternity Homes.**—The Minister of Health has stated, in reply to a question, that he was not aware of any general complaint that the fees charged in maternity homes were too high, although there

was evidence that in certain cases the fees asked might have deterred some women from entering the homes. He had recently circularized the authorities of grant-aided maternity homes, pointing out that, while women should in general pay what they could reasonably afford, no necessitous woman should be excluded from these homes merely on the ground that she could not contribute a certain sum to the cost of her treatment. On June 30th, 1924, the Minister of Health had issued a circular calling the attention of local authorities to the importance of establishing effective ante-natal clinics and of making adequate provision for the care of women about to become mothers, and to other measures for reducing maternal mortality.

**Ministry of Health Staff.**—In reply, on February 26th, to Lieut.-Colonel Horlick, Mr. Neville Chamberlain said that the total cost of the medical staff of the Local Government Board, for salaries and for travelling and subsistence expenses, was £30,420 in 1914-15, and in 1918-19, including bonus, £35,743. The medical staff of the Ministry of Health cost £56,985 in 1919-20 and £121,454 in 1923-24, while the estimated cost in 1924-25 was £122,910. The figures for 1923-24 and for 1924-25 included the salaries and expenses of the regional medical officers. Approximately four-fifths of the cost of this last service was recovered out of national health insurance funds. In reply to a further question, Mr. Neville Chamberlain said that three new medical officers had been appointed to fill vacancies. Answering Dr. Graham Little on the same day, Mr. Chamberlain said that in the Ministry of Health one assistant principal had been promoted to the rank of principal since May 1st, 1924.

**Pensions Medical Officers.**—Colonel Sir Arthur Holbrook, on March 2nd, asked the Minister of Pensions what were the special qualifications, medical or otherwise, of each of four named officers without overseas service, which rendered their retention in the service of the Ministry, in the interests of the pensioner, more desirable than that of the officers whose full-time services were out to be terminated; whether he was aware that one of their cases with a war disability whose services were in the year 1916 and had practically no experience in the medical practice of his profession since that date, having been employed by the Ministry of Pensions, since he joined the Ministry, on purely administrative duties of a subordinate nature during the past five years; and whether he had been told that he was to succeed an officer with overseas service and a war disability whose services were to be dispensed with, part of whose duties consisted in visiting pensioners at their homes and the holding of medical clinics. Major Tryon, Minister of Pensions, answered that in a reply given to Sir Arthur Holbrook on February 12th he had fully explained the considerations governing the selection of medical officers of the Ministry of Pensions for further employment. It was solely for those considerations that the officers mentioned in the question were being retained. In the reply of February 12th the Minister of Pensions said that the chief considerations determining the continued employment of medical officers in the Ministry were efficiency and the possession of the necessary qualifications for the duties to be performed. Subject to these considerations preference was given to an officer with overseas service, especially if he had a disability.

**Poor Law Infirmaries.**—On February 25th Major Tasker asked the Minister of Health whether, in view of the existing shortage of available accommodation for the sick in voluntary hospitals, and of the steadily increasing needs of the community, he would issue instructions that everything tending to discourage or limit the use by the sick of Poor Law hospitals or infirmaries be removed, and that disqualifications and disabilities be continued. Mr. Neville Chamberlain replied that the question of the best method of utilizing hospital accommodation at present provided under the Poor Law could not be dissociated from the larger question of Poor Law reform. Major Tasker further asked whether steps would be taken to amend Section 46 of the Local Government Act, 1891, to remove the disqualifications to which a guardian or district councillor or a parish councillor became subject when he or his wife or child was admitted as a patient into a Poor Law hospital or infirmary. Mr. Chamberlain replied that pending full consideration of the wider problem in all aspects it would not be desirable to introduce the legislation suggested by Major Tasker.

**Panel Doctors and Pensioners.**—On February 26th Mr. T. Williams asked the Minister of Pensions whether, before taking away the treatment allowance from a disabled ex-service man, he would consider the advisability of permitting the presence, when the man was examined, of his panel doctor, who in many cases had a closer acquaintance with the man's disability than the medical man who examined him. Major Tryon said he understood that the medical profession was not at all in favour of that proposal.

**Institutional Treatment of Tuberculosis.**—The Parliamentary Secretary to the Ministry of Health has stated that, as regards England and Wales, the Minister of Health was satisfied with the accommodation provided by local authorities for sufferers from tuberculosis, except that there was need in certain areas for the provision of additional accommodation for cases of non-pulmonary tuberculosis and for cases of advanced pulmonary tuberculosis. The total number of fresh cases of tuberculosis notified during 1923, the last year for which figures were available, was 79,368. On February 1st last 18,427 cases were receiving treatment in institutions in England and Wales, while those recommended for such treatment who had waited more than ten days was 3,436. It might be assumed that most of these cases had now been admitted.

**Medical Services in India.**—Dr. F. E. Fremantle, on March 2nd, asked when the Government would state its proposals for dealing with the recommendations of the Lee Commission with regard to the medical services in India; and whether the House would be given an opportunity of discussing them before any decision was taken. Earl Winterton, Under Secretary for India, replied that the Secretary of State had not yet received the Government of India's recommendations, though they were expected very shortly. He would prefer to await their receipt before giving any undertaking about discussion.

**Defective Children.**—The Duchess of Atholl, Parliamentary Secretary to the Ministry of Education, said, in reply to Colonel Day, that the Ministry of Education had lately sent local education authorities a circular on the need for augmenting the provision made for defective children. In Manchester 1,370 children were ascertained during 1924 to be mentally defective, in Leeds 296, and in Birmingham 1,220. In Manchester 657 mentally defective children attended school during 1924, in Leeds 279, and in Birmingham 1,186. Children certified as suitable for special schools for the mentally deficient, but now awaiting admission owing to inadequate accommodation, numbered 537 in Manchester and 17 in Birmingham; in Leeds there were none.

#### Notes in Brief.

The reported occurrence of silicosis among coal-miners is under investigation by the Health Advisory Committee of the Mines Department, which has not yet come to any definite conclusion. Any further action must await the Committee's report.

The Departmental Committee on Workmen's Compensation for Silicosis is inquiring into a scheme of compensation under the Silicosis Acts for the grinding trades, but it is not possible to say when a report would be presented.

The Minister of Health is not prepared to depart from the rule that information relating to insured persons shall not be used otherwise than for the purpose of administering the insurance scheme, save with the consent of the insured themselves.

The Government sees no ground for hoping that a further attempt to secure an international agreement for the disinfection of dangerous wool would meet with success, but the Home Office will continue its efforts in this direction.

No new materials will be scheduled for disinfection without due notice to the trades concerned.

The Committee on Food Preservatives is extending its inquiries to include the treatment of flour with chemical substances.

The Home Secretary is looking into the whole question of instruction to the police in ambulance work and first aid.

A survey of the worst elementary schools has been made in the areas of the London County Council, the county boroughs, boroughs, and urban districts of England, and 607 schools out of 5,760 have been mentioned to the authorities concerned as unsuitable in whole or part. A similar survey is in progress in the county areas of England, and the results of the Welsh survey will soon be available.

The number of persons in British India returned as lepers at the census of 1911 was 92,433, and at the 1921 census 85,122. The figures were admittedly unreliable.

In reply to Mr. J. Guest, the Minister of Pensions said that he was not aware of cases of hardship where the failure of ex-service men to apply for pensions under the seven years' limit had been caused by inadequate or mistaken diagnosis by the medical men at an earlier date. If particulars of any such case were supplied it would be considered. Mr. Guest asserted, in a supplementary question, that pensioners had been treated for neurasthenia or debility at various times during the seven-year period, but at the end of that period had been diagnosed as suffering from tuberculosis and had been ruled out. Major Tryon replied that such a case could be considered under the arrangement for the correction of errors which had already been explained.

The average gross cost per inmate in 1923-24 was: in sanatoriums, £136; in county and borough lunatic asylums, £75 10s.; and in Poor Law institutions, £65 10s. The last figure covered all persons in receipt of institutional relief, and not merely sick persons.

The Secretary of State for the Colonies has called on the Governor of the Straits Settlements for a comprehensive report on the high death rate in Singapore, and for a statement of what has been done to improve housing and sanitary conditions since the inquiry held in 1905.

Answering Mr. Robert Morrison, Colonel Stanley, for the Minister of Pensions, said the records of the Ministry did not enable him to supply particulars of the number of appeals, on the ground of tuberculosis, heard by the tribunal during the past two years, nor of the number allowed. Mr. Morrison asserted that many men who had been gassed during the war had since developed tuberculosis of the lungs, but Colonel Stanley replied that that was not under the jurisdiction of the Ministry of Pensions.

Questions relating to the health of merchant seamen are dealt with by the Mercantile Marine Department of the Board of Trade in consultation with the Ministry of Health. The Mercantile Marine Department has a staff of qualified medical officers. The question of modifying the classification of diseases in the statistics of deaths of seamen is under consideration.

Permission has been granted to the Derbyshire and Shropshire education authorities to continue the employment of unqualified dental dressers up to the end of the present year. Legislation will be necessary to provide that expectant mothers can leave prison for the birth of their children. Extra, or special, diet is provided in prison for all expectant and nursing mothers. Inquiry is being made as to the number of births in prison.

## Correspondence.

### SIR JAMES MACKENZIE AND THE SYMPATHETIC INNERVATION OF STRIATED MUSCLE.

SIR,—It is probably not an overstatement to say that the recent work on the sympathetic innervation of striated muscle has created a profound revolution in anatomy and physiology.

The new facts contained in the lectures by the late Professor J. I. Hunter, recently delivered by Professor Elliot Smith,<sup>1</sup> afford an entirely new basis from which to approach a great variety of clinical phenomena.

I wish to call attention to one form of muscular activity which has not so far been mentioned, upon which these discoveries throw light, while at the same time they strikingly confirm a view of muscular action which was formulated and expressed by Sir James Mackenzie from purely clinical observation.

The muscular action to which I refer is that shown in what we term the "viscero-motor reflex," in which there is a hardness and rigidity of the muscles of the abdominal wall, or of some portion of them, produced reflexly by certain afferent impulses from the viscera. From repeated observation and consideration of this clinical condition Sir James Mackenzie was led to point out that there are two varieties of muscular action, one the ordinary voluntary contraction, and this other form shown in the "viscero-motor reflex," differing from the first in its nature, since it does not produce shortening of the muscle, it does not as a rule involve the whole extent of a muscle, and it can last for an indefinite time, or, in other words, is not subject to fatigue as is the ordinary contraction. In the fourth edition of his *Symptoms and Their Interpretation* (p. 78) he said:

"There are different forms of reflex muscular contraction. The cutaneous reflex contraction is accompanied by a sensation; viscero-motor contraction is not necessarily accompanied by a sensation. The cutaneous reflex results in a momentary contraction of the muscle. The contraction of the muscle which arises from the visceral stimulation is persistent. In this persistent contraction of the muscle we get an insight into several processes of a very instructive kind. Light is thrown upon some functions of the sympathetic system at present obscure, and some characteristic features of muscular contraction which have been overlooked are revealed."

There seems to be little doubt that this acute analysis and differentiation corresponds to the activities of the two components of striated muscle, the dual nerve supply, and to the different forms of activity set forth in the lectures by Professor Hunter to which I have referred.

On the basis of Mackenzie's observations it was a justifiable conclusion that striated muscle showed a double form of action, and it is a striking tribute to Mackenzie's acumen and insight that the structural basis has now been demonstrated for the dual activity which he showed to exist.

It forms, as well, another illustration of the value to anatomy and physiology of such accurate clinical observations, which reveal facts and raise problems which otherwise would be outside the ordinary scope of the anatomist and physiologist.—I am, etc.,

DAVID WATERSTON.

The James Mackenzie Institute for Clinical Research, St. Andrews, Fife, Feb. 28th.

### FAMILIAL DIABETES INSIPIDUS.

SIR,—In the report of the last meeting of the Clinical Section of the Royal Society of Medicine in the *BRITISH MEDICAL JOURNAL*, February 28th (p. 410), Dr. C. P. T. East's case of diabetes insipidus following syphilis is referred to. It is stated that I mentioned a similar case of my own with a remarkable family history. In reality, I alluded to a family series of cases of diabetes insipidus recently described by M. Güsslen (*Med. Wochenschrift*, Berlin, 1924, iii, p. 22). A healthy woman married to one of the affected males of the family in question suffered from extreme thirst towards the end of her first pregnancy.

<sup>1</sup> *BRITISH MEDICAL JOURNAL*, January 31st, p. 197; February 7th, p. 251; February 14th, p. 299; February 21st, p. 350; February 28th, p. 398.

This disappeared as soon as the child was born, and Güsslen suggested that the mother's abnormal thirst was due to a diuretic hormone formed by the foetus in her uterus. In fact, her eldest child, after birth, was found to have the familial complaint (paternal side of the family)—namely, diabetes insipidus—whereas the second child was not so affected, and during her pregnancy with the second child she had no excessive thirst and polyuria.—I am, etc.,  
F. PARKES WEBER.  
London, W.I, Feb. 28th.

### HEART STRAIN.

SIR,—The suggestion is made in Dr. Pullar's letter (January 31st, p. 258) and in Dr. Brockbank's (February 14th, p. 332) that theoretically the pressure transmitted backwards from the aorta to the left ventricle during diastole would be greater in the case of a small valve leak than in the case of a large one. The theoretical reason given is that the force transmitted through the small area of the small leak would not equally all over the interior of the ventricular wall on areas of the same small size as the valve leak, thereby producing a greater pressure than with a larger leak. With a larger leak the same force would act on larger areas of the wall of the ventricle, giving rise to a less pressure. This supposed effect is likened to that of the Bramah press.

The conclusion seems contrary to common sense, and there is, in fact, a fallacy in the argument. There is confusion of a pressure (force per unit of area) with a force—namely, the pressure in the aorta—with the force acting on the area of the valve leak. This latter force, if the pressure remained constant, would vary directly as the area of the valve leak. The smaller the area of the leak the smaller this force would be, the pressure remaining constant.

There is no analogy whatever with the effect of a Bramah press, as it is obvious that no aortic leak, large or small, could cause the ventricular pressure during diastole to rise above the aortic pressure. The extent of rise in ventricular pressure due to a leak would depend upon the rate of back-flow, the capacity of the ventricle, and the duration of diastole.—I am, etc.,

Bolton, Feb. 22nd.

E. S. MILLER.

### NERVOUS EXHAUSTION AND LOW BLOOD PRESSURE.

SIR,—I see here many patients from England who have come abroad suffering from "nervous exhaustion." I find that nearly all of them have a blood pressure of 125 mm. Hg or less, and that their improvement coincides invariably, I think, with a rise towards normal of the blood pressure.

Whether this coincidence has ever been remarked before I do not know. I imagine that the exhaustion decreases the tone of the vessels, thus lowering the pressure; and that the fallen pressure emphasizes the exhaustion, and perhaps determines the breakdown. It would be pleasing to understand better this somewhat vague malady.—I am, etc.,

Mentone, Feb. 24th.

D. W. SAWYERS.

### TESTS FOR DRUNKENNESS.

SIR,—After many years' experience as police surgeon I must confess that I have never yet met with an absolutely conclusive test for drunkenness. Spinal puncture does not help, and Babinski's reflex only proves chronic alcoholism (and not always that). I have remarked that patience, ordinary common sense, and absolute impartiality favourably impress the judge, whereas a dogmatic attitude and obvious hostility towards opposing counsel are distasteful to him. The police surgeon, I take it, is in the witness-box to assist the court, and the more experience he has had the greater must his authority be, and the judge knows this. In effect, he becomes in time as much of a specialist at his job as the gentleman from Harley Street is at his, and probably more so in this particular connexion. The latter frequently is called upon to rebut the divisional surgeon's evidence, and I suspect for two reasons. For one thing, he by his prestige is expected to rather overawe his colleague who, for the moment, is in opposition, and, in the event of the case being somewhat of a forlorn one, to lend his weight in securing a mitigation of penalty; and for another, there is a possible chance



of his encountering one whose self-confidence is more easily shaken in the witness-box than his own. But, as a rule, the divisional surgeon must score if he speaks the whole truth, sticks to his opinion, and does not allow himself to be browbeaten by any lecturing counsel.

It is quite true that one occasionally hears weird judgements from the bench, and as an instance I am minded of a recent case in which defendant was acquitted of the charge of being intoxicated but was fined for reckless driving. The point lies in the fact that my evidence, dead against the delinquent, had been confirmed in writing by his own doctor who had examined him shortly after I had made my report at the police station.

These things happen, and possibly are designed to suppress unbecoming conceit. Truly the judge has the last word.—I am, etc.,

London, S.W.15, Feb. 27th.

ATHELSTANE NODDS.

# RESPIRATORY ORTHOPAEDICS.

Sir,—The work that is done in the ear and throat clinics of the school medical service is lessened in value by the fact that tonsil and adenoid cases after operation often cease to attend after the inspection which satisfies the surgeon that the throat is healed and the naso-pharyngeal tract patent. The operative removal of obstructions in the upper respiratory tract is really no more than the first stage of the necessary treatment. The school clinic surgeon who does not make a special study of the respiratory mechanism of the growing child is but half equipped for his work. The school clinic must in futuro include in its range not only diseases of the ear, nose, and throat, but all abnormalities of the breathing apparatus as a whole; in other words, it must develop the study of respiratory orthopaedics. There are here important and still undeveloped opportunities for very fruitful research, the cultivation of which will revolutionize school medicine. The mechanism of which will revolutionize school medicine. The mechanism of which will revolutionize school medicine.

The importance, as for example:

1. The definition of "a normal chest" in the child, as regards (a) skeletal structures; (b) radioscopic and percussion images; (c) auscultation; (d) vital capacity; (e) pulmonary reflexes.
2. The investigation of the altered respiratory mechanism of the adenoid child, with special reference to abnormal respiratory reflexes.
3. The relation of adenoid hypertrophy to enlargement of the bronchial glands, and the clinical differentiation of such non-infective glandular hypertrophy from early phthisis.
4. The elaboration of a definite system of post-operative respiratory gymnastics based upon a sound conception of the special conditions involved, but simple enough to be of general application. Though we all agree as to the necessity of such exercises, they are not generally provided for, and where such provision is made there is little unity of practice.

The study of respiratory orthopaedics will have to be developed upon systematic lines if the school ear and throat clinic is to be, as it should be, and happily often is, not only a centre for treatment, but for the advancement of knowledge by research, and a fruitful corner in the great field of preventive medicine.—I am, etc.,

F. PEARCE STURM, Ch.M.Aberd.

# CAUSATION OF CANCER.

Sir,—In an article, "Early pregnancy and epithelioma," in your issue of December 20th, 1924, Dr. Emery emphasizes what he believes to be the protective power of fat against epitheliomatous invasion.

It is true that epithelioma is not infrequently found on sites with little, if any, underlying fat. But it is, I think, very doubtful whether the presence or absence of fat is of any importance etiologically. In 59 cases of epithelioma which we operated upon in 1924, almost without exception all rested upon, or had encroached upon, well marked adipose superficial fascia. These were cases of "kangri-burn cancer," originated by contact with, and irritation caused by, the kangri, a portable earthenware pot containing burning charcoal and held under the clothes against the skin in cold weather by the Kashmiris. Our experience has led us to the very definite conclusion that heat irritation is the primary factor in the production of such epitheliomata, and that they occur at the site of most continued irritation.

Other epitheliomata—as, for instance, those of the lips and tongue, chimney-sweepers', mule-spinners', paraffin and tar workers'—have the element of chronic irritation in common. Recent work on breast cancer in its early stages, with the evidence of irritation and proliferation induced by blocked ducts and acini, points in the same direction. Chorionic epithelioma may probably depend upon the irritative action of some toxic agency associated with pregnancy, the nature of which is not yet demonstrable. While agreeing with the author on the importance of internal and external body hygiene, I think the most important preventive treatment of cancer is undoubtedly the elimination of all possible exciting causes—the protection from sources of irritation.—I am, etc.,

Ernest F. Neve, M.D., F.R.C.S.E.

Srinagar, Kashmir, Jan. 20th.

# LIME JUICE AND LEMON JUICE FOR PREVENTION OF SCURVY.

Sir,—Neither in Sir Percy Bassett-Smith's letter nor in your editorial comment is there any reference to the experimental work demonstrating the value of potatoes as an antiscorbutic. The Admiralty might well reply to both that an excellent antiscorbutic is carried on board ship in the form of potatoes.

However, in my experience, potatoes as ordinarily prepared have little antiscorbutic value; experimental success may possibly have been due to the animals being fed on unpeeled potatoes containing the "eycs." At a meeting of the War Section of the Royal Society of Medicine on the subject of scurvy the President asked a visitor present for some remarks. The latter had met a famous Arctic explorer once been troubled with scurvy amongst his staff. A party they threw away and came across a depot of tinned food; On return the party were found to have developed scurvy. My first case of scurvy, a child, was fed on oranges and died. Since then I have seen no case of scurvy that has not been rapidly cured by being fed on raw or undercooked meat. Experiments, however, do not give meat a high antiscorbutic value, the explanation possibly being that the experiments were carried out on vegetable-feeding animals. The point of my letter is that the scurvy problem has not yet been solved, and more experimental work is necessary in order that theory may explain clinical facts.—I am, etc.,

F. C. B. GIBBINGS, M.D.Lond.

Southsea, Feb. 23rd.

# MINER'S NYSTAGMUS.

Sir,—In your account of the discussion on miner's nystagmus in your issue of February 21st (p. 362) I am reported as saying, "The cases should be treated for the neurasthenia," and it would disappear and with it the nystagmus."

To one who is familiar with the difficulties of even investigating such disorders, and with the complicated nature of the problems of prevention and treatment, a statement like that appears to be pernicious nonsense. My speech, prepared beforehand and read verbatim, contained nothing to which such an interpretation could be given. Indeed, I specifically indicated the alarming complexities that the psycho-pathological view introduced, though I expressed the belief that we should ultimately be compelled to accept it.

May I disclaim, too, the use of the word "neurasthenia," which is now almost void of clinical meaning.—I am, etc.,

MILLAR CLIPIN.

London, Feb. 27th.

# THE HYPOTONIC (FLABBY) CHILD.

Sir,—What the flabby child needs is open air and sunshine treatment as applied to cases of surgical tuberculosis. The results of treatment of such children with white-flame carbon are baths are very good. The baths are given two or three times a week, exposing for five, increasing to fifteen minutes, first the front and then the back of the body at a yard distance, using a lamp taking 30 amperes and 100 volts, or the equivalent wattage.—I am, etc.,

LEONARD HILL.

Loughton, March 1st.



## TUBERCULIN TREATMENT.

SIR,—I am one of those doctors who watched and learnt Dr. Camac Wilkinson's method of treating tuberculosis with bi-weekly injections of tuberculin from 1910 onwards, and have myself followed out his teaching carefully with very many good results.

From London dispensary work begun early in 1911, and in sanatoriums at Rüdwick, Fritton, and Ockley, we got uniformly good results; and now, in 1925, I have been told evidence exists of 50 per cent. of the tuberculin-treated patients being alive ten years after cessation of treatment, while as control cases only 5 per cent. of the patients who were not so treated were alive, all being cases with tubercle bacilli.

Only yesterday a small but important meeting was held in Central London to suggest opening again tuberculin dispensaries. At least eight doctors were present, possibly more. At that meeting it was emphasized that any medical staff should be paid, as it is highly technical work, requiring skill and care, and must be learnt. But it is work which only requires a couple of hours twice a week regularly, and it is of the greatest possible interest.

Those of us who have worked at it for years believe in it; and it is only those who do not wait for results who reject it. In my opinion there are a large number of untouched cases of early tuberculosis who might be entirely saved from disaster by six months' treatment at very little expense and without the patient losing a day's work. Late cases, too, are frequently much benefited, and in any case the expectoration is minimized and so they become converted into comparatively harmless cases.

My object in writing is to say I will give all the help I can to any doctor who is anxious to see or learn at 37, *Jeffreys Road, Clapham Road, S.W.*, every Tuesday and Friday from 9 to 10 a.m.—I am, etc.,

ANNIE McCALL,  
Director, Clapham Maternity.

London, S.W.9, Feb. 28th.

## Obituary.

## GEORGE SIGERSON, M.D., F.R.C.P.I., M.R.I.A.

We regret to announce the death of Dr. George Sigerson, which took place at his residence in Dublin on February 18th. He was born at Strabane, co. Tyrone, some ninety years ago, but the exact date of his birth is not known; a younger fellow student of Dr. Sigerson at Queen's College, Cork, where he greatly distinguished himself, estimated his age in October, 1921, as being between 85 and 90 years, and added that in his early manhood Sigerson, a very keen student of Irish, published a translation of the Munster Gaelic poets. On graduating at the Queen's University, Sigerson visited Dublin and went also to Paris, where he pursued his medical studies, devoting special attention to diseases of the nervous system. He took the degrees of M.D., M.Ch., and at a comparatively early age became professor of botany, and later of biology, in the Catholic University Medical School, Dublin. As a scholar and writer he won golden opinions from all sorts of people, and his personal charm was such that he was beloved by the students, who held him in the greatest respect and reverence. When the Royal University of Ireland was founded Sigerson took his place in it, adding steadily to his reputation both in science and literature. Under his aegis the National Literary Society was established in Dublin, and as its president during a long term of years he conferred dignity and distinction upon its discussions. Some seven or eight years ago the members of the society marked their appreciation of his services by presenting him with a portrait of himself by Sir John Lavery, the eminent Irish artist, and many members secured engravings of the same marked the esteem in which Dr. Sigerson was held in his profession by making him an Honorary Fellow. He presented to the Royal Irish Academy, and published in its *Transactions*. His eminence as a medical man was acknowledged widely, and he was well known as a litterateur and

a man of science. To the end he enjoyed a large and lucrative practice as a neurologist in Dublin. Among Dr. Sigerson's scientific publications were *Microscopic Researches on the Atmosphere*; *Heat as a Factor in (so called) Vital Action*; *Cause of Buoyancy of Bodies of Greater Density than Water*; *Additions to the Flora of the Tenth Botanical District*; *Relationship of the Inferesences*; and a translation, with notes, of Professor Charcot's lectures on diseases of the nervous system. Since its foundation, Dr. Sigerson had been a Senator of the National University of Ireland. He was a corresponding member of several of the leading literary and scientific societies in Paris. He was married, and had one son and three daughters; one of the latter—the late Dora Sigerson Shorter—won some distinction as a writer of verse. In many of his public lectures and addresses Dr. Sigerson referred to his descent from the Norsemen, and seemed to take particular pride in it. His massive figure, flowing locks, and long flaxen beard were picturesque corroborations of his claim. In his writings are many allusions to the settlement of the Norsemen in ancient Ireland, as, for example:

"The Norsemen were no newcomers in the ninth century. Gaelic writers state that the fair race of the Tuatha de Danaus came to him from Norway where they had settled. If we consider them as early Norse—which I think probable—these were in constant touch with the island before and after the coming of the Southern Milesians. The annals of Ireland recall several intermarriages in ancient times. Thus, in the second century, King Tuathal the legitimate married a Norse Princess, King Cormac MacArt in the third century, the first Christian king, was grandson of a Norse woman. There were two Norse ancestresses in the lineage of Ossian, the last great Pagan Bard—whilst Secundinus, the first Irish hymn-writer in Erin, was the son of one of the Leegbards, who are supposed to have then recently left Norway."

Among Dr. Sigerson's attainments it is probable that the majority of his countrymen would give pride of place to his work as an authority on the ancient Gaelic poetry of Ireland. As a young man he was a great friend of the late Dr. Sullivan, President of Queen's College, Cork, and it is more than likely that he met O'Curry, who died in Dublin in 1862. In his explorations in the highways and byways of Gaelic poetry Sigerson brought into play the vast resources of his learning and his intellectual gifts, while his qualities of sympathy and understanding were enlivened by his delicate literary style, which lent a charm to everything he wrote. As a lecturer upon those literary subjects that were so dear to him he inspired his hearers with a feeling, not only of reverence, but of affection. Sigerson surrendered himself entirely to the charm of the music and poetry that captivated the poet Spenser—with this difference, that while the author of the *Faerie Queene* looked upon Elizabethan Ireland as a stranger looks upon a conquered land, and used the Gaelic gems that he picked up for the adornment of English literature, Sigerson looked upon the English colonial element in his country at the present day as destined to be peacefully absorbed in the revival of a Gaelic Ireland. Upon this point he wrote, in his preface to *The Last Independent Parliament of Ireland*:

"Since the first dividing pale there has manifestly been, in Ireland, a great vital fusing force, which irresistibly attracted all later comers into the nation. Age after age, a palisade of rigid laws was set up, like a stockade, hideous with horrid penalties, like spiked skulls; and age after age that great vital Irish fusing force has broken down and swept away every penal pale, and changed foes into friends."

Sigerson delved in neglected literature of a period "where long forgotten peoples lived, loved, and acted," and it was his regret that, unhappily for history, that literature was long buried in neglect—"locked in an archaic language, like some splendid missal clasped in covers of wrought silver, which could not be opened." Of the Irish literature before the Christian era he says that "it is, indeed, one of the highest honours of Irish monasticism that, though ascetic and zealous in the extreme, it had a liberal, large-minded respect for the literature of the ancients, and preserved it." In his introduction to his second edition of *Bards of the Gael and Gaul* he rejoices that Ireland is the sole representative of that great world which lived and thrived outside the classic camp. The early poems, in which there is no trace of Christian

influence, are quoted as evidence that "when St. Patrick came to Ireland he came, as St. Paul to Athens, before a highly cultured audience."

**RICHARD WILLIAMS, J.P., M.R.C.S., L.R.C.P.Ed.,**  
Consulting Surgeon, Eye and Ear Infirmary, Liverpool.

It is with regret we have to announce the death from influenza, on February 20th, of Mr. Richard Williams, in his 80th year. He was born in Anglesey and began the study of medicine in Glasgow; he took the diplomas of L.R.C.P.Ed. and L.R.F.P.S. in 1870, and that of M.R.C.S. in 1871. After a period of general practice he devoted special attention to diseases of the eye, and spent some time in London and in Paris. He was appointed assistant surgeon to the Liverpool Eye and Ear Infirmary, and afterwards became full surgeon, a post he held for thirty-seven years. He was also ophthalmic and oral surgeon to the Royal Albert Edward Infirmary, Wigan. To the Liverpool Medical Institution he made several important communications on various diseases of the eye. Being a skilful operator and with plenty of initiative he introduced new methods of treatment—for example, the actual cautery in conical cornea, a method of muscle advancement by a single circular stitch, usually done in seven to eight minutes under cocaine with excellent results. In plastic operations on the lids and conjunctiva Mr. Williams showed great skill and ingenuity. Much of this work was known only to his colleagues, as he was diffident in publishing his methods and averse to any appearance of self-advertisement. He was a vice-president of the Liverpool Medical Institution and also vice-president of the Ophthalmological Society. Mr. Williams was the first ophthalmic surgeon to conduct the eye department of the Royal Southern Hospital. He was made a justice of the peace of the city of Liverpool. In 1910 he retired from practice in Liverpool, owing to reasons of health, and resided in Bangor, where he continued to practise his specialty till the end of last year. His professional ability was recognized by his being made a President of the North Wales Branch of the British Medical Association, and his services were frequently claimed by the Carnarvonshire and Anglesey Infirmary in Bangor.

Mr. Richard Williams was a man of strong convictions, sincere and courageous. Passionately fond of his native country, he was a great advocate of nationalism, and a strong individualist. He possessed humour, albeit at times a little sensitive when made at his expence. He was fond of languages and well acquainted with French and Spanish. His breezy, emphatic personality will be missed by many friends. The loss of his elder son, while flying in the war, was a great blow to him. Mr. Williams was buried in Glanadda in the presence of friends and former colleagues. He leaves a widow, who tended him devotedly, and one son; to them we desire to tender our sympathy.

**E. MACDOWEL COSGRAVE, M.D.,**

Formerly President of the Royal College of Physicians of Ireland.

Dr. E. MACDOWEL COSGRAVE, who died at his residence in Dublin on February 17th, was in his 78th year, and was a prominent figure in the professional and social life of Dublin. His educational and professional attainments gained him many distinctions, while his charming personality and his generous disposition won him many friends. He was the son of William Alexander Cosgrave, clerk of the peace for County Longford, and Anna Maria, daughter of Surgeon Ephraim MacDowel, of the Richmond Hospital. He received his earlier education at Kingstown School, and later entered Trinity College, Dublin. He studied at the House of Industry and the Rotunda Hospital, and took the degrees of B.Ch. and M.Ch. (*stipendiis condonatis*) in 1870 and that of M.D. in 1878. He became a Fellow of the Royal College of Physicians of Ireland in 1880, and was President in 1914. Dr. Cosgrave was physician to Simpson's Hospital, Drumcondra Hospital, and Cork Street Fever Hospital, and during the great war was physician to the Dublin Castle Red Cross Hospital. He

was also physician-in-ordinary to the Lord Lieutenant of Ireland. He was professor of biology in the Royal College of Surgeons, a member of the British Medical Association, and honorary member of the Dublin Council of the Biological and Experimental Science Association. He was also a knight and honorary associate of the Order of St. John of Jerusalem. Dr. Cosgrave was the author of many books, including *The Student's Botany* (1885), and several contributions to journals, chiefly relating to hygiene. He was lecturer in zoology and botany in the Royal College of Surgeons in Ireland. He was the author of the official handbook of the St. John Ambulance Association—a book of which more than four hundred thousand copies have been sold. Apart from his professional attainments, Dr. Cosgrave was a well known antiquary and archaeologist, and was widely recognized as an authority on the history of Dublin and its institutions. He knew his native city as it was given to few to know it. He was one of the principal founders of the Georgian Society, to which body he acted as honorary secretary. He was also a member of the Royal Society of Antiquaries, and his writings on antiquarian subjects were many and well informed. He was the author of *The Illustrated Dictionary of Dublin* (1895, second edition 1906), of a catalogue of engravings of Dublin from the earliest times to 1900, and of *Dublin and County Dublin in the Twentieth Century*, all of which are standard works. In addition to such activities, Dr. Cosgrave found time to devote to photography and chess, which were among his favourite recreations. He was president of the Amateur Photographic Society and was an expert with the camera, some of his photographs being works of art. He was also president of the Irish Chess Club, and was the first to play the game with living men as pieces. In these pursuits Dr. Cosgrave's genial personality won him friends in all directions.

**THE LATE SIR CLIFFORD ALLBUTT.**

We are indebted to Sir CHARLES SCOTT SHERRINGTON, G.B.E., M.D., President of the Royal Society, for the following appreciation:

The invitation to offer my brief tribute to the memory of Sir Clifford Allbutt brings home the difficulty, despite the knowledge of his advanced age, in realizing that he is no longer among us; his vitality overflowed like an influence on all about him. Few, of whatever career, can have combined attainments and a distinction of personality and of person such as met in him. Of many and wide interests, some of them seemingly little compatible, such as scholarship and public professional service, these were in him united into the one harmonious outstanding figure admired of us all. The force unifying him was surely pre-eminently the love of his profession—a love which as exemplified in him implied devotion to its highest causes, the upholding of its learning, the cultivation of its best tradition, the organizing of its power for beneficence. Literary expression was among his gifts. The wide audience which his medical writings reached knows this well. And his letters on public matters appearing from time to time were to a yet larger audience always welcome, and not only for their matter but for their manner as well. Moreover, personal letters from him, written much as he would have spoken, had a characteristic charm and freshness and point, humour and picturesqueness, streaming in swift profusion through them from outset to end. One pauses at the sadness that there can be no more of them to come.

THE FINANCIAL SECRETARY of the British Medical Association writes to supplement our record in last week's issue of Sir Clifford Allbutt's many services to the Association. In the seventies Dr. Allbutt (as he then was) held an official position upon the old Committee of Council; he was one of the elected twenty members for a seat on the 1875-76 Council, and attended for the first time the Committee of Council held on August 1st, 1876, at Sheffield under the presidency of Dr. Wilbraham Falconer, another of the old pillars of the Association, who was contemporary with the founder, Sir Charles Hastings, and who held the offices of President of Council and Treasurer from 1870 to 1878.

Dr. NAUNTON WINGFIELD DAVIES of Creigiau, Cardiff, died on February 13th. He was born at Newport, Mon., in 1852, the eldest son of Dr. David William Davies of Llantrisant, whose mother was a lineal descendant of Sir Robert Naunton of Lethringham Abbey, near Wickham Market, Secretary of State to James I. He was educated for the medical profession at the Royal College of Surgeons in Ireland and at Edinburgh; he took the diplomas of L.R.C.P.Ed. in 1876 and F.R.C.S.Ed. in 1891, and was gold and silver medallist. In 1881 he commenced practice at Bridgend, where he continued his professional work till 1897, in which year he forsook medicine for literature. He was the author of *A Day with Hounds and What Came of It*, which had a large sale. In 1898 he wrote *The Secret of a Hollow Tree* and *Chester Cresswell*, both of which received high commendation. He also contributed articles on professional subjects to various journals, and some on hunting and fishing to *Land and Water*. He subsequently took up the practice of medicine again, and in 1902 wrote *The King's Guide*, which was considered his most successful romance. He is survived by three sons and a daughter. His widow contracted pneumonia on the day after his death and died on the following day.

Dr. REGINALD ARTHUR MORRELL died suddenly, on February 19th, at the age of 42, while examining some x-ray plates at the Sheffield Royal Hospital. He received his medical education at St. Thomas's Hospital Medical School, and took the English Conjoint Board diplomas in 1908. He was honorary radiologist to the Sheffield Royal Hospital, the City of Sheffield King Edward VII Memorial Hospital, and to the Chesterfield and North Derbyshire Royal Hospital, as well as lecturer in radiology in the University of Sheffield. He was a Fellow of the Royal Society of Medicine, a member of the Oxford Ophthalmological Congress, and of the Sheffield Division of the British Medical Association. During the war Dr. Morrell had served with the rank of captain in the R.A.M.C., and was radiologist to the 3rd Southern General Hospital. After the war he became radiologist to the Headington Orthopaedic Hospital under the Ministry of Pensions, and, later, clinical assistant in the x-ray department at the Radcliffe Infirmary, Oxford. He was the author of a paper on the after-effects of certain industrial injuries and their treatment by x rays, published in our columns in 1923.

Dr. FRANK D. M. BEATON died at his residence in Leeds on February 2nd. He was a native of Glasgow and went to the High School there, and began the study of medicine at Edinburgh University in 1914. Soon after the outbreak of war he joined the Argyll and Sutherland Highlanders, from which regiment he transferred to the Special Branch of the Royal Engineers, and saw active service in France for over three years. After the armistice he resumed his medical studies, and graduated in July, 1922. In the following year he was appointed resident medical officer to the Edinburgh City Hospital, and took the D.P.H. He had been in practice in Leeds for twelve months, where his skill and kindness of heart had endeared him to colleagues and patients alike. A promising career has been tragically ended by a sudden onset of septicaemia following tonsillitis.

Dr. WILBERFORCE J. J. ARNOLD, colonial surgeon and acting Governor of St. Helena, died on that island on January 29th. He was educated at Belfast, where he graduated B.A. with honours in 1887, and M.B., Ch.B., and B.A.O. in 1894; he took the D.P.H. Oxford in 1913. He served as a civil surgeon in South Africa and in St. Helena during the South African war, 1900-02, and in 1903 was appointed colonial surgeon at St. Helena. He was a member of the executive council, and had twice previously acted as Governor. The late Governor, Colonel Peel, died at St. Helena in August last, while Mr. C. H. Harper, C.M.G., who was appointed to be Governor in December, has not yet arrived. In the meantime the officer commanding the garrison has been appointed to act as Governor. So the colony will have had four Governors in half a year.

We regret to announce the death, in his 58th year, of Dr. GEORGE PETERKIN of Forfar, which took place at a nursing home on January 28th. An Englishman by birth, he went as a boy to reside with his parents in the North of Scotland, where his father was an extensive breeder of shorthorn cattle at Dungleigh, Ross-shire. He was educated at the University of Edinburgh and the Royal College of Surgeons, Edinburgh, and graduated M.B., C.M.Ed. in 1892 and M.D. in 1900; he took the D.P.H. of the Conjoint Board in Scotland in 1897. After acting as an assistant at Hawick, he went, about thirty years ago, to Forfar, where he succeeded Dr. Hunter. He subsequently became M.O.H. for the burgh of Forfar, medical officer to the Forfar Parish Council, surgeon to the Forfar Infirmary and to the police, and certifying factory surgeon. He was an ex-president of the Forfarshire Medical Society and of the Dundee Branch of the British Medical Association. Dr. Peterkin is survived by a daughter and two sons.

Dr. GEORGE SYMERS MILL of Ossett, who died on January 30th, aged 59, was a native of Scotland, and received his medical education at the University and Royal College of Surgeons of Edinburgh. He graduated M.B., C.M. in 1889, and took the M.D. in 1897. He went to Ossett over thirty years ago as assistant to Dr. J. G. Wiseman, and on the latter's retirement succeeded to the practice. He was for twenty-six years one of the honorary surgeons on the staff of the Dewsbury and District General Infirmary, and also held the appointments of certifying factory surgeon and medical officer to the post office. Last month he resigned the post of medical inspector of school children at Ossett. He took great interest in ambulance work and for many years conducted classes in connexion with the local branch of the St. John Ambulance Association. On the outbreak of war in 1914 he, as a major of the R.A.M.C.(T.), was sent to France, where he remained till November, 1915, when he was invalided home; he subsequently did duty at the Military Hospital at Dewsbury. Dr. Mill, who was a member of the Dewsbury Division of the British Medical Association, is survived by an only daughter.

Dr. JEAN CROCO, professor of psychiatry at Ghent, and founder of the *Journal de Neurologie* and of the Belgian Société de Neurologie, has recently died at the age of 56.

Dr. MAURICE DEMENITROUX, the distinguished pupil of M. and Mme Curie, has recently died of progressive anaemia. Shortly before his death he was engaged in the preparation of the salts of thorium.

## The Services.

### DEATHS IN THE SERVICES.

Colonel Robert Isaac Dalby Hackett, C.B.E., Army Medical Staff (ret.), died at Cheltenham on February 15th. He was born on March 31st, 1857, and educated at the Carmichael School in Dublin and at Queen's College, Galway, where he graduated B.A. with first class honours and gold medal in 1877, and M.A., M.D. with honours, and M.Ch. of the Royal University, Ireland, in 1880. He entered the army as surgeon on July 30th, 1881; he reached the rank of full colonel in 1911, and retired in the following year. He served in the Sudan campaign of 1885 at Suakin, and also in the action at Hakin and advance on Tamai, receiving the medal with a clasp and the Khedive's bronze star. He served also in operations in Zululand in 1888. In the South African war of 1900-2 he was principal medical officer of a general hospital, and took part in the relief of Ladysmith, and in operations in Natal and in Cape Colony, gaining the Queen's medal with one clasp and the King's medal with two clasps. He was employed during the recent war and received the C.B.E.

Lieut.-Colonel John Martin, R.A.M.C.(ret.), died at Southsea on January 28th, aged 77. He was born at Cork and educated at Queen's College there. He took the L.A.H. Dubl. in 1870, and the L.R.C.S.Ed. in 1872. He entered the army as surgeon in March, 1874, reached the rank of brigade surgeon lieutenant-colonel in 1897, and retired on June 26th, 1902. After his retirement he was employed for some time at Londonderry. He served abroad in Egypt, India, and Burma for seventeen years, and after his return home was for three years in charge of the Cambridge Hospital at Aldershot. He served in the Egyptian war of 1882, when he was present at the battle of Tel-el-Kebir, and received

the Egyptian medal and the Khedive's bronze star; in the campaign in Burma in 1886-87 he was personal assistant to the surgeon-general, and gained the frontier medal with a clasp. He had a literary bent throughout his career. Twice he gained the Alexander Memorial gold medal, in 1879 and 1885; and he was also the author of two volumes entitled *Contributions to the History of Medicine*; he also won the Howard medal of the Royal Statistical Society of London. After his retirement he published a volume of poetry in blank verse, *A Legend of the Scorn*, an *Idyll of Ancient Britain*. He was also interested in Freemasonry, and took a prominent part in the foundation of a lodge in Burma, of which he was the first worshipful master. He was twice married, and leaves a widow, a daughter, and two sons, both in the medical profession.

## Universities and Colleges.

UNIVERSITY OF CAMBRIDGE.  
At a congregation held on February 28th the following medical degrees were conferred:

M.D.—J. H. Burn.  
M.B.—A. C. Mowle.  
Drs. G. Forssell and R. Knox have been approved for the diploma in medical radiology and electrology.

UNIVERSITY OF LONDON.  
Dr. J. H. Dible has been appointed, as from April 1st, 1925, to the University Chair of Pathology at the London School of Medicine for Women.  
The title of Emeritus Professor of Medicine at University College has been conferred upon Sir John Rose Bradford, K.C.M.G., C.B., J.B.E., F.R.S., who occupied at University College the Chair of Materia Medica, Pharmacology, and Therapeutics from 1895 to 1903 and the Chair of Medicine and Clinical Medicine from 1899 to 1907.

Professor H. R. Kenwood, C.M.G., who held the Chadwick Chair of Hygiene at University College from 1904 to 1924, has been appointed Emeritus Professor of Hygiene in the University.  
The School of Pharmacy of the Pharmaceutical Society of Great Britain has been admitted, for pharmacy only, as a school of the University in the Faculty of Medicine for five years from January 1st, 1925.

The degree of D.Sc. in Biochemistry has been conferred upon Mr. R. Robison, an internal student of the Lister Institute of Preventive Medicine, for a thesis on hexosephosphoric esters and their physiological functions.  
Dr. E. Barclay-Smith, Professor of Anatomy at King's College Hospital, have been appointed Fellows of King's College.  
A course of lectures on medical hydrology, arranged by the University Extension Board in co-operation with the Committee for the Study of Medical Hydrology, will be given at the central buildings of the University from April 27th to May 2nd, 1925. The lectures will be supplemented by demonstrations and clinical lectures at a British spa.

*Matriculation.*  
At the January matriculation examination of the University of London 100 candidates passed in the first division and 758 in the second division, while 60 took the supplementary certificate in Latin.

## UNIVERSITY COLLEGE.

### Annual Report.

During the session 1923-24 the total number of students enrolled was 2,835. Of these 2,285 were taking day courses, 329 evening courses, and 158 vacation courses. The day course students included 513 post-graduate and research workers. Of the total, 2,317 students came from homes in the United Kingdom; 214, including 74 post-graduate and research, came from various parts of the Empire. From European countries there were 177 students: Switzerland 35, France 27, Holland and Russia each 22, Denmark and Germany each 9, Norway and Sweden each 6; 43 students came from the United States of America (17 undergraduates, 24 research and 2 vacation course). From other countries the largest number—36—came from Japan; of these 8 were doing research work. There were 1,696 registered internal students in various stages of degree courses. Of these, 305 passed examinations leading to honours; 59 higher degrees (215 bachelor degrees, 154 with honours); 274 obtained degrees (40 masters, 10 Ph.D. and 9 doctors). The financial statement shows on the maintenance account a total expenditure of £176,594 and income of £168,943, leaving a deficit of £8,051, mainly accounted for by the very heavy expenses incurred in the number of the new buildings and in rates on fluctuation takes place from time to time, according to the financial position prevailing in the country. Steps are being taken to prevent a recurrence of the deficit, and hope is expressed that the University Grants Committee may be able to increase its grant in view of the large donations received by the college through the Rockefeller Trust and other bodies for the erection and equipment of the new buildings.  
The two halls of residence for the college have been full throughout the session, and it is clear that at an early date an extension of accommodation for resident students will become essential.

## Medical News.

THE Fellowship of Medicine announces that there will be a discussion on post-graduate teaching in London at No. 1, Wimpole Street, on March 18th, at 6 p.m. Sir Arbuthnot Lane will preside, and members of the medical profession are invited to be present and give criticisms of the existing Fellowship arrangements and suggestions for their improvement. On March 11th Mr. Oswald Addison will lecture on cleft palate at No. 1, Wimpole Street, at 5.30 p.m. From March 9th to April 4th there will be an afternoon course in ophthalmology at the Central London Ophthalmic Hospital. At the Chelsea Hospital for Women a two weeks' course in gynaecology is to be held from March 16th to 27th, and during the same period a course in chest diseases will be conducted at the Brompton Hospital, including demonstrations of cases, x-ray work, and protein tests. The Royal Northern Hospital, in conjunction with the Royal Chest Hospital, will give an intensive course in medicine, surgery, and the special departments, from March 16th to April 4th. The lectures and demonstrations at 4.30 p.m. each day are free to the medical profession. During April there will be courses in diseases of children at the Queen's Hospital, in proctology at St. Mark's Hospital, and an intensive course in the Hampstead General Hospital. A special course in anaesthetics will be arranged for an entry of four post-graduates, and early application is requested. The syllabus of these courses can be obtained from the Secretary to the Fellowship, No. 1, Wimpole Street, W.1.

THE seventeenth international post-graduate course at Vienna from June 15th to 27th will deal with modern therapeutics, including hydrotherapy, diathermy, serum therapy, and various specialties. The course will be followed by practical and clinical work in various hospitals from June 30th to July 4th. Tickets for the course may be obtained from Professor Dr. Richard Wasicky, Bureau der Wiener Ärzte, Kurse, Schlüsselgasse, 22, Wien VIII. Presentation of these tickets at the Austrian Legation in Belgrave Square, London, will enable a reduction of 50 per cent. on the visa (6s.) to be obtained, and also a tariff of the various Vienna pensions, hotels, and restaurants.

WE published on February 21st (p. 391) a note about hexyl resorcinol, and in the *Epitome* this week (para. 240) an abstract appears of Dr. Yeader Leonard's paper in the *Journal of Urology*, December, 1924. We are now informed by the British Drug Houses, Ltd., that they have prepared some hexyl resorcinol in their laboratories, and, while feeling it premature to offer it for sale without further evidence as to its clinical value, they are willing to supply limited quantities to any medical practitioner who would care to make trial of this preparation in the treatment of infections of the genito-urinary tract.

DR. J. A. HARRIS on his resignation of the post of medical officer of health for Chorley has been presented by the members and officials of the Rural District Council with his portrait painted in oils by Mr. F. E. Jackson. In making the presentation Colonel W. Ince Anderton referred to the tact and courtesy displayed by Dr. Harris during the forty-nine years he had served as medical officer.

At the annual dinner of the Hospital Saturday Fund on February 28th it was announced that the total income from all sources for the past year had reached £107,386, showing an increase of £6,143 over the previous year; the management expenses were 8 per cent.

THE Minister of Health announces (Circular 567, dated February 27th, 1925) that the review of civil service bonus on March 1st, 1925, is based on an average cost of living figure of 80—that is, on the same basis as obtained on March 1st, 1924.

DR. DAVID A. VOLUME has been appointed by the King to be an official member of the Executive Council of the Presidency of the Virgin Islands.

THE late Mr. James M. G. Propit of Glenluce, Wigtownshire, and London, left estate of the gross value of £219,793, with net personalty £213,735. The residue of his property he left to his sister for life, and at her death the residuary estate is to be made a trust fund, of which one-half is to be applied for inquiry into the nature, cause, prevention, treatment, and cure of tuberculosis, and one-half for a similar inquiry regarding cancer as a board of special trustees, which is to include the President of the Royal College of Surgeons of England, shall decide. The trustees may apply the funds of the trust in financing persons or institutions conducting such research, the equipment and endowment of institutions or laboratories for this purpose, and the publication of the results of such researches. After payment of duties it is anticipated that the value of the bequest will be about £160,000 net.

DR. JOHN FRASER, surgeon to the Royal Hospital for Sick Children, Edinburgh, and assistant surgeon to the Royal Infirmary, has been appointed Regius Professor of Clinical Surgery in the University of Edinburgh, in succession to Sir Harold Stiles.

THE committee of the Athenaeum, under Rule II (which empowers the annual election of certain persons of distinguished eminence in science, literature, arts, or for public service), has elected into the club Lieutenant-General Sir W. B. Leishman, K.C.B., K.C.M.G., F.R.S., Director-General Army Medical Service.

A DENTAL travelling scholarship of the value of £250 will be awarded by the treasurer of Guy's Hospital Dental School, upon the recommendation of the Dental Council, next July. Applications must be received by July 1st. Candidates must have been educated at Guy's Hospital Dental School, and will be required to engage in at least six months' practical work at an approved colonial or foreign dental school or college. Further particulars will be found in our advertisement columns.

DR. PAUL DELBET, whose death we announced in the JOURNAL of January 31st, was stated to be surgeon to the Necker Hospital. This was an error; his cousin Pierre holds that position.

THE annual general meeting of the National Baby Week Council was held at 117, Piccadilly, on March 4th, with Sir Arthur Newsholme in the chair. After the chairman's address the certificates of merit won in connexion with the Astor Challenge Shield competition, 1924, were presented. The report of the Executive Committee was adopted on the motion of its chairman, Dr. Eric Pritchard. After the transaction of other business an address on "The formation of character, a problem of child psychology" was given by Dr. J. A. Hadfield, lecturer in psychology, King's College, London.

IN the *Bulletin* for 1924 of the Ophthalmological Society of Egypt a detailed account is given of the annual meeting of the society held in March, 1924, including a paper on glaucoma contributed by Professor E. Fuchs of Vienna. The laboratory at Giza, Cairo, has now been completed and placed under the joint control of the Egyptian Government and the British Commissioner in Egypt. Research work is proposed in connexion with trachoma and other forms of ophthalmia in Egypt, and in our issue of February 21st applications were invited for the posts of director and pathologist. It is hoped that one of the main features of the laboratory will be its use as a centre of ophthalmological teaching in Egypt.

## Letters, Notes, and Answers.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—not necessarily for publication.

Communications intended for the current issue should be posted so as to arrive by the first post on Monday or at latest be received not later than Tuesday morning.

The telephone number of the British Medical Association and the British Medical Journal is Gerrard 2630 (Internal Exchange).

The telegraphic addresses are:

EDITOR of the British Medical Journal, Aitology Westrand, London.

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), Articulate Westrand, London.

MEDICAL SECRETARY, Mediscera Westrand, London.

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Brit-Med, Dublin*; telephone: 4737 Dublin), and of the Scottish Office, 6 Rutland Square, Edinburgh (telegrams: *Associate, Edinburgh*; telephone: 4361 Central).

### QUERIES AND ANSWERS.

"H. F.," a medical man suffering from tuberculosis (very slight case), desires to be admitted to a sanatorium, and would be willing to do some professional work as a return.

"CREWEN," who is contemplating turning a room into an operating theatre, asks for suggestions for the best treatment of walls and floor (an ordinary board floor). He asks for details of special floor materials.

### THE TREATMENT OF ASTHMA.

"H. C." writes: I should be glad of suggestions for treating a bad case of asthma in a man aged 49, who resists all the usual forms of treatment, including protein therapy. The attacks, but on an average he is on adrenaline every twenty-four hours and

### INCOME TAX.

"C. G. H. C.," who is on seven months' leave from an appointment outside the United Kingdom, asks how his liability to income tax will be affected by spending a portion of that time outside the kingdom.

Briefly the position is that he is liable to tax in this country in respect of income arising here, but as regards income arising abroad and remitted to him he is not liable provided that he "is in the United Kingdom for some temporary purpose only and not with the intent of establishing his residence therein and has not actually resided in the United Kingdom at one time or several times for a period equal in the whole to six months in any year of assessment" (No. 2 of the Miscellaneous Rules applicable to Schedule D, Income Tax Act, 1918). In applying this rule it should be borne in mind that the "year of assessment" runs to April 5th. Dublin would be outside the United Kingdom for this purpose.

### LETTERS, NOTES, ETC.

#### PYLORIC STENOSIS IN INFANTS.

DR. HUGH T. ASHBY and Mr. A. H. SOUTHAM (Manchester) write: Since the publication of our paper on pyloric stenosis in infants (*BRITISH MEDICAL JOURNAL*, February 28th 1925), we find that the Rammstedt operation was first performed at the Royal Manchester Children's Hospital in May, 1914, with a successful result, and subsequently in succeeding years. Our statement, therefore, that the operation was first taken up in this country in 1918, though true in a general sense, requires some modification in view of the above fact.

DR. N. R. DHARMAVIR (M.O.H. Padliham) writes: I have carefully read (in your issue of February 28th) the article by Dr. Ashby and Mr. Southam on the above subject. During my experience of twenty-five years as a general practitioner and ten years as medical officer to the local maternity and child welfare centre, I have not yet come across a true case of pyloric stenosis. I have, however, over and over again seen cases with signs and symptoms (with the exception of the tumour, on which the writers themselves "lay little stress, as it is often an exceedingly difficult matter to feel the pylorus") as described for the purpose of early diagnosis, and have always ascribed them to injudicious and improper feeding. These cases are easily amenable to careful and intelligent feeding. Peculiar forceful vomiting, constipation, greediness for food, wasting, etc., are such common symptoms among ill-fed infants, and so easily cured, that these must (as the doctors hint) be cases of pyloric spasms and not of atresia. Then what are the crucial signs or symptoms of stenosis calling for an abdominal operation at such a tender age?

#### MOTOR CAR PARKS.

THE Automobile Association, since the war, has been in negotiation with the authorities throughout the country for the allocation of the necessary spaces for parking cars. As a result, 111 large towns and cities now have motor vehicle parking arrangements, and 44 towns have erected signs supplied by the A.A. bearing the words "Motors park here." In Liverpool there are 54 of these signs and in Edinburgh 33. It should be noted that cars must not be parked for unreasonable periods; only for the duration of short calls.

#### A NEW MOSQUITO BREEDING PLACE.

DR. W. E. HAWORTH, late acting director of the laboratory at Dar-es-Salaam, in the *Transactions of the Royal Society of Tropical Medicine and Hygiene*, October, 1924 (p. 162), adduces evidence that mosquitos breed in the crowns of coco-nut palms, where pools of water occur, probably as the result of dew. He urges that no antimosquito campaign can be thorough unless this source of infection is dealt with. His investigations go to show that mosquito breeding continues throughout the year in these pools, even during times of comparative drought, when collections of storm water have disappeared. Within the township areas, such as Dar-es-Salaam and Tanga, the majority of the mosquito larvae detected in these pools were of the biting kind, proved disease carriers predominating at all stations.

#### INDEX CARD CLIPS.

THE "M. H. S." clip has been designed for the use of medical practitioners and business men in hospitals and public institutions for uniting index cards in book formation, so that the cards will fold flat against each other and occupy a minimal space in the file cabinet. The clips are transparent and can be quickly attached to the card, thus uniting those relating to the same case or subject. They may be obtained from Messrs. Bridge and Co., 92, Chancery Lane, W.C.2.

#### VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 35, 38, 39, 42, and 43 of our advertisement columns, and advertisements as to partnerships, assistantships, and locum tenencies at pages 40 and 41.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 95.



# REMARKS ON THE SURGICAL TREATMENT OF GASTRO-DUODENAL ULCERATION.\*

BY  
CHARLES A. PANNETT, M.D., F.R.C.S.,  
PROFESSOR OF SURGERY, UNIVERSITY OF LONDON; SURGEON TO  
ST. MARY'S HOSPITAL.

THE evolution of a gastric or duodenal ulcer is a calamity in a man's life. It attacks during the period of greatest vigour and usefulness. Intervals of complete freedom alternate with weeks of invalidism so that the patient's work is seriously interrupted, and with the passage of time the periods of relief become of less and less duration until persistent incapacity turns him into an encumbrance rather than a useful member of society. Physically he suffers from malnutrition, whilst mentally his fortitude is sapped by the ever-present risk of a perforation into the general peritoneal cavity, a catastrophe which exacts a heavy toll. Working in a hospital it is difficult to form an estimate of the frequency of occurrence of gastric ulceration. But although we always have in the wards cases of this disease, I believe it is relatively rare; or perhaps it would be better to say that of all the cases of dyspepsia which consult the practitioner only a small percentage have an ulcer. This small proportion, however, must be recognized, that by treatment such patients may be saved from chronic invalidism.

THE CHOICE BETWEEN MEDICAL AND SURGICAL METHODS. A most unfortunate controversy has been waged over this question of treatment, so that the impartial observer may be forgiven if he gets the impression that there is a real conflict between the early stages of the malady presents himself, the necessity of choosing between medical or surgical treatment of dietetic measures never arises. Without exception, medical treatment will prove refractory. Amongst these a very large proportion will be definitely cured by some operation. Critics sometimes point to the failures of surgery in this disease, and try to argue that patients would often be as well off without the ministrations of the surgeon. Let us not forget, however, that surgery is only practised properly where medicine has failed, and that amongst such patients the number restored to complete health forms a very creditable percentage.

## DETECTION OF CASES WHERE MEDICAL MEANS ALONE ARE LIKELY TO PROVE INEFFECTIVE.

Why are some ulcers resistant to the best medical treatment? The answer is bound up in part with the imperfectly understood question of the etiology, but also is concerned with the pathology of long-existing ulceration. Herein lies the secret of the possibility of curing gastric ulcers by surgical means. It is helpful to consider the elementary facts of the alimentary canal. They only occur in those parts of the alimentary canal where active gastric juice has access, and even in this area there are selective sites for the ulcerative process. This is more pronounced in the stomach than in the duodenum. The pathologists tell us that histologically these ulcers show characters of their own, and there is no doubt that they are the result of a true digestive process occurring in a part of the stomach wall damaged in some other way. Normal stomach wall is resistant to gastric digestion, and recent researches have shown that this property is possessed by such other normal tissues as have been subjected to experiment. People have attempted to show that in gastric ulcer there is a lowering of the antipeptic power of the stomach mucosa. This is not true, at least at the time when operation is usually performed. Wounds of the stomach heal quite readily. I have seen a

\* Given before the Plymouth Medical Society, December 15th, 1923.

resection of the stomach post mortem nine days after operation, in which the naked eye complete healing had taken place. We do not often get a chance of inspecting our cases so soon after operation, but we have no reason to doubt that the ordinary gastric ulcer heals as quickly. If this were not so, operating upon the stomach would be quite a futile procedure, for we should only substitute a much larger ulcer for the one we had removed. In the evolution of gastric ulcer there probably is a temporary loss of digestive-resisting power in the gastric mucosa, but some other factor is present which prevents the ulcer from healing when the resistance of the tissues to peptic assault returns once more to normal. There would seem to be two reasons why a gastric ulcer refuses to heal. One is infection, the other is the presence of extensive surrounding fibrosis, set up by the extremely irritating gastric juice. Rosenow believes that all gastric ulcers are blood stream streptococcal infections which have their primary origin in diseased teeth, tonsils, or some other focus; whilst the Leeds school think that infection arrives by way of the lymph channels from the right iliac fossa. In the only three cases where I made an attempt, I obtained streptococci from within the tissues forming the margins of gastric ulcers. Infection undoubtedly plays its part in delaying or preventing healing, but it has by no means been proved to be the cause of the primary lesion. The spread of fibrosis around a gastric ulcer extends into neighbouring structures—the liver, pancreas, lesser omentum—cannot contract down. At this stage the ulcer is as incapable of healing as is a callous leg ulcer adherent to the tibia or a cavity in bone itself. The hindrance here is a mechanical one. When the disease is not of recent origin is it possible to pick out those ulcers in which it is worth while to try medical treatment and those in which such treatment is certain to meet with failure? Sometimes this can be done with certainty by x-ray examination. The number of positive diagnoses of gastric ulcer which can be made by radiographic examination increases much with the skill and experience of the investigator. (Figs. 1 and 2.) But allowing



FIG. 1. Ulcer of lesser curvature, showing Haudek's diverticulum, spasm opposite the ulcer, and how the opaque material remains in the ulcer crater as the stomach empties.

FIG. 2.

for this, there are still some cases where an ulcer may be present and remain undetected. Assuming that the ulcer crater can be visualized, we are able to come to a pretty accurate conclusion as to whether surgery is called for or not. Only the smallest craters which have a spiked extremity and penetrate no further than the mucosa will heal over. I think it must be conceded from x-ray observations before and after medical treatment that a few ulcers with demonstrable craters will disappear. The chance of this happening is not a great one. When, however, the crater is of a certain size, and when the ulcer is adherent posteriorly, as can sometimes be demonstrated by the stomach shadow remaining fixed at this point on altering the posture of the patient, we can be certain that so much fibrosis has taken place around the ulcer that spontaneous healing is no longer possible. We shall not commit many errors if we make it a rule to operate upon every gastric ulcer in which a blunt-ended Haudek's diverticulum is demonstrable.

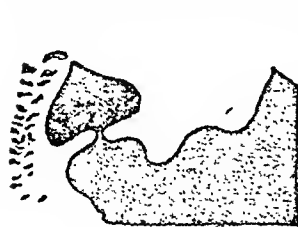


FIG. 3.



FIG. 4.



FIG. 5.—Two ulcers of duodenum; distortion of cap.

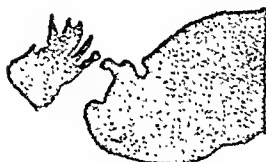


FIG. 6.



FIG. 7.



FIG. 8.



FIG. 9.

FIG. 3.—Normal duodenum, showing filled cap and opaque material passing through second part.

FIG. 4.—Ulcer of anterior wall of duodenum; large penetrating ulcer on posterior wall; flattening of left border of cap and ulcer crater.

FIG. 6.—Ulcer of anterior wall and one on posterior wall of duodenum; distortion of cap. This patient also had a persistent fleck.

FIG. 7.—Ulcer of anterior wall and penetrating ulcer of posterior wall of duodenum; distortion of cap.

FIG. 8.—Ulcer of upper border of duodenum, showing fleck remaining in ulcer crater after first part of the duodenum had contracted.

FIG. 9.—Penetrating ulcer of duodenum which was drawn out into a diverticulum by fibrosis.

A most important question is this: Shall we decide against operative treatment whenever the x rays fail to reveal an ulcer in a suspected case? This is most difficult to answer. In some clinics abroad over 90 per cent. correct x-ray diagnoses are claimed, but my experience is that we in this country cannot reach such perfection—at least in hospital practice, where repeated re-examinations and serial methods are precluded by pecuniary reasons or want of time. Often, though the actual ulcer cannot be seen, because perhaps the crater, being plugged with mucus or food, admits no opaque material, collateral indirect evidence of an organic stomach lesion is obtained by x-ray examination—such, for example, as spasm of the pylorus or greater curvature. In such cases we are influenced above all by the clinical history, which may be so characteristic that no doubt can remain that we are dealing with an actual organic lesion.

#### THE PROBLEM IN DUODENAL ULCERATION.

The general pathology of duodenal ulcer is similar in every way to that of gastric ulcer, except that cancer never seems to be grafted into an ulcer in this situation. It occurs, of course, almost solely in the beginning of the duodenum, which physiologically may be regarded almost as part of the stomach. Nevertheless, there are special features about duodenal ulcers which render our attitude towards them a little different. On the whole they are of a smaller average size than the gastric ulcer, and they are much more often multiple. Indeed, observations made during resection of the duodenum indicate that it is the rule for two ulcers to be present. Just as in the case of the stomach, although small they are attended by very extensive fibrosis, which frequently surrounds the common bile duct and cuts into the pancreas.

I have gained the impression, though it does not amount to a certainty, that ulcers of the duodenum can be more readily induced to heal than ulcers of the stomach. Perhaps this is due to the fact that they are of smaller size. I am not sure that it is wise to bank upon this impression, for we know how many of them resist treatment, and if they are allowed to enlarge and burrow into the pancreas removal by operation always becomes a formidable procedure and sometimes proves to be impossible, whilst the walls of the ulcer may have become so rigid that indirect surgical measures, such as gastro-jejunostomy, may be ineffective.

The radiographer's diagnosis of duodenal ulcer is less certain than that of gastric ulcer and the classical symptoms are not always present. Whilst hyperchlorhydria without duodenal ulcer may simulate the disease very strongly. It

therefore comes about that sometimes we open the abdomen only to find no trace of the expected ulcer. In some of these patients I feel sure that a posterior ulcer is present and overlooked. This is extremely easy to do. On several occasions I have only first become aware of the presence of a second duodenal ulcer behind when a resection operation has been begun and the viscera has been in process of separation. I have also seen *post mortem* an ulcer which could not be detected by the pathologist until the intestine had been actually opened. If an ulcer on the anterior wall of the duodenum is so small as to give no visual or tactile evidence of its presence from the outside, the prospect of cure occurring subsequently is likely to be fairly good; little harm, therefore, will probably arise from closing the abdomen without proceeding further. On the other hand, the ulcer may persist. One of my patients had been explored by a surgeon for duodenal ulcer eight years previously to admission. None could be found and his abdomen was closed. The symptoms had persisted. Operation revealed the presence of anterior and posterior ulcers, which were removed by excision of the duodenum. This case is a warning against operating too early after symptoms of duodenal ulceration have appeared. At this early stage an ulcer destined to persist and become callous may be quite undetectable from the outside.

As I have said, the radiographic diagnosis of duodenal ulcer is difficult. Visualization of the first part of the duodenum is not certain for two reasons: it may be hidden by the shadow of the stomach; the exposure may be made whilst the duodenal cap is contracted after expelling its contents, which it does every two or three minutes. Sometimes it will not fill very readily. There are ways of circumventing these difficulties, but it cannot invariably be done. The niche of the ulcer is less prominent and the notch not so distinctive. Going back over my cases with the radiographs, the striking thing is that there always appears to be some deviation from the normal picture whenever good visualization of the duodenal cap has been obtained. There is a spasmodic indrawing, a flattening of the left border, an asymmetrical pyloric canal, a niche, a persistent fleck remaining when the cap has contracted, an irregularity of outline of the cap which often defies precise classification, sometimes only evidence of obstruction to the outflow of chyme from the pylorus, on other occasions distinct hurry in the passage of food into the duodenum. I have made outline drawings of some of these appearances. (Figs. 3 to 9.) If before operation any reliance is to be placed upon irregularity of the duodenal shadow as a sign of duodenal

ulcer, it must be proved that the deformity is a real one, persisting in several films, and not a false shadow owing to imperfect filling. It is worth a surgeon's while to screen his own patients in collaboration with the radiographer. In this way he will obtain a better grasp of the value of radiographic diagnosis of duodenal ulcer.

#### THE VALUE OF TEST MEALS IN DIAGNOSIS.

It is important to consider of what use test meals are in the management of gastric ulcer. From the point of view of diagnosis very little help is to be obtained, but for the medical treatment they are of use. It enables the physician to carry out a rational régime varying in accordance with the quality of the gastric secretion. With this aspect I am not concerned here. Test meals are valuable, but rather as an aid to treatment than diagnosis.

#### CHOICE OF OPERATIVE PROCEDURE WHEN SURGICAL TREATMENT FOR GASTRIC ULCER HAS BEEN DECIDED UPON.

When patients requiring operative treatment have been selected, the path to be followed is even then not quite easy to choose. There are a bewildering number of methods and advocates of them all. Moreover, the inevitable statistics are quoted, and because they are not arrived at by the same methods of compilation they add to the confusion. When one observer, for instance, claims over 90 per cent. good results from gastro-jejunostomy for duodenal ulcer, whilst another, using an apparently identical technique, can scarcely attain to 60 per cent. success, there is obviously some radical difference in their manner of evaluation. Sleeve resection of the stomach is extolled by one surgeon and condemned by another. For the serious student of operative measures for gastric and duodenal ulcer there is only one course to follow: he must select those methods which appear to be based on sound knowledge, and, after trial, endeavour to form his own conclusions as to their relative worth and applicability. Gradually, with experience, and if we remain unbiased, conviction comes that this or that recourse is indicated in any given circumstances. To do this requires unremitting alertness to escape making false deductions. It is more useful to remember the failures or partial failures than the successes. From time to time it is well to read over again the cases which have come under observation. Treatment is best considered under headings.

#### \*A. Ulcer of the Lesser Curvature.

1. *Gastro-jejunostomy* (Fig. 10) alone is being discarded by nearly all operators. It cannot be denied that some patients have been cured by this operation, but it seems proved that the proportion cured is much too small for the operation to be retained as a method of choice. I have records of patients who have got no benefit from it, and when the abdomen was opened after several years the ulcer still persisted.

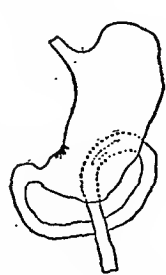


FIG. 10.—Gastro-jejunostomy.

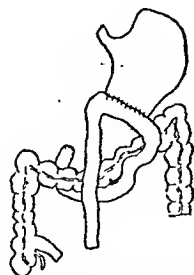


FIG. 11.—Moynihan's operation for ulcer of lesser curvature.

2. *Resection of the pyloric segment of the stomach, including the sphincter, with implantation of the cut end of stomach into the jejunum.* This operation is often referred to as the Polya operation, but the method of Moynihan is by far the best. (Fig. 11.) It is being performed very extensively just now, and the reports of the results are, on the whole, very satisfactory. It is in most cases a fairly simple operation to do, though in certain circumstances there may be great difficulties to overcome. On several

occasions, when examining the portion of alimentary canal removed, I have received rather a shock in realizing what a physiologically destructive operation had been performed for the size of the pathological lesion. Moreover, to short-circuit all the chyme directly into the jejunum without any of it passing through the duodenum would seem to be a procedure very disturbing to digestion. I have therefore given up this operation except in exceptional circumstances.

3. *Wedge resection of the lesser curvature* (Fig. 12). This operation is usually combined with gastro-jejunostomy, and very good results are claimed by certain surgeons. It is not very widely practised. There are strong objections on experimental grounds, for it has been found in animals to be very upsetting to the normal motility of the stomach.

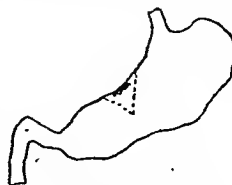


FIG. 12.—V-resection for lesser curvature ulcer.

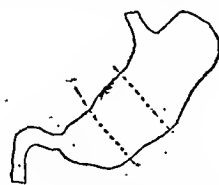


FIG. 13.—Sleeve resection for lesser curvature ulcer.

4. *Sleeve resection of the stomach* (Fig. 13). A ring-shaped segment of the stomach is removed which includes the ulcer. End-to-end anastomosis of the stomach is then performed. When the ulcer is some distance from the pylorus this operation has given me very good results. Some surgeons have condemned the procedure. Extended experience may lead me to change my opinion on this matter, but I have not up to the present had a failure of which I know. The operation is sound on physiological grounds, and motility is not interfered with as after wedge-shaped resection. I believe it is the method of choice for such ulcers.

5. *Resection of the ulcer-bearing area of the stomach, including the pyloric sphincter, with axial anastomosis of the stomach to the duodenum.* This procedure goes under the name of the Billroth I method, as it was practised by that surgeon, though it was abandoned by him owing to its high mortality from peritonitis due to leakage. (Figs. 14 and 15.) It is particularly adapted to cases of ulcer on the lesser curvature near the pyloric end. The duodenum is cut across close to the pyloric sphincter and the stomach proximal to the ulcer. An axial junction is made, the open end of the stomach being partially sutured to reduce its size to that of the duodenum. The Billroth I operation was given up because of leakage at the dangerous angle, and only recently has it been tried again. I have performed it more than twenty times and had no trouble following. I believe such immunity depends solely upon care in suturing, and perhaps care in ensuring that the



FIG. 14.



FIG. 15.

FIGS. 14 AND 15.—Resection of ulcer near pylorus by the Billroth I method.

blood supply of the cut edges to be anastomosed is free. It is an operation which appeals strongly on physiological grounds, for, when completed, the appearance of the stomach passing into the duodenum approaches very nearly the normal. Subsequent x-ray examination in my patients has shown good motor function to be present. I believe it to be the method of choice in gastric ulcers on the lesser curvature near the pylorus.

**B. Pyloric Ulcers.**

There is a choice between two methods—the indirect one of gastro-jejunostomy, and the direct method of excision by the Billroth I procedure. It is here especially that good results have followed gastro-jejunostomy in the treatment of gastric ulcer, and there is much to be said for the performance of such a simple procedure, especially as, when the ulcer is surrounded by much fibrosis, pylorotomy may become technically very difficult. When the risk is not too great, however, better results are to be expected from the Billroth I method, as being much less disturbing to normal physiology and eliminating the possibility of gastro-jejunal ulceration. Bland-Sutton in a Hunterian Lecture recommended this course, and it is a policy which I have adopted for the last two years.

**C. The Treatment of Duodenal Ulcers.**

This problem has not been so satisfactorily solved. There is a difference of opinion as to the value of indirect measures, and the technique necessary to employ direct methods is rather difficult to carry out. The authorities of weight in this country, and some in America, claim very satisfactory results from gastro-jejunostomy in a high percentage of patients, and in this they differ strongly from the majority of Continental surgeons. It is always so very difficult to make accurate deductions from medical statistics, where many significant factors are too variable and uncontrollable for scientific exactitude. The divergence of opinion is undoubtedly related to these irremediable facts. I do not think it possible to dogmatize on the operative treatment of duodenal ulcer in the present state of knowledge. It must be admitted, without reserve, that simple gastro-jejunostomy has cured many patients, yet, the pathology of such ulcers being so similar to that of gastric ulcers, which are acknowledged to be exceedingly resistant to indirect measures, the assertion that the proportion of failures is of moderate size cannot be thrust on one side without further consideration. Future experience must settle this question, and for this it is necessary to give direct measures a fair trial. This is being done in the Surgical Unit of St. Mary's Hospital, where we are making it a routine to resect the duodenum in every case where it seems practicable without undue risk. During 1923 and 1924 down to the date of writing this, 28 duodenal ulcers have been operated upon. This is not a large number, but regard has to be had for the teaching of general surgery, and it is undesirable that the number of cases of any particular disease at one time in the wards should be too great. Of these 28 cases, 10 had simple gastro-jejunostomy performed, sometimes with infolding of the ulcer, once with perforation of the ulcer base with a cautery; 18 cases have had duodenectomy carried out. The immediate results of the latter procedure have been uniformly successful in all but one patient, who died on the eleventh day, when the post-mortem examination revealed astonishing healing of the operation site but cardiac muscle degeneration. It is much too small a series as yet from which to make deductions, and time alone will demonstrate whether the results are lasting. The operation is one of the most tedious in surgery, and requires great care to avoid damage to the pancreas and its duct or the common bile duct. After resection of the affected part of the duodenum the stomach is nearly always joined axially to the duodenum so that physiological relations are more nearly restored. A striking fact has emerged from these 18 cases: it is that in a very large proportion there are two ulcers, and the second has several times been discovered only when the stomach has been cut across and access has been obtained to the posterior aspect of the duodenum.

**CONCLUSIONS.**

1. The primary treatment of gastric and duodenal ulceration is always medical.
2. Surgery is indicated when medical treatment has failed, or in recent cases when a large ulcer crater is demonstrable by x rays.
3. It is probably true to say that medical measures can be continued with advantage longer in the case of duodenal than gastric ulceration.

4. For ulcer of the lesser curvature away from the pylorus, sleeve resection is the operation of choice.

5. For ulcers of the lesser curvature close to the pylorus or ulcers at the pylorus, excision of the affected portion of the stomach, including the sphincter, followed by axial union, is best.

6. For cicatrized pylorus following a healed ulcer, pylorotomy is preferable, but gastro-jejunostomy gives very good results.

7. For ulcer of the duodenum it is not decided yet whether resection of the duodenum with its attending increased risks gives results so much better than gastro-jejunostomy that it should replace the short-circuit operation.

**REFERENCE.**

<sup>1</sup> L. R. Dragstedt and A. M. Vaughan: *Arch. Surg.*, 1924, 8, p. 791.

## THE TREATMENT OF INFANTILE PARALYSIS;

WITH

A PLEA FOR THE REORGANIZATION OF OUR HOSPITAL SYSTEM.\*

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THE subject of poliomyelitis is of much scientific and practical importance, for it is one which should bring pathologist, neurologist, and surgeon into close touch with the general practitioner. Further, it is a good example of one of many administrative problems the consideration of which may serve to shock the spirit of complacent satisfaction with our present hospital system.

**PATHOLOGY.**

Until recently, poliomyelitis had only occurred in the form of scattered sporadic cases, and any information as to the essential nature of the disease was derived from autopsies on late cases. Such information simply pointed to the destruction of motor cells in the anterior horns of the spinal cord, and it was assumed, therefore, that there was an essential destructive process affecting these structures alone. But the occurrence of the disease in an epidemic form both in Scandinavia and in America has given the opportunity for more accurate investigation; not only of human cases, fatal in the early stages of the disease, but also by means of animal experiment. Certain species of monkeys can be inoculated with the disease, and in these animals it often runs a fatal course. It has been abundantly established that the disease is a definite myelitis of patchy distribution. Vascular engorgement followed by round-celled infiltration of the cord is the primary lesion, and it is probable that the destruction of the nerve cells is only a secondary consequence of the inflammation.

That the disease is not confined to the anterior horns is shown clinically by the fact that in the early stages of the disease there is marked hypersensitiveness of the skin, pointing to affection of the nerve roots and their ganglia. The conception of the disease as one of diffuse inflammation has much more than a theoretical interest, because it affords a rational basis for the treatment by absolute rest in its early period.

**CLINICAL STAGES OF THE DISEASE.**

It is easy to distinguish three well marked stages in the disease. The first or active stage corresponds to the period of inflammatory infection of the cord. It is marked by general malaise, a febrile temperature, and paralysis with hyperaesthesia of wide distribution. This lasts for a period varying from a few days to a few weeks. The second or quiescent stage is one of convalescence from the constitutional illness. The temperature is normal and the tenderness and hyperaesthesia have passed away. The paralysis, which was extensive in the stage of onset, gradually disappears in the majority of muscles originally affected, but this recovery of motor function will depend

\* An address given to the Dorset Medical Society, January 16th, 1925.

largely upon the care with which the case is treated, especially in regard to rest and avoidance of meddling attempts to force exercises too early. In a severe case the second stage of quiescence and recovery lasts for one or two years or even longer. The third or final stationary stage is the condition in which the patient is left when all possible recovery of motor power has taken place. Certain muscles or muscle groups are permanently affected with paralysis and wasting of a lower neurone type. If the disease has affected a child in early life, and if a limb is extensively involved, then the growth of the bones in the affected member will be inhibited to a marked extent.

#### TREATMENT IN THE EARLY STAGES.

In the early stages of the disease rest will be instinctively demanded by the patient, whose flaccid limbs and tender skin forbid anything else. Two mistakes may easily be made: first, that in this country, where so far the cases have only been sporadic, the nature of the illness may be overlooked; and secondly, if and when a correct diagnosis has been made, the rest is neither efficient nor secured for a long enough time. When all the limbs and the trunk are affected nothing short of fixation of the whole body on a suitable frame or a plaster bed is satisfactory. The arms must be abducted at the shoulders, the forearms pronated, and the elbows flexed. The legs must be abducted with a very little flexion of the hips and knees, and a full dorsiflexion of the feet. The completeness of this early fixation not only affords the greatest comfort to the patient, but it serves to limit the ultimate extent of the paralysis.

It is in the second or quiescent stage of the disease, when pain and fever have passed and the patient feels capable of moving many muscles, that it is most necessary to insist on the continuation of the fixation. The object now will be to prevent contractures of the joints and to nurse back to useful function the partly paralysed muscles. The fixation should not be so absolute as at first. Each limb will in turn be released from the splint and the joints gently moved. The patient is turned over at least once a week and the back washed.

Dr. Lovett,<sup>1</sup> whose unique experience in the Vernon epidemic gave him unrivalled authority on this subject, collected a large number of observations on the value of various remedial agencies. I am indebted to his writings for the greater part of what I say in this connexion.

It is very doubtful whether massage or electrical treatment has any value, and this applies more particularly to the earlier phases of the disease. The one potent active remedial reagent is muscle re-education. This, reduced to its simplest term, consists in allowing the patient to move his own muscles, aided in such a way that at first each movement shall have to lift the minimum load. Thus the quadriceps may be able to straighten the flexed knee when the patient lies on his side, but it would be incapable of doing this when the leg hangs over the edge of the bed. If the paralysed muscle is asked to do too much or to do it too often, the exercise will do harm and not good, and a recovering muscle may become completely and permanently paralysed. Although a fair idea of strength and function may be gained by carefully aided movements, yet a much more accurate measurement ought to be made by means of a spring balance. It is only in this way, by recording the actual strength of each muscle, that any just appreciation can be gained as to the rate of progress and the effect of remedial measures.

Some may be disposed to think that the picture I have drawn of the treatment of a bad case of poliomyelitis in its early period is fantastic and impossible, implying as it does elaborate splinting and daily exercises of many muscles done with meticulous accuracy, and I am fain to admit that

I have hitherto been speaking of the work of others and not of my own. But I have seen the treatment carried out and can testify to its practical efficiency.

#### TREATMENT OF THE FINAL STAGE OF THE DISEASE.

If all this has been done in the early stage of the disease, then, when the extent and distribution of the paralysis have become fixed and definite, we ought to have no contractures or deformities requiring correction, and the treatment will resolve itself into the provision of appliances, the fixation of flail joints, and the transplantation of tendons. But unfortunately efficient treatment in the early stages of the disease is quite exceptional in this country, partly because the nature of the disease has not been recognized early, partly because practitioners and physicians are not alive to the urgency of preventive surgery, and chiefly because we are so ill provided with suitable institutions where the necessary treatment can be carried out for prolonged periods. In actual practice, therefore, the cases are usually brought to the surgeon in the final stage of the disease with the paralysis complicated by contractions and deformities. The surgery of infantile paralysis consists then in correcting deformities which ought not to have arisen before attempting any reconstruction methods.

I will give an account of two recent cases in illustration of this.

A strong and intelligent boy was brought to me in October, 1922. He was wheeled in, and when lifted from the chair he collapsed on the ground, his legs being doubled up under him. He was able to crawl along the ground and to lift himself up on to a chair by the intelligent use of his arms, which were powerfully developed. Both legs were completely paralysed except for the hamstrings of the right leg. The hips and knees were acutely flexed and fixed by contractions; the feet were flail. He had become paralysed in infancy, and when 18 months old had been taken to one of the city hospitals, where he had been treated by electricity and had had extension applied to his legs. He had been sent home without any provision for after-care, and had remained without treatment for fourteen years under the impression that nothing further could be done. He was admitted to the General Hospital, and within twelve months had undergone arthrodesis of one knee and ankle, tendon transplantation for one knee, and tenotomies for both hips. He is now able to walk with crutches and callipers, and I hope eventually he will be able to discard the former.

The other case was even more striking, because the patient had reached the age of 23 before any serious attempt at treatment was made.

A woman, aged 23, when 2 years old had whooping-cough, followed by a further illness, and she was never able to walk afterwards. Between the ages of 4 and 6 she attended a hospital as an out-patient and had electrical treatment; she was dismissed as incurable. When she came to me in April, 1924, she was paralysed in both legs, which she kept doubled up under her. She had acquired a remarkable mode of progression: she grasped the dorsum of each foot with one hand and then, by lifting each in succession, was able to crawl along with some celerity (Fig. 1). After four operations both knees and hips were straightened out, one knee being fixed by arthrodesis. She is now able to walk with crutches.

In both these cases many years had been wasted—fourteen in one instance and seventeen in the other—and it is almost certain that if treatment had been continued from the time of the occurrence of the paralysis, not only would the degree of paralysis have been much less, but all the operations would have been avoided. Perhaps if these two patients were seen for the first time to-day it would be remarked that after all they are still cripples on crutches, but even this is an immense advance over their condition before treatment, when they were mere helpless crawling creatures unable to move outside their own doors and having to be carried upstairs.

#### THE DISTRIBUTION OF PARALYSIS.

The ultimate distribution of paralysis, as observed by Lovett, has many points of great interest. Paralysis is much more severe and more frequent in the lower limbs than in the upper. The upper limbs recover more frequently than the lower. In the upper limb the severity of the



FIG. 1.—Showing method of walking with the arms.



paralysis is more marked in the proximal than in the distal muscles. The deltoid, biceps, and triceps suffer in this order, whilst paralysis of the forearm muscles is rare. In the lower limb the distal muscles suffer more severely than the proximal. The muscle groups of the leg which are most frequently involved are the glutei, the quadriceps, and the gastrocnemius—that is to say, the muscles associated with the maintenance of the erect position. The tibials and peronei are often affected alone or with the gastrocnemius.

Many of these points in the distribution of paralysis may be associated with the strain put upon the muscles either by gravity or by too early and ill advised attempts at active exercise. Thus the arm is naturally kept at rest or is subjected to no strain, whilst the leg is strained by attempts to walk. The upper arm muscles have to support the weight of the limb and so suffer more than those of the forearm. The lower leg muscles are subject to greater strain in proportion to their size than the upper when attempts are made to walk; and lastly, every effort at standing even with crutches will strain the glutei, quadriceps, and calf muscles, and these are the ones which suffer most. This all emphasizes the fact that the final permanent paralysis is largely determined by failure to rest the damaged structures in the early stages of the disease.

#### TENDON TRANSPLANTATION.

Tendon transplantation is, of course, the most rational and the least mutilating of any of the operations for paralysis. But unfortunately the scope of this method is very limited, as there must be a strong and healthy muscle to take the place of one which is paralysed. It is therefore only of use in cases of limited disease. The results of tendon transplantation in the foot and leg are not to be compared with those which follow the operation in the forearm done for musculo-spiral paralysis. This is due to the greater strength required of the new muscle in the lower limb and to the long and careful preparatory and after treatment. In the foot, there are two movements of the ankle lost by partial paralysis which may be restored by tendon transplantation; these are the movements of flexion and of version. The former is the more difficult problem. Thus, if the gastrocnemius is paralysed, it may be reinforced by taking the tibialis anticus and the peroneus longus and fixing these into the medial and lateral sides of the tendo Achillis, but they can seldom be strong enough to replace the calf muscle. If the dorsiflexors are paralysed the gastrocnemius cannot be sacrificed, nor can it be split, and it is better to use the tendons of the anterior tibial and the long peroneus as a sling by cutting each a hole bored in the tibia, the foot being strongly dorsiflexed. As regards version of the foot, the tibialis anticus and the peroneus longus may be interchanged in cases of paralytic varus or valgus. But whilst all these artificial exchanges of muscle sound so simple and attractive, success can only be achieved by great care and patience. In the first place, it is absolutely necessary to correct all deformity before transplanting the tendon. Thus, in a case of varus with paralysis of the peronei, the inversion must be corrected by wrenching and plaster until the

deformity is overcorrected and the foot lies in a valgoid position. Then, and not till then, can the anterior tibial muscle be brought across and fixed to the peronei or to the cuboid bone. It is useless to employ a transplanted muscle under tension to correct a deformity.

After the transplantation the foot is again put up in an overcorrected position, and after healing has occurred—that is, in about a month—muscle training is begun, but no weight can be put on the foot for four or six months, and a year's after-treatment should be provided for in every case. The operation is only one incident in the treatment, of which preliminary correction of deformity and subsequent muscle re-education are also essential parts.

The other muscle transplantation for paralysis of the lower limb concerns the restoration of the quadriceps. If

all the hamstring muscles are healthy, then the biceps may be taken from the outer side of the leg and the gracilis and semitendinosus from the inner side; these may be sewn to the quadriceps just above the patella, or, better still, passed through a tunnel from side to side in that bone. If the knee flexors are paralysed or weak, then recourse may be had to the tensor fasciae femoris, using the fascia lata as its tendon of insertion into the patella.

#### THE CORRECTION OF DEFORMITIES.

In neglected cases, the common condition is for the hip and knee to be strongly flexed and for the ankle to be flail. But there may be any type of contracture of the ankle-joint—equinus, calcaneus, varus, or valgus, according to the type of paralysis.

In dealing with each of these deformities it is necessary to plan out a method of treatment which can be carried out step by step. Thus, if a flail-foot is the main lesion, it is worth while to do some fixation operation; but if it is part of a general paralysis of the leg which will require the wearing of apparatus, then the foot can usually be fixed by the latter. Generally speaking, it is wise to correct deformities little by

little, and by wrenching or division of tendons and ligaments, rather than by big operations, and especially operations upon the bones and joints. The limbs are ill nourished and repair is both slow and feeble, and extreme correction of deformity done by great force is very liable to be followed by gangrene.

#### The Foot.

The very many operations which have been devised for paralytic talipes is an indication of the difficulty of the problem. Apart from tendon transplantation, the main object of the operation must be to produce stability and a plantigrade position of the foot in walking. Such operations consist in removal of the astragalus, so as to lessen both height and the length of the foot; arthrodesis of the ankle-joint and the subastragaloid joint; or excision of the scaphoid and cuboid, in order to shorten and fix the foot. I have found it to be very effective to perform astragalectomy through an anterior incision, to remove all the cartilage from the astragalus, tibia, fibula, os calcis, and scaphoid, and then to replace the astragalus and to nail the bones together by a long bone nail passed through the sole of the foot (Fig. 2).



FIG. 2.—A method of fixing a flail-ankle. The astragalus has been taken out, all the cartilage taken out and its bed, then replaced and the foot fixed with a long bone nail, driven up from below.

It frequently happens that the quadriceps and gastrocnemius are paralysed and the patient cannot stand. He will often attempt to do so by holding the knee with his hand to prevent it flexing. In such a case, if the foot cannot be prevented from dorsiflexion, then the knee will become automatically locked—that is to say, if the foot is placed on the ground the knee cannot be bent forward without dorsiflexing the foot; hence the suggestion has been made by Putti of placing a bony block in front of the ankle so that dorsiflexion is prevented. This is done by taking a piece from the shaft of the tibia and nailing it into the upper surface of the astragalus so as to stop the ankle-joint from dorsiflexion.

#### *The Knee.*

The contraction of the knee is best corrected by weight extension or by successive plasters rather than by any open operation, and this applies especially to growing children. If, however, the patient has finished growing, an arthrodesis may be done. The knee-joint is opened by cutting the quadriceps above the patella, turning the latter down, and then removing all the cartilage from those surfaces of the femur and tibia which are in contact in a position of straight knee. The cartilage is also removed from the patella and front of the femur after placing the joint in the fully extended position. The patella with its ligament thus acts as a brace, maintaining extension.

#### *The Hip.*

If the hip is much contracted it is difficult to get it down by traction or manipulation, because of the mobility of the pelvis and lumbar spine. It is therefore better to make an angled incision over the front of the iliac crest and upper part of the sartorius (the Smith-Peterson incision) and to strip all the muscles from the anterior superior spine and outer surface of the ilium. It is very seldom necessary to cut either the psoas tendon or the capsule of the joint. This will allow the hip to be put up in full extension, where it is fixed by a plaster sp.

#### *The Inequalities of the Legs.*

If one leg is sound and one extensively paralysed, the latter is usually two or three inches shorter than its fellow, and this will demand special treatment. That which is usually adopted consists in the provision of a high boot for the paralysed and shortened leg. This may suffice for the growing period, but when adolescence is reached something better is available. Various ingenious devices have been suggested for lengthening the short leg. But these are not satisfactory: first, because not more than one or one and a half inches can be gained; and, secondly, because the operation must be done on a weak atrophic bone, the firm union of which will be doubtful. The femur is divided by a Z-shaped osteotomy and then traction is put on the limb.

I think it is very much better to shorten the sound leg, and this may be done by an osteotomy of the femur at the junction of the shaft with the condyles. The shaft is then given a pointed shape, whilst the condylar portion is hollowed out and the former is then driven into the latter, so that an impaction of one inch may be secured easily. Greater shortening may be obtained by cutting off a portion of the shaft before performing the impaction.

#### *The Restoration of Walking.*

To enable the patient to stand and walk with or without crutches and apparatus is the ultimate aim of the whole treatment. The foot can always be stabilized and made plantigrade, the knee can always be fixed or controlled by tendon transplantation, and the hip brought down to full extension, whilst the two legs are made the same length by building up the short or cutting down the long leg. Then the critical question will arise as to the function of the glutei muscles. If these are sound, then the patient should be able to walk without crutch support. But if they are paralysed it is almost impossible to replace their action by any spring or stay, and the patient must be dependent upon crutches. But even walking thus he is usually a cheerful and contented person, instead of being a more or less helpless derelict.

#### THE HOSPITAL PROBLEM.

This brief summary of the nature, course, and treatment of infantile paralysis will serve to prove the urgent necessity for the provision of special institutional care for these cases. A similar claim might also be made for other groups of surgical cases, such as tuberculous disease of bones and joints, and many cases of deformity—for example, club-foot, congenital dislocation of the hip, and septic arthritis. All these diseases have this in common—they are curable, but they require years for their treatment. They need to be treated by a team of men—physician, surgeon, mechanic, and physiotherapist—as well as by specially trained nurses, who shall do nothing else and shall not be taken away just as soon as they know their work. Further, fresh air and open-air hospitals with the maximum of sunshine are necessary for most, whilst from an economic point of view education must be provided during the prolonged treatment. Such open-air school hospitals have been springing up all over the country, chiefly as the result of individual philanthropy and enterprise. But very much more requires to be done in a national and systematic method, if the problem is to be efficiently dealt with. Every large city and every county has now many agencies which provide hospital treatment for the sick, but these have arisen in a haphazard fashion, and for the most part without co-ordination one with another.

Unfortunately the general public of this country have been brought up to think that our voluntary hospital system is fundamentally good and that it should be preserved at all costs; and yet we, as medical men, know that it has failed. The evidence of its failure is only too evident to all who have eyes to see. The majority of voluntary hospitals, crippled by financial stress and governed by committees with a narrow and parochial outlook, fall very far short of the best Continental, Dominion, and American hospitals.

In the original meaning of the term there are very few voluntary hospitals left, for all are forced to ask for payments from their patients. The original idea of voluntary subscriptions has been overshadowed by a levy upon the patients themselves, by systematic collections from work-people or householders which almost amount to a tax, and by recourse to various lotteries and other gambling transactions, which can only be sanctioned by the doubtful morality, that the end justifies the means. But the most striking evidence of the failure of the voluntary system is found in the fact that every year a larger proportion of the sick have to be handed over to the Poor Law authorities. It is certainly an understatement of the case to say that more than half those who require hospital treatment cannot be taken by our voluntary hospitals, but have to find asylum in the Poor Law infirmaries. It is quite true that many of the latter institutions are good, modern, well equipped, well built hospitals. But they are understaffed as regards medical men, and especially as regards those of consultant rank. And quite apart from any comparison between voluntary hospital and the Poor Law hospital, the fact remains that we, as a community, are obliged to send half our sick to a State or municipal institution, and therefore it is fair to say that the voluntary system has failed. It is usual to pretend that the hospital difficulty is chiefly one of finance, and yet at the present moment we are told that a sum of no less than thirty millions has accumulated under the National Insurance Act and now awaits distribution. I suppose it is no use casting longing eyes upon this golden hoard, although it is tempting to suggest that it might be made the basis of a national fund for reorganization of our hospital system. I only refer to the matter to show that by a simple insurance system money can be had for all our hospital needs. It is not the want of money, but the want of willing co-operation between those who govern hospitals, that is the root of the difficulty.

At the present moment these cases of chronic illness, of which I have been describing one example, are the subject of many philanthropic societies and medical institutions, and yet as a whole they are treated very badly. In every large city there are "voluntary" hospitals, children's hospitals, a Poor Law infirmary, a city health committee,

and also perhaps an orthopaedic hospital and a crippled children's society; and yet in a great many there is no adequate system for treating cases of chronic illness requiring an open-air school hospital. A patient is operated upon in one hospital and then returns home to relapse; he is then taken to another hospital as an out-patient, where he attends until the expiration of his note; he drifts into the Poor Law infirmary, where he stays for a few years; he is befriended by the cripples' society, which sends him away into the country for a few months; or he comes to the health committee, which sends him away to a distant county, because this seems easier at the moment than the provision of efficient treatment at home.

It would seem so obvious that all those who are responsible for the treatment of the sick ought to co-operate instead of competing with one another. But this is apparently impossible because their independence would be threatened if each ventured to join hands with the others, even for the common good.

The Ministry of Health, one would have thought, would be the ideal agency to invoke to bring about hospital reform. But a Ministry will never take action until popular feeling is aroused, and the only way to arouse popular feeling is for the members of the medical profession, who know the facts, to explain them to the public.

It would seem to me that the essential needs of our long overdue hospital reform are as follows:

1. All hospitals should be controlled by a single committee of management in each county or administrative district. Each hospital would still require its house committee, but in matters of policy the interests of each institution would be subordinated to those of the community at large.

2. The financial basis of our national hospital scheme should be made worthy of this great and rich country, and the present jumble of municipal rate aid, State aid, haphazard philanthropy, and importunate begging or gambling should cease. National insurance should be the basis of hospital finance.

3. The treatment of all cases of chronic illness should be conducted in open-air school hospitals in the country.

At present only one political party, and that the socialists, have ever thought it worth while to formulate a hospital policy; and the socialists' policy is so identified with the idea of whole-time State service as to make it repugnant to the medical profession. But the essential ideals of hospital reform in no way necessitate this State service, and it is our duty to aim for these ideals in every way in our power, both in season and out of season.

## REFERENCE.

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## SOME FEATURES OF THE RHEUMATIC INFECTION.

BY

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The following investigation was undertaken in order to gain information regarding (1) the life-history of the rheumatic infection in childhood, and (2) the effect of different methods of treatment of the first rheumatic manifestation. The analysis was made from the records of 141 cases of rheumatic infection which had been admitted to the Royal Hospital for Sick Children, Glasgow, between the years 1916 and 1921 inclusive. In 1923 the cases were traced, those available were examined, and their histories subsequent to dismissal from hospital obtained.

The period between the onset of the first rheumatic manifestation and the final examination varied from one to eleven years; in 20 cases the period was under three years, in 93 between three and seven years, and in 23 cases between seven and eleven years. Since their dismissal from hospital the majority of the children had been leading ordinary home lives and receiving no special care or treatment.

### Manifestations of the Rheumatic Infection.

The following lesions have been considered as indicating rheumatic infection: (1) arthritis, (2) chorea, (3) carditis, (4) subcutaneous nodules, (5) tonsillitis, (6) cutaneous lesions—namely, psoriasis, erythema nodosum, erythema multiforme, purpura, and urticaria (these are only included when developing in cases with some other rheumatic manifestation).

### First Rheumatic Manifestation.

The relative frequency of the different manifestations during the first definite rheumatic attack is shown in the following table. As it is impossible, except from physical examination, to gain exact information regarding the presence of carditis, it cannot be said how often this was present as a first manifestation, and hence in the table cases of carditis associated with any other rheumatic manifestation have been omitted.

TABLE I.—Relative Frequency of Various Rheumatic Manifestations during First Attack.

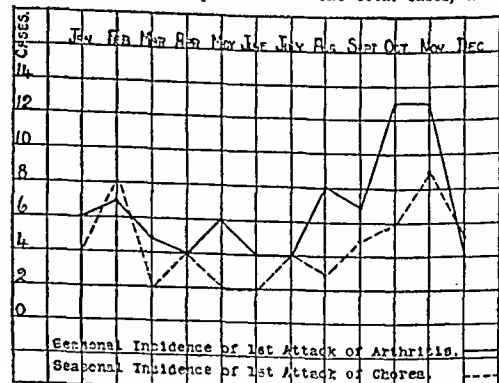
Rheumatic Manifestation.	Cases.	Percentage.
Arthritis . . . . .	79	56.0
Chorea . . . . .	35	25.0
Carditis without other lesion . . . . .	10	7.0
Tonsillitis . . . . .	7	5.0
Arthritis + chorea . . . . .	5	3.5
Arthritis + tonsillitis . . . . .	5	3.5

### ARTHRITIS.

Though in the whole series of cases cardiac mischief occurred slightly more frequently as a manifestation of the rheumatic infection than did implication of the joints, arthritis will be considered in the first instance, not only because it occurred much more frequently as the first manifestation, but also because it is usually looked upon as the most characteristic of the various lesions. Arthritis occurred at some stage of the disease in 103 cases—that is, 73 per cent. of the total 141 patients. In 89 cases it was the first manifestation, but followed chorea in 10 cases and tonsillitis in 4 cases. It showed in addition a strong tendency to recur, 41 per cent. of the 103 cases having had four or more attacks, 6 per cent. three attacks, and 20 per cent. two attacks. In only 33 per cent. of the cases was there no recurrence.

**Age of Onset and Sex Incidence.**—No case of arthritis was recorded during infancy. One occurred during the second year, two during the third, and two during the fourth; 10 cases (10 per cent.) were under 5 years of age, 63 cases (61 per cent.) were from 5 to 10 years, and 30 cases (29 per cent.) were over 10 years of age at the onset of the first attack; 62 of the patients (60 per cent.) were girls and 41 (40 per cent.) boys, giving a ratio of 1.5:1.

**Seasonal Incidence.**—Although developing at all periods of the year, arthritis showed a definitely greater prevalence during the autumn and winter months. October and November were responsible for the onset in 32 per cent. of the total cases, while only



10 per cent. commenced during June and July (see chart). In Nordgren's series of cases for Stockholm the greatest number likewise occurred in October and November. In London, on the other hand, rheumatic arthritis would appear to be most common in September and October,<sup>2</sup> or May and November,<sup>3</sup> while

American figures<sup>2,4</sup> reveal the greatest prevalence during the first four or five months of the year.

**Associated Lesions.**—Arthritis was seldom the only manifestation of the infection. Only 6 cases gave no history, either previously or subsequently, of any other manifestation. The frequency with which other rheumatic lesions were associated with arthritis was as follows: with carditis 87 cases (84 per cent.); chorea 45 (44 per cent.); tonsillitis 32 (31 per cent.); nodules 10 (10 per cent.); and skin lesions 6 (6 per cent.).

#### CHOREA.

Authors differ in their opinion regarding the relative frequency of rheumatic and non-rheumatic chorea. For the purpose of the present investigation I selected all the cases of chorea from the hospital records, and in the series of 67 cases 50, or 75 per cent., presented at the time of the first observation, or gave a history of, some other manifestation indicative of the rheumatic infection. These 50 cases had all been classed "rheumatic" chorea, whereas the remaining 17 had been provisionally diagnosed "non-rheumatic" chorea. When, however, the latter group of 17 cases was reinvestigated in 1923, at periods varying between one and a half and six years after their dismissal from hospital, it was found that 9, or 53 per cent., of them had developed some manifestation definitely justifying their inclusion in the rheumatic series. Carditis had developed in 6 cases (35 per cent.), arthritis in 5 cases (29 per cent.), tonsillitis in 3 cases (18 per cent.), and skin lesions in 3 cases (18 per cent.).

Since the freedom from some subsequent rheumatic manifestation in the remaining 8 cases would seem to be due to the method of treatment adopted, rather than to any other factor (as will be revealed later when discussing the question of therapy), and since the vast majority of the children gave a history indicative of rheumatism, one feels, with Thomson,<sup>6</sup> "that it is well to regard every choreic patient as probably rheumatic and to be ready to treat him accordingly."

**Chorea as a First and Subsequent Manifestation.**—It is remarkable that when chorea did occur it most frequently developed as the first rheumatic manifestation. In 40 of the 67 cases it occurred as a first rheumatic manifestation; in 19 cases it followed arthritis and carditis, in 4 arthritis and tonsillitis, in 3 tonsillitis, and in 1 pericarditis. Noteworthy, too, is the fact that recurrences were not infrequent: 35 per cent. of the children had suffered from four or more attacks, 10 per cent. from three attacks, and 21 per cent. from two attacks. It is interesting to note the increase in the incidence of the various rheumatic manifestations in the total series of cases of chorea between the time of their coming first under observation and that of the final examination in 1923. During this period the percentage of cases presenting a cardiac lesion had risen from 54 to 70; arthritis from 57 to 64; tonsillitis from 25 to 30; and skin lesions from 1.5 to 6. There did not occur, however, any increased incidence of subcutaneous nodules, which still remained at 7 per cent. This is probably accounted for by the fact that by the time nodules appear the patient has usually passed through the whole gamut of rheumatic lesions.

**Age of Onset and Sex Incidence.**—No example of chorea was recorded under 3 years of age. In three cases it developed during the fourth year, in three during the fifth year, and in six during the sixth year of life; 18 per cent. of the patients were under 6 years of age; 55 per cent. were between 6 and 10 years; and 27 per cent. were over 10 years when they first suffered from chorea. This age incidence accords with that described by previous workers. Fifty-one of the cases were girls and 16 were boys, giving a ratio of 3:1.

**Seasonal Incidence.**—The seasonal incidence of chorea was remarkably similar to that of arthritis. November and February were the months showing the greatest prevalence, together accounting for 32 per cent. of the cases, while May and June were responsible for only 7 per cent. (See chart.)

**Lesions Associated with Chorea.**—Chorea was associated with other rheumatic manifestations in 59 cases, the most frequent from personal observation being carditis. Though chorea has been described by other writers as running concurrently with arthritis, such has not been noted in our cases. True, in the histories of some of the patients this had been recorded as having happened previous to their admission to hospital, but the association of chorea and arthritis was never observed while the patients were under our direct observation. We have seen one case, however, in which arthritis developed immediately after the cessation of chorea.

#### CARDITIS.

All cases of organic heart disease are considered under this heading, whether the pericardium, the myocardium, or the

endocardium was specially involved. Of the total 141 cases 107 (76 per cent.) had a cardiac lesion of some nature.

**Carditis as a Primary Rheumatic Manifestation.**—As many of the patients were not under observation during the first attack of rheumatism, it is impossible to determine accurately how frequently there had been cardiac involvement from the beginning. The fact, however, that 58 per cent. of 83 cases admitted to hospital during the primary attack did present a cardiac lesion would seem to indicate that the heart is often affected early in the course of the disease.

**Carditis as a Subsequent Manifestation.**—We had, however, frequent opportunities of observing the development of carditis subsequently to some previous rheumatic affection. For example, 46 cases either observed with arthritis or chorea, or giving a history of arthritis and chorea, were dismissed from hospital after their first period of residence without any evidence of cardiac implication, but at the time of the final review in 1923, 12—that is, 26 per cent. of these so-called "potential cardiac cases"—were found to have developed some heart lesion. The details regarding the above-mentioned cases are summarized in Table II.

TABLE II.—Subsequent History of Three Groups of "Potential Heart Cases."

Rheumatic Manifestation.	No. of Cases Without Carditis on Dismissal by time of (916-21).	No. of those who had Developed Carditis on Final Examination in 1923.
A. Arthritis ... ..	15	1 = 7 %
B. Arthritis and chorea ... ..	14	6 = 43 %
C. Chorea ... ..	17	5 = 29 %
		12 = 26 %

Although in the total series of cases (141) studied carditis was more frequently associated with arthritis than it was with chorea, the after-history of these potential cardiac patients shows (see Table II) that carditis had more frequently developed in those who had been in hospital on account of chorea than in those who had been treated for arthritis—for example, 7 per cent. of the latter as against 35 per cent. of the former. This apparently paradoxical finding we are in the meantime inclined to explain on the ground of the varying methods adopted in treating the examples of chorea. Without exception, all examples of arthritis were treated with salicylates, whereas in only a proportion of the cases of chorea was this line of treatment adopted, and, as will be shown later (p. 499), the incidence of subsequent cardiac disease in chorea was least in those who had been submitted to a course of salicylates. St. Lawrence,<sup>6</sup> in a recent study of his clinical material, also elicited the fact that cardiac disease is more frequent after chorea than after arthritis. In no case of arthritis did he find later affection of the heart, whereas in 39 per cent. of his patients suffering from chorea subsequent examination revealed a cardiac flaw. St. Lawrence, however, gives no details regarding the method of treatment adopted in the cases of chorea, and it is therefore not improbable that the high incidence of cardiac disease, which he also found following chorea, may be due, as in our series, to the neglect of specific antirheumatic therapy.

**Age of Onset and Sex Incidence.**—Because, as previously mentioned, many of the cases when first seen already presented evidence of a cardiac lesion, it was seldom possible to have any but an approximate idea of the age at which carditis developed. The youngest case observed with a definite cardiac lesion was aged  $\frac{3}{4}$  years; 14 per cent. of the children were under 6 years; 61 per cent. were between 6 and 10 years; and 25 per cent. were over 10 years of age when the cardiac mischief was first observed. Sixty-three of the cardiac cases were girls and 44 boys, giving a ratio of 1.4:1, which is practically the same ratio as obtained in the series of cases of arthritis.

**Lesions Associated with Carditis.**—Of the 107 cases with carditis 100—that is, 93.5 per cent.—presented, or had suffered from, some other rheumatic manifestation. In only 7 cases had there been no other evidence of the rheumatic infection, but not one of these gave a history of any other disease—for example, scarlet fever, diphtheria, or influenza—to which the cardiac lesion might be attributed, and we have therefore considered them as most probably rheumatic in nature. The relative frequency with which the other manifestations were associated with carditis was as

follows: with arthritis, 87 (81 per cent.); with chorea, 41 (44 per cent.); with tonsillitis, 25 (23 per cent.); with nodules, 10 (9 per cent.); and with skin lesions, 5 (5 per cent.).

*Frequency of Various Cardiac Lesions present.*—The following table (No. III) shows the relative frequency of the various lesions or combination of cardiac lesions and the frequency with which the different structures were affected.

TABLE III.—Showing the Relative Frequency of Various Lesions or Combinations of Cardiac Lesions Present.

Cardiac Lesion.	Cases.	Percentage.
Mitral incompetence ... ..	43	44
Mitral stenosis and incompetence ... ..	35	32
Pericarditis, mitral stenosis, and incompetence ...	5	5
Aortic incompetence and mitral incompetence ...	5	5
Aortic incompetence, mitral stenosis, and incom-	3	3
petence		
Pericarditis, aortic incompetence, mitral stenosis,	3	3
and incompetence		
Pericarditis, aortic incompetence, and mitral in-	2	2
competence		
Pericarditis and mitral incompetence ... ..	1	1
Mitral, aortic, and tricuspid incompetence ...	1	1
Mitral, aortic, and pulmonic incompetence ...	1	1
Mitral stenosis ... ..	1	1
Pericarditis ... ..	1	1
Hypertrophy and dilatation ... ..	1	1

*Frequency with which Various Structures were Involved.*—Mitral valve, 105 cases (98 per cent.); aortic valve, 15 cases (14 per cent.); pericardium, 12 cases (11 per cent.); tricuspid valve, 1 case (1 per cent.); pulmonic valve, 1 case (1 per cent.).

*Result of Cardiac Involvement.*—The all-important point in carditis is, of course, the degree of disability resulting. It is this which imparts to the rheumatic infection its seriousness and which has aroused the present almost world-wide interest in the subject. Of the 107 cases of carditis 28 had died by the time of the review of the material in 1923, but there were available for investigation and estimation of the resulting disability 79 children. Of these 79 children 9, or 11 per cent., were incapable of following any occupation or attending any other than a special school; 57, or 73 per cent., were leading moderately active lives, but gave a history of precordial pain or dyspnoea after exertion; and 13, or 16 per cent., were entirely free from any symptoms of cardiac disease.

*Nature of Lesion.*—In Table IV the results are summarized and classified according to the nature of the lesion present. As is to be expected, since of all rheumatic cardiac lesions that of the mitral valve is the most frequent, more had died and a greater number were markedly disabled through mitral disease than either aortic or pericardial mischief, but proportionately, aortic disease and pericarditis were much more serious lesions: 67 per cent. of the cases of pericarditis died, 47 per cent. of those with aortic disease, and only 17 per cent. of those with simple mitral disease. One was astonished that comparatively few of the cardiac patients were greatly disabled, the great majority of those living being only slightly inconvenienced. An equal proportion of both the mitral and aortic cases were devoid of any disability, but all the examples of pericarditis presented some symptom of cardiac distress.

TABLE IV.—Result of Cardiac Lesion Classified according to Structure Involved.

Lesion.	Total No of Cases	Died.		Markedly Disabled.		Slightly Disabled.		Not Disabled.	
		No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.
Mitral alone	84	14	17	8	9	51	61	11	13
Aortic	15	7	47	—	—	6	40	2	13
Pericarditis	12	8	67	1	8	3	25	—	—

In the following table (No. V) are summarized the results in the cardiac cases which have been grouped according to the age of onset of the first rheumatic attack, and from this

it is seen that on the whole the earlier the age of onset the greater the tendency to a fatal issue or marked disability.

TABLE V.—Prognosis in Relation to Age at First Rheumatic Attack.

Ago at First Attack.	Deaths.	Marked Disability.	Slight Disability.	No Disability.
	Per cent.	Per cent.	Per cent.	Per cent.
3-5 years ... 13 cases ...	22	11	55	11
5-7 " ... 32 " ...	41	9	41	9
7-9 " ... 21 " ...	26	10	52	13
9-11 " ... 25 " ...	12	4	63	15
11-13 " ... 11 " ...	18	9	55	18

Analysis of the fatal cases reveals the fact that death occurred in the great majority of instances comparatively soon after the inception of the infection. Of the 28 patients who died, the fatal issue ensued within three months of the onset of the symptoms in 7=25 per cent.; within one year in 16=57 per cent.; and within two years in 21=75 per cent.

#### SUBCUTANEOUS NODULES.

In marked contrast to their prevalence in some previously published reviews—for example, those of Still<sup>7</sup> and Poynton and Paine<sup>8</sup>—subcutaneous nodules were noted in only 10 (7 per cent.) of our cases. They developed during the first attack of rheumatism in 4 cases, during the second attack in 4 cases, and during the third attack in 2 cases.

*Age of Onset and Sex Incidence.*—One case was under 6 years of age, 3 cases were from 6 to 10 years of age, and 6 were over 10 years when the nodules were first observed. Seven of the patients were girls and three boys.

*Associated Lesions.*—In all the patients some other rheumatic manifestation was present. All 10 cases had carditis, and all had, or had had, arthritis, while 5 also gave a history of chorea and 2 of tonsillitis.

*Prognosis.*—It is generally agreed that this manifestation is of grave significance, indicating the presence of serious and progressive cardiac disease, and pointing to "lowered power on the part of the cells to destroy the infective agent."<sup>9</sup> It proved so in our cases, 60 per cent. of whom died, while the rest presented marked cardiac disability.

#### TONSILLITIS.

The opinion is general that there exists a definite and frequent relationship between tonsillitis and rheumatism, and recent writers from America<sup>9</sup> have stated that tonsillectomy more than any other measure prevents recurrence of arthritis and chorea. In the present series of cases under review, however, a history of sore throat was only obtained in 39=28 per cent. In only 7 cases did tonsillitis precede any rheumatic manifestation. In 5 cases it occurred simultaneously with some other manifestation, while in 13 it followed arthritis, in 10 arthritis and chorea, and in 4 chorea.

#### CUTANEOUS LESIONS.

Psoriasis, urticaria, erythema multiforme, erythema nodosum, and purpuric erythema have all been considered of rheumatic significance by many writers. Recently, however, their association with rheumatism has been questioned, and it seems doubtful whether these cutaneous affections occur with greater frequency among "rheumatic" patients than among those with other infections. In this series cutaneous lesions developed in only 8 cases (7 females and 1 male)—that is, 6 per cent. of the total 141 cases. Psoriasis occurred in 2 cases, erythema multiforme in 2 cases, erythema nodosum in 1 case, and urticaria in 3 cases.

#### EFFECT OF TREATMENT.

Though undoubtedly prophylaxis is the ideal form of treatment, absence of definite knowledge regarding the etiology of rheumatism makes discussion of this aspect of the subject futile. However, when the infection once declares itself there would seem little doubt that heroic and efficient treatment is well worth while. This is well borne out by contrasting the after-results of the cases of arthritis and chorea which were treated during their first attack at home with those treated in hospital. In many cases the home treatment was nil, or rest in bed for varying periods with or without the administration of salicylates. So far



as the cases of arthritis admitted to hospital were concerned, the treatment consisted in routine rest in bed for eight to twelve weeks, and the administration of sodium salicylate in doses of 60 to 180 grains a day. No less attention was paid to the slight cases than to the severe, it being, in fact, considered more important to treat efficiently cases of chorea or arthritis without cardiac involvement than those in which damage to the heart had already occurred. In these groups of cases reference is only made to the treatment of the first rheumatic attack. The results are summarized in Table VI.

TABLE VI.—Results of Home Treatment and Hospital Treatment of Arthritis and Choreia Contrasted.

Predominant Rheumatic Manifestation.	Cases Treated at Home during First Attack.		Cases Treated in Hospital during First Attack.		
	No. of Cases Treated.	No. who Developed Carditis.	No. of Cases Treated.	No. Admitted without Carditis.	No. of latter who Developed Carditis.
Arthritis ...	32	19 = 91 %	33	12	1 = 8 %
Chorea ...	46	34 = 74 %	21	13	5 = 38 %
Total ...	78	63 = 82 %	54	25	6 = 24 %

In contrasting these results it must be admitted, of course, that of the cases treated at home it would only be those in whom some serious rheumatic lesion subsequently developed who would come under further observation, and this naturally would raise the percentage of bad results in the home cases. The contrast, however, between the two groups is so marked that the benefit of thorough treatment in hospital cannot be gainsaid. While of the hospital cases of arthritis only 8 per cent. subsequently developed carditis, 91 per cent. of the home cases, on the other hand, suffered later from heart disease. The same difference, but to a less extent, is observed in the case of chorea, 38 per cent. of the hospital cases as against 74 per cent. of the home cases presenting later a cardiac lesion.

The greater tendency to the development of a cardiac lesion after chorea than after arthritis has already been referred to, and has been remarked upon by other writers. A critical analysis of our material strongly suggests that the tendency or otherwise for chorea to develop carditis depends on the type of treatment which has been adopted. Various are the methods currently recommended for the treatment of chorea, and in the cases under review most of the usual methods had been employed. Salicylates were administered in all cases who had recently suffered from arthritis. In the absence of any such history the patients were treated by arsenic, sedatives, or merely rest in bed without drugs. Rest in bed without drugs was reserved for the very mild cases, while sedatives were given in those examples characterized by violent jerking.

The relative values of the different methods in preventing cardiac disease are shown in Table VII, which details the

TABLE VII.—Relative Values of Different Methods of Hospital Treatment of Choreia.

Treatment.	No. of Cases Dismissed without Carditis.	No. who Subsequently Developed Carditis.
Arsenic alone ...	5	0 = 0 %
Arsenic + sodium salicylate ...	3	1 = 33 %
Arsenic + sedatives ...	1	1 = 100 %
Arsenic + sedatives + sodium salicylate ...	1	0 = 0 %
Sodium salicylate alone ...	4	0 = 0 %
Sodium salicylate + sedatives ...	1	0 = 0 %
Sedatives ...	3	2 = 67 %
Rest alone ...	5	3 = 60 %
Totals ...	23	7 = 30 %

subsequent cardiac history of all the cases of chorea treated in hospital and dismissed without any cardiac lesion. The cases of chorea who came under observation with carditis or developed carditis during the course of the illness have been purposely omitted from this analysis as being outside the point under discussion. Cases dismissed irregularly are also excluded.

The results appear more striking when summarized thus and render further comment unnecessary:

Of non-cardiac cases—

9 received salicylates and 11% subsequently developed carditis.
10 " arsenic " 20% " " "
6 " sedatives " 50% " " "
5 " rest only " 60% " " "

It might, of course, be argued that as sedatives were given in the cases with the most violent choreiform movements they had been employed in the most severe examples of the infection, but a review of all the cases of chorea did not disclose any relationship between the severity of the movements and the incidence of cardiac involvement. Another possible fallacy in the above results seemed to be the use of rest alone in the very mild cases. It might be suggested that the milder examples of chorea came under observation at a later stage of the disease, and thus there had been greater opportunities for the development of cardiac complications, but from a careful scrutiny of the histories it did not appear that the mild cases had been admitted to hospital any later in the course of the disease than those severely affected.

One feels justified, therefore, in concluding that it was the difference in the methods of treatment adopted that was responsible for the variation in the above results. Other drugs may be equally or even more effective in temporarily checking the choreiform movements and in overcoming the emotional disturbances; but if we regard every case of Sydenham's chorea as a manifestation of "the rheumatic infection," and thus a potential cardiac case, treatment by any other method than by the administration of salicylates seems wholly unjustifiable.

SUMMARY.

1. The records of 141 cases of rheumatic infection are analysed.
2. The patients were examined one to eleven years after the first attack.
3. No case occurred during infancy; 60 per cent. were from 6 to 10 years of age at the onset of rheumatism.
4. Girls were affected more frequently than boys. The disproportion was most marked in the case of chorea (3:1).
5. Arthritis was most prevalent in October and November (32 per cent.), chorea in February and November (32 per cent.).
6. As regards the lesions considered in this paper, 76 per cent. had carditis, 73 per cent. arthritis, 47 per cent. chorea, 28 per cent. tonsillitis, 7 per cent. subcutaneous nodules, 6 per cent. skin lesions.
7. With regard to cardiac involvement—6 per cent. had marked cardiac disability, 41 per cent. slight disability, 9 per cent. carditis without disability, 24 per cent. had no cardiac involvement.
8. Of the total cases 20 per cent. died; 25 per cent. of the fatalities were within three months, 57 per cent. within one year, 75 per cent. within two years from the onset of rheumatism.
9. Pericarditis and subcutaneous nodules were the lesions indicating most severe infection.
10. Early hospital treatment diminished the incidence and severity of carditis.
11. Treatment was more effective in preventing carditis in arthritis than in chorea.
12. Cases of chorea treated by sodium salicylate had a lower incidence of subsequent carditis than cases treated by arsenic, sedatives, or rest without drugs.

In concluding I have pleasure in expressing my thanks to Dr. Leonard Findlay for placing the material for this work at my disposal, and for his helpful criticism and encouragement.

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## OVARIAN TUMOURS COMPLICATING PREGNANCY, LABOUR, AND THE PUERPERIUM.

(Additional Cases.)

BY

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In the Lettsomian Lectures<sup>1</sup> delivered before the Medical Society of London in 1920 I published the whole of my experience of ovarian tumours complicating pregnancy, labour, and the puerperium. The following cases have occurred since, and I now publish them in order to complete the series up to date.

The first series of cases, 55 in number, was attended by the death of one mother (from intestinal obstruction); the present series, 8 in number, was also attended by one death (from pulmonary embolism on the twenty-fourth day). The mortality for the 63 ovariectomies was 3.1 per cent.

## CASE 56.

Mrs. M., aged 27, pregnant for the first time (married on August 27th, 1919), was sent to me by Dr. Fenis on February 7th, 1920. She had been last "unwell" three weeks previously, when she only had a pink discharge. She had never gone over her time. The pelvis was large (iliac spines 11 in., iliac crests 11½ in., external conjugate 8½ in.). The breasts resembled those of pregnancy. The uterus could be felt

at a height of 3 inches above the pubes. A tumour larger than a hen's egg could be felt behind and to the left of the cervix, which had the characteristic consistence of pregnancy. On March 19th the uterus had increased to the size of the organ at the fourth month, reaching up 4½ inches above the pubes. On May 19th the pelvic tumour had increased in size, being nearly as large as an orange, add was deep in Douglas's pouch; it felt hard like a fibroid and could not be pushed up.

On August 11th, 1920, I performed Caesarean section through an incision to the right of the middle line. The placenta was in front. The child (a boy weighing 7½ lb.) was delivered by the feet, and cried at once. The uterine wound was sewn up with silk sutures. The tumour was found to be a parovarian cyst of the right side. It measured 4 by 3 by 2½ inches and was removed (without the ovary and tube) by enucleation, after carefully tying all the vessels running in the cut peritoneum with fine silk, as also the small sheaf of vessels running towards its base, and then closing the peritoneum with fine silk. The cyst contained clear fluid of lower specific gravity than 1000, no solid growth or papilloma.

The patient made a simple recovery for a fortnight after the operation, when thrombosis of the right femoral vein occurred, which kept her in bed for a month. She made a good final recovery, and with her child was quite well three years later.

## CASE 57.

E. D., aged 33, mother of seven children, was admitted to University College Hospital on December 6th, 1920, complaining of increase in the size of the abdomen since her last childbirth three and a half months before, when the tumour was present but caused no difficulty; she felt a dragging pain in the tumour, and suffered from a winter cough with expectoration in which no tubercle bacilli were found. A multilocular ovarian tumour was felt in the abdomen reaching up to a height of 4½ inches above the pubes. It was removed through a median abdominal incision on December 11th, 1920. The tumour weighed 6 lb. and measured 5 by 6 by

4½ inches. Under the microscope it was a pseudo-mucinous cyst - apillae, and some of the smaller cysts were the epithelium of which was lowhera ation lasted twenty-eight minutes. The bronchitis was aggravated by the operation; the temperature reached 102° on the third day. The patient left the hospital well on January 8th, 1921.

## CASE 58.

M. M., aged 34, who had had three children (no miscarriage), was admitted to University College Hospital on February 13th, 1922, complaining of pain in the right side of the abdomen since a week before her last child was born (two years and four months before). She was in the ninth week of pregnancy, having last menstruated on December 20th, 1921. A small cyst could be felt on the right side of the lower abdomen, and manually the uterus, nine weeks pregnant, could be felt, pushed over to the left side.

On February 18th, 1922, the tumour was removed through a Pfannenstiel incision. The wound healed by first intention and the recovery was simple, the highest temperature being 99.4° on the second day. The patient was delivered naturally of a living boy, after two hours' labour, on September 26th, 1922. In January, 1925, the abdominal wall was strong and the scar scarcely visible. The tumour measured 2½ by 2½ by 2½ inches; it was a lutein cyst of the right ovary.

## CASE 59.

N. A., aged 18, a primigravida, was admitted to University College Hospital on May 15th, 1922, as she had been found (on her previous admission in April) to have a dermoid tumour in the pelvis which could not be pushed up. The pelvic measurements were: iliac spines 10 in., iliac crests 11½ in., external conjugate 8½ in., diagonal conjugate 4½ in.; the outlet was contracted.

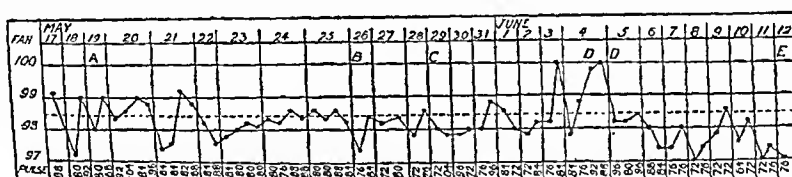
Caesarean section was performed on May 20th, 1922, two days before term. The child was delivered in fifty-three seconds; it weighed 7 lb. 6 oz., and cried at once. The ovarian tumour (of the right side) was then removed and the pedicle tied with silk, the tube being left behind. The operation lasted fifty-eight minutes. The patient made a good recovery, the highest temperature being 100° on the seventh day, afterwards normal. The tumour was a dermoid weighing 6½ oz., and measured 4 by 2-3/5 by 2 in. It contained cartilage, fat, muscle, spaces lined with epithelium, sebaceous glands, and hair follicles, and was lined with a thin squamous epithelium.

## CASE 60.

R. B., aged 34, mother of seven children (no miscarriage), was admitted to University College Hospital on May 25th, 1922. Her doctor had found a tumour in the abdomen during her last pregnancy, and while she was being prepared for admission to the hospital labour came on and she was delivered of a living child, which presented by the breech, on January 29th, 1921. She had steadily increased in size, and was again about five and a half months pregnant, having last menstruated on November 22nd. There was very extensive pigmentation of the arms and face. The uterus reached up to the umbilicus, and above it was a flaccid cyst extending up to the ensiform cartilage.

Ovariectomy was performed on May 27th, and a multilocular cyst of the right ovary containing blood-stained fluid was removed.

It was mainly unilocular with a few daughter cysts, and contained no solid growth except one or two small masses of papilloma showing under the microscope no tendency to malignancy. After the operation the pigmentation became less intense. A good recovery ensued; the highest temperature was 99.4°. She left the hospital on June 6th. The pregnancy continued, and the patient was delivered of a living girl on September 12th, 1922, and of a living boy in October, 1923.



CASE 63.—A=Operation. B=Deep stitches removed. C=Superficial stitches removed. D=Vomited. E=Death from pulmonary embolism, 7 p.m.

temperature during her stay in hospital was 99.4°. She left the hospital on June 6th. The pregnancy continued, and the patient was delivered of a living girl on September 12th, 1922, and of a living boy in October, 1923.

## CASE 61.

L. T., aged 30, mother of two children, was admitted on June 2nd, 1922, complaining of dragging pain in the left iliac fossa and of a yellow discharge since her last confinement five months before. She had had a flooding nine weeks before admission and had "seen nothing" since. The uterus was felt at a height of 2½ inches above the pubes, of the size, shape, and consistence of the pregnant organ at the ninth week. Behind the uterus could be felt a cystic swelling larger than a hen's egg; it could be moved but not easily pushed out of the pelvis.

Ovariectomy was performed by a median abdominal incision on June 4th, 1922. A good recovery was made; the highest temperature was 100° on the seventh day. The tumour consisted of a cyst measuring 2½ by 2½ in., with two small cysts in its wall, and of a more solid part containing a few small cysts and a corpus luteum of pregnancy. The patient went to term and was delivered of a living boy at the end of January, 1923.

## CASE 62.

M. K., aged 33, who had had two children and one miscarriage, was admitted on July 29th, 1922, complaining of flooding for nine days. The patient was two months pregnant. An ovarian tumour was found reaching up to within 1½ inches of the umbilicus. Next day the temperature reached 102.2°, and the patient passed a two-months ovum; the temperature then fell to normal. On August 1st the uterus was felt at a height of

OVARIOTOMY FOR TUMOURS COMPLICATING PREGNANCY, LABOUR, AND THE PUERPERIUM (EIGHT ADDITIONAL CASES).

No.	Initial.	Age.	Children.	Abortion.	Time of Discovery of Tumour.	Seat of Tumour.	Nature of Tumour.	Result of Labour to—		Growth of Tumour during Pregnancy.	Date of Ovariectomy.	Adhesions.	Result.
								Mother.	Child.				
56	M.	27	0	0	During this pregnancy	R. parovarium	Unilocular cyst—4 by 3 by 2½ in.	Lived	Lived	None	Aug. 10, 1920 (immediately after Caesarean section near term)	No (a few filmy shreds on fundus uteri)	Recovered.
57	E.D.	39	7	0	Tumour present during last pregnancy (confined 3½ months before)	L. ovary	Multilocular pseudo-mucinous cyst with papilloma in some of the cysts; weight 6 lb.	Lived	Lived	Not known	Dec. 11, 1920	No	Recovered.
58	M.M.	34	3	0	At ninth week of pregnancy	R. ovary	Luteal cyst—2½ by 2½ by 2½ in.	Lived (labour normal, Sept. 6, 1922)	Lived (boy)	Not observed	Feb. 18, 1922 (at ninth week of pregnancy)	No	Recovered.
59	N.A.	18	0	0	At ½ month of pregnancy	R. ovary	Dermoid, 6½ oz. (measured 4 by 2½ by 2 in.)	Lived	Lived (boy, 7 lb. 6 oz.)	Not known	Mar. 20, 1922 (immediately after Caesarean section)	A tag of omentum adherent to wall near top of wound	Recovered.
60	R.R.	34	7	0	During last pregnancy (could bear Jan. 23, 1921; breech presentation)	R. ovary	Multilocular cyst size of adult head, with few patches of low papilloma	Lived (labour normal, Sept. 12, 1922)	Lived (girl)	Slow increase	Mar. 27, 1922 (in sixth month of pregnancy)	No	Recovered.
61	L.T.	30	2	1	During this pregnancy	R. ovary	Unilocular cyst—2½ by 2½ in. in pelvis	Lived (labour normal, Jan. 1923)	Lived (boy)	Not known	July 4, 1922 (a 13th week of pregnancy)	No	Recovered.
62	M.K.	33	2	1	During pregnancy (aborted at second month, six days before ovariectomy)	R. ovary	Multilocular cyst size of infant's head with septa broken down; some papillomata, one small cyst, studded with papilloma branched epithellium, not proliferated	Lived	—	Not known	Aug. 6, 1922	A few tawny broad ligament	Recovered.
63	L.A.	31	0	0	During this pregnancy	R. parovarium	Unilocular cyst—3½ by 3½ by 2½ in.	Died	Died (Caesarean section after mother's death)	No	May 19, 1923 (at 31st week of pregnancy)	No	Died.*

\* Pulmonary embolism June 12th, twenty-four days after operation.

3 inches above the pubes; it was pushed forwards by a tumour, as big as a child's head, which was thought to be probably a dermoid. Ovariectomy was performed on August 5th. During the separation of an adhesion the tumour burst. It was removed and the pedicle tied with silk. The operation lasted forty-three minutes. The tumour was a multilocular pseudo-mucinous cyst containing unbranched papilloma; one more solid portion contained a loculus filled with branched papilloma. The patient made a good recovery (highest temperature 99.8°), and left the hospital at her own request on August 21st.

## CASE 63.

L. A., aged 31, married two years, applied when thirty-one weeks pregnant for a confinement "letter" at University College Hospital. She had suffered a good deal from vomiting in the morning and from headaches during the last few weeks. She had a feeling of weight on walking and was very breathless on exertion. The heart apex beat was in the fifth space 4 inches from the middle line, and, on auscultation, a systolic and a presystolic murmur were heard. The urine, specific gravity 1020, was free from albumin, sugar, or blood. The pelvic measurements were: iliac spines 9½ in., iliac crests 10½ in., external conjugate 7½ in. On May 18th the uterus reached up for 8 inches above the pubes. The child presented by the head. On vaginal examination a firm rounded tumour as big as a flattened orange could be felt in the retrouterine pouch. It was diagnosed as a dermoid.

Ovariectomy was performed on May 19th, 1923. The uterus was withdrawn from the abdomen through a ten-inch incision and the tumour brought up. It was a parovarian cyst, on the right side, measuring 3½ by 3½ by 2½ inches. The pedicle was tied with silk (without enucleating the cyst) and the raw edges sewn over with fine silk. The ovary was not removed. The operation lasted fifty minutes, under ether anaesthesia. The wound healed by first intention. The cyst was unilocular, contained clear watery fluid, no albumin, and no papilloma; it was lined by cubical epithelium. The patient made a normal recovery, the temperature never rising above 99.2° till the fifteenth and sixteenth days, when it rose to 100°, but fell to normal afterwards. On those two days the patient complained of sharp pain in the chest, but no physical signs could be detected, and the pulse was but slightly affected and the respiration not at all. On the twenty-first day the patient got up and lay on a couch, and on the twenty-second and twenty-third days she sat in a chair. On the twenty-fourth day she walked about the ward at intervals for half an hour; but on returning to bed she suddenly collapsed and rapidly lost consciousness and the breathing became stertorous. The pulse at first was full and bounding, then rapid and weak. There was considerable cyanosis and dyspnoea, and the right leg was found to be slightly swollen. The patient died in ten minutes from the onset of the attack. Caesarean section was performed by the obstetric registrar within three minutes after the death of the mother, but though the foetal heart was beating slowly the child never breathed, in spite of prolonged attempts at artificial respiration.

At the post-mortem examination the heart weighed 10½ oz.; there was slight excess of pericardial fluid. The right ventricle and conus were distended. The pulmonary artery and its two main branches were completely blocked by a cylindrical embolus 14 inches long. The embolus was coiled up in itself and extended through the pulmonary orifice for a short distance into the right ventricle; at one end it measured three-eighths of an inch in thickness and gradually tapered off towards the other end; it had a considerable branch from 2 to 3 inches from its thick end. The edge of the mitral valve was thickened; there was no fusion of the flaps and no shortening or thickening of the chordae. The stenosis was slight.

The lungs were congested and oedematous.

The pelvis and calyces of the kidneys and the ureters were moderately dilated. There was no pyelitis. In the cortex of both kidneys were scattered nodules of caseous material.

The inferior vena cava, the external and internal iliac veins, and the uterine and ovarian veins were normal and free from clot. Unfortunately the femoral veins were not slit up.

Of the eight cases now recorded one (Case 58) was operated on through a Pfannenstiel incision, the wound being closed with silk for the fascia and silkworm gut for the skin; the remaining seven cases were operated on through a longitudinal incision, and the wound was closed by through-and-through stitches of silkworm gut (tied over gauze), silk (continuous for the peritoneum and interrupted for the fascia), and silkworm gut for the skin. All the eight wounds healed by first intention.

In three of the cases there was a departure from the rules given in my Lettsomian Lectures.<sup>1</sup> Thus in Cases 56 and 59 Caesarean section was performed before the tumour was removed, and in Case 63 the tumour (a parovarian cyst) was removed at the thirty-first week of gestation. An improved technique in closing the uterine wound with silk, by which the formation of adhesions of any importance is avoided, inclines me to think that it may be employed more frequently in these cases than was formerly thought advisable. On the other hand, the tragic death of Case 63 causes me to regret having departed from the rule not to operate in the latter half of pregnancy until near term, or during or after labour.

*Parovarian Cysts Complicating Pregnancy, etc.*

Cases 56 and 63 were small parovarian cysts, in the pelvis. Of the former series, Cases 2, 46, 47, 48, 50, and 51 were also parovarian cysts; of these, Cases 48 and 50 were in the pelvis, and were delivered with difficulty by forceps, one child (Case 50) being born dead.

The recorded cases of parovarian cysts complicating pregnancy, etc., are few in number. Thus, in McKerron's classical work,<sup>2</sup> out of 1,290 cases only 9 were parovarian cysts; of these, six were removed in the third month and the patients went to term; two were removed in the fourth month and one (at least) went to term, although the pedicle was twisted; the ninth of McKerron's collected cases was removed in the sixth month and the patient was delivered prematurely. In Dsirne's<sup>3</sup> collection of cases there were only four parovarian cysts, and the tumours were removed in the fifth, third, fifth, and second months; three of the patients went to term, and one was delivered prematurely at the seventh month. Three out of his four cases had a pelvic abscess in the puerperium.

Of my own eight cases of parovarian cyst only four were seen during pregnancy. Of these, Case 2 was delivered of a living child by forceps, and the cyst was removed eight weeks later. Case 47 had a parovarian cyst of the size of an emu's egg; the pedicle had undergone torsion. It was removed two hours after the occurrence of the torsion at the thirteenth week of pregnancy, together with the ovary, which was infiltrated with blood. The patient aborted twelve days later, but has since had four children (two boys and two girls). This was the only case in which the ovary was removed. In Case 56 the cyst was removed immediately after Caesarean section at term, and thrombosis of the femoral vein occurred. In Case 63 the cyst was removed at the thirty-first week, and death occurred from pulmonary embolism on the twenty-fourth day.

A consideration of McKerron's (9), Dsirne's (4), and my own (8) cases leads to the conclusion that parovarian cysts, intrinsically so benign, have special dangers as a complication of pregnancy. From such a small number of cases it is impossible to establish rules of treatment, and it is greatly to be desired that those gynaecologists who have had a considerable experience will publish all their cases.

My present feeling is strong against the advisability of operating on these cases in the second half of pregnancy, except at term or during or after labour, and for parovarian cysts in the pelvis Caesarean section may be advisable, though rarely necessary for benign non-adherent ovarian cysts.

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<sup>2</sup> McKerron: *Pregnancy, Labour, and Child-bed with Ovarian Tumour*, 1903.  
<sup>3</sup> Dsirne: *Arch. f. Gynak.*, Bd. 42, Heft 3, S. 415.

## TIME-SAVING METHODS IN DIABETIC URINALYSIS.

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For the detection of reducing substances in the urine there exists no better test than Fehling's, provided care is taken to see that the amounts of urine and mixed Fehling solutions are equal and the whole raised just to the boil. The presence of glucose will, of course, in a new case showing a low percentage, be confirmed by fermentation with yeast in the Einhorn saccharimeter.

To determine the daily (twenty-four hours) output of glucose a fairly accurate saccharimetry is required, and if dealing with a large number of specimens it becomes necessary to do this quickly and economically. The following procedure has been found of use in the saccharimetry of some 2,000 specimens.

In the case of urine with from 0.1 to 0.5 per cent. glucose,

take 2 c.cm. 1 in 10 mixed Fehling's solution in a test tube and about 15 drops of Gerrard's reagent; heat, and as the mixture comes to the boil deliver the urine from a Dreyer pipette a drop at a time. (The advantage of the Dreyer pipette is that, held vertically, it drops very consistently—various pipettes differing very little—22 to 24, say 23, drops to the cubic centimetre, enabling the following simple table to be prepared.)

TABLE I.

Drops of Urine.	Glucose per cent.		Drops of Urine.	Glucose per cent.	
	Calc.	Approx.		Calc.	Approx.
5 ...	0.450	0.5	16 ...	0.144	0.1
6 ...	0.384	0.4	17 ...	0.135	0.1
7 ...	0.328	0.3	18 ...	0.127	0.1
8 ...	0.288	0.3	19 ...	0.121	0.1
9 ...	0.256	0.2	20 ...	0.115	0.1
10 ...	0.230	0.2	21 ...	0.109	0.1
11 ...	0.209	0.2	22 ...	0.105	0.1
12 ...	0.191	0.2	23 ...	0.100	0.1
13 ...	0.177	0.2			
14 ...	0.165	0.2			
15 ...	0.154	0.2			

Where less than five drops suffice to decolorize dilute the urine 1 in 5 and read as follows:

TABLE II.

Drops of Urine.	Glucose per cent.		Drops of Urine.	Glucose per cent.	
	Calc.	Approx.		Calc.	Approx.
5 ...	2.30	2.3	15 ...	0.77	0.8
6 ...	1.92	1.9	16 ...	0.72	0.7
7 ...	1.64	1.6	17 ...	0.67	0.7
8 ...	1.44	1.4	18 ...	0.63	0.6
9 ...	1.28	1.3	19 ...	0.60	0.6
10 ...	1.25	1.3	20 ...	0.57	0.6
11 ...	1.04	1.0	21 ...	0.54	0.5
12 ...	0.95	1.0	22 ...	0.52	0.5
13 ...	0.83	0.9	23 ...	0.50	0.5
14 ...	0.82	0.8			

If less than five drops of 1 in 5 urine decolorize, dilute 1 in 10, or (where the specific gravity exceeds, say, 1032) 1 in 20, and read as follows:

TABLE III.

Drops of Urine.	1 in 10 Urine.		Drops of Urine.	1 in 20 Urine.	
	Rough percentage Glucose.			Rough percentage Glucose.	
5 ...	5		5 ...	10	
6 ...	4		6 ...	8½	
7 ...	3½		7 ...	7	
8 ...	3		8 ...	6	
9 ...	3		9 ...	5½	
10 ...	2½		10 ...	5	

At these percentages many will prefer to do a formal titration or to use the polarimeter. (Gerrard's reagent is prepared by decolorizing boiling mixed Fehling's solution by means of a 5 per cent. solution of potassium cyanide delivered from a burette.) The polarimeter will nearly always give a lower reading than titration, owing to laevorotatory substances. If it is desired to express this as haerulose, multiply the difference by 0.284. On more than one occasion I have found dextro- and laevo-rotatory substances present in such proportions (that is, as 28:72) as to give a zero reading in the polarimeter, as against 1 per cent. total reducing substance.

To arrive at the glucose output for the day, look up in Table IV the number of litres corresponding to the number of ounces reported by nurse or patient, and multiply by ten times the glucose percentage. Glucose having been found, ketone bodies are to be looked for. Rothera's test may be done as follows: Make up a batch of 2-gram packets of ammonium sulphate. For the test, empty a packet into a small porcelain dish—say, the bowl of a crucible—add about 2 c.cm. of urine, a few drops of 5 per cent. sodium nitroprusside, and then some strong ammonia. The sodium nitroprusside need not be made up fresh each time; keep in a brown well stoppered dropping bottle, shutting off after use. You will know if the solution goes off by its changing colour—first paling, and then turning green (owing to sulphur compounds in the air).

If Gerhardt's test is positive, the ammonia coefficient ought to be done. Gerhardt's test, it will be remembered, detects relatively considerable quantities of aceto-acetic acid by the cautious addition to the urine of a solution of

iron perchloride, when in a positive case a wine colour, paling considerably on heating (distinction from salicylates, etc.), will develop.

The time-saving method about to be described enables the ammonia coefficient to be determined as a routine if desired. Two data are required—the ammonia percentage and the urea percentage. The ammonia may be determined by Malfatti's method, only slightly modified as below, and the urea by the sodium hypobromite method, using, however, Hinds's modification of the original and unsatisfactory ureameter of Doremus.

In Malfatti's method the reaction of the urine is determined *en passant*, as it is first necessary to neutralize the urine. Proceed as follows: Deliver from a Dreyer pipette into the bowl of a small crucible ten drops of urine, and a drop of phenolphthalein, and from another Dreyer pipette deliver drops of decinormal alkali until the colour appears.

To determine roughly the ammonia for the purposes of the coefficient add now two drops of formalin to the neutralized urine—this will discharge the indicator colour—and proceed to add drops of decinormal alkali as before to reneutralization (when roughly each drop represents 0.02 per cent. ammonia). Table V shows at a glance the ammonia coefficient and will save much laborious calculation. An ammonia coefficient of 10 per cent. or more indicates danger of diabetic coma.

TABLE IV.—Converting Ounces into Litres.

Oz.	Litres.	Oz.	Litres.	Oz.	Litres.	Oz.	Litres.	Oz.	Litres.
35	1.00	71	2.03	106	3.03	141	4.03	175	5.03
36	1.03	72	2.05	107	3.06	142	4.06	177	5.06
37	1.06	73	2.09	108	3.09	143	4.09	178	5.09
38	1.09	74	2.12	109	3.12	144	4.12	179	5.12
39	1.12	75	2.15	110	3.15	145	4.15	180	5.15
40	1.15	76	2.18	111	3.18	146	4.18	181	5.18
41	1.18	77	2.2	112	3.2	147	4.2	182	5.2
42	1.2	78	2.23	113	3.23	148	4.23	183	5.23
43	1.23	79	2.26	114	3.26	149	4.26	184	5.26
44	1.26	80	2.29	115	3.29	150	4.29	185	5.29
45	1.29	81	2.32	116	3.32	151	4.32	186	5.32
46	1.32	82	2.35	117	3.35	152	4.35	187	5.35
47	1.35	83	2.38	118	3.38	153	4.38	188	5.38
48	1.38	84	2.4	119	3.4	154	4.4	189	5.4
49	1.4	85	2.43	120	3.43	155	4.43	190	5.43
50	1.43	86	2.46	121	3.46	156	4.46	191	5.46
51	1.46	87	2.49	122	3.49	157	4.49	192	5.49
52	1.49	88	2.52	123	3.52	158	4.52	193	5.52
53	1.52	89	2.55	124	3.55	159	4.55	194	5.55
54	1.55	90	2.58	125	3.58	160	4.58	195	5.58
55	1.58	91	2.6	126	3.6	161	4.6	196	5.6
56	1.6	92	2.63	127	3.63	162	4.63	197	5.63
57	1.63	93	2.66	128	3.66	163	4.66	198	5.66
58	1.66	94	2.69	129	3.69	164	4.69	199	5.69
59	1.69	95	2.72	130	3.72	165	4.72	200	5.72
60	1.72	96	2.75	131	3.75	166	4.75	201	5.75
61	1.75	97	2.78	132	3.78	167	4.78	202	5.78
62	1.78	98	2.8	133	3.8	168	4.8	203	5.8
63	1.8	99	2.83	134	3.83	169	4.83	204	5.83
64	1.83	100	2.86	135	3.86	170	4.86	205	5.86
65	1.86	101	2.89	136	3.89	171	4.89	206	5.89
66	1.89	102	2.92	137	3.92	172	4.92	207	5.92
67	1.92	103	2.95	138	3.95	173	4.95	208	5.95
68	1.95	104	2.98	139	3.98	174	4.98	209	5.98
69	1.98	105	3.0	140	4.0	175	5.0	210	6.0
70	2.0								

TABLE V.—Ammonia Coefficient expressed as a Percentage to the Nearest Integer.

Drops of N/10 Alkali.	Percentage Urea.														
	0.8	1	1.2	1.4	1.6	1.8	2	2.2	2.4	2.6	2.8	3	3.2	3.4	3.6
1	2	2	3	1	2	1	1	1	1	1	1	1	1	1	1
2	4	3	3	3	2	2	2	2	2	2	2	2	2	2	2
3	6	5	4	3	3	3	3	3	3	3	3	3	3	3	3
4	8	6	5	4	4	3	3	3	3	3	3	3	3	3	3
5	10	8	6	5	4	4	4	4	4	4	4	4	4	4	4
6	12	9	8	6	5	5	5	5	5	5	5	5	5	5	5
7	13	12	9	8	7	6	6	6	6	6	6	6	6	6	6
8	15	12	10	9	8	7	7	7	7	7	7	7	7	7	7
9	17	14	12	10	9	8	8	8	8	8	8	8	8	8	8
10	19	15	13	11	10	9	9	9	9	9	9	9	9	9	9
11	21	17	14	12	11	9	8	8	8	8	8	8	8	8	8
12	23	18	15	13	12	10	9	8	8	8	8	8	8	8	8
13	25	20	17	14	12	11	10	9	8	8	8	8	8	8	8
14	27	21	18	15	13	12	11	10	9	8	8	8	8	8	8
15	29	23	19	16	14	13	12	11	10	9	8	8	8	8	8
16	31	25	20	18	15	14	12	11	10	9	8	8	8	8	8
17	33	26	22	19	16	15	13	12	11	10	9	8	8	8	8
18	34	28	23	20	17	15	14	12	11	10	9	8	8	8	8
19	36	29	24	21	18	16	15	13	12	11	10	9	8	8	8
20	38	31	26	22	19	17	15	14	12	11	10	9	8	8	8

## TREATMENT OF DIABETES BY RAW FRESH GLAND (PANCREAS).

BY

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THERE are many theoretical objections to the use of raw pancreas by the mouth in the treatment of diabetes; the chief are:

1. That the internal secretion of the gland is destroyed and thereby rendered inert by the action of the gastro-intestinal ferments.

2. That the administration of raw gland by the mouth has been tried before in the treatment of diabetes, and has failed in the hands of careful observers.

3. That it is difficult to be certain that the right part of the gland is being administered when given by the mouth.

In spite of these and other objections the use of raw fresh gland has yielded such striking results during the two and a half years I have been using it that I think they are worth recording.

I find that raw gland seems to do all that insulin does in a diabetic case, while it is free from the grave risks attendant on the use of insulin (for example, hypoglycaemia). While so far I have not used it in a sufficient number of cases to claim that it is a complete substitute for insulin, the facts I have collected point in that direction. It renders the urine free from sugar within twenty-four hours of the initial dose; it lowers the blood sugar, and the ketone bodies disappear from the urine. This clearance in twenty-four hours has occurred in all cases in which the raw gland has been used. It has been found that if in the course of routine administration the gland is withheld the sugar constantly reappears in the urine.

The method used in the administration of raw gland is as follows:

The patient is first carefully dieted and kept at rest. If this fails to clear the sugar from the urine he is at once given raw gland and a diet arranged according to his weight and the type of work he has to do. The first essential is that the gland should be perfectly fresh. In this I think lies the explanation of the failure of other observers to obtain any useful results with raw gland. I found repeatedly that after keeping and heating the gland was useless; even if taken in large doses sugar invariably appeared in the urine of the patient. So that it seems probable that the internal secretion of the pancreas is a labile substance easily destroyed and rendered inert by heating and keeping.

In the second place it must be given raw, and is best given finely minced. Cooking in any degree renders it useless. The dose which I have usually given—more or less an experimental one—is one tablespoonful of the raw fresh gland substance daily; in one case I found that a tablespoonful every other day just kept the urine sugar-free, only a faint reaction being given on the "off" days. I am now beginning to try larger doses as I feel sure there is no risk of inducing a condition of hypoglycaemia with raw gland, as there is with insulin. The raw pancreas is obtained from the butcher, and whether it be that of sheep or ox or pig does not seem to affect the result.

The first case in which I tried the oral administration of raw fresh gland was in a panel patient, a man who was suffering from a severe form of diabetes, ketone bodies being present in his urine. This was in the summer of 1922, before the introduction of insulin. I first examined him in the spring of 1922, and after treating him for some time sent him into the local hospital. He was admitted and treated by a variety of diets (Allen and modified Allen, etc.), all of which signally failed to do him any good, and he rapidly became emaciated. He came back to me in June, and as an experiment I suggested to him that he should try a tablespoonful of raw fresh pancreas daily. The result was striking: his urine became rapidly sugar-free and he began to put on weight. After three weeks of gland treatment he felt so well that he returned to work, and has since held a responsible position as foreman engineer in an ironworks. Recently—that is, after a lapse of two and a half years—he visited me again, and I found him well nourished, and discovered that he was still carrying on the gland treatment; he informed me that he had not lost a day's work in the interim. I got his blood sugar tested, and found that it was 0.129 per cent.; his urine was sugar-free, but became loaded with sugar when I got him to stop taking the gland for a day or two.



In a number of other cases (about six in all) treated with raw gland by the mouth the same results were obtained. One case (a woman) is worth referring to, as she was treated with both raw gland and insulin, and a comparison of the results obtained seems to indicate that she did better on the former than on the latter.

This patient commenced gland treatment in the spring of 1924 and did very well. In June of that year I described my gland treatment to one of the honorary physicians on the staff of one of the Sheffield hospitals, and on my suggestion he admitted her to his wards so that gland treatment might be carried out under test conditions. Unfortunately, before she was seen by the physician in question an over-zealous house-physician gave her an injection of insulin, and this treatment she has carried on at home since her discharge from hospital.

Comparing her condition now (on insulin) with what her condition was in the spring of last year (on gland) I find that she has lost weight, does not feel so well, and some sugar is to be found in the urine.

These facts encourage me to think that raw fresh gland by the mouth is a substitute for insulin, and that it is a very much better form of treatment, as it is perfectly safe and free from the grave risks that may attend even a small dose of insulin; furthermore, it is less irksome to the patient and less troublesome to the doctor in charge—for all who have had much experience of insulin will agree, I think, that insulin treatment is both troublesome and irksome and fraught with considerable risk to the patient.

It may be objected that the eating of raw gland is a loathsome thing; but patients on gland treatment inform me that it forms quite a delicious meal, especially when taken with lettuce—reminding us in this respect of phthisical patients on raw or very much underdone meat, who tell us how difficult they find it to return to cooked chops and steak, which seem tasteless to them after being used for so long to the more palatable and tasty fare of raw meat.

## THE PREVENTIVE MEDICINE OF THE EAR.\*

BY

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It is stated that a learned lecturer on surgery used to preface his lecture on diseases of the ear somewhat as follows:

"There are two kinds of deafness: One, the curable, due to wax, which we treat ourselves, and the other, the incurable, due to some other cause, which we send on to the specialist."

There is a good deal of truth in this statement, and it is certainly of value to inquire to what extent deafness, not due to obstruction in the external ear, can be influenced by treatment. That acute middle-ear deafness can be cured, sometimes with complete return to normal hearing, is within the experience of everyone; but can any real improvement in hearing result when the deafness is due to the chronic disease of the middle or internal ear?

Let us take the middle-ear cases first. They divide themselves naturally into the suppurative and non-suppurative. Where there is chronic suppuration in the middle ear this can in most cases be cleared up by treatment, but the perforation does not heal and the hearing but rarely improves, and not a few patients do not really thank one for drying up their ear, as they can hear better when it is moist. In middle-ear deafness without perforation of the drum, of the chronic catarrhal type and its many modifications, the outlook is, perhaps, a little more hopeful. In recent cases treatment of a septic focus in the nose, nasopharynx, or pharynx, or catheterization of the Eustachian tubes, may result in benefit to hearing, but the improvement is but rarely marked, while the results of treatment for internal-ear deafness are, I think, even more hopeless.

This does not mean, however, that we can do nothing for the sufferer, for though chronic deafness is very often

a progressive disease, it is also in many cases a disease that can be arrested. If we can induce a suppurating ear to dry up and cease to discharge and remain in this satisfactory condition, although no improvement in hearing may take place, any increase in deafness generally occurs very slowly. In cases of middle-ear deafness, also, without perforation or suppuration, much more can be done to arrest the disease than is frequently thought, though not to cure it. Some authorities are accustomed to label all cases of middle-ear deafness in which other members of the family have suffered in the same way, and where low pitched tuning-forks cannot be heard by air conduction, as oto-sclerosis, and, having made up their minds that oto-sclerosis is a progressive disease uninfluenced by treatment, to do nothing further for the patient. I do not for a moment deny the existence of the pathological changes described by Fraser, Gray, and others in connexion with cases of middle-ear deafness with the above symptoms, but I personally can recall only one case of middle-ear deafness in which the nose, nasopharynx, and ear drums appeared perfectly healthy and in which a clear history of previous trouble in these regions could not be obtained when carefully inquired for. A slowly progressive inflammatory process in the middle ear, started and maintained by some infection from the nose or nasopharynx, may apparently go on for years without giving rise to any appreciable deafness, and only when the region of the ossicular joints or the secondary membranes are involved may deafness come on. I feel, therefore, very strongly that even in cases where considerable deafness exists it is our duty to treat any septic focus that may be found, in the hope, not of appreciably improving the hearing, but of preventing further deterioration. Especially is the removal of nasal obstruction or sepsis likely to be of value in cases in which the hearing varies from day to day, or where immediate improvement in hearing follows the passage of a Eustachian catheter. I know quite well that there are some cases that nothing will touch, and have learned especially to fear patients with atrophic membranes, who hear better in a noise. A large proportion of these cases give a history of earache in childhood, and though, when seen, all infection of the nose and nasopharynx may have disappeared, I believe that a good many of them are the result of inflammatory trouble during the early years of life, and that in these cases, although the causative infection in the nose or nasopharynx has disappeared, the infective process still continues in the ears. If this type of case is excluded, my experience leads me to the conclusion that in a large proportion of cases of slowly advancing middle-ear deafness the disease may be arrested or its progress much retarded by dealing with a neighbouring septic focus. I can recall only one case in which I have had reason to regret operation for nasal obstruction in the case of middle-ear disease, but I can remember many in whom the history of deafness, both before and after operation, has made me wish I had operated sooner. In the much fewer cases of internal-ear deafness, where a cause can be assigned, it should, of course, if possible, be removed. I have thought that the progress of those cases due to sclerotic changes in the vessels has been retarded by the adoption of a purin-free diet and flushing out the system by drinking quantities of hot fluids, but it is difficult to be sure of this.

### THE PREVENTION OF DEAFNESS.

If the foregoing conclusions be accepted it must of necessity follow that since little or nothing can be done by way of treatment for deafness, except to arrest the progress of the disease, the right thing is to get hold of cases early and deal with the sepsis or other condition producing the trouble; or, better still, to deal with the cause even before the effect is produced. So that the whole art of medicine, as far as the ear is concerned, is preventive—by either dealing with the hygienic of the mouth, ear, nose, or throat, before any changes in the ears occur, or, if this is not possible, directly there is the slightest indication of the commencement of mischief in the ear.

It is most important to remember that, with the exception of tumours, practically all diseases of the ear are due to

\* Abridged from a lecture given before the Society of Medical Officers of Health.  
† Dr. Kerr Love states that about 1 per cent. of the school children of Glasgow have chronic suppuration of the ear. (*Diseases of the Ear in School Children, 1919*)

trouble elsewhere, and that in by far the greater number of cases the disease starts in the middle ear. Further, it must not be forgotten that in practically all cases of chronic middle-ear trouble, and in most acute cases, the ear disease is an extension of some chronic sepsis in an adjacent region, and even when acute otitis follows one of the exanthemata, that a septic focus is nearly always present. Hence, in middle-ear suppuration following recovery from the disease. To operate for mastoid disease without searching for a septic focus before discharging the patient is as foolish as to open an appendix abscess without searching for the appendix.

The results of careful attention to general hygiene, and especially to that of the mouth, nose, and throat, in preventing deafness is very striking, and it is noticeable how large a proportion of the working classes over the age of 30, who for the most part have had the misfortune to lack this in the past, have some impairment of hearing. Sir George Newman, in his annual report for 1923 as Chief Medical Officer of the Board of Education, tells us that the percentage of children found on routine inspection in London with defective hearing has during the last ten years been halved, and that in Cambridge and Exeter the results have been even more striking; but he hastens to add that while this satisfactory result has been obtained in connexion with children of school age, the proportion of children going to school for the first time at the age of 5 or thereabouts with ear disease has hardly changed at all. This clearly points, as do many other facts, to the necessity of dealing with the beginnings of disease in children below school age, and that it is imperative that the commencement of the disease should be recognized and the first preventive measures taken in the infant welfare centres or the nursery schools. Mastoid disease calling for operation is by no means rare in babies of less than 12 months, and I am of opinion that otitis media is much more common in infants than is generally supposed. I have seen babies with red inflamed drums apparently quite well and happy and but little disturbed by the condition. When an infant or young child persistently rubs his ear, or frequently rubs the back of his head on his pillow, it should be taken as an indication of some ear disease and a careful examination carried out; if adenoids are present they should be removed. The removal of adenoids even in a baby a few days old is a very simple matter, if the proper sized curette is made use of, and it is remembered that, since it is impossible to insert the finger into the nasopharynx of a babe, the curette must serve for both diagnosis and treatment. No anaesthetic is needed, and most babies are quite prepared to enjoy a meal within a few minutes of the little operation, and appear little, if at all, inconvenienced by it. In children who are old enough to tell us when they have pain, two complaints of earache should be sufficient to determine a careful examination for adenoids,\* and if they are present even in small quantity they should be removed. Whether the tonsils, unless obviously diseased, should be removed at the same time is a moot point, and all I would like to say here is that on several occasions in which I have removed adenoids only, the subsequent history has led me to regret that I did not remove the tonsils at the same time.

But we ought to be able to prevent ear disease without waiting for deafness, pain, or other ear symptoms. Babies who cannot take the breast or bottle properly usually have adenoids. These should be looked for and removed. Every child also with a running nose needs immediate treatment, for not only may this condition directly encourage the growth of adenoids, but also, possibly without the existence of adenoids at all, a chronic infection of the ear may result. In addition to general hygiene and a sufficiency of vitamin-containing food and fats, there are four points especially worth remembering in the prevention and cure of chronic rhinitis and its ear complications in children.

1. In visiting a number of nursery schools last year I was especially struck by the difference between the children in the open-air and indoor schools. Anything from 10 to

\* The examination of the nasopharynx of several hundred boys, aged from 9 to 16, by the mirror, has shown that some quantity of adenoids was present or had been removed in about 80 per cent.

40 per cent. of the children shut in rooms, even though some windows were open, had running noses, whereas in the open-air schools I saw but one or two. It is not always understood that open-air schools need not be very cold even in winter if an efficient system of heating is installed.

2. As soon as children are old enough they must be taught to blow their noses at frequent intervals. They should not pinch the nose with a handkerchief, but should hold the handkerchief a few inches below the nose and blow into this, at the same time blocking one or other nostril by a finger pressed on to the side of the nose. It is wonderful how early a child will learn this if carefully taught.

3. A little ointment composed of 1 to 3 grains of menthol and 2 to 8 minims of oil of eucalyptus to the ounce of vaseline, applied to the interior of the nose at bedtime, is often a very considerable help in keeping the nose clear and preventing discharge.

4. Constant nose-breathing must be insisted upon. It is but little good to operate for tonsils and adenoids for the prevention or treatment of middle-ear deafness unless at the same time the child is taught to breathe constantly through the nose. I have seen cases in which tonsils and adenoids have been completely removed, but in which the habit of mouth-breathing still remained, and in which the nose steadily progressed until this habit was got rid of. To cure children of mouth-breathing deep breathing exercises are very helpful. In these the mouth is kept constantly closed, both during inspiration and expiration, and breathing is carried on entirely through the nose. Children are still taught to breathe in through the nose and out through the mouth by some teachers. This is exceedingly harmful, for the following reasons: In the first place, it is quite clear that no one can breathe in and out through the nose unless the nose is fairly clear—that is, free from excessive secretion—but it is quite easy to breathe in through the nose and out through the mouth with the nose full of mucus, as each inspiration draws this material further back until it reaches the pharynx and is swallowed by the child. Inspiration is followed by expiration, after which there is a very short period of rest. At the conclusion of expiration with the mouth open the child finds itself in a position in which a definite muscular effort (that is, shutting the mouth) is required before starting the next inspiration; if it is to be a correct one. There is a strong tendency for the child to start the new inspiration, as he finished the previous expiration, with the mouth open. It is essential, therefore, that all breathing exercises should be carried out with the mouth closed the whole time. They should be repeated frequently rather than carried out for a longer period at less frequent intervals. At night a piece of 1-inch rubber adhesive plaster about 2 inches long can be placed vertically between the upper and lower lips, or a piece of thin rubber sheeting, such as dentists use, 6 or 8 inches long by 2 or 2½ inches wide, can be placed over the lips and tied tightly at the back of the neck by tapes at the four corners. In many cases, however, the cure of mouth-breathing cannot be carried out except by constant supervision of the child by someone whose business it is to remind him to close his mouth whenever it is seen open.

## PRACTICAL POINTS ON PELVIC PAIN.

BY  
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At the December meeting of the Edinburgh Obstetrical Society Professor Rauken Lyle of Newcastle read a paper on pelvic pain in its relation to neurasthenia, which provoked certain thoughts in me which I here seek to set in order.

I gather that Professor Lyle finds many patients who complain of pelvic pain, and who may or may not be found to have some demonstrable pelvic abnormality—for example, a uterine displacement—but whose symptoms he ascribes to neurasthenia and not to anything abnormal found in the

pelvis on examination, and whom he treats on anti-neurasthenia lines, with favourable effect in a good proportion of cases. The paper raised much discussion and a considerable amount of good-humoured adverse criticism. I do not write this paper with a view to criticism.

I shall attempt no proper definition of the condition called neurasthenia, but perhaps, for the purpose of this paper, a sufficient working definition would be that neurasthenia is a state in which the vital processes (nervous, etc.) are working on a lower grade than their usual and proper standard. Thus a lack of balance is set up between the result required and the means of producing that result. To all appearance the organs may be perfectly healthy.

The question may be asked, Can pain be caused by this upset of balance alone? I think it is reasonable to suppose that such may be the case. We should hardly be aware that we have internal organs—heart, lungs, stomach, and so forth—because they should act so perfectly that no inconvenience is caused. But if the workings are with effort (that is, on the part of the vital processes), then surely it is to be expected that discomfort will be the result, and this, accentuated, may develop into actual pain, the tissues being healthy otherwise. It is just as in the case of a wheel rotating stiffly, or even with squeaking, if the oil has run dry. The wheel and its bearings are all right, but there is a lack of proportion between the rotations taking place and the amount of oil available for efficient running.

No doubt neurasthenia is accountable for much trouble even of an apparently localized sort, but one must not be guilty of making such a diagnosis too easily. It is a tempting diagnosis to make, for the word has an attractive ring about it—it sounds almost scientific—and it pleases the patient's friends and solaces the doctor's diagnostic conscience. But what of the poor sufferer, who all the time may be afflicted with a really painful organic disease?

The first advice I would offer is: Diagnose neurasthenia last of all, after carefully excluding all other possibilities, the doctor not confining himself to gynaecological possibilities. I would suggest two safeguards against the too hasty diagnosis of neurasthenia in cases of pelvic pain.

First safeguard: Examine such patients first of all without an anaesthetic in order to localize the pain and to estimate, as nearly as possible, its severity. In virgins a rectal examination should suffice, along with a careful abdominal examination instead of a vaginal one.

But, one may say, a neurasthenic patient is sure to make a fuss and complain of tenderness whether it is there or not. This may be so far true, but if the site and degree of tenderness are the same on more than one occasion, the circumstantial evidence will be strong in favour of an organic lesion. Also, I think the experienced examiner will seldom be deceived. I should say that a tenderness due solely to a neurasthenic state is not likely to be so intense nor so constant as a tenderness due to an organic lesion. This, however, may be a debatable point.

Having examined in this way and formed an estimate of the presence, site, and degree of tenderness, an examination under a general anaesthetic may then be made, if required.

Second safeguard: Examine for the presence of regional cutaneous hyperaesthesia. This is, in my opinion, of some value if positive for a given area in intelligent patients, but it is of little moment, probably, except as an adjunct to other methods of examination. This test, giving a negative result, may be considered as almost, if not quite, valueless.

The next point I bring forward about pelvic pain in women is that it is, in my experience, very much more common on the left side than on the right. I think this will be readily conceded by gynaecologists. There are certain anatomical conditions which would appear to explain this inequality.

(a) The presence of the pelvic colon on the left side may predispose to pain in three ways:

1. The loaded colon may sag down into the pelvis and lead to pain from dragging on the mesentery.

2. Overdistension of the pelvic colon may lead to colicky pains, especially if the faeces are large and

hard and tend to become impacted in the rectum. On the other hand, colicky pains in themselves are possibly more commonly complained of on the right side in the region of the caecum and appendix.

3. The loaded pelvic colon or rectum may cause direct pressure on the left ovary in a way in which the caecum is very unlikely to do on the right one, especially if the ovary is prolapsed into the pouch of Douglas, as is often the case in conjunction with retroversion or retroflexion of the uterus.

(b) Pelvic varicocoele. I believe this is a condition which is more common than is often supposed. It is not easy to diagnose from examination, as the veins are apt to empty when the patient is lying down. For the same reason it is not usually very marked when the abdomen is opened, especially if the Trendelenburg position is employed. If the condition is suspected from symptoms, it would seem wise to examine the patient per vaginam in the erect attitude, and preferably after she has been going about or standing for some considerable time.

One would expect pelvic varicocoele to be more common on the left side than on the right, since the left ovarian vein passes upwards to enter the left renal vein at right angles, there being no valve at the junction of the two veins. The right ovarian vein enters the inferior vena cava at an acute angle, the flow of blood in the two vessels being almost in the same direction. The orifice where the right ovarian vein joins the inferior vena cava is guarded by a valve. Thus there is more liability for backward pressure to take place on the left side than on the right.

Constipation, as well as anatomy, may be a predisposing factor in this condition of pelvic varicocoele, especially on the left side. An attempt must early be made to overcome constipation in cases of pelvic pain due to conditions (a) and (b).

We are now in a position to take a further step and consider certain lines of treatment which may be adopted. Let us suppose that the condition is something like this: The patient suffers from pelvic pain on one or other side, and this has lasted, in all probability, for several months at least. She has had drug treatment and her bowels have been attended to. Still the pain persists. It may be aggravated by menstruation, but not necessarily so. Examination without an anaesthetic elicits definite tenderness in one or other lateral fornix, the degree and site being unchanged to any marked extent on re-examination. An area of cutaneous hyperaesthesia corresponding to pelvic organs, such as ovaries, may have been mapped out. Such conditions as chronic appendicitis, ureteral stone, etc., have been ruled out. Neurasthenia has been carefully considered but has been excluded; or treatment for neurasthenia may have been unsuccessfully tried. Something must be done, as the patient is obviously suffering genuinely, and yet nothing but localized and persistent tenderness can be made out.

In such a case surely one is justified in recommending an exploratory laparotomy. After all, a bimanual examination is not always very conclusive. It is not a very fine test, and it varies in its acuteness with the skill and experience of the examiner, as well as with the condition of the patient—for example, as to adiposity and muscular resistance. So we open the abdomen and find things fairly normal. If there is some cystic condition of the ovary, such as a small luteal cyst, a partial resection of the ovary may be done, or follicular cysts may be punctured, although it is a question if they cause pain, as they are in so very many cases symptomless, being so common as to be hardly pathological when small. But if nothing at all is found to be abnormal, and yet one feels quite sure that the tenderness was definitely referable to tube or ovary of one side, can nothing be done? Are the alternatives only to close the abdomen and so give no relief to the patient, or to remove an apparently healthy ovary and tube, or ovary alone? I think a middle course may lead to success in at least a certain number of cases. At any rate, it may well be tried.

It seems reasonable to suppose that something of the

nature of neuralgia may at times attack the ovary, an organ well supplied with nerves.<sup>1</sup> If so, it is reasonable to treat such a condition in the same way as neuralgia elsewhere. If drugs have failed, then operate. The injection of alcohol would hardly be recommended for ovarian pain, but the nerve supply, or a considerable part of it, if not all, may be cut off by simply dividing the suspensory ligament of the ovary. This, of course, means division of the ovarian artery and vein too, but the ovary will still have a sufficient blood supply to keep up its nourishment, and, that being so, ovulation and endocrine secretion should not be interfered with, unless the division of its nerve supply should so far impair these functions, which is not likely.

This treatment would particularly apply if there were only one remaining ovary in a patient who had not reached the menopause. The pain must be relieved in some way, and the ovary must be spared if possible. On the left side the division of the ligament may serve to straighten out the pelvic colon and thus help the flow of contents. No claim to originality is made here for the idea of dividing the ovarian nerve supply, but the suggestion seems a practical and reasonable one, and therefore I emphasize it.

I should like, in conclusion, to stress the two points brought forward early in this paper:

1. Diagnose neurasthenia last of all, after excluding all likely causes of pelvic pain.

2. In cases of pelvic pain make it a rule to examine first of all without an anaesthetic, even if such is necessary for a full diagnosis afterwards.

#### REFERENCE.

<sup>1</sup> Abel and McIlroy: *Proc. Roy. Soc. Med., Obstet. Sect.*, May, 1913, vol. 6, No. 7, p. 240.

## DIPLOPIA IN ENCEPHALITIS LETHARGICA.

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BRISTOL EYE HOSPITAL.

THAT diplopia is one of the earliest symptoms of encephalitis lethargica is well known. The diplopia may, of course, be that typical of an involvement of one or more of the extrinsic ocular muscles and may occur with or without a manifest squint, but cases also occur in which the diplopia cannot be attributed to this cause. The patient in the following case is typical of many who, during a recent epidemic of encephalitis lethargica in this city, applied to the ophthalmic clinics for relief of the diplopia.

A girl, aged 19, complained of diplopia. Two evenings before seeing me she had headache and giddiness and felt sick; on the following morning she awoke with diplopia; it was very troublesome when looking at distant objects, but was hardly present at all in near vision. There was no drowsiness. The temperature was 101°. There was no history of any recent illness. Examination of the eyes showed no ptosis, no manifest squint; the pupils were normal in size, equal, and reacted to light and accommodation. The movements of both eyes were normal. Both optic discs and fundi were normal. Examination of the diplopia showed it to be homonymous, with erect images, the unusual feature being that there was no alteration in the relative positions of the two images in any of the six cardinal directions of gaze. The first examination was carried out with the candle at 3 metres from the patient; a second examination at 5 metres showed the two images to be further apart than they were when the examination was performed at 3 metres, but again their relative positions remained the same in the six cardinal directions of gaze. On approximating the candle to 2 feet from the patient the diplopia ceased to exist in any of the six cardinal directions of gaze.

This case could not have been one of paresis of any individual muscle, as there was no increase in the distance between the true and false images in the direction of action of any muscle; nor could spasm of accommodation produce this type of diplopia, as in this case the double vision would have increased as the object was brought nearer the patient and diminished the further it was removed.

The diplopia disappeared in a week from its onset and the patient made an uneventful recovery, for the time being at any rate. No convergent squint ultimately appeared, as has happened with some of the patients under observation.

It is probable that these cases represent a rather rare condition of paralysis of divergence. Dunnington<sup>1</sup> of New York describes in detail three exactly similar cases occurring in an epidemic of encephalitis, and Holden<sup>2</sup> one such case, but these writers would appear to consider the condition to be one of great rarity, whereas in our series of cases this type of diplopia was so common as an early symptom that we began to regard it as pathognomonic of the disease in this particular epidemic. Another interesting fact was that this type of diplopia, with giddiness and rise of temperature, were the only symptoms complained of, and that many of the patients showed no other symptom but made a rapid recovery. That we were dealing with encephalitis lethargica was clearly manifested by the fact that a few of the patients with these symptoms developed the more serious accompaniments of the disease at a later date.

Duane<sup>3</sup> points out that the power of divergence is an active as well as a passive movement, and is brought about by a simultaneous equal contraction of both external recti accompanied by a simultaneous equal relaxation of both internal recti. This complex action is controlled by a definite nervous mechanism, and the loss of power means an innervational disturbance and not a muscular defect. This mechanism is probably controlled by a centre situated close to the sixth nerve nucleus. This would explain the fact that these cases are often followed by convergent strabismus due to a sixth nerve lesion. In making a diagnosis, paralysis of divergence is easily confused with paresis of one of the internal or external recti muscles, but can be differentiated by observing that the diplopia does not increase in the direction of action of these muscles, and that the separation between the true and false images remains unaltered so long as the distance between the eyes and the object is kept constant.

#### REFERENCES.

<sup>1</sup> Dunnington: *Arch. of Ophthalmol.*, vol. III. <sup>2</sup> Holden: *Ibid.*, vol. I.  
<sup>3</sup> Duane: *Ibid.*, vol. XXVII.

## PAROXYSMAL TACHYCARDIA IN AN INFANT.

BY

J. L. O'FLYN, M.R.C.S., L.R.C.P.,

BARRY, GLAM.

IT will be of interest to record this case of paroxysmal tachycardia on account of the very early age of the patient, and because it is an outstanding example of the vast amount of distress a young child's heart will stand.

The patient was a female child, aged 8 months, and the attack lasted for eight days without cessation. The heart could at no time be counted, but was roughly estimated at somewhere about 200 to 300 beats to the minute. The onset of hepatic pulsation, Cheyne-Stokes breathing, and severe bronchitis during the illness all had apparently no detrimental effects on the recovery. The child is the youngest of a family of three, having been born quite normally and fed on the breast, and the breast alone, up to the time of the illness. She had been examined at the local clinic at about the age of 6 months, and was found to be a perfectly healthy, contented, and exceptionally well nourished baby. The mother and the other children are all quite healthy, and the former undoubtedly makes an ideal mother.

I was called to see the baby on a Thursday afternoon because the mother had become anxious about its condition during the previous night on account of vomiting and restlessness. The child had been ill the whole night, but the mother had concluded that she was tired by a journey into Cardiff and a long day out in the sun the day previous. The mother noticed that the urine had become scanty, the evacuations a trifle loose and green, and that there had been no desire for food; this was most unusual in a child who had been accustomed to be most hearty.

The baby, when I first saw it, was apparently in no serious condition; its cheeks were rosy, its breathing was natural, and it had all the appearances of a child who was in perfect health but who was apparently somewhat restless and irritable as the result possibly of an irritable tooth. The temperature was just 96°, but no pulse could be felt at the wrists. There was nothing to be discovered in its abdomen nor on rectal examination. The chest, as far as the lungs were concerned, was devoid of physical signs. The nervous system was normal, all the reflexes being present and

normal in response, but during the examination the child had one or two convulsive attacks of a very slight degree. On examination of the heart, however, it was found to be beating very forcibly and at such an extraordinary rhythm that it was impossible to count. There was, as far as one was able to make out, no valvular or muscular disease or deficiency.

On this evidence, the green stools, the convulsive attacks, and the extraordinary cardiac rate, I concluded that the child was suffering from intestinal irritation and toxæmia, and advised treatment with castor oil, hot baths, rectal wash-outs, and 1-grain doses of hydrarg. c. creta. The child seemed to improve after the first hot bath, but the heart did not slow down at all. A restless night followed, and when morning came I advised consultation with another practitioner, Dr. Owen Jones, who confirmed the bad prognosis. Dover's powder (1 grain) was given three times a day, and certainly afforded a little more rest that night, but had no effect on the heart, and the following day hypodermic doses of digitalin (1/100 grain) were continued every four hours, with brandy and milk by the mouth. On the evening of Saturday, as the child had not improved and the heart condition showed not the slightest response to digitalin, I further advised a consultation with Dr. Ivor Davies of Cardiff, who saw the child with me that night, but nothing fresh was discovered. Lumbar puncture was performed, and cerebro-spinal fluid, which was under great pressure, was removed to about 3 c.cm. It was clear, and to the naked eye normal. A hypodermic injection of camphor in oil was given and the digitalin was repeated every four hours throughout the night.

The following day, Sunday, there was still no change. The child was put back on to the breast and took the feed quite normally without distress throughout the day. The liver had become enlarged and pulsated, and the heart was a trifle outside the nipple line; the rate remained the same. Digitalin was repeated throughout the Monday, but had no effect on the heart. Doses of atropine sulphate (1/200 grain) were administered without effect. Cheyne-Stokes breathing set in on Monday night, and I concluded that the child could not live until the morning, although its appearance remained good.

On Tuesday the temperature rose to 102° and râles developed at both bases. The heart beat as rapidly as ever. Atropine was again repeated, with no success. A tight abdominal binder in place of a knitted one was applied that night, but it gave rise to such distress in so short a time that it was at once removed. On Wednesday the cough became much more distressing and the symptoms more alarming. A steam tent was fixed up, all stimulants were withdrawn as useless, and the breast feeds with meat extracts only were continued. On Thursday morning, the eighth day of the attack, the heart still continued in its delirium, after a rather more peaceful night, but the bronchitis seemed improved and the child seemed less distressed. About midday the nurse noticed a change in the child. Its pulse was once more to be felt at the wrist; it passed a large quantity of urine, and in every way seemed better. On examining the heart it was found to have regained its normal rate. The liver was once more its normal size, and the breathing was more natural.

In November, 1924, the child had another attack, which lasted only twenty-four hours. The heart had been carefully examined during the interval and found to be perfectly normal. An attempt was made to take an electro-cardiographic tracing, but the age of the patient made it most difficult. In spite of this a normal tracing was produced.

*Note by* IVOR J. DAVIES, M.D., M.R.C.P.

The infant was seen in consultation two days after the onset of the illness, and, although semi-conscious, was but little distressed by the tachycardia, being most comfortable when nursed in an upright position. The colour was good, and respiration, though normal, the pulse could not be felt at the wrist, but was feebly present in the brachial arteries. The temperature was normal. The sounds were best heard in the fifth space just within the nipple line, and were clearly audible for a short distance outside this position, and tic-tac in character. There was no bruit. The rate was very rapid and could not be estimated with any degree of accuracy. The lungs showed a little congestion of the bases. The liver was palpable a fingerbreadth below the costal margin. There was no muscular spasm. The abdominal and tendon reflexes were normal. The lumbar puncture was performed without discomfort and with results as described.

A diagnosis of simple paroxysmal tachycardia was jointly made, because of the abrupt onset following some gastro-intestinal disturbance, the marked tachycardia, which was apparently unaffected by posture or the exertion of crying or by digitalis, and the absence of evidence of any underlying infection. This opinion was subsequently confirmed by a sudden termination with the passage of a considerable amount of pale urine. A guarded prognosis was given because of the signs of early heart failure, but on the whole our view inclined to recovery.

A firm abdominal binder caused discomfort and was discontinued. It was decided to rely mainly upon the small doses of opium and frequent small feeds, which were very well taken.

The occurrence, a few months later, of a second attack, with similar features but of brief duration, makes the diagnosis of paroxysmal tachycardia practically certain. The child appeared to be perfectly healthy and lively a little later when brought up for electro-cardiographic examination. After much difficulty the mother succeeded in keeping the child quiet for a few minutes, and a tracing was successfully taken. The record was normal in all respects.

## Memoranda:

### MEDICAL, SURGICAL, OBSTETRICAL.

#### A CASE OF AVULSION OF THE PARTURIENT UTERUS.

In the spring of 1915 I was asked by my friend, the late Dr. X, to give an anaesthetic for him in a midwifery case he expected to attend in a few weeks. I declined to do this, but offered to help him in any other way if he required more assistance. I heard nothing for some little time, until one morning he asked me to see the woman, who had been confined during the night, as soon as possible. He told me that Dr. Y (now dead) had helped him, and I stipulated that Dr. Y should be told of my visit and asked to be present. The invitation was given, but not acted upon.

Upon arriving at the house Dr. X told me that Dr. Y had delivered the woman with forceps, and that he, Dr. X, had given chloroform. The woman had had several children and had always required help in this form. After the child was born Dr. Y removed the placenta (query, by traction on the cord), and, making a further vaginal examination, said, "There is a large fibroid hanging in the vagina; I think I can pull it out." Then, what Dr. X described as "a frightful struggle" took place, and eventually Dr. Y pulled a large mass out of the vagina, looked at it, and, without saying a word, took it downstairs with him. The patient bled furiously for a short time and became very ill. As soon as she rallied Dr. X went downstairs and found Dr. Y sitting gazing at the supposed fibroid, which was on a dish in front of him. Dr. X asked, "Is that the uterus?" and Dr. Y admitted that it was. They discussed what was to be done, and they decided to burn it, and the uterus was put on the fire and covered up with coal.

After upbraiding Dr. X for allowing the destruction of the specimen, I went upstairs to see his patient. She was very ill. Palpation of the abdomen proved the absence of the uterus, and this was confirmed when I made a vaginal examination to make sure that no intestine was prolapsed into the vagina. There being no complication of that sort, I decided that she had the best chance of recovery by not attempting her removal at that time. The vulva was cleaned up, an antiseptic pad applied, and all douching forbidden. Dr. X asked me to see her daily for a few days, and on the third day we were told that the woman was passing faeces from the vagina. We confirmed this, but made no alteration in the treatment, which consisted only of quiet, feeding, and external cleanliness.

After ten days or so I had her removed to the Southport Infirmary, where she could be better attended to. Some ten days later I had her taken to the theatre, and under a general anaesthetic, and with the assistance of Dr. W. A. Mackay, made a thorough examination. The uterus had gone. The opening into the abdominal cavity had healed up, the tear into the rectum was found high up in the vagina and was large enough to allow all faecal matter to pass through it.

As I had no permission to do any operation the woman was put back to bed and next day I offered to repair the recto-vaginal fistula after doing a preliminary colostomy. The woman declined to submit to this, and after she had regained her strength she was sent home. Dr. X some three or four years later told me that she had been sent to one of the Liverpool institutions for some operation, from the performance of which she did not recover.

Southport.

FRANCIS J. BILDON, M.B., C.M.

#### CONCURRENT HERPES ZOSTER AND VARICELLA.

On January 26th I was called to a man aged 73. I found him suffering from very intense herpes zoster of the right side, running across the right scapula, under the right axilla, and slightly upward on to the right thorax. He was also suffering from well marked generalized and typical varicella, including papules on the scalp. He was not ill. Dr. W. S. H. Briand of this town kindly saw him with me on January 27th and confirmed the double diagnosis. Both eruptions were typical. The herpes zoster came out, on



January 23rd and was painful; the first crop of generalized eruption came on January 25th; it itched, and the patient states that the feeling is quite different.

Within the last three years I have had two distinct cases in which an adult has had herpes zoster and a child contact has developed varicella just over two weeks later—in one case a man and his little niece, in the other a mother and her son and his little friend who was staying in the house at the time of the eruption of the herpes zoster and left a few days after; both children had the eruption at the same time. To my mind these three coincidences establish the relation of the diseases. The age of the patient whose case is described above is also of interest.

Herne Bay.

R. C. T. EVANS, M.B., B.S.

## SEVERE DERMATITIS PRODUCED BY THIAZOLES.

DEHYDROTHIOTOLUIDINE AND CERTAIN MERCAPTAN DERIVATIVES.

In connexion with investigations of the chemistry of the benzothiazoles which are being carried out in this laboratory, it has frequently been necessary to work with quantities of the well known dye intermediate, 4' amino 1 phenyl 5 methyl benzothiazole, or, as it is more commonly termed, dehydrothiotoluidine, and this base and certain related compounds have been found to have a peculiar action on the skin of the face and hands.

Hot solutions of dehydrothiotoluidine in contact with the skin produce an unpleasant form of dermatitis which is worst between the fingers of the experimenter; the irritation is intense during the first few days. The skin rises in practically colourless semi-blisters, which, on being broken, liberate an almost colourless infectious liquid which spreads the trouble.

Observations of this nature have already been made by other workers in the field of thiazole chemistry; thus A. von Hofmann (Berichte 1887, xx, 2251), at the end of one of his papers on amidophenylmercaptan, states that the vapours of this compound have a most detrimental effect on the skin, producing intense irritation and swelling, the affection spreading to all parts of the body which come into contact with the part attacked. I have observed a similar effect with the higher homologue of this compound obtained in the alkali fusion of dehydrothiotoluidine—that is, ortho-amino-parathioresol—which has a similar physiological action in contact with the skin. Baumann (Berichte 1887, xx, 2251), in connexion with his researches on mercapturic acid, states that effects similar to these were so severe that he was obliged to abandon his investigations on a number of occasions.

In my case the blisters, etc., on the first occasion lasted for several days. Bathing the hands with very hot water has the effect of removing the irritation to a certain extent; bathing with a 2 per cent. solution of phenol in water was also found to have a beneficial effect.

## CHLORACETANILIDES.

In connexion with researches on the synthesis of thiazoles it became necessary to investigate the series of changes:

Chloracetanilide → Thiocyanacetanilide →  
Labile ketothiazole → Stable ketothiazole

and hence necessary to work up quantities of the anilido derivatives of monochloroacetic acid which have been found to possess most unpleasant properties.

The arylamino derivatives of chloroacetic acid are highly poisonous substances; they attack the skin in a most disagreeable manner, producing symptoms similar to those of "poison ivy," causing violent irritation.

Chloroacetylparabromanilide is a most violent poison; so unpleasant are its physiological properties that Johnson and Bristol (*Journ. Amer. Chem. Soc.*, 1903, xxv, 484) were compelled to abandon their investigation on the thiohydantoins. This anilide apparently attacks the connective tissue beneath the skin, causing a superficial oedema and albuminuria, the effect lasting over a month. In my case, however, the customary tests for albumin in the urine gave negative results.

R. F. HUNTER, B.Sc., A.R.C.S., F.C.S.

## Reports of Societies.

### FIBROSITIS.

A DISCUSSION on the nature, prevention, and treatment of fibrositis took place at the Royal Society of Medicine on March 4th and 5th. The Sections of Balneology and Climatolgy, Epidemiology and State Medicine, Medicine, and Therapeutics and Pharmacology united for the purpose.

Dr. W. ENGECOMBE of Harrogate, president of the first of these sections, who took the chair, outlined the scope of the proposed discussion. He said that it must be limited to the non-articular forms of so-called rheumatic disorders; to include arthritis, with which anatomically and etiologically fibrositis was bound up, would make the subject too wide. He quoted the report of the Ministry of Health on the incidence of rheumatic diseases, issued early in 1924, to the effect that one-sixth of the industrial invalidity of the country was due to diseases classed as rheumatic; these diseases each year cost the approved societies nearly £2,000,000 in sick benefit, and involved a loss to the nation of three million weeks of work—this among the insured population alone. The interest of the discussion would chiefly centre around pathogenesis. Until recent years the condition was looked upon as of metabolic origin, but lately the importance of infection in the causation of fibrositis, as of arthritis, had been fully realized, and numerous observers had established the overwhelming part which infection played as an etiological factor. To such an extent indeed had infection been stressed that it might be the pendulum had swung a little too far in this direction. An important point for discussion was whether there were forms of fibrositis of purely metabolic origin and wholly independent of infection. It seemed clear that no one organism was responsible for the pains of fibrositis. Granted that infection by micro-organisms was the dominating factor, the soil for the infection had to be considered very carefully also. Many people harboured foci of infection without suffering from rheumatic manifestations until something occurred to break down their resistance. In some cases no source of infection could be found, and these might recover by treatment wholly directed to putting right the metabolic derangement, but it was extremely difficult to prove that there were cases of purely metabolic origin. The disturbances of metabolism with which fibrositis was most commonly associated were the gouty state, hyperglycaemia, and the results of dietetic errors. The frequent association of fibrositis and neuritis with hyperglycaemia lent support to the view that chemical changes alone were competent to give rise to the condition. If the metabolic origin were denied and the bacterial origin were regarded as universal, treatment on any other than antibacterial lines must be of little use. Treatment might be discussed from the aspects of prevention and of cure. Preventive treatment should embrace the better housing and occupational conditions of industrial workers, the avoidance of damp and chill, better ventilation, the provision of baths and drying-rooms at works, and so on, together with attention to the common sources of septic infection, such as the tonsils and teeth. General curative treatment included first of all the detection and removal of any source of septic infection, but it must also be directed to the underlying metabolic derangement. The local treatments were varied and well known. In his experience the results of vaccine treatment, though striking in a few cases, were disappointing in the majority, especially in the chronic forms, if this treatment was used alone without other measures. Spa treatment offered advantages in the management of these cases, and the Ministry of Health might seriously consider whether spa treatment could not be made available to large numbers of the industrial population whose working life was seriously interrupted by this invalidity. If a series of cases of sciatica or lumbago were sent for institutional treatment to one of the spas and were compared with controls in the shape of similar cases receiving the ordinary

domiciliary treatment, he believed it would be evident that spa treatment could effect a great economic saving.

Dr. J. A. GLOVER (Ministry of Health) gave a summary of the investigation conducted by the Ministry in 1922, when forty-nine practitioners undertook to act as observers with regard to the incidence of rheumatic disease among 92,000 insured persons. It was proved that fibrositis was extremely common. Out of 58,000 males of all ages from 16 upwards, there were 1,100 cases of fibrositis. Half of these were cases of lumbago, one-third were cases of muscular rheumatism other than lumbago, and nearly one-sixth were cases of sciatica or brachial neuritis. The figures for females were less dependable because so many women went out of insurance on marriage that it was difficult to get a fair sample. In muscular rheumatism, excluding lumbago, the female attack rate was considerably higher than the male in every age group. In lumbago, however, the male attack rate was far higher than the female at all ages, and in the youngest group (16 to 24) more than double. In the case of brachial neuritis nearly three women were attacked to every two men. The comparative absence of lumbago among women might be partly ascribed to the smaller occupational stress experienced by women on the lumbar muscles, and the same might explain the higher sciatica incidence in the male; but it was difficult to see why women should suffer more from brachial neuritis, unless it was accounted for by the greater openness of their dress. He gave some statistics obtained in Leipzig fifteen years ago, where the attack rate in males from 16 to 24 was nearly four times as great as in this country; this was not due to the inclusion in the Leipzig figures of attacks of lighter character, for the period of absence from work was longer in Leipzig all the way through. With regard to occupation, it was generally found that metal workers were particularly affected with lumbago, due, no doubt, not only to the heavy work, but to the liability to chill. Lead also was an occupational factor of importance; a considerable proportion—13 per cent. according to Goadby—of cases of lead poisoning showed rheumatic manifestations.

Sir WILLIAM WILCOX recalled that, four years ago, in a discussion at the society, when he mentioned the word "fibrositis" a smile went round the room, evidently due to the belief that this was a fictitious disease. Recent work had shown by actual microscopical and histological examination the existence of chronic inflammation in the tissues. The lumps and thickenings felt by a skilled masseur in the parts of the body affected by fibrositis had an actual existence. In France a good deal of attention had been paid to radiographic examination, and he exhibited some x-ray photographs taken by Dr. Gaston, of the St. Louis Hospital, Paris, which showed shadows in the vertebrae caused by a deposit in a severe case of fibrositis. It was well known that fibrositis resulted from a number of specific infections, such as gonorrhoea, bacillary dysentery, Malta fever, pneumococcal infections, the enteric group of diseases, scarlet fever, tuberculosis, and syphilis. The President had asked whether fibrositis was always due to bacterial infection. The speaker was bound to agree that metabolic conditions such as gout and toxic conditions such as lead poisoning were commonly associated with fibrositis, but he was inclined to take the view that in these conditions there was a superadded infection as well. In most cases of gout there was evidence of intestinal toxæmia. Everyone would agree as to the important part played by focal sepsis as a cause of fibrositis. In the appreciation of focal sepsis British medicine was far in advance of Continental. Often very careful search was needed to find the focus of infection. Sometimes a case of advanced arthritis or fibrositis was met with in which there was no obvious focus of infection, though he believed such cases to be comparatively rare. During the last four years he had had at least thirty cases of fibrositis where an x-ray examination had disclosed an opaque antrum, although there were no symptoms of any naso-pharyngeal disease. The antrum proved to be filled with pus, and the treatment of this condition was usually followed by rapid and progressive improvement. It was important to realize that when a focal infection had acted as such for a certain time it

would not be long before secondary infections followed, the colon might be invaded, or the tonsils or teeth, and one had to remember that there was lymphoid tissue not only in the tonsils but scattered through the pharynx and other parts of the body. Thus a secondary infection might go forward without any gross or obvious focus. Fibrositis was a kind of gauge which measured the balance between the infection and the immunity of the patient. Normally a certain amount of absorption of toxins of bacterial origin must be constantly taking place. In health the body fluids were able to neutralize these toxic substances; in fibrositis the toxins were in excess of the protective substances, and it was this excess which determined the degree of the fibrositis. He went on to call attention to two factors not generally realized at the present day. The first was the condition known as sensitization. In many of the cases in which the vaccines failed the reason was that the patient had become sensitized to the infection. Another important factor was the condition known as symbiosis. Here one found a disease caused by the infection of one organism lowering the resistance of the body to the organism causing fibrositis. This was seen excellently in people who had become infected by malaria; these were very susceptible to fibrositis, but if cured of malaria they could put up a fight against the *Streptococcus viridans*, and the cure of the fibrositis followed. The speaker regarded fibrositis, not as a disease, but as a symptom of toxæmia, and evidence of streptococcal toxæmia could be found in most cases on searching. With regard to prevention, what was needed was periodical inspection by those skilled in the search for focal sepsis. If only what was done to some extent in schools could be applied to a larger number of individuals an early development of focal sepsis would be recognized and dealt with, and the health of the community would be enormously improved. No field of public health was more promising. Most of the common disabling diseases which he saw in persons over 40 were due to focal infections. With regard to the treatment, he strongly deprecated the use of vaccines in fibrositis unless the focus of infection had been completely removed. Given this preliminary condition, vaccines were a help in selected cases. Intestinal disinfectants were useful, but not very great reliance could be placed on drugs. Various forms of electrical treatment, poulticing, and the application of heat were of service, and skilled massage in the chronic stage was most valuable. Anaphylactic treatment had been used in fibrositis, but he had not seen any good result from it, and he did not think the method sound scientifically.

Dr. P. HAMILL agreed that a very large proportion of cases were definitely infective in origin. The virulence of the infecting agent was low, but its chronicity was great. The number of organisms that might produce fibrositis was legion. The part played by syphilis was obscure. Some cases of apparently typical fibrositis gave a positive Wassermann reaction, and did remarkably well under anti-syphilitic treatment, but he thought it likely that the resistance of the patient to another infection. Many cases of fibrositis and sciatica were undoubtedly due to colitis and dysentery. The first canon of treatment was to find and eradicate the cause. A careful history was often of great assistance. Cases were met with which gave a history of attacks of lumbago or stiff neck, and in association with throat, or slight aching of the gums. Such points in history gave a clear hint as to the source of infection. In the majority of cases, however, no such clues were forthcoming. He urged the importance of x-ray examination in all cases in which the teeth were suspected to be the cause of the trouble. Tonsils also were a frequent and unsuspected cause. The abdominal viscera were a great potential source of infection, and the appendix was of importance; often cases which improved up to a certain point, and then went no further, cleared up after the appendix was removed. In his experience chronic pelvic inflammation in women was not associated with fibrositis quite as commonly as one might expect. Having removed the primary source if possible, the next step was to combat

the residual infection. Intestinal intoxication could be diminished by securing efficient evacuation of the bowels. The resistance and immunity of the patient must be raised by every means available, such as an ample and varied dietary, fresh air and sunlight, and attention to housing and sanitation. In this connexion the various health resorts could be of considerable value. He believed there was a definite place for spa treatment in these diseases. With regard to non-specific measures, protein shock would commonly produce a remarkable benefit, but not a lasting one, in his experience. It was more likely to be of value in the early cases before the patient's immunity had reached too low a level. With regard to specific measures, the results obtainable by vaccine therapy, if judiciously carried out, were encouraging. In acute cases, especially when arthritis was coexistent, complete rest with splinting was desired. Where there were contractures, splints and extension should be employed, but splinting must be combined with massage and movements in chronic cases. Heat in various forms acted usefully in increasing the blood supply and releasing the spastic muscles; diathermy was the best method. The chief trouble in long-standing cases was the mental supineness of the patients, who wanted everything done for them, and made little effort to assist themselves; they needed cheerful surroundings and constant encouragement.

Dr. R. ACKERLEY (Llandrindod Wells) said that it was not any specific organism which caused fibrositis, but it might be any toxin which invaded the body. He referred to a discussion which took place in the society as long ago as 1913, when he declared that his clinical experience led him to the belief that any toxin, if retained in the body, was sufficient to cause first fibrosis, and then fibrositis, the first being a gradual and painless process. Owing to the habits of civilized life, toxins, whether metabolic or other, tended to accumulate in the body, partly as a result of repeated infections, but far more as a result of defective elimination. The body tended to let these organisms accumulate in the tissues of lowest vitality, and it was due to this gradual accumulation that these fibrous thickenings and enlargements made their appearance. Everyone who had treated discharged soldiers was aware that fibrositis followed every infective disease—dysentery, malaria, Malta fever, and so forth. Very often the toxins were not in a condition to be eliminated through the ordinary eliminative organs. They were imperfectly oxidized. Imperfect oxidation was one of the most characteristic features of modern life. The conditions under which most people lived, spending hours in stagnant, not necessarily impure, air, led to imperfect oxidation, and this it was which caused the increase of these pains in damp weather. Two years' experience in Egypt showed him that there, with overcast skies on some days in winter and the great humidity of the Nile valley, the people complained of such pains very much more than during the winter in England. It was interesting to see how the fibrous tissues tended to swell up under such conditions. This also he put down very largely to defective oxidation. Any treatment must begin with the complete eradication of any focal sepsis, and then must be directed to restoring function and tone to the various tissues and eliminate the toxins already there.

This concluded the first day's discussion.

At the resumed discussion, with Dr. ENGELSMAN again in the chair,

Dr. W. J. MIDELTON (Bournemouth) deprecated the number of labels existing to-day, which were puzzling and misleading; almost the only label wanted was toxæmia, chronic or acute. He had no faith in all that was said about staphylococci and streptococci. In all cases, he believed, the underlying condition was some result of an earlier infection—measles, scarlet fever, typhoid, and so forth—and the staphylococci and streptococci were purely secondary. One of his theories was "once infected, always infected." He gave particulars and showed photographs of treatment introduced by Dr. P. W. Latham for the fibrous lesions, which in his hands had given good results.

Dr. H. A. ELLIS said that one would imagine from the tone of the discussion that there was nothing in fibrositis but a septic condition; that was true to a certain extent

only. Many of the difficulties of the situation would be met by considering the matter from a biochemical aspect as against a purely bacterial aspect. The different incidence between men and women was difficult to understand on a purely bacterial basis. The conclusion he himself had reached was that this was a biochemical condition activated by many causes, of which bacterial invasion was undoubtedly one, but only one. A man could drink port and bring on lumbago, which came under the head of fibrositis; but did anybody think that that was bacterial? Fibrositis fell into two main groups—one in which the activating cause was assimilation errors, and the other in which it was elimination errors. Assimilation errors were those in which there was insufficient food. Cases due to such errors must be treated with acid—phosphoric acid was the best—and the other cases, those of metabolic excess due to elimination errors, had to be treated with alkaline potash—trihasic potassium phosphato he had found most useful.

Mr. J. E. R. McDONAGH said that fibrositis was an inflammation of the supporting tissues of the body, which included the fibrous tissue. It was seldom that the fibrous tissue alone was picked out; hence fibrositis was more often one of the manifestations of the general involvement of the supporting tissue than a clinical entity. Chronic fibrositis might not give rise to clinical symptoms until all the signs of what was understood to be inflammation had vanished, and in those cases one was dealing more with the result of what had been than with an actively progressing condition. Speaking of fibrositis in women of child-bearing age, he said that it was in this class of case that focal infection would appear to play its chief part; it was most apt to lie either in the teeth, the tonsils, or the bowels. In the majority of cases there was a streptococcal invasion. Although theoretically any micro-organism might cause fibrositis, he doubted whether many cases would be seen if the streptococcus and the gonococcus could be banished. A very large number of women had fibrositis at the climacteric, and this deserved to be regarded as a distinct condition, because it was likely to be due to the chemio-physical changes which the blood underwent at this period. The prognosis was good, and in his experience the condition did not progress to acid-arthritis. Gout was not a disease *sui generis*, but merely a clinical manifestation of what might be termed shock taking place in one of the supporting tissues. Chronic fibrositis in elderly people practically never occurred alone; it was merely one of the local manifestations of general fibrosis.

Dr. M. B. RAY said that the general tendency appeared to be to confine the use of the term "fibrositis" to non-articular situations. The huge fibrous envelope which sent prolongations everywhere must of necessity be deeply concerned with all the biological interchanges of fluids which were continually taking place as a result of bodily activity. In ordinary conditions of health and absence of fatigue there was perfect harmony in the interaction between nervous impulse and muscular response. Any obstacle might be due to inefficient removal of the products of muscular activity or changes in the plasma which in some way inhibited the processes of interchange. He did not think that sufficient attention had been paid to the lymph circulation in this condition.

Dr. OLIVER HEATH, as a pathologist, entered a mild protest against the use of the word "toxin" in this connexion. By "toxin" was understood something like that which was produced by the diphtheria bacillus, but with the common organisms which produced sepsis nothing of that kind had been discovered, and he objected to the widening of the term. He gave a description of his own experiences as a sufferer from lumbago. He had tried various simple treatments, including walking, which was sometimes recommended, but which really did not exercise the lumbar muscles at all, and resting, which was equally unavailing for the cure of lumbago. Finally, however, the lumbago disappeared quite rapidly as the result of careful and skilled massage, first applied with a very light touch indeed, in the direction of the lymph flow, until, perhaps within fifteen minutes, it was possible even to knead the part with the knuckles. Later, in an experimental fever produced on himself by the injection of typhoid vaccine into

a vein, intenso lumbago was one of the manifestations, and after a time he succeeded in making it disappear by undertaking steady exercise for an hour or two, involving frequent bending forward of the body as though to pick up an object from the ground, and then straightening. This exercise of the lumbar muscles proved very efficacious.

Dr. C. E. SUNDELL pointed out the subnormal temperature of persons suffering from this condition. Persons with fibrositis also had a skin naturally inactive. When sweating was induced the reaction of the sweat, as tested by litmus paper, was strongly acid, in striking contrast to the neutral or faintly alkaline reaction of the sweat of the normal individual. The acidity of the sweat depended upon the presence of large quantities of lactic acid.

Dr. HUBERT HIGGINS gave some description of French investigations on this subject, and also recalled a case of his own in which the hands were very seriously affected, becoming absolutely useless and extremely painful, the real cause being a block obstructing the lymph circulation. Radiation of various kinds proved unavailing, but the condition yielded to a system of massage, alternate pressure and relaxation, and in four or five days the use of the hands began to return.

Dr. PARKES WEBER said that he agreed in general with the views expressed by Sir William Willcox and Dr. Ellis, but with regard to the French radiograph, which the former had shown—indicating shadows in the vertebrae, which it was urged were significant of fibrositis—he found difficulty in accepting the case as one of that condition; there were other forms of calcification besides fibrositis, and he rather questioned the diagnosis.

Dr. EDGEcombe, from the chair, in summing up the discussion, referred to the cleavage of opinion as to whether any cases of fibrositis were of purely metabolic origin. This must be left an open question. Everybody would agree, however, that in infective cases the commonest organisms were the streptococci, notably of the *viridans* group. The value of vaccine treatment, alone or combined, and the limitations of its use, had been clearly set out. He thought also that it was common ground that in the later and more chronic stages of fibrositis spa treatment had a definite place.

## THE FUNDUS OCULI IN GENERAL MEDICINE.

At a meeting of the Medical Society of London on March 9th, with the President (Dr. E. M. CALLENDER) in the chair, a discussion took place on the fundus oculi in general medicine.

Mr. ERNEST CLARKE said that the advantages of ophthalmoscopy in medicine had been greatly furthered by the advent of the luminous ophthalmoscope, which brought the practice within the range of every medical man. With this instrument a dark room was not indispensable, and the patient could be examined in any position. But it was one thing to see the fundus, and another to interpret what was seen. It was only by constant practice that the observer acquired the capacity for recognizing the abnormal. In this connexion a sequence of picture records was of great value, but until lately such records were not easy to obtain, for an artist had to be specially trained, and, moreover, had to learn to draw to some extent from memory, so as not to worry the patient too much or light up the eyes for too long. In this connexion it was a great advantage that a studio staffed with trained artists should have been opened by Theodoro Hamblin, Ltd., where a patient could have a sitting at any time. It was next to impossible to describe small changes in the fundus, but if a series of pictures were taken by the same artist, or by artists trained in the same technique, it was extremely useful. Mr. Clarke proceeded to show a large number of fundus drawings of exceptional and interesting cases. These included one which illustrated the dire results, as shown in the fundus, of acute veronal poisoning. After taking an overdose of veronal, which was followed by unconsciousness for some days, the fundus in both eyes was found to exhibit a considerable amount of papillitis and haemorrhage. It was suspected that there was a cerebral tumour, and that the veronal poisoning was merely a side issue, but after careful treatment the eye condition completely cleared up within a

month or two. Another case was one of diabetic retinitis, which cleared up under insulin. He urged in conclusion the importance of forming a permanent library of fundus records, the value of which might be disseminated by means of lantern slides.

Dr. F. PARKES WEBER referred to the ophthalmoscopic appearance in death, a subject on which he had already written a note in the BRITISH MEDICAL JOURNAL, (1924, i, p. 497), following upon an article in the JOURNAL by Ernest Bulmer. While he was house-physician he made a practice of examining the fundus immediately after death. He found the columns of blood in the retinal vessels interrupted by small spaces which could be moved backwards and forwards by pressure on the chest as in artificial respiration. In one case in which a spontaneous respiration took place he had found this ophthalmoscopic phenomenon of segmentation already present. In certain cases, however, after death he failed to find any segmentation, although the cornea had not yet become sufficiently clouded to prevent him from seeing the fundus. The absence of such segmentation, therefore, must not be taken as a sign that death had not occurred.

Dr. JAMES COLLIER affirmed the need for ophthalmoscopic investigation in every case of illness whatsoever. It was one of those superficial examinations which could be carried out in a moment, like feeling the pulse. The examination was easy, the technical details could be learned in a few days, the instruments were good, every fundus was interesting, and the beginner could practise on normal subjects. The fault in the teaching of students was that not enough examination of normal subjects was made. In his own sixteen years' practice as physician to the Royal Eye Hospital the frequency with which general medical diseases had been diagnosed for the first time from the examination of the eyes had been remarkable. In diabetes, renal disease, syphilis, tuberculosis, septic conditions of the accessory cavities, the first symptom might be ocular. Even more important than these positive findings were the negative findings—that the fundus oculi was normal in cases in which recurrent headaches, transient blindness, liability to fits, and other manifestations had suggested the possibility of intracranial lesions.

Sir WILLIAM WILLCOX spoke of eye lesions due to toxæmia. Until comparatively recently one was taught that changes in the fundus oculi were due to diabetes, Bright's disease, or high blood pressure; but one knew from experience that it was extremely common nowadays to find haemorrhages and marked changes in the fundus with no increase in blood pressure, no diabetes, and a normal renal function. It was most important to watch every channel of infection—the teeth, the antra, and the various sinuses. If there was a focus of infection and this was removed it was extraordinary how quickly the eye condition cleared up. Certain drugs, of which atoxyl was perhaps the best example, had an affinity for the retinal tissues, and one common drug which affected the retina in certain people was quinine. He recalled the case of an officer in India during the war who, developing a slight fever, was given 10 gr. of quinine by the R.A.M.C. officer, and immediately became deaf and delirious, whereupon the dose was increased to 15 gr., and he became blind. When he (the speaker) saw the case, recognizing the idiosyncrasy of some people to quinine, he stopped this drug, gave the patient a dose of aspirin, and sent him to hospital, where he recovered his sight completely.

Dr. RAYNER BATTEN emphasized the need for collective drawings by different observers, and showed a very beautiful series of cases illustrating changes taking place at the yellow spot. The President, speaking as a general practitioner, remarked upon the extreme usefulness of an atlas of such records as had been shown that evening.

## DIFFERENTIAL DIAGNOSIS OF SOME EXANTHEMATA.

At a meeting of the Medical Officers of Schools Association on March 6th, Dr. L. R. LEMPRIERE presiding, a discussion took place on the differential diagnosis of scarlet fever, measles, rubella, and allied rashes.

Dr. E. W. GOODALL, in opening, said that one mistake frequently made, especially by younger men, was to suppose

that the diagnosis in these cases could be made on one symptom. The diagnosis had nearly always to be made on a combination of symptoms. Except Koplik's spots in measles, there was no one symptom which could be said to be distinctive. Of all these diseases the most difficult to diagnose was scarlet fever. No single symptom was characteristic of scarlet fever—not the rash, nor the faucial lesions, nor the "strawberry tongue" (for an instance of "strawberry tongue" he would go first to the measles ward), nor the peeling. The diagnosis of scarlet fever could only be made on a combination and sequence of signs and symptoms. With regard to measles, he did not think that the anomalous cases were quite so common as in scarlet fever. The rash, however, might be extremely slight, hardly noticeable at all, and there were some cases in which Koplik's spots were not present or were so transient as to be missed. He believed also that rubella might exist without any rash. With regard to fourth disease, or "para-scarlet," he could not say that he had ever seen this disease in epidemic form. It was said to be a scarlatiniform variety of rubella, but of this he had always been rather sceptical. Speaking of rashes which might lead to a mistaken diagnosis, he said that the rash in rubella in the second stage was very like that of scarlet fever, and so was the rash in the later stage of measles. The rashes of chicken-pox and small-pox, and even occasionally of typhus, might be extremely like scarlet fever. Eczema rashes also might be mistaken for scarlet fever or even for measles. The rash of scarlet fever might also be simulated by drug rashes, especially those due to quinine, and another confusing condition was recurrent scarlatiniform erythema. Again, influenza might cause a similar rash to scarlet fever. The most common drug to produce a rash like measles was antitoxie serum. Septic rashes were never scarlatiniform, but frequently morbilliform. He had seen encephalitis twice diagnosed as measles. But all these cases had other symptoms quite incompatible with measles, and it was usually only a matter calling for a little investigation to clear up the diagnosis.

Dr. G. E. FRIEND (Christ's Hospital) gave particulars of a number of epidemics of measles, scarlet fever, rubella, and fourth disease. In fourteen out of twenty-eight epidemics the number of cases in an epidemic was fewer than ten. He described a considerable epidemic in 1916 which began as rubella and went on as scarlet fever. It comprised 204 cases in all, including 11 cases of definite scarlet fever with 1 death, 45 cases of "para-scarlet," or fourth disease, with 1 death, and 148 cases of rubella with no death. He pointed out certain differences in the description of the rash in rubella, as given in the works of Osler, of Allbutt and Rolleston, and in school textbooks, and for his own part declared his belief that there was only one type of rash for any one acute infection. The rose-red papule in rubella was always present at first, though later it tended to become a morbilliform rash. The fact that three types of rash were so commonly described in rubella was good evidence that there was considerable diversity of opinion with regard to that condition. This led him to speak of "para-scarlet," of which condition he had found two varieties, and in both he believed the causal organism to be a haemolytic streptococcus, which had been found in 96 per cent. of the cases swabbed. In 75 per cent. of cases of measles he had found Koplik's spots two days before the appearance of the rash on the body; in 20 per cent. of cases he had found this sign within a shorter interval, though still definitely appearing before the rash; and in the remaining cases the appearance was coincident with the rash. He emphasized the need for basing the diagnosis on a combination of symptoms before a definite opinion was ventured, especially on a first case of scarlet fever.

In a short discussion Dr. GRAHAM FORBES asked whether there could be a definite recurrence of measles, apart from mere relapse, to which Dr. GOODALL replied that he had seen two cases of measles, but only two, with second attacks developing within a few months. Dr. ELWIN NASH said that the rash which was the medical officer's bugbear was that of modern scarlet fever, which was simulated by so many rashes of other kinds. Dr. C. E. SHELLEY attributed the appearance of "para" forms of disease to the different degrees of struggle which the pathogenic organism under-

went in the effort at survival; and to this Dr. GOODALL replied that he believed organisms had two different functions—one, infectivity pure and simple, and the other, what might be called virulence, exerting itself chiefly in damage to the host, and that one or other of these might in different cases be in the ascendant.

## Rubellus.

### LEPROSY.

It is a remarkable thing that since the celebrated Norwegian leprologists, Hansen and Looft, published their treatise about 1895, no authoritative and comprehensive work on leprosy has been issued until the recent appearance of the volume with the title *Leprosy*,<sup>1</sup> which we owe to Sir LEONARD ROGERS and Dr. ERNEST MUIR. This is the more noteworthy when we consider that leprosy takes rank with tuberculosis and syphilis as one of the major ills by which humanity is afflicted. It is true that many papers on leprosy have appeared during the last generation; for a short time there was a journal, *Leprosy*, exclusively devoted to the study of the disease; and about two years ago Dr. Muir wrote a short book mainly dealing with the newer methods of treatment, which we owe principally to the genius of Sir Leonard Rogers; but that is all. These new methods have changed the entire aspect of the leprosy problem, both from the point of view of the victims, to whom they have brought hope for the first time in history, and from the point of view of public health authorities, especially in the tropics, who can now envisage the prospect of controlling the spread of the disease, of reducing the numbers of the leprosy, of even, if they are given the necessary help and encouragement by their Governments, making leprosy as rare in the tropics and other endemic areas as it is now in our own country. It is, therefore, fitting that Sir Leonard Rogers, to whom we owe this wonderful advance, and Dr. Muir, at whose hands the new methods have been put to the proof, should unite in producing the present work, which deals with leprosy in detail from every aspect, and which will, no doubt, long remain the authoritative handbook of the subject.

It is now, of course, thoroughly established that leprosy is a contagious disease due to infection with the specific bacillus discovered by Hansen in 1871; but such is the length and uncertainty of the incubation period that for many years the theory that the disease was always contracted by heredity was strongly supported, and this erroneous hypothesis received unfortunately fresh vigour from the report of the Royal College of Physicians in 1865, which concluded that leprosy was "not contagious or communicable to healthy persons by proximity or contact with the diseased." On the strength of this report the Colonial Secretary issued orders to cease enforcing and to repeal all laws affecting the personal liberty of lepers; the result was an immediate but gradual increase of leprosy in all directions affected. We need not here detail the overwhelming case for the contagiousness of leprosy, but it is interesting to note that even now the exact portal of incubation is not absolutely established, though there is a good deal of evidence that in the majority of cases the infection is due to direct inoculation through the skin or nasal membranes—through the skin in hot climates where clothes are scanty, through the nasal mucosa in colder climates where more clothes are worn—although bed bugs may not be entirely guiltless of the charge of acting as carriers. There is a vast difference among lepers as to their potential danger as sources of infection. Those who are in the first stage, when the bacilli are few and the lesions are not yet ulcerated, and those who are in the third stage, in whom the disease has worn itself out and may be regarded as cured, even although the patient has been reduced to a mutilated caricature of humanity, are comparatively innocuous; it is in the second stage, when the bacilli are

<sup>1</sup> *Leprosy*. By Sir Leonard Rogers, C.I.E., F.R.S., etc., and Ernest Muir, M.D., F.R.C.S. Edin. Bristol: J. Wright and Sons, Ltd.; London: Simpkin, Marshall, Hamilton, Kent, and Co., Ltd. 1925. (Demy 8vo, pp. xii + 301; 32 plates, 55 figures. Paper cover, 10s. 6d.; cloth, 12s. 6d. net.)



numerous and are being shed in large numbers from the skin and in the secretions, that they are most infectious.

A considerable section of the book is occupied with an account of the pathology of the disease and a description of the clinical lesions. This section is, of course, very important to those who will have to deal with leprosy clinically, but what will interest most readers much more is the section on treatment. The treatment of leprosy may be divided into two parts. Leprosy, like tuberculosis, is a disease of poverty and squalor, and lepers, when removed from their unhealthy environment, improve in health without any further aid, just as tuberculous patients improve in a sanatorium. The first necessity, therefore, in the treatment of lepers is the improvement of their hygienic conditions and the removal of any exciting cause—for example, the treatment of any intercurrent disease, such as syphilis, malaria, or kala-azar. But, as a rule, more than this is required, and it is in the specific treatment that the important advances have been made. The story is analogous to the story of the treatment of malaria by quinine and the treatment of dysentery by emetine. In those cases the traditional popular remedies—cinchona bark and ipecacuanha—were studied scientifically, their active principles were isolated, and their utility enhanced. In leprosy much the same thing has been done by Sir Leonard Rogers as he did for amoebic dysentery. Starting from the fact that chaulmoogra oil has long been known as the only real remedy for leprosy, he has striven to overcome the great disadvantages and limitations of the crude drug, and to a large extent has succeeded. He has substituted for the administration of this nauseating substance by the mouth the intramuscular and subcutaneous injection of its derivatives. Moreover, he has examined oils derived from plants of allied species and has discovered amongst them bodies which are found to be even more powerfully antileprosy. Chaulmoogra oil is derived from the seeds of a tree, *Taraktogenos kurzii*, but *hydnoearpus* oil, derived from the allied genus *Hydnoearpus*, appears to be better, and has the additional advantage that the parent tree is grown in gardens and accessible places all over Southern India, whereas *Taraktogenos* is found only in out-of-the-way places, and it is not easy to get fresh seeds. As to the details of preparation of the various active bodies and the method of administration, the reader must consult the original work; but it may be said that considerable judgement and experience are required to obtain the best results, and this is no doubt one reason why some observers have not obtained such favourable results as others.

The best prognosis seems to be in cases in which the disease is either in the first or third stage; in the second, when the bacilli are present in great numbers all over the body, the reactionary effects of the drugs, which are important, may be so severe as to cause anxiety. On the other hand, the successful treatment of leprosy is almost always associated with reaction. It must be remembered that leprosy, unlike its sister plague tuberculosis, attacks for the most part non-vital organs, and that therefore a degree of reaction, which in a tuberculous lung would entail dangerous consequences, plays a beneficial part in the treatment of leprosy, though it must not be allowed to exceed certain limits. The success which has attended the use of the newer methods of treatment is well illustrated by the series of photographs of patients before and after treatment. But their success has had, and is now having in greater degree, still more important results. Encouraged by the cures which they have heard of or seen lepers are now beginning to come forward voluntarily for treatment instead of concealing themselves for fear of forcible segregation, or at least of the social ostracism which is associated with the disease. Some are being treated in leper colonies and settlements, but many more as outpatients at the hospitals. The result is that in India and elsewhere their numbers are now beginning to diminish, and at last there is hope that the leper problem may be solved. We recommend this book unreservedly, not only to those who are actively interested in dealing with leprosy, to whom indeed it will be indispensable, but also to all who are concerned with the problems of public health, especially in the tropics.

## THE EXAMINATION OF WATERS.

The treatise by Drs. THRESH and BEALE on *The Examination of Waters and Water Supplies* has reached a third edition<sup>2</sup>; since the second edition was published much new and important knowledge has been gained on the subject of water supplies. Very fortunately that knowledge in its practical applications makes both for extension of safe sources of supply and for economy in the methods of treatment of waters to render them suitable for public use. In the past rivers liable to pollution by populous places have been avoided or regarded with suspicion, notwithstanding the very striking case of London and its dependence mainly on the Thames. Now, however, rivers—not, of course, open ditches receiving heavy discharges from large manufacturing towns—can be resorted to without hesitation if proper measures are taken for the protection of the public. These means include two inexpensive alternative processes of chemical purification—by chlorination and by excess of lime—both of them achieving a large measure of bacterial purification, even, in the case of lime, “almost complete sterilization.” Though the value of chlorination had been discovered before the war—Lincoln adopted the method in 1905, and Reading in 1910—yet it was the army's resort to it during the war, as well as the Metropolitan Water Board's adoption of it in the war period, that aroused general interest in the new system. And now, as the authors of the work under notice point out, Sir Alexander Houston has recently proved the remarkable value of treatment by excess of lime. All this is set forth by the authors of the work under notice, and, following the chapters on purification of water by storage, and by sand filtration, the two outstanding chemical methods are fully described and discussed. A mere list of the titles of the thirty-three chapters which compose the volume would indicate that no problem of any importance has been left out.

The bacteriology of the subject in relation both to the examination of water and to the interpretation of results is dealt with in the later part of the treatise. Here the authors wisely pass by a great mass of investigation and exposition belonging to the early days, remarking that now “the sum total of the information available, bearing upon the interpretation of results, is comparatively small.” At one time “the estimation of the number of organisms present was held to be of the highest importance,” and when that idea was exploded the number of different kinds of organisms came into prominence, “but latterly this view has received less support, and now it is deemed absolutely necessary to examine a water for certain definite bacteria, the number of other organisms present being considered of comparatively trifling importance.” Organisms of the intestinal type are, of course, those on which attention is specially concentrated—(1) the *Bacillus coli*, (2) the *Bacillus enteritidis sporogenes* of Klein (now often called the *Bacillus welchii*), and (3) streptococci. These are dealt with at length, whilst the cholera spirillum and the *Bacillus pyocyaneus* are discussed briefly. The authors have found recently the last named in two samples of water, to which outbreaks of diarrhoea were attributed.

The volume, which is illustrated by an excellent series of plates of the microscopic flora and fauna of waters, will be of the greatest value to all who have serious administrative responsibilities for the provision and control of water supplies; indeed, in this country it is difficult to see how any educated water specialist can avoid finding a place for it on his shelves.

## SEROLOGICAL STUDIES OF HUMAN RED CORPUSCLES.

The subject of isohaemagglutination, which is of particular interest from the point of view of blood transfusion, has been carefully studied by Dr. SIXTEN HESSER in a monograph entitled *Serological Studies of Human Red Corpuscles*.<sup>3</sup> It forms one of the *Acta Medica Scandinavica*,

*ers and Water Supplies*. By John C. Thresh, M.Camb., and John F. Beale, M.A.Cantab., D.P.H.Oxon. Third edition. London: J. and B., pp. xiii + 590; 26 plates, 21 figures.

<sup>3</sup> *Serological Studies of Human Red Corpuscles*. By Sixten Hesser. *Acta Medica Scandinavica*, Supplementum IX. Stockholm: P. A. Norstedt and Söner. 1924. (Med. 8vo, pp. 94.)

which includes articles on internal medicine, published in English, French, or German; according to the decision of the author. In this case the author has selected the English language, with which he has taken comparatively few liberties.

The main conclusions to which Dr. Hesser's researches have led him are that the distribution of the four blood groups among Swedes agrees with the distribution of these groups among other European races, especially among Danes and Norwegians and Scandinavians resident in the United States. The tests were made on patients who showed a negative Wassermann reaction, but he has been able to show that the group distribution is the same in individuals who show a positive reaction to the Wassermann test. He prepared in rabbits immune serums against each of the four groups of human erythrocytes, and found that they were to some extent specific in type, and that by absorption experiments it was possible to obtain specific serums which qualitatively resembled human serums. The absorption experiments have persuaded him to the opinion, suspected by many in this country and America, that the present methods of grouping are not adequate and that in all probability more than four groups exist. A comparison of the properties of serums prepared against human and sheep erythrocytes tended to show that human corpuscles are relatively easily agglutinated and relatively difficult to haemolyse.

Experiments carried out with red blood corpuscles which had been kept for a few days enabled Dr. Hesser to compare the phenomena of isagglutination and isohaemolysis of human corpuscles, and he believes that isohaemolysins as well as isagglutinins are physiological constituents of the serum, and that those haemolysins only should be regarded as pathological which haemolyse either corpuscles belonging to the same individual or to the same group. He finds also that serum from different individuals belonging to the same group varies in agglutinating power, and that corpuscles from different individuals belonging to the same group may vary in the ease with which they are agglutinated. Such are the main conclusions of this critical study.

#### AN X-RAY ATLAS.

IN the preface to their book entitled *An X-Ray Atlas of the Normal and Abnormal Structures of the Body*,<sup>1</sup> Drs. McKENDRICK and WHITTAKER state that in it "an attempt has been made to provide a series of radiograms illustrating the normal and abnormal structures of the body, and also the more common injuries and diseases." In the first part of the book thirty-seven pages are allotted to reproductions of seventy-two radiographs of various joints, and numerous diagrams are used to aid in interpretation. While they are interesting in their way, it is rather difficult to see the utility of reproducing groups of radiographs of the normal joints taken in a fixed position with the x-ray tube at what is termed (but not described) the "normal focus point," and then moving the tube four inches internally, four inches externally, four inches above, and four inches below. Little attempt is made to explain either the reason for this method of illustration or indeed its usefulness from the diagnostic standpoint, although here and there a suggestion is made that in one or other tube displacement a certain bone or portion of a bone appears to advantage. The radiographs which illustrate this portion of the book are, on the whole, satisfactory.

Following this is a series of some three hundred radiographic illustrations of various conditions, under the headings of (1) injuries and diseases of the limbs; (2) the head, neck, thorax, and spine; and (3) the abdomen. In this part, again, the descriptions of the plates are not quite adequate. It is not enough to reproduce a radiograph of a morbid condition and merely attach to it a statement that it is an example of whatever the authors consider the diagnosis to be; this method of exhibiting x-ray appearances seems to us to be of little, if any,

educational value. Other criticisms which suggest themselves are that the general arrangement does not appear to follow any consecutive plan, that too many of the radiographs are hardly up to the standard of modern radiography, and that while many common and rare conditions are illustrated and referred to, the omissions are very numerous; further, there are, as we think, some mistakes in description.

The book is very well got up and is printed on most excellent paper. There is an appendix and an index.

#### DEATH IN THE POT.

*The Science and Art of Living*,<sup>2</sup> by Dr. LEONARD WILLIAMS, is a popular explanation of the functions of the body and an exposition of the practical lessons to be learnt, especially in relation to digestion and dietetics. Epigrams, alliterations, trenchant tirades, and other extravagances scintillate through its pages. The habits of civilized man, especially his habit of eating cooked food and too much of it, are attacked, and we are told that the major malady of modern civilization is chronic constipation. Some people bow to a magpie, others salute the chimney-sweeper, and Thomas Carlyle took off his hat whenever he met a perfectly healthy-looking man. He might walk the streets of London to-day for a week, says Dr. Williams, without being moved to do so, for he would meet with nothing but muddy complexions, oily skins, and malodorous emanations, proclaiming the hidden cesspool to those who know. In other words, we are all suffering from the major malady. It is, however, the cooking pot that is to blame. Like the sons of the prophets Dr. Williams cries out that there is death in the pot, and tells us that one of the most deadly of inventions is the cooking stove; it destroys the vitamins, and it is the lack of these that is the cause of the all-prevailing constipation. Meats, sugars, and starches should be replaced, to the relief of the cookless housewife, by fresh fruits, raw vegetables, and unsterilized dairy produce. Afternoon tea—a stodgy assemblage of saccharine and starchy horrors—is severely pilloried. Bacteriology, the author says, has led to the habit of sterilizing everything, and the causes of cancer must be sought, not in the laboratory, but in the kitchen. Rickets, adenoids, and appendicitis were unknown before the microbe; the kettle and the crucible came to constitute a creed; and germicides have created diseases which had no existence before their advent. These, in the main, are the kind of messages which Dr. Williams delivers in his book to his "meat eating and sugar sucking," civilized but constipated compatriots. He is less iconoclastic when writing about alcohol. In fact, the lover of wines and spirits will get consolation and encouragement from him, for we are told that virile and vigorous nations have always been alcoholic, and that widespread cessation of drunkenness has always been followed by national degeneracy. The book ends with an injunction to the reader to remember that man's place in the scheme of things is among the animals, not among the angels. There is a certain amount of wise counsel in the book, and some amusement for those who do not take it too seriously.

#### NOTES ON BOOKS.

*Clinical Laboratory Methods*, by Dr. R. L. HADEN, gives a full description, supplemented by a large number of excellent illustrations, of all the standard methods in common use in clinical laboratories. The first edition appeared in 1923 (BRITISH MEDICAL JOURNAL, May 12th, 1923, p. 814), and the time since its appearance has been too short to necessitate any considerable changes in the textbook. The author has, however, brought it up to date, and the new edition<sup>3</sup> gives accounts of methods published as recently as last year. The most important change is the adoption of the Kolmer technique for the Wassermann reaction. Other new methods described

<sup>1</sup> *An X-Ray Atlas of the Normal and Abnormal Structures of the Body*. By Archibald McKendrick, F.R.C.S.Ed., D.P.H., and Charles R. Whittaker, F.R.C.S.Ed. Edinburgh: E. and S. Livingstone. 1925. (Demy 4to, pp. xvi + 222; 388 figures, 104 plates. 25s. net.)

<sup>2</sup> *The Science and Art of Living*. By Leonard Williams, M.D. London: Hodder and Stoughton, Ltd. 1924. (Cr. 8vo, pp. 240, 5s. net.)

<sup>3</sup> *Clinical Laboratory Methods*. By R. L. Haden, M.A., M.D. Second edition. London: Henry Kimpton. 1924. (Med. 8vo, pp. 310; 69 figures, 4 plates. 18s. net.)

for the first time are the Kramer and Tisdall method for estimating the calcium content of blood, and the van den Bergh test for bile pigments in the blood. The book is especially noteworthy for the full practical details it gives of the methods described; for example, five pages are devoted to methods of counting red blood corpuscles, and there are descriptions and illustrations of some very useful pieces of apparatus for shaking and cleaning blood pipettes. Details such as these are of great value to the laboratory worker, as they tend to lighten the drudgery of routine work.

The nineteenth edition of *Chavasse's Advice to a Mother* has been revised by Dr. G. T. WRENCH, past assistant master of the Rotunda Hospital, Dublin, who has brought the various subjects up to date. The chapters on infant feeding have been rewritten. As a guide to the management of children and the nursing required in accidents and illnesses the book fully maintains the high standard of previous editions; the style is simple and the advice practical. The reviser's advice to a mother to read through the book and not merely to use it as a reference in emergency is to be commended. Another praiseworthy feature is that no attempt is made to substitute written instructions for the personal supervision of a medical practitioner, as is too often the case in books of this nature.

The Minutes of the General Medical Council and of its Various Committees for the year 1924 have been published in a bound volume with eleven appendices. A detailed report is given of the two sessions of the General Medical Council and of the meetings of its various committees, together with those of the English, Scottish, and Irish Branch Councils. The presidential addresses of Sir Donald MacAllister at each of these sessions, which were published in our columns when delivered, are also printed here. Copies of the correspondence dealing with the regulations permitting foreign medical practitioners to practise in Italy are included, and the revised regulations for medical degrees in the University of Bombay are detailed. The General Index to the Minutes of the General Medical Council, and of its Executive and Dental Committees, and of its three Branch Councils from 1903 to 1924 has also been published. It relates to Volumes xl to lxi of the Minutes. The plan of the previous index has been followed closely, and each subject is indexed fully, the references being arranged chronologically; in many cases special subheadings have been inserted. This Index is a valuable book of reference to the proceedings of the General Medical Council and of its committees. Vol. iii of the Minutes of the Dental Board of the United Kingdom for 1924, which has also been received, has sixteen appendices containing the reports of various committees, tables of accounts for the year 1923, and rules for the conduct of elections under the Dentists Act, 1921. Warnings are given in one appendix as to covering, advertising to procure patients, and the use of titles and descriptions.

Three further numbers of *Ambulance Competition Tests* have been prepared by Dr. N. C. FLETCHER, dealing respectively with certain errors in treatment, the history of com-

The information is arranged as to be easily portable, and the series will be found of value by those responsible for devising competitions and examinations in ambulance work. A considerable amount of practical detail is set out in such a way as to encourage ingenuity in application. The first three of the series issued in 1923 dealt with the training of competition teams, the conduct of these teams in a competition room, and some common errors in competitions. The series forms a valuable adjunct to ambulance training of all kinds.

In a pamphlet recently published in Zürich<sup>19</sup> F. BRUPBACHER discusses the question of how far a medical practitioner contravenes the law by the practice of abortion, which is a criminal offence in Switzerland and elsewhere. He argues that, as the doctor's duty is to check disease processes and save the life of his patient, and as pregnancy has a harmful influence in cases of latent as well as active tuberculosis, cardiac and renal disease, anaemia and deafness, a pregnant woman who is suffering from any of these ailments should be relieved of her unborn child within three months of the beginning of pregnancy at latest. He produces from a considerable wide literature statistics and other facts in support of his contentions. Another aspect of his case is the need of saving the woman from the practice of abortion by

unqualified practitioners and quacks. In his opinion the qualified practitioner should be at liberty under the law to procure abortion whenever by doing so he can benefit the woman, but where eugenic considerations arise he favours sterilization of the mother. The pamphlet appears to be instigated to some extent by the strict laws on the subject in Prussia, where the object, according to Brupbacher, is to produce what he calls "revenge children" without regard to the life of the mother. The mother he considers to be of more importance than the three months old foetus, and the doctor is not carrying out his duty if he does not relieve her of what may exacerbate fatally or otherwise any disease from which she may be suffering.

In *The Quisto-Box*<sup>21</sup> the author has hit upon an ingenious idea for a novel. Professor Quist has succeeded in inventing a pocket instrument enabling its possessor to read the thoughts of anyone with whom he happens to be in conversation. At the moment when he has brought the machine to perfection he dies, and the story traces the efficacy of the box in the hands of the adventurous and attractive young woman who gets hold of it, and subsequently the terrible results that occur when the invention is commercialized and becomes available to all—results which culminate in the destruction of civilization. Incidentally the readers become spectators of a political crisis in a state of post-war creation which is to be understood to bear some relation to Palestine before the mandate was granted. This part of the book, really a digression, contains good descriptive writing. As regards the central idea of the Quisto thought-reading box, who will venture to declare in these days that there may not be "something in it"?

<sup>19</sup> *The Quisto-Box*. By Horace B. Samuel. London: A. M. Philpot, Ltd. 1925. (Cr. 8vo, pp. 234. 7s. 6d. net.)

## PREPARATIONS AND APPLIANCES.

### *Metallic Bismuth for Intramuscular Injection.*

The use of bismuth as a spirillicide in the treatment of syphilis is engaging a considerable measure of attention. The first compound of bismuth brought to our notice in this connexion was a salt having the chemical structure of tartar emetic, in which the antimony was replaced by bismuth. Our attention has now been directed to a suspension of metallic bismuth supplied for intramuscular injection. It is not a colloidal solution; it is merely a powder of the metal sufficiently fine to pass through a hypodermic needle yet so coarse as to recall the appearance of reduced iron. The metal is suspended in water containing 5 per cent. of glucose. It is prepared by the Boots Drug Company, Ltd. (Nottingham), and is supplied in rubber-capped phials containing five doses each. We have examined the preparation analytically and are satisfied as to its chemical purity. If bismuth should prove to be well tolerated in this form, it is not unreasonable to expect that the coarse suspension may provide for the presence of an inactive excess of the metal, presenting through its surface a continuous but moderated activity towards the blood stream.

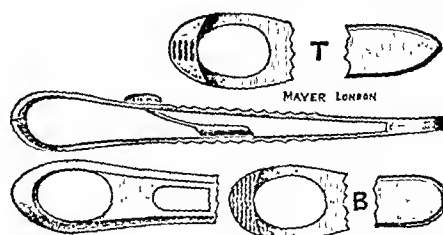
### *An Aseptic Combined Dissecting and Artery Forceps.*

Dr. FRANCIS S. PITT-TAYLOR (Blackpool) writes: The forceps here illustrated is of two kinds, each having an externally rounded small end-of-egg-shaped jaw to permit a ligature to slip over the jaw on to the vessel easily, even when the forceps has been applied to a bleeding point at the bottom of a cavity or pocket as in abdominal operations; owing to this jaw shape the forceps when applied stands up on a slant instead of falling down flat, an advantage when the surgeon is working without a colleague in the application of the ligature, which can thus be rapidly and immediately applied to secure the bleeding vessel.

The bite of the serrated edge is of two kinds. One, the wider, B, is of the bull-dog type for larger vessels; its other extremity is rounded.

The other, the narrower, T, of the ferrier forceps type for smaller vessels, has a pointed opposite end so that when closed either forceps can be distinguished by their distinctive external shape.

The spring has been given a large head to permit of the easy removal of the forceps, whilst its attachment to the inner surface of one blade proximal to the jaw has a heel shape to permit of easy cleaning. The screw head usually visible on the outside of artery forceps has been dispensed with, no sign of its presence remaining in the completed instrument. Either forceps can be used as a dissecting forceps when required by grasping its sides above the position of the spring head, where pressure will not cause the spring to lock the forceps. Messrs. Mayer and Phelps, London, are the makers.



<sup>19</sup> *Chavasse's Advice to a Mother*. Revised by G. T. Wrench, M.D. (eleventh authorized edition. London: J. and A. Churchill. 1925. (Cr. 8vo, pp. xiv + 345; 28 figures. 2s. 6d. net.)

<sup>20</sup> *Minutes, 1924; Index to Minutes, 1924*, 6d.; *Minutes of the Dental Board*, 1924, 6d.

<sup>21</sup> *Ambulance Competition Tests*, Nos. 4, 5, and 6. By N. Corbet Fletcher, M.B., M.R.C.S., etc. London: J. Bale, Sons, and Danielsson, Ltd. 1925. (Price 6d. per folder.)

<sup>22</sup> *Praxis in einer ärztliche Abtheilung rechtschuldig*. By F. Brupbacher. Zürich: A. Bopp and Co. 1924. (Med. 8vo, pp. 86. 3 Swiss francs.)

# British Medical Journal.

SATURDAY, MARCH 14TH, 1925.

## HEREDITY AND TUBERCULOSIS.

WHETHER an hereditary predisposition to fall a victim to clinically manifest tuberculosis is an etiological factor of importance has long been a vexed question. In recent times Professor Karl Pearson and his collaborators have been the chief exponents of the opinion that such a predisposition is both heritable and of importance. Put briefly, these workers have shown that the incidence of overt tuberculosis upon the ascendants of persons themselves diseased is greater than upon the ancestors of the same degree of kinship of normal persons. Upon certain assumptions it was possible to measure the intensity of the association between the liability to disease of the paired relations, and the resulting numerical value was of the same order of magnitude as that obtaining with respect to characters, such as stature, the statistical treatment of which was easier. It was objected to these researches that the resemblance between parent and child brought out might be interpreted as a measure, not of the force of inheritance, but of the force of familial infection. In rebuttal of this, it was shown that the numerical measure of association between husband and wife, with respect to the having or not having manifest tuberculosis, was much smaller than that connecting parent and child, although the opportunities for infection were as great or greater. To this it was retorted that the age factor in infection was so great that a study of husbands and wives did not really amount to a valid control.

There the matter has stood in this country, the parties to the dispute remaining (as usual) of their original opinions. The greater facilities offered by America for the compilation of some kinds of statistics have been exploited to obtain further evidence. Two recent statistical contributions from America, reaching wholly different conclusions, may be noted. The first is Dr. Raymond Pearl's study of constitution and tuberculosis, originally contributed to a symposium but forming a chapter of his new book *Studies in Human Biology*.<sup>1</sup> The other is a paper by Mr. Godias J. Drolet, entitled "The inheritance factor in tuberculosis," published in the *American Review of Tuberculosis* for November, 1924 (vol. x, p. 280).

Dr. Pearl is engaged in a large-scale investigation which is not yet complete, and is very careful to abstain from positive statements; but an illustration of his method may be given. "Suppose," he asks, "we stopped the first man or woman we chanced to meet on the street and ascertained by appropriate methods whether that person was or was not tuberculous, and at the same time made detailed inquiries as to his or her blood relatives. Should we be justified in laying a wager, if the individual proves to be tuberculous, that a larger percentage of his relatives will be also tuberculous than if he himself were non-tuberculous, and what, if any, odds could we give in

such a wager?" To get a first approximation to the answer Dr. Pearl studied 57 persons—38 tuberculous, 19 not tuberculous—the family histories of whom, covering 5,000 blood relatives, had been traced. He tabulated the proportions of the relatives in each generation who were or were not tuberculous. For instance, the parental generation (parents, uncles, aunts) of the non-tuberculous subjects included 763 individuals, of whom 14 (1.8 per cent.) were tuberculous; the parental generation of the tuberculous persons included 472 individuals, of whom 42 (8.9 per cent.) were tuberculous. Taking all generations together, 7 per cent. of the blood relatives of the tuberculous and 1.2 per cent. of the blood relatives of the non-tuberculous were themselves affected. Dr. Pearl then considered the opportunities of infection, dividing his data into (a) those known to have been in close contact with another case before developing the disease, (b) those not so known. He remarks: "As the amount of tuberculosis in the direct ancestry increases, the amount of tuberculosis in the offspring increases also, but the disturbing fact is that the rate of close contact with open cases increases enormously more rapidly than does the rate of incidence. In short, we find that where one or both parents are actively tuberculous, practically all the offspring who subsequently develop tuberculosis have been in close, intimate contact with another active case, usually, of course, that of the parent or parents. Instantly those who oppose the view that constitution plays any part in the etiology of disease, and particularly of tuberculosis, will assert that this explains the whole matter—that if the children had not been in contact with the open, active cases, they would not have broken down with the disease. Just possibly they may be right. The case, however, is not simple. Our figures equally show that where one or both of the parents were actually tuberculous, *virtually three-fourths of the non-tuberculous offspring have been in just as close contact with active open cases as their brothers and sisters who unfortunately developed the disease.* [Italics in original.] And it must not be supposed that this high contact percentage can be explained by asserting that the non-tuberculous children are all young children who will subsequently all develop the disease. This is not true. Their average age is significantly the same as that of the tuberculous offspring." He strongly emphasizes the need for multiplication of such data, and abstains from drawing conclusions, going no further than to suggest that the data are congruent with the view that familial infection is a real factor but does not wholly explain the increased incidence of tuberculosis in the direct ascending line of the tuberculous.

Dr. Pearl's paper is, we think, a good example of serious statistical field research. We are afraid this cannot be said without qualification of Mr. Drolet's essay. Mr. Drolet suffers from the weakness of the legendary sailor's parrot: he talks too much, as his first sentences sufficiently demonstrate. "The theory that tuberculosis is inheritable dies hard. As the original protagonists of that idea have been driven, because of lack of evidence, from a belief in the actual transmission of the disease from mother to child, they have retreated into the position that, if the disease itself be not inherited, then at least a predisposition to it is transmitted." The position which the "original protagonists" "have retreated into" is the grave, which one of them has occupied for more than a thousand years. But it is to be hoped that Mr. Drolet's friends will persuade him to eschew eloquence, and temporarily abstain from speculating on "Nature's powers of

<sup>1</sup> Baltimore, 1924.

resistance and recovery," so that he may have more time to devote to statistical analysis, since he puts forward some data which may be worth careful study.

Mr. Drolet has, apparently, inquired into the family histories of a large number of persons suffering or not suffering from clinical tuberculosis—5,998 adults and 1,431 children. Of the adults, 3,759 were suffering from tuberculosis, 2,239 were not. In the tuberculous series a parental history of tuberculosis was obtained in 432 instances, or 11.5 per cent. of the cases; in the non-tuberculous series positive histories were obtained in 321 instances, or 14.3 per cent. of the cases. Of the 1,431 children, 244 were tuberculous, 1,187 not tuberculous. The percentages of positive family histories work out as 55.7 for the tuberculous and 60.3 for the non-tuberculous. Mr. Drolet has himself set out the data as percentages of the offspring of tuberculous and non-tuberculous parents, reaching the result that 57 per cent. of the adult offspring of tuberculous and 63 per cent. of the adult offspring of non-tuberculous parents are tuberculous, the corresponding figures for children being 13 per cent. and 22 per cent. As, however, the sampling is of the filial, not of the parental, generation, this method of presentation is, we think, erroneous; knowledge of the parents was obtained through the children; but the results, when correctly stated, are so curious that they deserved fuller analysis. We do not think it has been suggested before that the children of the tuberculous are less likely to develop the clinical disease than the children of the non-tuberculous, or, to use Dr. Pearl's analogy, that we might lay odds that the proportion of tuberculous ascendants in the line of a person suffering from tuberculosis is smaller than in the line of a person not suffering from tuberculosis. Mr. Drolet has, indeed, a theory to account for this. He finds that the prognosis in sanatorium treatment of patients with a history of tuberculosis in the family is rather better than that of those without such a history, and holds that "Nature" works by the immunizing of the descendants of the tuberculous. He is, we think, mistaken in supposing that Professor Pearson "felt the existence of some such possibility"; we do not know, of course, but we suspect that in the passage cited from Professor Pearson that investigator may have been referring to an English writer of some note in his day—the late Charles Darwin. But we certainly think that a fuller analysis of Mr. Drolet's material should be prepared; because statistics look odd is no reason for rejecting them, but a very good reason for scrutinizing them closely. We suspect—basing ourselves on experience of the difficulty of securing accurate family histories of disease—that the specifications of both numbers and state of health in the parental generations are incomplete, and that Mr. Drolet is dealing with much less adequate material than Dr. Pearl. When this important point has been cleared up will be time enough to discuss Mr. Drolet's theory of hereditary immunization.

We have thought it worth while to refer to these papers at some length because there is a fairly obvious tendency in recent literature to ventilate very far-reaching theories of etiology in tuberculosis without producing any evidence which will bear critical evaluation. Some very distinguished investigators, such as Professor Calmette, are not wholly free from reproach in this matter, and unless the tendency is checked knowledge of etiology will not be increased, but the very modest existing standard of medico-statistical accuracy will be lowered. As matters now stand, the caution of Dr. Pearl rather than the speculative ingenuity of Mr. Drolet should be the guide of workers in this field.

## INFANTILE PARALYSIS.

THE disease described by Medin and Heine, and long known as infantile paralysis, has become more and more important during the last thirty years. As our knowledge of its incidence and pathology has increased the descriptive inadequacy of its title has become evident. The original name became obviously inappropriate as soon as it was recognized that the disease sometimes affected adults, whereupon the pathological name of anterior poliomyelitis was substituted. Later still—when it was established that in some of the cases observed during epidemics lesions were found in other parts of the central nervous system, and symptoms were recorded which betokened affections of the cerebrum—it became necessary to make its name more comprehensive, and writers such as R. W. Lovett adopted the cumbersome title of anterior poliomyelo-encephalitis. Until 1894 no extensive epidemic of the disease had been accurately recorded, but in that year Caverly reported 132 cases in the course of a few months in the New England State of Vermont. Since then there have been thirteen epidemics of sufficient importance to be tabulated by Jones and Lovett in their recent work on orthopaedic surgery, culminating in the really appalling outbreak of 1916 in the City and State of New York, in which 13,223 persons were attacked, and the death rate was over 25 per cent. These thirteen epidemics comprised over 18,000 cases, with an average death rate of 20.7 per cent. Although complete recovery occurs in perhaps one-fourth of the survivors, the remainder are the victims of lifelong disability in a greater or less degree. The infectivity of the disease has been established beyond doubt, although the micro-organism concerned is a filter-passer which has not been isolated. In this country the disease is notifiable, but as it is almost certainly propagated by unsuspected "carriers" attempts to control it by isolation are not very likely to be successful.

No acceptable explanation has yet been offered of the localization of epidemics of anterior poliomyelo-encephalitis, and no good reason can be assigned for their prevalence in the north-eastern States of the Union. Besides those localities, the Scandinavian peninsula and Central Germany have been sufferers. No epidemic of importance has been recorded in Great Britain, Ireland, or France, yet the frequency of sporadic cases and small epidemics in these countries shows that the conditions in them are not prohibitive, and that we must not count on the continuance of our comparative immunity. Therefore we should set our house in order and be prepared for eventualities. The cripples' organization which started in Shropshire, and which is spreading all over the country, should provide the cadres for mobilization in case of attack by a formidable epidemic. In London the County Council has a scheme on foot for the provision of hospital treatment for cases occurring within its area.

Enough has been said to show the gravity of the problems presented by this disease and to justify Mr. E. W. Hey Groves in choosing its treatment as the subject for his address to the Dorset Medical Society, which appears in another part of this issue. The principles, and the application of them which he so strenuously advocates, are accepted by all orthopaedic surgeons and those physicians and other practitioners whose lot it has been to acquire adequate acquaintance with this disease. For many years orthopaedic surgeons have had the satisfaction of correcting paralytic deformities by various means, including the application of instruments, and of enabling cripples



who may have appeared doomed to hopeless inactivity to stand erect upon their feet and to move about. But it has been seldom that the surgeon saw a case in its early stage, or even before contractures and secondary joint and bone distortions had supervened. Some physicians, notably the late Dr. F. E. Batten, utilized their opportunities of treating cases in their early stages by inculcating the necessity of prevention of deformity by the use of celluloid or other retentive appliances; but until recent years the early treatment has been too often, on the one hand, harmfully meddling in its attempts at stimulation, or, on the other hand, negligent of the means of preventing secondary changes in bones and contractures of joints.

The disease, Mr. Hey Groves reminds us, has for convenience been described as consisting of three stages, but, strictly speaking, there are only two—namely, the initial inflammatory stage, and the longer stage during which recovery is taking place in those nerve cells which have not been irretrievably damaged. In the so-called third stage no active morbid process is going on, but the effects of previous active disease remain permanently. Everyone with any experience agreed that in the first two stages complete physiological rest is imperatively called for. In the less severe cases—in which, for instance, one leg and foot only are obviously affected—the first stage may be so transient as to escape notice by untrained observers. Many parents in the out-patient room have declared that there was no sign of malaise or fever, but that the child "went to bed well and woke up paralysed." Such was the history given in 19 out of a series of 115 cases recorded in a paper read by Mr. Muirhead Little at the Annual Meeting of the British Medical Association at Ipswich in 1900,<sup>1</sup> while in many others no history of constitutional disturbance could be elicited. His experience suggests that although early recognition and treatment is most desirable, there will often be practical difficulties in their attainment. It is therefore all the more necessary that every practitioner should bear in mind the importance of watching carefully any symptoms of malaise occurring in children during the third quarter of the year, in which season the majority of attacks occur, and of prescribing complete rest as a precautionary measure. As soon as the diagnosis of poliomyelitis is made, the measures of restraint specified by Mr. Hey Groves and other writers must be employed. Later on the specialist will probably be called upon to perform such operations as may be necessary to enable the patient to make the best use of so much muscular power as remains to him and to minimize the need of mechanical supports, which, however, can never be entirely dispensed with in severe cases. But neither the general practitioner nor the specialist can do his part of the work unless the necessary clinics and hospitals are provided. Early notification in the active stages of the malady ought to connote the provision of the necessary beds in isolation hospitals or wards of hospitals, while for the crippled stage it is most desirable that the hands of the Central Committee for the Care of Cripples and of the administrative authorities responsible for orthopaedic and cripples' hospitals should be strengthened by the provision of ample funds by the charitable public, in which should be included not only the rich, but also those agencies which enable the working man to take his part in charitable work.

Mr. Hey Groves concludes his address with a slashing attack upon British hospitals in general and the voluntary hospitals in particular. There is, he

says, "striking evidence of the failure of the voluntary system." Slashing attacks are a sign of vigour, and they commonly have results—either the destruction of an untenable position or the impalement of the attacker. Mr. Hey Groves's attack is based upon his failure to get what he wants for his patients. He wants special institutions, "open-air hospitals," for those who have passed the acute stage of infantile paralysis, where they can be treated for years. Proof that his demand is justified is to be found in his own words: "Such open-air school hospitals have been springing up all over the country, chiefly as the result of individual philanthropy and enterprise." Strangely enough, he confesses that he is getting the thing he wants, and partly through the very voluntary system he condemns so bluntly. Much of his condemnation is based upon a misconception common to many writers and speakers. There is a hospital system in this country—a patchy mosaic established by statute under various authorities. There is no voluntary "system," though there are many voluntary hospitals—the expression of "individual philanthropy and enterprise" (to use Mr. Hey Groves's words). At diverse times and in various places men and women, moved by the spirit of the Good Samaritan, have given of their skill, time, and substance for their stricken neighbours. The appeal has arisen in many different ways, but it has always been swiftly answered. The fever-stricken, the leper, the outcast, the infirm, the woman in child-bed, sick children, and the child paralytic have all made their piteous appeal, and the generosity of the philanthropist and doctor has always and quickly answered it. The fact that now in this country the beds in "State" hospitals vastly outnumber those in "voluntary" hospitals is in itself proof of the success of the voluntary principle; it means that "individual philanthropy and enterprise" has compelled the sluggish mass of the community to follow suit. That Mr. Hey Groves has not all the open-air school hospitals he wants shows chiefly that the local education authorities are not carrying out duties which are properly theirs. It is evident from this that the mass movement has not yet been drawn into the wake of the individual pioneers. But perhaps he is writing of Bristol only, for there are parts of the country where the advance has been much greater.

A phrase in Mr. Hey Groves's paper suggests that he is not familiar with the policy of the British Medical Association for the co-ordination of hospital services. It has just been published in a separate pamphlet,<sup>2</sup> and is worth study. Perhaps through that scheme we shall be able to combine the swift response of voluntary or independent enterprise with the mass of communal action, to the general advantage.

The fifth British Congress of Obstetrics and Gynaecology will be held at the house of the Royal Society of Medicine, 1, Wimpole Street, London, W., from April 22nd to 24th inclusive. The president is Dr. H. Russell Andrews, and the honorary secretaries Mr. Clifford White and Dr. J. D. Barris. The subjects to be treated include the prognosis and treatment of puerperal sepsis, and endometrioma. The members of the Congress will be entertained to lunch by the Section of Obstetrics and Gynaecology of the Royal Society of Medicine; an evening reception and a dinner will also be held. The detailed programme will be issued at the beginning of April.

<sup>1</sup> BRITISH MEDICAL JOURNAL, 1900, vol. ii, p. 580.

<sup>2</sup> Policy Affecting Hospitals. British Medical Association, 429 Strand, 1925. Pp. 27. Price 3d.

## THE PRESCRIPTION OF MANGANESE.

LITTLE prominence has been given to compounds of manganese in works on materia medica, and no extensive therapeutic use has been made in this country of pharmaceutical products from it. Its compounds fall into two classes: one is represented by salts of the type of manganese sulphate or chloride; the other comprises the group of permanganates, and includes the higher oxides, which have a more pronounced character as vehicles of chemically active oxygen than of medicinal manganese. Manganese sulphate has appeared in a list of purgatives, the dose ranging from 30 to 60 grains; in that character a similarity is evinced to its crystalline isomorph magnesium sulphate. It has also been accounted a tonic when given in doses of 1 to 5 grains; in this respect it bears comparison with ferrous sulphate, with which it is also isomorphous. Manganese hypophosphite is an ingredient of compound syrup of hypophosphites (*B.P.C.*). The expectation that manganese would be rendered more readily absorbable when combined with protein has led to the preparation of a nucleinate; a colloidal solution of the dioxide has also been prepared for medicinal use, and manganese butyrate has been used for intramuscular injection. The uses of potassium permanganate are very well known. It has been generally regarded as having only a local action. Since, however, the view is now established that manganese plays an important part in metabolism, it may not suffice to assume that the beneficial effects of certain modes of treatment by permanganate can be attributed solely to local action; consequences of absorption and assimilation must also receive attention. The interest—some evidence of which is afforded by the letters published elsewhere this week—aroused by Dr. H. W. Nott's paper (published last week, p. 443) on the effects of rectal injection of permanganate accompanied by administration of products of the thyroid gland, will stimulate the desire for a preparation to be given by the mouth which shall produce like effects. It will be helpful, in following this aim, to have a careful appreciation of the conditions of the treatment adopted by Dr. Nott. When permanganate is injected into the rectum three actions can be recognized: first, a vigorous oxidation acting selectively on those matters most susceptible of oxidation with which it comes in contact; secondly, the production of manganese dioxide or even a lower oxide in a condition capable of being absorbed; and thirdly, the formation of caustic alkali. Three grains of potassium permanganate produce a grain of caustic potash—an action of doubtful advantage, for certain mucous surfaces are highly sensitive to caustic alkali, even when it is much diluted. This may perhaps account for the mucous casts of the bowel passed by some of the patients treated by rectal injection. Since the manganese salts belonging to the first mentioned group have no oxidizing power, it is evident that none of them could supply the oxidizing activity of permanganate. Permanganate itself undergoes immediate decomposition when given by the mouth. It is, however, not improbable that both the other activities of permanganate, provisionally regarded as desirable, may be realized in adequate degree by the administration of manganese dioxide by the mouth, especially if it be given in a form that would pass to the bowel with least intermediate change. Manganese dioxide possesses an oxidizing power which is less vigorous than that of permanganate, but it is nevertheless effective on matters susceptible of oxidation. Camesease, whose successful use of manganese in debilitated children was noted in the leading article published last week (p. 468), prescribed manganese binoxide in cachets or compressed tablets given by the mouth. His formula in English equivalents is manganese dioxide gr. xiv, magnesium carbonate gr. xx, magnesium peroxide gr. v, diastase gr. i, gum, sugar, essences q.s. These

quantities yield fourteen doses, dispensed as compressed tablets, each containing a grain of manganese dioxide. English authorities give variously, some 5 to 10 grains, and others 10 to 30 grains, as the permissible dose. Manganese dioxide is not included in the *British Pharmacopoeia* as a medicine; it appears there only as a test reagent. There are two kinds: One is natural; it occurs chiefly in the form of pyrolusite, consisting of steel-grey prismatic crystals, and in the amorphous mineral psilomelane, a black powder. The natural product contains more or less iron oxide, calcium carbonate, and earthy matter. The other kind is obtained by precipitating a solution of manganese by means of ammonia and hydrogen peroxide and repeated washing. Both are described in the *Pharmaceutical Code*, but only the precipitated powder is there mentioned as suitable for internal administration. The natural article may, however, probably be preferred for the purpose now in view, for the precipitated, being more active, is less likely to reach the bowel unchanged. The natural kind can be rendered pure for medicinal use without alteration of its character; if no other but the precipitated is available, it could be rendered less speedily changeable by the simple process of ignition. Manganese dioxide may be conveniently administered alone in cachets or pills, the dose being varied, according to progress, between the limits above indicated.

## SCHOOLS AND EPIDEMICS.

THE Ministry of Health and the Board of Education have jointly issued a revised memorandum on the closure of schools and the exclusion of children from them.<sup>1</sup> The previous issue was in 1909. In an introductory note it is pointed out that hitherto local education authorities have been able to close schools during epidemics, not purely in public health interests, but for reasons of finance, so as to save loss of grant from diminished attendance. That statement amounts to a frank admission of mistaken policy on the part of the central authorities, and it is good that they have seen the wisdom of departing from it. The primary purpose of the school being education, it was wrong to make it possible for local bodies to profit financially by complete school closure rather than exclusion of pupils where the latter measure would be equally efficacious in checking spread of disease. The code now provides that closure shall take place only for medical reasons, and that authorities shall be secured from financial loss when schools are kept open with a greatly diminished attendance. Though in other respects the new memorandum does not differ essentially from that of 1909, attention is directed to certain changes and additions. These relate (1) to the rules as to periods of exclusion necessary for scarlet fever, diphtheria, measles, and mumps; (2) to rules for action in respect of small-pox, German measles, influenza, and epidemic diseases of the central nervous system, which have now increased in prevalence; (3) to action required where teachers are found suffering from pulmonary tuberculosis; and (4) an appendix giving in summary tabular form the incubation and exclusion periods of the commoner infectious diseases. After detailing the powers of local authorities, the memorandum goes on to give guidance for the co-ordination of the work of the school medical service with that of the public health service in respect of school closure, which is to be resorted to as seldom as possible, and the exclusion of children, which is very generally the more advisable course. The sanitary and educational authorities are the same in county boroughs and in some municipal boroughs and urban districts, so these may have the same officer for both purposes, who, it is advised, will generally find it more convenient to deal with closure and

<sup>1</sup> Copies may be obtained from H.M. Stationery Office or through any bookseller, price 4d. net.

exclusion as school medical officer, because, if the Board is satisfied with arrangements made locally, the officer can authorize exclusion directly, without reference to his authority, while, as already insisted, where he can only advise, not authorize, school closure should be rare and exceptional. Where there are two separate officers—one for education, the other for public health—the same considerations apply generally, though the responsibility of the latter officer for dealing with outbreaks of infectious disease is not diminished by the powers of the former, and definite working arrangements should be established on lines laid down in the memorandum. The collection of information about infectious disease among children will depend mainly on the medical organization of the local education authority, which can systematize the work of teachers, school nurses, and attendance officers, as well as get information from parents. Of these agencies that of well trained nurses is the best, by visits both to schools and to homes of absentees. Where the medical officer holds a joint appointment the information should go to him; elsewhere the health officer should be the first recipient, and transmit the information promptly to the school medical officer. Infection is spread much more by persons than by things, so that besides disinfection, cleanliness, and ventilation of school premises, special regard is to be given to children of infected households as possible carriers, and unrecognized cases may be sought for among children who have returned to school after a short absence. Exceptional conditions sometimes justifying school closure include infectious sickness in the teacher's family, the need for disinfection and cleansing after infected children have been in attendance, the rectification of sanitary defects; whilst in rural areas with scattered population the school may give the only likely opportunities for intercourse and so may be properly closed. Sometimes it suffices to close, not a whole school, but a department. An important section of the memorandum deals with rules for action in respect of particular diseases—scarlet fever, diphtheria, measles, and others—but the details are too numerous for synopsis here. Epidemic diseases of the central nervous system are referred to last of all, and though the guidance that present knowledge permits is limited in amount, yet what is said will no doubt be carefully studied. The whole memorandum will now be essential for reference by every health officer and school medical officer in the country. It is, moreover, well worth perusal by education authorities in general. It is signed by Sir George Nowman on behalf of the Board of Education and the Minister of Health.

#### THE BACTERIOLOGY OF CANCER.

Some pathologists are reverting to the belief, once very generally held, that cancer is due to infection by some extraneous organism. On analogical grounds there is much to be said for this view, and investigations in this direction undoubtedly deserve encouragement. One of its chief exponents in this country is Dr. James Young of Edinburgh, who summed up the grounds on which he has arrived at this opinion in a paper recently published in our columns (January 10th, 1925, p. 60). He described an organism possessing a series of phases—yeast, coccoid, bacillary, and amorphous—each of which could grow true to type and live a wholly independent life. He advanced evidence which satisfied him that the parasite lives in symbiosis with the cancer cell in the amorphous phase. The parasite, he said, belonged to familiar bacteria widespread in nature, and expressed the opinion that the ease with which cancer could be produced experimentally in animals by chronic irritation suggested that tissue susceptibility, which he also concluded must exist, implied an immediate risk of infection by a ubiquitous organism. Last year (June 21st, p. 1105) we gave some account of a

micro-organism isolated by Dr. T. J. Glover, formerly of Toronto, who claimed to have produced cancer in animals by its inoculation. He claimed also to have produced a serum with which he obtained favourable results. At that time Mr. R. J. Willan, who had then recently visited the United States, and to whom we were indebted for recent information, told us that he had heard of several successful cases, but was of the opinion, in which we concurred, that the claims made by Dr. Glover and his colleague Dr. Scott must be received with caution until a full disclosure was made. Dr. London and Dr. James M. McCormack, physicians to St. Michael's Hospital, Toronto, published in a recent issue of the *Canada Lancet and Practitioner* (January, 1925) some observations they had made regarding the isolation, culture, and identification of the organism described by Dr. Glover. They had visited Dr. Glover's laboratory in New York, and had afterwards carried out a number of independent experiments and had cultivated an organism which they considered to be identical with that described by Glover. They insist upon its pleomorphism and recognize three distinct states of the life-cycle—bacillus, coccus, and spore sac. They also state that in one phase the virus passed through a Berkefeld filter, and that the filtrate yielded positive cultures when incubated at 37° C. for two days. They consider that their organism is identical with Glover's, and Dr. James Young informs us, in a letter recently received, that he considers that both are probably identical with his. He adds an expression of his belief that the cancer parasite can be understood properly only when considered in the light of recent work in bacterial variation, especially that of Lönnis and others. He concludes that a number of parasites may possess filterable, coccoid, bacillary, hyphal, and yeast phases. He also calls attention to recent investigations by Blumenthal, Auler, and Meyer of Berlin, who have obtained from different types of human malignant tumours a bacillus which they believe to be akin to the *Bacillus tumefaciens*, the cause of crown-gall in plants (Erwin Smith). By injecting this organism of human origin they have produced in the sunflower tumours indistinguishable from the typical crown-gall growth. Its injection into animals was followed in only two cases by a malignant growth at the site of inoculation. When accompanied by an irritant, however, employed for the purpose of preparing the tissues for the operation of the organism, malignant growths were produced at the site of inoculation in a considerable number of animals, and, in some, the microscopic malignancy was confirmed by the occurrence of metastases and by the fact that the tumours grew after transplantation to other animals of the same species.

#### TESTS OF PHYSICAL EFFICIENCY.

LIEUT.-COLONEL C. B. HEALD, M.D., medical adviser to the Department of Civil Aviation, Air Ministry, has visions of a newer medicine, in which the conventional methods of physical diagnosis will be scrapped. In the address which he delivered lately before the Royal Aeronautical Society he ventured to prophesy that we shall be able, by other than the conventional methods, to estimate with a high degree of scientific accuracy the physical well-being of any individual, to forecast where his barriers against possible disease are weak, and, by taking timely precautions, to strengthen them and so increase the chances of a prolonged and healthy life. It is through the science of aviation that this newer medicine will be realized, for it is presenting new problems in estimating physical efficiency, and teaching new facts regarding the mental and physical well-being of the individual. It is in words such as these that Dr. Heald concluded an address which throughout contained points of interest. He told his audience that the object of the

medical test of a pilot is not so much the detection of disease as the estimation of his degree of well-being. While they enable the medical examiner to diagnose disease in its most preventable form, they also enable him to advise the pilot how he may retain his fitness or regain it if it is deteriorating. Like Oliver Wendell Holmes's one-hoss shay, the pilot breaks down but does not wear out. The medical tests detect the weak points in the machinery before the breakdown occurs. Centralization of the periodical medical examination of pilots, of apparatus and accommodation, and of a system of graphic and other records, is therefore essential, at any rate at present, for accurately comparing changes in physical efficiency. The tests as a whole are designed to assess the basic physical standard of the pilot, to estimate his ability in the air, and to indicate the effect of his ground life on his basic physical condition. Three of the tests—namely, the exercise tolerance test and the blood pressure and vital capacity measurements—are "habit detectors." Together they give useful information as regards the pilot's habits on the ground with reference to exercise and overindulgence in food, drink, and tobacco. Dr. Heald also described three new testing apparatus—the Tucker auditory testing apparatus for recording accurately the power of hearing, the heart recoil apparatus for testing the ability of the heart to withstand the strain of long flights in bad weather, and the Reid control apparatus for assessing the manner in which the delicate co-ordinated physical machinery involved in flight is likely to function. These new tests illustrate how air medicine is endeavouring to improve the technique of medical examinations, and appear, indeed, to have given Dr. Heald his visions of a newer medicine. In the course of his address he made some sound practicable suggestions for establishing confidence between employer, the pilot, the public, the insurance companies, and the Government in connexion with passenger traffic in the air, and also remarked on the difficulties of maintaining a high degree of sanitation in the passenger car, especially in connexion with ventilation and air-sickness. The provision of first-aid boxes in passenger machines and ambulance services in aerodromes was also touched upon.

#### THE CONTROL OF THE TSETSE FLY.

Though *Glossina palpalis* is best known to the medical profession because it is the chief carrier of sleeping sickness, the cattle tsetse presents an even more formidable problem, owing to the vastness of the areas of which they effectually hamper the development. In *Nature* last week Mr. C. F. M. Swynnerton, in charge of tsetse work in Tanganyika Territory, described a scheme of control which had been inaugurated in Tanganyika Territory, and urged that, if the attack on the tsetse is to be made in the most economical and effective way, the main measures must lie in the diversion and regulation of agencies already in existence. The natives must be taught to understand and take part in the solution of their own problems, and existing agencies, such as the annual grass fires, must be harnessed. Tsetse flies are dependent on the presence of "bush." Certain native tribes have adopted a mode of settlement whereby, through the presence of sufficiently closely dotted villages with their chopping for firewood, building, and cultivation, and the browsing of their numerous stock, the bush is kept down and the "fly" excluded. By encouraging this form of settlement everywhere segregation will be extended and, for practical purposes, a control of the fly will be obtained. This concentration of organizable population, Mr. Swynnerton considers, is a necessary preliminary to all measures of a large nature against the tsetse in the bush; that is to say, reclamation must be undertaken. When one of these settlements comes into being its members should be helped to possess themselves of

cattle—for only cattle will "anchor" them permanently—and should be encouraged to push back the "fly" in conformity with their requirements. This will be done by an annual clearing of bush. The process has been begun in Shinyanga with the co-operation of the natives, and satisfactory results are already apparent. Clearing must be systematic, otherwise the stumps send out shoots and the position becomes worse than ever; methods of encouraging the removal of stumps and otherwise of killing woody growth are being experimented with. Increase in the population of the settlements should be encouraged by means of propaganda in hygiene, and the extension of the settlements be so guided that they would ultimately coalesce and cut off blocks of fly-infested bush, which, through their smaller size, could be attacked with more hope of success than the huge unbroken "fly-belt." Various methods could be applied to the blocks or smaller fly-belts. Swynnerton favours especially destruction of the thickets, which afford a breeding-place for most species of fly and a refuge for all during the annual grass fires; he would postpone the latter to the end of the dry season, when their lighting should be organized. Last year these organized fires drove the flies before them in great numbers into unburning thickets and patches of country burned previously, and it is suggested that in these places they could be exterminated merely by catching on a great scale. The fire also burned numbers of small breeding thickets, and killed, it appeared, many of the pupae of the flies. Father Cirvegna, a missionary, is believed to have cleared of fly a smaller area in three burnings. As regards game, the view is held that, while here and there the checking of particular movements of game animals may be necessary, no one wishes to exterminate the wonderful African fauna if the tsetse fly can be controlled otherwise, and that the initial work in Tanganyika leads to the very strong hope that it can. Swynnerton holds that knowledge of how to fight the tsetse can now best be advanced by taking a definite large area or entire territory and applying to it all knowledge that has been or will be acquired, by means of reclamation officers working hand in hand with research officers. These men would be trained in the field at the stations first established, and many would pass thence to other parts of Africa in order to make the campaign general. A large fund would be needed for this gradual development of large-scale experimentation in actual control under all African conditions; at the stage now reached that is the right method of research.

#### CHLORINE TREATMENT OF CERTAIN INFECTIONS.

The use of chlorine in the treatment of respiratory disease has been studied by Lieut.-Colonel E. B. Vedder and Captain H. P. Sawyer, of the Medical Corps of the United States Army, and a few months ago we gave an account of their first report.<sup>1</sup> In a further report, recently published,<sup>2</sup> they produce a certain amount of additional evidence in support of the therapeutic value of the gas, and discuss at some length the mode in which it may be supposed to act. They state that of 85 cases of coryza treated by them during June, 1924, cure resulted in 60, 22 were improved, and there was no change in 3. In acute bronchitis 6 out of 9 patients were cured and 3 improved, while in acute laryngitis 2 out of 6 patients were cured and 4 improved. The remedy was less successful in chronic bronchitis and whooping-cough. In the former only 2 out of 12 patients were definitely cured, and in the latter 4 out of 21; the number improved in each case was 10. The authors now agree that sterility of the mucous surfaces following the therapeutic use of chlorine cannot be expected, though many bacteria are doubtless killed. They think, therefore, that the clinical improvement can be better explained as

<sup>1</sup> BRITISH MEDICAL JOURNAL, December 27th, 1924, p. 1266.

<sup>2</sup> Journ. Amer. Med. Assoc., January 31st, 1925, p. 361.

follows. The irritant action of chlorine stimulates the lymph flow and cleanses the mucous surfaces, destroying large numbers of organisms, some of which may even be brought up from the depths of glands and crypts. In whooping-cough the beneficial effect is attributed to the loosening of the masses of tenacious mucus, which are then expelled more readily. They state that irritants such as chlorine cause a primary brief capillary constriction, followed by protracted dilatation, which produces hyperaemia of the affected mucous membranes; this aids recovery by improving the blood supply and increasing the number of polymorphonuclear leucocytes. The best therapeutic results were given by a chlorine concentration between 0.009 and 0.015 mg. per litre. This must be maintained for one hour; failures follow any excursions outside these limits. An apparatus has been devised to deliver the proper concentration of chlorine constantly and automatically. The gas generated by the electrolysis of hydrochloric acid is mixed with air in a box and delivered at the rate of 10 to 12 cubic feet a minute. The patient breathes the mixture through a funnel-shaped bag of muslin, applied loosely to the nose and mouth; re-breathing into the bag is avoided. Chlorine rooms have been designed for use in large hospitals, and for the treatment of animals. The authors state definitely that hay fever, asthma, pneumonia, and tuberculosis have not been benefited by this treatment, and are to be regarded as contraindicating its use. A few patients showed unusual susceptibility to the gas, and in them the length of treatment was reduced. An infant of 3 months with whooping-cough made a good recovery after being treated on four separate days, and several patients aged from 75 to 85 with chronic bronchitis obtained considerable benefit. The authors believe that chlorine treatment will prove to have a prophylactic value, and that treatment of early cases of influenza, whooping-cough, or similar infections will result in preventing epidemics from occurring in regiments, schools, and industrial establishments. Benefit is reported also in distemper in dogs, and an epidemic of influenza in horses was cut short. So far, however, no confirmatory evidence of the value of chlorine treatment has been published by other investigators working on a large scale.

#### THE EDUCATIONAL VALUE OF THE SANITARY SURVEY.

THE second series of the Rockefeller Foundation's publication *Methods and Problems of Medical Education*,<sup>1</sup> issued by its Division of Medical Education under the direction of Dr. Richard M. Pearce, differs considerably from the first series, which was reviewed in our columns (1924, ii, 1014). Instead of dealing, as the opening number did, with several different subjects, this instalment confines its attention to the sanitary survey as an instrument of instruction in medical schools. Dr. Milton J. Rosenau, professor of preventive medicine and hygiene in the Harvard Medical School, Boston, discusses this problem in a comparatively short paper, and the rest of the volume is devoted to the sanitary survey of Rochester, New Hampshire, by Mr. Shields Warren when he was a third year's student in the Harvard Medical School. Professor Rosenau confines his remarks strictly to the use of the sanitary survey as a method of instruction in medical schools, and leaves entirely out of consideration for the time the teaching of preventive medicine, hygiene, and sanitation. To arouse interest is a basis of successful teaching, and the sanitary survey brings interest to a subject which the ordinary medical student regards as having but little bearing on his life's work. It was first used as a method of instruction in the School for Health Officers at Harvard, and met with such signal success that

it was introduced later into the course in preventive medicine and hygiene. Every student working for a medical degree is required to make a sanitary survey of some city or town, and submit a report containing (a) the collected data, (b) the interpretation of the facts, and (c) criticisms and recommendations. The student is told to regard the town that he is surveying just as he would a patient, but is not given any special instructions, since it is considered desirable to bring out powers of initiative, observation, and analysis. A small place is more suitable than a large one for such a sanitary service, and Boston is fortunate in having fifty-two towns within fifteen miles of the State House. All the Harvard medical students carry out these surveys, often in the vacations, and apparently the authorities of the surveyed towns sometimes come to recognize their deficiencies, and have employed the surveyors to organize a health service. The surveys are all filed in the Harvard Medical School. Mr. Shields Warren's survey of Rochester, New Hampshire, is reproduced without correction and with its photographs, graphs, and tables.

#### VITAMIN DEFICIENCY.

THE Royal Society of Medicine (as reported in our issue of February 21st, pp. 358-9) recently held a general meeting to consider the non-specific disturbances of health due to vitamin deficiency. The four opening papers were so full and so interesting that there was little or no time to discuss them. But so many present expressed the desire to debate the subject fully that the society is holding a further meeting on Monday, March 23rd, at 5.30 p.m. The subject will again be opened by Dr. Leonard Williams, Colonel Robert McCarrison, Dr. W. Cramer, and Dr. G. M. Findlay, with an epitome of their opening speeches and lantern demonstrations. But the original speeches can be read in full in the March number of the society's *Proceedings*, and those who wish for a summary can obtain galley slips on application at the society's office, 1, Wimpole Street, W.1. The general discussion of these papers will be opened by Dr. William Hunter and Dr. Robert Hutchison.

#### VENEREAL DISEASE: DEPUTATION TO THE MINISTER OF HEALTH.

LAST week the Minister of Health, who was attended by the Chief Medical Officer, the Secretary of the Department, and other technical advisers, received a joint deputation from the National Council for Combating Venereal Diseases and the Society for the Prevention of Venereal Disease. In the absence of Lord Trevethin, president of the National Council, the deputation was introduced by Sir Auckland Geddes, G.C.M.G., M.D., president of the Society, acting on behalf of both bodies. Sir Auckland Geddes stated the case on the lines agreed by the joint conference of the two societies, and supported the recommendation contained in Clause 14 of the Trevethin report: "That the law should be altered so as to permit properly qualified chemists to sell *ad hoc* disinfectants, provided such disinfectants are sold in a form approved and with instructions for use approved by some competent authority." Sir Auckland Geddes further urged on behalf of the deputation that this competent authority preferably should be the Ministry of Health, otherwise the Medical Research Council or a commission of experts. In reply, Mr. Neville Chamberlain promised to consider carefully the suggestions which had been made, and to communicate the result of his further consideration as soon as possible.

WE regret to announce the death of Dr. John Cleland, F.R.S., Emeritus Professor of Anatomy in the University of Glasgow, in his ninetieth year. We hope to publish a memoir in an early issue.

<sup>1</sup> *Methods and Problems of Medical Education*. Second series. The Sanitary Survey as an Instrument of Instruction in Medical Schools. New York, 1924.



## Nova et Vetera.

FRANCIS GALTON.

More than sixty years ago a professor in University College, London, David Masson, published the first volume of his *Life of Milton*. Bagehot said that it was very laborious, very learned, and in the main very accurate, but "composed upon a principle that is utterly erroneous." He remarked that: "For ancient heroes the exhaustive method is possible. All that can be known of them is contained in a few short passages of Greek and Latin, and it is quite possible to say whatever can be said about every one of these: the result would not be unreasonably bulky, though it might be dull. But in the case of men who have lived in the thick of the crowded modern world, no such course is admissible; over-much may be said, and we must choose what we will say."

Another professor in University College has just published the second volume of another biography<sup>1</sup>, when completed it may run to as many words as Masson's *Life of Milton*. To many people the events of John Milton's life would seem more interesting, certainly more romantic, than anything Francis Galton experienced; Masson had better "copy" than Professor Pearson. Nobody, however, save perhaps some diligent American compiler of a degree thesis, is likely to read in our time Masson's vast book, but we prophesy that Pearson's *Life of Galton* will be ranked by our descendants not very far behind Boswell's "Johnson" and Trevelyan's "Macaulay."

One reason of the superiority is on the surface: Professor Pearson is a much better literary craftsman than Professor Masson, commanding a style always cogent, and sometimes attaining a high level of eloquence. A profounder difference is that Professor Pearson has been guided by a clear and (we believe) correct principle. His aim has been to write the history of a mind, and he has realized that the working of that mind can only be made intelligible if, beside a study of the actions and reactions of the individual human being and his environment, a clear and correct picture is given of biological factors mingling in his ancestry which predetermined the essence of the individual human spirit. This is why so much of the first volume was devoted to genealogy, and the reader of that volume, recalling the scrappy but tedious pages devoted to genealogy in most full-dress biographies, will agree that exact detail artistically presented is not tedious, but fascinating.

<sup>1</sup> *The Life, Letters, and Labours of Francis Galton*. By Karl Pearson. Volume II. *Researches of Middle Life*. Cambridge: The University Press. 1924. (72 x 112, pp. xi + 424; illustrated. 45s. net.)



FRANCIS GALTON.

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The present volume covers the most productive years of Galton's life: a good deal remains to be recorded because Galton's work ended only with his life, and one important part of his statistical work has been reserved for the concluding volume; but this volume leaves him a septuagenarian, and its reader will know fully what manner of man he was. We propose to refer, very briefly, to the detailed contents of the work; but, before doing so, we desire to record some general impressions.

An enumeration of the subjects upon which Galton wrote might well induce the reader to apply to Galton the adjective "versatile." In the sense of having a flexible intelligence, power of inventing or acquiring a new intellectual technique, Galton was indeed versatile. But, in common English usage, the adjective conveys a faint

flavour of depreciation, a suggestion of fickleness, of the comment on Renben, "unstable as water, thou shalt not excel." In this sense there was no versatility in Galton's career; he was from first to last, in the widest sense of the word, an anthropologist, a single-minded student of man. His intellect was, from one point of view, simple. We should surmise that he took very little pleasure in subtle dialectic, that he would have formed as low an opinion of Galen as Sydenham formed. He instinctively approached every problem from the experimental side. No man ever less needed Hunter's admonition to Jenner. Nobody ever had to say to Galton, "Why think, why not try the experiment?" He was always trying the experiment. One may choose three quite typical examples from different periods of his life.

In 1860, still actively interested in the problems of travel, he writes: "Unthinking persons talk of the fearful rapidity of a lion's or a tiger's spring. It is not rapid at all; it is a slow movement, as must be evident from the following consideration.

No wild animal can leap ten yards, and they all make a high trajectory in their leaps. Now think of the speed of a ball thrown, or rather pitched, with just sufficient force to be caught by a person ten yards off; it is a mere nothing. The catcher can play with it as he likes; he has even time to turn after it, if thrown wide. But the speed of a springing animal is undeniably the same as that of a ball, thrown so as to make a flight of equal length and height in the air. The corollary to all this is that if charged, you must keep cool and watchful, and your chance of escape is far greater than non-sportsmen would imagine." In other words, before waxing rhetorical over the death-dealing leap of a lion, check your eloquence with a tennis ball.

Twelve years later Galton is writing a paper on the efficacy of prayer. If prayer is objectively efficacious, surely we ought to be able to find some evidence of it. Why not find out whether people who pray or are prayed for a good deal live longer than those to the affairs of whom the

# FRANCIS GALTON.

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Almighty's attention is rarely called? Galton promptly goes to a biographical dictionary and works out the mean age at death of eminent clergy, lawyers, and medical men, and finds that for clergy it is 66.42 years, for lawyers 66.51 years, and for doctors 67.07. He also discovers that the nobility are peculiarly subject to insanity, although we regularly pray that they may be endued "with grace, wisdom, and understanding." One need not be told how much offence so uncompromising a believer in the experimental method gave fifty years ago.

In his old age Galton was greatly interested in the experimental testing of the theoretical laws of frequency, and worked much with dice. Such practices are discountenanced in the best intellectual circles, and Mr. Maynard Keynes has spoken with freezing contempt of those who "satisfy a certain idle curiosity," in this way. But experiments on "chance" have guided men of fair ability—Buffon, Laplace, Galton, Weldon, and Pearson—to some interesting results. These examples are trivial, but they are characteristic. Galton's genius was, we think, experimental.

The first chapter in this volume is concerned with transition studies; the most important was, perhaps, meteorology, to which Galton was led by a realization of the value of a knowledge of climate to the traveller and explorer. When Galton resigned from the Meteorological Council in 1861, Sir Richard Strachey wrote: "It is no exaggeration to say that almost every room in the office and all its records give unmistakable evidence of the active share that you have always taken in the direction of the operations of the Office." Many examples of Galton's sagacious ingenuity in devising apparatus are given, and a paper on "Barometric Predictions of Weather," published in 1870, is of special interest in his life story, because it is a first approximation to the principle of statistical correlation, his greatest contribution to the general methodology of science.

In the next chapter Professor Pearson gives an analysis and discerning criticism of Galton's first very important book, *Hereditary Genius*. It would be hard to better this judgement: "*Hereditary Genius* is one of the great books of the world, not so much by what it proves, as by what it suggests. Detailed proof was to come afterwards, step by step. Its publication formed the central epoch of Galton's life, and nearly all his later work may be seen therein to take its origin."

In the next chapter, which includes an interesting correspondence with his cousin Charles Darwin, we see Galton at work as an experimental biologist. There was a divergence of view between Darwin and Galton on the subject of "pangenesis"; subsequent results have shown that Galton saw more of the truth than Darwin. A generation before the rediscovery of Mendel's work Galton fully realized that somatic characters were no measures of gametic possibilities, and that the second generation of hybrids showed more diversity than the first.

At the end of the seventies Galton's anthropological quest led him to psychometry, and he became the first English experimental psychologist. He did not actually found an English school; in modern times our students have rarely believed anything new (to them) to be important until it has been worked on in Germany. But, in fact, Galton was the English pioneer, and perhaps *Inquiries into Human Faculty*, published in 1869, contains more matter familiar, at second or third hand, to most people than any of his other books. In his remarks upon the permanent effects of childish experiences and the "antechamber of consciousness"—"The thronging of the antechamber of I am convinced, altogether beyond my control; if the ideas do not appear, I cannot create them, nor compel them to come"—are distinct anticipations of a trend of psychological thought and research which Freud and his pupils have made familiar to this generation. One cannot but regret that Galton's statistical method, whether as an instrument of research or critical appraisal, has had so far, little share in the development of psycho-analysis. That workers in experimental psychology in general display more statistical competence than experimental physiologists—concerned, as the latter often are, with problems

equally needing statistical evaluation—is due to Galton's work.

The next chapter describes Galton's photographic work. Composite portraits are associated by everyone with Galton's name, and Professor Pearson has provided a full account, beautifully illustrated, of what Galton did in this field. But composite portraiture was only an item in Galton's researches; his studies of methods of photographic measurement are perhaps of greater importance—he was still working on these in the last year of his life. "In heredity and statistics," writes Professor Pearson, "the younger generation has been found to take up his work; in photography and portraiture his pioneer steps have not yet been trodden into a well-marked track by enthusiastic disciples."

The last chapter is devoted to Galton's statistical work other than his researches based on use of the new organon, the calculus of correlation, which is to be examined in the next volume. Professor Pearson was justified in adopting this course because it enables him to trace the development of Galton's ideas and to show how important were the results reached even before Galton arrived at his crowning achievement. A full account of the Anthropometric Laboratory of 1884 is given and of Galton's attempts to secure a more rational system of assigning marks in examinations. Upon the latter point Professor Pearson has an interesting footnote, in the course of which he mentions that, having examined the marking statistics of the London Matriculation Examination, "He was startled to find that the relative personal equation of examiners in history, languages, and literature was very greatly larger than the relative personal equation of examiners in branches of science; and that no systematic method of correcting for this personal equation had been adopted. Thus a candidate's chance of passing depended largely on the examiner to whom his paper was allotted! Galton was particularly anxious that marks for physical efficiency should be awarded in competitive examinations, 'in order to pass those candidates who being a little under par intellectually are far above par bodily; conversely to weed out those other candidates who, not being particularly fit in respect to their brains, are at the same time of decidedly inferior physique.'"

At the end of the chapter is a series of letters exchanged by Francis Galton and Florence Nightingale on a proposal of the latter to attempt to secure the endowment of a chair of Applied Statistics. In this correspondence Florence Nightingale seemed to have even larger ideas than Galton, and her arguments may perhaps have influenced his own endowment of twenty years later.

It is not possible even to enumerate the topics discussed in the chapter, but the gradual improvement of technique, illustrating how Galton never abandoned a simple numerical method until he had got all there was to be got from its exploitation, is characteristic of the man.

As we said at the beginning, the reader of this volume will have gained a clear mental picture of the man, such a man as the poet may have known:

"He stood and watched the cobbler at his trade,  
The man who slices lemons into drink,  
The coffee-roaster's brazier and the boys  
That volunteer to help him turn its wheel.  
He glanced o'er books on stalls with half an eye,  
And fly-leaf ballads on the vendor's string,  
And broad-edge bold print posters by the wall.  
He took such cognizance of men and things,  
If any beat a horse, you felt he saw;  
If any cursed a woman, he took note;  
Yet stared at nobody,—you stared at him.  
And found, less to your pleasure than surprise,  
He seemed to know you and expect as much.  
So, next time that a neighbour's tongue was loosed,  
It marked the shameful and notorious fact,  
We had among us, not so much a spy,  
As a recording chief-inquisitor.  
The town's true master if the town but knew!"

Substitute for "master" in the last line "teacher" and this is a fitting characterization of Francis Galton. If the town but knew, it would become a wiser, saner town.

## England and Wales.

### WELSH NATIONAL MEDICAL SCHOOL.

The long controversy over the future status of the Welsh National Medical School, to which we have referred on several previous occasions, has now been advanced a stage further towards settlement. At the last meeting of the council of the University of Wales a communication was read to the effect that the Privy Council had decided against the proposal that the Welsh Medical School should continue to be an integral part of the South Wales and Monmouthshire University College, Cardiff, and in favour of the principle that the Medical School should be a separate entity as a National School of Medicine of the University of Wales. The Privy Council took the view that for the medical school to become a national institution in the sense in which it is desired that it should be, the school ought to be a separate national unit with its own controlling authority, subject only to the broader lines of development laid down by the University of Wales as a whole. It is pointed out by the Privy Council that the school must act for the whole of Wales, and not only be a faculty of the college at Cardiff, if it is to fulfil its great purpose as a national institution. The Privy Council has been engaged for several months in examining the arguments presented by both sides in the controversy, and has reached its decision after taking the fullest possible advice. The arguments against nationalization were admitted to have considerable weight; it had been urged that the separation of one class of students from another was an educational error, and, also, that a decision adverse to the claims of Cardiff might possibly lead to rupture of the federal system of the University of Wales. The financial aspect of the whole question was also considered very carefully. The communication from the Privy Council, whilst ending the matter so far as the Council is concerned, has no final and binding value, since before it can become effective it must receive the acquiescence of the College Council, the Board of Medicine, the University, and the co-operation of the local authorities. The process of financial disentanglement of the Medical School and the College at Cardiff may not be easy, and some of the problems with reference to the allocation of buildings and funds may, possibly, entail some—it is hoped friendly—litigation. The hope is expressed, however, by the Privy Council that the decision will prove eventually to be acceptable to all parties in the controversy.

### QUEEN'S HOSPITAL, BIRMINGHAM.

The Queen's Hospital, Birmingham, was opened in 1841, with seventy beds. For many years past its work has been subject to great difficulties owing to the limitation of the buildings. In 1908 a new medical block was erected, but the surgical work is at present being conducted in the original building, which is entirely inadequate for modern treatment. A scheme of extension has therefore been planned, at an estimated cost of about £120,000. It is proposed to build behind the older portion of the hospital a new block to contain six new surgical wards, three large operating theatres with anaesthetic rooms and sterilizing rooms, and a small special x-ray department, the whole forming one complete unit. A large and commodious general x-ray department is also to be established. The addition of this new block will increase the capacity of the hospital by over a hundred beds. The out-patient department is to be completely remodelled, new open-air wards will be erected, and new departments arranged for diseases of women, ear, nose, and throat diseases, and for electrical and mechanical therapeutics. The pathological department is to be enlarged and remodelled, and adequate accommodation provided for resident surgeons, nurses, and domestic staff. It will not be necessary to purchase any additional land, and no interference with the present hospital work will be caused by the building operations. It is calculated that this extension scheme will enable an additional 1,750 patients to receive expert surgical treatment each year. In our correspondence columns this week we publish a letter from Dr. Kirkby Thomas of

Birmingham, treasurer of the Queen's Hospital Past and Present Residents' Association, drawing attention to the old students and residents fund, which has been opened for the endowment of a bed in the hospital.

### BIRMINGHAM CHILDREN'S HOSPITAL.

Since the beginning of this year a "sunlight clinic" has been established at the Birmingham Children's Hospital as an extension of the x-ray department, an arc lamp having been presented by the late Mr. Albert Keen. Considerable benefits have resulted in the treatment of rickets; the children attend three times a week for a period lasting three months. Gradually increasing exposures to ultra-violet rays are controlled by x-ray photographs taken at regular intervals. It is hoped that similar good results will be obtained in the case of marasmic children. The extra rooms needed for the extension of this clinic will be available when the new out-patients' department is opened shortly. It is calculated that £1,000 will equip and maintain the clinic for twelve months, and in that period provide adequate treatment for over 1,200 children.

### KIDDERMINSTER INFIRMARY.

On April 5th, 1924 (p. 642), we referred to the proposed extension of the Kidderminster Infirmary and Children's Hospital. The cost of this extension was estimated at £25,000, and at the annual meeting of the governors of the infirmary on February 24th the president, Dr. J. J. Stretton, was able to announce that £20,700 had already been promised. Besides this a sum of over £4,500 had been promised for endowment and upkeep. Dr. Stretton pointed out that the estimated annual increase of expenditure after the completion of the extension would be approximately £1,000, or less than one-seventh of the expenditure of the past year, whereas, comparing the new building of 1872 with the old one of 1870, the change had more than doubled the then annual expenditure. He hoped, therefore, that there would be little difficulty in obtaining the increased support now required. The income for the previous year amounted to £7,582, and the expenditure to £7,754; an additional sum of £1,511 had been received for investment. The number of in-patients treated during the year was 1,048, and there were over 17,000 attendances of out-patients. The Saturday Fund Committee had raised a sum of £3,173, an increase of £343 over the previous year. A strong appeal was made to individual workers, whether employed in factories or elsewhere, as also to domestic servants, to agree to a voluntary levy of 2d. per week. Although there were a large number of these contributors, yet the workers in several firms had not yet associated themselves with the scheme. A contract has now been accepted for building a new children's ward, out-patient department, and laundry, and various alterations and improvements of the present building will be begun very shortly. In accordance with the new rules, which come into operation at the end of March, the infirmary will in future be known as the Kidderminster and District General Hospital.

## Scotland.

### PROFESSOR OF CLINICAL SURGERY AT EDINBURGH.

As briefly announced last week the King has, on the recommendation of the Secretary for Scotland, appointed Mr. John Fraser, M.D., Ch.M., F.R.C.S.Ed., to be Regius Professor of Clinical Surgery in the University of Edinburgh, in the room of Sir Harold J. Stiles, whose resignation takes effect on March 21st. Dr. Fraser, who graduated M.B. with honours in 1907, is a native of Tain. He became a Fellow of the Royal College of Surgeons of Edinburgh in 1910, and took the degree of M.D. in 1912, being awarded a gold medal for his thesis, and the degree of Ch.M. with honours in 1910. He has been assistant surgeon to the Edinburgh Royal Hospital for Sick Children since 1920. During the war he served with distinction in the Royal Army Medical Corps and gained the Military Cross. He is the author of an important work on *Tuberc-*

*culosis of the Bones and Joints in Children*, published in 1914, and of numerous papers on surgical shock, tumours of the kidney, abdominal emergencies in children, and pneumococcal peritonitis. He has gained a high reputation in the medical profession as a skilled and successful operator, as well as for valuable research on surgical subjects.

#### LARBERT INSTITUTION ANNUAL REPORT.

The sixty-fourth annual general meeting of the Royal Scottish National Institution, Larbert, was held in the Christian Institute, Glasgow, on February 24th, Mr. William Wilson presiding. Dr. Clarkson, superintendent of the institution, submitted the annual report, in which he said that the lives laid down by the founders had been followed consistently for sixty-four years. The aim was, not to treat mental disease, but to care for children who were crippled in mind. The main business, therefore, was to help these children to realize what personality they possessed. Too many people believed there was something foreign and disagreeable in such children, but each of them was a human being with his own way of looking at things and his little mind working logically in its own manner. During the past year over £200 worth of goods made by the children had been sold. These children remained children all their lives, for it had now come to be recognized that mental defect was not curable. The directors had been attempting to acquire land near the institution for the purpose of establishing a colony where children who, if they returned home, would only be a burden to their relatives, might be cared for during their lifetime. The average number of children maintained within the institution during the past year had been 506.6. The chairman, in moving the adoption of the report, said that a large sum of money had been spent during the past three years in the reconstruction of the buildings; £3,000 remained to be found, but it was expected that the institution would be quite free of debt within a short time. The Marchioness of Ailsa submitted a resolution expressing satisfaction at the increase of interest which was now taken in the more adequate care of mentally defective persons, and commending the institution to the generous support of the public. She said that the necessity was now recognized of taking life-care of the mentally defective in colonies, so that they could continue to render service within the limits of their capacity, although unable to take their places in the outside world in competition with ordinary persons. Reference was also made to the efforts now being made by the Women Citizens' Association to raise funds for the establishment of a colony for mental defectives.

#### EDINBURGH FOOT CLINIC.

The first annual meeting of the Edinburgh Foot Clinic was held in the City Chambers on March 4th. The chairman, Viscount Novar, in opening the meeting said that the clinic aimed at treating one of the minor and more unromantic afflictions from which people suffered. It should be remembered, however, that the larger proportion of pain from which people suffered came from the teeth and toes rather than from the more important organs, to the curing of which the heroic efforts of medical science were directed. If those suffered who had the best of boots and who could secure the best attention, many who had to put up with what they could get in these matters suffered from a deplorable condition of the feet. This foot clinic was the first dispensary of the kind in Scotland and attached to it was a school of chiropody. In the report submitted by Mr. J. Fleming Robertson, C.A., honorary secretary and treasurer, it was stated that 1,368 patients had attended the clinic, and that the total number of treatments was 3,132, and there was a waiting list of appointments for treatment to the number of 1,311. The clinic was open two nights in the week, and in the school of chiropody connected with it twelve students were at present attending classes. The total ordinary revenue from subscriptions, patients' fees, etc., amounted to £284 2s. 2d., while the expenditure was £324 16s. 10d.

The capital required to place the clinic on a proper financial basis amounted to £150, while the sum required for ordinary purposes during the current year was estimated at £200.

#### TECHNICAL CRITICISM OF STEEL HOUSES.

The technical committee appointed by the National Housing and Town Planning Council to consider the housing question has issued a report criticizing the steel houses which are made by several firms in Glasgow, and of which a description was given in the *BRITISH MEDICAL JOURNAL* of October 18th, 1924. It is claimed that houses constructed of wooden frames covered with steel plates painted once on the inside when first fixed, and thereafter painted on the outside at frequent intervals, will last for forty years. The committee doubts whether this expectation will be fulfilled, as it thinks that rusting will be set up at the joints and spread to the inside when it is impossible to paint both surfaces and so protect them against oxidation. It criticizes also the use of wood pulp linings for the internal facings of the walls, because of the considerable risk that walls thus constructed may become verminous. It holds that solid partitions are more satisfactory than hollow walls, which harbour vermin and frequently become dilapidated when made of lath and plaster. The Weir type of house, it is thought, will be more readily affected by rapid changes in the temperature than would be houses of thicker or solid walls, because where the walls are not finished with absorptive substances like lime or its derivatives absorption of moisture by articles in the room will be noticeable, and thus mildew may be set up in clothing hung in wardrobes, wire mattresses and other metal articles may rust, and bed linen become damp. The committee has not much criticism to offer with regard to the relative cost between steel-sheeted houses and brick houses except that the latter can be produced, it considered, at a cost of a few pounds less than the former. The use of granular concrete poured between sheets or placed *in situ* is thought to be worthy of experiment, as is also the use of timber in country districts. A large measure of approval was given to methods of steel frame construction by which the roof is placed in position before the walls are built, thus enabling all trades to work continuously without stoppage as a result of bad weather. The committee, however, recognizes that there is a shortage in building materials of brick, stone, tiles, and slates, and recommends that inquiry should be made both by the Government and local authorities to stimulate increased supplies of these materials, especially of tiles and slates. It recommends the establishment of a departmental committee to consider the steps which should be taken to secure proper regional distribution of the houses to be built under the national housing policy.

#### MONTROSE INFIRMARY IMPROVEMENTS.

At a meeting of subscribers of Montrose Royal Infirmary plans were approved for the provision of a new operating theatre and an extension to provide an additional ward with ten beds at an estimated cost of £2,000. The hospital now contains fifty beds, including seven for the treatment of private patients. It was resolved to use a gift of £500 from Sir James H. Warraek, K.B.E., Edinburgh, for the erection of the new theatre, and to pay for the other buildings out of legacies.

#### LEITH HOSPITAL ANNUAL REPORT.

The annual report of the Leith Hospital stated that the new cases treated in the wards and the out-patient department together numbered 14,868 during the past year. The ordinary income had been £12,274 and the ordinary expenditure £14,272, while the extraordinary income totalled £11,121 and the extraordinary expenditure £56. The chairman, in moving the adoption of the report, referred to the satisfactory position of the hospital, but pointed out that when the new wing, which it was hoped would be completed by the end of June, was opened and fully equipped the annual expenditure would become much heavier.

## Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

SUPPLEMENTARY Estimates, unemployment, rent restrictions, and the policy of the Air Ministry have been the chief topics in the House of Commons this week. The House of Lords has read the Therapeutic Substances Bill a second time, and Lord Banbury has reintroduced the Dogs Protection Bill. During the debate in the Commons on unemployment it was intimated that the Government felt it had to deal by some new method with the men who were unemployed at the age of 60 or 65. The method would probably be by insurance, though not under the Unemployment Insurance Act.

Dr. Fremantle has obtained first place on the evening of March 24th, and will move a resolution on housing. He proposes to deal specially with town planning and garden cities. A statement on the Government's housing policy may, however, be made next week. The Rent and Mortgage Interest (Restrictions Continuation) Bill was brought in by Mr. Neville Chamberlain on March 6th, and its second reading commenced on March 11th. It proposes to extend the present system of rent control for two years and a half, with rent tribunals to deal with harsh cases for five years thereafter.

### The Warning Notice of the General Medical Council.

On March 5th Mr. A. Greenwood, formerly Parliamentary Secretary of the Ministry of Health, asked the Prime Minister whether his attention had been called to the Warning Notice issued to registered medical practitioners by the General Medical Council, purporting to give a summary of the resolutions and decisions of the Council upon forms of professional misconduct; whether he was aware that in consequence of the issue and circulation of that notice registered medical practitioners were deterred from assisting, by administration of anaesthetics or otherwise, qualified but not registered practitioners of osteopathy, bone-setting, and other new forms of treatment of human ailments; whether he was aware of the feeling of dissatisfaction among the general public, and also among many medical practitioners, with the exercise by the General Medical Council of its functions and powers conferred by the statute of 1858; and whether he was prepared to set up a commission or departmental committee of inquiry into the operation and administration of the various Medical Acts, and the exercise by the General Medical Council of its functions and powers under such Acts, with a view to the introduction of such legislation as might be necessary to ensure the recognition and legal regulation in this country of osteopathy, bone-setting, and other new methods of treatment, and to safeguard both qualified practitioners and the general public. Mr. Austen Chamberlain, replying for the Prime Minister, said he understood that the Warning Notice to which reference was made was adopted virtually in its present form by the General Medical Council in 1897. Subsequent alterations had been merely verbal. He was aware that by the issue of that notice medical practitioners were deterred from assisting unregistered osteopaths and others. While the application of the principles laid down in the notice to particular cases might have given rise to criticism, there was no evidence of any general dissatisfaction among the public or the medical profession, and he saw no necessity for the appointment of any commission or committee such as was suggested. Mr. Greenwood asked whether the Government would receive a deputation of members of Parliament interested in the subject. Mr. Austen Chamberlain suggested that that proposal should be made to the Minister of Health.

### Bill to Amend Law as to Coroners.

The Home Secretary, Sir William Joynson-Hicks, has stated, in answer to Mr. Dixey, that he hopes to introduce a bill very shortly to amend the law relating to coroners' inquests.

### Boric Acid in Food.

Mr. Hardie, on March 9th, asked the Minister of Health a question with regard to a paragraph in the final report on Preservatives and Colouring Matters in Food (paragraph 59), in which it was stated that it was evident that individuals might consume quite considerable quantities of preservatives in the course of an ordinary day's diet, and that it was easy to imagine a reasonable meal which might contain 20 or even more

grains of boric acid besides other preservatives; and whether, in the opinion of the Minister's official adviser, the effects of 20 grains of boric acid were good or bad for the average individual consumer. Sir Kingsley Wood answered that the Minister was aware of the statement referred to. He was advised that the continued consumption of such quantities of boric acid would be likely to have a deleterious effect. Sir Kingsley Wood added that regulations were being drafted to put an end to the use of boric acid in mixtures with sulphuric fumes or otherwise without the knowledge of the Ministry, and to prevent the dusting of food in shops with supposed preservatives.

### Insulin.

The Public Health (Scotland) Amendment Bill to empower public health authorities in Scotland to provide insulin for sufferers from diabetes, the discussion of which was interrupted as reported last week, was read a second time on March 4th by 272 votes to 115. Mr. W. Adamson, who, when Secretary for Scotland in the last Government, had introduced a similar bill, said that the provision of insulin then involved a weekly expenditure of 4s. or 5s. for each person. Though the price had fallen, its purchase still taxed the resources of certain sections of the people. Under the existing law insulin could be provided free in Scotland to persons insured under the National Insurance Acts, and to those for whom the Poor Law authorities were responsible. Further, expectant mothers, nursing mothers, and children under 5 years of age could be supplied with insulin free, through maternity and welfare schemes; no provision was, however, made for the rest of the community. He objected to the restriction of the bill to insulin, and said that its title would prevent an amendment being moved in Committee to enable drugs to be made available by an order of the Scottish Board of Health in the event of any equally effective remedy being found for some other disease. Promptness was necessary. Dr. Drummond Shiels also objected to the restriction of the bill to insulin. The Government had been influenced by the objection of local authorities, which were made on purely financial grounds. Most members of the House had received a memorandum from the Scottish Branch of the Pharmaceutical Society of Great Britain with regard to the method of supply by local authorities; possibly other drugs might be discovered for which some provision such as the Pharmaceutical Society suggested should be made. Dr. Walter Elliot, Parliamentary Under Secretary of Health for Scotland, said that the local authorities were willing to bear the whole of the small expense the bill involved. He contended that if the scope of the bill were extended it should be by specific legislation. As to the contrast between England and Scotland, the English Public Health Act (1875) only provided for the temporary supply of medicines. Mr. Ramsay MacDonald said that the powers enjoyed by local authorities to be taken away, but to give real power to local authorities to as they arose. He would prefer a more summary procedure than that by Order in Council, which had been proposed in last year's bill. Sir Alexander Sprot, Mr. Martin, and Mr. Campbell Stephen also spoke. The bill was referred to the Standing Committee on Scottish Bills.

### Ministry of Pensions.

Sir Richard Luce, on March 5th, asked the Minister of Pensions what steps were being taken to make permanent medical appointments under the Ministry; and if British nationality and active service in the late war would be taken into special consideration in making selections. Colonel Stanley, Parliamentary Secretary, said that it had been decided to make appointments on the staff of the Ministry and to fill them from the existing full-time temporary medical staff. All members of that staff within the prescribed age limit of eligibility had been notified of the conditions of the appointments, and a selection committee, presided over by the First Civil Service Commissioner, was interviewing a selected number of the candidates. All candidates must satisfy the general rule of the Civil Service as regards British nationality and must have served in the forces in the late war. Mr. Watts asked whether Colonel Stanley was aware that disabled medical men, with several years' war service, who had served the Board for years, were being displaced by young men in many cases engaged in general practice and with no war experience. Colonel Stanley said that point did not arise on Sir Richard Luce's question, which concerned established appointments.

Answering Sir Philip Richardson, on March 10th, the Minister of Pensions said the Central Advisory Committee on Pensions, appointed under the Act of 1921, held two meetings in 1922, three in 1923, none in 1924, and one this year (February 17th). The Ministry's policy had been to lay before the Committee for its advice all proposals of importance or difficulty, and improvements had been made in accordance with its advice, though it was not the practice for the Committee to pass formal resolutions.

The Ministry of Pensions aims to arrange that where a man whose disability does not prevent him from working is undergoing treatment, the treatment shall, so far as possible, be given at evening clinics.

The Ministry of Pensions is asked to consider the suggestion that local Pensions Committees should be authorized to pay the railway fare of anyone who is to assist an appellant suffering from neurasthenia or mental disease to state his case before the Appeal Tribunal.



## BILLS.

*Dogs Protection Bill.*

Lord Banbury introduced the Dogs Protection Bill in the House of Lords on March 5th, explaining that it was to prevent the vivisection of dogs. The measure was read a first time. No date had been fixed for the second reading debate at the time of going to press.

*Therapeutic Substances Bill.*

The Therapeutic Substances Bill, to provide for the regulation of the manufacture, sale, and importation of vaccines, serums, and other therapeutic substances, was presented in the House of Lords by the Lord Privy Seal (Lord Salisbury) on March 3rd, and was read a first time. A bill with the same title passed through all stages in the House of Lords last year, and reached the House of Commons in June; nothing more was heard of it.

In moving the second reading of the bill, on March 10th, the Marquess of Salisbury said this was a bill which the Lords had passed last session. Its purpose was to prevent the users of therapeutic substances being misled, and it dealt with substances where special provision for standardizing was necessary, because on the standard and strength depended the health of the users. The medical profession could not know what it was prescribing unless it could rely on a standard, and in some cases great mischief could arise from uncertainty, some of the substances being highly poisonous. The bill dealt with serums, vaccines, and special preparations such as salvarsan. It was impossible to decide the amount of arsenic in salvarsan save by biological tests, while pituitary extract, if untested, might vary in the strength of the active principle by as much as the proportion of 1 to 8. The bill proposed licences for all persons preparing such therapeutic substances, and for the places where they were prepared. The conditions would be included in the regulations, which would be laid on the table of the House. The Minister of Health, the Secretary for Scotland, and the Ministry of Home Affairs in Northern Ireland, or their representatives, were to be a committee to draft these regulations. There would also be an advisory committee, including representatives of the three departments, of the research councils, and of other bodies, including the Pharmaceutical Society. There was power to add, by Ministerial order, substances to the schedule of the bill. Imported therapeutic substances were to be tested, with the exception of substances imported for research under licences. The question with which the bill dealt had been before the appropriate body in the League of Nations, which had moved the various Governments to establish standards of therapeutic substances. Many countries had already done this. If we had not our export trade in these substances would suffer.

Viscount Haldane drew attention to Section 3, Subsection 2, of the bill, authorizing special licences for research. He said the schedule contained many things which men of science might need at short notice, and it was not their practice to apply for licences. He feared this subsection might deter useful research, and urged the Government to facilitate the importation of small quantities for research. This view had been put to him by distinguished men engaged in research.

Lord Salisbury said the point put forward by Lord Haldane would be considered in Committee.

The bill was read a second time.

*A Consolidating Health Bill.*

The text of the Public Health Bill introduced by Mr. Womersley and supported by Mr. George Thorne, Mr. Clynes, Sir Charles Wilson, and others, is now available. It consists for the most part of a collection of clauses which have been commonly allowed in local Acts passed since 1907, brought into more suitable form for general legislation. Compulsory adoption is proposed for the clause providing a penalty for unnecessary contact with the body of a person dying of infectious disease, for the clauses dealing with the medical inspection of inmates of common lodging-houses, and for the closing of such lodging-houses on account of infectious disease within, and for amendments of the law relating to baths and washhouses. The bill applies in general to England and Wales, exclusive of London. Only the provisions relating to baths and washhouses are to apply to London. Permissive powers are proposed as to the provision of drinking fountains, the paving and drainage of courts, reconstruction of drains, abatement of nuisances caused by occupation of tents and vans, the cleansing of verminous articles, houses, and persons, power to establish cold stores, and prohibition of the sale of food by rag and bone dealers. The second reading of this bill is put down for March 20th.

*Imperial Institute Bill.*

The Imperial Institute Bill was read a second time without debate on March 4th. Under the scheme of reorganization to which the bill is to give effect the Imperial Institute and the Imperial Mineral Resources Bureau will be amalgamated. The bill provides for a parliamentary grant of £9,000 annually for five years after its passing.

*Guardianship of Infants Bill.*

The Guardianship of Infants Bill, read a second time on March 4th without a division, and sent to Standing Committee A, provides for equality between the father and mother in any case

that may come before the courts under the existing law touching the custody or upbringing of the infant, and enjoins the court to regard the welfare of the infant as the first and paramount consideration.

*Milk and Dairies Acts.*—Answering Mr. Barnes, on March 5th, Sir Kingsley Wood, Parliamentary Secretary of the Ministry of Health, said that it was not proposed to ask Parliament to postpone further the operation of the Milk and Dairies (Consolidation) Act, 1915, which would come into operation on September 1st. The Milk and Dairies (Amendment) Act, 1922, would continue in force. Sir John Gilmour, Secretary for Scotland, announced that the Milk and Dairies (Scotland) Act, 1914, would also come into operation on September 1st.

*Medical Women's Pay.*—Miss Wilkinson, on March 5th, asked the Chancellor of the Exchequer whether he was aware that the Government was the only authority making a difference between the pay of medical men and women, and whether he would consider the matter. Mr. Churchill replied that the matter had been considered by the Labour Government, and he had not found it possible to decide to reverse their decision. Any request for an opportunity to discuss the matter should be addressed to the Prime Minister.

*Imported Drugs.*—Mr. Crawford, on March 10th, asked the President of the Board of Trade if phenacetin, phenagene, and many other chemicals scheduled as liable to duty in Part I of the Safeguarding of Industries Act, 1921, were still not manufactured in this country; and if he would at once order the removal of such articles from the dutiable list to lessen the cost to hospitals and similar institutions where they were so largely used. Sir Philip Cunliffe-Lister replied that "phenagene" did not appear in the list of goods dutiable under Part I of the Safeguarding of Industries Act. As regards phenacetin, its manufacture in this country was at present suspended. The number of such listed products produced in the United Kingdom was steadily increasing, and he was not prepared to introduce legislation to remove articles from the dutiable list. In reply to another question it was stated that of some 2,000 fine chemicals listed in Part I of the Safeguarding of Industries Act the manufacture of 1,000 had been undertaken by a British firm since the passage of the Act.

*Influenza Research.*—Sir Alfred Butt asked the Minister of Health whether his department was initiating or assisting any research for the purpose of discovering an antitoxin for influenza which could be generally employed. Sir Kingsley Wood, Parliamentary Secretary of the Ministry, replied that research was being vigorously prosecuted under the auspices of the Medical Research Council as well as by pathologists in the Ministry of Health, but present knowledge gave no immediate prospect of a discovery of an antitoxin suitable for general use in cases of influenza.

*Mental Hospitals.*—At the close of the sitting on March 10th Mr. Taylor called attention to the conditions in mental hospitals, and moved that reform of these conditions was of urgent importance. Mr. R. Richardson, in seconding, asserted that there were thousands in these hospitals who should not be there. Sir Kingsley Wood, replying for the Ministry of Health, said the Government must await the report of the Royal Commission on the Lunacy Laws now sitting before expressing an opinion on the general questions raised. He expected the Commission to report next year, and promised prompt consideration. In regard to the conditions of employees in mental hospitals, the Board of Control was anxious that many of the reforms recommended should be adopted by local authorities. It had no power to enforce such recommendations, but would bring them before the local authorities. The Ministry of Health thought that the conditions of employment needed improvement and would see whether the grant could not be increased. He offered to confer with the mover of the motion to see what could be done in the areas where the need was most pressing. The motion was then withdrawn.

*Miner's Silicosis.*—Mr. Geoffrey Peto, on March 10th, asked the Secretary for Mines for how long the question of silicosis among coal-miners had been under investigation by the Health Advisory Committee; and when it was likely to reach a decision as to its scheduling under the Workmen's Compensation Act. Colonel Lanc-fox replied that the question had been under consideration for two years. The evidence received so far was insufficient to justify scheduling, and the Committee would welcome further evidence.

*Opium in India.*—On March 9th Mr. Buchanan asked Earl Winterton, Under Secretary of State for India, whether the Government of India was aware that the use in India of opium was supported by British officials as a well established and, on the whole, not an injurious habit; and what steps he proposed to ensure that the use of this drug should be discontinued. Earl Winterton replied that in the opinion of the Government of India, based on the findings of the Royal Commission which in 1895 investigated the consumption of opium in India, was that centuries of inherited experience had taught the people of India discretion in the use of opium, which for the most part was without injurious consequences. The distribution of opium was strictly controlled in accordance with the provisions of the Hague Convention, 1912, and the Secretary of State for India did not propose to interfere with the discretion of the Government of India and of the Indian Provincial Governments in the exercise of that control.

*Illness Alleged to be Due to Vaccination.*—Mr. Cecil Wilson asked a question with regard to a man who had enlisted in December,

1917, in good health; he had not previously been vaccinated. He was vaccinated in January, 1918; his health had afterwards broken down and he suffered from extensive tuberculosis of the lung. This breakdown was attributed to the vaccination, and it was asked that the refusal to grant a pension might be reconsidered. Colonel Stanley replied that the man made no claim to pension until nearly five years after demobilization, when, after careful consideration of all the evidence, the Ministry of Pensions was unable to regard his condition as connected with service. He appealed to the Independent Appeal Tribunal and submitted full statements of his health during service and subsequently, but the Tribunal confirmed the Ministry's decision. The Ministry saw no ground for granting a pension.

*Spirits in Sickness.*—Lord Apsley, on March 5th, asked the Home Secretary to consider the relaxation of the regulations which prevent the public from purchasing, in cases of sickness, a bottle of wine or spirits before 10.30 a.m. or between 2.30 and 6 p.m. The Home Secretary said he had no power to alter the regulations, nor was he aware of any such inconvenience as would justify amendment of the law.

#### Notes in Brief.

The Minister of Health is aware that some complaints have been made of delay in payment of benefit to insured persons who fell sick, but it was not thought necessary to set up a departmental committee on the subject.

During the last twenty years forty persons who were on conviction less than 21 years of age have been sentenced to death in England and Wales, and fourteen have been hanged.

Permits to undertake work in this country were issued during 1924, under the Aliens Order, 1920, to seventeen nurses, mainly probationers, and were refused to eight.

A bill to provide for the registration of funeral undertakers and a bill for the regulation of movable dwellings were introduced into the House of Commons on March 5th—the first by Mr. Groves and the second by Major Wheeler.

The new Central Advisory Committee of the Ministry of Pensions met on February 17th.

Factory inspectors have been notified that any premises where multigraphing by means of machines set with types is carried on regularly and extensively are included in the Factory Acts.

The Ministry of Health is pressing for improvement in the sleeping accommodation for women vagrants at certain casual wards.

The Royal Commission on Local Government cannot yet indicate when its report will be presented.

The number of old age pensioners rose from 916,771 on March 31st, 1924, to 997,160 on December 31st.

The Minister of Labour is considering the report of an investigation into working conditions in the clinical thermometer industry.

Answering Mr. S. Mitchell, on March 5th, Colonel Ashley, Minister of Transport, said he was disposed to agree with the Departmental Committee on the Regulation of Road Vehicles that it was impracticable to compel all applicants who desired licences to drive motor vehicles to produce medical certificates of mental and physical fitness before the licence was granted.

During 1923 and 1924 the number of cattle slaughtered in connexion with outbreaks of foot-and-mouth disease was 111,933 and of sheep 54,532. The compensation paid totalled £3,326,942. The Ministry of Agriculture hopes in the near future to test the Shaw remedy for foot-and-mouth disease.

Three cases of rabies occurred in dogs in Great Britain during the last three years. All were imported dogs still in quarantine. The restrictions will not be relaxed.

The Home Secretary does not think the danger from toy pistols is sufficient to justify legislation extending to them the provisions of the Firearms Act.

It is not thought desirable to allow good conduct prisoners to smoke during exercise, but the privilege of dining together is being extended.

Under the Housing Acts (1923 and 1924) 51,207 houses have been authorized in rural areas, and 15,818 have been completed.

The Parliamentary Indian Committee was informed on March 9th that the Government proposed to introduce legislation giving effect to the main recommendations of the Lee Commission on the Indian Civil Services. Whether the recommendations in regard to the Indian Medical Service would be accepted was not specifically stated.

The Medical Committee of the House of Commons met at the House of Commons on March 9th and appointed Sir Richard Luce to act as liaison officer between the Committee and the British Medical Association, particularly in regard to the Factories Bill and any action on birth control. The Committee decided further to consider the Births and Deaths Registration Bill prepared by Dr. Fremantle. It decided to take no action on a communication received with regard to a recent removal from the *Medical Register*.

Members who are interested in the claims of certain classes of unregistered practitioners, to which attention was drawn in the House last week, will probably meet about March 31st. No deputation to the Minister of Health has yet been arranged.

## Correspondence.

### THE THYROID AND MANGANESE TREATMENT IN VARIOUS DISEASES.

SIR,—I am very much interested in the article on the above subject in your issue of March 7th (p. 443). For the last ten years or more I have been using potassium permanganate for various diseases, but mostly for "asylum dysentery." I used it, however, in a somewhat different way, as a solution of 1 grain to 20 ounces of water; of this the patient swallows doses of from 1/2 to 1 or 2 ounces several times a day. In urgent cases I use the same solution for an intramuscular injection, giving as much as will fill an ordinary 20-minim hypodermic syringe, which, of course, is more than 20 minims. This I inject deeply into the buttock. I have cases that were apparently almost moribund recover after this treatment. Some not only recovered from the dysentery, but from their insanity as well—in one case of melancholia after six years' illness. By a strange coincidence, this patient has just called to see me. She looks the picture of health and has been well ever since—that is, for four years.

I have also used colossal manganese for these injections. I have been rather diffident about *post* and *propter hoc*, but have told my medical friends. I see the names of two mental hospital physicians in Dr. Nott's list. Perhaps they will feel inclined, as I do, to adopt this treatment, so ably heralded by Dr. Nott, in cases of the toxic psychoses.—I am, etc.,

W. J. A. ERSKINE, M.D.,  
Medical Superintendent, Whitecroft Mental  
Hospital, Isle of Wight.

March 9th.

SIR,—In reference to Dr. Herbert W. Nott's interesting and suggestive article, it might interest your readers, and recall happy memories to many students of the late Professor Stephenson of Aberdeen University, if I write shortly upon Stephenson's teaching of over twenty years ago of the use of potassium permanganate in what he called the "blao type" of woman. I have used his treatment during my whole career as a general practitioner, and have never found it to fail. I use it in the form of pulverettes containing 2 grains each, and give one pulverette three times a day after food, the dose, and type of case, strictly following Stephenson's directions. The "blao type" is typified by a woman of between 18 and 25 years of age who comes to me complaining—

1. That she is readily tired. She starts out upon her day's work in quite good form and keen, but this feeling soon passes away, and before she has well started her work she is done up both mentally and physically.

2. She is not anaemic, but florid with "blao" lips, hands, and feet. If pressure is applied to her hands or feet, and released, the blood returns to the part very slowly.

3. She has a ready tendency to chilblains, and a puffiness about the ankles.

4. There is a sense of weight and soreness over the sacrum, especially when tired, and just before her periods.

5. The periods are irregular either as to periodicity or quantity or quality of discharge. Sometimes there is definite menorrhagia, and there is always pain just before the period and the first day of the period, but relieved by the period. Such patients are frequently quite unable to go about their ordinary duties when menstruating, or, if they do set out to work, have frequently to give in.

6. A very characteristic feature, when present, but not always present, is an intense, often occipital, headache upon the day preceding the expected period; the headache, as the condition progresses, tends to come on every second week, and ultimately weekly.

Such patients find life a heavy burden, are terribly handicapped in struggling to fulfil their daily duties, and I do not know any condition where relief evokes greater gratitude. I usually order a three months' course, but sometimes, as Stephenson warned us, the course has to be extended for a longer period. In certain cases there is a tendency to relapse, but a resumption of treatment rapidly brings about relief.—I am, etc.,

Tain, March 7th.

EDNA K. MACKENZIE.

## TUBERCULOSIS IN ASSAM.

SIR,—In a report of a paper read by Sir Leonard Rogers before the Section of Tropical Diseases and Parasitology of the Royal Society of Medicine on January 8th (BRITISH MEDICAL JOURNAL, January 17th, pp. 116-17), I was interested to read a statement based on gaol statistics that Assam, with the highest rainfall in India, had almost the lowest tuberculosis rate, and this was explained by the fact that, notwithstanding the heavy rainfall, the general configuration of the land protected the province from rain-bearing monsoon currents.

My own experience in the Cachar district of Assam is that rain-bearing winds and tuberculosis, especially pulmonary, are extremely prevalent. During the past five years pulmonary tuberculosis where tubercle bacilli were definitely found in the sputum represents 10 per cent. of the total mortality in my district.

As there are about twenty thousand coolies under my care in an area of about twenty miles, and as it is impossible to give individual attention to each patient, it is probable that tubercle bacilli were responsible for many more deaths than those recorded as due to this cause. Considering the high mortality from acute diseases, such as pneumonia, bacillary dysentery, cholera, malaria, etc., it will be seen that the relative percentage of deaths from pulmonary tuberculosis is extremely high. Tuberculosis is by no means confined to tea-garden coolies, for the local tribes—Kukis, Lushais, Nagas, Manipuris, and Cacharis—frequently come to me suffering from phthisis or other tuberculous infections.

The type of pulmonary tuberculosis in Cachar is usually a diffuse, rapid, caseating, necrotic type, with rarely haemoptysis, as was described by Arthur Powell in Bombay. With the exception of lupus, I have seen practically all types of tuberculosis in Assam which one sees in Great Britain. At present I have a boy 9 years of age under my care with renal tuberculosis where the diagnosis was confirmed by guinea-pig inoculation. Lupus is stated by some to occur only in those with a certain degree of resistance to the tubercle bacillus; but the impression one gathers in the tropics is that the action of sunlight on our bare-skinned or badly clad races is inimical to cutaneous tuberculosis.—I am, etc.,

G. C. RAMSAY.

Lahac Central Hospital, Dewan P.O.,  
Cachar, Assam, Feb. 14th.

## INFECTIVITY OF SMALL-POX IN THE INCUBATION STAGE.

SIR,—I quite agree with Dr. E. H. Snell (BRITISH MEDICAL JOURNAL, February 28th, p. 426) that the statement in Dr. Rolleston's valuable book on *Acute Infectious Diseases* (p. 326), that "the small-pox patient is infectious in all stages of the disease, even in the incubation period before any symptoms have appeared," is contrary to general experience. If Dr. Rolleston had qualified the statement by saying that small-pox might occasionally be infectious during any stage, but that it is not usually infectious until the rash appears, little objection could be taken; but in its present unqualified and dogmatic form it is certainly misleading and erroneous.

The following case, which has just occurred in my own experience, is, I think, typical of the experience of most medical officers of health, which justifies them in basing their preventive measures on the assumption that small-pox, with rare exceptions, is not infectious until the rash appears.

A married woman was taken ill with small-pox on February 15th; the eruption appeared on the 19th; she was removed to hospital on the 27th. Her husband, unvaccinated, shared the same bed at night throughout. He did not begin to sicken with the disease until March 4th—that is, the fourteenth day after the appearance of his wife's eruption. His eruption began to appear on March 8th.

Whilst one instance, of course, proves nothing, this case seems worth quoting, because the degree of contact must have been very close all through both the incubation and the prodromal periods, yet apparently he did not contract the disease until the eruption appeared.

I agree also with Dr. Snell that it is just this non-infectiousness of small-pox before the eruption appears which makes the prevention of small-pox comparatively easy (even in the absence of general vaccination), provided only that cases are promptly recognized and reported after the eruption appears.—I am, etc.,

Leicester, March 9th.

C. KILLICK MILLARD.

## ISOLATION HOSPITALS FOR SCARLET FEVER.

SIR,—I note that you do not wish this correspondence to drift into a discussion of the value of inunction in scarlet fever. It is, therefore, sufficient for me to point out that the Milne method of treatment has been discarded in the home of its birth, and an investigation into the results of it under Dr. Milne's régime and since was published by Dr. Gushue-Taylor, the medical officer who succeeded Dr. Milne, in the *Lancet* in 1923.

Dr. Robertson, the medical officer of health for Edinburgh, employs this objectionable treatment of swabbing the child's throat every two hours for twenty-four hours, not because inunction and swabbing is claimed by him to be "infallible treatment," but he has simply adopted it as "a reassuring influence of parental fears" in order to induce parents to retain their children at home rather than send them to an isolation hospital. When he tells us that in Leith a vast proportion of the cases treated on this system were in working men's dwellings, one can understand how little efficacious such treatment could be under such conditions. His results could as easily have been obtained without it. The policy adopted by Dr. Robertson, which saves cost to the rates, may appeal to the canny Scotsman; it makes little appeal to most other medical officers of health. Dr. Pringle, the medical officer of health for Ipswich, has summarized the position very ably when he says, "I believe that the local isolation hospital has contributed in no small degree to the low degree of prevalence of infectious disease at the present time. . . . In so far as the treatment of cases admitted is concerned, there is no question at all but that the hospital has been the means of restoring the health of large numbers of children and adults who could not possibly have received either adequate medical supervision or nursing management in their own homes."

If Dr. Robertson had confined his remarks to cases which could receive adequate nursing and medical attention in their own homes, and had discarded the Milne system, we should have had little dispute with him; but when he quotes with pride the percentage of cases treated at home at Leith, "the vast proportion of which were in working men's dwellings," I am inclined to think he is advocating economy at the expense of the health of the child.—I am, etc.,

Hford, Essex, March 4th.

A. H. G. BUNTON,  
Medical Officer of Health.

SIR,—Dr. H. Cameron Kidd's gentle protest does not persuade me that I missed the point of his letter. He ("purposely," he confesses) "said nothing on . . . the failings of isolation hospitals in respect to scarlet fever." But he asked that more money be spent on these institutions; and he expressed a conviction that "some of the complications" of scarlet fever "might" be avoided by such an outlay.

Now isolation hospitals cost a lot. The community is hard up at present. More expense must be justified by either proofs of valuable work done or a definite promise of increased efficiency. I regretfully suggest (a) that Dr. Kidd's conviction does not constitute such a promise, and (b) that his ingenuous omission of the question of the efficiency of hospital isolation does constitute a confession that these institutions are not exactly proud of their record. Thus it seems opportune and pertinent to interpose. The more so as Dr. Kidd now says, "We have committed our generation to hospital isolation, and the important thing is to make the best of it." Surely these are dangerous words. Efficiency is the test. And if we have committed our generation, knowingly, to anything less than first-rate, "the important thing" (pace Dr. Kidd) is to scrap it relentlessly.

You, Mr. Editor, deprecate "a discussion of the value of inoculation in scarlet fever"; but, unless the exponents of serum treatment or vaccine treatment can offer some definite hope, inoculation should be seriously investigated; and I am afraid that Dr. Kidd rather invites that ordeal by his reference to "old annual reports, especially twenty to twenty-five years ago, where the whole question was discussed." If he speaks by the book, a generation has now arisen which knows not the Milne method. Dr. Robertson's circular demonstrates anew that the thing can accomplish notable results in unpromising areas.—I am, etc.,

Belfast, March 2nd.

ROBERT WATSON.

### QUEEN'S HOSPITAL, BIRMINGHAM.

#### *Old Students and Residents Fund.*

SIR,—May I be allowed to use your columns for the purpose of bringing to the notice of the many past residents and students of the Queen's Hospital, Birmingham, the fact that an appeal is being made for funds to extend and reorganize the hospital? The need is great, and the appeal is meeting with encouraging support from the general public.

A strong desire has been expressed by many past students and residents of the hospital to associate themselves in some corporate manner with the appeal, and it has been suggested that a popular way of doing so would be to undertake to raise a sufficient sum of money to endow a bed in the new surgical block. The sum required is £1,250, and subscribers will have their names recorded over the bed, or in some other suitable position.

It is impossible to reach directly all past residents and students, who are widely scattered throughout the world; but any who may read this letter and would wish to record in permanent manner their affection for and appreciation of their *alma mater* by contributing to the "Old Students and Residents Fund" for the endowment of a bed are invited to send their donations to me, as treasurer of the Queen's Hospital Past and Present Residents' Association, at the Queen's Hospital, Birmingham.—I am, etc.,

Birmingham, March 8th.

L. KIRBY THOMAS.

### TREATMENT OF PERFORATED GASTRIC AND DUODENAL ULCERS.

SIR,—I have read with interest the letter on the treatment of perforated gastric and duodenal ulcers by Mr. Percival Mills (January 24th), but would ask if it is correct from a statistical standpoint to express results in percentage terms unless generalization is made on 100 cases or multiples of 100.

In my opinion it is incorrect, and I should like to have the opinion of statisticians such as Professor Karl Pearson and Dr. Major Greenwood on this.

If the 40 cases recorded were analysed in the manner used in the article quoted, in, say, batches of 10 taken seriatim, the "percentage" results obtained in each would, I venture, differ widely from those given in the article quoted, just as they would if they were expressed on a series of 100 cases, on which it would be statistically correct to generalize in percentages.—I am, etc.,

M. CONRX, Lieut.-Colonel I.M.S.,  
Civil Surgeon, Rawalpindi, Punjab,  
India.

February 4th.

### THE DIAGNOSIS OF PNEUMONIC PLAGUE.

SIR,—My reply to Dr. Dyce Sharp's question (December 27th, 1924, p. 1216) regarding the diagnosis between plague complicated with pneumonia and pneumonic plague is that the diagnosis depends on the physical properties of the sputum.

In plague complicated with pneumonia the sputum is very tenacious and viscid—at first blood-tinged, it becomes rusty; whereas in pneumonic plague the sputum is bloody and fluid, thus differing from the tenacious viscosity of

plague complicated with pneumonia. The honour of first establishing this point in diagnosis is, I think, due to my late teacher, the late Lieut.-Colonel Childe, I.M.S., Professor of Medicine, Grant Medical College, Bombay.—I am, etc.,

H. C. DE PENNING, M.R.C.S.,  
L.R.C.P.Lond.

Kotri, India, Jan. 23th.

### ANTHRAX-INFECTED SHAVING-BRUSHES.

SIR,—The calamity which you announce to-day, of Professor Ellermann's death from an anthrax-infected shaving-brush, induces me, as one of the English cases that recovered, to put forward once more a simple suggestion, already printed elsewhere.

I advise my friends never to buy any shaving-brush, but to use instead a small red rubber sponge, which, with good shaving-soap, is as good as a brush, costs far less, and, above all, is safe. I always now use one myself.—I am, etc.,

Exeter, March 7th.

W. GORDON.

### THE LATE SIR JAMES MACKENZIE.

SIR,—I think the chief lesson we are to draw from a consideration of the life of this great clinician is that a decentralization of medical studies is urgently needed. Hitherto it has been taken as axiomatic that the cutting edge of medical progress must necessarily be in the great cities. Sir James Mackenzie declared otherwise. Note the three successive phases of his career. First, over a quarter of a century at Burnley, where he learned the fundamental importance of the general and the practical approach to medicine, as embodied in the general practitioner. But he came to realize that this in itself was not enough, and that upon this broad basis of practical knowledge something further needed to be engrafted—namely, that which is ordinarily spoken of as science. Accordingly, we next find him a distinguished specialist in London, where he carried out his world-renowned work on the heart. But, contrary to what might have been expected, this eager searcher after truth did not remain in London. And why? I venture to think that it is in this "gesture," initiating his third phase, that the chief lesson to our age of Sir James Mackenzie's life is to be found. Why did London not satisfy his soul? Let us leave aside immediate reasons, which those personally acquainted with him will best know, and let us try to realize the deeper underlying causes. It looks as if he came to say to himself something like this: "The general atmosphere of the metropolis—its whole *Kultur*—is fundamentally devoid of, even inimical to, that co-ordinating vital principle which is the most urgent need of our art to-day. Of course, it is pre-eminently in the great city that we are to seek for those sciences which are the necessary ancillaries of medicine. But to make all this really practical—in a word, to effect the liaison, the co-ordination, the correlation of these disparate sciences with practice—we must go elsewhere."

Sir James Mackenzie went to St. Andrews—that is, to a small centre, which, although not the Burnley of his earlier years, yet contained all that was best in Burnley, and, in addition, all that was best in urban medical culture. At St. Andrews he found a proper commixture—a *eucrasia*—of the rural and urban. Is not the key to our problem perhaps to be found in this: that in the small centre it is at least possible to be in more or less continuous personal touch with one's patient, to see and deal with him as a continuum, both in space and time? Whereas in the great city we cannot deal with real persons, with persons in their entirety, in their natural settings—social, domestic, economic, etc.—but only with parts of persons, or with moments in their lives, or with moments in the lives of parts of them.

If, then, we would draw a moral from the career of this latter-day Sydenham, it would, I submit, be, not certainly *delenda*, but at least *subjicienda est Carthago*—and this, perhaps, not in medical matters alone.—I am, etc.,

Edinburgh, Feb. 6th.

A. J. BROCK.

## Medico-Legal.

## LUNACY LAW AND ADMINISTRATION.

HARNETT v. BOND AND ADAM.

THE appeal of Mr. W. S. Harnett, farmer, of Sittingbourne, Kent, from the order of the Court of Appeal reversing the judgement of Mr. Justice Lush which mulcted Dr. C. Hubert Bond, a Commissioner in Lunacy, in £5,000 as damages, for detaining the appellant at the office of the Commissioners, on December 14th, 1912, and both the same respondent and Dr. G. H. Adam, of Malling Place, Kent, a licensed home for the reception of lunatics, in £20,000 damages for an alleged joint tort whereby the appellant was returned to Malling Place, and was kept there, and at successive mental institutions, from October 14th, 1912, until October, 1921, when he escaped and was never recertified, came before the House of Lords on Monday. In the Court of Appeal it was held that Dr. Adam was protected by Section 330 of the Lunacy Act, 1890, and that a new trial should be confined to ascertaining the damages sustained by Mr. Harnett by his detention in the office of the Commissioners at the instance of Dr. Bond for from two to three hours on December 14th, 1912.

A report of the King's Bench proceedings will be found in the BRITISH MEDICAL JOURNAL of March 8th, 1924 (p. 449 et seq.), and of the proceedings in the Court of Appeal in the JOURNAL of April 12th, 1924 (p. 692 et seq.).

The appeal was heard by the Lord Chancellor (presiding) and Lords Buckmaster, Atkinson, Dunedin, and Sumner.

Counsel were:—For the appellant: Mr. S. Cope Morgan and Mr. J. W. Morris; for Dr. Bond: the Attorney-General, Mr. Harold Morris, K.C., Mr. W. Bowstead, and Mr. Harold Murphy; for Dr. Adam: Mr. A. Neilson, K.C., and Mr. T. Carthew. Mr. T. Simpson Pedler held a watching brief for the British Medical Association.

## The Pleadings.

The appellant's case was that the judgement of Mr. Justice Lush should be reaffirmed on the grounds (*inter alia*) that the learned judge was right in holding that it was a question for the jury to decide whether or not the detention of the appellant as a lunatic after December 14th, 1912, was the intended and/or natural and/or direct and probable consequence of the acts of the respondents, or either of them, and that the verdict of and damages assessed by the jury were reasonable and in accordance with the evidence; that the medical and other evidence showed that in no instance subsequent to the act of Dr. Bond was an adverse opinion concerning the appellant's mental state formed so independently as in law to constitute a *novus actus interveniens*; that such opinion was in each instance based upon the symptoms of excitement, resentment, and depression, which were the direct and natural consequence of the joint and/or several acts of the respondents, which constituted a joint tort; that the respondent, Dr. Adam, was guilty of a breach of duty for which the appellant was entitled to the damages awarded against Dr. Adam; that the condition attached by Dr. Adam to the Absence on Trial granted to the appellant under Section 55 of the Lunacy Act was without statutory authority, and that, alternatively, Dr. Adam was wrong in retaking the appellant, since his mental condition, as the jury had found, did not in fact require it; and, further, that Dr. Adam was wrong in retaking the appellant without first satisfying his own mind that the appellant's mental condition required it. In so acting, Dr. Adam was not entitled to claim that he acted in pursuance of the Lunacy Act, 1890, and, alternatively, the onus of proving the statutory defence under Section 330 (1) of the Lunacy Act, 1890, pleaded by Dr. Adam, lay upon him, and he had failed to discharge that onus. If the onus of proof lay upon the appellant, then he had discharged it. There was sufficient evidence to justify the finding of the jury that Dr. Adam did not take reasonable care in acting as he did, and the Court of Appeal was wrong in not ordering a new trial as against Dr. Adam. Finally, the order of the Court of Appeal as to the costs of the first trial against Dr. Bond was wrong and ought to be reversed.

Dr. Bond's case was that the judgement of the Court of Appeal should be affirmed, because Mr. Justice Lush had misdirected the jury on the question of damages. Any damage sustained after the appellant had returned to Malling Place on December 14th, 1912, and had been examined by Dr. Adam, was too remote and not recoverable in law from Dr. Bond, whilst the jury's minor apportionments of damage were merely the result of splitting up a sum arrived at on an inadmissible basis, and the sum of £5,000 as damages for the detention at the office of the Commissioners was excessive. The answers of the jury to the question whether the appellant on December 14th, 1912, (a) was of unsound mind, (b) was fit to be at large, (c) was dangerous to himself or others, and whether Dr. Bond honestly believed (a), (b), and (c), were against the weight of

the evidence, and there was no evidence that Dr. Bond did not honestly believe (a), (b), and (c).

Dr. Adam's case was that the judgement of the Court of Appeal ought to be affirmed because on the findings of the jury he was not guilty of any joint tort, and it was only upon the basis of his being guilty of a joint tort that the appellant could succeed. He was not guilty of any several torts. He had acted throughout in pursuance of the Lunacy Act, 1890, in good faith and with reasonable care, and was entitled to the protection of Section 330 of that Act, there being no evidence proper to be left to the jury that he acted without good faith and without reasonable care. In any event, the learned judge misdirected the jury as to damages, which were too remote.

## Hearing in the House of Lords.

Mr. Cope Morgan related the facts of the case, and pointed out that the action was one of damages for false imprisonment, and Dr. Bond admittedly had no defence.

Lord Atkinson: For the whole period?

Mr. Morgan: Certainly for the period Mr. Harnett was detained in the Commissioners' office.

Lord Buckmaster: Did he, in fact, try to get out of the office and was he prevented?

Mr. Morgan: Yes; he tried to get out to lunch; that has not been disputed.

Mr. Morgan said the action was not laid in negligence as was the case in *Everett v. Griffiths* (1921), 1 A.C. 631, and he emphasized that fact because the case had aroused widespread feeling on the part of the medical world, who supposed that the judgement of Mr. Justice Lush laid it down that any doctor who made a mistake in the course of diagnosis may be made liable for damages to a considerable amount. The Attorney-General (then Sir Patrick Hastings), in the Court of Appeal, had said that the real importance of the case was that it would be, practically speaking, impossible for a medical man to send a person who was a lunatic to an asylum if the law truly be that if he were found negligent in signing a certificate, he would be responsible in damages for the whole period during which the alleged lunatic was detained—that the effect of the judgement would be that nobody would ever sign a certificate and no one would keep anybody in a strait jacket: "We shall get the place flooded with gentlemen who ought to be in asylums because there is no protection at all for the doctor."

Lord Atkinson: If the doctor exercises reasonable skill and caution and signs a certificate is he guilty of false imprisonment?

Mr. Cope Morgan: No; and I am not suggesting that against the doctors who subregatally signed certificates in the long chain of years.

It was admitted that Dr. Bond had no more right to do what he did than he (counsel) had. Dr. Bond could not plead Section 330, but Dr. Adam did, and the jury specifically found that he had not exercised reasonable care. The Court of Appeal's proposition was that however rightly or wrongly a man was first sent to a lunatic asylum, then a Chancellor's visitor who saw him in the course of seeing 300 patients or so a day was to be regarded as a *novus actus interveniens*. Surely this must cover the case of a man sent to an asylum as the result of a tissue of lies as to his state of mind, due really to drugs administered by relatives who wanted to get rid of him, and who was consequently certified by medical men—if these certificates were each to be regarded as a *novus actus interveniens*, then it was plain that the original wrongdoers could not be made liable for the subsequent detention.

Mr. Cope Morgan dealt with the questions and answers of the jury, which were as follows:

1. Did Dr. Bond cause the plaintiff to be detained at the office until the attendants came for him?—Yes.
2. Did he cause him to be sent back for the purpose only of his being examined by Dr. Adam, or for the purpose of his being detained at Malling Place?—Being detained at Malling Place.
3. Did Dr. Bond cause the plaintiff to be taken back?—Yes.
4. Was the plaintiff of unsound mind on December 14th, 1912?—No.
5. Was he fit to be at large?—Yes.
6. Was he dangerous to himself or others?—No.
7. Did Dr. Bond honestly believe that the plaintiff was of unsound mind?—No.
8. Or that he was not fit to be at large?—No.
9. Or that he was dangerous to himself or others?—No.
10. Did he believe that the plaintiff had escaped from his brother's charge?—Yes.

[Mr. Cope Morgan here commented: It is common ground that the answer to Question 10 is explanatory of the answers to Questions 7, 8, and 9, the effect of the four answers being that Dr. Bond acted for the reason given in Question 10, and not because of any belief, honest or otherwise, concerning the applicant's state of mind.]

11. Did he take reasonable care to ascertain the true facts?—No.
12. Did he honestly believe that Dr. Adam had retained a power of taking the plaintiff back during the twenty-eight days in the Leave of Absence Order?—Yes.

13. Did Dr. Adam, when he received the telephone message and sent the car, honestly believe that the plaintiff, on December 14th, was of unsound mind and unfit to be at large?—Yes.

14. That it was in his interest that he should be taken back to Malling Place?—Yes.

15. Did he take reasonable care in acting as he did?—No.

[Question 16 was omitted.]



17. Was the detention of the plaintiff at the Commissioners' offices the act of Dr. Bond alone, or was it really the act of both the defendants?—Dr. Bond.

Lord Buckmaster observed that the Court below limited the measure of damages against Dr. Bond to the return of Mr. Harnett to Malling Place, and asked, What alternatives were there?

Mr. Cope Morgan submitted that there were four: (1) for the whole period of detention; (2) to January 9th, 1913, when the Absence on Trial Order properly expired; (3) to February 22nd, 1913, when Mr. Harnett was transferred from Malling Place to Croydon; (4) to November 10th, 1913, when the original reception order should normally have been renewed.

The hearing is continuing.

## LOSS OF SIGHT OF ONE EYE AFTER ANAESTHESIA.

MURDOCK v. HOLMES AND TAYLOR.

A CASE of considerable importance to the medical profession was heard at the Leicester Assizes on February 28th and March 2nd and 3rd, before Mr. Justice Rigby Swift. The plaintiff, George A. Murdock, hosiery manufacturer of Leicester, sued Drs. W. Moffat Holmes and George Taylor, practising together in partnership, for damages for the loss of the sight of his left eye alleged to be due to their negligence during the administration of an anaesthetic for an operation. The defendants did not admit liability and denied the allegations.

Mr. Bernard Campion, K.C., and Mr. J. P. Stimpson appeared for the plaintiff, and Mr. Norman Birkett, K.C., with Mr. Maurice Healey, for the defendants. Dr. Holmes's defence was undertaken by the London and Counties Medical Protection Society, and Dr. Taylor's by the Medical and Dental Defence Union of Scotland.

### Case for the Plaintiff.

Counsel, in opening the case for the plaintiff, said that about March 6th, 1924, Mr. Murdock was seized with abdominal pain due to appendicitis, and Mr. Bolton Carter, a surgeon, was called into consultation with the two defendants. An immediate operation was ordered, and was successfully performed the next day by Mr. Carter at the Highfields Hospital. Both the defendants were present, Dr. Taylor giving the anaesthetic. When plaintiff came round he complained of pain in his left eye. This continued, and on March 14th Dr. Holmes called in Mr. Ridley, an ophthalmic surgeon, who found that parts of the eye were very badly scarred. Counsel added that the eye was now blind, all that remained by way of sight being the perception of light. As to which of the two defendants was responsible did not matter, for they were in partnership and both were liable.

The plaintiff, in the course of his evidence, said he had acute pain in the eye for six or seven weeks after the operation. In reply to the judge, he said that the defendants had not told him that it was the anaesthetic that had done the mischief. In cross-examination by Mr. Birkett, he agreed that his illness had brought him to the "very gates of death." He did not know that any of the anaesthetic went into his eye; he only knew "what the doctors admitted."

Mr. N. C. Ridley, consulting ophthalmic surgeon, Leicester Royal Infirmary, said that when he first saw the eye there was slight inflammation. The patient was in a bad condition—so bad that it did not matter about the eye, and Mr. Ridley thought he was dying. The condition of the eye was consistent with some of the anaesthetic having got into it. It was a frightfully common thing for some of the anaesthetic to get into the eye during an operation, but the patient did not then generally lose the sight of the eye. Witness took it that what might cause little or no injury in a healthy person had produced in this patient a destruction of the eye tissue. He thought the plaintiff somewhat exaggerated the amount of loss of sight. In cross-examination Mr. Ridley said that this was the only case of the kind in which he had known serious results occur, and added that the accident might have happened, no matter how much care was taken.

Dr. T. E. A. Carr and Dr. A. D. Hunt of Derby were both called for the plaintiff, the former speaking from the ophthalmic surgeon's point of view, the latter as one who had had very large experience as an anaesthetist. Dr. Hunt explained the precautions he took to avoid getting any anaesthetic into a patient's eye, and the measures he would take to remedy such a mishap. He had never known a case so serious as this. This closed the case for the plaintiff.

### Case for the Defence.

Mr. Birkett, in opening for the defendants, submitted that there was no case of negligence, and that there was no evidence whatever suggested against Dr. Holmes. His lordship said he was impressed with this argument in favour of no negligence on the part of Dr. Holmes; but Mr. Campion argued otherwise, and the judge then said that the case would have to go to the jury.

On the resumption on March 2nd Mr. Healey addressed the jury for the defence, submitting that there was no definite piece of evidence to justify the jury coming to the conclusion that one drop of liquid came near the plaintiff's eye, and that at no time during the operation could anything have been done to prevent this injury. Counsel pointed out that during the operation there were eight persons in the room—three doctors, the patient, and four trained nurses—yet none of the nurses had been called to say what carelessness the anaesthetist had been guilty of. Nothing that a skilful administrator would have done was left undone.

Dr. Taylor, giving evidence, said he had administered an anaesthetic thousands of times, and, after describing the precautions taken by him during operations, demonstrated the method of anaesthesia adopted in that case. There were, he said, no signs during the operation of any anaesthetic having got into the eye; he always covered the whole of the face, including the eyes, with a pad. In this case he changed the pad once during the operation because it was getting damp.

Dr. R. Wallace Henry, ophthalmic surgeon of Leicester, said he agreed with the evidence given by Mr. Ridley. While the anaesthetic might have been the immediate cause of the eye condition, the main cause was the anaesthetic acting on an eye in a toxic condition. He did not think that it was possible to stop vapour from getting into the eye.

Dr. J. Blomfield, anaesthetist to St. George's Hospital, London, expressed the opinion that no anaesthetic could get into an eye without there being any lack of care or skill.

Mr. F. Bolton Carter, surgeon to the Leicester Royal Infirmary, who performed the operation, said that the patient's condition before operation was extremely serious. It was only through the great care he received that he lived. There was no evidence that any liquid anaesthetic had got into the eye. With considerable experience of anaesthetics he declared that Dr. Taylor gave the anaesthetic remarkably well and skilfully. In such a case it was essential for the patient to be deeply under, and this would entail saturating the mask with the anaesthetic. Mr. Carter added that there was an epidemic of "pink eye" or "anaesthetic eye" at the Leicester Royal Infirmary last year, and an inquiry was held. The anaesthetics were administered by two highly experienced men, who were absolutely certain that in none of these cases had the liquid anaesthetic got into the eye. In the majority of the cases the patients were in a septic condition. The eye trouble in these patients cleared up within three or four days, except in one case, in which the eye had to be removed.

Dr. Holmes, one of the defendants, said he assisted Mr. Carter at the operation; he did not observe Dr. Taylor in giving the anaesthetic, and he had nothing to do with its administration. When he examined plaintiff's eye after the operation he attributed the inflammation to the anaesthetic vapour; there was much vapour about.

Dr. M. H. Barton, honorary ophthalmic surgeon, Leicester Royal Infirmary, said he had seen eyes in the condition like that of the plaintiff without the patient ever having an anaesthetic. The scar on plaintiff's eye was consistent with its having been caused by vapour and not by liquid. But vapour alone would not have caused the trouble in this case, and he agreed with Mr. Carter that the main cause was a germ. The next witness, Miss Evans, sister at the Highfields Hospital, said she observed nothing abnormal about the giving of the anaesthetic.

His Lordship said there was not the slightest evidence of personal negligence against Dr. Holmes; his reputation was absolutely clear; but he remained in the case as partner of Dr. Taylor.

### Summing Up.

In the course of his summing up, Mr. Justice Rigby Swift said that the plaintiff had had the advantage of the best medical and surgical skill which could be obtained for him in Leicester, and fortunately his life was saved. Whether in the end the jury came to the conclusion that anyone was responsible for the injury to the eye, they must consider whether a case of negligence had been made out. Before plaintiff could get any damages they must be satisfied that he had experienced a very terrible injury and one for which, if he was to be compensated at all, he must be compensated by a very large sum of money. Here was a business man, getting past the prime of life, who said he was now unable to lead an active life and take complete control of his firm's works. If this were so, then the compensation should be very substantial, although, measured in pounds, shillings, and pence, no money the jury could give him would restore his blinded eye and put him back again as he was before the accident. If plaintiff was entitled to any damages, the jury must in arriving at the figure consider what had been done to him, not how much the defendants could afford to pay, nor what the consequences to the defendants would be if the verdict went against them. Before finding for the plaintiff the jury must be satisfied that in the administration of the anaesthetic Dr. Taylor did something which a reasonable person would not have done; they must not find for the plaintiff out of sympathy.

### The Jury Disagree.

After an absence of an hour and three-quarters the jury returned to court and informed the judge that they were unable to agree. They then retired for eighteen minutes more, when the judge was again informed that agreement was impossible. The jury returned again and were discharged.

## DIAGNOSIS OF DISLOCATION.

FREEBORN v. LEEMING.

DAMAGES amounting to £1,800, together with the costs of the action, were given by His Honour Judge E. H. Chapman, in the Grimsby County Court on February 18th, against Dr. R. W. Leeming of Kendal for negligence in failing to diagnose the dislocation of the left hip-joint of George Freeborn, formerly a travelling ganger, of Scunthorpe.

It appeared that at about 9 p.m. on September 5th, 1923, two policemen found the plaintiff on the road near Kendal in such a condition that he was unable to walk without help; he was charged with simple drunkenness and removed to a cell, where

he was left lying on a plank bed. Dr. Leeming, the police surgeon, was sent for the following morning, as the plaintiff complained of pains in his leg, and, having examined the plaintiff, ordered his removal to the Poor Law infirmary, of which Dr. Leeming was medical officer. The plaintiff remained under defendant's care until October 15th, 1923, when he left for his home at his own request, and, on the following day, his own medical attendant, Dr. Johnston, examined him and suspected a fracture of the neck of the femur. Dr. W. M. Shepherd, consulting surgeon, of Doncaster, was called in, and he came to the conclusion that the plaintiff was suffering from an unreduced dislocation of the left hip-joint. The plaintiff was thereupon removed to the Doncaster Royal Infirmary, and, as the result of an operation on November 18th, the plaintiff's left leg was now one inch shorter than the other, and, according to medical evidence, would always be somewhat shorter and always so weak that the plaintiff would never again be able to do hard work.

The plaintiff's case was that his hip was dislocated on September 5th, 1923, as the result of being run into by a car shortly before he was picked up by the police, and that his permanent disability was due to the defendant's failure in diagnosis.

The defendant contended that there was no dislocation of the left hip-joint, either on September 5th, 1923, or at any time while the plaintiff was under his care. He admitted, however, that on November 3rd, 1923, there was such dislocation, but this, he contended, took place at some time between October 15th, the day on which the plaintiff left the infirmary, and November 3rd.

His Honour, in giving judgement, said he was not satisfied that the plaintiff was drunk on the night of September 5th, although he thought the plaintiff's condition was partially due to the drink he had taken. There was a direct conflict of evidence as to whether the plaintiff told the defendant he had been run into by a car, but a police witness had said: "On the night of the accident the plaintiff answered questions all right;" whilst Nurse Knott said: "Freeborn asked me to ask the doctor not to state in the certificate that he was drunk at the time of the accident or he would not get the money." The defendant admitted signing a certificate on September 6th, in which he certified that Freeborn was suffering from severe bruising of the left thigh, the result of an accident, and a further certificate on October 12th, 1923, stating that Freeborn was unable to follow his employment owing to injuries received from a motor car on September 5th. His Honour, therefore, was of opinion that the plaintiff was injured by an accident with a motor car on September 5th, 1923, and that on the following day the plaintiff did inform the defendant of such accident. The defendant was bound to bring to the plaintiff a fair, reasonable, and competent degree of skill and care; and he (his Honour) came to the conclusion that the defendant was negligent in each one of the particulars alleged, except the one of "disregarding the plaintiff's complaints that the bones were injured." He found that the defendant was not negligent in that respect, for he was not satisfied that the plaintiff ever complained that the bones were injured. As to the defendant's plea that the action had not been brought within six months of the cause of action accruing—a protection afforded by the Public Authorities' Protection Act, 1893—his Honour held that the cause of action arose after November 1st, 1923, and that therefore the action was started (April 25th, 1924) within the six months. As to damages, the plaintiff was a strong, healthy man, aged 53, and his wages were £6 a week. If he had been properly treated from the first he would have been laid up for six weeks, and would have been fit for light work in about three months after the date of the accident, and eventually have recovered the full use of his limbs. As it was, the plaintiff was left with one leg permanently shorter than the other and permanently weak, and was still unable to walk without the help of crutches, although it was hoped he would be able to dispense with these in five or six months' time. In his opinion, the plaintiff should not be prejudiced in respect of damages in view of the fact that had it not been for lack of funds the case would have been tried in the High Court, from which it had been remitted.

## Universities and Colleges.

### UNIVERSITY OF CAMBRIDGE.

#### Pinsent-Darwin Studentship in Mental Pathology.

This studentship was founded in 1924 by the bequest of Mrs. Pinsent and Sir Horace and Lady Darwin for the purpose of promoting research into any problem which may have a bearing on mental defects, diseases, or disorders. The studentship is of the annual value of about £200 and is tenable for three years in the first instance. The student may be of either sex, and need not be a member of the University of Cambridge. He will be required to engage in original research in Cambridge or elsewhere, but may, subject to the consent of the managers, carry on educational or other work concurrently. Further particulars of the studentship may be obtained from the Registrar of the University of Cambridge, and applications for appointment to the studentship should be sent before May 1st to the Secretary, Pinsent-Darwin Studentship, Psychological Laboratory, Cambridge. Applicants should state their age and qualifications and the general nature of the problems in which they are interested, and should give the date at which they would be prepared to begin work if appointed. No testimonials are required, but applicants should give the names of not more than three referees.

### ROYAL COLLEGE OF SURGEONS OF ENGLAND.

#### COUNCIL ELECTION.

THE secretary of the College of Surgeons has sent out the usual announcement, which, on this occasion, states that a meeting of the Fellows will be held at the College on Thursday, July 2nd next, at 2.30 p.m., for the election of three Fellows into the Council in the vacancies occasioned by the retirement in rotation of Mr. V. Warren Low, C.B., Mr. James Sherren, C.B.E., and Sir John Lynn-Thomas, K.B.E., C.B., C.M.G.

Blank forms of the requisite notice from a candidate and of his nomination may be obtained on application to the secretary, and the same must be received by him duly filled up within ten days from this date—that is, not later than on Monday, March 16th. A voting paper will be sent by post to each Fellow whose address is registered at the College on March 31st. Fellows are requested to give notice, without delay, of any change of address, so that voting papers may not be mis-sent.

## Obituary.

### JOSEPH ARDERNE ORMEROD, M.D., F.R.C.P.,

Registrar of the Royal College of Physicians of London;  
Consulting Physician, St. Bartholomew's Hospital and  
the National Hospital for the Paralysed and  
Epileptic, Queen Square.

By the death on March 5th, after an operation for a perforated duodenal ulcer, of Dr. J. A. Ormerod the Royal College of Physicians of London has lost its able and devoted registrar, a scholar, and a lover of its traditions, who was at his usual work as lately as February 27th.

He was born on April 7th, 1848; he was the second son of the Venerable T. J. Ormerod, Archdeacon of Suffolk, and came of an old and distinguished Lancastrian family; his grandfather, George Ormerod, F.R.S., of Tyldesley and Sedbury Park, the historian of Cheshire, married Sarah, the daughter of John Latham, M.D., F.R.S., President of the Royal College of Physicians (1813-19), and father of Peter Mere Latham. Of George Ormerod's seven sons and three daughters four obtained a niche in the *Dictionary of National Biography*: George Wareing Ormerod was a well known geologist; William Piers Ormerod, anatomist, surgeon, and sanitarian, and Edward Latham Ormerod, who, like his nephew, was demonstrator of morbid anatomy, were educated medically at St. Bartholomew's Hospital; Eleanor Anne Ormerod earned a deservedly high reputation as an economic entomologist, and was the first woman to receive the honorary LL.D. of Edinburgh. Dr. Ormerod's eldest son, Major George Ormerod, D.S.O., is chief constable for East Essex; his second son, Henry Arderne Ormerod, M.C., is professor of Greek in the University of Leeds and author of *Piracy in the Ancient World*; one of his daughters is married to Dr. J. B. Christopherson, C.B.E., F.R.C.P.

Following in the footsteps of his father and uncles, Ormerod went in 1862 to Rugby and in 1867 to Oxford, where he was a classical scholar at Corpus, being placed in the first class in moderations (1869), in the second class in *litteris humanioribus* (1870), and, after deciding to follow the physio life, in the first class in natural science (1871); in addition he won the Chancellor's prize for Latin verse (1869) for "Exercitus Indo-Britannicus ex Abyssinia Redux," and a Fellowship at Jesus College (1871).

Entering the medical school of St. Bartholomew's Hospital in October, 1872, he qualified B.M.Oxford in 1875, proceeding to the D.M. in 1882 with a dissertation "On epilepsy in its relation to ear disease," and after holding a number of appointments, including medical registrar and demonstrator (1887), was elected assistant physician (1893), physician (1904), and consulting physician (1913). He was also physician to out-patients (1878) and physician (1888-93) to the City of London Hospital for Diseases of the Heart and Lungs, Victoria Park, where he interested himself in laryngology, and assistant physician (1880), physician (1900), and consulting physician (1913) to the National Hospital for the Paralysed and Epileptic, Queen Square, where, as secretary of the medical staff, he did yeoman service in smoothly settling the impasse that arose between the staff and the lay board in 1901. During the war he was physician to King George Hospital, Stamford Street. His bent in medical work was mainly neurological; in 1892 he

brought out *A Student's Guide to Nervous Disease*, and his abilities were rightly recognized by his election as president of the Neurological Section of the Royal Society of Medicine (1910-11), where his presidential address dealt with "Two theories of hysteria," that of Pierre Janet and that of Breuer and Freud. Among his published papers, more than a score of which appeared in *St. Bartholomew's Hospital Reports* and more than a dozen in *Brain*, attention may be drawn to those on the myopathies and to his account of a case, in 1890, of what is now known as progressive lenticular degeneration or Wilson's disease, in which the cirrhotic condition of the liver was recognized, and to his articles in the *System of Medicine* on cerebro-spinal fever, tabes dorsalis, and hysteria.

At the College of Physicians, with which the later part of his life was closely associated, he became a Member in 1877, a Fellow in 1885, delivered the Harveian Oration in 1908 on "Heredity in relation to disease," and the Lumleian Lectures in 1914 on "Some modern theories concerning hysteria"; was appointed assistant registrar in 1908, and in the following year succeeded the late Dr. E. Liveing as registrar. He also examined for the Conjoint Board (1907-8), and was on the Council (1903-5). Like his late colleague, Sir Norman Moore, whose obituary notice he wrote in *St. Bartholomew's Hospital Reports*, he was by education and tastes admirably fitted to be an official of the College of Physicians. Further, his orderly mind with a lawyer's keen sense for possible pitfalls and fallacies, his power of hard work, and his knowledge of the statutes, by-laws, and regulations of the College, made him peculiarly suitable to be its registrar. Few realize how much falls on the holder of this office, not only at the College, but in connexion with the board of management of the Conjoint Examining Board in England. His shrewd common sense was eminently shown in statements drawn up for decision by the legal advisers of the College. He certainly had no love for change merely for the sake of change; he was indeed somewhat critical of any alteration in the laws, and was properly zealous of any infringement of the rights of the College to which he was so deeply attached. When any change was made he carried it out most loyally and cheerfully.

A most considerate and unselfish colleague, he was entirely wanting in self-assertive dogmatism and often seemed loath to differ at first from others, as if for fear of hurting their susceptibilities; but, while most conciliatory, he eventually always made his point of view quite clear. Extremely modest and reticent, his strength of character was not always obvious to those who did not know this upright and kindly gentleman. Although he had a trying illness in the latter half of last year and had the misfortune of losing his wife two months ago, he retained to the end an appearance of a man much younger than his age, and this may well have been connected with the freedom from any feelings save those of kindness towards his fellow men.

H. R.

CLAUDE BUCHANAN KER, M.D., F.R.C.P.,  
Medical Superintendent, City Hospital, Edinburgh.

His death occurred on Wednesday, March 4th, of Dr. Claude Buchanan Ker. Dr. Ker had been in his usual health up to February 25th, when he showed symptoms of an influenza attack, during which a severe form of bronchopneumonia developed, and under this he gradually sank. He had been for twenty-eight years medical superintendent of Edinburgh City Hospital, and in this capacity acted as university lecturer on infectious fevers from 1904 onwards. Thus he had become well known to many successive classes of medical students, by whom he will be universally missed.

After graduation as M.B., C.M. in 1890 he acted during the summer of 1891 as resident surgeon in the Royal Infirmary with Dr. Peter MacLaren, and later became resident surgeon in the Royal Maternity Hospital, Edinburgh, and clinical assistant to the lock and observation wards of the Royal Infirmary. For a time also he acted as assistant medical officer at the Edinburgh Fever Hospital. In 1891 he gained the certificate of the Medical-Psychological Association of Great Britain, and in 1895 he

graduated M.D. at Edinburgh University, receiving a gold medal for his thesis. In 1891 he joined the Royal College of Physicians as a Member, proceeding to the Fellowship in 1901. He became medical superintendent of the City Hospital for infectious disease while it was still situated in High School Yards, and was transferred to the new hospital at Colinton Mains when it was opened in 1903. Here his activities had been centred for the last twenty-two years, and he had devoted himself with great ardour and success to the investigation and treatment of different types of infectious diseases. For several years before his death he was a member of the council of the Royal College of Physicians, and two years ago he was elected a representative of the College on the board of management of the Royal Infirmary, Edinburgh.

His *Manual of Fevers* attracted widespread attention when it appeared first in 1909. A second edition was published in April, 1920. This came to be recognized as one of the most authoritative manuals on the subject in the English language. It was followed by the smaller *Infectious Disease: A Practical Textbook*, intended for the use of students, which attained an even greater degree of popularity. In these manuals his personal opinions, derived from wide experience, are chiefly found. In addition to these, occasional papers emanated from his pen upon the naphthols in enteric fever, on isolation and quarantine periods, and on the question whether there is a "fourth disease."

Dr. Ker was a lucid, stimulating, and erudite teacher, whose lectures enjoyed great popularity with his students. His opinions, whether expressed at meetings of the profession or at individual consultations to which he was widely called, were always received with great respect and attention. The Edinburgh medical school will be much poorer by reason of his loss.

He is survived by a widow, two sons, and three daughters. The interment took place on March 7th in the Morningside Cemetery, Edinburgh, and was attended officially by the Fellows of the Royal College of Physicians, as well as by a large number of friends and representatives of the medical profession.

We are indebted to Dr. ANDREW BALFOUR for a tribute to Dr. Ker's memory, from which we extract the following:

Ker was intensely alive, intensely human, full of humour and sympathy, and utterly devoid of anything savouring of advertisement or self-seeking. Withal he was a man of great force of character, with strong likes and dislikes, and capable, very capable, of standing up for what he conceived to be the right. Yet he very rarely found himself in conflict, for he possessed much tact and discretion and a store of patience which time and again stood him in good stead. I first met him in 1895 when, having been appointed assistant physician at the Edinburgh City Hospital, I called at the Old Pest House, as we called it, at the foot of Infirmary Street, to be interviewed by the medical superintendent. He had recently been appointed to the post. I was shown into a small room, and presently there entered with a brisk step and a curious swing of the body a man of medium height, who wore a monocle, through which an eye afflicted, though not unpleasantly, by an internal strabismus, surveyed me searchingly. He wore a blue velvet tasselled skull cap, was clad in a long white overall, and carried a wooden stethoscope of prodigious length. He spoke like an Englishman, kept flicking cigarette ash on the floor, and his manner was decisive, even a little brusque. He seemed to me rather nervous, and I gathered he did not quite approve of my appointment, which had been made at the instance of Sir Henry Littlejohn. Certainly he made it quite plain that I was there to carry out his instructions, though he indicated, also quite clearly, that he realized I might have views of my own, and that he was prepared to accord them every consideration. As I told him long afterwards, my first thought was, "How can I work under this man?" Yet very soon I had fallen, as did all his assistants and all his residents, under the spell of his personality. I had some slight acquaintance with French history, and I found that Ker was a great student of the Napoleonic era, and was never tired of hearing him descant on Bonaparte's strategy and recounting how he had secured the prints, statuettes, and relics with which his room was filled. Beyond doubt, he might have been an admirable professor of military history, for he had a flair for tactics. It was probably his military bent which led him to take a commission, first in the Volunteers and then in the Territorials. I found he was interested in sport and athletics, especially in

Rugby football. Above all, he had a keen sense of humour, and could write most amusing and delightful letters, either in verse or prose. We soon formed a friendship which stood the test of time and distance, the memory of which will ever remain precious and fragrant.

Ker had a host of friends. It was the custom then, and I understand it remained a custom, for his old residents to gather in his room on Sunday evenings and discuss all manner of things. He was ever the life and centre of these reunions. Not infrequently they took the form of discussions on fever cases and medical problems, and, as Ker's knowledge of fevers increased, so did the value of his expositions. No more profitable evenings can be imagined than these informal gatherings in the venerable building, full of memories of Sir Walter Scott, of the anatomist Knox, and of Burke and Hare, the West Port murderers. In those early days I was privileged to get some insight into his views and his schemes for the future. With Baillie Pollard, convener of the Public Health Committee, he spent hours in planning the new hospital which was to be built at Colinton, facing those Pentland Hills for which he had an affection almost equalling that of Robert Louis Stevenson. He entered upon the task with enthusiasm, and it cannot be doubted that it was largely due to his efforts that the present City Hospital became a credit to Edinburgh, while it is undoubtedly due in the main to him that it attained such a high degree of efficiency. No man was ever more popular with his staff. He had a way of getting the best out of them, and set an example of devotion to duty and of tireless, yet painstaking, energy which acted as a stimulus to all. He was a member of a small literary club which, beginning as the Heptagon, became an Octagon. Its membership was confined to a few medical men who met at each other's houses. Here, again, Ker was the life and soul of the party. He never missed a meeting throughout the twenty-five years of the club's existence, and, at the last but one, a full meeting to celebrate its twenty-fifth anniversary, he broke one of its rules, with the full consent of the members, by declaiming an ode which he had composed for the occasion, and which revealed considerable poetic talent. It was agreed to have a similar reunion in ten years' time, but alas! that hope can never be realized. There are many who mourn his loss, and his memory will remain ever green in the hearts and minds of those who knew his sterling worth and valued his company and his friendship. The world to-day, and his own world of Edinburgh in particular, seems woefully the poorer because Claude Buchanan Ker has passed to his well earned rest.

**J. J. GRAHAM BROWN, M.D., F.R.C.P.Ed.,**  
Consulting Physician, Edinburgh Royal Infirmary.

THE announcement of the death of Dr. J. J. Graham Brown, which took place on February 28th at his residence in Edinburgh, has been received with deep regret. He had been ill for some time, and his death occurred shortly after an operation.

Graham Brown graduated M.B., C.M. in 1875, and afterwards became resident medical officer in Chalmers's Hospital, Edinburgh, and later acted as resident physician in the Royal Infirmary to Sir Thomas Grainger Stewart, and in the following year as resident surgeon to Professor Spence. At the same time he was elected senior president of the Royal Medical Society, in the affairs of which he took a great interest. After a year spent at medical schools on the Continent, he returned to Edinburgh and took the degree of doctor of medicine in 1878, and joined the Royal College of Physicians of Edinburgh as a Fellow in 1882; later in life he was its president. In 1885 he went, in company with Professor Sir Charles Sherrington and Professor C. S. Roy, to Spain as member of a commission which had been appointed by the Royal Society of London to investigate an epidemic of cholera then prevailing in that country. During these early years he interested himself mainly in scientific investigation, and his work done in collaboration with Professor Roy, on the capillary blood pressure, is particularly well known. The subject in which he specially interested himself was, however, neurology, and his distinction in this subject was recognized by the University of Edinburgh in his appointment to the lectureship on neurology, which was established by the university in 1909.

Among his publications were *A Manual of Clinical Methods*; and papers on change in the circulation produced by rise of temperature; on the perigraph, an instrument for delineating the shape of the thorax; on ataxia;

on asthma, its pathology and treatment; and on sthenic dyspepsia, most of which appeared in the *Edinburgh Medical Journal* at various times.

In 1897 he was appointed an assistant physician to the Edinburgh Royal Infirmary, and he continued to serve in that capacity until 1912, when he became one of the ordinary physicians. He was a successful and painstaking teacher of clinical medicine for five years until 1919, when, on his retirement at the age limit, from the post of ordinary physician to the infirmary, he was appointed a consultant physician. He had been connected as medical officer with the Scottish Life Assurance Company since its inception, and was a recognized authority upon life insurance matters. A tribute to his eminence in neurology was his election in 1912, and again in 1918, by the Royal College of Physicians, Edinburgh, as Morrison lecturer on mental diseases for the year.

Dr. Graham Brown, who was a widower, is survived by three sons and one daughter; the eldest son is Professor T. Graham Brown, professor of physiology in University College, Cardiff. The interment, which took place in the Dean Cemetery, Edinburgh, on March 3rd, was attended by numerous friends and leading members of the medical profession.

**ALFRED J. SMITH, M.B., B.Ch., R.U.I.,**  
Professor of Midwifery and Diseases of Women, National University, Ireland.

WE regret to announce the death of Professor Alfred J. Smith, which took place recently, after a very short illness, at his residence in Dublin. Professor Smith was the son of the late Philip Smith, of Kevitt Castle, Crossdoney, County Cavan. He was educated at St. Patrick's College, Cavan, and at the Royal University in Dublin, where he graduated; he later pursued his professional studies at Leipzig, Berlin, and Vienna. He had been vice-president of the British Gynaecological Society and president of the Obstetric Section, Royal Academy of Medicine. He had held the office of Assistant Master of the Rotunda Hospital, of which institution he was licentiate (1884), and was professor of midwifery and gynaecology at the National University of Ireland, and gynaecologist to St. Vincent's Hospital, Dublin. He contributed many papers to various societies and journals on subjects that interested gynaecologists. Professor Smith was a great follower of sport in all its branches. He constantly attended Rugby football matches, and was a keen golfer; he was also a member of the Leopardstown and Phoenix Park Race Clubs. His death, at a comparatively early age, will be regretted by his many friends.

**THE LATE DR. T. L. BUNTING.**

IN our issue of February 28th (p. 433) we recorded with regret the death of Dr. Thomas Lowy Bunting. We have now received an appreciation contributed jointly by Dr. J. McCracken and Dr. H. Rutter, from which we quote the following extracts:

Dr. Bunting while at the University of Edinburgh became associated with Professor Patrick Geddes's work amongst the students, then just beginning, which grew into the Town and Gown movement, and had for its object to make the students take an interest in the welfare of the poor. This interest lasted with him all through his life. After leaving Edinburgh he went first to an asylum near Buxton, and thence came to Newcastle, where he joined the old Fabian Society, at that time the nursery of Bernard Shaw, Graham Wallas, Sidney Webb, and others who have since become famous. Then, as always, he took a deep interest in all social problems. Many of his colleagues remember long discussions on such subjects, from which, owing to his wide knowledge of every side of the matter, he always came off best; but these talks never cost him a friend, and it was their peculiarity that after them he was always on better terms with his opponents than before. In 1904 he proceeded M.D., gaining a gold medal for his thesis, which was on the histology of lymphatic glands—the general structure, the reticulum, and the germ centres. Little had been done in this field since the classic investigations of His, which had been accepted for very many years. But His had made his observations on the glands of the ox, the structure of which Bunting found to be peculiar to the species and very different from the arrangement really found in man.



Fortunately at that time there was a menagerie in Newcastle, and by securing the bodies of the animals that died there he was enabled to carry on his comparative investigations on a very wide scale. He completed this highly difficult research without any aid from a laboratory, and had to prepare his specimens, cut sections, and examine them microscopically in his surgery amid the constant interruptions incident to a large general practice. This thesis, as well as being rewarded by his University, gained him the distinction of being elected to the Royal Society, Edinburgh. Though Dr. Bunting had a most successful and useful life in other departments, yet he was never in his real element, and his most intimate friends know that any opening that could have led to his becoming a teacher and investigator of physiology would have allowed him to live his life to the full. He was first interested in medico-political matters through his being on the old Northumberland Contract Committee before it was taken over by the British Medical Association. From this he finally became a leading figure in the North-east of England as secretary of the Newcastle Panel Committee, one of the elected medical representatives on the Newcastle Insurance Committee, and secretary of the North-eastern Group of Panel Committees. The agitation in 1912 over the Insurance Act came to Dr. Bunting as a call for work on behalf of the profession. This led to his devoting an increasing amount of thought and time to medical politics until he became in Newcastle the guide and adviser of the Panel Committee in general and of many individual doctors in particular. It thus became generally realized, both by the doctors themselves and by the outside public, that he was a force to be reckoned with. By means of letters in the newspapers he clearly outlined the aims and position of the medical profession, whilst in the Insurance Committee he was able to clear away many misunderstandings and difficulties that otherwise might have led to serious friction. One striking characteristic in all that he did was his absolute conscientiousness, which he carried at times to a point to which few would have cared to go. He was very loyal as secretary of the Panel Committee and carried out its decisions, even against his own well informed judgement. The position he finally came to occupy among us was due to several causes. In the first place, his honesty of purpose and sense of justice was balanced by intimate knowledge and insight into medical politics; he thus was able when he spoke, not only to marshal facts and arguments, but also to keep in view the underlying principles that were involved.

#### ARMAND DE WATTEVILLE, M.D., Formerly Editor of *Brain*.

THE announcement of the death of Dr. Armand de Watteville will recall many memories to those who knew medical London in the fourth quarter of the nineteenth century. De Watteville lived a very full life for some thirty years, and then rather unexpectedly retired; after spending some time in Scotland he went to live in Switzerland. His family belonged originally to that country, but had been compelled to leave it during the revolution of 1797, and had settled in Great Britain; many of its members served in the British Army. Armand de Watteville was commonly spoken of as "Baron," and had, we believe, a good claim to bear that title. He was born in 1846, and was educated at King's College, University College, and St. Mary's Hospital. In 1870 he went with a British Red Cross ambulance, and subsequently served in a French Regular ambulance with the Army of the North till the end of the war. During the confusion that followed the collapse of the French resistance he was arrested and sentenced to be shot as a Communist, but his mother's letters carried in his pocket saved his life. He graduated M.A., B.Sc.Lond., and took the diploma of M.R.C.S.Eng. in 1876, and the degree of M.D.Basel in 1882. At an early date he turned his attention to medical electricity, remarking, with a characteristic smile, that it was a small subject, all the literature of which could be put on to one shelf in a bookcase. He took to the subject very seriously, and in 1878 published a book, entitled *A Practical Introduction to Medical Electricity*, which reached a second edition in 1884. He did not confine himself to this particular department of therapeutics, but extended his study to neurology generally. *Brain* had been started in 1878 by Sir James Crichton-Browne, Sir John Bucknill, Dr. Hughlings Jackson, and Sir David Ferrier; de Watteville became its editor in 1884. At the end of 1885 the Neurological Society was founded at a meeting held at his house, and with vol. x

(1888) *Brain* became the journal of the society. De Watteville was secretary of the society from 1886 to 1889, and a member of its council from 1890 to 1895, and from 1896 to 1900, when he was succeeded as editor by Dr. Percy Smith, who again was succeeded by Dr. Henry Head in 1905; three years ago Dr. Henry Head gave place to Dr. Gordon Holmes. De Watteville at one time held the post of physician to the electrotherapeutic department, St. Mary's Hospital, and was also physician to the West End Hospital for Nervous Diseases. During his time in London he was a prolific writer; he was a frequent contributor of signed articles to this JOURNAL, and was also a member of the editorial staff. He was a good mountaineer, as became one of his extractions, and among his achievements as a climber was the third ascent of the Great Eiger. He leaves, we understand, two sons, one of whom was a director of the Red Cross bureau for the care of prisoners of war, and after the armistice worked under the League of Nations in repatriating prisoners of war.

Professor ADOLF STRÜMPFEL of Leipzig, the author of a well known textbook of medicine, has died at the age of 71.

Professor EDMOND WEILL, who occupied the chair of children's diseases in the Lyons Faculty of Medicine, has died at the age of 66.

With reference to the late Dr. Wilberforce J. J. Arnold, of whom an obituary notice appeared in our issue of March 7th (p. 486), Dr. F. R. Proctor-Sims, a fellow student, writes: "A quiet, unassuming man, Arnold was nevertheless of great strength of character and of sterling honesty of purpose. His untimely death, coming so soon after he had been made a C.M.G., has deprived his country of a faithful and useful servant, and will be a source of regret to his many friends."

## Medical News.

SIR ARTHUR KEITH, F.R.S., will give a spring course of demonstrations in the museum of the Royal College of Surgeons of England on Fridays, March 20th and 27th and April 3rd, at 5 p.m. on each day. The first will deal with the surgical anatomy of the middle ear, the second with the commoner congenital malformations of the lower limbs, and the third with acromegaly and allied disorders of growth.

THE first Nichols prize of the Royal Society of Medicine has been awarded to Dr. George Gaudes of Heywood, Lancashire, for an essay entitled "The causation, prevention, and treatment of puerperal septicaemia." This prize of £20 is to be awarded every third year, in accordance with the will of the late Dr. Robert Thomas Nichols, for the most valuable contribution towards the discovery of the causes and prevention of death in childbed from septicaemia. Work submitted for the second award should reach the secretary of the Royal Society of Medicine not later than October 1st, 1927, typewritten or printed in English, marked "Nichols Prize," and accompanied by the name and address of the author. Essays previously published may be submitted provided that they were not published before October 1st, 1924.

THE Central Midwives Board for England and Wales met on March 5th, when Sir Francis Champneys was in the chair. It was reported that the representatives of the Ministry of Health on the Board for the ensuing year will be Dr. Marguerite Alice Christian Douglas-Drummond, Miss Edith Greaves, Miss Olive Haydon, and Dr. F. N. Kay Menzies. The chairman paid a tribute of appreciation to Lady Mabelle Egerton, who had worked on the Board for sixteen years, and alluded also to the impending resignation of Miss Paget in terms of warmest recognition of her long and valuable service. It was agreed to proceed with the printing of the Midwives Roll for 1924. Dr. Henry Lewis Barker was approved as lecturer subject to conditions. The next meeting will be held on May 7th.

DURING the past year the work of the Cicely Northcote Trust in connexion with St. Thomas's Hospital has increased considerably in all its branches. The fifteenth annual report covers the year ending October, 1924, and illustrates the many-sided activities of the Trust. The work of the Trust includes the adjustment of financial and other difficulties in connexion with patients, the provision of convalescent treatment, surgical instruments and artificial limbs, the after-care of patients suffering from cancer and other diseases, and a hostel, opened in 1920, for women and girls suffering from



venereal disease. It is possible that fresh ground may be broken in the future, since there appears to be need for the provision of a hostel for mothers and babies on their discharge from the present venereal diseases hostel, so that the mothers could go to work leaving their children under supervision. The income for the year amounted to £3,005, including grants from St. Thomas's Hospital, the Ministry of Health, the payments of patients, and donations. There was a balance of £75 of income over expenditure on the year's working.

DR. OCTAVIUS HALL, late medical officer of health for the County Borough of Plymouth, has been presented on his retirement with a solid silver tea and coffee service, a silver salver and cigarette case, and bound volumes of the reports issued whilst he was medical officer of health for Plymouth and Devonport. Dr. Hall has now been appointed permanent consulting medical officer of health to the borough. The presentation was made on February 26th, when Dr. Hall entertained the staff to dinner, and many tributes were paid to his services to Plymouth.

THE annual meeting of the Mental After-Care Association will be held at the Clothworkers' Hall, Mincing Lane, E.C., on Wednesday, March 18th; the chair will be taken by Sir Charles C. Wakefield, Bt., president of the association, at 3 p.m.

A LECTURE on misplaced teeth will be given by Mr. W. H. Dolamore at the London Hospital Dental School on Tuesday, March 24th, at 5 p.m. Members of the profession and students are invited to attend.

At a meeting of the Royal Sanitary Institute at the Town Hall, Leicester, on Friday, March 27th, a discussion on maternity and child welfare work will be opened at 3.30 p.m. by Dr. Helen Dent and Mrs. C. J. Bond, J.P. This will be followed at 5.30 p.m. by a discussion on smoke abatement. At 8 p.m. Professor H. R. Kenwood, C.M.G., M.B., will give a popular lecture on "Healthy living—facts and fads."

THE Fellowship of Medicine hopes that there will be a large attendance of medical practitioners, whether resident at home or from overseas, to take part in the discussion on post-graduate study in London at No. 1, Wimpole Street, on March 18th, at 6 p.m. Sir Arlthur Lane will preside, and criticism will be welcomed of the present facilities offered through the Fellowship, with suggestions for their improvement. A course at the Brompton Hospital for Consumption and other Diseases of the Chest from March 16th to 28th will have special reference to treatment by artificial pneumothorax; various diseases of the lungs and heart will be dealt with and illustrated clinically. A course in gynaecology at the Chelsea Hospital for Women from March 16th to 28th will include clinical lectures, demonstrations, and the opportunity of witnessing typical operations. An intensive course will be held at the Royal Northern Hospital from March 23rd to April 4th comprising demonstrations, clinics, operations, exhibitions of cases, and formal lectures; application for admission to the course should be made by March 16th. During April courses will be held at the Queen's Hospital for Children, St. Mark's Hospital for Diseases of the Rectum, and the Hampstead General Hospital. A week's course in anaesthetics, beginning about March 23rd, will include practical instruction in throat, nose, dental, abdominal, and nerve anaesthesia; early application is desirable. Further information about these courses may be obtained from the Secretary to the Fellowship, No. 1, Wimpole Street, W.1.

THE annual meeting of Woolcombers, Limited, held at Bradford on March 9th, decided to give £13,000 to the new building fund of the Bradford Royal Infirmary; the contribution will be made in thirteen half-yearly instalments.

RECENTLY a number of metropolitan medical officers of health visited the Oxo factory and witnessed the process of manufacture of Oxo and of the standardization of "oxoid" gland preparations. Any reader who wishes to visit the factory should communicate with Oxo, Limited, Southwark Bridge, S.E.1.

It will be remembered that 300 members of the Inter-State Post-graduate Assembly, directed by the Tri-State District Medical Association, which has some 55,000 members in the United States, are coming to this country next June, when a meeting will be held in London under the presidency of Dr. Charles Mayo. The party will afterwards go on to Manchester, Liverpool, Leeds, Dublin, Belfast, Glasgow, Edinburgh, and Newcastle. We are informed that H.R.H. the Duke of York has consented to accept the honorary membership of the Assembly when it meets in London on June 2nd.

A course in children's diseases has been arranged under the auspices of the Paris Faculty of Medicine, from April 6th to 18th inclusive, at the Hôpital des Enfants Malades, 149, Rue de Sévres, Paris. The subjects include infantile syphilis, endocrine syndromes, mediastinal tuberculosis, and modern conceptions of cerebro-spinal meningitis, rickets, and measles.

THE area of operations of the King's Fund has been extended from a radius of nine miles of Charing Cross to a radius of eleven miles of St. Paul's. Hospitals within this area desiring to participate in the grants made by the Fund for the year 1925 must make application before March 31st to the honorary secretaries of the Fund at 7, Wallbrook, E.C.4. Applications will also be considered from convalescent homes which are situated within the above boundaries or which, being situated outside, take a large proportion of patients from London.

IN July, 1924, a medical research group was formed to make an investigation into the subject of "spiritual healing" in order to prepare and issue a statement on the question. We are informed that the group is holding conferences with representatives selected by the churches and is exploring other avenues of research. The members of the group are: Sir Robert Armstrong-Jones, Dr. Helen Boyle, Dr. H. C. Bristowe, Dr. William Brown, Dr. Charles Buttar, Mr. W. McAdam Eccles, F.R.C.S., Dr. Lottia Fairfield, Dr. E. R. Fothergill (chairman), Dr. J. G. Porter Phillips, Dr. Mary Scharlieb, Sir J. Purser-Stewart, Mr. E. B. Turner, F.R.C.S., Dr. Jano Walker, Dr. Stanley Bousfield (honorary secretary, 10, Albion Street, W.2).

THE Boylston medical prize of Harvard University, including a medal and 500 dollars, is offered for 1925 for the best essay on the results of any original research in medical or chemical science. Essays must be printed or typewritten, and be sent in before December 31st. This prize is open to public competition. Further details may be obtained from the secretary of the Boylston Medical Committee, Dr. Henry A. Christian, Peter Bent Brigham Hospital, Boston, Mass.

THE twelfth Northern Congress of Internal Medicine will be held at Stockholm from August 27th to 29th, when a discussion will be held on the pathogenesis of jaundice and functional diagnosis of the liver, introduced by Dr. E. Menlertgracht of Copenhagen, Dr. O. School of Oslo, and Dr. Tillingreen of Stockholm. Communications intended for the Congress should be sent to the secretary, Dr. Norgaard, Tordenskjoldsgade 3, Copenhagen, before the beginning of April.

THE current issue of the *Prescriber* consists wholly of matter relating to spa treatment, and in particular to the development of British spas. The number is freely illustrated with reproductions of photographs and drawings. It includes a short account of medical hydrology by Dr. R. Fortescue Fox, some notes on old-time bathing practice at Bath, by Mr. John Hatton, and a descriptive list of the spas of Great Britain and Ireland.

DR. S. L. BRIMBLECOMBE, of Stoke-under-Ham, Somerset, has been elected a member of the Somerset County Council.

## Letters, Notes, and Answers.

Communications intended for the current issue should be posted so as to arrive by the first post on Monday or at latest be received not later than Tuesday morning.

THE telephone number of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is Gerard 2630 (Internal Exchange). The telegraphic addresses are:

EDITOR OF THE BRITISH MEDICAL JOURNAL, Aitiology Westrand, London.

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), Articulate Westrand, London.

MEDICAL SECRETARY, Mediscera Westrand, London.

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 4737 Dublin), and of the Scottish Office, 6, Rutland Square, Edinburgh (telegrams: *Associate, Edinburgh*; telephone: 4361 Central).

## QUERIES AND ANSWERS.

"OLD OCTOBER" asks for information or advice in the treatment of a boy, aged 6½ years, who has extensive venous plexuses, superficial and deep, situated on the soles of both feet, buttock, perineum, and the under surface of the penis.

### THE TREATMENT OF ASTHMA.

SIR JAMES DUNDAS-GRANT (London) writes that "H. C." (March 7th, p. 488), whose case of asthma has defied "all the usual forms of treatment," has not mentioned whether the nose has been submitted to examination and treatment. If not, he would recommend this in the light of many clinical reports, but particularly of Dixon and Brodie's experiments on reflex contraction of the bronchial muscle excited by stimulation of various sensory areas, described in vol. iv of the *Transactions of the Pathological Society of London*, in a paper on the pathology of asthma. They found the most important reflex from the nasal

mucous membrane, and the upper and posterior part of the nasal septum was the best area from which to produce the reflex. Sources of local irritation—such as hypertrophied middle turbinated bodies, septal deflection, or nasal polyp—should therefore be kept in mind.

Dr. W. F. SOMERVILLE (Glasgow) writes: If "H. C." will make use of high frequency currents, condenser conch, 800 milliamperes, for ten to fifteen minutes daily, and apply the spray fr in the resonator full strength to the back and front of the chest, partially undressed, for another ten minutes, he may be able to afford his patient some relief.

#### INCOME TAX.

##### Purchase of Practice.

"Novus" writes: A, who possesses his own practice, has purchased the practice of B on the terms that he is to hand over to him all proceeds of that practice for two years. Is A liable to income tax on this amount?

\* \* The position seems to be that A has purchased a practice for £x—that is, the two years' receipts. This is a capital sum, and it is not assessable on B, nor is it a deductible expense so far as A is concerned. A is liable to pay income tax on the average earnings of the two practices; he can compute the earnings on the book debt basis if he wishes, either for both practices taken as a whole or for the B practice only if that practice is kept entirely separate from the other; but if he adopts the cash basis, then he must include the whole of the receipts, whether paid to B or not.

##### Outstanding Debts and Depreciation of Equipment.

"C. T. L.," a medical man, started a dental practice on January 1st, 1924, and inquires whether he should or can include in the account of his income for 1924 (1) outstandings—that is, debts due to him, but unpaid, and the accrued proportion of such expenses as rent, rates, etc., and (2) a charge of, say, 10 per cent. in respect of depreciation of the equipment.

\* \* (1) Yes; the full gross earnings are not included unless credit be taken for work completed, but not paid for, and the expenses should also represent a full year's charges. (2) Expenditure on repairs and replacements is admissible, but no allowance can be claimed against professional profits in respect of depreciation. It should perhaps be added that after the first few years—say, four or five—the inspector of taxes will probably agree to accept the accounts on a cash basis, but in the early years of a practice the cash result does not represent the true "income."

##### Travelling Expenses.

"W. H. B." is a full-time medical official and receives a mileage allowance as travelling expenses for the use of his car. Can he claim a deduction in respect of the cost of replacing his car by a new one?

\* \* We think he is not likely to succeed in such a claim. Presumably the assessing authority has in the past made no attempt to ascertain whether his actual "necessary" expenditure has exhausted his allowance or sought to assess any surplus. That being so, it is difficult for "W. H. B." now to raise the point that the allowance has been insufficient—and that is really what his contention amounts to—because of one specific expense of an abnormal kind.

##### Rents from the Irish Free State.

"N." asks for information with regard to the British income tax payable on rents of property in the Irish Free State.

\* \* We are advised that the reason why the Irish tax is not deductible in computing the amount of the assessable income is that that tax is allowed for (in so far as the half taxable rate is concerned) against the tax payable here—in other words, as there is a remedy for the double taxation the tax cannot be treated as an expense. The income is assessable according to the amount "arising" in the previous three years; in our view rents which have been unpaid and forgone should not be regarded as having arisen. The only remedy against the delay on the part of the Irish Free State authorities in dealing with the claim would be to commence legal proceedings in the courts at Dublin; "N." would probably be well advised to continue to exercise patience rather than embark on proceedings which might prove expensive.

#### LETTERS, NOTES, ETC.

##### FOOD PRESERVATIVES.

Dr. G. CLARK TROTTER (M.O.H. Islington) writes to express his concurrence with the hope expressed in the leader on food preservatives, published on March 7th (p. 468), that the regulations will be carried through, and adds: I have not noticed that attention has been drawn to the fact that these draft regulations would appear to be retrograde in one respect (I take restaurants, etc. (see Part 2, section 4, subsection (2), last sentence—"provided that this provision shall not apply where the article of food is sold in any hotel, restaurant, or other such

place for consumption on the premises"). At the present time the sale of preserved cream, if sold for consumption on the premises, requires a notice to be placed in a conspicuous position in the room, or a statement on the bill of fare, or some other adequate means of similar intimation (Milk and Cream Regulations, 1912, section VI). These regulations are, however, to be revoked by section 15 of the proposed new Order. The result is that any food, including cream, may have excessive preservative added. Considering the large number of persons whose work necessitates their taking their meals in restaurants, it would appear that the proposed regulations need some further modification for the protection of the public who use restaurants, in order to prevent excessive quantities of preservative being added to food. If it is desired to make some special provision in the case of res... on... colouring matter or even... should be enacted, and not m... es. A pleasing feature of the regulations is that power is now sought (section V, 2) to get over a difficulty to which I drew attention in 1922, when we found colouring matter being openly sold at the Dairy Show recommended for addition to milk, although the sale of milk with it or any preservative is illegal.

#### TRAFFIC DANGERS.

Dr. FRED. W. HOGARTH (Morecambe) writes: After about the same number of years on the road, during which I have invariably piloted myself, and much of the time spent on the western road to Scotland I have read with interest and appreciation Dr. Charles Buttar's "Traffic dangers and a remedy" (BRITISH MEDICAL JOURNAL, February 21st, p. 380). Although I am rather afraid that the idea has been brought forward in variant forms from time to time, as far as vehicles are concerned, I am unaware of the enunciation of a basic principle... included pedestrians, before this.

Dr. Buttar was undoubtedly found out the chief objection, and, curiously enough, a very strong one—"It is so simple." We are once more nearing Easter, when thousands of motor vehicles, at present laid by, will be brought out for an opening tour. Thousands of beginners will be taking their trial spins also. Easter Monday, when it happens to fall late, is the most dangerous day on the road of all the year, and from about now onwards the pottering genius will be devising fearsome inventions to regale his own little circle of motorists: bright lamps will flash out in the daytime; blood-red letters will suddenly appear at the rear of cars; waving mechanical arms will perform gymnastics to the regular driver's mystification; but there will be nothing simple about any of the "new rules," or what will be learned, and coined, for such, by the great army of fine-weather drivers. Those who draft the Road Bill will be smothered with ideas from this kind of motorist. I have been at the scene of many motor accidents, but I can hardly remember one when some driver of a car or cycle did not propound some entirely new and novel rule of the road. The last accident I was present at was due to some misunderstanding between one car overtaking another, and there was a tremendous smash-up, with dozens of cars and cycles stopped short on their way. While rendering first aid to one of the victims, I was amazed to hear a man, with gauntlets on, say to another, "What if he did wave him on? That only means that the other chap was to pass him—if he could." Only a short time before that accident I was helping an unaccountable motor cyclist into an ambulance. He had whizzed round a corner on his wrong side and run head-on into a stationary landaulette. By this time there were many other cyclists about, and one of them strode up to the only policeman present, who was quite well aware how it happened and had got down lots of particulars in his little book. Pointing to the driver of the landaulette, the cyclist said to the constable, "Look here, have you tested this fellow's brakes? No? Why not? It's your duty in every case like this. They are out of order, I'll bet." So, before the ambulance left, I could see the constable sitting on the front seat while the unhappy driver was running him up and down and wondering what was going to happen next. Is it possible to make any simple rules for large armies of people like this on a crowded road? I can see some of them hugging the wrong side of the road in the hope that they may turn suddenly into the off side of Dr. Buttar's newest car, after the doctor has tried in vain to pass one of these freaks on the proper side.

#### NASAL DIPHTHERIA.

Dr. H. M. EYRES (Richmond, Yorks) writes: Mr. Marsh's note on nasal diphtheria (March 7th, p. 454) suggested to me to send a note of a recent case. A child of 6 was brought to me on February 22nd because of a running nose and poor appetite. Examination of the anterior nares showed only general redness of the mucous membrane. The child was brought again eight days later: there was no improvement; the mucous membrane of one nostril looked grey. A swab was taken and the Klebs-Loeffler bacillus found therein. I visited the child at its home and found that its brother had a patch on one tonsil.

#### VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 33, 40, 41, 44, 45 and 46 of our advertisement columns, and advertisements as to partnerships, assistantships, and locum tenencies at pages 42 and 43. A short summary of vacant posts notified in the advertisement columns appears in the Supplement at page 103.

## A British Medical Association Lecture

ON

## TUMOURS OF THE CEREBRUM.

DELIVERED BEFORE THE NOTTINGHAM DIVISION AND THE  
NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY,  
DECEMBER 3RD, 1924.

BY

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## THE SYMPTOMS OF TUMOURS OF THE CEREBRUM.

THE symptoms of cerebral tumours are so varied in form and so complex in origin that it is difficult to present a view of them which can be compressed into a short space of time. Their effect upon function is as subtle as is the function of the structure in which they grow, but our knowledge of cerebral structure has now advanced so far that we can at least lay down certain principles which may guide us in detecting the existence of an intracranial tumour, and in forming some idea as to its situation, and which may sometimes enable us to define its position with extreme accuracy.

*General Symptoms.*

From time immemorial it has been customary to describe three phenomena—headache, vomiting, and optic neuritis—as the classical symptoms of cerebral tumour. Undoubtedly these phenomena will appear in the great majority of cases if we wait long enough, but they are no more the primary symptoms of cerebral tumour than is acute intestinal obstruction the primary symptom of carcinoma of the colon. They are the symptoms of increased intracranial pressure due, not to the size of the tumour itself, but to a very definite series of events of which the tumour is the cause. The key to these events is to be found in the circulation of the cerebro-spinal fluid.

We now have convincing experimental evidence that the cerebro-spinal fluid is secreted by the choroid plexuses into the ventricular system of the brain. Most of it is produced in the lateral ventricles, from which it pours through the third ventricle, through the narrow aqueduct of Sylvius into the fourth ventricle, and out by the foramina of Luschka and Magendie into the subarachnoid space. It is absorbed into the venous sinuses, apparently by way of the Pacchionian bodies. Anything which obstructs this flow gives rise at once to an internal hydrocephalus and to a high degree of intracranial tension. I have recently had a case under my charge which illustrates this. A woman of 20 was referred to me by Dr. Riddoch with all the evidences of an internal hydrocephalus of long standing but becoming acute. Bilateral decompression failed to give relief, and she died. On examination we found a gross internal hydrocephalus due to the obstruction of the aqueduct by a minute nodule growing downwards from the posterior commissure and blocking its entrance. In dogs a millet seed experimentally placed in the same situation produces on identical effect.

Now any cerebral tumour if left to itself may ultimately produce the same result. If it lies below the tentorium it may produce it at a very early stage by distortion of the pons and mid-brain or by simple pressure. This rise of general intracranial pressure has a curious effect. It drives the cerebellum down into the foramen magnum and down the spinal canal, where it may reach even the third cervical lamina. A "cerebellar cone" is thus formed, beneath which the medulla is compressed as by a wedge, the cardiac and respiratory centres are seriously embarrassed, and the obstruction to the outflow of the cerebro-spinal fluid is further increased. But a tumour lying above the tentorium may in time produce an identical result, though only when it has grown to a very large size. By its gradual encroachment upon the intracranial space it may slowly force the cerebellum down into the spinal canal, and by obstructing the outlets for the cerebro-spinal fluid it may induce a secondary hydrocephalus. If it has developed in a frontal lobe or in some other region of comparative silence, it is quite possible that the first

striking symptoms may be those of secondary hydrocephalus, arising in this way, and the diagnosis of a subtentorial tumour may then be almost irresistible.

The classical symptoms of cerebral tumour are, therefore, those of the late stage, really indicating cerebral obstruction, and it ought to be our aim to diagnose and treat the case before they arise. As this is, however, not always possible it will be well to consider their special characters. The headache is persistent, but with periods of increased severity. It is often worse on waking in the morning, and it is always increased by anything which increases the intracranial pressure, such as exertion or excitement. Vomiting may also take place on rising in the morning, and it has the peculiar character of occurring as a sudden violent act, without cause or warning, which has earned for it the title of "projectile." The fundi may show severe swelling of the discs before the patient is conscious of any visual defect, though a careful examination will usually show some narrowing of the fields for colour or for small white objects. Transient attacks of blindness may occur, but persistent deterioration of vision suggests the onset of atrophy, when complete recovery is impossible.

Among other general symptoms are a certain loss of initiative, mental lassitude and drowsiness, attacks of giddiness, slowing of the pulse, and possibly generalized epileptiform convulsions. A transient diplopia, occurring as it may at a very early stage, should be regarded as a symptom of the very first importance. These are all symptoms of high intracranial tension, and as such they may appear apart from cerebral tumours in such conditions as renal disease, severe anaemia, or lead poisoning. The latter are, however, readily excluded.

*Regional Symptoms.*

It is, however, to the local effects produced by a cerebral tumour that we must direct our attention if we are to diagnose its presence at an early stage and if we are to discover its precise situation. These local effects are not usually the results of destruction of brain tissue, for this only occurs in metastatic carcinoma and sarcoma; nor are they the direct result of pressure upon the nerve cells. They are the result of the interference with the circulation in that particular region of the brain which the growth of the tumour produces, and as such they may appear in two contrasting forms. At first a moderate degree of pressure interferes only with the veins and congestion of the region results, and, as has long been recognized, congestion reveals itself as irritation of which it is the pathological basis. Later a higher degree of pressure will interfere with the arteries, and the resulting anaemia finds its clinical expression in paralysis. As the effect gradually spreads we are likely to have a zone of congestion surrounding a centre of anaemia, and a clinical picture of an advancing irritation leaving paralysis in its wake. Moreover, round any tumour an acute oedema may suddenly arise, with a wide extension of its regional effects and a dangerous increase in the general intracranial pressure.

## THE MOTOR AREA.

The most important part of the cerebral cortex from the surgical standpoint is that which lies immediately in front of the fissure of Rolando—the precentral or ascending frontal convolution. This great fissure, placed almost at the middle of the lateral surface of the hemisphere, might well be described as the watershed of the brain. Behind it the cortex is receptive, in front executive. Behind it lie the post-central convolution for the reception of cutaneous and body sensations, the occipital lobe for the reception of vision, the temporal lobe where sound enters, and the parietal lobe where all these sensations are analysed and gathered together into concrete impressions. In front of the fissure of Rolando lie the precentral convolution, where resides the whole final motor control, the post-frontal area, where memories of combined movements and skilled acts are stored, and the frontal lobe itself, where conduct and initiative reside and which appears to hold the key of all our powers of executive action.

The function of the precentral area appears to be to hold the muscles in just such a state of tone that they may be ready for instant action, and so to transmit demands for

such action that the muscles will respond in a co-ordinate manner. It contains a series of centres which essentially represent simple co-ordinate movements, such as flexion and extension, and these centres are arranged according to a definite plan. At the extreme upper end come the centres for the leg, those for the toes and ankle, the knee and hip are followed by the trunk, and below this come the shoulder, elbow, wrist, fingers, and thumb, in this order. The eyelids, mouth, tongue, and larynx follow; whilst, just in front of the hand area is a special centre devoted to the conjugate movements of eyes and head in rotating to the opposite side. It is usual to describe the fissure as having two genua separating the arm area from the leg area above and the face area below, but a more accurate statement would be that the precentral convolution presents three backward expansions, formed by the development of centres controlling the leg, arm, and face.

The first effect of a tumour pressing upon this region is the production of irritation of those centres around which it produces the most congestion. Periodically this irritation may give rise to a discharge of nervous energy, starting at these centres and spreading to the surrounding cortex. Such a discharge is the basis of an attack of Jacksonian epilepsy, of which it is characteristic that it always starts in the same locality and spreads to other parts of the body in a definite order corresponding precisely to the cortical plan. The fits may be preceded by twitching or tingling in this locality, and they commence with a stage of tonic spasm succeeded by a series of clonic jerks as the cortex becomes exhausted. This exhaustion is further shown in the fact that after a fit there is always very definite weakness in the limb or part of the body in which it started.

As an example of the mode of spread we may cite a case where the fits always started with twitching of the left thumb. After a few moments the tonic stage came on, a tonic spasm spreading successively to the fingers, wrist, and arm, and simultaneously to the left side of the face and tongue, whilst at the same time the head and eyes were spread to the left. Only occasionally did the fits spread to the leg, and they then became general with loss of consciousness.

If, however, a tumour lies deeply beneath the cortex it may produce a paralysis without any of the signs of irritation. Such a paralysis is essentially a paralysis of movement and not of muscles, and it gives rise to postures of a definite type. Thus the arm will tend to take up a position of adduction, with flexed elbow, pronated forearm, and flexed wrist and fingers. The leg, in striking contrast, tends to be strongly extended at the hip, knee, and ankle, with adduction at the hip. In most cases the deep reflexes will be exaggerated and there will be an increase of tone in the muscles which may amount to rigidity.

A tumour pressing on this region may present other features of great interest. Thus, if it is at the upper end of the motor area it may so compress the opposite hemisphere as to produce a paralysis of both legs. If it is low down on the left side it may involve the area of Broca which lies just in front of the foot of the precentral convolution, and the patient may suffer from motor aphasia and lose the power of speech. Again, if it involves the face area, only the lower portion of the opposite side of the face will be paralysed, since the muscles of the forehead and eyelids, usually working together, are activated by impulses from both sides of the brain. An even more remarkable phenomenon is that in a cortical paralysis of the face, though voluntary movement is impossible, emotional movements, controlled by the thalamus, are not

affected, and one may see a patient unable to move his face at will doing so in a perfectly normal manner in laughing at his own efforts. The importance of these phenomena in diagnosing between a lesion of the brain and of the facial nerve is obvious.

Behind the fissure of Rolando lies the post-central convolution, where are grouped centres for sensory reception roughly corresponding in arrangement with the motor centres we have just described. Injury to this area may produce in the corresponding region of the body a loss of postural sense, of localization, of touch, or of the perception of the degrees of heat and cold, and it is of diagnostic import that this loss is irregular in distribution and in the extent to which each element of sensation is affected. Irritation produces a sensation of tingling in the corresponding area, and as these sensory centres are in such close proximity to the motor centres, it follows that a tumour is likely to involve both and that tingling in a limb may be the definite precursor of a Jacksonian convulsion. The following case illustrates certain of these points:

A woman, aged 47, was referred to me by Dr. Riddoch with the history that for four years she had been liable to attacks of cramp in the left leg, occurring as a rule once a month. In an attack twitching behind the left knee was followed by slow forcible flexion at that joint and by plantar flexion of the ankle and toes. This was followed by a dozen violent twitches in the leg, lasting, perhaps, two minutes. The attacks were very painful and were followed by numbness, starting in the left knee, spreading up the leg, and sometimes involving the whole of the left half of the body. The numbness persisted for about an hour. She was a healthy-looking woman with slight weakness of all movements in the left lower limb, increase of the deep reflexes, and an up-going toe.

The upper part of the right motor cortex was exposed and a large rounded tumour was seen springing from the upper part of the dura in this region. The tumour was enucleated and removed with as much of the dura as its base as possible.

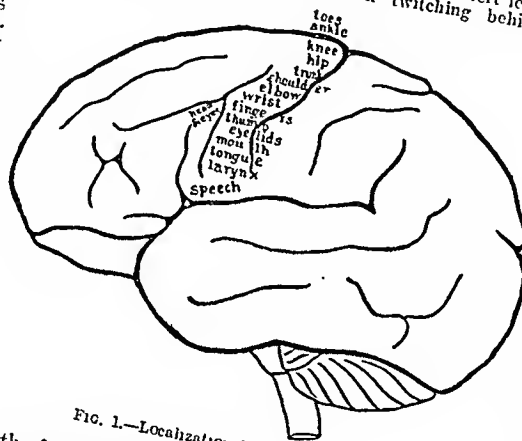


FIG. 1.—Localization in the motor area.

I have said that the centres in the precentral area represent simple movements and that their action is the production of that muscular movements require. In front of this area is another, the intermediate precentral area, where these simple movements are compounded into the complex actions required in the execution of skilled acts. Here resides the memory of those subconscious actions, which by long practice we have learnt to accomplish with unconscious skill. These are most highly developed on the left side, and here at its lowest point lies Broca's area, where are stored the motor memories required for speech, whilst a little higher on the left hemisphere may destroy both of these and the patient will be unable to speak or write, although he may be perfectly aware of the words he wishes to use, and may even be able to find them in a dictionary. But apart from injury to the special centres a tumour on either side may induce a subjective feeling of clumsiness, and a mechanic, for example, may find it impossible to carry out manipulations which for years he has executed with ease, although there may be no objective weakness in the arm at all.

Still further forwards we reach the frontal lobe itself, where apparently reside the centres for that more complex combination of actions which we call conduct. A tumour in this region may show its first signs in some alteration in the effect of environment upon action, often in a childish exuberance or an undue sense of well-being and of personal aggrandisement, such as is commonly seen in general paralysis of the insane from atrophy of the cortex in this region. More rarely the result may be fits of unreasoning passion, or an invincible and unreasoning depression. A fine tremor in the ipsilateral hand and a loss of

the superficial reflexes on the opposite side of the body may occur as early localizing signs. Certain of these points are brought out very clearly in the history of a case recently under my charge.

The patient was a man, aged 53, whose wife told us that for some months he had been peculiar and a little irresponsible. Ten weeks before I saw him he had spoken of some clumsiness in the right arm, and he appeared to have difficulty in finding the right words for expression. When he wanted a fork he asked for a biscuit, and he seemed more amused than worried at his mistakes. These symptoms became more marked, when suddenly, after about a month, he lost all power of speech, his right arm became rigid, and his face was drawn to the right. He recovered, but a second attack occurred a few days before I saw him. He was then desperately ill, unable to speak at all or to move his tongue. His right arm was held absolutely rigid, the shoulder adducted, the elbow flexed to a right angle, the forearm pronated. The right side of the face was paralysed, but he could move both legs freely. A diagnosis was made of a deep gliomatous cyst in the lower part of the left frontal lobe. The diagnosis was exactly verified at operation, when 40 c.cm. of fluid was withdrawn from the cyst.

The early history suggested a tumour of a frontal lobe, the attacks placed it on the left side, the rigidity without convulsions suggested that it lay deeply, the involvement of the speech and arm areas, and not that of the leg, placed it low down, and, finally, the sudden onset of acute symptoms, and still more the recovery from one attack, rendered a cystic glioma the most likely diagnosis. It is of interest that two days after decompression and aspiration he talked with freedom and had full control of his right arm.

This case illustrates a point of great moment in the diagnosis of cerebral tumours—the importance of the evolution of the case. It is only by a close study of the gradual development of symptoms, rather than by an elaborate investigation at any one time, that we can hope to arrive at an exact diagnosis. The gradual advance of the tumour may be accompanied by the development of a train of symptoms, sometimes quite transient, which may establish the diagnosis beyond all doubt, though at any one time the symptom complex may be very difficult to unravel. In no case is this more true than in those tumours which, perhaps starting in the more silent regions of the brain, come into contact with the motor paths.

#### THE VISUAL TRACTS.

The tumours of which I have so far spoken have as their chief characteristic some interference with motion. Another group, not perhaps so common but even more fascinating as problems for diagnosis, interferes with vision. Visual impressions starting in the retina pass through the whole length of the brain to the occipital lobe behind. The fibres of the optic nerves decussate in the optic chiasma in such a way that the visual impressions from the visual fields on each side of a median plane are transmitted entirely to the opposite side. Through the optic tracts impulses from the contralateral fields are carried back to the external geniculate body and the pulvinar of the thalamus. From the former run tracts connecting it with the mid-brain and with the centres which control the movements of the eyes. From the latter spread out the optic radiations, looping round the descending horn of the lateral ventricle to reach their destination in the cortex of the occipital lobe. It is to this final portion of the optic path that I would for a moment direct your attention.

The optic radiations are so arranged that the upper fibres receive impulses from the upper portions of the retinae, the lower from the lower. This order they maintain right up to the point when they terminate in the cortex above and below the calcarine fissure on the mesial aspect of the occipital lobe. In relation to tumours of the occipital lobe itself this distinction is not of importance, for as a rule the whole visual area is involved, with result-

ing disturbances of vision in the contralateral visual field. These disturbances may be of two kinds—irritative or paralytic. The former are more likely to be produced by cortical tumours, and appear as flashes of light, often coloured and suggesting fireworks. Probably the fortification lines of migraine are due to vascular disturbance in this region. Deep tumours, on the other hand, produce a gradual contraction of the visual field on the opposite side, best shown by testing with small objects, white or coloured. The superficial tumours again tend to spread forwards over the cortex and to involve the lower sensorimotor areas, producing numbness in the opposite face or hand. The deep tumours tend to involve the posterior part of the internal capsule, producing sensory changes in the opposite half of the body and paresis in the opposite leg.

But to the optic radiations themselves we owe a syndrome as beautiful as any in cerebral pathology, and in the hands of Cushing they have supplied the key to what was one of the most obscure regions of the brain. These radiations as they leave the optic thalamus wind forwards, outwards, and finally backwards round the descending horn of the lateral ventricle, occupying as they do so the posterior part of the temporal lobe. Their arrangement in upper and lower groups connected with the upper and lower portions of the retinae has already been noted. A tumour, then, in the

lower part of the right temporal lobe will involve those fibres which carry impulses from the opposite upper visual field, and the left upper quadrant will be blind, and we have the condition known as a left upper quadrant homonymous hemianopia. The discovery of these quadrant hemianopias has revolutionized localization in the temporal lobes.

It is typical of quadrant hemianopias that the visual defect is incomplete, and it is owing to this fact that they have so long escaped attention. They can only be discovered by the most accurate and painstaking perimetry, and only at an early stage of the develop-

ment of the tumour. A rough perimetry will miss them entirely, and in a late stage they will be merged in a complete hemianopia, but if found they are almost conclusive evidence of a tumour in the temporal lobe.

But the temporal lobe yields another symptom as bizarre as any in cerebral symptomatology. When a tumour involves the uncus the patient is liable to peculiar attacks lasting for a few seconds and perhaps recurring many times in the day. In these he is overpowered by a dreamy sensation, the world seems remote, and voices sound far away. In this state he may have curious hallucinations of smell, taste, hearing, or vision. The first two are perhaps the most common, and though sometimes pleasant are usually so repulsive as to produce an expression of disgust on the face. Those of vision are very curious and form definite pictures, such as a row of black cats or a little figure, in contrast to the visual disturbances seen in tumours of the occipital lobe. These pictures are the same on every occasion, and they are always in the blind portion of the visual field. The combination of a quadrant hemianopia with uncinate attacks thus forms a very complete and exact syndrome, distinguishing sharply when it occurs tumours of the temporal lobe.

#### THE POSSIBILITY OF SURGICAL RELIEF.

We see, then, that those tumours of the cerebrum which are accessible to surgery give rise in many instances to symptoms characteristic of their locality, though when the case is actually seen these are only too often masked by those of general intracranial pressure. It will be worth while to consider for a moment which of these tumours may be amenable to surgical treatment.

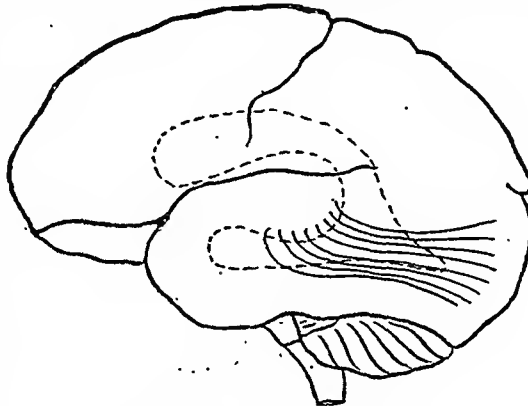


FIG. 2.—The course of the visual tracts.



The commonest tumour of the cerebrum is a glioma and its removal is impossible. The relief which may be obtained by decompression is, however, sometimes very considerable, and of this the following case furnishes an example.

A woman, aged 38, was sent to me with a history of severe frontal headaches extending over six years. A year before I saw her she suddenly fell down unconscious and had a series of violent convulsive attacks starting in the left arm. From this she recovered completely. It had for some time been noticed that she was somewhat unstable mentally, acting with excitable levity. She occasionally had a tremor in the right arm and leg, and vision was failing.

She was an excitable woman in abnormally high spirits. She had severe papilloedema, most marked on the right, but no changes in motion, sensation, or reflexes were discovered. A deep glioma of the right frontal region was diagnosed, and a large decompression in this region was performed, the brain being under very high pressure. She recovered completely, her headaches disappeared, and she regained her normal health and vision; even the fundi became normal. For eighteen months she remained in excellent health, though a left hemiparesis and an enormous hernia very gradually developed. She then quite rapidly became comatose and died.

Although a glioma cannot be removed it may degenerate in the centre and become cystic, and in such a case it is sometimes possible by aspiration of the cyst to give considerable relief to the patient. If the cyst is at all superficial and can be treated with formalin the relief may extend over a considerable period; in some of these cases the introduction of radium has given good results. In such cases a decompression not only relieves the pressure but enables the cyst to be aspirated with facility. The following is an example:

A man, aged 44, was referred to me by Dr. Riddoch with the story that six months previously he had had a sudden attack of giddiness, followed by pains in the back of the neck and difficulty in speaking, which lasted for a few minutes. Since then he had had a few similar attacks, and six weeks before I saw him, after one of these, the right arm began to shake and the right side of the face to twitch. When this had passed off the arm remained weak and the difficulty in speech persisted. He was an intelligent man with marked apraxia and aphasia. There was slight weakness of the right side of the face and tongue, and spastic paresis of the right arm and leg with increase in the deep reflexes. He rapidly became worse, complete right hemiplegia developed, he was unable to move his tongue, and had increasing difficulty in swallowing. He became very drowsy and the respirations stertorous. Left temporal decompression was performed and a large cyst discovered lying deeply in the left frontal lobe, from which 44 c.cm. of turbid fluid was withdrawn. He made a remarkable recovery. His speech commenced to return in four days and he regained full power in his limbs.

The only removable tumours which are at all common in the region of the cerebral hemispheres are the endo-theliomata. These arise from the inner surface of the dura, probably from the lacunae of the anterior longitudinal sinus. Sometimes they are firm, rounded, fibrous tumours, often, however, with central degeneration; sometimes they are soft and diffuent. They may have a pedicle or they may be sessile on the inner surface of the dura. The bone over them is very vascular, and they have a curious power of stimulating its growth, so that external bony tumours may appear on the skull. They may, indeed, invade the bone, with which they thus become indissolubly connected, but in no circumstances do they invade the brain; they press into its substance, and their removal may at first leave a large cavity, but in a few moments the brain returns to its normal position and the cavity is entirely obliterated.

Theoretically these tumours should be completely removable and should never recur, but it is not always possible to obtain this result. In the soft type the tumour may break up so far that there can be no certainty of its complete removal, and in the sessile variety its connexions with the superior longitudinal sinus may be so complete that only a resection of the sinus, with the grave risks which that involves, could ensure total ablation. One case of the latter condition has already been mentioned, and of the former the following is an example:

In October, 1921, I operated upon a woman, aged 25, who for eighteen months had suffered from morning headaches of increasing severity, and latterly accompanied by vomiting. She had had attacks of tingling and numbness in the fingers of the left hand, spreading to the shoulders and to the left side of the tongue, and loss of sense of position in the fingers of the left hand.

The right Rolandic area was exposed by an osteoplastic flap, and a large, soft, purplish tumour was found arising from the inner surface of the dura over the middle of the right Rolandic area.

On opening the dura a mass of diffuent material about the size of a tennis ball oozed out, the cavity in the brain being almost instantly obliterated. The dura was removed as widely as was practicable and the osteoplastic flap was closed. She made an uninterrupted and complete recovery.

In April, 1924, after three and a half years of perfect health, she suddenly had a succession of violent fits, starting with tingling in the left fingers, but becoming general, and accompanied by loss of consciousness. The papilloedema, which had entirely disappeared, was found to have returned. Exploration showed masses of soft growth protruding through the old trephine holes in the bone, which was itself widely invaded by soft vascular growth. The bone was widely resected and the growth removed as completely as was possible, although it extended up to the middle line. She again recovered completely, and so far has remained in perfect health. It is possible that the use of x rays over the large opening left in the skull may enable us to prevent further recurrence.

It will thus be seen that although only in a very limited number of cases can we expect to effect a complete cure by surgical interference, there are many in which we can give considerable relief. The most important factors in success are early diagnosis and precise localization; both should be effected before general symptoms have developed and before an increased intracranial pressure has added to the difficulties and dangers of an operation. There is no field of surgery in which so much depends upon the close co-operation of the physician and the surgeon, upon the enterprise of the former and the restraint of the latter.

## An Address

ON

## MASSIVE PULMONARY COLLAPSE.\*

BY

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It might be supposed that the subject of pulmonary collapse is largely of academic interest, but the clinical manifestations are of great importance, both to the physician and to the surgeon, and a prompt recognition of the physical signs and the symptoms, and where possible their prevention or their rectification, is therefore of great value.

### PHYSIOLOGICAL INTRODUCTION.

Before proceeding to discuss the causation of pulmonary collapse a brief recapitulation of the essential anatomical and physiological facts of respiration may be helpful. It is customary to regard the lung as a single organ, expanding as a whole, and to disregard a possible significance of its division into lobes. Keith<sup>1</sup> has, however, shown that the great fissure is of fundamental importance, in that it separates the lung into areas, the method of expansion of which is, distinct, the upper lobe being expanded by the mechanism of the upper ribs, and the lower lobe by a compound mechanism formed by the diaphragm and lower ribs. Further, the extensibility of the lung is not uniform in degree, but varies with the three anatomical zones into which it is divided. These are (a) the root, practically non-extensible; (b) the intermediate zone, containing vascular and bronchial ramifications with some extensible tissue between; and (c) the outer zone, consisting entirely of expansile tissue. Expansion takes place by the moving apart of the rays of the inextensible structures, and the filling out of the intermediate and outer expansile areas, a mechanism which Keith has likened to the opening of a Japanese fan.

It is impossible here to enter into any detail of the muscular mechanism brought into play in respiration, and a somewhat dogmatic outline must suffice.

The upper part of the thoracic cavity is conical in shape, the lid being formed by the first ribs and the manubrium sterni. This lid is held immobile by the sealeni, and acts as the fixed point from which the upward movement of the ribs originates. In the main the expansion of the upper lobe is brought about by the lifting of the five upper ribs, with an increase in the antero-posterior thoracic diameter, owing to the axis of rotation of these ribs being set almost at right angles to a vertical section. Each successive rib

\* Delivered before the Plymouth Medical Society.

moves through a rather wider space than the one above; hence the undulating expansion described by Hoover.<sup>2</sup> The lifting of the ribs is the result of contraction of the external intercostals. The contraction of the diaphragm has a very slight expansile effect on the upper lobe, for the crura, being attached to the root of the lung through the pericardium, will on contraction displace the pulmonary hilus downwards, and so help the ventilation of the apex.

The lower part of the thorax from the fifth rib downwards is cylindrical in form, and for its expansion depends in part on the intercostals and in part on the diaphragm. The external intercostals carry on the same lifting process as already described, but with the alteration of the axis of rotation of the ribs, the angle with the vertical mid-plane becoming progressively more acute, the resultant movement is rather in a lateral than in an antero-posterior direction.

The contraction of the diaphragm is the other great factor in the ventilation of the lower lobes. Attached behind to the lumbar vertebrae, laterally to the lower edges of the six lower ribs, and in front to the ensiform cartilage, the fibres converge to their insertion in the central tendon. At rest two domes are formed below the bases of the lungs, the outer wall of each being in contact with the parietal walls. Contraction shortens the fibres, flattens the domes, and by so increasing the vertical diameter of the thorax permits the lungs to descend and expand. The diaphragm and the intercostals are in opposition in their pull on the lower ribs, for the former tends to close the subcostal angle and the latter to open it. The flatter the dome of the diaphragm the more direct is the pull it can exert, and the more force it will bring into play on the costal margin (Hoover<sup>2</sup>). This point is of considerable clinical importance. Depression of a diaphragmatic dome, either by pleural effusion or cardiac enlargement, will increase its mechanical efficacy, and this is shown by a reduction in the subcostal angle, instead of its increase as in normal respiration, in which the outward pull of the intercostals can overcome the inward pull of the diaphragm (Macleod<sup>3</sup>). A very critical study by Sir Charlton Briscoe,<sup>4</sup> in his Arris and Gale Lectures, of the action of the diaphragm will repay close study by those interested in this subject. He differentiates the contraction of the diaphragm into two parts—the crural, dependent solely on the phrenic nerves for stimuli, and the costal, which obtains part of its nerve supply from the intercostal nerves. He has further classified patients into three types, according to their manner of breathing. The A type depends almost entirely on the crural contractions for diaphragmatic respiration. In the C type, at the other extreme, the costal contractions are the more prominent. The adoption of the supine position will materially affect diaphragmatic respiration, and this has, as will be seen later, a profound influence on the production of collapse.

#### THE CAUSATION OF PULMONARY COLLAPSE.

It is to William Pasteur that the credit is due for first noting and describing the phenomena which he described as "post-operative massive collapse of the lung," in 1908.<sup>5</sup> Several other communications by him followed, and he gave a general review of the subject in 1911.<sup>6</sup> It was not, however, until the war led to a concentrated study of chest wounds that collapse came to be recognized as a frequent occurrence, for explanation had to be found for the many cases in which signs were present which could not be attributed to any of the generally accepted pathological conditions. In all the published writings on gunshot wounds of the chest references will be found to pulmonary collapse (Harrington,<sup>7</sup> Soltau and Alexander,<sup>8</sup> Gask and Wilkinson,<sup>9</sup> J. R. Bradford,<sup>10</sup> Soltau,<sup>11</sup> Bradford<sup>12</sup>).

It is obvious that the collapse of a lung, in whole or in part, may be brought about by various causes. A complete obstruction of the main bronchus, as occasionally occurs from inhaling a foreign body, must inevitably lead to such a condition, and this fact led to the theory that collapse was caused by the accumulation of bronchial secretion to such an extent as to plug the bronchi (Elliot and Dingley<sup>13</sup>). Such a condition, however, has not been commonly found in *post-mortem* examinations. Moreover, in many cases a lung has been profoundly collapsed during

life without the patient having any expectoration or other sign of increased bronchial secretion. Cases of purulent bronchitis with great excess of secretion do not appear ever to develop a massive collapse, though small collapsed areas may be seen *post mortem*. The collection of secretion cannot therefore be accepted as a complete explanation, though in some cases it may play a small contributory part.

Pasteur himself regarded the condition as being due to diaphragmatic paralysis, and there is increasing evidence that inhibition of the activity of that muscle forms an essential part of the process of collapse. X-ray examination of these cases invariably shows that the diaphragm on the affected side is raised, often to a higher level than that reached in the extreme expiratory position. It has even been seen to move in the reverse direction, rising with inspiration owing to the increase of intra-abdominal pressure from the descent of the unaffected lobe. Moreover, frequent opportunity was afforded during the war of observing the diaphragm through a hole in the chest wall—from wounds or on the operating table—and the flaccid, atonic condition of the muscle was obvious.

It is not so easy to determine why the diaphragm is paralysed, and this question is still under debate. The present writer, with Dr. Alexander,<sup>8</sup> advanced the view that it was a reflex paralysis, the afferent impulses being conveyed to the respiratory centre from the focus of irritation by means of the vagus, and the efferent by the phrenics. They pointed out that collapse was not of necessity associated with injury to the lung or to the thoracic wall, but might occur, as Pasteur had originally noted, after abdominal injuries quite remote from the diaphragmatic region. A penetrating wound of the pelvis, for instance, exhibited a very typical picture of pulmonary collapse. In military experience certainly by far the greater number of cases were directly associated with injuries, not necessarily penetrating, of the chest wall or lung. In civil experience the majority of cases are a direct sequel to abdominal operations, particularly those on the upper abdomen. In the writer's experience operations involving the liver and bile passages are especially likely to be followed by collapse of the lung.

Briscoe<sup>4</sup> advances an alternative view as to the origin of the paralysis, regarding it as merely an exaggeration of the respiratory changes which take place when the supine position is adopted. In this position the costal type of diaphragmatic respiration is largely suspended, particularly in those patients of type A whose respiration is mainly crural in origin. Subsequent irritation of the crura or of their pleural covering will lead to inhibition of the crural respiration, and hence to paralysis and complete deflation. Further observation is needed to determine the relative importance of these two views. Whatever the actual mechanism which inhibits the diaphragm, the result is a cessation of ventilation of the lung, with speedy absorption of the residual alveolar air, and so complete collapse. Falconer<sup>14</sup> supports Briscoe's view and records the comparatively frequent occurrence of massive collapse in prolonged malarial cases. He was inclined to regard the condition as being caused by perisplenitis. Watson and Meighan<sup>15</sup> have recorded cases of diaphragmatic paralysis which they attributed to a functional disturbance of the phrenic centre. It would be interesting to know whether any observations have been made in the cases, recently described, of very rapid breathing as a sequel to encephalitis lethargica, to note the condition of the diaphragm.

Whilst the study of pulmonary collapse from injury was being studied a further very interesting fact came to light—namely, that the uninjured lung may frequently share in the condition, a phenomenon to which the term "contralateral collapse" was applied. This condition has been seen both with penetrating and non-penetrating wounds of the chest. The radiograms exhibited, taken by Captain Donaldson, show an extreme degree of massive collapse of the right lung, resulting from a severe blow to the left thoracic parietal wall. The writer recently saw a similar case in which the shaft of a cart had inflicted a heavy blow on the left side, and the right lobe was collapsed. Curl<sup>16</sup> has described in some detail the contra-

lateral signs associated with chest wounds. These cases of contralateral collapse are difficult to explain without assuming a nervous reflex.

Finally, the well known experience of being "winded" by a sudden blow may be due to temporary paralysis of the diaphragm. Here the immediate onset must preclude any inflammatory cause. The happy conjunction of an x-ray plaut and a "winded" patient may settle the point.

#### VARIETIES OF COLLAPSE.

The most common condition to find is massive collapse involving the whole of the lower lobe. More rarely the whole of the lung may be involved, and very occasionally the upper lobe alone is affected. In cases where a part only of the lower lobe is collapsed a wedge-shaped area with the base downwards will be found, giving the characteristic signs. Collapse may be homolateral, or, in cases of injury, contralateral. In civil practice collapse following surgical operations most commonly affects one base only, but it may be bilateral, each side becoming involved successively or simultaneously.

#### PHYSICAL SIGNS.

These are not unequivocal, and some practice is required to make certain of the diagnosis, for in many respects there is a close resemblance to the physical signs of pneumonia. Observation is of the greatest help, for the retracted immobile chest wall affords a striking contrast to that of pneumonia, in which with immobility the appearance of fullness is so frequently noticeable. The difference in the ribs in the two cases may be compared to the appearance of a concertina when closed and when extended.

Palpation is the critical diagnostic test, for by that means the position of the apex beat may be determined. The most definite and constant sign of collapse is displacement of the apex, and this always takes place towards the collapsed area. The displacement may be extreme, the apex being found well over towards the axilla, and frequently lying at a higher level than the normal.

This alteration may take place with great rapidity, the apex having been found to have moved two inches in the course of a few hours. On percussing the chest a marked alteration in the note will be elicited. With complete collapse there is absolute dullness, so definite as to suggest the presence of fluid. The position of the apex beat, however, at once eliminates the possibility of effusion. On the left side the increase upwards of the gastric resonance will indicate the high level of the diaphragm, and so suggest paralysis of that muscle. The auscultatory sounds may vary very greatly, being modified both by the degree of collapse present and with the phases through which the condition passes.

In a typical case followed from its commencement, at first breath sounds are practically absent, or only the faintest respiratory "whisper" will be heard. This absence of breath sounds is accompanied by absence of vocal resonance. We are listening to a "dead" lung through which no bronchial air is passing. The sign-complex is therefore a retracted immobile chest with raised diaphragm, dull on percussion, and exhibiting neither breath sounds nor vocal resonance, and with the heart displaced towards the dullness. In the second stage there is a dramatic alteration. The percussion note is still dull, but the breath sounds are tubular or amphoric, and vocal resonance is greatly increased. Ventilation is commencing and the bronchial respiration becomes audible.

The clinical picture resembles a pneumonic consolidation, except for the shape of the chest and the position of the apex. In the final stage dullness becomes less pronounced, the tubular breath sounds are less definite, and frequently moist adventitious sounds are present. Air is commencing to enter the alveoli and a certain excess of secretion may be present. With the expansion of the lung the heart returns gradually to its normal position. This phase is frequently confused with bronchitis, and probably not a few of the cases of so-called post-anaesthetic bronchitis are really in the final stage of massive collapse. Pyrexia is not uncommon, but does not reach a high degree. It is to be

expected that a bronchial infection will frequently complicate collapse, and even a true pneumonic consolidation may occur in the collapsed lung.

#### SYMPTOMS.

Massive collapse with unmistakable physical signs may produce very few symptoms. A certain degree of dyspnoea, more marked on exertion, is usually present, and is, of course, much more pronounced if both lungs are involved. Cyanosis is not a marked feature, for the unaffected lung area is ample to secure sufficient oxygenation whilst the patient is at rest. The writer has, however, not infrequently noticed that the colour of the face is a brick red, and has on more than one occasion ventured a diagnosis of collapse based on this appearance, and has found it confirmed on further examination. The absence of cyanosis may be explained by Haldane's<sup>16</sup> reasoning, that where a lung, by consolidation or collapse, has ceased to have any pulmonary circulation, only the bronchial persisting, the whole of the venous blood is oxygenated in the unaffected areas. Where, however, the pulmonary circulation is partially open, venous blood will circulate through lung area which is not capable of oxygenating it, and therefore a mixed stream of oxygenated and non-oxygenated blood will reach the systemic circulation, causing cyanosis.

Cough of a weak, irritating type is frequently present. It is not usually productive—in part owing to lack of pressure from behind, as the diaphragm is out of action, and in part also because secretion is not necessarily increased.

#### DIAGNOSIS.

The diagnostic signs have been detailed already, and it is only necessary to refer very briefly to the main points. The appearance of the chest and the position of the apex beat are the two cardinal signs to which attention should be directed. If these be remembered, confusion with either pleural effusion, pneumonia, or bronchitis will not arise. In military practice the presence of a coexisting haemothorax introduced disturbing signs, which will practically never arise in civil practice. It should not be forgotten, however, that a pneumonic consolidation is not unknown in a collapsed lung, more particularly as reinflation is commencing. So, also, an infective bronchitis may be associated with collapse. It is hardly necessary to refer to the great assistance in diagnosis which x-ray examination gives, and in cases of doubt this assistance should, where possible, be sought.

#### TREATMENT.

It is obvious that very little can be done in the way of active treatment. In cases in which dyspnoea is a symptom oxygen is essential. This should be given practically continuously in measured quantities, by means of a Haldane oxygen apparatus. In cases requiring prolonged or exhausting dressings oxygen should be given as a routine during the dressings. The importance of Sir Charlton Briscoe's investigation lies in the fact that the supine position favours collapse. To the surgeon the value of placing his patient as soon as possible in the semi-upright position will appeal. It is hardly too much to say that all operations on the upper abdomen should be nursed in this position, as soon as post-operative shock has passed off. Nursing homes still are frequently ill provided with comfortable and easy means of raising patients into this position and maintaining them there. The Fowler frame, introduced during the war into casualty clearing stations, was an admirable and simple mechanical device for attaining this end.

The object of this communication is to call attention to a condition which occurs far more frequently than is supposed, and which has not received much attention in the general medical press.

#### SUMMARY.

1. Massive pulmonary collapse is a definite clinical condition.
2. It is caused by inhibition of the diaphragmatic action, whether from reflex or inflammatory causes.
3. Its onset is favoured by the supine position.

4. It follows direct trauma of the chest wall or lung, and surgical operations on the abdomen, even remote from the diaphragm.

5. It gives definite physical signs, which may simulate pneumonia or pleural effusion.

6. The differential diagnosis depends on determining the position of the apex beat and the diaphragm.

7. It may, in cases of injury, affect the lung on the side remote from the trauma.

8. Its occurrence, whilst of itself not necessarily of grave import, yet places another burden on a patient already struggling with injury or disease.

9. Treatment should be preventive.

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## ON THE POSSIBILITY OF RESTORING MOVEMENT TO A PARALYSED VOCAL CORD BY NERVE ANASTOMOSIS.\*

(An Experimental Inquiry.)

BY

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THE following series of experiments were carried out by Sir Charles Ballance with the collaboration of the writer. The experiments were performed at the National Institute for Medical Research, Hampstead, and were made possible by the facilities granted by the Medical Research Council. Although final conclusions have not been reached, certain definite results have been obtained, and it is at the suggestion of Sir Charles Ballance that this description of the research has been written.

Experiments on the effects of an anastomosis of the recurrent laryngeal with another nerve by previous observers do not appear to have given very definite results, probably owing to the difficulty of accurate observations on the movements of the vocal cords in animals without killing them at the end of the experiment. This is now easily overcome by using a direct vision laryngoscope. The larynx of a monkey and the movements of the vocal cords can be not only seen but carefully studied through the spatula of Chevalier Jackson, employing the model designed for the child. Direct observation has therefore taken the place of inferences drawn from the presence or absence of such symptoms as stridor, hoarseness, or roaring in animals. It has even been possible, although certain technical difficulties had first to be overcome, to record the movements of the vocal cords on a cinematograph film.

The results of the experiments may be divided into three groups.

### I.—ANASTOMOSIS WITH THE VAGUS.

The first nerve employed was the vagus. Chevalier Jackson, in his book on endoscopy, suggests that an anastomosis between the vagus and the recurrent laryngeal might cure paralysis of a vocal cord. Since the recurrent laryngeal nerve passes down the neck in the trunk of the vagus, such an anastomosis would be most likely to succeed if the cut end of the recurrent laryngeal were united to that part of the vagus which contains the fibres of the recurrent laryngeal, before they have left the main trunk. There is, however, no means of distinguishing the fibres of the recurrent laryngeal from the rest of those which form the trunk of the vagus, so that there would be only a small chance of effecting such a reunion.

\* An illustrated article by Sir Charles Ballance on experiments in which the facial and recurrent laryngeal nerves were anastomosed with other nerves was published in the *JOURNAL* (1924, vol. ii, p. 349).

Actually the end of the recurrent laryngeal was implanted into the side of the vagus in two goats, a rhesus monkey, and a baboon; but the last animal died of pneumonia three weeks later, which suggests that the operation may not be devoid of risk. There were therefore three effective experiments in this group.

In a large male goat the vagus was nearly half divided and the cut recurrent laryngeal sutured to the proximal lip of the incision. At the end of ten months no movement of the vocal cord had been observed, though it appeared to have become straight and tense. This effect, however, may have been produced by contracture of the intrinsic muscles of the larynx rather than by the return of the muscular tone. On exposing the anastomosis the recurrent laryngeal was found kinked and involved in scar tissue, nor was any movement of the cord produced by stimulation of the trunk of the vagus, the anastomosis, or the recurrent laryngeal itself. The experiment repeated on a young goat gave negative results at the end of six months.

In the rhesus monkey the same operation was done and the corresponding vocal cord was seen to be paralysed. At the end of four months no movement had returned though the cord was more tense. The anastomosis was exposed at the end of seven months, and abduction of the paralysed cord was obtained by stimulation (a) of the trunk of the vagus, (b) the site of the anastomosis, and (c) the recurrent laryngeal nerve.

The excursions of the cord were not quite so wide as on the sound side.

It appeared, therefore, that the muscles were innervated from the vagus, although no spontaneous movement occurred, and Professor Starling suggested that if the animal were partially asphyxiated the forced inspiration so produced might be so powerful that the muscles would receive a strong enough nervous impulse to cause a contraction. This experiment was tried at the end of nine months, and the cord was seen to abduct several times, though not so widely as on the opposite side. The same effect was seen at the end of twelve months, but was less after fifteen months, and has disappeared after seventeen months, and still has not reappeared.

It may be concluded from these experiments that, although a nervous connexion may be re-established by a recurrent laryngeal vagus anastomosis, it is useless to expect return of spontaneous movement in the corresponding vocal cord.

### II.—ANASTOMOSIS WITH THE DESCENDENS NONI.

In another series of experiments the recurrent laryngeal nerve was anastomosed end-to-end with the descendens noni. This operation was done on four rhesus monkeys.

In the first experiment the recurrent laryngeal was anastomosed end-to-end with the descendens noni and the distal end of the descendens noni implanted into the side of the hypoglossal. Before the suture was completed it was observed that stimulation of the distal end of the recurrent laryngeal caused abduction of the cord. This animal died from bites received from another monkey six weeks after the operation, so that no result was obtained.

In the second experiment the same operation was done on the right side, except that the distal end of the descendens noni being very small was left free. At the end of two months there appeared to be increased tension in the cord but no spontaneous movement. Stimulation of (a) the hypoglossal proximal to the origin of the descendens noni, (b) the descendens noni, (c) the anastomosis, all caused abduction of the cord, showing that a nervous impulse could pass through the anastomosis. At the end of four months there was still no spontaneous movement in the cord, but on partial asphyxiation abduction of both cords followed but soon ceased. At the end of five months, and again at the end of seven months, there was still no movement of the cord on tranquil respiration, but wide excursions of both cords followed partial asphyxiation and lasted for two minutes. The movements of the right cord gradually ceased as the effects of the asphyxiation passed away. The animal became ill at the end of nine months and was killed, but it was noted that still there were no spontaneous movements of the right cord.

In the third experiment the animal had to be killed at the end of seven months; the results were exactly the same as in the second experiment.

In the fourth experiment the descendens noni was anastomosed end-to-end with the recurrent laryngeal. The distal end of the descendens was implanted into the side of the phrenic. No spontaneous movement returned to the vocal cord, but when the animal was killed at the end of three months stimulation of (a) the hypoglossal proximal to origin of the descendens noni, (b) the descendens noni, and (c) the anastomosis, all caused abduction of the vocal cord.

The results of these experiments with the descendens noni show that, as in an anastomosis with the vagus, the muscles controlling the movements of the vocal cord become innervated, but no movement occurs in the cord because the appropriate impulse does not pass along this route.

It is probable that when the animal swallowed, an associated movement of the vocal cord occurred, for at that moment an impulse would be travelling down the descendens noni, but no means of making this observation satisfactorily could be devised.

Dr. Frazier of Philadelphia,<sup>1</sup> at the request of Dr. Chevalier Jackson, performed an anastomosis between the recurrent laryngeal and the descendens noni in two patients with vocal cord paralysis. The results of these operations were the same as those on the monkeys. Tension returned to the paralysed cord, but no spontaneous movement. Descendens noni-recurrent laryngeal anastomosis is therefore useless for the relief of paralysis of the vocal cord.

### III.—ANASTOMOSIS WITH THE PHRENIC.

It appeared that if the vocal cord could be linked up with the muscles of respiration, then a rhythmical impulse rightly timed would pass through the anastomosis and might restore the normal movements of quiet respiration to the cord. In this case, in contrast to the dissociated movement required for the cure of facial palsy, an associated movement with the respiratory muscles would be desirable.

In the third series of experiments, therefore, the recurrent laryngeal was anastomosed to the phrenic to obtain associated movement between the vocal cord and the corresponding half of the diaphragm. In this series six experiments were performed on three baboons, a hussar monkey, and a rhesus. In one baboon, which died at the end of the fourth month, the recurrent laryngeal was implanted into the side of the phrenic, which apparently had only one root coming from the fourth cervical nerve. In another, which died at the end of a month, the recurrent laryngeal was anastomosed end-to-end with the root of the phrenic arising from the fourth cervical nerve. In neither case had any movement been restored to the cord when the animal had to be killed.

There remained, therefore, four effective experiments.

The first experiment was performed on a baboon. The right recurrent laryngeal was anastomosed end-to-end with the phrenic, and, with the object of restoring the movements to the diaphragm, the distal end of the phrenic was united to the central end of the descendens noni, and the distal end of the descendens noni implanted into the side of the hypoglossal. Stimulation of the recurrent laryngeal during the experiment caused abduction of the paralysed cord, and of the phrenic caused contraction of the diaphragm. At the end of two and a half months no movement was observed in the right vocal cord. At the end of four months the vocal cords were observed to move equally during quiet respiration. The adductor spasm caused by partial asphyxiation was followed by abduction of both cords, but the abduction was a little greater on the left (normal) side than the right.

At the end of six months the cords moved symmetrically, but the excursions of the right cord were now wider than those of the left (normal) cord. At this time the left recurrent laryngeal was anastomosed end-to-end with the left phrenic, thus paralysing the left vocal cord, whilst the right continued to act through the right phrenic. At the present time slight abduction can be observed in the left cord, but, probably owing to some injury to the neck during the administration of an anaesthetic, the right cord has again become paralysed.

These two experiments, however, show that anastomosis with the phrenic is capable of reproducing the normal movements of the vocal cords in tranquil respiration.

In a hussar monkey the phrenic was exposed and separated into two bundles, one of which was divided and anastomosed end-to-end with the distal end of the recurrent laryngeal. This animal shows only the slightest movement of abduction after ten months, and even this disappears altogether under a deep anaesthetic. On partial asphyxiation, however, adductor spasm of both cords occurs.

In a rhesus monkey the distal end of the right recurrent laryngeal was implanted into the side of the phrenic. At the end of two months the right cord was still paralysed, but it appeared to have become more tense than immediately after the operation. At the end of three months there was still no spontaneous movement, but on partial asphyxiation the adductor spasm was followed by abduction of both cords which soon ceased in the right. At the end of seven months both cords were observed to be moving during tranquil respiration, but the excursions of the right cord were not so wide as those of the left.

It may be noted that the movement of adduction, induced by partial asphyxiation, reappears before that of abduction, which corresponds to the weaker extensor movement in the limbs. This is in keeping with the disappearance of abduction earlier than adduction in paralysis of the vocal cords, supervening slowly under pathological conditions.

It is shown from these experiments that spontaneous respiratory movements can be restored to the vocal cord by an anastomosis between the recurrent laryngeal and the phrenic. The entire trunk of the phrenic is not necessary, and probably it will be found sufficient to use half the trunk, as in a lateral anastomosis, or one of the roots arising from the cervical nerves.

No case has so far presented itself in which an operation for the relief of a paralysed cord appeared justifiable in the human being, but if such should be undertaken it is suggested that the appropriate operation would be an end-to-side anastomosis between the recurrent laryngeal and the phrenic.

#### REFERENCE

<sup>1</sup> *Annals of Surgery*, February, 1923.

## SPINAL ANAESTHESIA BY STOVAINE.

BY

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In the Church Missionary Society's Hospital in Old Cairo, Egypt, spinal anaesthesia is now used as routine in all suitable operations by all the five surgeons on the staff. A beginning was made about eight years ago, when this method was used in a certain number of picked cases. It took some time for it to become popular with more than one or two of the surgeons, and the Egyptian fellahs patients were inclined at first to resent this new method, expecting to be given something to inhale, as all their relations and friends had told them was regularly done. Little by little its scope was increased, till by the end of 1924 it was used in every suitable case unless there was some contraindication.

Exact numbers of cases are not available, but they amounted to more than 5,000 down to February, 1925, and at the present time we are doing about 2,400 a year.

#### Solution Used.

Stovaine is the drug used. Tropacocaine was tried, but did not give quite such good results in our hands. I do not know the reason for this, as Professor Morrison of Birmingham, one of the pioneers in spinal anaesthesia, found it so satisfactory.<sup>1</sup> For some time the ampoules of stovaine billion were used, but later were discarded, chiefly on the ground of expense, and lately we have ampoules put up for us by Messrs. Parke, Davis and Co., as follows: stovaine 0.1 gram, sodium chloride 0.1 gram, sterile distilled water to 1 c.cm. They are sent out to us a thousand at a time, and have proved consistently satisfactory. Their simplicity seems to add to their efficiency.

#### Type of Case.

The following comparative summary of the last 2,000 cases covers a period of about ten months, and shows how varied are the operations included.

Abdominal sections (including splenectomy, gastro-enterostomy, intestinal anastomosis, appendicectomy, hysterectomy, ovariectomy, etc.) ...	56
Vaginal and uterine operations (colporrhaphy, perineorrhaphy, curetting, etc.) ...	121
For inguinal hernia ...	330
For hydrocele, varicocele, etc. ...	210
Lithotripsy ...	51
Suprapubic cystotomy (large stone, prostate, etc.) ...	43
Nephrectomy ...	3
For urinary fistula ...	57
For haemorrhoids ...	518
For rectal bilharzial papillomata ...	461
For fistula in ano, ischio-rectal abscess ...	112
Amputations ...	8
For injuries and various conditions ...	30
	2,000

It is only lately that the larger operations in the upper abdomen have been attempted by this method of anaes-



thesia, and they have been attended with great success. In eight cases of splenectomy (very large spleens in Egyptian splenomegaly) it has proved a real boon.

Previous to the use of spinal anaesthesia chloroform was mostly used, as we very seldom use ether for general anaesthesia in this climate. But now we are using very little chloroform, except in small children. Everything up to the costal margin is done with spinal anaesthesia, and many head and neck operations are done under ether by the rectum.

#### Method of Administration.

The anaesthetic is given in the theatre on the operating table by the surgeon himself. The patient is made to sit up and bend forwards; tincture of iodine is applied over the spines and the right space selected. This varies with the operation. The second lumbar is the most usual, but we go as high as the eleventh dorsal when necessary. The needle is inserted in the middle line, and the experience gained makes it a very easy matter to know exactly the required depth it is necessary to penetrate. If the fluid does not flow briskly the needle is turned round or pushed further or slightly withdrawn to obtain this result, and the syringe is applied. We prefer to allow as little fluid as possible to escape. This has been our practice for about the last thousand cases, with better results. A 2 c.cm. syringe is used and the spinal fluid is allowed to mix with the 1 c.cm. of the fluid in this, and the whole is injected. The whole ampoule is given for an average operation in an adult, and proportional doses for children or weak patients, or very brief operations. On withdrawing the needle a small piece of adhesive plaster is applied to the site of the puncture, and the patient lies down flat. The field of operation is then prepared in the usual manner, and by the time this is done and the surgeon is ready the operation can be commenced. In an operation on the kidney a few minutes lying flat is allowed before the patient is put on his side. The high Trendelenburg position can be safely used by the time the surgeon is ready to begin. The analgesic effect lasts generally forty-five to sixty minutes, which is sufficient for nearly all operations. Operation for double inguinal hernia and double hydrocele in one subject is often done by a quick surgeon under the usual dose. Morphine and atropine are given previously as routine in all big cases—for example, abdominal sections, etc.

A few patients who are nervous and frightened imagine they feel pain without really doing so, but a few drops of chloroform on a mask make them happy and comfortable. They remain conscious but are contented. I have known a patient who was complaining of pain become quite happy for the whole time with not more than six drops of chloroform. A patient is sometimes surprised to find he can move his legs and yet feel no sensation. Occasionally during the course of an operation the patient feels slight malaise and has a little retching, but a spoonful of brandy, with a little water, by the mouth nearly always settles this rapidly.

There is a wonderful absence of danger with this type of anaesthesia. There has been no fatality which could really be attributed to the stovaine in the whole series of more than 5,000 cases. There was one case, early in the series, where the patient died on the table. The patient was an old man who had a strangulated hernia. He was kept for four days in his village and then brought up a long journey to the hospital, finishing up by travelling by tram and walking in, so that he was in a very poor state. As soon as the stovaine was injected he collapsed and died. We feel that it was the man's condition that killed him, and that it is not fair to attribute it to the anaesthetic.

#### Advantages.

The advantages are very marked from the point of view of both surgeon and patient.

1. *Saving of Time between Operations.*—This means a great deal in a busy surgical hospital. It would be impossible to get through some of our days with general anaesthesia. We often have twenty to thirty operations in a morning in two or three theatres. It is a great thing for the surgeon not to have that weary waiting between

operations till the patient is sufficiently under, which can scarcely be avoided with general anaesthesia unless there are two anaesthetists. He can literally go straight on from case to case. As soon as one is wheeled out the next comes in and can sit up and have the injection at once.

2. *Saving of Time during Operations.*—One needs to experience this to know it. The relaxation is always equal to, or better than, that which is only sometimes obtained by the very best general anaesthetics. This means much greater ease and rapidity for the surgeon. It is a great time-saver in operations deep in the pelvis, such as Wertheim's hysterectomy. Also in bladder cases, prostatectomy, lithotripsy, and so on, it is a great help to have complete absence of straining.

3. *Saving of Work after Operation.*—The work on the nursing staff in the surgical wards is wonderfully lessened on operating days. The patients come back from the theatre conscious and fit; they have no vomiting or restlessness, and seldom need a nurse to sit by them.

4. *Saving of Staff during and after Operation.*—Not only can the surgeon dispense with an anaesthetist, but in many cases he needs less assistance at the operation owing to the good relaxation. This in addition to the saving of nursing staff in the wards after, as mentioned above.

5. *Avoidance of Troublesome or Serious Symptoms.*—From the patient's point of view there is much in favour of spinal anaesthesia, including avoidance of vomiting and distressing malaise after operation, and absence of shock. In this latter respect undoubtedly many lives are saved every year in patients who would not stand a general anaesthetic, especially in cases such as late strangulated hernia, septic appendicitis, serious injuries necessitating amputation, etc. This is noticeable in such a country as Egypt, where the people are often so late in seeking advice. There is also less risk of chest complications following operation.

#### Disadvantages.

There is the real disadvantage that a great number of people think they would prefer to be asleep. This is largely a matter of its being the more usual thing. Our patients here now almost all wish for spinal anaesthesia because it is the usual method. We have had many cases, some among our own workers, who have had two operations at different times, one with general anaesthesia and one with spinal, and without exception they all vote for spinal. This is a real test. A certain small number complain of headache for some days after. Our later experience is that this symptom is noticed less and less. It has certainly been less frequent since we have only allowed as little spinal fluid as possible to escape. It is troublesome, but not serious, and at present it is almost negligible in our wards. Considering the small proportion of such cases it is a very slight disadvantage and compares favourably with the symptom of post-anaesthetic vomiting after general anaesthesia.

There is the fact that very occasionally the stovaine fails to act, but these cases are very rare, and chloroform can then always be administered.

Some people have a fear of paralysis or paresis following spinal anaesthesia. I have never seen such a case, and think there is no foundation for such fear. It would be interesting to hear of authentic cases.

It is worthy of a more extended trial by others than the few enthusiasts in favour of it; certainly for foreign hospitals, where the proportion of surgical work to number of staff is so far greater than at home, it is of inestimable value. It is very considerably used in other hospitals in Egypt, as is shown by the report of Mr. Morrison of Alexandria.<sup>2</sup>

I must acknowledge my gratitude to my colleagues Mr. F. O. Lashley, Mr. J. E. Bateman, Dr. Towfeek Negibe, and Dr. Andrew Shakhshiri, for allowing me to include their results in this report.

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# RHEUMATIC INFECTION IN CHILDHOOD: THE SUBCUTANEOUS FIBROID NODULE AS AN EARLY MANIFESTATION.

BY

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Rheumatic infection in childhood is likely to be overlooked until such time as one of the periodic exacerbations of the smouldering infection occurs, since at other times physical signs are in abeyance. It has been stated that subcutaneous rheumatic nodules usually make their appearance only in grave affections associated with gross cardiac disease. Arguing, however, on analogy with the findings in adults suffering from fibrositis, it did not seem improbable that nodules less obvious than those of graver infection might be discovered in subacute cases. When this suggestion had

toxic state could be elicited except *Ascaris lumbricoides* in two instances, efficient treatment of which did not alleviate symptoms complained of. The cases are divided into groups as follows:

1. Without nodules and without cardiac bruits, or cardiac enlargement or chorea (1 case).
2. Without nodules, but with cardiac bruits or cardiac enlargement or chorea (4 cases).
3. With nodules, without cardiac bruits or cardiac enlargement or chorea (6 cases).
4. With nodules, prior to cardiac bruits or cardiac enlargement (5 cases).
5. With nodules concomitant with or subsequent to cardiac bruits, cardiac enlargement or chorea (7 cases).

No nodules could be found in any of the remaining 77 children. Sir Thomas Barlow,<sup>1</sup> in his classical paper, considered subcutaneous nodules "in themselves indicative of rheumatism, even in the absence of pain," and "although unimportant in themselves are nevertheless of serious import." Bronson and Carr<sup>2</sup> quote instances to illustrate the general fact that "the nodules are a sign of some active rheumatic focus and that they tend to disappear as the infection becomes quiescent." It is contended that nodules



FIG. 1.—Arteriole showing proliferation of lining endothelial cells. Perivascular mononuclear proliferation. Obj. 1/12 oil immersion (Zeiss). Eyepiece Leitz I.



FIG. 2.—Cellular collections, mainly histiocytic in type. Obj. 1/12 oil immersion (Zeiss). Eyepiece Leitz I.

been established in part by the examination of children known to be suffering from rheumatic infection, one hundred consecutive children between the ages of 2 and 12 years attending the out-patient department at the Royal United Hospital were examined very carefully for subcutaneous nodules irrespective of the complaints for which they were brought to the hospital.

In searching for the nodules particular attention was paid to the spinous processes of the vertebrae and to the olecranon processes. Both superficial and deep palpation was adopted; a slightly flexed position of the spine and flexion to a right angle of the elbow-joint were found to be most satisfactory, with a moderately firm application of the examining forefinger, using a to-and-fro movement on the olecranon and a rotatory movement on the spinal column. The nodules appeared to vary in size from a small sago grain to that of a pin's head, and were often in small clusters. Synovitic creaking was often obvious round the vertebral spines and is most characteristic. Individual observers vary in ability to palpate nodules, and a good deal of practice is necessary.

It has been found that the easiest way to remove nodules which are smaller in size than the impression conveyed by palpation through the subcutaneous tissues is to cut down on to a hypodermic needle thrust under the nodule. Of the 100 children, 23 gave a history suggesting rheumatic infection, and in these no other causes of a

are a definite objective physical sign which can be elicited in a large number of children who present themselves as out-patients suffering from subjective symptoms suggesting rheumatic infection, prior to clinically demonstrable cardiac lesions.

I have to thank Professor Walker Hall of the University of Bristol for making sections of nodules removed from two children and for the following reports.

Fig. 1: The nodule is composed of fibrillar tissue, aggregations of histiocytes, and inflamed blood vessels. Some of the smaller arterioles show punctate proliferations of the lining endothelial cells. Perivascular proliferations of the lining endothelial cells. Perivascular mononuclear proliferation is frequent. The connective tissue contains many nodular collections of histiocytes. As yet these do not present any signs of necrosis. It is obvious that the etiology of the nodule may be associated with a persistent irritant of the subinfective or mildly infective type.

Fig. 2: The nodule is made up of fibrous tissue, a persistent medium consistence, and in places shows hyaline changes. The blood vessels present intimal and subintimal cellular proliferation and necrosis, and are in an early stage of endarteritis. The cellular collections are mainly histiocytic in type, without any necrotic change.

Further work is being done, and it is hoped to supplement this preliminary report with details in a larger number of rheumatic children at an early date, in conjunction with Dr. R. E. Thomas of the school medical service, Bath.

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## INDUCED LEUCOCYTOSIS IN THE TREATMENT OF INFECTIONS.

BY

W. A. ELLIOTT, M.B., B.S. DURN.

SOME twelve months ago Dr. Burr Ferguson of the United States Public Health Service, Southampton, spoke to me of the results he had obtained by injections of mercury salicylate in the treatment of infective conditions, and I decided to try it in some suitable cases. The method consists in the intramuscular injection of a mixture of mercury salicylate in liquid paraffin (1 grain per cubic centimetre), 1 c.cm. being injected at intervals of one week up to four or six doses, or less if the desired result is obtained earlier. This is the usual method, of course, in treating syphilis. Some of the cases which I tried were as follows:

### CASE I.

A man, aged 46, with a condition of chronic infection of the lungs following pneumonia bronchiectasis, had attacks of pyrexia and chest pains whenever he had a chill; they confined him to bed and made him very ill for a time. There were physical signs of chronic pleurisy. He had been immersed in the sea for many hours after a torpedo attack on his ship during the war, and his chest trouble began subsequent to this. During one bad attack I waited until the more acute symptoms had subsided, and then gave him two injections of mercury salicylate, at an interval of five days. The result was a complete recovery, with abatement of all chest pains, and free and easy breathing. The patient was enthusiastic about the treatment. Previous to the injections he stated that he had a chronic depression of spirits, with a feeling as though there was a load on his chest and weights on his legs. After the injections he was buoyant again, and walked more lightly and with the elasticity which he used to have before his attack of pneumonia. The good results obtained have so far persisted.

### CASE II.

A man, aged 51, suffering from a fairly large carbuncle on the back of the neck, was confined to bed and suffered from much pain. The carbuncle was being treated with boric fomentations and was steadily enlarging and forming a central crater containing a large mass of hard dead epithelial debris. I gave an intramuscular injection of 1 c.cm. of mercury salicylate, and on the following morning there was a most perceptible softening of the mass. It continued daily to get rapidly better; the slough was cast off and an uneventful recovery ensued.

### CASE III.

A woman, aged between 50 and 60, was suffering from chronic dermatitis of the whole body, with bleb formation and much irritation. I treated this with calamine lotion, and in several weeks there was a marked improvement over the whole body, but new formations of blebs continued to appear. I therefore gave two injections of mercury salicylate at an interval of five days, and complete recovery ensued, no further outbreak of blebs occurring. The condition had been troubling her for many months.

For local infections of the skin I have long had a strong faith in calamine lotion, which seems to have a peculiar, or what is usually termed a "specific," effect in healing skin infection. Ferguson has investigated the results on the blood of the injection of mercury salicylate, with the assistance of Dr. Simson, who was tuberculosis officer at Southampton at the time. His results revealed an immediate general leucocytosis in the blood within twenty-four hours of the injection. He has found that certain salts of arsenic produce a similar effect, and that in malaria quinine produces a similar leucocytosis, though not so pronounced. The conclusions drawn are that the "specific" action of mercury, arsenic, and quinine in certain diseases is all due to a general leucocytosis produced in the blood.

In my opinion the local use of calamine lotion produces a local area of leucocytosis which causes its "specific" action in skin infections, and the same effect is produced by unguentum hydrargyri ammoniaci. In these cases the salts of the heavy metals zinc and mercury produce the result locally. I have repeatedly noticed a bluish coloration of the skin around the areas treated with calamine lotion, suggesting a blood change at that area. This leucocytosis of the blood is considered by Dr. Ferguson to be the reason for the happy results of intramuscular injections of mercury salicylate in infective conditions, the increased number of leucocytes killing the infective agents.

## OPHTHALMOLOGY IN EGYPT.\*

BY

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THE problem of subtropical ophthalmology, with which I have become familiar in Egypt, may be considered under two heads—first, as affecting the European population, and second, as affecting the native Egyptian population.

### EUROPEAN POPULATION.

1. *Effect of Sun, Dust, and Wind.*—The healthy emmetropic eye becomes painfully affected by the sun's glare in the summer when motoring or riding along dusty roads or over the desert. The heat rays from the red end of the spectrum which cause this may be prevented by wearing protective goggles of Crookes B or B2 material; but if discomfort is complained of the refraction of the patient should be verified under a cycloplegic. There are other varieties of protective glasses, which theoretically are more absorbent of the heat rays than Crookes glasses, as shown by Sir Arnold Lawson at the Ophthalmological Section recently, such as peacock-blue, feuzal, and amber. I have found in a large number of instances that ordinary glass, in which is included if necessary a very small ametropic correction, is all that is required. The effect of sun, dust, and wind in causing pinguecula and pterygium must be remembered.

2. *Effect of Fatigue, Ill Health, and Worry.*—Fatigue, ill health, and worry bring out latent defects in the eyes in any country. A hot climate causes greater fatigue than a temperate, and this may lead to fatigue indigestion, with resulting physical depression. Worry, whether official or private, similarly may cause ill health. Under these conditions trifling errors of refraction, if present, or slight degrees of heterophoria exert effects quite out of proportion to their actual severity. It is therefore of the greatest importance that correction of these errors should be made as carefully as possible, generally under a cycloplegic such as homatropin, and that the correcting spectacles should be adjusted accurately by the optician. In a highly sensitive patient, whose nerves are constantly being jarred by physical or mental discomforts, the correction of a very small degree of astigmatism may make all the difference between happiness and misery. The symptoms which patients with an uncorrected error of refraction complain of are headache, neuralgia, frequent frowning with consequent fatigue of the subcutaneous muscles of the forehead, indigestion, inflammation of the edges of the lids, with perhaps supuration of the glands of the lid margins, and so on.

3. *Effect of Acute Conjunctivitis.*—The same organisms cause this among the Europeans as among the Egyptians, and will be considered when speaking of the latter. I have seen acute gonococcal conjunctivitis in English children of 2 or 3 years of age, which had no doubt been contracted from the chronic gonococcal conjunctivitis of servants, without any suspicion of venereal taint.

4. *Effect of Chronic Conjunctivitis.*—The chronic conjunctivitis most prevalent in Egypt is trachoma. It occasionally attacks English children who have been taken care of by Egyptian or Nubian servants.

5. *Treatment.*—I have mentioned the importance of the accurate correction of ametropia; the glasses should always be worn in the sun and dust at any rate. This, with a good sun-hat, is all that is required in most cases, but tinted glasses may be ordered if they give relief to the patient. In dusty seasons it is most advisable to wash from the eyelids the dust which collects there and which may contain septic material. This should be done three times a day. In many cases this simple precaution is sufficient to prevent constantly recurring attacks of conjunctivitis. It must not be forgotten that dental apical abscesses and pyorrhoea are a fruitful source of ophthalmic trouble.

\* Abstract of a communication read at the Section of Tropical Medicine of the Royal Society of Medicine, February 12th, 1925.

## NATIVE POPULATION.

It is impossible to deal even cursorily with all the eye affections peculiar to a subtropical climate. I have, however, selected the following conditions about which to make some remarks: acute ophthalmias, chronic ophthalmias, ankylostomiasis and changes in the appearance of the fundus oculi, bilharziasis and eye conditions, an epidemic of chancres of the eyelid, and fly-blown orbit or orbital myiasis.

**Acute Ophthalmias.**—The number of new patients attending the hospitals is very much greater in the summer than in the winter, increasing from a winter figure of about 400 a day to a summer maximum of 2,800 a day. The increase is largely made up of acute conjunctivitis cases, especially of gonococcal conjunctivitis. This condition is usually of non-venereal origin, the infection spreading from eye to eye, by means of the fingers, towels, etc. Flies also play a part in the transference of the infection (this was discussed, but cannot be dealt with in an abstract). Traveling to the hospitals is easier in the summer, but the increase in the number of patients is more closely related to the increase of temperature, curves representing these showing similar variations.

[The author also dealt in some detail with the subjects mentioned in the previous paragraph.]

## Memoranda:

## MEDICAL, SURGICAL, OBSTETRICAL.

## DIPHTHERIA AT THE AGE OF SEVENTY-TWO.

In view of the rarity of diphtheria at any age over 50, the case here described may be worth publishing.

A lady, aged 72, was admitted on December 17th, 1924, for a fracture of the neck of the left humerus. She was feeble, childish, and demented. On January 24th, 1925, she was noticed to have a purulent, slightly haemorrhagic discharge from the left nostril. A case of diphtheria had occurred in the ward a few days before. A swab was forwarded to the Clinical Research Association, which reported Klebs-Loeffler bacilli present. There was no faucial exudation. A second swab on January 26th was also positive. In view of the unusual age, a third swab was taken on January 27th, from which the Clinical Research Association kindly did a test for virulence. A pure culture of Klebs-Loeffler bacilli was isolated and proved fatal to a guinea-pig in forty-eight hours. The patient's condition forbidding her transfer to an isolation hospital, she was isolated throughout in a small ward here. She received in all 24,000 units of antitoxin. A swab on February 12th was still positive. On February 20th, however, it was negative, and again on February 25th. Meanwhile, on February 23rd, she had a cerebral haemorrhage; she died on March 2nd. I do not think the diphtheria had anything to do with her death.

In my own experience, which has included three years in an isolation hospital, I never met with a case of diphtheria at this age, or indeed anywhere near it, nor have I heard of one.

I am indebted to my colleague, Dr. Thomas Dolan, for the prompt detection of the case, as well as for the treatment and notes.

London, E.11.

J. C. Muir.

GALL STONES IN A MALE AGED EIGHTEEN:  
CHOLECYSTECTOMY: RECOVERY.

I READ a report of this case to the Cambridge Medical Society on February 6th, and as no one present could parallel the age in a male subject I venture to think that it may be of sufficient interest for publication. I have heard of the same condition in a female of 16 years, at St. George's Hospital.

A somewhat frail-looking, pale undergraduate of 18, medium height, and spare, enjoyed ordinary health until the spring of 1924, when he had acute appendicitis, which was "sat on" for ten days. He was ultimately seen when an abscess had formed, and dealt with by a London surgeon, undergoing, in all, three operations. He made a good recovery.

For two or three weeks in November, 1924, the patient had discomfort in the epigastric region about one and a half hours after meals; this subsided with dieting and medicine. On November 17th, while walking in the street with a friend at 2.30 p.m., he was suddenly seized with violent abdominal (epigastric) pain, with difficulty, supported by his friend, who put him straight to bed, and called me to see him.

When I saw him at 3.15 p.m. he looked thoroughly ill. The temperature was 97.2° F., pulse 60, respirations costal. The pain

had become less severe. On palpation the upper right rectus muscle was rigid and exceedingly tender. There was no jaundice. The patient did not seem ill enough for perforation, yet the findings, in conjunction with the history and the age, seemed to suggest that the most probable provisional diagnosis was that of a perforated duodenal or gastric ulcer, and I therefore sent him to a nursing home for observation. At 4.30 he was easier, but the pulse had risen to 96. At 7 o'clock the pain had become very severe again, and he looked worse. Laparotomy was decided upon.

At 8.30 I made an upper right rectus incision, displacing the rectus outwards after freeing it in its sheath. When the peritoneal cavity was opened no evidence of any perforation was discovered, but the gall bladder was found to be acutely inflamed and markedly thickened, especially towards the proximal end; it contained small, easily palpable stones. The gall bladder was freed and excised, the ducts being found to be free from further stones. A tube was put in, down to the stump, and the abdomen closed in layers. The patient made a complete recovery.

**Pathological Report.**—"The stones were dark reddish-brown, and consist of bilirubin chiefly. The wall of the gall bladder is very markedly thickened and tough, and the mucosa is very dark red, and apparently haemorrhagic. Microscopic section shows congestion and haemorrhage into the mucosa, a little superficial ulceration of epithelium, and much submucous round-celled infiltration and fibrosis. A chronic cholecystitis with recent subacute inflammation."

Cambridge.

R. SALISBURY WOODS, M.D., F.R.C.S.

ANTERIOR POLIOMYELITIS, HERPES ZOSTER,  
AND VARICELLA IN SEQUENCE.

The following case seems of sufficient interest to place on record. The sequence of events—anterior poliomyelitis, herpes zoster, and finally varicella—suggest the possibility of some connexion between the three conditions.

G. E., a boy aged 5 years, was admitted to University College Hospital under the Surgical Unit on September 4th, 1924, suffering from anterior poliomyelitis affecting all the muscles of the left leg. The condition dated from ten weeks previously. It commenced with headache and malaise, rapidly followed by inability to move the left leg. On admission there was marked wasting of the muscles of the left leg; no voluntary movement was possible in it except to a slight extent through the action of the glutei. The boy was treated by extension on a Thomas's splint and massage.

By October 15th some power had been restored to the extensor muscles. Two days later his temperature rose to 99.4°, and on October 18th herpes zoster developed along the distribution of the first and second lumbar nerves on the right side; an increasing number of vesicles appeared during the succeeding days. By October 23rd the temperature had reached 101°, a generalized chicken-pox rash appeared, and the child was removed to the infirmary. Thirteen days later two further cases of varicella occurred in the ward in which the boy had been.

Another case illustrating the connexion between herpes zoster and chicken-pox occurred some years ago. A girl returned home from school suffering from herpes zoster; her brother, who had been playing with her, but had not been exposed to any other infectious case, developed typical varicella thirteen days after the return of his sister.

London, N.W.

H. S. MORLEY, M.R.C.S., L.R.C.P.

GUMMA OF CAECUM MISTAKEN FOR  
CHRONIC APPENDICITIS.

ABOUT a year ago I had occasion to treat a woman for a tertiary syphilitic condition. Her husband, when questioned, admitted that a few years previously he contracted syphilis, but that he was then quite "cured." I advised him to undergo treatment, but he refused. About a month afterwards I was called to see him. He complained of slight pain and discomfort in the right iliac region extending over a period of months; otherwise he stated that he was quite well and able to follow his daily occupation as driver of a wagon. I discovered a lump in the right iliac fossa, with slight tenderness on pressure, and made a provisional diagnosis of chronic appendicitis. I advised operation, and when I opened the abdomen discovered that the lump was an indurated, glistening enlargement of the lower end of the caecum, about the size of a duck's egg. The tumour had a springy feel, and the whole structure, including the appendix, was firmly bound to the posterior abdominal wall by a mass of adhesions. As it was futile to try to remove it the abdomen was closed.

When the abdominal incision healed sufficiently the patient was put on antisyphilitic treatment and the mass rapidly disappeared. When last heard from he stated that he was feeling quite fit and that the pain and discomfort previously complained of in the appendix region never troubled him again.

Lockport, Nova Scotia.

F. H. ALEXANDER, M.B., Ch.B.

BRAIN ABSCESS SIMULATING DEMENTIA  
PARALYTICA.

The following case may be of interest, as it shows how an abscess of the brain may cause many of the symptoms of general paralysis of the insane.

A man was admitted to this hospital on January 20th. He was dull and apathetic, listless, and indifferent to his surroundings; and had some difficulty in walking. No external marks were noticed on admission. His pupils were stationary, reflexes very exaggerated, gait unsteady, memory for recent and remote events poor, speech, though not slurring, very hesitant. He appeared to be drowsy. There was incontinence of urine and faeces. He was put on a liquid diet, which he was able to take without difficulty. In a few days he became less confused, and it was noticed that the left side of the body was paralysed. Lumbar puncture was performed on January 27th. The cerebro-spinal fluid was under very high pressure; the Ross-Jones and Weichbrodt tests were positive, as was the acetic anhydride, sulphuric acid test. The Wassermann test was positive 100 per cent. + 4 in the cerebro-spinal fluid and 40 per cent. + 2 in the serum. He was ordered potassium iodide 20 grains three times a day. On February 7th his temperature rose to 100° F.; the pulse was 140, respirations 22. At 9.30 the following morning he suddenly collapsed and died.

The necropsy revealed areas of suppuration in the upper and middle lobes of the right lung, and an area of softening in each corpus striatum and each internal capsule, more marked on the right side; otherwise the viscera were quite normal, and no gumata were found anywhere. The bacteriological examination of the abscesses showed some staphylococci and streptococci in the brain and the same in the lung with many other organisms.

The history, as given by deceased's wife, is that on January 13th the patient was knocked on the head by a trunk of a tree while unloading timber; that on January 15th he gradually became drowsy, complained of loss of memory, and could not look after himself.

S. GROSSMAN,  
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INTRAPERICARDIAL RUPTURE OF AORTIC  
ANEURYSM IN AN INFANT.

The following notes on a case of aortic aneurysm in a child may be of interest, in view of the rarity of the condition at that age.

A male child, aged 20 months, was admitted on November 16th, 1924, with enlarged glands in the left anterior triangle of the neck and high temperature. The child was fairly well nourished but was very flabby, with yellow skin, and presented a somewhat cretinous general appearance. The enlargement of the glands was probably largely due to pediculosis capitis, as they subsided considerably after a week in hospital. The temperature ranged from 100° F. in the morning to 103° to 104° F. in the evening till death. The abdomen was rather large for the age and somewhat doughy, and a provisional diagnosis of tuberculous peritonitis was made. Nothing abnormal was discovered during the routine examination of heart and lungs.

On November 28th, while sitting up having its meal, the child suddenly turned pale and fell back, and when I saw it about two minutes later was dead.

I performed the *post-mortem* examination on the following day. On opening the pericardium a large fresh blood clot was seen enveloping the heart. The pericardium was quite smooth, except the visceral layer over the aneurysm, which had small fibrinous deposits. There was no blood in the mediastinum. The left ventricle showed moderate hypertrophy. The valves were normal. The foramen ovale and ductus arteriosus were closed. Commencing three-quarters of an inch above the aortic ring, the anterior and right walls of the aorta were deficient for seven-eighths of an inch, the aorta opening into a sacular aneurysm which extended along the upper end of the ascending aorta, covering its anterior and right aspects. The aneurysm was one inch in diameter. Practically the whole aneurysm was inside the pericardial sac. The inner wall of the aneurysm was shaggy; there was no recent clot. No definite opening could be found, but over an area a quarter of an inch in diameter on the anterior surface the wall of the aneurysm thinned down to the thickness of note-paper, and through this the blood must apparently have leaked.

The lungs were normal; the thymus also was normal in size for the age. The mediastinal lymph glands were enlarged; there was no caseation. The liver weighed 1 lb. 3 oz. fresh; there was no macroscopic evidence of cirrhosis. The abdominal glands were rather large; there was no caseation. The spleen, kidneys, and intestines were normal; there was no evidence of peritonitis.

The Wassermann test was not made, nor have I been able to obtain the consent of either of the parents to a blood examination; but when the child was in hospital, about three months previously, an entry in the notes stated "Liver enlarged, (?) congenital specific."

I am indebted to Dr. Williams for permission to publish these notes.

B. GLUCK, M.B., Ch.B.,  
Senior Resident Medical Officer, Kent and  
Canterbury Hospital, Canterbury.

## Reports of Societies.

## COCAINE: GOUT: COLLOIDS.

At a meeting of the Section of Therapeutics and Pharmacology of the Royal Society of Medicine, held on March 10th, with the President, Professor A. J. CLARK, in the chair, Dr. J. TREVAN gave an account of the physiological properties of some derivatives of cocaine.

Dr. Trevan explained that Miss Boock and he had carried out certain experiments on eleven derivatives of cocaine prepared by Mr. W. H. Gray. These derivatives had been obtained by substituting aromatic alcohols for the methyl group of the cocaine molecule, and the substances used for experimental purposes also included two derivatives of pseudo-cocaine. The toxicity of these various compounds was estimated by the effect of intravenous injection of solutions into mice: by using a sufficient number of mice the average lethal dose was obtained for each derivative, and this was used for comparison with the figure obtained in the same way for cocaine. The series proved very irregular in its toxicity: the least toxic was the salic oil derivative. The next investigation was to estimate the anaesthetic power of the various compounds. Standard cocaine solution was instilled into one eye and a solution of the substance to be tested into the other, and it was sought to find the minimum concentration necessary to produce loss of the corneal reflex. The best results were given by the benzyl derivative of pseudo-cocaine. A further step in the investigation of the anaesthetic properties was a series of "blindfold tests" on guinea-pigs. One worker handed unknown solutions to the other, who injected them under shaved portions of the skin of the animals, which were then pricked over the site of the injections until they ceased to squeak. The time for this to take place was noted, and the results afterwards worked out with reference to the substance used and its concentration. An attempt had been made to determine a therapeutic ratio for each of the derivatives used. The average lethal dose was divided by the minimum anaesthetic concentration, and this again divided by the same figure for cocaine. Some of the derivatives showed a high therapeutic ratio. Dr. Trevan pointed out that the solubility of the various compounds added to the complexity of the problem, and, similarly, some of the derivatives were more irritant than others, which also had to be taken into account. Of the group examined, the pseudo-benzyl compound seemed to be the most satisfactory from all points of view.

Dr. J. H. BRAN inquired whether the constrictor action of the various compounds had been worked out, since it was important to know how far a low toxicity to animals was a guarantee of therapeutic usefulness. He asked whether any of the substances produced necrosis, for example. The President inquired if mice varied a great deal as to the lethal dose required. Dr. Trevan replied that there had not yet been time to investigate the constrictor action of the cocaine derivatives. With regard to the susceptibility of mice, ninety animals were necessary to get a result within 10 per cent. of accuracy.

Dr. W. J. SMITH JEROME read a paper on the unknown factors in gout. He apologized for submitting what was an unsubstantiated supposition, but he felt that his suggestions went a long way towards solving the problems long associated with the biochemical mechanism of gout. He suggested that there were two unknown factors in gout. The first was that in gout uric acid occurred in the body in an abnormal form. As a result of some infection certain tissue cells were broken down and their nuclein yielded an abnormal type of uric acid of a colloidal nature which was unable to pass through the kidneys and was retained. The ordinary crystalline variety of uric acid was excreted in the usual way. The second unknown factor was a disturbance of the saline equilibrium caused by a violation of Ringer's law. Dr. Jerome then described how his suggestions would explain the various problems of gout.

Miss STEADMAN reported her observations on the action of colloidal substances on blood elements and antibody content. She explained that she had attempted to find some experimental evidence of the mechanism by which colloidal



substances appeared to have a beneficial effect in certain infectious processes. Her experiments had consisted of investigations in animals as to the minimum effective dosage, the changes produced in the blood elements, the action of colloidal substances on a stationary condition of immunity, and as to whether the production of immunity could be stimulated by the injection of colloids. The colloidal preparations used consisted of iron, silver, gelatin, dextrine, peptone, agar, and an emulsion of typhoid bacilli, while a solution of crystalline iron sulphate was used as a control. As far as dosage was concerned, there appeared to be some relation between the amount of colloid used and the changes produced in the blood elements and in the general condition. With regard to immunity production the colloids alone appeared to have no effect, but a combined injection of colloidal substances and an emulsion of killed typhoid bacilli gave rise to a definite increase in agglutinating titre as compared with controls. Miss Steinhilber suggested that the effects produced were probably mainly due to an alteration in the permeability of the lining of the blood vessels.

Dr. DOROTHY HARE referred to the immense quantities of colloidal preparations used within recent years, and expressed the hope that Miss Steinhilber would be able to extend her work to the chronic infections in human beings.

The PRESIDENT welcomed a paper on this subject which gave some positive facts as to the result of the injection of colloidal substances, for which, he said, there was nothing on earth which had not been claimed. He inquired whether it was the metal or the protective colloid which was thought to produce the effects reported.

Miss STEINHILBER replied that she had made her own colloidal preparations of the metals so as to avoid this difficulty, and the effects produced were probably due to the metallic elements.

### CONTAGIOUS ABORTION AND UNDULANT FEVER.

A JOINT meeting of the Comparative Medicine, Tropical Diseases, and Obstetrics Sections of the Royal Society of Medicine was held on March 12th, with Professor L. S. DUNGEON, the President of the Tropical Diseases Section, in the chair.

A discussion on infective abortion in cattle and its relation to Mediterranean (undulant) fever was opened by Professor JOHN ERNE. He gave a brief summary of what was already known about the diseases. He stated that, while infection was frequently caused by ingestion of the bacillus, inoculation was also an undoubted mode of entry, by cuts and abrasions coming into contact with infective bedding and excreta. Other possible paths of entry were sexual and from the hands of the attendants conveying infected milk to a healthy udder. He stated that abortion was a very frequent symptom in cattle, but that only about half of the infected goats aborted. It was uncommon in women, although lactation was often reduced. The morphology of the organism varied. In Mediterranean fever it was typically coccoid with a tendency to lengthen somewhat in culture. In contagious abortion it was a definite bacillus. It was doubtful whether they were really identical morphologically. The great question was as to the pathogenicity of the bovine organism to man. Until 1920, when Bevan reported cases from Rhodesia, it had not even been suggested. Since then several instances had been reported. Evans in America had done considerable work with the serums, and was able to show that there were very close resemblances between the two. For example, an *abortus* bovine serum would agglutinate *melitensis* organisms, and vice versa. Diagnosis of the human *abortus* cases had been based so far almost entirely on clinical symptoms, and so far he was of the opinion that bovine abortion in man should be regarded as non-proven.

Mr. L. E. W. BEVAN, who was unable to attend, contributed a paper on the disease as it exists in Southern Rhodesia. He pointed out that one of the characteristic symptoms of *melitensis* infections in goats was abortion; but that veterinary surgeons generally did not consider the disease identical with that caused by *B. abortus* in cattle.

In the human disease in Rhodesia the organism was identical with *B. abortus*. Although infectious abortion had existed for a long time in cattle, it was only recently that the disease had been recorded in man. In that subject the fever was less undulant and more irregular and persistent than the Mediterranean type of undulant fever. In discussing the methods of control of the disease in Rhodesia, Mr. Bevan indicated that the prevention of infection to man was ultimately part of the duties of the veterinary department. In the prevention of the disease in cattle, he had for some years now been using a "devitalized" vaccine (which should not be confused with a "dead" vaccine). It was prepared by treating saline suspensions of living bacilli with chloroform. This agent ruptured the organism without destroying its toxins. He considered that this vaccine possessed more specific antigenic powers than those in which these properties had been partly or totally lost by heat, subcultivation, and so on. The vaccine was not curative, and merely set up a temporary immunity until the source of the infection could be removed.

Sir P. BASSETT-SMITH stated that, although undulant fever had been traced to India and South Africa, it was significant that no cases occurred in Great Britain, where a large percentage of the cattle were infected with *B. abortus*, which must be frequently ingested by man in the milk. He had recently examined 130 serums from patients (who were not suffering from undulant fever) for specific agglutinins, and found that only two were positive—and that only up to 1 in 40. This made it highly probable that there did not exist any immunity to the disease in Britain. Bacteriologically the Mediterranean fever organism when freshly isolated was always a coccus, which in culture became a bacillus. The colour varied, and he had found that colour reactions were useless. The clinical symptoms of the South African disease were not the same as those of undulant fever. It was premature to suggest that the organisms were identical; their pathogenicity was the only reliable test.

Professor LOUISE McILROY stated that she had been unable to isolate any causal organism from human abortions in this country. In the cases examined the organisms were obviously contaminations. Nor had she been able to implicate any bacterial origin in the epidemic abortion which she observed in 1919, and which was probably a toxæmia. She observed that a number of cases of recurring abortion were habitual. A woman in her first pregnancy would abort owing to some slight accident, and although apparently healthy would acquire the habit of aborting at subsequent pregnancies. There was no organism causing contagious abortion in woman other than syphilis.

Colonel J. C. KENNEDY stated that it was impossible to differentiate the two organisms, which had been placed by the Americans in a new genus, *Brucella*. Pathologically, also, they seemed to be identical except for men and monkeys. In the undulant fever work in Malta they had found what they took to be *M. melitensis* in cows, but which in the light of more modern work might well have been *B. abortus*. It was assumed that cow's milk would not carry the disease, and a special herd of cows had been reserved for the Governor's use. So far as he remembered there had been no cases of undulant fever in the Governor's household. Abortion did occasionally take place in the goat from *melitensis* infection.

Dr. J. T. DUNCAN gave a detailed account of a recent case of human undulant fever from Rhodesia examined by him. The patient, a butcher, had been resident in Southern Rhodesia for fifteen years. He did not drink goat's milk, but had been in the habit of taking large quantities of cow's milk. When seen by Dr. Duncan the disease was at least six months old. A blood culture was made of the organism, which belonged to the *Brucella* group, and was present in a state of purity. It was indistinguishable morphologically from *B. melitensis* when cultivated under similar conditions. Using the patient's serum, a stock *melitensis* serum, and an *abortus* serum of bovine origin, he had carried out cross-absorption tests. The differences, as a rule, were slight; but in cases where there were differences the Rhodesian strain always

resembled the *abortus* strain more closely than it did the *melitensis*. Cultures were also made, and in these also the Rhodesian organism was very similar to *B. abortus*. Cultures of the three strains were also examined in lacrimal secretion in the hope that some special human affinities might be found, but there was never any evidence of lysis. Dr. Duncan believed that the weight of the evidence pointed to *B. abortus* as the cause of Rhodesian undulant fever in man, and the cow as the source of infection. Experimental proof was still awaited; as also was a really trustworthy test to distinguish *B. abortus* from *B. melitensis*. He was unable to state why *B. abortus* should be pathogenic for man in Rhodesia and not elsewhere.

Dr. H. H. SCOTT drew attention to an interesting and suggestive paper by Fica and Alessandrini which had been recently published, and which, if confirmed, might help to simplify the distinction between the two organisms. These authors record two cases of undulant fever due to *B. abortus*. The symptoms agreed with those in the *melitensis* disease, except that the fever was less undulant and more persistent. They had found that if the serum before being inactivated were diluted with distilled water (instead of saline) to 1 in 50, and subsequent dilution made with saline, then true antimelitensis serum would not agglutinate after heating for half an hour at 65° C.; but that antiabortus serum would agglutinate when heated to this temperature, and even up to 75° C. Dr. Scott suggested that if this method were found to be practicable on further investigation, then a very useful technique would be available for distinguishing the two varieties of the disease.

Mr. A. L. SHEATHER pointed out that once cattle had aborted from the disease they often did not abort at future pregnancies, although remaining carriers of the bacillus. A farmer who attempted to eliminate the disease by attending only to aborting animals was doomed to failure. In fact, cattle did not necessarily abort at all. There were no definite lesions associated with the disease in cows except when in calf; in fact, the disease could be said not to exist in non-pregnant cows. Abortion took place in the great majority of cases about the seventh month—not, as had been suggested, earlier in the first abortion, later in the next, and so on, ultimately disappearing. This was certainly not the case. He had also found that all antiserums were useless in the treatment of bovine abortion. In connexion with the non-specificity of serums, he recalled the case of a man who, suffering definitely from glanders (proved by means of diagnostic bacteriological tests), had a serum which reacted to *B. typhosus*, an organism from which he had never suffered.

### NEUROCYTOMA.

A MEETING of the Medico-Chirurgical Society of Edinburgh was held on March 4th, with Sir DAVID WALLACE, the President, in the chair.

Dr. R. A. FLEMING and Dr. JAMES DAVIDSON reported a case of neurocytoma in a boy aged 4 years.

The patient, admitted to hospital on December 15th, 1923, presented a remarkable appearance: he had a large head, the vertex overhanging a rather small face. There was considerable asymmetry, the left frontal and the left and right parietal regions showing marked local prominences suggestive of tumour formation. Extensive ecchymoses involved both eyelids; the superficial veins over the forehead, lateral and occipital regions were greatly dilated, and there was proptosis of both eyes. The boy was quite blind and corneal ulceration had begun in both eyes. The sutures of the skull gaped and both fontanelles were patent and pulsating. The spleen and lymph glands were somewhat enlarged. The blood showed the picture of pernicious anaemia. There was no optic atrophy, nor neuritis, but the boy suffered from attacks of vomiting preceded by nausea, and not of the usual cerebral type. His memory was good and intelligence average. The diagnosis during life was difficult, chloroma and suprarenal tumour being considered. The chief points in the history were as follows. About October 5th, 1923, the boy had fallen out of bed a distance of two feet and landed on his head. He got back to bed unassisted and made no complaint of pain. A day or two later he was found to be a little deaf, and a week later both eyelids were seen to be discoloured. Soon after this he began to have sudden severe intermittent attacks of pain in the head, referred to both temples and the top of the head; he also had occasional attacks of vomiting. His head progressively enlarged and the eyeballs became prominent. The boy's previous health and family history were satisfactory.

At the necropsy a large homogeneous mass was found replacing the left suprarenal gland. Metastatic growths were found in the liver, pancreas, lymph glands, and the long bones. The cranium was the site of large growths involving the subcutaneous tissues of the scalp and eroding and involving the bones so that most of the extracranial cavity was occupied by malignant growth. The growth had extended into the orbit, protruding externally and enucleating the eyeballs. The tumour had not become subdural at any part, and the brain was unaffected.

Dr. DAVIDSON showed lantern slides of sections through the tumour, demonstrating the nature of it to be neurocytoma. He commented on the recent changes in the interpretation of tumours of the nervous system, and pointed out that neoplasms of the nervous system might be composed of the developing cells of the various parts of that system. Thus tumours composed of cells which were the forebears of the sympathetic system, the chromaffin system, ganglion cells, or neuroglial cells, might occur. Tumours such as the case described were originally classified as sarcomata, and it was under this heading that Hutehison's ten cases reported in 1907 were placed. The course of these cases was similar to the case described, and the description of the histological appearances of the primary tumour corresponded very much with the appearances found in tumours which were now called neuroblastomata.

In the discussion which followed, Professor BRAMWELL described the case of a boy in which a brain tumour was found at autopsy, and in that case, as in Dr. Fleming's, the onset of the illness was referred to an injury. An actual causal relationship between trauma and brain tumour was, however, often questionable.

Dr. STEWART FOWLER said that in patients with the shape of the cranium as described in this case the diagnosis for all practical purposes rested between chloroma and suprarenal tumour. He referred to five cases in his own experience in which the diagnosis between these two conditions was frequently doubtful, as the blood picture in chloroma was not always characteristic.

### The Parkinsonian Syndrome.

Professor EDWIN BRAMWELL then read a paper entitled "The so-called Parkinsonian syndrome, with special reference to epidemic encephalitis." He drew attention to the frequency of appearance of this syndrome lately, and since it was typically met with in paralysis agitans he referred to this disorder. He pointed out that Parkinson, in his original definition, laid stress on tremor and lessened muscular power as the main symptoms. Later, Erb and Charcot drew attention to the rigidity, the immobility of the face, and the frequent absence of tremor. Discussing the pathology of this syndrome, Professor Bramwell referred to the various views held, and to the very general agreement nowadays that the lesion involved the basal ganglia. The fact that the syndrome was so frequently met with in epidemic encephalitis, and that the anatomical changes in that disease were situated more particularly, in the majority of cases, in the upper part of the brain stem, afforded corroborative evidence in support of the view that in paralysis agitans the causative lesion was situated in this region. The clinical features so far as the rigidity was concerned were summed up as a peculiar type of rigidity without spasticity, slowness of movement without actual voluntary motor weakness, a loss of automatic movement, and a tendency for the limbs to remain in a fixed position which had to be overcome by an effort of will. Professor Wilson's review of the dual innervation of muscle had stimulated observations and speculations relating to the subject of the mode of production of this peculiar type of muscular rigidity, but the brilliant experimental observations by the late Professor Irvine Hunter had served to replace pre-existing speculation by proved fact. Professor Bramwell referred to the plastic and contractile tone of muscle as demonstrated by Sherrington in the decerebrate animal, and said that Hunter's work on the wing of a bird after section of the somatic fibres justified the conclusion that the sympathetic nerve supply of skeletal muscle was responsible for the property of plastic tone. So, just as spasticity resulted from a lesion of the cortico-spinal neurons, exaggeration of plastic tone was produced by a lesion involving neurons associated with the corpus striatum and gave rise to the symptom-complex named the Parkinsonian syndrome. Both

those conditions were therefore release phenomena. The further interesting question arose: Assuming that corroboration was obtained of Ramsay Hunt's observations to the effect that the lesion in paralysis agitans was to be found in localized disease involving certain groups of neurons arising in the globus pallidus, was it the case that in epidemic encephalitis these neurons were actually affected and particularly selected?

In the discussion which followed, Sir DAVID WALLACE paid tribute to the brilliant work of John Irvine Hunter, and observed how much science had lost by his early and tragic death.

### ZOOLOGY IN THE MEDICAL CURRICULUM.

At a meeting of the Royal Medico-Chirurgical Society of Glasgow on March 6th, the President, Professor ARCHIBALD YOUNG, in the chair, Professor J. GRAHAM KERR communicated some general remarks upon zoology and the medical curriculum.

Professor Graham Kerr remarked that the attitude of the medical profession had changed greatly during the last few decades, it being now generally recognized that zoology was one of the important basic sciences in the medical training. It did not seem, however, to be within the domain of practical politics to advocate any extension of the time being given to this subject in the present congested state of the medical curriculum. A preliminary step would have to be the relief of that congestion, and at present there was no general agreement whether this could be best brought about by lengthening the curriculum, by reserving two preliminary years for a training in the basic sciences as in various American schools, by cutting down considerably the amount of post-registration chemistry, by relegating specialist courses to the post-graduation period, or by some other method. In the meantime the main determining factor in planning the course in zoology was the rigid time limit. Perhaps the most important object of the course was the training in biological method, which was the method used later on in the general work of the practitioner. It was not the method of the "exact" sciences consisting mainly of measurement and calculation, but rather the method used in early childhood, when by far the greater part of the mental development took place. In ordinary school training this method was replaced by the gulping down without question of information supplied by the teacher. The result was often disastrous as regards the development of the powers of observation and of reasoning from observations; to undo this harm and to develop further these powers was the chief function of the introductory zoological part of the curriculum. Emphasis was laid upon the special importance of drawing as a means of developing the powers of observation.

The part played by the course in zoology in leading up to anatomy, physiology, and pathology was emphasized, and Professor Kerr concluded by accentuating the importance of turning out the fully qualified practitioner at the end of his curriculum as a naturalist who would view the problems before him with the eye of the naturalist. Many of the greatest triumphs of medicine in the past—the solution of such problems as inflammation, malaria, yellow fever—had been reached by tackling particular problems as problems in natural history, and this would also be the case in the future. An avenue of great promise was the study of the internal medium of the body, in which the members of the cell community still led their ancestral aquatic existence. Slight deviations from the normal ordered complexity of this internal medium induced specific physiological reactions; greater deviations induced reactions which were recognized as pathological. The various normal activities of the living body were intimately adapted to the normal composition of the internal medium; included in these were the processes of normal cell multiplication and growth. It seemed to him probable that the deviation from the normal regular processes of growth, such as occurred in malignant growths, was in many cases due to an abnormal condition of the internal medium in some part of the body, the result of neighbouring associated tissues failing to supply their normal contribution. He suggested the great biological interest of experimentally injecting an extract of

pure connective tissue into actively growing epitheliomata. If the normal epithelial growth was dependent upon the connective tissue framework supplying its proper contribution, then irregularities in such growth might be expected to be countered by supplying the appropriate contribution artificially in the form of extract from a culture of pure connective tissue.

### HYPERTROPHY OF THE COLON.

A CLINICAL meeting of the Aberdeen Medico-Chirurgical Society was held on March 5th, the President (Dr. Peter Howie) in the chair. Dr. WILLIAM BROWN showed a case of Hirschsprung's disease in a boy of 3 years, the youngest of a family of eight. There was no history of tubercle or syphilis in the family, and the patient's Wassermann reaction was negative. Attacks of diarrhoea had occurred during the past eighteen months, with swelling of the abdomen, visible peristalsis, and rumbling noises which all disappeared temporarily when an aperient was given. There was no constipation. On admission to hospital peristalsis of the large bowel was visible. Screen examination after a barium enema showed an enormous pelvic colon lying in the right iliac fossa and extending up to the liver, with dilatation of the descending and transverse colon. Treatment consisted of lavage with saline solution, at first once, later twice, daily, with a weekly dose of castor oil. Great improvement followed, the peristalsis ceased, the abdomen decreased in size, and the tone of the wall improved. Recent examination showed that the calibre of the colon was smaller and the tone of its walls better. The patient was not confined to bed. Photographs and tracings of the radiographic examinations were exhibited.

Mr. ALEXANDER MITCHELL showed a case in which treatment of a streptococcal arthritis of the knee by Willem's method had resulted in a completely mobile joint. He emphasized the necessity for making the incisions the whole length of the joint, and for full active movement. Pain was an obstacle to movement, but by adopting Everidge's method of a back splint slung by an arrangement of weights and pulleys the effect of gravity could be almost entirely eliminated. Dr. A. G. ANDERSON showed a boy who had sustained a fracture of the skull in a motor accident; the signs and symptoms indicated the existence of a right-sided cortical lesion. Immediate operation revealed a diffuse meningeal haemorrhage, and decompression was followed by recovery, practically complete in two days. There were no sequelae. Dr. Anderson also exhibited a case of chronic adhesive mediastinitis in an adult woman, where the signs were cyanosis of the upper part of the body, breathlessness, and staring eyeballs. There was no evidence of aneurysm or neoplasm, and the condition was either tuberculous or syphilitic. Mr. WILLIAM ANDERSON showed a tailor, aged 31, who complained of loss of power in extending the fingers of the right hand. It was found that the extensores communis digitorum and carpi ulnaris did not react to faradism. There were no sensory changes. X-ray examination showed uniform thickening of the shaft of the radius, and the Wassermann reaction was strongly positive. All ordinary treatment by electricity and physiotherapy had proved useless. Mr. G. H. COLE demonstrated a small loose body removed from the upper end of the olecranon fossa in the elbow-joint. He raised the question whether the loose body was a chip off the epiphysis which had continued growing, nourished by the synovial fluid, or represented a complete ossific centre.

### THE PAINFUL DYSPEPSIAS.

At a meeting of the Brighton and Sussex Medico-Chirurgical Society on March 5th, Dr. E. F. MAYNARD, the President, in the chair, Mr. H. N. FLETCHER read a paper on some points in connexion with the painful dyspepsias and their diagnosis.

Mr. Fletcher remarked that the old view of hyperacidity as the cause of pain had been discarded, except in so far as it might be so indirectly; he then described the experiments of Hardt, Carlson, and others, and their evidence that increased intragastric tension was the true cause. Reference was made to the recent views of A. F. Hurst

as to how this increased tension was brought about by the reflex influence of diseased states within and without the stomach, and the need for further knowledge of the neuromuscular apparatus of the stomach, the exact part played by the vagus and sympathetic nerves, and their possible control through Keith's nodes was emphasized. Mr. Fletcher then described in detail the salient characteristics of the common causes of painful dyspepsias, gastric and duodenal ulcer, gastric cancer, cholecystitis, chronic appendicitis, visceroptosis, and "nervous" dyspepsias. He laid stress upon the paramount necessity of obtaining a detailed history and making a physical examination of the patient; he defined the important differential points concerned in diagnosis.

The PRESIDENT agreed with Mr. Fletcher regarding the time incidence of pain as a valuable means of differentiation between gastric and duodenal ulcer. Vomiting was not at all characteristic of gastric ulcer. With epigastric pains and vomiting present, not gastric ulcer but disease of the gall bladder or duct was suggested. The pain in the gall bladder radiated up to the right shoulder. Epigastric pain might be due to angina, pericarditis, or pleurisy. He considered that in neurasthenia there were almost as many cases of hypochlorhydria as hyperchlorhydria.

Mr. G. W. BERESFORD remarked that in neurasthenic subjects slight pain was exaggerated into severe pain. Excluding dyspepsia of nervous origin, epigastric pain was due to an organic lesion in the upper abdomen. He was doubtful about the existence of chronic appendix dyspepsia.

Dr. W. BROADBENT said that in his experience of duodenal ulcer there had seldom been any previous history of dyspepsia. He referred to the diminution in the number of gastric ulcers of recent years, and suggested that modern hygiene might account for this. Neurasthenic dyspeptics complained of very severe pain, but there was absence of tenderness on palpation.

Dr. DONALD HALL supported Mr. Fletcher's statement that  $\alpha$  rays were not so reliable in duodenal as in gastric ulcer, and quoted three cases.

A medical man, aged 47, had symptoms of duodenal ulcer for seven years, with typical time incidence, relieved by taking food and alkalis, and with the characteristic remissions. By  $\alpha$  rays a diagnosis was made of chronic duodenal ulcer, but a surgeon advised a course of strict Sippy dieting for six months. On this régime the patient was free from symptoms, but before the six months had elapsed he had for the first time pain and tenderness in the right iliac fossa. He was operated on the same evening, when the greater part of the appendix was found to be represented by a mere cord, while the proximal stump was acutely inflamed and would have progressed to perforation. That patient had had repeated mild attacks of obliterative inflammation without there being at any time pain or other symptoms in the region of the appendix; but in his case there was a possible fallacy, because the surgeon did not feel justified at the laparotomy in exploring the upper abdomen, and there might have been a coexisting duodenal ulcer. He had, however, on ordinary diet been free from symptoms now for eighteen months.

A middle-aged clergyman had suffered from painful dyspepsia for several years and had declined exploratory laparotomy. He had then been  $\alpha$ -rayed and was found to have dropped colon. After a sudden attack of acute agony, as from perforation, he was operated on, and a large tear was found in a chronic ulcer of the duodenum. He died on the following day.

A retired army officer, aged 56, with a long history of dyspeptic troubles, was radiographed. Lane's kiuk and visceroptosis were found, and after an elaborate surgical operation he was sent down to Brighton to convalesce. He became suddenly ill during lunch, and at first sight appeared to be dead. Later on he was found to have fainted as the result of severe internal hæmorrhage. Melaena was present for some days, and after medical treatment for several weeks gastro-enterostomy was performed and the clinical diagnosis of duodenal ulcer was confirmed.

Dr. Hall stated that he was a firm believer in "appendix dyspepsia" as a clinical entity, but where local signs were wanting the mentality of the patient must be carefully studied before operation. Abdominal operations based solely upon subjective symptoms were to be deprecated.

Dr. W. BARRINGTON PROWSE said that too much must not be expected from  $\alpha$ -ray examinations, and the result must always be taken in conjunction with the clinical evidence; but there was no doubt that  $\alpha$ -ray examinations were a very valuable help in doubtful cases. In supposed gastric cancer,  $\alpha$  rays were extremely valuable as a help in determining the question of operation.

## THE CATARRHAL CHILD.

A MEETING of the Bristol Medico-Chirurgical Society was held at the University on March 11th, the President, Dr. J. O. SYMES, in the chair. Dr. James Swain, O.B., C.B.E., M.S., who had been for twenty-five years a member of the Editorial Committee of the society's *Journal*, and for longer a very active member, was elected an honorary member of the society.

Dr. R. C. CLARKE opened a discussion on the catarrhal child. The views he wished to put forward might be new, but they were based on extensive observations in children's clinics of several thousand children, and represented ideas that had forced themselves upon him. The subject was one that had not received the attention it deserved. Only of late years had the routine examination of children supposedly healthy been systematically undertaken. When advice was sought only for acute bronchitis or bronchopneumonia, the significance of preceding bronchial infections might escape notice. Among children between 3 and 6 weeks old, not less than half were already subjects of respiratory catarrh; in the last thousand cases the exact figures were 499 with catarrh, 501 without. "Catarrh" was diagnosed on the simultaneous presence of three signs: (a) snuffles, (b) Harrison's sulcus, (c) definite bronchial catarrh, determined by auscultation. In this connexion, he wished to warn members about "snuffles." A nasal catarrh, a napkin rash, and the marasmus which followed inability to suck, from nasal obstruction, must not lead to the (false) diagnosis of congenital syphilis. When a young infant "caught cold," the first thing that occurred was nasal obstruction. The whole respiratory mechanism was thrown out of gear, for infants refused to breathe except through the nose. Only when half stifled would they open the mouth and breathe through that, so that sleep was disturbed. The drawing in of the lower ribs produced Harrison's sulcus; the latter was a sign solely of nasal obstruction. Rickets might emphasize it, but did not cause it. Since sucking was deficient, feeding became very difficult; if the child did not suck properly the natural stimulus of the breast was lost, and the breast milk might go—a disaster, especially among the poor.

The earlier the catarrh affected the child, the longer it took to clear up and the greater the certainty that the chest would be affected. If the first "cold" could be postponed till after the sixth month, it was practically certain that the chest would escape. But in a series of 400 sufferers, every baby that had nasal catarrh under 4 weeks old had bronchitis. Further, Dr. Clarke believed that once a child became bronchitic it remained bronchitic; every cold "flew to the chest," and it was proper to describe some children of only 6 months old as "chronic bronchitics." As the children grew up, the attacks continued; but between the acute attacks there could always be found signs in the chest. The bronchitic baby produced the bronchitic child, and later the bronchitic man; witness the almost invariable presence of Harrison's sulcus in pensioners with bronchitis. Further, he believed that chronic nasal catarrh was the one and only cause of "tonsils and adenoids"; the latter phenomenon was merely a part of the picture of chronic respiratory catarrh. A badly developed nasal organ, leading to deflection of the septum, and a permanently damaged mucosa, leading to chronic sinus disease, were other sequelae of the same condition. The otitis media, so very common among school children, was probably only a recurrence of an unnoticed otitis in infancy. The development of this catarrhal condition depended on two factors: (1) the number and virulence of the organisms reaching the mucosa; (2) the local and general resistance. (1) The amount of infection depended on the presence of persons carrying these organisms and the lack of ventilation. (2) As to resistance, he did not think the mucosa of the young infant had any power of resistance; and the membrane which had been subjected to repeated infection never gained this power, which was otherwise definite. The very young baby invariably got the whole respiratory tract infected if any part was involved.

Dr. Clarke maintained that prophylaxis of this condition was not difficult. During the first six months of

life every effort must be made to avoid infection. The baby should live in the open air, even in a draught; this rule should not be broken even during the bath. The mother should be examined to exclude chronic suppurative rhinitis; if this was found, the use of a mask during the whole time that she was doing anything for the infant was important. The same rule applied to the nurse, though no nurse with a definite nasal infection should be engaged. All visitors should be subjected to the same rule, and never allowed to kiss the child. The parent, nurse, or other children who were carriers—those who nourished the organisms of disease without manifesting symptoms—presented a difficulty. As for treatment of older children, this was important, because the mucous membrane, if preserved from repeated infection, did recover some power of resistance. Hopelessly infected tonsils and adenoids should be removed. The same general hygienic rules as for infants should be observed; the child should live in the open air, and visits to the cinema, and parties, should be reduced to a minimum. Cod-liver oil was the only medicine of any value.

The PRESIDENT thought that Dr. Clarke had described an entirely new disease. According to the thesis, 50 per cent. of all children born got bronchitis within four weeks of birth and were bronchitic thereafter. For his part, he had not met with this disease. He thought that up to 6 months of age children were extraordinarily immune to infection. The picture they had had presented might be produced by underfeeding, rickets, or teething—all might manifest "catarrh" without there being any infection. Dr. Symes suggested that small children did not readily clear the trachea of secretion, which might lead to râles, etc.

Dr. C. E. K. HENRATH agreed with Dr. Clarke. He thought this a disease of the hospital class. As for clearing the air passages, very young babies sneezed more than adults. Mr. J. P. I. HARRY believed that infection of the air passages could take place at a later age than that discussed by Dr. Clarke, especially from parent or nurse. Otitis media was quite common at the very earliest ages. He thought adenoids should be removed at any age, without waiting.

Dr. P. WATSON-WILLIAMS thought Dr. Clarke wanted to make their flesh creep. He was glad to hear that Dr. Clarke thought "tonsils and adenoids" were a response to infection. "Catarrh" was the important matter. One should not remove the tonsils in very young children; these glands had often great value in the fight with infection, and should be preserved as long as possible. Having had many years' experience as a physician, and given especial attention to the chest, he could not agree with the large incidence of bronchitis described. He was interested in Dr. Clarke's observations on sinus disease in families; he had had many cases where sinus disease in all the children of a family coexisted with a latent sinus infection—perhaps producing no symptoms—in one or other parent.

Dr. R. A. ASKINS (school medical officer) thought 20 per cent. of all children of school age suffered from adenoids. The prevention of so much sickness was of first importance. Further, bronchitis was very common among the children at primary schools. He had observed the frequency with which the operative treatment of tonsils and adenoids was needed in all members of a family. He considered that children had some inherited immunity in respect of ordinary infections, which lasted for some months after birth; but this did not occur with catarrhal infections.

Dr. J. A. NIXON thought that though Dr. Clarke's views were extremely heterodox, they drew attention to an important aspect of catarrh. Why should the chronic sequelae of catarrh occur only in the poorer classes? What factor was concerned other than perhaps feeding? He thought it very necessary to guard the newborn from loss of heat—mistake catarrh for congenital syphilis; in the latter the discharge was purulent. He agreed that Harrison's suture was a sign of nasal obstruction only. Dr. Clarke had omitted the question of asthmatic children, those sensitive to certain proteins; such a condition might lead to bronchitis.

Dr. J. R. R. TRIST called attention to the extreme sensitivity of other mucous membranes, such as the vaginal, in the young child. He agreed with the view that young children should be properly protected from loss of heat. Dr. C. J. C. FAYLL remarked that the tuberculous child was not "catarrhal." If children were to be exposed in all weathers to the open air—that is, naked—they must have bronzed skin and be well fed; then they did not require clothing. Mr. A. W. ADAMS pointed out that newborn babies seemed immune from empyema; he thought this could hardly be consistent with such a very high incidence of bronchial infection. Dr. J. A. BRINELL felt that perhaps Dr. Clarke had mistaken the sounds produced by a flapping soft palate for bronchial râles. Did asthma occur at the age of a few weeks, and was "croup" a condition analogous to asthma? He could not agree that newborn children might safely be exposed to cold.

Dr. CLARKE, in reply, said that he thought the newborn child was infected very readily. Pneumonia did occur in children of this age, and explained some of the cases of "sudden death" in infants. His figures were from four clinics, but all from the lower strata of the population. Catarrh did not confer any immunity, but rather predisposed to a further infection. He had formerly thought that repeated infection was the principal factor in producing the chronic catarrhal child, but he now thought that the earliness of the infection was the real deciding factor. Children did not seem to mind the cold; but the poor used much more clothing for their children than the well-to-do. He thought most cases of asthma in young children were really bronchitic.

Mr. H. CHURCH showed three cases: (1) Osteomalacia in a girl of 18; union of ununited fractures of the tibiae followed local injections of colloidal magnesium. (2) Ununited fracture of the tibia in a child of 5; local injections of magnesium, and a rib graft, had alike proved ineffectual. (3) Double pleural empyema in a child; both sides of the chest were opened at the same operation, with perfect result.

Mr. A. W. ADAMS showed a case of malignant disease of the thyroid, with secondary glands, relieved by operation; specimens and sections were shown with the case.

## HERNIA THROUGH THE TRANSVERSE MESOCOLON.

At a pathological meeting, on February 26th, at the Liverpool Medical Institution, Mr. HEANEY and Mr. SIMPSON read a note on two cases of hernia through the transverse mesocolon into the lesser sac. One case was in a woman, aged 52, with many years' history of gastric trouble. The whole of the small intestines, except the last few inches, had passed into the lesser sac and then returned through the gastro-hepatic omentum. A marked degree of hour-glass contraction of the stomach occurred where the coils crossed the stomach. The hernia was reduced and a gastro-enterostomy performed; the patient died eleven months later of valvular disease. The other case, in a woman aged 38, gave a sixteen years' history of gastric disturbance. The whole intestine had passed into the lesser sac, but had emerged again through the gastro-ocolic omentum; there was hour-glass contraction of the stomach and an ulcer on the lesser curvature. Reduction of the hernia with excision of the lower sac and ulcer proved successful and the patient recovered completely. The seventeen cases collected by Rendle Short were alluded to, and also a case recorded by Coffey; in no previous cases had definite hour-glass contraction been found. The second case was exceptionally interesting, since in Pringle's case, and also in the case illustrated by Crimble, adhesions had much obscured the picture.

Mr. Heaney and Mr. Simpson thought that the hernia was due to enteroptosis, and they discussed the origin of the hole in the transverse mesocolon, which might have been due to upward pressure on the small intestine behind the loaded colon, to congenital deficiency, to rupture of the sac, or to a retroperitoneal hernia into the rare inter-mesocolic fossa. Cases were mentioned of such congenital abnormalities occurring.



## Rebels.

### THE COCHLEA.

WILKINSON and GRAY, in their work on *The Mechanism of the Cochlea*,<sup>1</sup> recall the circumstance that Helmholtz undertook a minute study of the cochlea in the expectation of proving that it acted as a resonator, since he held that there existed no way by which the ear could analyse sounds except that of sympathetic vibration. He hoped to find in the cochlea some mechanism analogous to that of the piano, the strings of which vibrate sympathetically to sounds of similar vibrational rates emitted in their neighbourhood; the microscopical technique of his time was insufficiently advanced to furnish convincing proof of the truth of the theory. Other theories have since been mooted, resting on the supposition of analysis of sound impressions by the brain, but none have been proved and the mechanism of the cochlea is still a vexed question. The recent work of the authors, however, on the function of the spiral ligament, the principle of maximum stimulation, and the demonstration of the bearing of the factor of mass on the working of the cochlea, has removed most of the difficulties standing in the way of an acceptance of Helmholtz's theory, and the authors' book is a restatement of the resonance theory in the light of these new facts.

To appreciate the analogy between the cochlea and a stringed resonator such as the piano, it is necessary to imagine the cochlea unrolled. There will then appear a straight tube of bone, divided into an upper and a lower chamber by a delicate basilar membrane stretched across its cavity. The chambers, which are filled with fluid, have at the base of each a small window closed by membrane; the one membrane serves to transmit vibrations from the exterior to the fluid and basilar membrane, the other (that closing the foramen rotundum) allows, by a slight outward yielding, for the displacement of fluid caused by the vibration of the membrane. The problem is to show that the transverse sectors of the basilar membrane form a series analogous to the strings of a piano, as regards tension and other physical conditions. The essential features of the latter are that the strings are shorter and more tense in the higher octaves and become longer and less tense in passing down the scale; and that the thickness, or weight per unit of length, increases from above down in the series. In the mechanism of the cochlea, as expounded by the authors, these three factors—the serial variation in length, tension, and weight—appear to be represented. As regards length, the basilar membrane gradually increases in width from the base (that is, near the two foramina) to the apex; the transverse sectors therefore show a gradual increase in length. As regards tension, the authors have shown that the spiral ligament, by which one border of the membrane is attached to the bony wall, is stouter towards the narrow end of the membrane and gradually diminishes in thickness towards the broader end. From this it is inferred that the tension of the shorter sectors is greater than that of the longer. As regards weight, since there appears to be no appreciable difference in the thickness of the basilar membrane in its different parts, the necessary weighting has to be sought for outside the membrane, as in the case of the piano, where the lower strings are weighted with a close spiral of copper wire wound round them, without which vibration would be impossible. The authors consider that the necessary weighting is provided by the fluid in the lower chamber—that connected with the foramen rotundum, which, as before mentioned, is situated near the narrow end of the basilar membrane. Vibration of sectors in this situation will only entail movement in the small column of fluid between it and the foramen rotundum; while vibrations of sectors more remote from the foramen will involve movement in a column of fluid which increases in length with the increase in length of the vibrating sector. It is to the inertia of these varying columns of fluid that the authors ascribe the factor of weight.

<sup>1</sup> *The Mechanism of the Cochlea: A Restatement of the Resonance of Hearing.* By George Wilkinson, M.B. Cantab., F.R.C.S. Eng., and Albert A. Gray, M.D. Glasg., F.R.S.E. London: Macmillan and Co., Ltd. 1924. (Demy 8vo, pp. xx + 253; 50 figures. 12s. 6d. net.)

The book contains many other matters of interest connected with hearing, including an article on the damping of vibrations, by Professor Milner; and as it is written with exceptional clearness it will prove attractive to the intelligent layman as well as to the physiologist.

### BROCQ'S LECTURES ON DERMATOLOGY.

Brocq,<sup>2</sup> the doyen of French dermatology, has collected and published in a large volume many of his clinical lectures on certain types of skin disease. Although some of the lectures date from as far back as 1896, and some are as recent as 1923, there is an undoubted constancy of outlook throughout the whole series, which shows that, though the fundamental attitude of the distinguished author towards the problems of dermatology may have developed, it has certainly not essentially changed since the early stages of his career. The value of the book lies largely in the carefully detailed clinical observations and clinical histories derived by the author from his very extensive private practice over many years. These dermatological dramas he unfolds with all the felicity of phrase and epigrammatic skill which we have long learnt to associate with French medicine, and uses them to illustrate his favourite theses of cutaneous reaction and morbid predisposition with the most delightful aptitude. If a sceptical reader may be permitted to criticize ever so delicately, it might be hinted that the amazing accuracy with which the facts fit the author's theories is almost terrifying! While ready to avail himself of the new therapeutic weapons provided by modern research into the bacteriology of skin diseases, Brocq has taken little part in that work. He is essentially a clinical observer of great acumen and a therapeutic artist of much resource, rather than the apostle of scientific experiment.

Another great French dermatologist of a more modern generation, Sabouraud, has also recently published volumes of clinical lectures, and the two authors provide an interesting contrast. Both have busied themselves principally with the commoner dermatoses, but while Sabouraud has the distinction of having solved the problems of impetigo and ringworm by the purely scientific methods of the microscope and the test tube, the conditions which have occupied the mind of Brocq for the major part of his career—namely, the diverse manifestations of dermatitis or eczema, the production of lichenification, and the relations between dermatoses and the internal condition of the human organism—still present problems of etiology and pathology which are, for the most part, unanswered. Brocq can, however, claim to have put these problems in a form which at some future time will facilitate their scientific solution. It is also quite possible that the theories of cutaneous reaction and so on, with which he so skilfully fits his clinical experiences, may some day find a sure biochemical foundation as our knowledge of the delicate chemical mechanisms involved in human metabolism is further advanced. Brocq in this book does not confine himself entirely to theories: there are chapters on the treatment of acne, of eczema, of lupus erythematosus among other subjects, and, as would be expected, any medical man, whether specialist or general practitioner, can profit from the experience of so distinguished a dermatologist. Though the book is long, it will well repay trouble of perusal. Like many French publications, the printing is good; the forty-two photographs with which it is illustrated are well reproduced, but it is unbound, and it is sewn together so weakly and poorly that, in the words of the domestic servant, "It comes to pieces in the hand."

### GROWTH.

KNOWLEDGE concerning normal and abnormal growth has made great advances in recent times, so that the subject is now presentable in systematic form; it has an important bearing on pathological processes such as hypertrophy, inflammatory new-formation, and tumours. Apparently it is at present regarded as being too remote from the practical

<sup>2</sup> *Cliniques dermatologiques.* By L. Brocq. Paris: Masson et Cie. 1924. (Roy. 8vo, pp. 739; 54 figures. Fr. 60.)

matters of medicine, surgery, and gynaecology, to claim much of the student's time, but there is very little doubt that some day it will be recognized as one of the main foundations of pathology.

An excellent little book on *Growth*,<sup>3</sup> which every student may be recommended to read, has been written by Mr. DE BEER; it gives the main facts within a small compass, and clearly shows their bearing on pathological questions. Thus, one of the most interesting problems discussed is the limitation of the size of organs within definite bounds—the cessation of growth when the adult size and form have been reached. This is shown to be due, in part, to the balance between growth on the one hand and the metabolic wear and tear of the tissues on the other; but other factors come into play. Tissues of high metabolic activity are found to exercise an inhibitory influence on those of lower metabolic activity; for instance, the growing point of plants inhibits the growth of the nearest lateral buds within certain limits, and if the growing point is arrested in its development by artificial means the lateral buds will become dominant and grow, and the terminal bud will die. Another instance of the power of one tissue over another is seen in the culture of tissues *in vitro*. A piece of kidney will dedifferentiate and grow as a sheet of embryonic cells; apparently the separation from the control exerted by the rest of the organism sets free its inherent capacity for independent, undifferentiated growth. If, then, a piece of connective tissue be added to the culture, some of the cells will differentiate into tubules, characteristic of the kidney. Similarly, a culture of carcinoma of the breast produces an undifferentiated mass of cells, but the addition of connective tissue causes a differentiation in the direction of the normal breast tissue. Such observations as these would seem to throw considerable light on the nature of tumour formation.

The starting point and main theme around which de Beer's book is written is that growth is a fundamental property of living matter, and takes place whenever circumstances do not prevent it. The actual phenomena observed in growth are first described, and this is followed by the discussion of regeneration, asexual reproduction, abnormal growths, the causes and nature of growth, substances stimulating it, and external conditions affecting it. There are also interesting chapters on size, the rate of growth, and senility. A selected bibliography is appended to each chapter to guide the student in a more detailed study of the subject.

### THE NATURE OF THINGS.

SIR WILLIAM BRAGG is making a second reputation. The first was won by pioneering work in the borderland of physics and chemistry, and especially by the application of x rays for the determination of the architecture of crystals; the second is being gained by his exposition of such matters. His most recent book, for which he has borrowed the Lucretian title *Concerning the Nature of Things*,<sup>4</sup> is founded on a course of lectures given at the Royal Institution; it is concerned with the structure of atoms, with the nature of gases and liquids, and with crystals—the diamond, ice, and metals. The discussions on bubbles and scums in the chapter on liquids will perhaps be of special interest to medical folk, because, better than any other writing we have come across, it enables the reader to visualize the plan of a molecule and its relations to other molecules. Even the sketch here given is sufficient to make plain the amount of information of fundamental importance to physics Professor C. V. Boys has extracted from the soap bubble. It is a thin-walled air-filled sphere of solution bound within and without by a film of soap molecules with water molecules; it holds together by reason of the film, and the film holds together

owing to the properties of the soap molecule, of which Sir William Bragg writes:

"It is of very curious shape, many times as long as it is broad; and it is made up of a chain of carbon atoms fringed along its length with hydrogens, and ending, at one end, in a little bunch of three hydrogen atoms, at the other in a little group consisting of oxygen and sodium. The former of these bunches is very self-contained: its attractions for other atoms and molecules are small. But the latter is by no means so unsocial: it is an active group tending to enter into association with others, and especially it has a strong desire to join up with molecules of water, for which reason the soap dissolves in the water. Because, however, it is only one end of the chain which is very active in this respect—the other end and the sides of the chain behave differently—the soap molecules are apt to stay on the outer fringe of the water if they come there in the course of their wanderings. In this way a real film forms on the surface of the water, consisting of soap molecules standing on end, so to speak, one end rooted in the water, and the other exposed to the air. They are packed together side by side like the corn in a field, or the pile on a piece of velvet. They are not as free, however, as the hairs of the pile: they are tied together side by side, because there is some force of attraction between them when so laid alongside."

The behaviour of what we have for short called "scums" illustrates what happens when oils are allowed to spread on the surface of water. On to a perfectly clean water surface a powder, such as talc, is thinly dusted; a fine drawn glass point or needle is dipped in oil, and nearly all the oil wiped off; when this slightly greasy point is dipped into the dusted water surface a circle is instantly cleared around the needle; this is due to the activity of the oil molecules, which, spreading equally in all directions, drive away the dust particles.

"Each molecule hastens to root itself in the water by its active end, and stands upright, as if it were a water plant rooted and growing in the water. In the end all the molecules are successful, and a thin sheet, one molecule thick, covers the surface of the water; its thickness is of the order of a ten-millionth of an inch. By measuring the weight of the oil that has been placed on the water—a difficult task, since it is so small—and the area covered, it is possible to find a measure of the thickness of the film. . . . On the result of [this] work it was possible to assert that the thickness of the layer was such as would be expected if it were one molecule thick; and the argument was greatly strengthened by the fact that when different substances, known by chemists to be chain molecules of different length, were placed upon the water, the thickness varied with the length, as it ought to do."

These quotations will serve as examples of the way in which Sir William Bragg deals with his subjects. The first chapter, on atoms, is very clear and easily understood; the last chapters, on crystals, are rather stiffer, but the reader is led on gently from the simpler to the more abstruse.

### GUY'S HOSPITAL REPORTS.

THE first number of the seventy-fifth volume<sup>5</sup> of the *Guy's Hospital Reports* opens with the sermon preached by the Bishop of Oxford in St. Saviour's Cathedral, Southwark, at the commemoration, on January 6th last, of the bicentenary of the hospital, and contains two full-page plates—a fine engraving by Bartolozzi of the tomb of Thomas Guy in the hospital chapel and a drawing of the hospital on January 6th, 1925, by Mr. Hanslip Fletcher. There is a full and sympathetic memoir of the late Dr. Lauriston E. Shaw by Dr. John Fawcett, illustrated by a full-page photograph and by Stanley Cook's kindly caricature of "Laurie" from the *Guyoscope* (1897); it contains extracts from the obituary notice of this active member of the British Medical Association which appeared in our columns (1924, i, 40). Of the thirteen articles dealing with professional subjects two are by the indefatigable editor, Dr. A. F. Hurst, and seven others are on subjects dealing with the alimentary canal, and it may be suspected, even when not so stated, due to his inspiration. There are three articles on ulcerative colitis; Dr. Cyrus Ive analyses six cases, four of which were treated by the Lister Institute's multivalent antidyenteric serum; two patients were definitely improved, though none were dramatic cures. Dr. J. F. Venables records a case of recovery with a stricture of the pelvic colon, a very rare sequel of sporadic ulcerative colitis. In the third article on this disease, which owes so much to Guy's physicians, Dr. A. F. Hurst

<sup>3</sup> *Growth*. By G. R. de Beer, B.A., D.Sc., F.L.S. London: E. Arnold and Co. 1924. (Demy 8vo, pp. viii + 120; 33 figures, 7 plates. 6s. 6d. net.)

<sup>4</sup> *Concerning the Nature of Things*. Six lectures delivered at the Royal Institution. By Sir William Bragg, K.B.E., D.Sc., F.R.S. London: G. Bell and Sons, Ltd. 1925. (Cr. 8vo, pp. xii + 232; 32 plates, 56 figures. 7s. 6d. net.)

<sup>5</sup> *Guy's Hospital Reports*, vol. 75 (vol. 5, fourth series), No. 1, January, 1925. Edited by A. F. Hurst, M.D. London: Wakley and Son (1912), Ltd. 1925. (Med. 8vo, pp. 123; 3 plates, 9 figures, 9 charts. Subscription £2 2s. for volume of four parts; single numbers 12s. 6d. each.)

brings forward evidence in favour of the conclusion that medical is more successful than surgical treatment; among 118 cases treated surgically the mortality was 24.6 per cent., whereas none of his thirteen cases treated medically proved fatal. Dr. R. N. Gauz of Harvard contributes a note on the importance of the presence of leucocytes in the "resting" gastric juice, and Drs. K. D. Fairley and Cyrus Iye find that neutral red, after intramuscular or intravenous injection, is so irregularly excreted into the stomach that it is not of any value as a clinical test. Mr. G. G. Exner and Dr. Cyrus Iye report a case of very severe anaemia, secondary to dental sepsis, successfully treated by removal of all infective foci, early administration of a vaccine of a haemolytic *Streptococcus longus*, and transfusion of defibrinated blood from a donor, who four hours before had been inoculated with the vaccine. Mr. W. H. Ogilvie's paper on the surgical aspects of gall-stone disease contains a number of original observations; he finds that the gall bladder is entirely lacking in temperature sensation and in sensibility to light touch; he also localizes the pain due to its distension; in addition a number of experiments with injections of inert particles were undertaken in order to elucidate the problem of infection of the gall bladder. Mr. R. P. Rowlands writes vigorously on the waste of life from appendicitis, which in England and Wales is responsible for 3,000 deaths a year, mostly in the young. The treatment of asthma at Mont-Dore is described from personal experience by Dr. A. F. Hurst, who attaches considerable importance to its psychological atmosphere as well as the ordinary methods of the cure; in an appended note on four other spas in Auvergne he repeats the dictum that more cases are caused than cured by Plombières treatment. A case of rheumatoid arthritis of dental origin, in which the teeth appeared superficially normal, is related by J. N. A. as a medical autobiography. Massage and remedial exercise in disease of the circulation by Dr. G. H. Hunt is the first of a series of articles dealing with physiotherapy. Dr. Geoffrey Marshall describes the circulatory changes in wounded soldiers, with special reference to the influence of drugs used for the production of anaesthesia, and Dr. Maurice Shaw gives an account of a new technique for the Sigma reaction.

#### NOTES ON BOOKS.

A LITTLE book by Mr. R. T. HUGHES, *Hints on Notemaking*,<sup>6</sup> might advantageously be studied by medical students. Considering the amount of time that is wasted by students in taking notes most teachers probably would advise an abolition of the habit. A certain degree of experience is needed before the nature and value of notes can be appreciated, and this the student does not possess. The matter can, however, be put in a nutshell: In the early stages of his career the student, in his observation of facts, is dependent on his teachers and textbooks for the correctness of his ideas on the subjects of study; they are his mental controls. As he advances in his course he gradually becomes independent of these leading strings and is able to trust his own faculties in the observation of facts, and it is only when this stage is reached that his notes come to be of value. Henceforward the teaching of his mentors and textbooks can be gradually discarded and replaced by his own observations. Notes now become absolutely essential, for it is only by their aid that he can hope to recall and retain the impressions of the innumerable facts that he receives in the course of months and years. Most students fail to take notes of this kind; they cram textbooks and students' aids so called—mere words and printer's ink. The right and necessary use of textbooks at this stage is to enable students to compare their own observations with those of others, to correct their observations with the assistance of better authorities than themselves, and to gain information on subjects that have not come under their notice.

Dr. GUBB of Algiers has compiled a *Questionnaire Médical*, English-French-Arabic, and has added a list of organs, of numbers, and of times of the day or week. The Arab phrases are printed in roman type and appear to be given in the local dialect. Copies of the pamphlet can, we are informed, be obtained free of charge from Nestlé's Milk Company, Rue Charras, Algiers.

The spirit of the medicine of the age is illustrated by the titles of the current textbooks; a few years ago the two large volumes on *Endocrinology and Metabolism*, edited by Professor Lewellys Barker of Baltimore and others, were reviewed in our columns (BRITISH MEDICAL JOURNAL, 1922, vol. ii, p. 873), and since then Professor A. W. HEWLETT of the Stanford Medical School has brought out a volume of more than seven hundred pages which is the second edition of his work entitled *Pathological Physiology of Internal Diseases: Functional Pathology*.<sup>7</sup> It gives a clear and readable account of the present state of knowledge, and has been thoroughly revised and added to since the first edition appeared in 1916. This applies especially to the accounts of cardiac irregularities, cyanosis, the metabolic rate, which has attracted so much attention in America, vitamins, protein hypersensitiveness, endocrine diseases, and the functional aspects of organic diseases of the nervous system. It is a useful and valuable source of reference.

<sup>7</sup> *Pathological Physiology of Internal Diseases: Functional Pathology*. By Alphonse Walter Hewlett, M.D., B.S. New York and London: D. Appleton and Co. 1923. (Roy. 8vo, pp. xxxi + 765; 101 figures. 35s. net.)

#### INCOME TAX: EXPENSES INCURRED BY SALARIED OFFICIALS.

A CASE, *Simpson v. Tate*, which is of considerable interest to professional men holding salaried appointments, was decided in the King's Bench Division recently. Dr. John Tate, County Medical Officer, Middlesex, had claimed, and had been allowed by the local commissioners of taxes, expenses representing the cost of membership of certain professional societies. The revenue authorities appealed against the decision of the commissioners, and a statement of the facts was furnished for the basis of the legal arguments. Briefly, the statement set out that Dr. Tate was not required as a condition of his appointment to be a member of the societies, but that through his membership he received information, in periodical or other form, which enabled him to perform his duties with increased efficiency, and which in the main would not otherwise have been available to him. Dr. Tate's income was assessable, as arising from an employment, under Schedule E, and the rule under discussion, therefore, was that which authorizes the deduction of sums expended "wholly, exclusively, and necessarily in the performance of the duties of the office." That rule has already been examined in the courts on previous occasions, mainly in connexion with claims to deduct travelling expenses, and, following the general trend of those cases, Mr. Justice Rowlatt decided against Dr. Tate and in favour of the contention of the Crown. He may, however, be said to have carried the principle a step further. That principle may be briefly stated to be that the cost of travelling to the place where the duties—for example, those of a company director or a clerk to justices—are to be performed is a preliminary expense—that is, it is incurred, not in the performance of the duties of the office, but to put the office-holder into the position in which he may begin to perform them. Mr. Justice Rowlatt has now stated that principle in broader terms, holding that expenses incurred in qualifying the office-holder to perform his duties cannot be allowed. This would have been taken for granted as regards the original expense of qualification, representing capital outlay, but now covers "all the expenses involved in keeping a man fit for the work he is doing." That rule is laid down by a judge who has had a large experience in revenue cases, and must presumably be regarded as settled law, though on grounds of equity more than one objection could be urged. Perhaps the strongest is that it accentuates the distinction drawn between the output of a machine and that of a trained mind. The existing difference of treatment is that in the latter case no allowance for "depreciation," the gradual exhaustion of productive power, is made, though the fact, if not the probable duration, of the process is as certain. Perhaps the removal of that difference is impossible on practical grounds, but if the rule now laid down is to be fully applied the mental equipment will be deprived not only of a depreciation allowance, but also of the allowances for current expenses of maintaining efficiency. When the "earned income relief" was introduced into the system in 1907, it was represented as to some extent rectifying the

<sup>6</sup> *Hints on Notemaking in Science and Mathematics for Students and Teachers*. By R. T. Hughes, M.A. London: G. Bell and Sons, Ltd. 1925. (Double sup. roy. 32mo, pp. 132. 2s. 6d. net.)

absence of any "exhaustion" allowance; at that time it represented a 25 per cent. reduction on the full rate, whereas now the difference is 10 per cent., and the present moment seems, therefore, to be a particularly unfortunate one at which to stiffen the regulations against the brain worker. In such a case as Dr. Tato's, however, the remedy appears to lie in the hands of the employing authority to some extent. In so far as the information to be derived from the societies is desirable for the proper carrying out of their officer's duties, it would seem only reasonable that the authority should pay the expense of obtaining it—even if, in practice, it is found that the best means of doing so is to pay their officer's membership subscriptions.

## *Nova et Vetera.*

### SOME OLD MEDICAL BOOKS.

A FURTHER instalment of the famous Britwell Court Library is announced for dispersal by Messrs. Sotheby day by day from March 23rd to April 3rd. It has been supposed that this would complete the realization, which has been going on for some years, but the catalogue is silent on this point, so there may yet be further portions to be sold at auction. The section to be dealt with between March 30th and April 3rd contains mainly early English works on arts and sciences, among which medicine and surgery are well represented. Hospitals are represented by the very rare "Ordre of the Hospital of S. Bartholomewes in West Smythfelde in London," 1552; by a similar volume published exactly a hundred years later; and by a book dealing with St. Bartholomew's, St. Thomas's, Bridewell, and Christ's—a reprint, published at the expense of Samuel Pepys, of the original of 1557. Among the large number of books dealing with medicine it is possible to mention only a few of more exceptional interest or rarity.

There are two copies of William Ward's translation of Alexis of Piedmont's textbook: an imperfect one of 1562, and a better copy of the 1595 issue. Colloid therapists may be interested in Francis Anthony's "Apologie or Defence of a verity heretofore published concerning a medicine called *Avrm Potabile*," first edition, 1616, an exceedingly rare monograph. There are three copies, all slightly different, of a pamphlet published by Robert Wyer, "at the sygne of soynt John Evangelyst, in seynt Martyns parryshe, besyde Charynge Crosse," entitled the "Antidotarius," and dealing with "bawmes, oyles, and wounde drynkes . . . ryle and profitabill for every Surgyan"; all are very rare. From the same publisher there is a translation of Arnold's (of Villa Nova) "Defence of Age," apparently differing from all other copies, and possibly therefore an unrecorded edition. Another choice volume is George Baker's " . . . Oleum Magistrale . . . the which Oyl cureth . . . Wounds, Contusions, Hargubush shot, Cankers, pain of the Raines, Apostumes, Hemerhoids, olde Ulcers . . ." published in the "Pultrie" in 1574.

The study of special subjects seems to have evolved earlier than is sometimes realized; for instance, there is R. Banister's "Treatise of One Hyndred and Thirteene Diseases of the Eyes, and Eye-Liddes," the second edition of which was published in 1622; a copy of this may be seen as Lot 68 in the March 30th sale; and Lot 125 is William Briggs's "Ophthalmographia" (1686), a textbook of ophthalmic anatomy, including the author's new theory of vision. The familiar name of Jenner appears as the compiler (or possibly only the publisher) of a book on invalid cookery dated 1655. Andrew Bordo's "Breviary of Healtthe" is represented by five different editions, the earliest of 1552 and the latest of 1598. First aid, too, is another conception by no means modern, as is shown by Stephen Bradwell's "Helpe for suddain accidents endangering life, by which those that live farre from Physicians or Chirurgions may happily preserve the Life of a poore Friend or Neighbour," the very rare first edition of 1633. William Bullein seems to have been a prolific medical author: four separate treatises are contained in this sale, ranging from 1562 to 1595, and devoted mainly to the prevention of disease; one

of them is the only copy known of the particular book in question. Dr. John Caius is represented by a good copy of the first edition of his "Boko or Counseill against the Disease commonly called the Sweate or Sweatyng Sicknesse"; this also is extremely rare, though it is accessible in a reprint issued by the London Sydenham Society in 1844.

From Wynkyn de Worde's press there is a copy of a medical textbook by Bishop Canutus, published about 1510; the only other copy known is in the Cambridge University Library. William Clowes is represented by three monographs, one on venereal diseases (1585) and two on gunshot wounds (1588 and 1586); and there are three editions of Thomas Cogan's "Haven of Health" (1584, 1589, and 1612). "The Castel of Helth," by Sir Thomas Elyot, is represented in five separate editions, one of them the only copy known. Erasmus of Rotterdam devoted one of his literary efforts to the "praysse and comendation of the most hygh and excellent science of phisicke," as the translator renders it; the only known copy of this translation (of about 1538) is Lot 269 in the April 1st sale.

National Health Insurance practitioners may be interested to know that in 1628 William Folkingham published "Panala Medica . . . the Fruitfull and Frugal Nourse of Sound Health and long Life." The full title of a translation of one of Guy de Chauliac's works is worthy of being set out at length: "The Questyonary of Cyrurgyens, with the formulary of lytell Guydo in Cyrurgie, with the spectacles of Cyrurgyens newly added, with the fourth Boke of the Therapeutike, or Methode curatyfe of Claude Galyen prynce of physiciens, with a Syngular treaty of the cure of vlcers"; the colophon at the end relates that the translation is "out of the Frensshie (at the instigation and costes of the ryght honest parson Henry Dabbe staeyoner and byblyoplyst in Pauls churche yerde) by Robert Coplande of the same faculte," about 1543. Another reminder that there is nothing new under the sun is brought home by Lot 415, Irvino's "Medicina Magnetica: or the rare and wonderful Art of Curing by Sympathy," first edition, 1656; while the interest of the female sex in medicine is exemplified a few items further on in the "Choise Manuall, or Rare and Select Secrets in Physick and Chirurgery," by Elizabeth Talbot, Countess of Kent, second edition, 1653. Another early surgeon of renown is represented in a translation of "Lanfranc of Mylayne his brieve . . . now first published in the Englysho prynto by John Halle Chirurgien. An Historiall Expostulation also against the beastly abusers, both of Chirurgerie and Physicke in our tyme," first edition, 1565.

The subject of diet is often dealt with in these early textbooks, as, for example, in Christopher Langton's "Introduction into Physicke, wyth an vniversal dyet," about 1550. Peter Lowe's "Whole Course of Chirurgerie" (first edition, 1597) is said to be one of about six known copies; correspondence in this JOURNAL some few months ago revealed the whereabouts of several of these, previously not generally known. A valuable rarity is Thomas Moulton's "Mirrour or Glasse of Helth," about 1540, of which but one other copy (and that imperfect) is known to exist; copies of two other editions are also for sale. Another book on first aid is the "Help for the Poor . . ." by Robert Pemel, Physician of Crane-brook in Kent, 1653, described by the auctioneers as exceedingly rare. Thomas Phaer published in 1544 his "Regiment of Lyfe," a treatise mainly on diseases of children, but containing also sections upon the plague; the only copy known of the first edition is one of those now offered, also one of 1553, thought to be of the fourth edition, and another of 1560. An early treatise on helminthology is that of W. Ramsay, 1668, whereof the first edition is represented in this collection. The extremely rare "Urinal of Physick," by Robert Recorde, of which the British Museum possesses the only other extant copy (1547), is dedicated, curiously, to the "Wardens and Company of the Surgions in London," not to the physicians, as might have been expected; including a later edition of this book, there are in all five volumes from the pen of this writer included in the sale.

So far as this collection is concerned, the earliest work devoted to midwifery seems to be that by Thomas Raynold,

1545. The "Regimen Sanitatis" of Salerno is represented in five translations, ranging from 1550 onwards. A very timely production was the monograph on the plague, published by George Thomson, M.D., in 1666, though he seems to have been more eloquent on the symptoms and the *post-mortem* anatomy of the disease than on treatment. No less than five editions are listed of the "Treasure of Poor Men," a medical textbook of unknown authorship, first published about 1526; two of these five are the only copies known of their respective editions, and two more are of the utmost rarity. There are also copies of four editions of Thomas Vicary's "Englisho Man's Treasure," the earliest of which is dated 1586; this book was the subject of careful analysis in the BRITISH MEDICAL JOURNAL of January 25th, 1896, by Dr. J. F. Payne, who showed that it is really a plagiarism of Lanfranc and Henri de Mondeville. Unique save only for a copy in the British Museum is the translation of John of Vigo's "Lytell Practyce of Medecyne," published by Robert Wyer, one of the early sixteenth century printers. Indeed, the vast number of books valuable by reason of being unique or almost so has all along been a feature of the Britwell Court Library; it is still prominent even in these later sections, where one hardly expects to meet so many items of this degree of rarity.

## THE HEALTH OF THE ARMY.

### ANNUAL REPORT FOR 1922.

THE Annual Report on the Health of the Army for the year 1922 has just been issued.<sup>1</sup> It is unusually brief, and the delay in its publication has the effect of making it less much of its interest. It is very desirable that Sir William Leishman should, as he hopes, manage to expedite the publication of future reports during his term of office as Director-General.

In the report under review several details to which we were accustomed in previous reports have been omitted. It would be difficult, for example, from the statistical data provided in it to compare the health of the army in 1922 with other years and other armies, except in a limited degree. There is no reference to climatic conditions in commands abroad, such as Turkey, Iraq, the Rhine and Silesia, Egypt and Palestine, where troops were stationed during the year. But what we miss most is the means of comparing the incidence of sickness and of the more important diseases in 1922 with the years previous to the war, more especially as so much has been done in recent years for the prevention of enteric fever and venereal and malarial diseases. The only comparison of the kind that is possible is found in two of four charts at the end of the volume on invaliding, in connexion with which there has been a remarkable increase in 1921 and 1922. In 1921 the ratio of men discharged from the army as medically unfit was 27.5 per 1,000 of strength, and, in 1922, 19.3 per 1,000. Since the year 1899 the former ratio was only once exceeded, in 1901, and the latter only during the three years of the South African war. From 1903 the ratio had declined steadily to 8 per 1,000 during the three years previous to 1914. The only light thrown on this is in the opening paragraph of the report, where it is stated that there was a gradual elimination of the unfit who were enlisted in the transition period following the war.

As bearing on this, a report by the medical specialist at Netley is quoted, and is significant: 20 per cent. of the cases brought before the medical board there were suffering from tachycardia for which no cause, such as debilitating illnesses or prolonged service abroad, could be found except in a comparatively small number. The suggestion is made that the young man of 18 years of age, who enlisted in 1919 and 1920, was, during the war, at an impressionable age physically and mentally, and lacked parental discipline and control, so that the unwelcome

discipline and irksome regularity of army life induced in his inferior nervous system the syndrome of disordered action of the heart. The majority of these youths broke down if any hard or disagreeable task had to be done. This is scarcely pleasant reading, if the medical specialist's suggestion is a correct explanation of the breakdown.

In the recruiting year, 1921-22, to which the report refers, 29,079, or 375.22 per 1,000, of the recruits examined were rejected and 2,487 discharged within six months of enlistment as medically unfit. The highest number of rejections was 433.63 per 1,000 in the Scottish Command, and the lowest 209.46 per 1,000 in the London District, where the largest number were examined. The great difference between these and other figures is probably due, to some extent at any rate, to less careful selection in some commands than in others of the men sent before the medical officer. Defective vision, under-developed chest, loss or decay of many teeth, and flat-feet were the chief causes of rejection.

The admission rate for sickness in all commands at home and abroad was 515.8 per 1,000 of an average strength of 208,079, and the death rate 3.22, as compared with 649.9 and 4.20 per 1,000 respectively in 1921. The constantly-sick rate was 41.47, as compared with 50.46 in 1921 and 32.21 in 1913, the only comparison made with any year previous to 1921. The admission rate in the United Kingdom was 376.4, and in the large garrisons of India, Egypt and Palestine, the Army of the Rhine, Iraq and Turkey, it varied between 600 and 700 per 1,000 of strength.

The chief cause of admission to hospital was venereal disease, with a ratio of 70.7 per 1,000 of strength. The rate was exceptionally high, 254.2 per 1,000, in the Army of the Rhine, where licensed brothels were put out of bounds and other extensive prophylactic measures enforced. The only other rates above 100 were 125.2 in Gibraltar, 103.6 in Malta, and 113.4 in Egypt and Palestine. The Indian rate was 84.7 and the home rate 35.4. A marked decrease is shown in the incidence of syphilis.

The next greatest cause of admission to hospital was malaria, with a rate of 65 per 1,000 of strength. Except in the small European garrison of West Africa, where the admissions for malaria amounted to 582 per 1,000 of strength, the only other rates in excess of 100 were 175.4 in India and 120.9 in South China. Very little inefficiency was caused by the enteric group of fevers, the highest admission rate being 6.3 per 1,000 in Iraq. In India it was 3 per 1,000. Unfortunately there is little or nothing said in the report about these diseases, nor any indication of the percentage of men protected by prophylactic vaccines. No other group of diseases calls for special mention.

Short summaries and statistics are given under the heading of each command. A section of the report deals with the work of the dental department, and other sections are allotted to the work of the directorates of hygiene and pathology.

### A MILK OUTBREAK OF PARATYPHOID FEVER.

THE Ministry of Health has issued a report<sup>1</sup> of an outbreak of milk-borne paratyphoid, by Dr. W. V. Shaw. The report is prefaced by a note by the Chief Medical Officer, Sir George Newman. The epidemic comprised 52 cases, of which 2 ended fatally. In the two weeks ended October 4th, 1924, 31 cases of enteric were notified to the Ministry by the borough medical officer, and Dr. Shaw began investigation on October 7th. Up to October 22nd 21 more cases were notified, making the total of 52 above stated. After considering and excluding other possible causes of spread, attention was concentrated on the milk supply, which was quickly proved to be responsible. The organism was *Bacillus paratyphosus* B, and the outbreak had the explosive character typical of spread by a specifically infected article of food consumed by many persons. The cases were all within the area of one milk vendor, who

<sup>1</sup> Report on the Health of the Army for the Year 1922. Volume Ivii. London: H.M. Stationery Office. (8vo, pp. iv + 105; with 4 charts. Price 3s., purchasable at H.M. Stationery Office, Adastral House, Kingsway, London, in Manchester, Cardiff, Edinburgh, and through any bookseller.)

<sup>1</sup> Report on an Outbreak of Paratyphoid Fever in the Borough of Chorley. By W. V. Shaw, O.B.E., M.D. (Report No. 30.) H.M. Stationery Office. 2d. net.



obtained his supply from eight farms outside the borough, the milk from all of them being mixed before distribution. Instead of following in detail Dr. Shaw's convincing story of his tracing of the source, it will make for brevity to state that of eight members of the household at the incuolated farm it was ultimately found that only three had escaped attack. A case of enteric fever was notified from the farm to the medical officer of health of the rural district on August 7th. He was off duty for a few days, but the acting medical officer visited on August 7th and consented to the child being nursed at home, though accommodation was available at the isolation hospital. A trained nurse was employed, her work being supplemented by two members of the household, who were also engaged on ordinary domestic duties. The milk probably became infected about the end of August. The farmer himself, who was stated to be feeble-minded and uncleanly, with clothing soiled at times with faecal matter, was definitely out of sorts with fever and diarrhoea at the beginning of September, but continued milking all through September until removed to hospital on October 7th. Certain other members of the household had similar symptoms a little later. The water supply, from a local spring, was poor in quantity, and there was no water equipment such as a milk farm ought to have, nor for due attention domestically to the cleansing of infected clothing. The farm had no dairy for storage of milk.

Concerning the action of the medical officers, Sir George Newman writes thus in his prefatory note:

"In the circumstances described by Dr. Shaw, specific infection of the milk at the farm was almost inevitable. The patient was, nevertheless, permitted to remain at home throughout the course of her illness, without any supervision on the part of officers of the local authority. No official inquiry was made to ascertain whether adequate isolation of the patient was being maintained or whether secondary cases had occurred among other members of the household.

"In brief, the mistakes in administrative procedure made in connexion with this outbreak may be summarized as follows:

1. The acting medical officer of health, who visited the farm on August 7th, did not remove the patient to hospital.

2. He did not revisit the farm to satisfy himself that his instructions regarding the isolation of the patient and disinfection of excreta, etc., were being carried out.

3. The medical officer of health, who resumed duty on August 11th, did not appreciate his responsibilities in the matter and did not visit the farm till October 1st.

4. Thus after the first visit there was a period of complete disregard between August 7th and October 1st, during which no restrictions were placed upon the milk supply. On the latter date the medical officer of health of the borough visited the farm accompanied by the medical officer of health of the rural district, because by that time suspicion had been aroused that milk from the farm was the vehicle by means of which infection was being spread in the borough.

"The facts recorded in this report emphasize the necessity for constant vigilance on the part of the officers of sanitary authorities when dealing with even an isolated case of infectious disease. In the present instance, an extensive outbreak of paratyphoid fever was caused by failure on the part of the responsible officer concerned to appreciate the danger inseparable from the retention at a dairy farm of a case of that disease.

"The importance of prompt and continuous attention being exercised by medical officers of health on the occurrence of cases of infectious disease among persons engaged in occupations associated with the production and distribution of food and milk is demonstrated by this outbreak. Neglect to take the most ordinary precautionary measures led to disaster, and I trust that the lessons to be derived from the facts recorded by Dr. Shaw will not be lost upon local authorities and others responsible for the maintenance of the public health."

This outbreak is referred to in the article on local government in rural districts at page 565 of our present issue.

## RUTHERFORD MORISON TESTIMONIAL.

THE following is the second list of subscriptions to this fund, particulars of which were published in our issue of January 17th (p. 138). The amount received up to March 13th was £1,143 7s. The committee has decided to close the fund on March 31st; until that date subscriptions can be sent to the Honorary Secretary and Treasurer, Mr. R. J. Willan, M.V.O., M.S., F.R.C.S., 6, Kensington Terrace, Newcastle-upon-Tyne.

### SECOND SUBSCRIPTION LIST.

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£10 10s.—Dr. J. J. Campbell (Newcastle), Dr. J. Charles (Stanley), Mr. J. Clay (Newcastle), Dr. W. S. Dickie (Middlesbrough), Dr. A. Duke (Newcastle), Mr. O. W. M. Hope (London), Lieut.-Colonel A. H. Procter (Darjeeling), Dr. Fred. Proud (Newcastle), Mr. S. Raw (Sunderland), Dr. W. L. Ruxton (Newcastle), Mrs. Balgout and Hutchinson (Northallerton).  
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£5.—O. F. D. H.  
Subscriptions promised, but amounts not specified: Dr. Modlin (Sunderland), Dr. Norris (Gateshead), Dr. W. Smith (Gateshead).

# British Medical Journal.

SATURDAY, MARCH 21st, 1925.

## LOCAL GOVERNMENT IN RURAL DISTRICTS.

ELSEWHERE in this issue (p. 563) will be found a note of a remarkable report by Dr. W. V. Shaw, a medical officer of the Ministry of Health, concerning an outbreak of paratyphoid fever in a borough in Lancashire. The outbreak is clearly traced by Dr. Shaw to a milk farm in the adjoining rural district. The facts as to mismanagement of the infection at its source speak so loudly as to need no emphasizing. Suffice it to say that the article in the *BRITISH MEDICAL JOURNAL* of August 30th, 1924 (p. 377), on the conquest of enteric fever could never have been written if the average health administration throughout England were on anything like so low a level as it appears to have been in this particular instance and at this particular time in the rural district in question. But our present purpose is not to animadvert on the deplorable occurrence; the terms of Sir George Newman's prefatory note need no supplementing.

In concluding his note the Chief Medical Officer of the Ministry says that he trusts the lesson to be learned from the facts recorded by Dr. Shaw will not be lost upon local authorities. If that means that risk really exists of similar administrative failure in other rural districts (the possibility in boroughs seems almost inconceivable in the present day), then what Dr. Shaw has written should definitely be brought under the notice of the Royal Commission on Local Government. The report of that body is being looked forward to with much interest by all parties concerned. Presumably it will deal with the whole subject of the suitability for their work of the several classes of local health authorities in England—those in control of great cities, of county boroughs, of ordinary municipal boroughs, of urban districts, and of rural districts.

An important question certainly ought to be whether the last named group, or even the last two groups, are so constituted and administered as to afford adequate protection against invasion by infectious disease, not only of their own populations, but of neighbouring communities. A mutual obligation rests on them whether they be large or small, and the question is whether the obligation is being duly fulfilled. There are in England and Wales 663 rural districts, with an extraordinary range of population—from a few hundreds up to 76,000. Eleven of them have less than a thousand inhabitants; of districts between one and five thousand there are 117; between five and ten thousand 209; between ten and twenty thousand 370; and so on to the top of the scale, where five have between 50,000 and 76,000 inhabitants. Urban districts vary similarly. Their total is 784, and the populations range from under 1,000 to over 165,000. Thus we have the absurdity that one so-called "urban" district has under 1,000 people, and another so-called "rural" district has over 76,000.

The fact that a rural district can, if the Ministry of Health approves an application to that effect, obtain urban powers does not concern us here, but the anomalies just indicated will doubtless receive attention from the Royal Commission. What may be the smallest unit of population which can be normally relied on to furnish reasonably efficient local govern-

ment in respect of public health demands consideration. Each rural and urban district, even if merely a village, has laid on its shoulders responsibility for routine administration of the Public Health Acts. But in the whole sphere of health preservation and disease control no local authority can live to itself. Indeed, it is permissible to inquire here whether there may not be a risk of neglect, alike in town and country, of this duty of mutual protection, owing to modern developments of the health work of local authorities within their own areas. Is it not possible that an officer may get so much absorbed in "welfare" work of all sorts, in respect of mothers and infants and school children, and so forth, as to be less alert in what were his primary functions a generation ago? We have no knowledge of what is done in the new directions in the rural district to which Dr. Shaw's report refers, but the general query can do no harm, and if it is everywhere needless that is all the better.

The city has a duty to endeavour to prevent invasion of the country around it by infectious disease, and the country has its duty to the town, as exemplified in its supervision and control of milk supplied for urban use. That, as it happens, is the particular question which emerges from Dr. Shaw's report. But there is no profit in dwelling on individual errors. A rural district of even 20,000 inhabitants cannot usually be expected to pay for the whole time of a medical officer of health, and, if it must make provision for itself, may have no choice but to accept such services as can be rendered by a general practitioner with or without a special diploma. In these days it can only be a man of quite exceptional capacity who finds himself able to maintain a working knowledge of the continued advances in medicine, surgery, and midwifery, and at the same time perform the ever-widening functions of a health officer. It is the system which is at fault, and we must wait for Lord Onslow's Royal Commission to submit proposals for the remedy of existing defects at the same time that it has regard to the case of those medical men who, under conditions for which they are not responsible, have struggled hitherto to carry the double burden of public health work and private practice.

## DUST SAMPLING IN SOUTH AFRICAN MINES.

GOLD-MINING on the Witwatersrand has always been a dangerous trade, with its own occupational disease. In 1912 a commission reported that 32 per cent. of a group of 3,136 miners examined were affected by silicosis or tuberculosis-with-silicosis. Conditions appeared to have improved greatly by 1917, when out of 14,625 miners examined only 5.9 per cent. were found to be the subjects of tuberculo-silicosis. The report for the year ending July 31st, 1923, showed that the proportion had fallen to 3.07 per cent. The diminution in the amount of silicosis has gone hand in hand with diminution of the dust content of the air, for during recent years an intensive campaign against dust has been waged, because it has been proved that the particles of metallic dust created by the drilling machines damage the lungs and pave the way for tuberculosis.

Since silicosis has a latent period of several years before it manifests itself by any clinical signs, the data available at present do not afford any information as to whether or not fresh cases of silico-tuberculosis are arising; the cases now developing may all have been produced by conditions no longer obtaining. A further

period of years will have to pass before it can be decided whether the steps which have been taken to avoid the inhalation of metallic dust are adequate or not; but in the meantime it is important that a careful study should be made of the atmospheric conditions in the mines and the amount of dust in the air accurately registered. All these questions are gone into very fully by Dr. A. Mavrogordato in a report published by the South African Institute for Medical Research.<sup>1</sup> Different methods for dust sampling are in use in different parts of the world, and several of these methods are described by Dr. Mavrogordato, but he devotes most of his report to the instrument known as the konimeter, which seems to be in general use in the mines of the Witwatersrand. His experiments will be of considerable interest to sanitarians who are studying methods of measuring atmospheric dust in factories and workshops in this country, although their problems may not be identical with those which face the health officer in the gold-mining districts of South Africa.

Apart from the technical details of dust-sampling tests, two observations made by Dr. Mavrogordato in his report deserve special notice. The pathological changes grouped under the term "silicosis" do not occur apart from the presence of visible particles of dust in the tissue, or, to speak more exactly, particles visible under the microscope. The smaller ultra-microscopic particles, which, of course, are much more plentiful in the air, do not appear to be injurious to the lungs in the same way as the larger particles. Probably the lungs behave in a similar way to ordinary filters, and only retain particles above a certain size, allowing smaller particles to escape. The minimum size of particles likely to be retained is about half a micron, which, curiously, is about the size of the smallest pathogenic bacteria.

The other observation to which we wish to call attention is the question of using captive animals for the purpose of recording the dust concentration of the atmosphere. Although it appears that, in the hands of experts, the various dust-sampling instruments give a reliable record of atmospheric dust, yet reading such a report as this the question naturally arises whether we are in possession of sufficient knowledge of the effects of dust on the lungs to be able to interpret these konimeter findings, and to say, for instance, that more than a certain amount of dust is dangerous and a less quantity to be disregarded. To ask this question does not mean that we fail to appreciate the value of the figures supplied by dust samplers: it is obvious that where health is at stake the most accurate records must be kept of the atmospheric conditions in such a dangerous occupation as gold-mining. But it will take many years before the figures of the dust sampler can be correlated with the incidence of silicosis, and in the meanwhile it would seem that a much quicker way of judging of the potential danger of the atmosphere would be to keep guinea-pigs or rats in cages in the mines, and to compare the duration of life underground with the duration of life above ground, and to study the particular conditions under which such captive animals most quickly develop silicosis. Dr. Mavrogordato states that some such tests are being carried out in South African mines, the animals being used for testing atmospheric conditions in the same way that mice and small birds are used in collieries and in submarines.

#### ACQUITTED—BUT FINED.

WE invite the attention of all members of the profession, whether on the panel or not—as the *Times* has invited the attention of all citizens, whether members of the profession or not—to the proceedings under the Insurance Acts reported in the SUPPLEMENT of this week (p. 122) under the title "A fatal case of diphtheria." The London Insurance Committee brought a charge of gross negligence against Dr. Z in failing to diagnose diphtheria. The Inquiry Committee found that the accused person was not negligent but attentive, that at most the accused committed an error of judgement in not recognizing before he did the supervention of diphtheria in a complicated case of tonsillitis and Vincent's angina, that the machinery which involved the inquiry should never have been put in motion, and that the respondent should receive his taxed costs. The Ministry of Health agrees that he should receive his costs, but considers that he ought to be fined £20. A similar course was taken by the Ministry in regard to the inquiry into a fatal case of appendicitis reported last week (SUPPLEMENT, p. 100). There the Ministry made no order as to costs, but imposed a fine of £10 upon the practitioner. In that case, however, the Committee of Inquiry, while finding that the charge of negligence put forward failed, expressed the view that the complainants were justified in making the representation which led to the inquiry. In transmitting the documents in the case of diphtheria upon which the report on page 122 of the SUPPLEMENT for this week is founded, the Ministry requested us to publish the text of the letter it had addressed to the London Insurance Committee, and with a slight modification, in order to omit the name of the practitioner, this has been done. In that letter it will be observed that the Minister states that he was advised that some of the symptoms from which the patient suffered should have suggested the presence of diphtheria. It is not stated by whom this advice was tendered; it does not seem to be in accord with that tendered by the Committee of Inquiry. Mr. Neville Chamberlain only came into office at about the time the proceedings were instituted, but he is technically responsible, and we shall be happy to receive from him or from any responsible representative of the Ministry any further explanations they wish to offer, and shall be prepared to publish them if of reasonable length.

#### ADDITIONS TO THE POISON SCHEDULE.

THE regulations governing the sale of dangerous poisons to the public were modified in 1908 by an Act of Parliament which relaxed the stringency of the previous law. That Act permitted traders other than chemists to hold a licence for the sale of arsenical and other poisonous preparations used in agriculture and horticulture, such as sheep-dips, insecticides, and weed-killers. It was not necessary that the licensee holder should keep a poison book for the entry of the sale and of the signature of the buyer as a chemist had to do for poisons named in Part I of the schedule. An anomaly was thus created: the restrictive term in the schedule which had formerly read "arsenic and its preparations" now became "arsenic and its medicinal preparations." Thus, except under a physician's prescription, anyone buying a medicinal preparation containing arsenic must be a person known to the seller or introduced by someone known to the seller, and he must sign the poison book; but if he wanted arsenical weed-killer he could get half a hundredweight by an order on the telephone. The danger underlying this freedom was brought prominently to notice in a trial for murder by poisoning with arsenic obtained as weed-killer some two or three years ago. Resolutions were submitted to the Privy Council by the Pharmaceutical Society proposing amendment of the poison schedule in respect of this and other matters. Approval

<sup>1</sup> *The Value of the Konimeter. Being an Investigation into the Methods and Results of Dust-Sampling as at Present Practised in the Mines of the Witwatersrand.* By A. Mavrogordato, M.A., M.R.C.S., L.R.C.P. Publications of the South African Institute for Medical Research, Johannesburg; No. XVII. (Cr. 4to, pp. 71; 23 figures. 5s.)

of the resolutions submitted has been signified by an Order in Council dated February 26th, 1925. Under this order the limiting word "medicinal" again disappears from the text, and the poison book must now be signed for all purchases of material containing arsenic. Nicotine and tobacco extracts which are used as insecticides will be included in the same group as arsenic. The word "vegetable" is deleted from the text of "poisonous vegetable alkaloids." By this amendment substitutes for cocaine and other synthetic alkaloids are brought into the schedule. The active principles of digitalis and strophanthus, not being alkaloids, were not previously included with other vegetable principles among the potent articles forming Part I, where they rightly belong; these have now been added to the list. Cannabis indica has now been made a scheduled poison for the first time, and has been grouped in Part I. This was done because information was received indicating that its use as an intoxicant was spreading in this country. The word "coea" is now deleted from that provision which exempted from the regulations weak preparations containing, like some coca wines, less than 0.1 per cent. of the alkaloids. Any preparation of coea is now a poison within the meaning of the Act. Barium salts, except barium sulphate, have been added to Part II of the schedule. Poisons named in Part II may be bought without any restriction on the buyer; the only restrictions on the sale are that they must be labelled with the word "poison" and the name and address of the seller, and can only be sold by registered chemists. Barium carbonate has been introduced as a rat poison, and there have been fatal cases of poisoning from barium salts given in error. It thus became necessary to provide for the proper control of barium compounds. There would seem, however, to be a danger in exempting barium sulphate from these provisions of the Act, for it has been used as a preliminary meal for x-ray photography, and it is only non-poisonous when highly purified.

#### DIFFICULT CHILDREN—AND A PHILOSOPHER.

THE social evening at the Royal Society of Medicine on Monday last was attended by a large and distinguished company, who were received by the President, Sir StClair Thomson, in the library, where various objects of interest were exhibited. Later on Dr. H. C. Cameron gave a brief address on John Locke, the philosopher, and his views on the upbringing of children. Many parents, said Dr. Cameron, must have experienced painfully the contrariness of children—how, shepherded in one direction, they stampeded in another; how for the parent to insist was only to arouse new forces of resistance, and for him to forbid was only to provoke the spirit of disobedience. Harassed parents of the twentieth century might do worse than consult the philosopher of the seventeenth, who found time to dip his quill in the inkhorn and put on paper a picture of the child for all time. There could scarcely have been another member of the medical profession, said Dr. Cameron, who came near to Locke in his combination of philosophy and skill in practical affairs. It was Locke who restored the finances of the country after the Revolution; it was he who played a great part in the foundation of the Bank of England; it was he who introduced permanent and striking reforms in what would now be called Poor Law administration; it was he who was largely responsible for drawing up the charter for the new colony of Carolina. Probably it was his medicine which gave his philosophic mind its practical bent. His association with medicine was not merely preparatory to other and greater work, but he was throughout an ardent practitioner, and intimate with Sydenham. For many years the famous Lord Ashley, afterwards first Earl of Shaftesbury and Lord Chancellor, was his patient. Ashley had been tortured by

a painful abdominal swelling, and in 1668 the all-seeing Pepys wrote that he heard "my Lord Ashley was going to have his body cut into"—in other words, Locke had determined to act. The lecturer described how Locko operated for hydatid cyst and kept the wound open by means of a silver tube, which tube had to be worn permanently, and in the scurrilous political literature of the time took the place occupied in a later day by Mr. Gladstone's tree-felling exploits or Mr. MacDonald's motor car, as a subject on which the poorest wit of the opposite faction could feel moderately sure of raising a laugh. When such a man as Locke—philosopher, political economist, financier, physician, and, apparently, no mean surgeon—turned to the study of the child the result was bound to be interesting. His ideas, invested with the genius of Rousseau, reappeared in the Frenchman's famous *Emile*. Locke's writing was cold and devoid of feeling; Rousseau's was disfigured by straining after paradox, but it pulsated with fire and enthusiasm as he proclaimed the ministry of the schoolroom to be as sacred as the ministry of the altar. But it was to Locke and not to Rousseau that those who found their children a little difficult to-day should turn for guidance. Locke tackled the difficulty of the crying child—the child with what he called the "stomachful cry," the cry intended to disturb and distress the parent. Locke saw that parents whose children cried were nearly always parents most distressed by crying children, and least able to hide from the children the fact that they were distressed. It was astonishing, said Dr. Cameron, with what certainty the child divined the weak point in its mother's heart and exploited its advantage. Much childish wickedness, said Dr. Cameron, was designed by the culprit to produce the maximum emotional response having regard to the character of the mother, nurse, or whoever had charge of the child. The children in these instances were gifted examples. The more ordinary child fell to howling as the easiest way of provoking emotional response, giving vent to what Locke called the "stomachful cry." Locke said that children, earlier perhaps than their elders thought, were very sensible to praise and commendation. They found a pleasure in being esteemed and valued, especially by their parents; but when the child, through some excess of egotism, issued a challenge, when it did some persistent act intending to disturb and dominate, then and then only must punishment be inflicted. Locke practised restraint in the matter of punishment. "It is mere cruelty and not correction," he wrote, "to put their bodies in pain without doing their minds any good." He counselled that they be chastised, "without passion, sparely, and yet effectually." They would seldom, he added, need like punishment again. Locke had also something to say about the difficult school-boy; who, in the oft-repeated words of the school report, "could do better," lacked concentration, would not attend. He pointed out that some boys were idle through sheer love of idleness, but with many others the more they were appealed to or threatened the more lamentable was their performance. Dr. Cameron illustrated his point by relating how a surgeon brought his boy to him one day with a sheaf of school reports couched in terms which would have squeezed the self-confidence out of a judge on the bench. He said to the father, "Suppose for a moment that it was possible to value your surgical work in terms of numbers, and that every week at your hospital the marks you had received, with those of the other surgeons, were posted up, and you were invariably at the bottom, and the governors of the hospital called you in and suggested that you return on Saturday afternoon and perform twenty hernias, with what success would your work be carried on?" Locke was wiser than some modern teachers. He wrote that it was "the usual method of tutors to endeavour to procure attention in their scholars and to fix their mind to the business in hand by rebukes and corrections if they found them ever so little

wandering. But such treatment, Locko said, might produce a quite contrary effect. Passionate words or blows filled the child's mind with terror and affrightment, leaving no room for other impressions. It was as impossible, declared the author of the *Essay on Human Understanding*, to draw fair and regular characters on a trembling mind as on a trembling paper.

#### SPIRITUAL HEALING: AN ECCLESIASTICAL VIEW.

THE Bishop of Durham, Dr. Hensley Henson, in his address to the Durham Diocesan Conference on Saturday, March 14th, spoke at some length about spiritual healing. He asserted that spiritual healing meant no more and no less than mental healing, that the faith which effected the marvellous healings of ecclesiastical record, and created a number of miracles about saints and shrines, need not be distinguished from suggestibility. Faith healing was common to all religions, and there was nothing distinctively Christian about the "Christian healing" described by Mr. J. M. Hickson. In the bishop's opinion, Mr. Hickson's conception of faith hardly rose to the Christian level; his notion of prayer seemed frankly pagan, and his reading of Christian history quite mistaken. On Mr. Hickson's view it would appear, said the bishop, that his healing power was coextensive with that of Jesus as described by the evangelists; but it did not appear that Mr. Hickson had claimed to have actually raised the dead, although his ability to do so was clearly implicit in his general position. Dr. Hensley Henson observed that the science of psychology was throwing a flood of light on that obscure region in which the psychical operated upon the physical. The healing of disease was the incommunicable task of the physician; and the Christian ministry was not charged, and could not seriously concern itself, with this healing. When Mr. Hickson called upon the Church to revive this part of her ministry—physical healing—which he alleged had been lying in abeyance so long, the bishops owed it to the Church to declare their deliberate judgement. Mr. Hickson, in his enthusiasm for "spiritual healing," was led to use language which implied that the cessation of a healing ministry in the Church had been calamitous to mankind. When miracles of healing were most numerous, the bishop observed, public health was least satisfactory. The wonderful advance in medical science had been conditioned throughout by its hard-won independence of theological presuppositions and ecclesiastical control. "It cannot be the duty of the Church," concluded the bishop, "deliberately to return to the beliefs and methods of a primitive and superstitious past." Bishop Hensley Henson, when Dean of Durham, sat on the committee on spiritual healing which met at Westminster under the chairmanship of Bishop Ryle, Dean of Westminster, and presented a unanimous report to the Archbishop of Canterbury in 1914. He had the opportunity, therefore, of hearing and examining the witnesses who gave evidence before that committee. Mr. Hickson was unable to appear before the committee; in fact, it does not appear that any official investigation of Mr. Hickson's cases has taken place since the British Medical Association appointed a committee to investigate in 1909. (The committee's report appeared in the SUPPLEMENT of July 15th, 1911.) According to the Bishop of Durham, Mr. Hickson admits that the testimonies to his cures fall short of what might fairly be required, so that in the absence of scientific diagnosis before the Bradford mission and examination afterwards they could not be decisive. But Dr. Hensley Henson's opportunities for hearing the claims of healers and for judging the standard of validity in evidence required by medical men have been larger than those of many of his fellow bishops. As a result of these opportunities the bishop, while professing no concern with the faith healer's

gift, which, he says, Mr. Hickson appears to possess, expresses the view that Mr. Hickson would be wise to exercise the gift with caution lest he should do irreparable injury to those who sought his aid. In the bishop's opinion the sphere of conscience is pre-eminently the sphere within which the clergyman's duty is unquestionable. The modern physician can discern the nature of the psychic trouble which arrests and defeats physical treatment, and his knowledge might lead him to desire the clergyman's distinctive service. The bishop's remarks strike us as sound sense, and (if we may venture to say so) as sound doctrine, too.

#### HARNETT V. BOND AND ADAM.

THE sense of uneasiness felt by the medical profession at the result of the trial by Mr. Justice Lush and a special jury of the case of Harnett v. Bond and Adam has, we may hope, been lessened materially by the decision of the House of Lords, given on March 16th, that the judgement of the Court of Appeal (reversing that given in the court below) should be upheld. The case in its three stages has been reported at length in the BRITISH MEDICAL JOURNAL. The proceedings in the King's Bench Division were reported on March 8th, 1924 (p. 449 et seq.), in the Court of Appeal on April 12th, 1924 (p. 692 et seq.), and in the House of Lords on March 14th, 1925 (p. 533 et seq.), and in our present issue at page 579. We have devoted so much space to reporting the case because of the grave effect Mr. Justice Lush's judgement would have had upon the whole medical profession, and the general practitioner particularly, if it truly expressed the law on two most vital questions—first, the standard of reasonable care a doctor must exercise when acting in pursuance of the Lunacy Act, 1890, in order to bring him within the protection afforded by Section 330; and secondly, whether, if such protection be not afforded, a doctor may be made liable in damages for the whole of the period of detention of a patient whom he has certified, even though such patient has been recertified again and again by different doctors during that period. At the conclusion of the hearing of the appeal in the House of Lords on Monday the Lord Chancellor intimated that their lordships had unanimously arrived at the opinion that the judgement of the Court of Appeal was right. The medical profession, thus reassured, awaits the delivery of the reasoned judgement of their lordships with confidence that the law as it affects medical practitioners and mental patients will be clearly and succinctly stated. There is now but one question outstanding: Dr. Bond's act in detaining Mr. Harnett in the Commissioners' office in London for three hours or so was technically unlawful, in view of the fact that the jury expressly found Mr. Harnett to be sane on that date; the Court of Appeal ordered a new trial, to be confined to ascertaining the damages sustained by Mr. Harnett for those few hours' detention, and, we assume, unless the measure of damages is settled out of court, this point will come to trial in due course.

#### MEDICAL SOCIETY OF LONDON.

THE 152nd anniversary dinner of the Medical Society of London was held on Wednesday, March 11th, at the Grand Hotel, with the President, Dr. Eustace M. Callender, C.B.E., in the chair. There was a large gathering of Fellows and guests, and the evening was in every way a success. The toast of prosperity to the Medical Society of London was entrusted to Sir StClair Thomson, President of the Royal Society of Medicine, who in the course of a witty speech reminded his hearers that he was very much one of themselves, being a Fellow of thirty-one years' standing and a former president of their body. Since the Medical Society of London stood for the unity of medicine, it was with special pleasure that he coupled with this toast the name of Dr. Callender, and congratulated the society



on appointing for the first time a general practitioner as its president. In the course of his reply the President mentioned that the lease of 11, Chandos Street, where the Society has had its home for the past forty-five years, is now running out, and he gave some striking illustrations to enforce Sir StClair Thomson's point that the extreme specialization of to-day is injurious. In proposing the toast of the Royal Navy, the Army, and the Royal Air Force, Sir Humphry Rolleston, Bt., President of the Royal College of Physicians, spoke of the gratification felt by the profession that Sir William Leishman, a man who had devoted his whole life to science, should now be Director-General of the Army Medical Service. In his reply Surgeon Vice-Admiral Joseph Chambers, Director-General of the Medical Department of the Admiralty, whose exploits as an old international footballer had been mentioned by Sir Humphry Rolleston, said that the Navy looked on Sir Humphry as its greatest friend. Among other representatives of the services present were Air Commodore David Munro, Medical Administrator of the Royal Air Force, and Surgeon Rear-Admiral Sir Percy Bassett-Smith, R.N. (ret.). The health of the visitors was proposed in a most entertaining speech by Dr. Herbert R. Spencer, who welcomed among the guests the presidents of six daughter societies and the Master of the Apothecaries' Society. After some good-humoured banter directed at Lord Riddell, Dr. Spencer turned to Mr. Basil Hall, and, having complimented him on being President of the British Medical Association—a body to which, he said, every doctor ought to belong—invited him to interest the Association in the rebuilding of the fallen tower of Hempstead Church in Essex, where William Harvey's tomb reposes. Both Lord Riddell and Mr. Basil Hall responded in light strain, the latter acknowledging himself "a schoolfellow of Harvey," though perhaps of a rather later generation than Dr. Spencer might seem to imply. The last toast was that of the President, proposed by Sir Charters Symonds.

#### SUN YAT-SEN.

THE death of Sun Yat-Sen closes the story of another of those members of the medical profession who have preferred to undertake the healing of nations rather than of individuals. His life illustrated the fact, which has been so evident during the last ten years, that the gravest difficulties of the reformer are often encountered only when the first successes have been gained. The thorny problems of adjustment which spring up after a successful revolution have frequently resulted in clouding the reputation of the victor, as was the case with Sun Yat-Sen; it is never easy, therefore, for contemporary opinion to be quite just—the temptation to partiality or to hostile prejudice is too strong. Even if Sun Yat-Sen allowed dreams to become his master, as his opponents have asserted, it must be admitted that some of his visions have been realized. Since the middle of the seventeenth century the Manchu dominion of China had kept back the country from participating in the growth of civilization elsewhere in the world, and until the revolution—in the preparation of which Sun Yat-Sen played so prominent a part—this alien tyranny pressed hardly upon the vast Chinese population. Western influences, including the introduction of European medical teaching, slowly instilled an instinct of revolt against the dominant sterile obscurantism, and the connexion of Sun Yat-Sen with the medical school of Hong-Kong, of which Sir James Cantlie was dean from 1889 to 1896, was probably an important factor in the subsequent liberation of China. Sun Yat-Sen's father, a convert to Christianity, was employed as a missionary agent by the London Missionary Society; Sun Yat-Sen, who was born in 1867, became attached to the hospital of the Anglo-American Mission at Canton at the age of 18, where he developed an interest in

medicine and surgery. In 1887 the College of Medicine was founded by Sir Patrick Manson and Sir James Cantlie in connexion with the Alice Memorial Hospital in Hong-Kong; it has been part of a university since 1912, and a combined conference of the Hong-Kong and China Branch of the British Medical Association and the China Medical Missionary Association was held there last January. To this college Sun Yat-Sen came when it opened, and obtained its licence to practise medicine and surgery five years later. He then began medical practice in the Portuguese colony of Macao, where was a hospital half of which was devoted to Chinese and the other half to Western methods of treatment. Sun Yat-Sen worked in this latter half, taking special interest in surgery. Whilst in Macao he had joined the Young China revolutionary party, and, on removing to Canton, he formed a branch there, beginning the fifteen years' work that was to triumph eventually in the expulsion of the Manchu dynasty. After an unsuccessful attempt to capture the Canton arsenal, Sun Yat-Sen fled to Honolulu, and thence by way of America to London. In October, 1896, he was arrested by the Chinese in London, and imprisoned in the Chinese Legation for ten days. It was a curious episode to happen in an ordinary-looking house in the West End of London, but the prisoner might easily have been deported clandestinely had not Sir James Cantlie, almost by accident, got into communication with him. The intervention of Lord Salisbury, then Prime Minister and Foreign Secretary, brought about his liberation. The life of Sun Yat-Sen was at this time largely a blend of organization work and narrow escapes, as much as £100,000 being offered at one time for his capture. He continued actively the work of preparing for the revolution which broke out in November, 1911, and he accepted the provisional presidency of the republic which followed. He retired in favour of Yuan Shi-Kai, but continued to co-operate with him for six years, after which differences of opinion led to Sun Yat-Sen's endeavour to set up a separate Government in Canton. He was later elected President of a Southern Chinese Republic, but in 1922 was expelled from Canton by a revolt. His power was re-established in the following year, and at the end of 1924 there seemed to be a possibility of fresh developments in the North of China. Sun Yat-Sen proceeded to Peking, but was shortly after incapacitated by the illness from which he has now died. When the mists and misunderstandings that still confound the progress of China have finally lifted, it is probable that Sun Yat-Sen, in spite of his mistakes, will be recognized as one to whom his country owes deep gratitude for his active share in her liberation.

#### CONTAGIOUS BOVINE ABORTION AND UNDULANT FEVER.

IN a note published on July 5th, 1924, we drew attention to the close relation existing between the organisms of contagious bovine abortion and human undulant fever. At a joint meeting of three of the sections of the Royal Society of Medicine held last week, this formed the subject of a joint discussion, reported at page 554. Two points of general interest are suggested by this discussion. It indicates that contagious abortion in Southern Rhodesia is apparently transmissible to the human species; and that the undulant fever so caused differs definitely, but only slightly, from typical Mediterranean fever. So far the two diseases, although undoubtedly very similar and closely related, cannot be regarded as identical. From Mr. Bevan's remarks it seems that although contagious abortion has been present in Rhodesia for many years, it is only recently that mankind has become infected. Apparently either the bovine strain has become more virulent, the human race has become more susceptible, or some third factor, at present unknown, has entered into the problem. Now a very large number of cattle in this country eliminate

the bacillus in their milk; and, as Sir Percy Bassett-Smith pointed out, the British cannot be considered immune to the disease. The organism in this country seems to differ from the Rhodesian organism only in its pathogenicity to man. It is therefore all the more important to elucidate these unknown factors in Rhodesia, and to ascertain whether or not a low-grade undulant fever exists in this country. The fact that it has not so far been identified does not altogether preclude the possibility of its being present. The circumstances illustrate once more the great importance of continued and increased co-operation between human and comparative medicine. Although the need for these two allied subjects to come together has only of late been generally appreciated, many far-seeing men have recognized the mutual benefits which could be obtained by such an understanding. Chief among these in recent times was the late Sir Clifford Allbutt, the first president of the recently created Comparative Medicine Section of the Royal Society of Medicine. Another of the great pioneers on this work was the immortal John Hunter; it was he who was mainly responsible for the foundation of the London Veterinary College over a century ago, and, with it, the veterinary profession. There is little doubt that, but for his untimely death a few years later, the connexion between human and veterinary medicine would have been much more intimate than it now is. In this, as in so many other respects, Hunter's ideas were far in advance of his time, and it is only in recent years that steps have been taken to promote this closer association. The discussion on Malta fever shows that this connexion must not be confined to temperate climates, but that it is at least equally essential in the tropics.

#### VERONAL.

The dangers attending the unrestricted sale of veronal are shown in a striking manner in a recent article in the *Journal of the American Medical Association*, where Drs. Leake and Ware<sup>1</sup> give an account of no fewer than sixty-one cases of veronal poisoning treated within the last two years in a single institution, the Los Angeles General Hospital. This very high figure can be accounted for by two facts—first, the unrestricted sale of veronal in California, and secondly, the presence in Los Angeles of a large class of persons of unstable character, and nearly all the persons treated were thus handicapped, and belonged to an inferior section of society. Eighteen were veronal addicts, ten were chronic alcoholics, eight were morphinists, and one a cocaineist. In nineteen cases the drug was taken with suicidal intent. The patients were for the most part inordinately liars, and often denied having taken the drug. The symptoms of veronal poisoning are not very characteristic. The authors remark that often, in the absence of a true history, the nature of the poisoning could only be determined by analysis of the urine or the stomach contents. Hence they suggest that many cases of death from veronal poisoning may escape recognition. The evil, therefore, may be even greater than suggested by the figures given above. As has been said, there is no restriction on the sale of veronal in California, and it can be bought by anyone without a doctor's prescription; this state of things is held to be responsible for its popularity as a drug of addiction and a means of suicide. This failure to control the sale of veronal is not universal in the United States, for New York has followed the present English practice of forbidding the sale of veronal except on a doctor's prescription.<sup>2</sup> The figures given by Leake and Ware reveal clearly the evils which may arise from unrestricted sale. Veronal poisoning on the scale described above has never been known in this country, but even with our present regula-

tions it is unnecessarily frequent, and hence additional regulations will be welcome. The editor of the *Journal of the American Medical Association* points out,<sup>2</sup> however, that America is considerably in advance of this country as regards another aspect of the problem. He discusses a recent article in the *BRITISH MEDICAL JOURNAL*,<sup>3</sup> in which we deplored the host of unnecessary barbituric derivatives exploited under every kind of fancy name, and stated to be endowed with every virtue that any hypnotic can possess and devoid of every fault. In England there is no guide at the disposal of the medical practitioner to enable him to distinguish between a valuable new discovery and an old drug under a new name. In America the American Medical Association has furnished such a guide through its Council of Pharmacy and Chemistry, which publishes annually a volume entitled *New and Non-official Remedies*, and only admits to this list substances the utility of which has been established. Hence the practitioner who confines himself to this list can be certain that the claims of any new drug that he wishes to try have passed the scrutiny of an impartial tribunal.

#### CARE OF CRIPPLED CHILDREN.

THE Board of Education, in a recent circular, drew attention to the need of better provision for the education of physically defective children, and suggested that each local authority should now consider the preparation of a good orthopaedic scheme. It is pointed out that if such a scheme is established as part of the school medical service on the lines sketched by the Board's chief medical officer, one of the main sources of the supply of physically defective children will be closed, and the need of special schools for cripples would be correspondingly reduced. In 1919 the Central Committee for the Care of Cripples drew up the comprehensive scheme for the education, treatment, and after-care of crippled children which was adopted by the Board of Education. Although complete schemes exist in some counties, including Shropshire, Buckinghamshire, Berkshire, and Oxfordshire, the provision in most counties is either inadequate or non-existent. At a conference organized by the Central Committee which opened on March 12th the Duchess of Atholl pointed out that whereas about 106,000 children in England and Wales had been certified as physically defective, there was available accommodation for only 16,000. More hospital centres were wanted, as well as clinics for continued treatment and the adjustment of surgical appliances. In many cases it was possible to effect cure as the result of definite treatment. In the final session of this conference on March 14th, Dr. Eichholz advocated the combination of all the agencies concerned with the physically defective child in one central association, which should be in touch with all education facilities, so that restoration to physical efficiency, vocational training, and the full development of citizenship could be synchronized without interruption. Such an association would have as its objective the preparation of crippled children for active life.

#### INFLUENZA.

LAST week the deaths from influenza in the great towns increased slightly, from 346 to 361, and the notifications of pneumonia in England and Wales from 1,306 to 1,441. In London the mortality from influenza continues to decline; it fell from 64 to 59, and the increased mortality in the great towns as a whole is attributable to certain of them—namely, Liverpool, where the deaths increased from 7 to 26, Nottingham, an increase from 4 to 14, and Birmingham, an increase from 15 to 26. Three other large towns returned 10 or more deaths—Stoke-on-Trent (12), Croydon (10), Portsmouth (10). The increased prevalence of pneumonia is very distinct in the Midlands.

<sup>1</sup> W. H. Leake, M.D., and E. R. Ware, M.D.: Barbitural (Veronal) Poisoning, *Journ. Amer. Med. Assoc.*, 1925, 81, p. 431.  
<sup>2</sup> Barbitural and Unofficial Medications, *Journ. Amer. Med. Assoc.*, 1925, 81, p. 415.

## ROYAL COMMISSION ON LUNACY AND MENTAL DISORDER.

### BRITISH MEDICAL ASSOCIATION EVIDENCE (*continued*).

The session of the Royal Commission on Lunacy and Mental Disorder was occupied on March 11th with further oral evidence tendered on behalf of the British Medical Association. The Memorandum of Evidence appeared in the SUPPLEMENT of January 17th (p. 29), and the report of the first hearing in the JOURNAL of January 24th (p. 170). The witnesses attending on the second occasion were Dr. R. Langdon-Down (chairman of the Association's Committee on Lunacy and Mental Disorder), Dr. J. W. Bone, Dr. C. O. Hawthorne, Mr. E. W. G. Masterman, Dr. Christine Murrell, and Sir Jenner Verrall, with Dr. C. Courtenay Lord (Assistant Medical Secretary).

### Licensed Houses.

The Chairman of the Commission (the Right Hon. H. P. MACMILLAN, K.C.) said that there were some supplementary topics on which the Commission thought it desirable to have the opinion of the Association. The first of these was with regard to the position of the licensed house. This was dealt with in paragraph 54 of the Memorandum of Evidence, which stated that the Association was satisfied that there existed a desire in the community generally that many patients should be able to be treated otherwise than in public institutions. He imagined that the objection in principle which was taken in some quarters to this type of institution was that it might give rise to a possible conflict between duty and interest on the part of the management.

Dr. Langdon-Down said that he believed that was the basis of the theoretical objection sometimes urged, although as a matter of fact the reports with regard to these houses were by no means adverse to them in the main. It was really for the benefit of the patients and their friends that the Association urged the position which was set out in paragraph 54. He thought that those who put forward the view that there might be a conflict between duty and interest overlooked certain considerations which told the other way—for example, the desire to do a good thing and to do it well, and the importance of gaining and maintaining a good reputation.

The Chairman said that there did seem to be some anxiety in the public mind with regard to the profits made by the proprietors of such establishments. There was a suspicion of large profits undisclosed.

Dr. Langdon-Down replied that he was afraid he was not in a position to say anything with regard to the profits, but he did not think any suggestion of exploitation could be justified. He regretted the unavoidable absence of Dr. F. H. Edwards, who had furnished to the committee some figures showing the recovery rates in these houses, and, although he himself could not recall them, he believed they compared favourably with those relating to public institutions.

The Chairman said that Dr. Edwards might be called later. He went on to point out that in the case of patients who were rate-aided there was comparatively little motive for unnecessary detention; the only ground on which such detention had ever been suggested as possible was that a patient might have made himself extremely useful to the institution. In the licensed house, on the other hand, there was possibly more public anxiety, because the inmates were generally persons of some means, and there might be a motive on the part of the relatives to keep them there unjustifiably, and also a pecuniary interest in their detention on the part of those conducting the establishment. Positive ill treatment in such institutions was perhaps less likely than in public institutions, because the patients had means and could command better attendance, but the possibility of wrongful detention seemed to be rather greater, and behind the whole thing was a question of public policy, that money should not be made out of such circumstances.

Dr. Langdon-Down said that the present position whereby a veto existed against the setting up of new houses was illogical. If a thing was wrong it should not exist at all, even in a limited form; if it was right to have such institutions, the supply should meet the demand.

The Chairman, in reply to a remark by Sir Jenner Verrall, who instanced the parallel of the nursing home, said that the Commission was not entirely without evidence that abuses had occurred in licensed houses; that, of course, was a reason for stiffening the safeguards. The question was whether the public at large desired this kind of institution. The nursing home, of course, of which the licensed house was the counterpart in mental cases, had come to stay; but then, in the ordinary nursing home, the patient remained more or less a free agent—at all events there was no legal ingredient. He took it that it was the view of the Association that if the safeguards were

adequate this type of institution should be encouraged rather than discouraged.

Dr. Langdon-Down said that that was so. He also pointed out that the attitude of the Legislature, which in 1890 was rather against licensed houses, was modified in 1913 when the Mental Deficiency Act was passed, for in that Act the wisdom of allowing institutions run for profit or from motives of semi-charity to deal with mental deficiency cases was recognized. In answer to Sir Humphry Rolleston, he added that he would not like it to go forth that the Association was desirous in any way of fortifying a monopoly.

The Chairman remarked that it was rather odd that in 1913 it should have been recognized that premises might be approved for the reception of defectives, although the institutions were run for private profit. He asked whether the witness believed that the demand for licensed houses justified their retention and encouragement, notwithstanding the risks attaching to them.

Dr. Langdon-Down replied that he thought the public might be divided into two categories: those who had relatives who wanted this care and treatment, and those who had not. The latter took a detached and *a priori* view, but the former—those who were interested in particular cases—asked for and wanted these institutions.

The Chairman thought that complaints had been made more frequently against licensed houses than against public institutions. Dr. Langdon-Down pointed out that this might be because the medical superintendent or proprietor of a licensed house was more readily "shot at." The person who had a real or fancied grievance believed himself likely to get more out of him than out of the medical superintendent of a public institution.

The Chairman said that the proposals of the Association under this heading must be linked up with its general proposal for a provisional order. A provisional order might eliminate a number of cases which would otherwise reach licensed houses, and in that way diminish their transitory population.

### Functions of the Medical Superintendent.

The Chairman stated that a considerable body of evidence had come before the Commission to the effect that the medical superintendent's work as a doctor was interfered with by his administrative duties. He asked for the views of the Association.

Dr. Langdon-Down said that he did not think his committee had discussed that point. His own view was that the whole of the circumstances in which a patient was situated affected his treatment, and that there would be great difficulties in dividing up the management of an institution. The supreme authority ought to be the medical superintendent, who should be able to impose his will on every department.

The Chairman instanced the analogous case of the nursing home, where the doctor in charge did not concern himself with administration, but entrusted the matron with general oversight. The physician or surgeon at the head of a nursing home was not "cumbered with much serving," as was the head of a mental institution.

Dr. Langdon-Down pointed out the difference between a resident medical superintendent and a doctor in charge of a nursing home who lived outside. The medical superintendent, of course, if the institution was big enough, should have several departmental chiefs under him.

The Chairman said that the Commission had been informed in evidence of a medical superintendent who took such an interest in a farm attached to his institution that he developed into an admirable farmer, but to the disadvantage of his medicine. It could not be regarded as ideal if a medical superintendent had his attention diverted so largely to administrative matters that he was compelled to delegate his medical duties to subordinates. It was a matter, of course, largely of temperament; some superintendents might prefer the administrative to the medical work. But he thought the Association would agree that as far as possible the medical superintendent should be able to free himself from the routine matters of administration, and, among other things, should have opportunity to acquaint himself with the advances of medical science, particularly in regard to mental disease.

Mr. Masterman said that he was medical superintendent of a Poor Law hospital with 800 beds. All the financial side was entirely out of his hands, but he agreed that it would be impossible for a medical superintendent to divorce himself wholly from responsibility for the administrative as well as for the professional side. He himself would, of course, be consulted on anything affecting structure or general arrangement in his own institution, but he would not concern himself with details.

### After-care.

The Chairman next sought the opinion of the witnesses on after-care, which was discussed in paragraph 43 of the Memorandum. Two views had been laid before the Commission—one

that it was desirable to have associations, preferably of a voluntary character, to assist the patients in getting back to ordinary life; the other, that many patients, having left the institution, would desire to close the episode, and would resent people, however well intentioned, busying themselves with their affairs.

Dr. Langdon-Down thought that it would be well if those concerned in the working of the asylum took a larger share in the after-care arrangements, particularly by habitual communication with the patients' doctors after the patients had left the asylum.

Dr. Christine Murrell said that the committee had felt that patients suffered from lack of continuity. When a patient went into an institution, his doctor as a rule—not always—was asked to send a report to the medical superintendent, but it was not the custom when the patient was discharged for the medical superintendent to communicate with the patient's own practitioner.

The Chairman said that it had been impressed upon him that the transition from institutional to ordinary life must be a very critical period in the history of the individual. Dr. Langdon-Down agreed, and added that it was important that the period of actual insanity should not be regarded as a separate episode, but should be a part of the entire medical history.

Mr. Micklem asked whether, when a patient on some insurance practitioner's list went into an institution, he did not automatically drop out of insurance, and therefore had no doctor to whom to return. Dr. Bone said that such a patient did not come off the list for a considerable period—more than a year. He believed the longest period possible was one year and nine months. But when he resumed work he would immediately enter again into insurance, though whether he went on the list of the same insurance practitioner or not would be a matter for his choice.

Sir H. Rolleston asked whether the Association would support any scheme for social service connected with mental hospitals whereby cases might be visited afterwards by a friendly body of visitors, who would be to all intents and purposes members of the staff of the institution. Dr. Langdon-Down could see no objection, but the Association had not considered the matter. It would be a logical extension of after-care. Dr. Murrell begged that if the Commission made any recommendation to that effect the consent of the patient would be obtained. The patient might not want the asylum to follow him home. Given such a safeguard, the medical value of any scheme of the kind would be enormous. The Chairman agreed that the wishes of the patient should be safeguarded.

#### *Treatment of Mental Cases at General Hospitals.*

The Chairman said that on the previous day, in evidence from the Mental Hospitals Association, the question of the assimilation of the treatment of mental disease in its early stages to the treatment of tuberculosis or venereal disease at public clinics had been discussed. At present these other diseases were dealt with in special premises, and, in the case of tuberculosis, in-patients as well as out-patients were provided for. Would it be possible for similar clinics to be established for mental disease short of insanity? The theory was simple, but the practice might be difficult.

Dr. Langdon-Down said that he thought that some such provision for mental cases might be linked up very advantageously with the teaching hospitals. Opportunities would thereby be afforded for the study of mental disorder by those entering the practice of medicine; such a plan, moreover, would help to prevent the unjustifiable severance of psychiatry from medicine in general.

The Chairman said that the whole conception was most attractive, but any such arrangement must take one of three forms: (1) a department of an existing asylum; (2) a branch of a general hospital; or (3) a separate institution similar to the clinics already set up for dealing with tuberculosis and venereal diseases. He gathered that the second of these proposals was the one favoured by the witnesses, but it was one which might encounter opposition from those conducting general hospitals; the introduction of these cases might be resented. Dr. Langdon-Down said that he thought the tendency now was to encourage psychiatric departments in general hospitals.

Mr. Micklem asked whether it was contemplated that cases should go to these clinics under temporary orders. The Chairman said that he did not see how such a department could be conducted unless some form of restraint was available, and this would involve registration and the whole apparatus over again, and would be resented by the management of the general hospital.

Dr. Langdon-Down described the psychiatric clinic of Professor Winkler, at Utrecht, to which patients came voluntarily and yet were detainable. In reply to the Chairman, who asked how the carrying on of such an institution was

reconciled with the legal aspect, Dr. Langdon-Down said that he was afraid things were done in Utrecht which might not have the approval of the legal authorities in this country, but he promised to obtain for the Chairman a copy of an address which Professor Winkler delivered not long ago to the Medico-Psychological Association, and which the Chairman said he would read with great interest.

Dr. Langdon-Down added that he wished to make one emendation of his oral evidence given on the former occasion. He had stated that it was unfortunate that there were not institutions for the treatment of mental illness short of insanity. That was a hasty generalization, and, of course, there were a few such institutions, notably the Lady Chichester Hospital at Hove, the Maudsley Hospital, and an institution in Edinburgh.

Mr. Masterman pointed out that Maudsley Hospital was in very close association with King's College Hospital and had the services of its staff when required. That, indeed, was a model of what might be done. Maudsley was not under the control of King's College, but was associated with it. The Chairman said that he feared that when once a hospital was given a special name it became in the popular mind an asylum. Mr. Masterman said that he could testify, as one living in the neighbourhood, that Maudsley in the minds of the people round about had a quite distinct signification, apart altogether from that of an asylum.

#### *Protection for Certifying Doctor.*

Dr. Hawthorne again raised a matter discussed on the previous occasion in connexion with the claim that the certifying practitioner should enjoy the immunities of a witness in a court of law. One of the members of the Commission had suggested that there was a parallel between a lunacy certificate and a certificate given in a case of diphtheria or small-pox, and that as a medical certifier could not avoid a legal responsibility in the case of the latter it was reasonable to infer a similar responsibility in the case of the former. But there were two respects in which these two classes of certificates differed the one from the other. In diphtheria, for example, the doctor offered himself to the community as one who was ready and willing to certify and to do whatever was necessary in the case. It might be said that it was the same in lunacy, but there was a difference. The doctor undertook with great reluctance to certify a patient as a lunatic. The total amount of this work which fell to the individual doctor in the course of his career was very small, and the remuneration negligible. In the case of these lunacy certificates, the witness submitted, the doctor acted as a public servant, whereas in the case of certificates given in diphtheria or small-pox he acted in the proper and ordinary practice of his profession. The second difference was that in a certificate of a certifiable disease the doctor expressed an opinion only, he did not state the facts upon which he founded that opinion; in lunacy certificates the facts had to be stated to the judicial authority, who had the right to accept them or challenge them, to act upon them or to decline to act upon them. Therefore the certificate had a different quality, and the analogy drawn by a member of the Commission at the last hearing was fallacious.

The Chairman said that he gathered that the Association contended that the immunity of the certifying doctor should be as complete as the immunity of a witness testifying in a court of law. But it must be remembered that the doctor was a professional man who held himself out as able to perform certain things in which he was skilled, and he must be judged by that criterion. If, therefore, it could be shown that he had performed his function carelessly or in bad faith he ought not to be protected. If a doctor made a malicious statement on a certificate—a statement perhaps not on a professional but on some collateral matter—was he to be protected?

Dr. Hawthorne said that no one asked for any protection for a doctor making false statements. The Chairman instanced the hypothetical case of a doctor giving a certificate while drunk. If the legislative protection which the Association wanted were accorded, he would be absolutely safe. Dr. Hawthorne thought it difficult to imagine a case of a doctor who, being drunk, was yet able to construct a certificate commending itself to the judicial authority.

Some discussion took place on the question of onus of proof, and the Chairman gave an account of the legal procedure in Scotland, which he considered more favourable than the English system to the doctor against whom a complaint was made with regard to a certificate. He went on to say that it was asking a great deal of the Commission to recommend that the certifying doctor should be placed in the position of a witness giving oral testimony in a court. Even such a witness was not entirely protected. If he committed perjury he was subject to legal process.

Dr. Hawthorne said again that he did not ask that the doctor should be free from responsibility for perjured statements.

The Chairman pointed out that the whole procedure of certification was administrative rather than judicial. He agreed that it was very undesirable that members of the profession should feel that they were performing their work under the possible menace of legal action, to answer which, even though they were found guiltless, might involve them in severe financial loss. But while anxious to give every encouragement to the profession, he felt there must be preserved in the law the right of action where action ought to lie.

Sir Jenner Verrall spoke of the risk of doctors not doing their duty unless some increased protection were accorded.

Dr. Murrell asked whether it would not be possible to increase the responsibility of the judicial authority. If the risk of the medical certifier could not be lessened, could not the judicial authority at least be associated with the risk? The Chairman said that the judicial authority was not exempt from possible action, though he agreed that, generally speaking, it was against the medical certifier that action was taken.

This concluded the evidence of the British Medical Association, and the witnesses were thanked for the assistance they had given to the Commission.

## South Australia.

[FROM OUR OWN CORRESPONDENT.]

*The British Medical Association.*

DR. RIDDELL of Kapunda retired from office as President of the South Australian Branch of the British Medical Association last June, and was succeeded by Dr. Steele Scott of Malvern. The outstanding feature, perhaps, of the year's scientific work was the Listerian Oration delivered by Mr. F. A. Hadley, F.R.C.S., of Perth, Western Australia, on "Deformities of the alimentary tract." A medal has now been struck, which has been presented to all who have delivered this oration in the past. In addition to the medal, the interest from a small endowment fund which has been established will be handed to the orator in futuro to help to defray his travelling expenses.

### Medical Politics.

Our fairly satisfactory Medical Act was recently in danger of being wrecked by an amending bill introduced by an irresponsible member of the lower house. He proposed to allow the registration in South Australia of such men as had been medical officers of an armed transport during the war and had been discharged with a good character after a year's service. There have been instances recently in which persons have been registered in one of the Australian States on the strength of American diplomas, and it has afterwards been ascertained either that they did not hold such diploma or that it was not of a character to warrant registration. All the Labour members who spoke seemed to think that the British Medical Association was at the bottom of some tyrannical objection to registration. The sensible view taken by Mr. Denny, the Attorney-General, in opposing this private member's bill probably influenced the Labour cabinet to vote against it, and its second reading was lost by 18 to 15 votes.

### The Medical School.

Dr. Cleland's chair of pathology is transformed into the "Marks Professorship," and in addition a Keith Sheridan Fellowship has been created with the bequests mentioned in my last letter. Professor Brailsford Robertson will probably direct his energies more particularly to his favourite study of biochemistry, and a Marks lecturer on applied physiology will be associated with the Sheridan Fellowship. Preventive medicine has suffered a great loss by the death of Dr. Thomas Borthwick, the health officer for the city of Adelaide, the first man in South Australia to devote himself exclusively to health work. His successor is Dr. Angus Johnson, a member of the corporation. At the hospital Dr. Darcy Cowan has been promoted to full physicianship, and two vacancies in the out-patient department have been filled by the appointment of Drs. Guy London and Southwood. The lectureships on obstetrics and gynaecology have been reunited, after more than twenty years' divorce, in the person of Dr. T. G. Wilson, Dr. A. A. London, the last of the original staff, having resigned the former of the two posts.

*Royal Society.*

The last three presidents of the local Royal Society have all been medical graduates. When Sir Joseph Vereco declined re-election after holding office for about eighteen years he was succeeded by our local authority on orchids, Dr. R. S. Rogers. Dr. Pilleine, who is an omnivorous scientist, has now completed a year in office, and has given way to the professor of geology, Sir Douglas Mawson, of Antarctic expedition fame.

## England and Wales.

### LIVERPOOL VOLUNTARY HOSPITALS.

At the annual meeting of the Royal Southern Hospital on March 3rd, when the Right Hon. the Lord Mayor presided, it was stated that the effort to establish a co-operative contributory scheme in Liverpool, on lines which have brought relief to hospitals in other large centres, is making satisfactory progress and would receive the speaker's whole-hearted support. The financial position of the hospital is a matter of grave concern to the committee; not only is it living considerably above its income but has an overdraft of £20,000. The cost of maintenance showed an increase during the year of £2,164, due chiefly to the increased cost of provisions, surgical and dispensary items, and salaries and wages. The total number of in-patients in 1924 was 2,673, as compared with 2,472 in 1923; the total number of out-patients was 21,922 with 88,780 attendances, showing an increase of 2,956 and 11,078 respectively over the corresponding figures in 1923. The important event of the year was the opening of the electro-therapeutic and massage department last October to commemorate the jubilee of the hospital (1922). There is now a special clinic for heart diseases equipped with an electro-cardiograph. It was reported that the Newbolt Memorial Fund in memory of the late Mr. G. P. Newbolt, F.R.C.S., amounted to £1,264, and was being utilized to enlarge the x-ray department, in which he took a keen interest during the whole period of his twenty-six years' service. The committee records in its annual report with profound regret the loss of Mr. Newbolt, and adds its sincere testimony and appreciation of his great loyalty and devotion to the hospital.

### The Liverpool Royal Infirmary.

The annual meeting of the Royal Infirmary, Liverpool, took place on March 13th at the infirmary, under the presidency of Dr. T. R. Glynn, consulting physician and emeritus professor of medicine. The x-ray department has been extended and a new ward—the Larrinaga maternity ward—in connexion with the gynaecological department is to be ready in the near future. The number of in-patients in 1924 was 5,069, and exceeded the admissions of the previous year by 289. The number of out-patient attendances amounted to 174,795, and the number of new patients showed an increase of 2,017 over that in 1923. The financial statement showed that the expenditure was £7,714 above the annual income, and that the accumulated deficit on the general maintenance account amounted to £24,210. The new nurses' home is badly in want of funds, and £25,000 is required to complete the second portion of the building. During the past year Dr. R. J. M. Buchanan, honorary physician for twenty-three years, and Mr. W. Thelwall Thomas, honorary surgeon for thirty-three years, have retired and were appointed consulting physician and consulting surgeon respectively by the meeting, which recorded its appreciation of their services and devotion to the hospital.

### MAUDSLEY HOSPITAL LECTURES.

The second part of the eighth course of lectures on psychological medicine at the Maudsley Hospital will commence early in April. Dr. F. C. Shrubbsall will deliver eight lectures on the practical aspect of mental deficiency on Wednesday afternoons, beginning April 1st, and eight lectures on morbid psychology will be given by Dr. E. Mapother on Tuesday afternoons from April 7th. On



Monday afternoons, from May 4th, Dr. Bernard Hart will deal with the psychoneuroses, and on Tuesday afternoons six lectures on the pathology of mental diseases will be given by Sir Frederick Mott, beginning on May 5th. Six demonstrations in clinical psychiatry will be given on Wednesday afternoons, commencing May 6th, by Dr. E. Mapother, and twelve clinical demonstrations in neurology by Sir Frederick Mott and Dr. F. L. Golla on Thursday afternoons from April 2nd. Lectures on crime and insanity by Dr. W. C. Sullivan, and on the legal relationships of insanity and treatment, will be given on dates to be announced later. Further information may be obtained from the Director of the Pathological Laboratory, Maudsley Hospital, Denmark Hill, S.E.5.

#### LONDON CONFERENCE ON VENEREAL DISEASE.

A conference of representatives of London local authorities and propaganda committees associated with the venereal diseases scheme for London was held at the County Hall on March 16th under the auspices of the National Council for Combating Venereal Diseases. Mr. E. B. Turner, F.R.C.S., who presided, pointed out the greatness of the field covered by the London scheme, embracing as it did a population of eight million. During 1924 the number of meetings in furtherance of the anti-venereal propaganda was 258, and the number of people directly reached was nearly 37,000—a small figure in relation to the population of London, but including many people of local influence, such as borough councillors, school teachers, and church workers. Dr. Letitia Fairfield then gave an address on the working of the London scheme. The scheme, she said, involved arrangements with eighteen general and ten special hospitals, and the value of the anti-venereal work done in London was enormously assisted by the interest of the teaching schools, which ensured that the medical practitioners of the future would know a great deal more about venereal disease than the medical profession had known in the past. At St. Thomas's, Guy's, St. Paul's, the Royal Free Hospital for Women, and the Lock Hospitals the clinics were now open for practically the whole day, so that there was no excuse on the part of patients that their professional or industrial occupations deterred them from attending. Seven hostels for women had been established, all of them in connexion with general hospitals. A gratifying feature was the extent to which laboratory facilities were being used by general practitioners as well as public health officers. Dr. Mary Scharlieb spoke on the organization and work of local committees. The happiest method of propaganda, she said, was by a judicious mixture of voluntary and official work. When one found in any borough public health authorities acting on their own, without co-operation with voluntary workers, there was a lack of intimate touch with the problem. Officialdom without its voluntary partner was officialdom partially paralysed. Professor H. R. Kenwood gave an address on the work of the National Council. Drs. Dorothy Hare and Margaret Rorke spoke on the women's hostels, and there was a good deal of general discussion in the way of an interchange of experiences between representatives of different boroughs, chiefly on the question of propaganda.

## Scotland.

#### ODONTO-CHIRURGICAL SOCIETY OF SCOTLAND.

The annual meeting of the Odonto-Chirurgical Society of Scotland was held in the Dental Hospital, Edinburgh, on March 6th, under the presidency of Dr. H. Gordon Campbell. A paper on immediate and remote effects of infections of the mouth was read by Dr. J. E. McCartney, lecturer on bacteriology in the University of Edinburgh. It was possible, he said, in an average month to find anything from 100 to 150 different organisms. Many of these, no doubt, were merely transient residents, having been introduced by food, but others were more permanent. The total number of organisms in the mouth was in the

main determined by the cleanliness of the patient and the variety of food taken; starchy foods were those most likely to encourage the growth of organisms. Rheumatic troubles would be better treated at the seat of origin than by local counter-irritants, and treatment should be carried out before the infection was well advanced, for then the damage had been done. Another point he emphasized was the futility of mouth-washes, which did not produce an effect beyond the surface of the gums, while infection needed more radical treatment.

#### GLASGOW VETERINARY COLLEGE.

The Royal Faculty of Physicians and Surgeons of Glasgow has forwarded to the Secretary for Scotland a resolution regarding the proposal of the Board of Agriculture and the Government to withdraw grants from the Glasgow Veterinary College. The opinion is expressed that the continuation, maintenance, and advancement of the college as a centre of teaching and research are urgently desirable, and it is maintained that Glasgow is the most convenient and suitable centre for students drawn from an area embracing one-half the entire population of Scotland. It is urged further that the success of the Glasgow College, both in the number and quality of its students, fully justifies its continuance, and that its work in relation to the diseases of man and the lower animals is of vital importance to medical science and to public health, with both of which Glasgow has a profound and intimate concern, and for both of which the whole country is calling for encouragement from the Government. On these grounds the Faculty regrets the proposal to concentrate the teaching of veterinary medicine in one centre in Scotland which is involved in the proposed withdrawal of the grant-in-aid to the Glasgow College.

#### GLASGOW ROYAL HOSPITAL FOR SICK CHILDREN.

Sir Hector Cameron presided over the forty-second annual general meeting of the Governors of the Royal Hospital for Sick Children, Glasgow. The report for 1924 showed that over 6,000 children had been treated in the wards, while at the hospital and at the dispensary in West Grinham Street there had been altogether 77,973 attendances of out-patients. The expenditure of the hospital for the year had been £30,177, as compared with £29,902 in 1923. The chairman, in moving the adoption of the report, expressed the thanks of the meeting to those persons who had responded so generously to the directors' appeal for £75,000 required to meet the cost of additions and extensions. In answer to this appeal £71,000 had been contributed within less than twelve months, and a further £1,000 received that morning left only £3,000 to make up the amount which had been originally required. The chairman declared that when the extensions were completed the hospital would rank as one of the finest and best equipped institutions of its kind in the country.

#### THE PERMANENT CARE OF THE FEEBLE-MINDED.

A lecture was delivered at a meeting of the Edinburgh Women Citizens' Association on March 3rd, when Lady Leslie Mackenzie was in the chair, by Dr. J. Keay, medical superintendent of Bangour Asylum, who estimated that there were in Scotland at the present time 19,686 mentally defective persons; many of them were constantly drifting in and out of poor-houses, reformatories, asylums, and similar institutions. Many others were at large, and the great majority were in urgent need of protection, of training in industrial employment, and of control to prevent the propagation of mentally defective children. Feeble-minded women were nearly twice as prolific as normal females, and, while the birth rate of the normal population had steadily declined since 1878, that of the feeble-minded had increased. The only practical method of dealing with this problem was to segregate them permanently in industrial colonies. Here they would be happy, instead of, as at present, being trained to the age of 16 years and then turned adrift to sink or swim, just at the period of life when training was most essential. No civilized country could afford to neglect this matter.

## Ireland.

**FREE STATE ELECTIONS.**  
By-elections in nine Free State constituencies were held last week. Among the successful candidates was Dr. Thomas Hennessy, Irish Medical Secretary of the British Medical Association. There appear to have been three parties at these elections—Government, Republican, and Labour. Dr. Thomas Hennessy was returned for Dublin (South City) as a Government candidate by 24,075 votes, against 13,900 for the Republican candidate, and 4,237 for the Labour candidate.

**LOCAL GOVERNMENT AND PUBLIC HEALTH BILL (IRISH FREE STATE).**

During the passage of the Local Government Bill through the Senate an amendment making it mandatory on coroners to hold an inquest on a body where there was reasonable ground to believe that death might have been due to causes other than common illness was carried. An amendment was moved to the effect that the county medical officer of health should act as local government inspector in connexion with the administration of county hospitals, county homes, mental hospitals, and dispensaries in the areas assigned to him. At present these institutions are inspected by a staff of some seventeen lay inspectors and ten medical inspectors. Under the bill there would be a new office, county officer of health, and the amendment proposed that he should act as local government inspector. It was urged by senators that economy to the danger of public health was not wise, and the Minister of Local Government and Public Health stated that he could not accept the amendment. He mentioned that his department, which had been taken over from the British, with all its functions, now showed a saving of £15,000 a year. He considered it would be wrong to push untried men in to the position of local officers over the various public health areas. The amendment was withdrawn. A new Government section was proposed, providing that at least one of the sanitary officers appointed by any sanitary authority under the provisions of the Public Health Act, 1878, should be a duly qualified veterinary surgeon, and that his duties should include inspection and examination of meat, inspection of cattle and dairies, and other similar duties. Sir John Keane said that since the question was raised, members of the veterinary profession had been very busy, and seemed to be rather apprehensive that the House was inclined to encroach on their professional duties. What the House objected to was these gentlemen overlapping under different Acts. The Minister of Local Government and Public Health said it was the intention at first to have one veterinary officer to carry out all the co-ordinated duties in the county. Though one veterinary officer would not be able to take on all the duty of the public health district, it would be better to have one than none at all. The section was carried.

**VITAL STATISTICS OF NORTHERN IRELAND.**

During the quarter ending December 31st, 1924, 6,474 births were registered in the twenty-seven superintendent registrars' districts in Northern Ireland, the number being equivalent to an annual birth rate of 20.2 per 1,000 of the estimated population, as compared with the corresponding figures of 17.5 for England and Wales and 20.7 for Scotland. The deaths registered during the quarter numbered 4,592, representing an annual rate of 14.3 per 1,000, as compared with 11.1 per 1,000 for England and Wales and 13.7 per 1,000 for Scotland. The birth rate was 1.7 below the rate for the corresponding quarter of 1923, and 1 below the average rate of the fourth quarters of the ten years 1914 to 1923. The death rate was 0.3 below the rate of the corresponding quarter of 1923, and 2.1 below the average rate for the fourth quarters of the ten years 1914 to 1923. Of the total number of deaths registered, 17 per cent. occurred in public institutions; another 11.8 per cent. were uncertified, there having been neither a medical attendant during the last illness nor an inquest held by a coroner. The equivalent birth rate for the

quarter under review of the county boroughs and urban districts, which contained nearly half the total population of Northern Ireland, was 25.8 per 1,000 of the population, the birth rate for the remainder of Northern Ireland being 16.2 per 1,000. The annual rate represented by the number of deaths from all causes in the county boroughs and urban districts during the quarter was 16.4 per 1,000 of the population, and the corresponding rate for the remainder of Northern Ireland was 13.1 per 1,000. The urban mortality from the principal epidemic diseases was equivalent to an annual rate of 1.2 per 1,000 of the population, the corresponding death rate for the remainder of Northern Ireland being 0.4 per 1,000.

**VACCINATION DEFAULTERS IN DUBLIN.**

Mr. Collins, district justice, recently imposed nominal fines of 6d., with £1 1s. costs in each case, on a number of persons who were prosecuted by the Dublin Union Commissioners for failing to have their children vaccinated. Mr. J. Crowley, for the Commissioners, said there were about 7,000 defaulters in the city, and the Commissioners were determined to have the law enforced. One of the defendants said, in his defence, that he looked upon vaccination as an act of cruelty, and he would be going against his conscience to have his child vaccinated. He felt it was a criminal law.

**Medical Notes in Parliament.**  
[FROM OUR PARLIAMENTARY CORRESPONDENT.]

THE House of Commons has this week discussed the Army and Navy Estimates. In the former debate references were made to the diminished inflow of medical men to the R.A.M.C. The Medical Committee of the House will meet next Monday, and will discuss certain proposed bills of medical interest, including probably a Births and Deaths Registration Bill. The Nursing Homes Registration Bill introduced by Mr. G. Hurst has been printed. The text does not incorporate all the results of recent negotiations between the promoters of the bill and the Ministry of Health, but this, it is stated, is due merely to exigencies of time.

The Performing Animals Bill and the Birds Protection Bill both passed through Grand Committee on March 17th without amendment, and the Government is likely to help their progress towards the Statute Book. On the same day the House of Lords gave a second reading to Lord Carson's bill for the regulation of moneylenders, and agreed that it, together with a bill for a similar purpose which has received a second reading in the Commons, should be sent to a joint committee of both Houses.

**BILLS.**

**Therapeutic Substances Bill.**  
The House of Lords, on March 17th, passed the Therapeutic Substances Bill through Committee and Report without amendment. During the Committee stage Earl Russell said that Clause 2, dealing with the restrictions on the manufacture of therapeutic substances, made no provision for the cost of examination, and asked whether these substances were to be tested by a voluntary committee or by whole-time public officers, and whether the manufacturers of the products were to pay. The Marquess of Salisbury, the Minister in charge of the bill, said the routine tests would be done at the expense of the manufacturers, who would provide samples free of charge. In special tests by the Medical Research Council the expense would be provided out of parliamentary votes. The number of manufacturers was too small to justify the introduction of fees, but if too large a charge were thrown on the Vote for the Medical Research Council in the House of Commons would take note of it, as the tests were in the interest of the public.

On Clause 3, imposing restrictions on the importation of therapeutic substances, Viscount Haldane said that certain substances would be imported in small quantities for purposes of research by men of science, and he asked whether a distinguished physiologist, for example, might be placed on a list and enabled to obtain supplies with a minimum of trouble. Lord Salisbury said it was not proposed that licences should be given for special parcels, but to individuals or to institutions, enabling them to import at will for research. Information that such licences had been issued would be passed to the Customs. All the regulations would be laid before Parliament. Lord Haldane said the explanation was satisfactory.

**Mental Deficiency Bill.**  
Sir Leslie Scott introduced, on March 17th, a Mental Deficiency Amendment Bill, described as a bill to amend Section 7 of the Mental Deficiency Act, 1913, for the purpose of enabling a defective to be removed from an institution for the purpose of being placed under guardianship. He said it was intended to

repair an omission in the Act of 1913, which provided for the transfer of a mentally deficient person from guardianship to an institution, but not for the reverse process. After treatment of a defective in an institution it was sometimes found that such an improvement had taken place that transfer to guardianship was desirable. The bill provided that the transfer could be made under the order of the judicial authority which originally made the order, or under another judicial authority, and by the same procedure as in the original process. As chairman of the Central Association of Mental Welfare, he knew that this small change would be of great advantage. The bill, which was backed by Mr. H. A. L. Fisher, Sir Henry Stessler, Dr. Fremantle, and Mr. G. Hurst, was read a first time without discussion or division.

#### Summer Time Bill.

The second reading of the Summer Time Bill was moved, on March 13th, by Colonel Lambert Ward, and after the Home Secretary had announced that in the event of the bill receiving a second reading it would be taken up by the Government and given facilities for passing through the House, it was read a second time by 289 to 63.

In seconding the motion, Mr. Cooper Rawson said that the bill would be of great benefit to the health of the people, and urged that an argument for the bill was that hospitals would save the money now spent on artificial sunlight, as it would be possible to get the natural sunlight out of doors.

Dr. Little said medicine was on the eve of gaining extensions of knowledge of the properties of sunlight. Members could visit any of the light departments of the great London hospitals and see the transformation of a wreck of humanity into a reasonably healthy person as a result of sitting for half an hour, three times a week, in front of the very feeble imitation of sunshine which came from a carbon arc lamp. The importance of sunlight and fresh air could not be overestimated, and both would be increased to large numbers of people by this bill; he wished the House of Commons itself could receive more sunlight and fresh air than it did. The psychological effect of sunlight was very great. Amazing influence on nutrition was exercised by the application of sunshine and fresh air.

Sir Kingsley Wood, for the Ministry of Health, read a letter from the London County Council, dated March 13th, which contained the following passage: "At one time it was alleged that summer time had a detrimental effect on the health of children and young persons, by leading to reduce the hours of rest, but the Council, in 1921, after consulting the school medical staff and the authorities of elementary, secondary, and continuation schools, and evening institutes, came to the opinion that the consensus of expert educational opinion was that summer time was an advantage to school children and to young persons continuing their education beyond the school age." That was the considered opinion of the greatest educational authority in the world.

Mr. Rhys Davies asserted that medical evidence was definitely in favour of more sun and daylight.

Mr. Lunn, on the other hand, said that if members lived among the people they would see that in consequence of summer time children did not get the sleep they ought to have. Most working-class mothers were opposed to it. Other members supported this view.

The Home Secretary said that the British Medical Association had expressed regret that summer time had been curtailed last year, and declared that it was beneficial to health and efficiency. The council of the Society of Medical Officers of Health recently passed a resolution in favour of summer time for six months each year, and at a deputation in favour of the bill, which he received at the beginning of the week, representative medical men had spoken. Mr. E. B. Turner, who represented the British Medical Association, alleged that it was quite false to say that summer time was bad for children. The additional fresh air which summer time gave the children was a definite benefit to their health, and they were able to see more of their fathers.

A county medical officer of Hants, Dr. R. A. Lyster, was on the deputation, and declared that medical officers of health in school medical officers throughout the country were enthusiastic supporters of summer time because of the evidence of its benefit to health. The Home Secretary claimed that these two strong statements from representatives of the British Medical Association and of the medical officers of health disposed of the objections which had been made about the children.

#### Pensions.

Instructions are being issued to the heads of the various pension areas to continue the practice of giving sessional work on medical boards to medical officers discharged from the medical staff employed by the Ministry.

The convalescent treatment and training centres at Barry and Blackpool were closed during 1924, and the centre at Epsom will be closed this month. The centre at Birmingham is still required, and no date can at present be assigned for its closing.

Colonel Sir Arthur Holbrook, on March 12th, asked the Minister of Pensions whether he would consider the grant of a bonus to ex-service medical officers now in the employ of the Ministry and under notice of discharge in cases where these officers had five years' service or more under the Ministry, seeing that those to be retained were to receive a rise of pay of £50 per annum in lieu of a bonus based on the number of years served. Viscount Curzon replied that it was not customary for temporary civil servants to be paid a bonus on discharge, and the Minister would not feel justified in urging the Chancellor of the Exchequer to grant a special privilege to the temporary medical officers of the Ministry of Pensions. The increase in the pay of the medical officers retained

was not granted in lieu of any such bonus. It had been decided upon as part of a general scheme for the future remuneration of the medical officers of the Ministry, which had been framed after consultation with their staff association.

Mr. Percy Harris asked whether many of these medical officers had not given many years' efficient medical service to the Ministry, and whether it was fair or reasonable, when their services were dispensed with because of decreased work, to throw them out of employment and give them no bonus or gratuity to enable them to find other work. No answer was returned.

Viscount Curzon, on March 12th, stated that a man who, prior to discharge, was found by the military medical board to be suffering from a permanent disability of more than 20 per cent. aggravated by service, would not necessarily be given a pension for life. The worsening by service of the man's pre-existing ailment or injury might be only temporary, and if it were not found to persist the pension could not be continued. He stated also that, subject to the conditions prescribed under the terms of the Royal Warrant, the judgement on which a grant of constant attendance allowance was made to a man was that of his medical advisers.

Viscount Curzon has stated in reply to questions that, although neurasthenic patients undergoing a specific course of treatment were retained in an institution for that purpose, it was not the intention of the Ministry that cases should remain indefinitely or unnecessarily in an institution, and where they could suitably be dealt with by discharge to their homes with an appropriate pension this course was adopted.

**Patent Medicines.**—Mr. Groves asked the Minister of Health, on March 11th, whether he had considered the conditions under which patent medicines were manufactured and sold in this country as compared with other countries; whether he was aware that ill informed persons were attracted by advertisements and thereby failed to obtain proper medical attention; and what steps he could take to ensure public health and safety in this respect. Sir Kingsley Wood said that the question of statutory regulation of the conditions under which patent medicines were advertised was under consideration, but unless a substantial measure of agreement could be secured the Minister of Health did not think it would be possible to introduce legislation in the present session.

**Medical Attendance on Unemployed.**—Mr. Groves, on March 11th, asked the Minister of Health if he had any information on the health of the men and women who had been out of work for two years and upwards, and whether, as such persons might be quite outside the national health insurance benefits, the Minister had considered the issue of instructions to boards of guardians to arrange special medical attention to them. Sir Kingsley Wood, answering for the Minister, said the Prolongation of Insurance Act, 1921, was still in force, and in view of this Act the Ministry of Health had not thought it necessary to make any special inquiries as to the health of unemployed persons. The Minister was not aware that there was any need for the issue of such instructions as Mr. Groves suggested. Mr. Groves asserted that in West Ham a large number of people were outside the scope of the national health insurance scheme, but Sir Kingsley Wood replied that the district medical service was available to them, as to the rest of the community.

**Influenza.**—Sir A. Butti, on March 12th, asked the Minister of Health the number of deaths caused by influenza or its complications in London during January and February, 1925; whether these deaths had any correlation with age, occupation, or locality; and whether, in view of a probable return of the epidemic and its crippling effect on industry, he would consider any amendment of the National Health Insurance Acts to encourage the withdrawal of early influenza cases from factories, workshops, and offices during the most infectious period. Mr. Neville Chamberlain replied that the total number of deaths in London during January and February, 1925, notified as due to influenza was 480, equivalent to 649 per million of the population per annum. Information as to occupations could not be given without a re-examination of the entry relating to each individual death. He thought an amendment of the National Health Insurance Act on the lines suggested would not be practicable. The effect of the Act was already in the direction desired, inasmuch as it encouraged workers to seek prompt medical advice as soon as they began to feel ill, and by providing cash payments during absence from work owing to illness it alleviated the financial loss through such absence.

**Infantile Mortality.**—The Minister of Health stated, on March 11th, that he had received a report from a woman medical inspector on infantile mortality in Market Drayton. It had not been published, but certain suggestions arising out of the report had been sent to the Salop County Council, and he awaited a reply. In the urban district of Market Drayton there had been 77 births in 1924 and 7 deaths under 1 year, or an infantile mortality of 91 per 1,000. In Wellington Urban District there were 135 births and 4 deaths, or 30 per 1,000; in Newport Urban District 48 births and 2 deaths, or 42 per 1,000; and in the county of Salop as a whole 2,119 births and 127 deaths, or 60 per 1,000.

**"Standards" of Lunacy.**—Answering Mr. R. Richardson, on March 12th, the Home Secretary said his attention had not been called to recent remarks of a judge in the High Court reproaching "the tendency of medical experts to set up arbitrary standards of insanity under which almost anybody might be certified insane." The Home Secretary said he was not prepared to introduce legislation entitling a prisoner, who was declared insane by medical experts soon after his conviction, although the issue of sanity had not been raised at his trial, to have a trial of the issue of his sanity in open court under the same conditions as if it had been raised by the defence and contested by the prosecution.

**Medical Referees.**—Mr. Benjamin Smith, on March 16th, asked the Home Secretary whether a medical referee under the Workmen's Compensation Act who is also on the staff of a voluntary hospital was not permitted to give a report on a case under his care at that hospital; and, if so, whether, seeing that this might involve injustice to the patient examined, as no other doctor could know as much of the case, the Minister would consider the advisability of withdrawing the instruction or regulation. Mr. G. Loeker-Lampson (Under Secretary) said no specific Home Office instruction or regulation prevented the doctor in such a case giving the workman or the employer a report on the condition of the workman, but if a referee were employed in any case by or on behalf of either party, he was precluded by the statute from acting subsequently as referee in that case. It was also generally undesirable that referees should act for either party in compensation cases, especially cases which were the subject of dispute. The Home Secretary would, however, consider the matter further, and would be glad to be furnished with the details of any cases which Mr. Smith had in mind.

**Equal Salaries for the two Sexes.**—Miss Wilkinson, on March 17th, asked the Postmaster-General whether he was aware that the Post Office was the only Government department which paid its women doctors less than its men doctors for similar work; and whether, in view of the fact that the Post Office advertisements for posts at present vacant were being refused by the medical journals in consequence, he would bring his department into line with other departments in this matter. The Postmaster-General answered that the conditions under which women medical officers were employed in the Post Office were not analogous with those in other departments. The question of equal pay for men and women was one which affected the whole of the Civil Service, and he was not in a position to recommend an exception in respect of this particular class of civil servant. Miss Wilkinson, in a supplementary question, asserted that the work done by men and women doctors in the Post Office was analogous. The Postmaster-General, correcting his answer, said that one other Government department approximated to Post Office conditions—the Prison Medical Service—and there the payment of men and women doctors was not identical. Dr. Haden Guest asked whether, as the medical papers would not insert medical advertisements from the Post Office, the Post Office had to enter into surreptitious correspondence with certain medical schools to obtain candidates. Did the Postmaster-General think that was dignified? No answer was returned.

**Number and Cost of Asylums.**—Major Glyn asked the Minister of Health, on March 11th, how many asylums for lunatics were under the administration of local authorities now and for the years 1900 and 1914; what was the total number of inmates now and for the same years, and what was the present cost of maintaining these institutions. Mr. Neville Chamberlain said that the cost of maintaining these asylums, excluding loan charges, during the year ended March 31st, 1924, was £2,242,284. On January 1st, 1900, the institutions numbered 79, with 74,014 inmates. On January 1st, 1914, they were 97, with 105,504 inmates, and on January 1st, 1925, 97, with 105,399 inmates. The last figures did not include Ewell Epileptic Colony, lent to the Ministry of Pensions, or the Maudsley Hospital, which provided accommodation for 146 uncertified patients. In answer to another question, the Minister of Health stated that on January 1st, 1925, 111,200 persons were confined in institutions for the insane in England and Wales, of whom 102,315 were maintained at the public expense.

**Ministry of Health.**—Lieut.-Colonel Horlick asked the Minister of Health, on March 12th, how many established medical officers were employed by the Local Government Board in 1914-15 and by the Ministry of Health in 1920; how many established and unestablished medical officers were working for his department at present; and what was the total amount recovered out of the National Health Insurance funds towards the salaries and expenses of regional medical officers. Mr. Neville Chamberlain replied that 34 established medical officers were employed by the Local Government Board in 1914-15, and 73 by the Ministry of Health in 1920. The number of established and unestablished medical officers at present employed was 92. The amount recovered from health insurance funds towards the salaries and expenses of regional medical officers was £36,800 for the current financial year.

**Health Insurance Finances.**—In answer to questions the Minister of Health, on March 15th, gave the approximate total, on December 31st, 1923, of the accumulated funds belonging to all the separate approved societies under the National Health Insurance Act and the statutory funds established from deposit contributors and from persons, not previously insured in societies, serving in the Navy, Army, and Air Force. This total was:

Invested with the National Debt Commissioners ...	£56,000,000
Invested by or on behalf of approved societies ...	£40,000,000
Cash at bank, etc. ...	£2,000,000

The approximate amount of reserve values outstanding at December 31st, 1923, was £105,000,000. In 1912-13 the estimated number of persons entitled to benefit under the National Health Insurance Act was 13,164,000. The contributions were £26,571,000, and the parliamentary votes and grants £26,395,000. In 1921 the persons were 15,134,000, the contributions £25,160,000, and the parliamentary votes and grants £11,757,000. In 1922 the persons were 15,168,000, the contributions £25,002,000, and the votes and grants £8,414,000. In 1923 the totals were 15,037,000, £26,210,000, and £6,940,000 respectively.

**Shortage of Officers R.A.M.C.**—In presenting the Army Estimates, on March 16th, the Secretary for War, Sir L. Worthington-Evans, said he was disquieted by the number of recruits who had been rejected on physical and medical grounds. During the last

recruiting year 49,245 men were rejected—5 out of 8 who presented themselves. Dr. Fremantle, who was prepared with material on army medical topics, was not called on, but Colonel Assheton Pownall drew attention to the position of the Royal Army Medical Corps. The House, he said, did not appreciate the seriousness of the shortage of officers in this Corps. Many the Corps would gladly have kept had resigned in recent years, being dissatisfied with their prospects, and very few had come forward. Of 80 vacancies advertised during the last two years, only 25 had been filled, and during the year ending January 31st, 1925, only one candidate had been gazetted into the R.A.M.C. The total establishment in England and abroad was 884, and the wastage was about 60 or 70 a year. The pay of combatant officers had been greatly increased, while that of R.A.M.C. officers was very slightly more than in 1914. While the pay of captains and majors in the R.A.M.C. was somewhat more than that of the equivalent combatant officers, lieutenant-colonels drew less, if command pay were included. It should be remembered that the combatant officer was gazetted at 19, the R.A.M.C. officer at 24. In the interval up to £2,000 had to be paid, and many parents were not prepared to find this sum in view of the uncertain prospects in the R.A.M.C. The levying of income tax on the extra pay awarded to medical officers who specialized also discouraged them. Civilian practitioners had been doing so much better in recent years, owing, it might be, to the assured position of panel practitioners, that medical men would not run the risk of going into the army. He suggested that the Government should consider making the Director-General of the Medical Service a member of the Army Council. The Secretary of War agreed that the position of the R.A.M.C. had to be looked into carefully. The army was not getting the officers it required, and an undue burden was thrown on those in the Corps. The conditions of medical service in the Navy and in the Air Force would have to be considered at the same time, and he hoped a remedy might shortly be found.

**Bovine Tuberculosis.**—Mr. Hurd asked the Minister of Agriculture, on March 16th, whether, following upon the visit of his scientific advisers to North America, he proposed to adopt in this country such administrative methods for the elimination of bovine tuberculosis as had proved successful in the United States and Canada. Captain Hacking, answering for the Ministry of Agriculture, said the Minister had under consideration means for the elimination of bovine tuberculosis, and he proposed to introduce shortly a measure on the lines of the Tuberculosis Order of 1914, which was a necessary step in any procedure of the kind. [It is understood that the answer of the Ministry of Health forecasting the adoption of "means for the elimination of bovine tuberculosis" does not allude to a curative method, but to the offer of such liberal compensation as would ensure the offer of affected cattle for slaughter. The money cost of this policy to the country will be considerable.]

#### Notes in Brief.

In June, 1921, 11,442 adult workmen were engaged in the manufacture of fine chemicals and drugs in Great Britain. No later figures are available.

During 1923, 14,367 houses in England and Wales were reported as unfit for human habitation.

The Air Ministry has reviewed the American experiments in dropping electrically charged sand from aeroplanes to disperse fogs, but cannot undertake expensive tests of this process, as scientific opinion in England and America is not satisfied with the evidence of success so far given.

The Foot-and-Mouth Disease Scientific Committee expended £5,500 down to February 28th out of £10,000 voted for it in 1924-25. In 1925-26 £15,000 has been assigned to the committee.

No date has yet been fixed by the Home Secretary for the introduction of the Factories Bill.

At the last census of England and Wales 306,000 widows were stated to have dependent children. In respect of 301,000 widows no statement was made about such children. Approximately 55,000 widows with dependent children receive Poor Law relief.

The Minister of Health is anxious to give any help in his power to voluntary societies formed for the reconstruction of insanitary property and the rehousing of the occupants.

The Minister of Health is in communication with the Wednesbury Corporation on the report recently submitted by inspectors of his department about insanitary conditions in the West Bromwich Union, particularly in the parish of Wednesbury.

In reply to Mr. Cadogan, on March 17th, Sir Kingsley Wood said it was not proposed to publish the evidence given before the Departmental Committee on Preservatives in Food, and the Minister of Health did not contemplate setting up a standing advisory committee on food questions.

Sir John Gilmour informed Mr. Maxton, on March 17th, that the discontinuance of the annual grant from Dr. Adam's Agriculture to the Glasgow Veterinary College, the position of that college as a centre, and that the motor car meaning of the Education (Scotland) Act.

Progress is being made, the India C of claim says quite the financial conditions permit, in giving recommendations of the British Station Home anything more than suggest.

The provision of schools and other facilities taken back? children in Scotland has increased, as the words of Mr. Dickinson, not yet available beyond that date, which he secured Mr. Harnett's.

The known blind persons in England, not order Dr. Adam to send for 1923, numbered 36,518. Approximately 20s. a week, with augmentation of information, as a Lord Justice 1924, 11,525 blind persons were receiving pensions under Section



## Correspondence.

### THE PREVENTIVE MEDICINE OF THE EAR.

SIR,—Mr. Somerville Hastings in his article (BRITISH MEDICAL JOURNAL, March 14th, p. 504) makes several assumptions which require to be proved before they can be accepted. I shall, however, confine my attention to only two of these.

How does he know that in any given case medical or surgical interference has arrested the progress of the deafness? Before reaching the conclusion that this can be done a number of carefully recorded cases must be presented accompanied by a number of controls.

What is Mr. Hastings's conception of a normal nose, nasopharynx, and throat? I was more than astonished to read, "but I personally can recall only one case of middle-ear deafness in which the nose, nasopharynx, and ear drums appeared perfectly healthy and in which a clear history of previous trouble in these regions could not be obtained when carefully inquired for."

Does it, then, follow that we are to apply therapeutic measures to every individual who has not, or even has not always had, a normal nose and nasopharynx, in order either to stop the progress of middle-ear deafness or to prevent it from beginning? If so it would seem to follow that nearly the whole population should be under treatment.

I note that Mr. Hastings seems to except certain cases, about which he tells us nothing more than that some have atrophied drum membranes. It is, I admit, not always easy to differentiate advanced middle-ear catarrh from oto-sclerosis, but every otologist has had experience of many typical cases of the latter, and in my opinion nothing can be done by local treatment to influence their progress. Some of them, however, cease to get worse if left to themselves.

It has always appeared to me that the otologist will best add to his own reputation for acumen and honesty by avoiding local interference in typical oto-sclerosis.—I am, etc.,

York, March 16th.

P. McBRIDE.

### ON PLASTIC TONE IN RELATION TO THE HEART.

SIR,—Sir Charles Sherrington's work respecting plastic tone, which has played such an important part in the masterly monograph of the late Dr. J. Irvine Hunter upon the innervation of the voluntary muscles, also supplies a satisfactory working hypothesis to those clinicians who believe that the heart fills itself by its own recoil.

There is one aspect of plastic tone which does not appear to be much emphasized in Sir Charles Sherrington's or Dr. Irvine Hunter's work—namely, that when a muscle fibre is fixed by the onset of plastic tone it becomes an elastic structure and not a rigid one. In other words, when it is exposed to tension or to compression beyond what it is capable of resisting it is distorted by the force applied to it, but returns to its previous length immediately the distorting force has ceased.

Those surgeons who have been fortunate enough during a laparotomy to see the colon hardened and transformed into a tube resembling a piece of thick-walled rubber tubing by the onset of plastic tone will have had this point demonstrated to them. When a spasm of plastic tone passes over a loop of the colon it will rise up as an arch and respond just as a piece of thick-walled rubber tubing would. Blackpool were closed-up loop of bowel is forced down it springs be closed this month. The it is released, or if flattened by and no date can at present be cylindrical again as soon as the Colonel Sir Arthur Holbrook of Pensions whether he would the intervals between the attacks of ex-service medical officers now in will lie flaccid and inert. This under notice of discharge in ex-fibres when in a state of plastic retained were to receive a rise of 10% of describing this type of a bonus based on the number of "elastic fixation." replied that it was not customary his type of activity has another justified in urging the Chancellor that may be called its postural special privilege to the temporary work is concerned it is often of Pensions. The increase in the pay, a spring, so that force may

gradually reach its maximal efficiency rather than that the full strain should be borne suddenly. For instance, when raising water with a force pump the insertion of an air dome (as in a manual fire engine) not only ensures a continuous flow of the water, but also makes more effective the labour of those who are pumping.

In the same way the elastic fixation of the portions of the voluntary muscles which are innervated through the sympathetic system can form a spring against which the voluntary fibres can work, and thus allow of the gradual application of the muscular force when this is desirable, instead of its coming suddenly into play. If this "elastic fixation" were to continue a fraction of a second after the voluntary action ceased it would suffice to restore the limb to the position it occupied prior to the voluntary movement.

In the case of the heart, this theory of elastic fixation readily accounts for the filling of the ventricles. The persistence of elastic fixation for one-tenth of a second after the closure of the semilunar valves is all that is required to ensure that the ventricle fills itself from the blood which has been accumulating in the auricle.

This theory will also meet the objection of those who find no evidence of any expansion phase of cardiac activity in the electro-cardiogram, for there is no need to suppose that the return to its former length of an elastic body which has been compressed would give rise to any change in its electrical reactions. (For the clinical arguments in favour of the ventricles being self-filling see my book *Early Diagnosis of Heart Failure*, pp. 385-441. London: J. Murray.)—I am, etc.,

Birmingham, March 9th.

T. STACEY WILSON.

### THYROID AND MANGANESE AND THE DERMATITIS PRODUCED BY THIAZOLES.

SIR,—The almost simultaneous appearance of two articles, the one on the thyroid and manganese treatment in various diseases (JOURNAL, March 7th, p. 443), and the other on severe dermatitis produced by thiazoles (March 14th, p. 509), stimulates me to make a few remarks.

Manganese I regard as a metal eminently suited to occasion dispersion of the protein particles in the plasma, and the most suitable preparation I have been able to introduce to date is the butyrate. In acute infections and intoxications manganese butyrate does not require to be preceded by a drug, which acts by driving some of the protein particles into solution. This is necessary only in the chronic stage of infectious and intoxications, where some of the protein particles are hydrated already. Depriving hydrated particles of some of their water causes them to become dispersed, and this kind of dispersion is more readily effected by dehydrators than by conductors.

Thyroxin is essentially a dehydrator, and so are the various organic preparations of sulphur I have introduced into medicine. In chronic conditions an injection of iodine or of contramine (CS<sub>2</sub>, product of diethylamine), preferably of both, allows a metal subsequently prescribed to produce many times the degree of dispersion which could be obtained by using the conductor (metal) alone. This was why I have advised for many years the use of iodine and sulphur in all chronic infections and intoxications prior to prescribing the metallic preparations.

Drugs occasioning dehydration of normal protein particles are liable to produce a dermatitis. In fact, it is primarily owing to the protein particles going into solution that the dermatitis produced by organic preparations of sulphur, paraphenylene-diamine and other amino compounds and arseno-benzene is due. When the dehydration is produced by non-metallic substances—of which iodine, sulphur, and amino are the chief offenders—a metallic substance will redress the damage done. Similarly, in metallic intoxication a non-metallic substance is the best antidote. The best example of the latter is arsenical dermatitis, a condition which responds rapidly to daily injections of contramine. This has been substantiated of late by those who recommend sodium thiosulphate. Iodine dermatitis is met with in iodoform poisoning, and amino dermatitis in paraphenylene-diamine poisoning (fur dermatitis). Both these conditions vanish the moment manganese butyrate is injected. Organic preparations of sulphur cause various



forms of dermatitis, from the simple erythema to the severe burns witnessed in mustard-gas poisoning. In all of these manganese butyrate is of value. But in the most severe it is not sufficiently powerful. Recent work has shown me that a better conductor effect can be produced by the liberation of sodium and hydrogen atoms from a highly complex substance than can be obtained with any preparation of manganese at present available. In other words, some of the severe cases of sulphur dermatitis respond better to certain complex symmetrical urea compounds, which I am introducing as therapeutic agents, than to organic compounds of manganese.

As there is no fundamental difference between the action of non-metals and micro-organisms, it is understandable why metallic preparations are valuable therapeutic agents in the acute stage of infections.—I am, etc.,

London, W., March 13th.

J. E. R. McDONAGH.

#### CARE OF CRIPPLES.

SIR,—Mr. Hey Groves has dealt with the subject of poliomyelitis in his usual lucid manner (March 14th, p. 492), but the latter part of his article seems hardly to give credit for the great advances made in recent years in the co-operation of the voluntary hospitals with local education and tuberculosis authorities and other agencies charged with the care and cure of the crippled child.

Until recently his strictures were more than justified, but since the war great efforts have been made to put the after-treatment of cripples on a scientific and secure basis. Originated at Baschurch, and developed in Oxford, there are few counties in England now that are not engaged in the organization of after-care.

For London and the Home Counties there already exists a voluntary organization for dealing with the type of case that Mr. Hey Groves has in mind. This is the Royal National Orthopaedic Hospital with its 200 beds in Great Portland Street, and its new rural branch of over 100 beds, with the immediate prospect of a further 200, at Stanmore, Middlesex. This country hospital, which stands on gravel soil on the top of Brockley Hill, 450 feet above sea-level, is ideally situated for its purpose. It is only ten miles from the Marble Arch in a straight line along the Edgware Road, and a mile and a half from the Hampstead tube terminus at Edgware.

Plans have been prepared for the addition of another 200 beds with new theatre and treatment blocks and full artificial sunlight equipment. The site of 30 acres allows for any necessary future extension up to as many as 600 or even more beds. Arrangements for in-patient treatment are in operation with the Loudon County Council and the Hertfordshire and Middlesex County Councils, as well as with many other local educational and tuberculosis authorities.

A scheme of clinics for after-care and treatment is already in being in Hertfordshire, and these clinics are being visited periodically by one of the surgeons of the hospital. Negotiations for a similar arrangement are in progress between the hospital and other county local authorities.—I am, etc.,

Royal National Orthopaedic Hospital,  
Stanmore, March 16th.

J. B. BARNETT,  
Resident Medical Officer and  
Surgical Registrar.

#### ISOLATION HOSPITALS AND SCARLET FEVER.

SIR,—I have purposely refrained from entering into the controversy on the value of the method introduced by my father for the prevention and treatment of scarlet fever and measles; but I cannot pass, unchallenged, a statement made by Dr. Burton (March 14th, p. 531) that this method has been discarded in the home of its birth. That is not so. In the hospital and homes which are under my care the Milne method has always been, and is still being, used with satisfactory results and absence of complications.

I would refer Dr. Burton to the experiences of other medical officers of health at Edinburgh, Forfar, Clydebank, Tottenham, Southgate, Heston and Isleworth, Castleford, and other places.

The statements made both by Dr. Gusline-Taylor and by Dr. Burton, alleging that the swabbing of the throat with

10 per cent. carbolic oil is harmful, are also inaccurate. I have used it personally and for my patients (children of all ages) for over twenty years, and have seen none but the most beneficial results; it is both analgesic and antiseptic, and I have never seen any harm result from its use.—I am, etc.,

March 14th.

JAMES A. MILNE,  
Joint Medical Officer,  
Dr. Barnardo's Homes and Hospitals.

#### HEART STRAIN.

SIR,—I appreciate the interest Dr. E. S. Miller has taken in my paper on heart strain (March 7th, p. 482), challenging though he does a theory expressed in it. I am not, however, persuaded by his letter that the principle of the Bramali press is not applicable to the force acting on the left ventricle in aortic incompetence; but I will not occupy your space by arguing what is chiefly a scientific point.

I think all agree that, whatever the reason, aortic incompetence is the most serious of valvular diseases and the one most likely to cause sudden heart failure.—I am, etc.,

Manchester, March 16th.

E. M. BROCKBANK.

#### "WEMIC."

SIR,—I should be greatly indebted to you or to any of your historical contributors if I could be informed of the meaning of the word "wemic." It occurs in some fragmentary depositions remaining in the bishop's registry at Chester. It is evidently a surgical affection of an urgent, life-and-death character, for which the mediaeval surgeons operated, as the testator was "cutt of a wemic and in dauuger of death." But he was clear in his mind and talked to those about him, and gave instructions concerning his will. A "phisicon" and a surgeon were present, and the former deposed that "Testator had undergone an operation just before executing his will, and died a few hours after." The date is 1574. "We..." is not yet out in the N.E.D., so that source of information is not available. I am familiar with the word "wem."—I am, etc.,

Liverpool, March 13th.

F. CHARLES LARKIN.

#### Medico-Legal.

#### LUNACY LAW AND ADMINISTRATION.

HARNETT v. BOND AND ADAM.

THE hearing by the House of Lords of the case Harnett v. Bond and Adam—the commencement of which was reported in the BRITISH MEDICAL JOURNAL last week (p. 533)—was continued on Thursday, March 12th.

Mr. Cope Morgan, for the appellant, was arguing that Dr. Bond was not only responsible for the three hours' detention in the Commissioners' office in Victoria Street, London, but also for the taking of Mr. Harnett back to Dr. Adam's mental home at Malling Place, when Lord Atkinson asked:

If Dr. Bond induced Dr. Adam to take Mr. Harnett back, and Dr. Adam took him back, whose act was it?

Lord Dunedin: And, if one Scotsman said to another, "That's good whisky," and the other drew the cork, whose act was it that drew the cork?

Lord Buckmaster: It was Dr. Adam who ordered his two servants to take Mr. Harnett back, and all Dr. Bond did was to give Mr. Harnett over to the two servants. It was not Dr. Bond but Dr. Adam who took him back.

Mr. Cope Morgan: But the jury found that Dr. Bond did cause Mr. Harnett to be taken back.

Lord Dunedin: And we say, Let the jury answer as they like. There is no evidence on which they can so find.

Lord Buckmaster: And Mr. Harnett's unlawful detention ceased from the moment Dr. Adam's own servants, under Dr. Adam's orders, took him back into Dr. Adam's care.

Mr. Cope Morgan: But the jury found that the motor car journey was the act of Dr. Bond.

Lord Buckmaster: Your statement of claim says quite the opposite.

Lord Atkinson: Did Dr. Bond do anything more than suggest to Dr. Adam that Mr. Harnett should be taken back?

Mr. Cope Morgan: Dr. Bond, in the words of Mr. Dickinson, used "gentle persuasion" by which he secured Mr. Harnett's return into the hands of the keepers.

Lord Atkinson: Dr. Bond did not order Dr. Adam to send for Mr. Harnett?

Mr. Cope Morgan: Dr. Adam's information, as a Lord Justice put it, came from a source which was authoritative.

Lord Atkinson suggested that it would be highly reprehensible on the part of Dr. Bond if he formed an opinion that Mr. Harnett was excited and looked in a dangerous condition and yet did nothing. If Mr. Harnett appeared excited and not completely recovered, therefore the best thing to do was to take him back.

Lord Buckmaster (to Counsel): You will assume that Dr. Adam accepts Dr. Bond's opinion as to Mr. Harnett's condition. Dr. Adam, surely, knew perfectly well that Dr. Bond was sitting in those offices as a Commissioner? What happened is this: The jury found that Dr. Bond believed that Mr. Harnett had escaped from the custody of his brother. Mr. Harnett had addressed Dr. Bond in such an excitable manner that Dr. Bond found a difficulty in following what Mr. Harnett was saying. On these facts, was not Dr. Bond justified in pointing out to Dr. Adam, the legal custodian of the man: Be careful; this man is out, and you had better take him back again? What was Dr. Bond to do else? Was he to send for a specialist from Harley Street?

Mr. Cope Morgan: Mr. Harnett told Dr. Bond the simple story of what had happened to him.

Lord Buckmaster: But did it seem a plain, simple story, or did it appear to be continued excitement in the man? On these facts, I do not really know what Dr. Bond was to do? There were three courses: (a) let him go; (b) do what he actually did; (c) ask him to see an eminent physician and take a further opinion at his own expense.

Mr. Cope Morgan: There was no indication of excitement in Mr. Harnett's mind then.

Lord Buckmaster: If he came in as a plain, sensible person, why should Dr. Bond do what he did? Whatever induced him to? If a servant came to you in your house one day and said: "There is a man in the house in great excitement; he seems mad; what are we to do?" It is certain what you would say: "Keep him here and telephone to where he has come from."

Mr. Cope Morgan: If I had done that, and sent a record of what I had done to the doctor, it would be childish to argue that anything I had done was of the same significance.

Lord Buckmaster (interrupting): All he had done was something wrong in detaining him.

Mr. Cope Morgan: In such a case it would be childish to say I had procured the mind of the doctor; but it is otherwise here.

Mr. Cope Morgan submitted that their lordships could not view Dr. Adam's act as independent of the action of Dr. Bond. On the facts, Dr. Bond must be regarded as the direct cause of the wrongful detention that night by Dr. Adam.

Mr. Cope Morgan, at the commencement of Friday's hearing, said that Mr. Harnett had withdrawn his instructions, but, after leaving the House for a short time, he said that that withdrawal had since been revoked. Continuing his argument, Mr. Cope Morgan said that Dr. Adam had not acted with reasonable care, and there was evidence upon which the jury's finding to this effect could be justified. Mr. Justice Lush had said that it was for Dr. Adam, under the authority given by the Reception Order and the Leave of Absence Order—made under Section 55 of the Lunacy Act, 1890, and containing the proviso, sanctioned by the Law Officers at a later date, that the patient should be taken back "if his mental condition requires it"—independently to decide whether Mr. Harnett's condition required his being taken back. Assuming that the statute did give Dr. Adam power to go out and recapture Mr. Harnett then counsel contended it must be a condition precedent to the exercise of that power that Dr. Adam should exercise an independent opinion. The proviso "if his mental condition requires it" meant what it said, and since, as a fact, Mr. Harnett's mental condition did not require it, then Dr. Adam had no more authority to arrest Mr. Harnett than an ordinary person had power to arrest another person on the supposition of crime.

Lord Atkinson: But who else was to decide under the Reception Order? How was he to be got back? What is to be done? If he is not to take him back under the old Reception Order and Leave of Absence Order, must he get a new order, or must somebody else bring him back there?

Mr. Cope Morgan: Of course, Dr. Adam could have taken him back if somebody else brought him there. Dr. Adam's whole authority under the Lunacy Act, as a proprietor of a licensed house, was to receive and keep a man under a reception order; he had no extramural authority.

Lord Sumner: Would you say, in those circumstances, Section 330 of the Lunacy Act, 1890, would not apply?

Mr. Cope Morgan replied that in respect of the first part of the detention the jury had found that Dr. Adam had not acted with "reasonable care," which was a condition precedent to the application of the section.

Lord Dundee: Then, in your view, for the time occupied by the motor-car drive before Dr. Adam exercised his judgement, you should get damages—just for an hour's motor drive?

Mr. Cope Morgan said damages for an hour's motor journey may be substantial if the direct object of the journey was incarceration in a lunatic asylum.

The Lord Chancellor: What were the grounds of the finding that Dr. Adam did not exercise reasonable care?

Mr. Cope Morgan: (1) That Dr. Adam did not go to the offices of the Commissioners himself; (2) that he did not even send his assistant, Dr. Gray.

Lord Atkinson: Tell me how he was to be brought back?

Mr. Cope Morgan: The whole charge was that Dr. Adam brought Mr. Harnett back without seeing him. The third ground was that this act of Dr. Adam did harm to Mr. Harnett.

The Lord Chancellor: It is not want of care because he did harm.

Lord Buckmaster: What other grounds besides not going himself and not sending his assistant?

Mr. Cope Morgan: The fourth ground is that, in the circumstances, Dr. Adam admitted that this motor journey necessitated keeping Mr. Harnett detained for two hours before the car arrived.

The Lord Chancellor: It amounts to this: Dr. Adam did not go himself and did not send Dr. Gray.

Mr. Cope Morgan: The fifth ground is that Dr. Adam did not explain to Dr. Bond that he had wholly misled Dr. Bond as to the terms on which Mr. Harnett was out. Dr. Adam did not ask the question which would have revealed the true situation.

Mr. Cope Morgan pointed out that the jury had found that although Dr. Adam honestly believed Mr. Harnett was unfit to be at large yet they did not think he had exercised reasonable care because he had not himself gone to London to see whether Mr. Harnett's mental condition did require his being brought back.

Lord Buckmaster said if a man honestly believed the patient was unfit to be at large, and that it was in the patient's interest to be brought back, and he sent for the patient to be brought back, it was sufficient for the purposes of Section 330 if he showed that the internal arrangements of the asylum would have been interfered with if he had gone himself.

Mr. Cope Morgan: Where a defendant takes upon himself to say that the reason why he did not go was because his assistant had an afternoon off?

Lord Buckmaster: It was a Saturday afternoon, and if a man said how he spent an afternoon twelve years ago without anything to refresh his memory I should doubt his accuracy.

Mr. Cope Morgan: But the jury found he did not exercise reasonable care. He brought Mr. Harnett back and formed his opinion afterwards, instead of forming his opinion prior to bringing Mr. Harnett back. Then, also, when on the telephone to Dr. Bond, Dr. Adam was plainly negligent. Mr. Harnett had not been seen by them.

Lord Buckmaster: They must have seen him, else they could not have said on the telephone that Mr. Harnett was in an excited condition.

Mr. Cope Morgan: Dr. Bond said Dr. Adam told him Mr. Harnett had been allowed out on a Leave of Absence Order in the care of his brother. Dr. Adam then said, "Then he has escaped from his brother? Very well; I will send a car."

Lord Atkinson: He escaped from his brother and went expressly to the Commissioners to get released from his brother's care.

Mr. Cope Morgan: Dr. Adam made a crucial mistake in not going on with the conversation.

Lord Buckmaster: He said he did, but he could not remember what he said as it was twelve years ago. The whole point is whether this statement of Mr. Harnett's to Dr. Bond was made before or after the telephone message.

Mr. Cope Morgan: The memorandum of Dr. Bond says it was made afterwards.

The Lord Chancellor: But he also said there may have been two telephone messages.

Mr. Cope Morgan reiterated that the jury had found that Dr. Adam had not exercised reasonable care.

Lord Buckmaster: You keep introducing "reasonable care." Supposing Dr. Adam was informed by credible authority that Mr. Harnett was not fit to be at large, surely the statutory obligation of reasonable care is satisfied.

Mr. Cope Morgan concluded his argument on Monday afternoon, and Mr. J. W. Morris, who followed, in a brief address to the House, submitted that if Mr. Harnett had suffered physical injuries as the result of the false imprisonment he would have recovered damages. Surely, then, as he had suffered physical injuries in the shape of severe nervous shock as the result of false imprisonment, he ought to be awarded damages.

#### Decision of the House.

At the conclusion of the arguments of appellant's counsel, the Lord Chancellor announced that their lordships did not desire to hear counsel for either of the respondents. They were unanimously of opinion that the Court of Appeal had arrived at the right conclusion. But in view of the general importance of the questions raised by the appeal their lordships would take time to enable them to put their reasons for their decision in writing.

## The Services.

### ROYAL NAVAL MEDICAL SERVICE. COMPASSIONATE FUND.

A MEETING of the subscribers of the Naval Medical Compassionate Fund will be held at 11.30 a.m., on April 17th at the Medical Department of the Navy, 68, Victoria Street, S.W.1, to elect six directors of the fund.

## WAZIRISTAN OPERATIONS.

THE following appointments to the Order of the British Empire are announced in connexion with the military operations in Waziristan, April, 1923, to March, 1924:

O.B.E. (Military): Major Charles Herbert Stringer, D.S.O., R.A.M.C.  
M.B.E. (Military): Captain Ambuj Nath Bose, I.M.S., Captain Henry Hawes Elliot, M.C., I.M.S.

The following officers have been brought to notice for distinguished services during the Waziristan operations:

Royal Army Medical Corps: Major C. H. Stringer, D.S.O., Captain D. G. Gripper, Captain D. C. Scott, O.B.E.

Indian Medical Service: Captains T. R. Birmani, O. M. Ganapathy, M.C., D. V. O'Malley, O.B.E., M. V. Pathak, B. Prasad, and R. V. Rau.  
Indian Medical Department: 2nd Class Assistant Surgeon G. H. Mason.

## Universities and Colleges.

## UNIVERSITY OF OXFORD.

THE appointment of Mr. Kenneth J. Franklin, M.A., B.M., Fellow of Oriel College, to be demonstrator in the department of pharmacology, has been approved by Convocation.

## UNIVERSITY OF CAMBRIDGE.

AT a congregation held on March 13th the following medical degrees were conferred:

M.D.—C. R. Crowther, J. W. Tonks.  
M.Chir. and M.B.—G. L. Thompson.  
M.B.—A. H. Johns, J. O. Ainsworth-Davis.

## UNIVERSITY OF LONDON.

## ELECTION TO SENATE.

WE stated a few weeks ago (February 28th, p. 434) that Sir Lenthal Cheate was opposing Sir Holburt Waring as representative of the Faculty of Medicine on the Senate and mentioned the chief motives by which he was actuated. In his address Sir Holburt Waring dealt with most of the points raised by his opponent. He was, he said, in favour of the removal of the administrative offices of the University, the examination halls, and the libraries from their present lodgings in a portion of the Imperial Institute buildings to a central site. He was not in favour of centralizing all the colleges and institutions for teaching and research on the Bloomsbury site, even were that possible, which it was not. He stated further that he did not advocate incorporation of any of the medical schools into the University, but desired each to retain its autonomy. He did not accept Sir Lenthal Cheate's view that the smaller schools of the Faculty of Medicine should be represented upon the Senate, but held that the representatives of the Faculty should represent the interests of all teachers in that Faculty, and not the interests of institutions. He also expressed the view that his opponent had wrongly stated the purpose of the departmental committee now sitting; that committee was instructed, having regard to present circumstances and after consultation with the persons and bodies concerned, to indicate what are the changes now most needed in the existing constitution of the University, and on what basis a statutory commission should be set up to frame new statutes for the University.

Sir Holburt Waring was re-elected by 66 votes to 57.

## UNIVERSITY OF GLASGOW.

THE late Dr. John Hall, St. John's Wood, London, who died in 1909, left in reversion the half of his residuary estate to the University of Glasgow for the endowment of certain tutorial fellowships in medicine, surgery, and midwifery, and for the better equipment of practical instruction in these subjects. The reversion has now accrued by the death of his sister, Miss Hall, who has left half of her estate for the augmentation of her brother's benefaction. The endowment will in all amount to some £50,000, but some months must elapse for the realization of the estate and for the elaboration of a scheme for its application to the purposes designated.

Professor J. S. Haldane, M.D., LL.D., F.R.S., Fellow of New College, Oxford, has been appointed Gifford Lecturer for 1926-27.

## UNIVERSITY OF DUBLIN.

## TRINITY COLLEGE.

THE Senate of Trinity College has approved graces for the following honorary degrees to be conferred on medical men:

So.D.—Sir Frederick G. Hopkins, F.R.S.  
M.Ch.—Profesr G. W. Crile and Dr. Charles H. Mayo.

## ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AN ordinary Council meeting was held on March 12th, when the President, Sir John Bland-Sutton, was in the chair.

## Court of Examiners.

Mr. Arthur Percy Dodds-Parker was admitted a member of the Court of Examiners.

## Medals.

Mr. Richard Higgins Burne was presented with the honorary gold medal of the College, together with a document declaratory of its award to him, for his valuable services to the College as curator of the physiological department of the museum and his important contributions to biological science. Mr. Wilfred Le Gros Clark was presented with the John Hunter medal in bronze and a cheque for £50, the amount of the triennial prize for 1922-24, awarded to him for his researches in anatomy.

## Diplomas.

The diploma of M.R.C.S. was conferred upon V. A. Edge and Gladys E. McCabe, who had passed the requisite examinations and had now complied with the by-laws.

## Dental Surgery.

Licences in dental surgery were granted to 82 candidates. A recommendation from the Board of Examiners in Dental Surgery was approved and adopted to the effect that, "so long as the examinations for the licence are held three times a year, the interval required by the regulations between the first and second professional examinations be reduced from six to four months."

It was decided to appoint two additional members of the Dental Section of the Board of Examiners in Dental Surgery. Particulars regarding the sending of applications will be announced in the medical journals on April 18th.

## Appointment of Representatives.

Mr. James Sherren was reappointed to represent the College on the Senate of the University of London for the period from May next to May, 1929.

Dr. W. S. A. Griffith was reappointed to represent the College on the Central Midwives Board for the period of one year from March 31st, 1925.

## Gifts.

The Wellcome Historical Medical Museum presented some photographic reproductions of illustrations from the *Life of John Hunter*, by Jesse Foote, Surgeon, London, 1794, which were accepted with the best thanks of the Council.

An oil painting, believed to be by Gainsborough and to represent John Hunter, was presented by Mr. G. Buckston Browne, M.R.C.S., and accepted with thanks.

## Anatomical Subjects.

A conference with the licensing bodies, medical schools, and services regarding the present inadequate supply of "subjects" for teaching, examinations, and research was held at the College on Tuesday, March 17th.

## COUNCIL ELECTION.

Monday, March 16th, was the last day for the receipt of nominations of candidates for the Council. The three retiring members, Mr. Warren Low, Mr. James Sherren, and Sir John Lynn-Thomas, seek re-election, and the following four candidates were also nominated: Mr. Herbert James Paterson, Fellow 1837, Mr. Arthur Burgess, Fellow 1899, Mr. Victor Bonney, Fellow 1899, and Mr. John Percy Lockhart-Mummery, Fellow 1900.

The composition of the Council since July, 1924, is as follows:

President.—Sir John Bland-Sutton, Council (1) 1910, (2) 1918; Pres. 1923 and 1924.

Vice-Presidents.—Sir Holburt J. Waring, O.B.E., O. (1) 1913, (2) 1921; Mr. Walter George Spencer, O.B.E., O. (1) 1915 (substitute), (2) 1918.

Other Members of Council.—Sir Anthony Bowlby, Bt., K.C.B., K.C.M.G., K.O.V.O., O. (1) 1904, (2) 1912, (3) 1920, Pres. 1921, 1922; Sir Charles Alfred Ballance, K.O.M.G., O.B., M.V.O., O. (1) 1910, (2) 1914, (3) 1922; Sir D'Arcy Power, K.B.E., O. (1) 1912, (2) 1920; Sir Berkeley George Andrew Moynihan, Bt., K.O.M.G., O.B., O. (1) 1912 (substitute), (2) 1919; Mr. Vincent Warren Low, O.B., O. (1) 1916 (substitute), (2) 1917; Mr. James Sherren, O.B.E., O. 1917; Sir John Lynn-Thomas, K.B.E., O.B., O.M.G., O. 1918 (substitute till 1925); Mr. Ernest William Hey Groves, O. 1918; Sir Outthbert Sidney Wallace, K.O.M.G., O.B., O. 1919; Mr. Francis James Steward, O. 1920; Mr. William Thelwall Thomas, M.B.E., O. 1921; Mr. Charles Herbert Faggs, O. 1921; Mr. Robert Pugh Rowlands, O.B.E., O. 1922; Mr. James Berry, O. 1923; Mr. John Herbert Fisher, O. 1923; Mr. William Sampson Handley, O. 1923; Mr. Percy Sargent, C.M.G., D.S.O., O. 1923; Mr. George Ernest Gask, C.M.G., D.S.O., O. 1923; Mr. William McAdam Eccles, O. (1) 1914, (2) 1924; Mr. Wilfred Trotter, O. 1924; Sir Charles Gordon Gordon-Watson, K.B.E., O.M.G., O. 1924.

The medical schools are represented as follows:

## London:

St. Bartholomew's	...	...	...	...	...	...	6
Gny's	...	...	...	...	...	...	3
London	...	...	...	...	...	...	1
Middlesex	...	...	...	...	...	...	2
St. Thomas's	...	...	...	...	...	...	4
St. Mary's	...	...	...	...	...	...	1
University College	...	...	...	...	...	...	1
Westminster	...	...	...	...	...	...	1
Royal Free	...	...	...	...	...	...	1
Total London	...	...	...	...	...	...	23

## Provincial:

Bristol	...	...	...	...	...	...	1
Cardiff	...	...	...	...	...	...	1
Leeds	...	...	...	...	...	...	1
Liverpool	...	...	...	...	...	...	1
Total Provinces	...	...	...	...	...	...	4
Total Council	...	...	...	...	...	...	27

## Obituary.

### MARY DARBY STURGE, M.D.LOND.,

Physician to the Birmingham and Midland Hospital for Women.

MISS MARY DARBY STURGE, whose death on March 14th we have the great regret to record, was born at Edgbaston in 1862.

She came of a family distinguished for its practical adherence to the principles of the Society of Friends. Her father, Wilson Sturge, is still held in memory in Birmingham, not only as mayor, which office he filled in 1862, but because he devoted the greater part of his life to the furtherance of peace. Her paternal great-uncle, Joseph Sturge, was an outstanding supporter of all movements which had for their object the improvement of conditions for mankind. Among these were the abolition of slavery, and the cause of temperance.

Miss Sturge was educated at Edgbaston High School for Girls during the wise headship of Miss Cooper. When the Mason Science College (Birmingham University) was opened in 1880, Miss Sturge was one of the first small group of regular women students. In 1886 she passed the preliminary scientific examination of London University.

After this an application was made for herself and another woman student to enter the Medical School at Birmingham. This was refused, though the hospitals assented, but Miss Sturge studied physiology for a year at Mason College.

In 1886 she entered the London School of Medicine for Women. There she took prizes in anatomy and physiology and became demonstrator in the former subject. Her student career was distinguished throughout; she took honours in anatomy in the intermediate M.B. examination and honours in medicine in the final M.B. She gained the Prideaux Scholarship for an original paper on clinical obstetrics.

After taking her degree, Miss Sturge was for six months resident at the Clapham Maternity Hospital, and at the same time acted as physician to the Dispensary for Women and Children. For two years from 1892 she was resident at the North-Eastern Fever Hospital, and afterwards senior resident at the New (now Elizabeth Garrett Anderson) Hospital for Women. In 1895 she took the M.D.Lond., and began general practice at Edgbaston, where she worked for the rest of her life. From 1895 to 1905 she served the Birmingham and Midland Hospital for Women as anaesthetist, and for nineteen years as honorary physician, resigning the latter appointment in 1924. Miss Sturge was also secretary to the Medical Board of that hospital for eleven years.

She found time for many interests outside her practice. At the opening of the winter session in 1894 at the London School of Medicine for Women, Miss Sturge gave a stimulating and helpful inaugural address. During the years 1920 to 1922 she was the first provincial president of the Medical Women's Federation, and took much interest and pleasure in the work entailed by this office. But probably that by which she will be best remembered, not only among members of the profession but by the general public, is the book *Alcohol and the Human Body* (1907), which was the result of the joint efforts of the late Sir Victor Horsley and herself. Probably they were moved to write the book by the result of the petition signed in 1904 by thirteen thousand members of the medical profession, and addressed to the Board of Education, advocating the teaching of temperance in schools. The facts given in this work were carefully collated, and no book has had more influence in forwarding the cause of temperance. Another side of Miss Sturge's character was revealed in her great love of children, and her interest in all that pertained to their

upbringing and education. Long before the idea was generally accepted that sunlight and fresh air were two of the chief essentials for healthy childhood, Miss Sturge was practising and preaching this principle.

One of her recent enterprises was the founding of the Birmingham Taylor Memorial Home for Inoperable Cancer. Her plea was that every healthy woman should contribute to the amelioration of these tragic cases. Miss Sturge was always generous to all funds for the distressed, especially those for the benefit of children. Her poorer patients knew her practical generosity, as also did any "concern" of hers, as she phrased it in the language of the Friends. Miss Sturge was one who upheld the noblest ideals of the profession. She was an indomitable worker, and never spared herself, especially where she thought her professional knowledge could help her fellow creatures to fight and overcome what her religious principles regarded as evils. In fact, a verse of Whittier written after the death of Joseph Sturge, with a slight transposition, might well have been written of her:

"The very gentlest of all human natures  
She joined to courage strong,  
And love outreaching unto all God's creatures  
With sturdy hate of wrong."

Mr. J. FURNEUX JORDAN, F.R.C.S., sends us the following appreciation: Dr. Mary D. Sturge was for

many years on the staff of the Birmingham Hospital for Women, resigning last year after over twenty years' service. I had the privilege of working closely with her during that time, and I can truthfully say that no patients ever had a kinder, more sympathetic, more helpful doctor than hers. Self-sacrifice was the keynote of her life. She never spared herself in the endeavour to help others. In many ways she was a pioneer. Apart from being the doyen of the women doctors in Birmingham, and loved by all of them, she had the soul and the spirit of an originator. She was always wanting something better for others, and it was this spirit that made her devote every minute of her life not occupied by medicine to various forms of social reform. The profession, and especially the ranks of the women doctors, is the poorer for her loss.



MARY DARBY STURGE, M.D.

Dr. JANE WALKER writes: There are many people besides myself who deeply regret the passing of Dr. Mary Sturge. She and I of late years have done a great deal of work together. She was one of the keenest workers for the Medical Women's Federation, and helped devotedly with its constitution and organization from its inception. We did not always see eye to eye, but our differences perhaps made us better friends; certainly they sharpened our wits. Dr. Sturge was every inch of her a Quaker, but she was not exactly of the "turn the other cheek" brand. She was a keen fighter, and indeed the phrase which sounds like a contradiction in terms—namely, "fighting pacifist"—would, I am sure, in the opinion of those who knew her best describe her. But her fighting was never for her own hand, but was directed steadfastly against wrong-doing and wickedness wherever she felt they were to be found. She is perhaps best known for her work in the cause of temperance, in which she collaborated with the late Sir Victor Horsley in the production of *Alcohol and the Human Body*, a book which has run through many editions. But she was a great worker for the promotion of purity and of a cleaner social life. She served on a committee which dealt with the prevention and cure of venereal disease, where her Quaker tradition and convictions showed her plainly how futile and harmful were all methods of compulsion applied to the problems which surrounded the control of these diseases. Such a fine unselfseeking character will be very greatly missed, and the world is indeed much poorer for her loss.

Dr. L. MARTINDALE writes: For many years before I had the privilege of her friendship Dr. Sturge's name was familiar to me. Her courageous stand in the cause of temperance, her work in connexion with legislation dealing with many social problems, and the eminent position she took in the medical profession as president of the Medical Women's Federation make her stand out amongst those women leaders who had left behind them a great name and a great life's work. She was fearless and so generous herself that she took it for granted that everyone, rich or poor, would esteem it a privilege to help in any of her pet schemes. This confidence was rarely misplaced, and many unlucky, unsuccessful protégées of hers owe her much for the help she gave or procured to enable them to make a fresh start in life. Her generous, unselfish spirit showed itself most of all in the encouragement and help she gave to her own colleagues. She was always endeavouring to procure more openings for medical women, more honorary appointments on hospital staffs, and more resident appointments for the junior members of the profession. Professional jealousy was unknown to her, and this probably accounts for the real affection she received from men and women alike, whether they were her medical colleagues, or her patients, or the patients' friends. Her uprightness and wisdom in dealing with her fellows, her moral courage and fearlessness and untiring energy, and but some of the qualities which will remain in many of our memories as the characteristics which endeared Dr. Mary Sturge to those of us who counted her as our friend.

JOHN CLELAND, M.D., D.Sc., LL.D., F.R.S.,  
Emeritus Professor of Anatomy, University of Glasgow.

THE death took place on March 5th, at Chatham, of Dr. John Cleland, Emeritus Professor of Anatomy in the University of Glasgow, in his 90th year. He had recently removed from Crewkerne, in Somersetshire, where he had spent the greater part of his leisure since his retirement from university duties in 1909. Owing to the long period of sixteen years that had elapsed since his retirement from the chair in Glasgow, he had become little more than a distinguished tradition to the present generation of students, although many men now in medical practice owe to his teaching and to the stimulus of his writings their grounding in medical science.

John Cleland was born at Perth on June 15th, 1835; his father was a medical practitioner in that city, but died at an early age. His widow, having removed to Edinburgh, set herself with devotion to the training and education of her two sons, and young Cleland received his early education in the High School, and afterwards entered the University in 1851 to study medicine. There he came under the influence of Professor John Goodsir, and from that time onwards study, teaching, and research in anatomy became the chief occupations of his life. He completed his medical curriculum at Edinburgh University at the age of 20, and spent a year in France and Germany, continuing his medical studies before he reached the age at which graduation was permissible. For several years after graduation he remained in Edinburgh as assistant in the anatomical department, and thereafter was associated as senior demonstrator with Professor Allen Thomson in Glasgow. In 1863 Dr. Cleland was appointed to the combined Chair of Anatomy and Physiology in Queen's College, Galway, a post which he held for fourteen years. At this period of his life he not only engaged in professorial duties, but practised also as surgeon to the hospital, and during this time many of his papers were written. While he was at Queen's College he published *Animal Physiology* (1874) and a *Directory of Dissection* (1876). At this time also he acted as joint editor of the seventh edition of *Quain's Anatomy*, which was brought out in 1867, and he was engaged in numerous minor writings which were subsequently published in 1881 as a volume of essays entitled *Evolution, Expression, and Sensation: Cell Life and Pathology*.

When Professor Allen Thomson retired from the Chair of Anatomy in Glasgow in 1877 he was succeeded by Dr. Cleland, who continued for over thirty years in uninterrupted tenure of the chair. During this period he was one

of the most outstanding figures in medico-scientific circles in Scotland. He was a great personality in the University of Glasgow, and many students were deeply influenced in their modern biological conceptions by his teaching. Far from being only a man of science, his nature possessed a broad artistic side, and he was endowed with no mean gifts as a poet and painter. Some of his poems were published in a volume, *Scala Naturae*, in 1887. Early training under Professor Goodsir had given Cleland's mind a special bent in the direction of the problems of morphology, and he has left a large quantity of original work, partly of the nature of detailed research, and partly of philosophical criticism and speculation, bearing upon such problems. As an evolutionist he had a great regard for the work of Darwin. He adopted, however, an attitude of strong opposition to the materialism which he believed would be the inevitable outcome of entire acceptance of the theory of natural selection as the principal law of evolution. For many years among scientific men he stood almost alone as an expositor of the spiritualistic conception of life.

Throughout his tenure of the chair in Glasgow he devoted himself as assiduously to teaching as to research. An improved volume of *Memoirs and Memoranda in Anatomy* was issued by him in 1889 from the Anatomical Department of Glasgow University, and his textbook of *Human Anatomy*, published in association with Dr. Mackay in 1896, was highly popular with students and contained a record of many original observations which had been gathered by him during his long period of work as a professor.

In addition to the M.D. of Edinburgh, which he took in 1856, the Universities of St. Andrews, Edinburgh, and Glasgow each conferred upon him the honorary degree of LL.D., and the Queen's College University of Ireland that of D.Sc.

Personally he was a man of alert, quick, and sensitive temperament, with strong feeling and wide interests. Besides his interests in teaching, research, and artistic pursuits, he carried out a great deal of hard work in building up, and enriching the splendid anatomical museum which he has left in the University of Glasgow, and which forms a valuable complement to the Hunterian Museum there. Among those who knew him he will be remembered as a man of deep learning, lofty ideals, and unwearied energy which preserved the spirit of youth throughout a long career.

A year after the death in 1887 of his mother, to whom he was deeply attached, he married the eldest daughter of the late Dr. John Hutton Balfour, Professor of Botany in the University of Edinburgh, and sister of Sir Isaac Bailey Balfour. She predeceased him in 1918. There was one son of the marriage. The funeral took place at Golders Green Crematorium on March 7th, and the ashes were interred in Crewkerne Cemetery, Somersetshire.

Dr. HUGH EDWARD WINGFIELD, who died on March 4th at his residence in Bedford Park, was educated at Haileybury, Caius College, and St. George's Hospital; he graduated M.B., B.Ch. in 1895, and proceeded M.D. in 1898. He was for some time demonstrator in physiology in Cambridge University, and took up the study of hypnosis. He also held the appointment of house-physician to the Royal Free Hospital. Later he practised in Winchester, and was appointed medical officer to Winchester College and consulting physician to the Royal Hants County Hospital. He was an ex-president of the Psycho-Medical Society and ex-president of the Medical Officers of Schools Association. He published two books—*An Introduction to the Study of Hypnotism* and *The Forms of Alcoholism and their Treatment*; he also contributed articles to the *BRITISH MEDICAL JOURNAL* and other periodicals on the subjects of psychology and alcoholism. He took a keen interest in chess, and was president of the Winchester Institute Chess Club, to which he presented a challenge cup and silver knight for which there is an annual competition. F. H. E. writes: Wingfield, when at Cambridge, had a wonderful power of hypnotizing fellow undergraduates, which he exerted sometimes for scientific, sometimes for amusing ends. His influence was often for good, as the following story shows. A student reading for the theological tripos was wasting his time in various harmless but unworthy ways. Wingfield hypnotized



him and, unknown to the sitter, told him that he must work two hours a day; this he did, though often not beginning until near midnight. He passed his examinations with credit. Many years later I asked Wingfield whether this student had done well. "Yes," was the reply, "I met him a year or two since in the Strand—a fat, prosperous, contented clergyman, up from the country, who said, 'I turned over a new leaf, didn't I?'" I said, "Did you tell him that you had been his good angel?" "No," said Wingfield with a laugh, "he still thinks the good influence came from above, not from a poor fellow mortal like myself."

The death took place on February 28th, in very sad and tragic circumstances, of Dr. JOHN WILLIAMSON SMITH, of Radcliffe, Lancashire. He had been found unconscious in his motor garage on the previous afternoon suffering from the effects of carbon monoxide poisoning, and in spite of the attention which he received from the hands of several of his medical colleagues, extending over a period of eight hours, he never regained consciousness. Dr. Smith, who was 45 years of age, received his medical education at Glasgow University, where he took the degree of M.B. in 1902 and M.D. in 1908. He was appointed as house-surgeon to the Bury Infirmary twenty-two years ago and afterwards house-surgeon to the Liverpool Eye and Ear Hospital. He held the latter post for about two years and then after a short period of general practice in Chapel-en-le-Frith he entered into partnership with Dr. H. W. B. Saville at Radcliffe. While at Liverpool he gained valuable experience in diseases of the eye and ear, and a few years ago opened rooms in Bury as an ophthalmologist, at the same time continuing his general practice at Radcliffe. He was honorary ophthalmic surgeon to the Bury Infirmary and oculist to the Bury education authorities. A keen and enthusiastic golfer, he was one of the most popular members of the Stand Golf Club, and at the time of his death was chairman of the handicap committee. He was a member of the British Medical Association, and in addition to acting as deputy representative for many years he was recently elected vice-chairman of the Bury Division. The funeral, which took place at Radcliffe on March 3rd, was largely attended, among those present being many brother practitioners from Radcliffe, Whitefield, and Bury.

Dr. JOHN LEWIS OWEN of Holyhead died on February 14th, aged 57, following an operation. He was a native of Ty-Croes, Anglesey, and was educated at Edinburgh, where he was demonstrator of anatomy at Surgeons' Hall; he took the diplomas of the English Conjoint Board in 1888. After acting as assistant to the late Dr. Hughes of Holyhead he commenced practice at Llanelgri, subsequently moving to Holyhead, where he practised for twenty-five years. He was a member of the Panel Committee, and at one time represented the panel practitioners on the County Insurance Committee. He was medical officer and public vaccinator for the Holyhead district, and Admiralty surgeon and agent as well as surgeon to the Post Office and the Trinity Corporation. He was a justice of the peace for the county of Anglesey and a member of the North Carnarvon and Anglesey Division of the British Medical Association.

Dr. ALFRED ROBINSON died on February 17th, aged 64, at his residence in Rotherham, after an illness of about five weeks. He was born at Merthyr Tydvil in 1860, and received his medical education at St. Bartholomew's Hospital and Durham University. He obtained the diploma of L.S.A. in 1881 and M.R.C.S. Eng. in 1882; he graduated M.B. Durh. in 1883, and proceeded M.D. in 1887. He obtained the L.S.Sc. in 1888. After filling the post of clinical assistant to the Newcastle-upon-Tyne Infirmary he commenced general practice in Rotherham in 1884, in partnership with Dr. J. Hardwicke, whom he subsequently succeeded. From 1884 to 1906 he was medical officer to the Rotherham Workhouse. In 1892 he was appointed medical officer of health for the borough, and also medical officer to the Education Committee and to the Rotherham Fever Hospital. He took a very great interest in maternity and

child welfare, and was responsible for the inauguration of an isolation hospital, small-pox hospital, a child welfare centre, and subsequently a maternity home, opened in December, 1920. He was an ex-president of the Sheffield Medico-Chirurgical Society and of the Yorkshire Branch of the Society of Medical Officers of Health. For many years he was connected with the Volunteer movement; during the war he performed home service, and retired with the rank of major in the R.A.M.C. (T.F.). Dr. Robinson contributed various articles on public health subjects to the BRITISH MEDICAL JOURNAL and other periodicals. He is survived by his widow. The funeral, on February 20th, was attended by a large number of representatives of the many interests with which Dr. Robinson was connected.

By the death of Dr. ELLISON CANSFIELD of Shipley on January 15th, the medical profession of Bradford lost one of its most devoted and conscientious members, and the Hall Lane district, where for many years he laboured unsparingly and with never-failing kindness among a large industrial population. Educated at the Bradford Grammar School and the University of Edinburgh, he took the degrees of M.B., Ch.B. with special distinction in medicine, and from there he went to the Maternity Hospital, Dublin. Entering general practice he was assistant to Dr. Pullan of Paddock, Huddersfield, and later to Dr. Robinson of Low Moor and Wyke. In 1911 he bought the practice at Windrush House, Hall Lane, Bradford, from the late Dr. Bladworth; the practice was originally carried on by the late Dr. Sam Lodge. There he worked steadily and conscientiously for many years, and built up one of the largest general practices in Bradford. His colleague, Dr. J. R. JOHN, writes:

In 1918 Dr. Cansfield joined the R.A.M.C. with a temporary commission and saw service as medical officer to the 7th battalion Lincolnshire Regiment. Within four months he was severely gassed, and after being in hospital for several months was finally invalided out of the service late in 1919. Failing to obtain adequate help under war conditions he struggled bravely to resume the heavy duties of his large practice. It was not until January, 1920, that my own demobilization permitted of my joining him as a partner, as had been provisionally arranged during our early days together in Franco. We carried on a very happy partnership—in spite of frequent breakdowns in his health—until July, 1924, when he was obliged to give up his share of the practice. Despite the devoted nursing of his wife his health gradually failed and he passed away just after his 39th birthday. A large circle of friends, patients, and fellow practitioners mourn the loss of one whose kindly nature, never-failing sympathy, and conscientious devotion to duty endeared him to all.

Dr. JOHN DOUGLAS PEARSON died on March 5th, at the age of 47. He was educated at Cheltenham College and Guy's Hospital, and obtained the diplomas M.R.C.S., L.R.C.P. in 1903. After filling the appointments of house-physician, anaesthetist, and visiting surgeon to the Chester General Infirmary, he began general practice in Cheltenham. He served in France during the war, in the R.A.M.C. For some years he was medical officer of No. 1 District of the Cheltenham Union. He leaves a widow and one daughter.

Dr. JOSEPH A. CLARKE of Dunoon died on February 10th. He was a native of Glasgow and received his education at the University there, graduating M.B., Ch.B. in 1897 and M.D. in 1900. He took the diploma in public health of the Conjoint Board in Scotland in 1911. He had practised in Dunoon for twenty-four years, having succeeded the late Dr. Gemmell. During the war he saw active service in Mesopotamia. Dr. Clarke, who was an enthusiastic Freemason, was a member of the Argyllshire Division of the British Medical Association.

Dr. PAUL MOSER, the Viennese paediatrist, and Professor E. BUMM, the Berlin gynaecologist, have recently died.

## Medical News.

THE annual meeting of the Royal Medical Benevolent Fund was held on March 17th under the presidency of Sir Thomas Barlow. The treasurer (Sir Charters Symonds) said that the invested properties amounted now to more than £100,000. The amount voted in grants during 1924 was £5,616, and the grant department showed an adverse balance of £373, but this was apparent rather than real, because a proportion of the money, although voted, had not actually been paid out. The payments to annuitants amounted to £3,277. Certain considerable legacies were falling in, but it was the rule of the fund to invest all legacies for the benefit of annuitants. Dr. Newton Pitt, the honorary secretary, said that the committee had to record an increase of £1,000 in new subscriptions, a result largely attributable to the plan of appealing by means of letters written by vice-presidents or local secretaries in different areas. The ordinary subscription revenue, however, was down, and with fewer special gifts the general result was an increase in grant income of only £50 and in total income of only £130. Altogether 490 persons had been relieved during the year—343 by grants, which were not necessarily renewable, and 147 by annuities, which were in most cases renewed from year to year as a matter of course. The war emergency fund, which had been devoted chiefly to the education of children, would be absorbed by the early part of 1926, by which time most of the beneficiaries would have reached the age of 16. The Ladies' Guild continued its valuable help in the shape of personal contact with and gifts to the grantees. The British Medical Association had greatly assisted the fund by collecting subscriptions, and during the year it had forwarded £1,110, an increase of £200 on the amount collected in the previous year. Through the instrumentality of the Association also several cases requiring assistance had been brought before the fund. He referred with great regret to the death of Dr. G. E. Haslip, a member of the committee, who was instrumental in obtaining large grants for the fund from the Medical Insurance Agency. Changes made in the personnel of the committee included the election of two representatives of the British Medical Association, Dr. R. A. Bolam and Mr. Bishop Harman. The president remarked that the committee already had the advantage of the help of another representative of the Association, Dr. C. O. Hawthorne. Mr. Basil Hall, the President of the Association, was elected a vice-president. Thanks were expressed to the editors of the *British Medical Journal* and the *Lancet* for their readiness at all times to help the fund.

A MEETING of all members of the medical profession in practice within the hospital area will be held in the library of the Royal Devon and Exeter Hospital on Thursday, March 26th, at 3 p.m., to discuss the proposed contributory scheme. The question of the wage limit to be imposed is now under consideration, and the staff desires to ascertain the views of the local profession.

THE adjourned discussion on vitamin deficiency at the Royal Society of Medicine will be reopened on Monday next, March 23rd, at 5.30 p.m. The speeches made when the discussion was opened on February 16th were reported in our issue for February 21st (p. 358) and can be read in full in the March number of the society's *Proceedings*, and those who wish for a summary can obtain galley slips on application at the society's office, 1, Wimpole Street, W.1. The general discussion of these papers will be opened by Dr. William Hunter and Dr. Robert Hutchison.

The Fellowship of Medicine announces that Mr. Ernest Clarke will lecture at No. 1, Wimpole Street, on March 30th at 5.30 p.m., on myopia, and on April 1st at the same hour, Dr. Robert Knox will give a lecture and lantern demonstration on the use of x rays in the diagnosis of lesions in the right upper quadrant of the abdomen. Members of the profession are cordially welcomed to these lectures whether members of the Fellowship or not. During the fortnight commencing April 20th an intensive course in all departments of hospital practice will be held at the Hampstead General Hospital. A course on diseases of children will also be held at the Queen's Hospital for Children on each day of the fortnight, and another on proctology at St. Mark's Hospital for Diseases of the Rectum. Early application for these courses is desirable. Copies of the syllabus of these courses may be obtained from the Secretary to the Fellowship of Medicine, No. 1, Wimpole Street, W.1.

THE annual meeting of the Society for the Study of Inebriety will be held at 11, Chandos Street, London, W.1, on Tuesday, April 21st, at 4 p.m. After the election of officers and the reception of the annual report of the council and the financial statement, Dr. Courtenay C. Weeks will open a discussion on alcohol in medical and surgical practice.

A MEETING of the Tuberculosis Society will be held at Cambridge, from April 2nd to 4th inclusive. Professor W. E. Dixon will lecture on the treatment of disease with heavy metals and bactericidal agents; Dr. Lynam on x rays in the diagnosis of pulmonary tuberculosis; Dr. R. C. Matson, of the American National Tuberculosis Association, will deal with artificial pneumothorax and the value of surgical procedures; Mr. H. Platt will discuss forms of arthritis simulating tuberculosis; and Dr. L. Cobbett will consider racial susceptibility and resistance. Sir Henry Ganvain will lecture on the present position of light treatment in surgical tuberculosis. A visit will be paid to the East Anglian Sanatoriums. A limited number of rooms will be available in Clare College, and it is hoped that cheap railway tickets will be obtainable. Further information may be obtained from the honorary secretary of the Tuberculosis Society, Dr. F. J. C. Blackmore, 138, Herbert Road, Plumstead, S.E.18.

THE North-Western Tuberculosis Society will hold a meeting at the Skin Hospital, Quay Street, Manchester, on Thursday, March 26th, at 3.30 p.m., when a demonstration (arranged by Dr. G. H. Lancashire) of tuberculous skin cases and methods of treatment, including light treatment, will be given.

THE quarterly meeting of the Society of Superintendents of Tuberculosis Institutions will be held at 122, Harley Street, on Monday, March 23rd, at 3 p.m. Dr. R. E. Woodhouse (Secretary of the National Tuberculosis Association of Canada) will give an address on tuberculosis work in Canada, and Dr. N. D. Bardswell will report the results of an experiment in settling tuberculous men on the land. Dr. A. J. Shinnie (Westminster) and Dr. Esther Carling will open a discussion on the weak points in the public treatment of tuberculosis. It is hoped that a general practitioner will speak from the standpoint of general practice.

THE third dinner meeting of the Hunterian Society of London will be held at Simpson's Restaurant, 77, Poultry, Cheapside, on Monday, March 30th, at 7.30 p.m. After dinner a discussion on the use and abuse of drugs will be opened by Professor W. E. Dixon and Dr. H. H. Dale.

At a conversazione organized by the Chelsea Polytechnic on March 13th demonstrations were given of the educational work in progress. The subjects included elementary, applied, and advanced physics; bacteriology, including the study of immunity and food and water examination; physiology, with especial reference to physical efficiency tests and biochemistry; elementary, technical, and advanced chemistry; botany; zoology; and the manufacture of pharmaceutical preparations.

THE Wellcome Historical Medical Museum will be closed for cleaning and decoration from April 1st to 30th inclusive.

A FUND has been opened for providing some addition to the building or equipment of Scarborough Hospital as a memorial to the late Dr. F. W. A. Godfrey, whose death we announced in our issue of February 21st (p. 389). It is also proposed to place a tablet in St. Martin's Church. Dr. Godfrey was connected with the Scarborough Hospital for more than thirty years, and devoted to it a very great amount of interest and labour. Contributions amounting to more than £450 have already been received or promised. Cheques, payable to the "Godfrey Memorial Fund," may be sent to the honorary treasurer, Mr. S. F. Linton, the Town Hall, Scarborough.

DR. J. WRIGHT MASON, who has retired from the posts of medical officer of health for Hull after forty-four years' service and of medical officer of the Hull and Goolo Port Sanitary Authority for thirty years, was entertained at dinner on March 9th by members of the Corporation Health Committee and of the Port Sanitary Authority, and presented with illuminated addresses by both bodies. During the evening speeches were delivered by the chairman of the Corporation Health Committee and of the Port Sanitary Authority, as well as by the Lord Mayor, eulogizing Dr. Mason's work in the interests of public health.

THE Harrogate Corporation has prepared an attractive Easter programme. Copies may be had from the General Manager, Publicity Department, Royal Baths and Wells, Harrogate.

DR. L. OMBREDANNE has been elected president of the Société française d'Orthopédie in succession to the late Professor A. Broca.

THE discussion on post-graduate study in London arranged by the Fellowship of Medicine and Post-Graduate Medical Association, which took place on Wednesday last (March 18th), will be resumed at 1, Wimpole Street, W.1, on Wednesday, April 8th, at 6 p.m.

THE announcement is made as we go to press that Sir Humphry Rolleston, Bt., K.C.B., has been appointed to be Regius Professor of Physic in the University of Cambridge in succession to the late Sir Clifford Allbutt.

## Letters, Notes, and Answers.

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the BRITISH MEDICAL JOURNAL alone unless the contrary be stated. Authors desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Financial Secretary and Business Manager, 429, Strand, W.C.2, on receipt of proof.

ALL communications with reference to advertisements as well as orders for copies of the JOURNAL should be addressed to the Financial Secretary and Business Manager, 429, Strand, London, W.C.2. Attention to this request will avoid delay. Communications with reference to editorial business should be addressed to the Editor, BRITISH MEDICAL JOURNAL, 429, Strand, W.C.2.

Communications intended for the current issue should be posted so as to arrive by the first post on Monday or at latest be received not later than Tuesday morning.

The telephone number of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is GERRARD 2630 (Internal Exchange). The telegraphic addresses are:

EDITOR of the BRITISH MEDICAL JOURNAL, Aitiology Westrand, London.

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), Articulate Westrand, London.

MEDICAL SECRETARY, Medisera Westrand, London.

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Barillus, Dublin*; telephone: 4737 Dublin), and of the Scottish Office, 6, Rutland Square, Edinburgh (telegrams: *Associate, Edinburgh*; telephone: 4361 Central).

### QUERIES AND ANSWERS.

#### BEGGING LETTERS.

DR. HAROLD DOWNS (Martock, Somerset) writes: A person signing herself "Jean N. Atherton" writes to me asking for financial assistance, stating that her father was at St. Thomas's Hospital with me (which is not the case, for I am not a St. Thomas's man), but that "he failed to qualify." May I suggest that any practitioner who may feel inclined to respond should first communicate with the Charity Organization Society? This person writes from Devonshire, and asks for a loan of £3 till March 24th.

\* \* \* The address of the Charity Organization Society is Denison House, 295, Vauxhall Bridge Road, London, S.W.1.

#### ANTISCORBUTICS IN THE TROPICS.

"E. C. L." inquires as to the antiscorbutic substances which can best be used in the tropics.

\* \* \* The following standards for persons residing in a tropical country, such as West Africa, were drawn up by E. Marion Delf from careful analyses. Taking the antiscorbutic value of orange and lemon juice as 100, pineapple would be 44, pawpaw 40, vegetable marrow 33, and sweet potato 31. Fresh bananas eaten raw have a moderate value only. Tomatoes, both fresh and tinned, are also very useful. It must be noted, however, that the antiscorbutic value of all these fruits and vegetables will vary according to their freshness and method of storing. Germinating peas have a very high value; they should be allowed to simmer in a double steamer and the liquor should be used as well as the peas.

### LETTERS, NOTES, ETC.

#### A DISCLAIMER.

DR. H. W. NOTT (Little Sutton, near Birkenhead) writes: May I ask you to find room for this letter disclaiming any association whatever on my part with the lay press notices which have appeared in connexion with the thyroid and manganes treatment?

#### A NEW MOSQUITO BREEDING PLACE.

DR. J. C. RYAN, D.T.M. (late M.O., West African Medical Staff), writes: In the issue of the BRITISH MEDICAL JOURNAL of March 7th (p. 483) a note appears on "A new mosquito breeding place"—that is, palm trees. In my book entitled *Health Preservation in West Africa*, published in 1914, reference is made on page 62 to this source of danger. Therefore it is hardly correct to call it new.

#### MATERNAL MORTALITY.

"A COUNTY PRACTITIONER" writes: I cannot understand the statements now being made regarding maternal mortality. I have been in practice since 1892—twenty years in a seaside town and thirteen in a country district. During that time I have attended over 2,000 confinements without a single maternal death. I presume that my experience is not much different from that of the majority of general practitioners. Are conditions so very much worse in large towns, and is the percentage of deaths so very great, or has the whole matter been grossly exaggerated?

#### CANCER IN AFRICAN NATIVES.

DR. J. E. S. OLD, whose letter on cancer in African natives appeared in our issue of February 21st (p. 386), writes further to suggest that "cellular atavism" may be concerned in the occurrence of malignancy. He believes that help would be received from a tabulated comparison of the relative antiquity of the various races of mankind with the prevalence of malignant disease in them. The tendency to atavism may increase in inverse ratio to prepotency, which tends to produce resemblance to parents rather than to ancestors, and such composite racial blends as are found in the more civilized nations, being the least prepotent, may thus be more susceptible to malignancy if this condition contains atavistic elements. The racial tendency to reversion may be accentuated in an individual by his diet and mode of life, and become apparent. The constancy of this effect seems to him to indicate the existence of an inherited subservience to the "unconscious," and a pathological irritant, in combination with mental concentration, may awaken some latent unconscious nervous force and stimulate embryonic cells to activity. Prepotency may be a hyperdevelopment of some part of the "unconscious," and, if ill developed, may be unable to control or balance another part which is concerned with physiological activities. Dr. Old suggests that cancer hospitals might encourage a research on psycho-analytical lines, with a view to determining the presence or absence of such factors in malignant disease.

#### DAZZLING HEADLIGHTS.

DR. R. M. COURTAULD (Wakes Colne, Essex) writes: Many inventors are busily seeking an efficient motor car headlight free from dazzle, but I have not so far heard or read of any eye specialist seeking a method of making the eye dazzle-proof. Perhaps intimate knowledge of the eye would reveal the hopelessness of such a quest; *prima facie*, however, there seems here a promising path to pursue. Two methods suggest themselves to me as possibly worth a trial—namely, (1) the use by drivers of some kind of spectacles that would deprive bright light of its dazzle, while leaving illumination sufficient for safe driving; (2) the use of a myotic drug in the form of eye drops. The value of this method must depend upon the answers to three questions—namely, (a) Is there any myotic drug that can be constantly used without harm to the user? (b) Can a myotic drug render the eye dazzle-proof? (c) If the pupils of a driver's eyes were contracted by a myotic drug, could he see well enough to drive safely at night? Question (a) can be answered off-hand, doubtless, by any ophthalmologist or pharmacologist. The answers to questions (b) and (c) can easily be found by experiments.

#### INDEXES TO PERIODICALS.

THE Library Association issues a *Subject Index to Periodicals* (Issued by the Library Association: K.—Science and Technology. London: Grafton and Co., 1924.) drawn from 600 English and foreign periodicals in eight sections—namely, A, Theology and Philosophy; B—E, Historical, Political, and Economic Sciences; F, Education and Child Welfare; G, Fine Art and Archaeology; H, Music; I, Language and Literature (Part I, Classical, Oriental, and Primitive; Part II, Modern and Bibliography); K, Science and Technology. In the section now before us, for the year 1921, bearing as its date of publication December, 1924, an enclosed slip states that it includes some 6,000 entries, obtained from the examination of 290 periodicals. The price is £1 1s. net. As compared with this home production, medical literature and its allied sciences enjoy the luxury of foreign importations from the United States of the *Index Medicus* and the Cumulative Index of the *Journal of the American Medical Association*. In the course of 1922 these publications gave the references to the English and foreign literature of 1921 in an exhaustive fashion; these two publications cost libraries about 3 guineas. The *Subject Index* of the Library Association includes a few references to medical and scientific subjects, but only a very few as compared with the American publications mentioned.

#### "MEDICAMENTA RECENTIA."

THE second edition (revised and enlarged) of *Medicamenta Recentia*, published by Messrs. Allen and Haubury (37, Lombard Street, London, E.C.3), is a neat and handy little book. It contains notes, arranged alphabetically, on "Allenburys" specialties, which are so numerous as almost to form a pharmacopoeia in such barbaric ingenuity as the word "muscabane" for a fly repellent; but it must be delightful to cure one's chapped hands with chrismanhoron. The notes are followed by a therapeutic index, in which, under the name of each disease, the appropriate specialties are mentioned. There is a summary of the Dangerous Drugs Acts of 1920 and 1923; a description of the technique of injections, subcutaneous, intramuscular, intravenous, and intraspinal; a section on diet in diseases; and sundry tables of weights and measures.

#### VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 36, 37, 38, 39, 42 and 43 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 40 and 41. A short summary of vacant posts notified in the advertisement column appears in the *Supplement* at page 123.

# A Clinical Lecture ON CANCER OF THE STOMACH.

DELIVERED AT GUY'S HOSPITAL

BY

R. P. ROWLANDS, M.S., F.R.C.S.,

SURGEON TO THE HOSPITAL.

THE deaths from cancer of the stomach are rapidly increasing. In England and Wales there were 7,078 in 1919 and 8,135 in 1921. Very few of these patients ever come to the surgeon; many do not see a physician or even their general practitioner until it is too late to operate. This is partly due to the fact that gastric cancer is frequently a terminal disease in old people, for more die of this condition between the ages of 60 and 70 than in any other decade, so that the early symptoms are often overlooked or thought to be the natural result of old age. Even when an early and correct diagnosis is made in these old people a radical operation is considered to be too formidable. There is also a very prevalent opinion among the public that cancer of the stomach is necessarily fatal, and that no operation can either cure or afford much relief. The majority of patients who see the physician or surgeon come so late that either no operation can be performed or the difficulty and mortality of operation are very great; at the best, in these late cases, the prolongation of life is short, with the natural result that the public get a bad impression of the operation.

Better education of the public and of the rank and file of the medical profession, leading to earlier diagnosis and operative treatment, would bring far better results. It should be made more generally known that both the immediate and the ultimate results of early operation are good: the immediate mortality should not be more than 10 per cent., and at least one-quarter of the patients should be alive and well five years after the operation. These operative results are satisfactory for a disease which has a 100 per cent. mortality under medical treatment. At present, out of ten cases which reach the surgeon, resection is only possible in two and gastro-jejunostomy for the relief of obstruction in three, the remainder being inoperable.

Many cases of cancer of the stomach could be prevented by earlier and better treatment of chronic gastric ulcer, which is the main precursor of gastric cancer. Sberren<sup>2</sup> and Moynihan<sup>3</sup> maintain that at least 50 per cent. of cancers of the stomach arise in chronic gastric ulcers, and find direct microscopic evidence that cancer started in an ulcer in one-quarter of the specimens of cancer removed at operation. Moreover, one-tenth (Moynihan) to one-twentieth (Sherron) of supposed chronic gastric ulcers removed by them showed evidence of early cancer. Pauchet<sup>4</sup> contends that as many as 75 per cent. of cancers of the stomach arise in simple ulcers. Others deny any direct relationship between gastric ulcer and gastric cancer, but it is significant that cancer attacks just those parts of the stomach which are subject to ulcers and that the clinical history of chronic or recurring gastric ulcer is obtainable in the majority of cases of cancer of the stomach. In this connexion MacCarty's<sup>5</sup> view is important. He asks the practical question:

"Is cancer often associated with chronic gastric ulcer? From an experience of more than 1,400 gastric specimens I can state that the association is so frequent that if I had a chronic gastric ulcer I should always consider the possibility of cancer being present, and I know of no clinical or laboratory methods by which the differential clinical diagnosis can be made. From actual experience

also I know that chronic gastric ulcers with a diameter greater than 2.5 cm. are cancerous. I do not know whether the cancer or the ulcer was primary, but I do know that I would not temporize with the chronic gastric ulcer."

## SYMPTOMS.

Cancer of the stomach should be suspected in any patient, especially over 35 years of age, who suffers from obstinate dyspepsia with anorexia, wasting, anaemia, pain, vomiting (especially coffee-grounds), and achlorhydria. It should be remembered, however, that not more than 50 per cent. of early cancers of the stomach show achlorhydria, and that in over 25 per cent. free hydrochloric acid is either normal or excessive.

## DIAGNOSIS.

When cancer of the stomach is suspected it is of the greatest importance to settle the diagnosis without delay, and, with this object, every useful examination should at once be made; a fortnight is ample time for every investigation to be completed. The most reliable help is afforded by x-ray examinations by an expert. Persistent delay, defective filling, and distortion of the shadow are practically conclusive. (Fig. 1.) Carman maintains that he can make a correct diagnosis by x rays in over 96 per cent. of the cases submitted to him, but I have not found the x-ray reports so accurate as this. Further, Carman and MacCarty state that if an ulcer has a crater of over 2.5 cm. it is

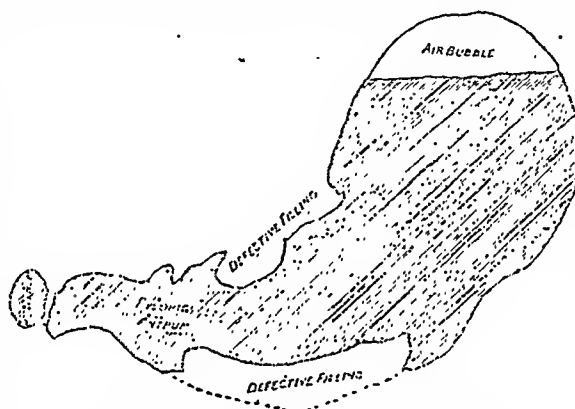


FIG. 1.—Case iii; copy of radiogram of stomach taken by Dr. Lindsay Locke.

almost certain to be malignant. This is a valuable observation, but it is not entirely reliable, for I have excised several larger chronic gastric ulcers which were proved by subsequent microscopic examination to be innocent. In doubtful cases it is important to take a Wassermann reaction in order to exclude syphilis of the stomach, although this is a very rare disease. There is some danger of mistaking pernicious anaemia for cancer of the stomach, but the characteristic changes in the blood in the former condition should prevent this mistake.

Carcinoma of the body of the pancreas presents difficulties, for this condition, unlike the same disease in the head of the pancreas, does not cause jaundice. The patient has much pain, wastes rapidly, and is anaemic. Negative x-ray examinations and the absence of blood in the gastric juice or in the faeces should generally prevent this mistake. As already pointed out, it is quite impossible in many cases to distinguish between chronic ulcer and carcinoma of the stomach without microscopic section.

## INDICATIONS FOR OPERATION.

When all available methods of examination have been exhausted without settling the diagnosis an exploration of the abdomen is necessary if cancer of the stomach is to be found and treated in its hopeful stages, and this exploration should be resorted to without delay. When cancer is excluded by exploration some other disease is generally found, such as peptic ulcer or cholelithiasis, which can be best treated surgically. Negative explorations for late cases are to be avoided, whenever possible, for they carry a high mortality, chiefly from pulmonary complications. The following points indicate that an exploration is useless.

1. Bad general condition. When the general condition of the patient is so poor that he cannot be expected to stand a major operation, such as partial gastrectomy, it is a pity to submit him to an exploration, but his health may be greatly improved by careful dieting, rest, gastric lavage, and sometimes by blood transfusion before operation. In some cases a preliminary short-circuit for pyloric obstruction has the same beneficial effect, allowing a resection to be carried out at a later date (see Case ii).

2. Evidence of secondary growths. It is useless to explore a patient when hard enlarged glands are felt, especially

at the root of the neck, or when secondary growths are felt in the pelvic peritoneum on rectal or vaginal examination. Any nodules at the umbilicus, in the liver, or anywhere in the abdomen, especially with ascites, are strong contraindications to exploration.

3. Size, position, and fixation of the growth. A palpable tumour is by no means a contraindication to resection, for even a simple gastric ulcer may sometimes be felt in a thin abdomen; but the size and position of the tumour are most important, for if it is large, and particularly if it extends upwards under the left costal margin or starts in the cardiac part of the stomach, resection is not likely to be practicable. Fixation of the tumour is also very important, for if it cannot be moved from above downwards and from side to side resection is impossible. Accurate radiographic examinations give valuable help by indicating the site and extent of the growth as well as the size and capacity of the healthy part of the stomach.

As regards gastro-jejunostomy for cancer, it is generally admitted that this is of no use and should not be performed unless there is definite obstruction. In these circumstances it is a humane operation, prolonging life and making death less terrible. It does not often prolong life for more than six months, although I have known a few patients survive for two or three years in comparative comfort.

#### OPERATION.

This commences as an exploration to establish or complete the diagnosis and to determine the proper treatment. A long paramedian incision is made in the epigastrium, either to the right or to the left of the middle line, according to the position of the growth. The incision extends from the costal angle to below the umbilicus. The growth, glands, and peritoneum are carefully examined to see if resection is practicable. If the liver and the peritoneum are free of secondary growths, everything depends upon the extent and fixation of the primary growth and the presence of secondary glands about the head of the pancreas and the coeliac axis. If the primary growth extends along the lesser curvature nearly to the oesophagus partial gastrectomy will be of no avail, and, in my opinion, complete gastrectomy is hardly ever worth doing, for it carries a very high mortality and is generally followed by rapid recurrence. Those who survive it for any length of time without recurrence develop an intractable form of anaemia simulating Addison's (pernicious) anaemia. Considerable invasion of the pancreas is generally a contraindication to resection; involvement of the transverse colon or of its mesentery is not so serious, for these parts can be resected with justifiable additional risk.

#### Choice of Operation.

This depends upon the site and extent of the growth. In many cases it is necessary to remove the pylorus and from one-quarter to one-half of the stomach. After extensive resections direct union of the stomach and duodenum, after Billroth's first method, is impracticable without undue tension. Therefore the duodenum is closed and the side of the jejunum is anastomosed directly to the cardiac remnant, after Polya's method. It is better to place the loop of jejunum in front of the transverse colon, after

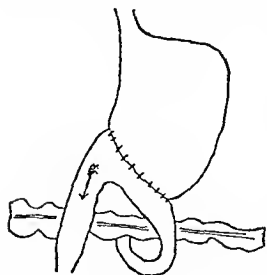


FIG. 2.—Polya-Balfour union.

Balfour's method,<sup>6</sup> for if recurrence takes place, as it often does about the pancreas and transverse mesocolon, obstruction of the anastomosis is not so likely when this method is used. (Fig. 2.)

When the primary growth is small Billroth's first method is an excellent one, especially if it is carried out after W. J. Mayo's plan.<sup>7</sup> Mayo mobilizes the lesser curvature, removes the whole of the gastro-hepatic omentum with its contained glands and a considerable part of the lesser curvature of the stomach, along which the growth so often

spreads. He also points out that the intramural spread rarely extends more than 3 cm. from the edge of the primary growth, and that it is not necessary to resect the stomach so widely as has so often been done, provided that the lymphatic vessels and glands are extensively removed. The wound in the stomach is sutured along the lesser curvature, so that the diameter of the opening left is not appreciably larger than that of the duodenum. With modern methods of suture the danger of leakage at the "angle" is negligible. (Fig. 3.)

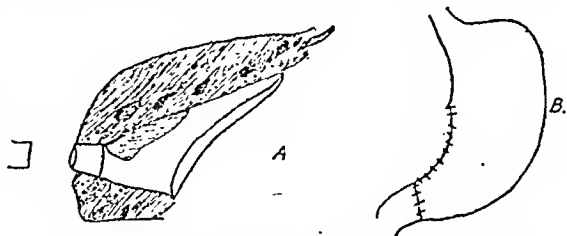


FIG. 3.—Billroth No. 1, modified by W. J. Mayo. A, Part removed. B, Method of union.

When the growth is in the mid-gastric area and is not too extensive, sleeve resection, with wide removal of the lymphatic glands, is indicated, and both the immediate and ultimate results of this operation compare favourably with those of other forms of resection.

#### Operation in Two Stages.

In some feeble and old patients, and especially in those suffering from severe pyloric obstruction with vomiting and rapid wasting, it is sometimes necessary and wise to perform the operation in two stages, and, in these circumstances, a preliminary gastro-jejunostomy, well to the left of the growth, is indicated. The improvement that follows this operation is often so marked that it is difficult to persuade the patient that another operation is necessary, and it is therefore well to explain the plan of procedure before the first operation. Secondary resection of the growth is sometimes made somewhat more difficult by the previous gastro-jejunostomy, which limits the mobility of the stomach and sometimes makes it difficult to divide the latter far enough away from the growth. When this has been removed the openings in the jejunum and stomach are closed, and the anatomy of the parts is like that of Billroth's second method, which is rarely performed as a primary operation nowadays because it is unnecessarily complicated and prolonged as compared with the Polya-Balfour method.

The following three cases may serve to illustrate some of the points of this lecture. They afford striking contrasts: the first, an early case operated on with complete success, the patient being well nine and a half years after partial gastrectomy; the second, a late case with severe anaemia, calling for preliminary short-circuit and secondary resection; and the third, a very late case, beyond resection, who survived anterior gastro-jejunostomy for only a few days.

#### CASE I.

Mrs. E., aged 41, a patient of Dr. Brackenbury. She had suffered increasingly from indigestion for three years. Recently she had haematemesis and had wasted rapidly. She often vomited large quantities. Radiography revealed pyloric obstruction. I had felt a tumour of moderate size in the epigastrium a little to the right of the middle line. The patient looked ill and anaemic, was vomiting large quantities about once a day, and was unable to take more than liquids. I therefore advised operation.

Operation on August 21st, 1915 (Dr. Brackenbury present).—A long incision was made in the epigastrium to the right of the middle line. A dilated stomach, hypertrophied and oedematous, was found, and a pyloric ulcer of large size extending half-way along the lesser curvature from the pylorus, around which it formed a ring which was hard and felt like carcinoma. As the stomach was particularly movable and there were no growths in the liver, pelvic peritoneum, or glands, I decided to resect the diseased part, and this was done without delay. The gastric artery was double ligatured and divided, the left gastro-epiploic also, then the great omentum close to the transverse colon, and the right gastro-epiploic and pyloric arteries. The duodenum was crushed one inch beyond the pylorus and sealed with a running suture of linen thread and then invaginated by two purse-strings



of the same material. A loop of jejunum was brought up through the transverse mesocolon and sown to the back wall of the stomach along a selected line, a little on the cardiac side of the middle of the stomach. Thick black thread was used. The stomach was divided near the line already mentioned between two clamps so that no leakage occurred. An opening the same size as the one in the stomach was made in the jejunum and an anastomosis made as in the case of the stomach thread being used throughout. The operation was completed before the growth was removed. The operation, for the growth was useful as a tractor, and later on the attachment to the jejunum prevented retraction of the stomach during the insertion of deep sutures. The opening in the jejunum began four inches from the end of the duodenum, and by starting it here there was no tension upon the first part of the jejunum and duodenum. Only two layers of sutures were used for anastomosis. The great omentum was not removed but drawn up over the anastomosis and the stump of the duodenum. The opening in the transverse mesocolon was closed by two interrupted sutures. The operation lasted forty-five minutes and the patient was not shocked after it. She was infused during the operation, two pints being run into the arm-pits.

She was very well the next day, but vomited once or twice. On August 23rd she frequently vomited small quantities of offensive green material, and, as half a pint of sodium bicarbonate solution was given without affording any great relief, the stomach was washed out at 5 p.m. A very large quantity of bilious liquid was withdrawn and the patient felt much better. She was up on the tenth day, and walking about on the thirteenth and eating almost full diet. She rapidly gained weight and did very well. When last heard of, in December, 1924 (ten years later), she was still in excellent health.

#### CASE II.

A man, aged 64, had had gastric symptoms for years, with some melaena. When admitted to Guy's Hospital he was thin and very anaemic. He was sent up with the diagnosis of duodenal ulcer, but the diagnosis in hospital was carcinoma of the pylorus, with obstruction.

Operation on May 25th, 1922.—Dr. E. A. Scott, the anaesthetist, considered that he would not stand a long anaesthetic and operation owing to his anaemic and bad condition. I therefore performed posterior gastro-jejunostomy well away from a definite pyloric carcinoma, the size of a Tangerine orange, completely encircling the pylorus, ulcerated, hard, and at one side piercing the muscle wall of the stomach and showing peritoneal nodules. There were no secondary growths anywhere, and partial gastrectomy was thought advisable (possibly after blood transfusion) three to four weeks later. However, the patient improved so much that blood transfusion was not necessary before the second operation, which was performed on July 10th, 1922, when about half the stomach was removed. The growth proved to be a columnar-celled carcinoma. Good recovery followed, and when last heard of (January, 1925) he was in excellent health, less anaemic, and better nourished, and in regular work, cleaning cars.

#### CASE III.

Mr. G., aged 65, after suffering from severe chronic gastritis for three months, was sent by his medical attendant to see a consulting physician, who, instead of a thorough investigation, advised a three months' holiday in Devonshire. After two months the patient returned to London because he was wasting and vomiting so much. Investigation at New Lodge Clinic demonstrated defective filling of the middle of the stomach and complete absence of hydrochloric acid, with much blood in the gastric juice. There was a movable tumour in the left epigastric angle. Laparotomy was advised in the hope that partial gastrectomy would be possible, but the site and extent of the growth made me take a gloomy view of the case. The patient asked for another radiographic examination, and this was done by Dr. Lindsay Loeke, confirming the New Lodge findings. I hoped that a mid-gastric sleeve resection would be possible.

Operation on November 2nd, 1922.—A large carcinoma was found in the lower mid-gastric region. It encircled the stomach and markedly constricted it, leaving only a narrow vertical slit. The cardiac pouch was considerably dilated, and its anterior wall folded forwards and to the right in front of the stricture. There were enlarged glands on the lesser curvature, and also below the greater curvature where the growth had come through the peritoneum of the stomach and had infected the general peritoneum, there being many minute nodules all over it, especially in the pelvis. There were also larger lumps in the great omentum, but no secondary growths in the liver. The primary growth could have been removed, but the secondaries negatived resection. Complete obstruction was clearly impending, therefore an anterior gastro-jejunostomy (beginning in the jejunum ten inches down) was performed, the posterior operation being impossible owing to the position of the growth. Death occurred from bronchitis with exhaustion a week later.

#### REFERENCES.

- <sup>1</sup> Registrar-General's Report, 1921. <sup>2</sup> Sherren, J.: *Lancet*, 1920, i, 691. <sup>3</sup> Moynihan, Sir B.: *BRITISH MEDICAL JOURNAL*, 1920, ii, 109. <sup>4</sup> Pauchet, Y.: *Presse Médicale*, 1920, November 6th, p. 193. <sup>5</sup> MacCarthy, W. C.: *Collected Papers of the Mayo Clinic*, 1922, xiv, 95. <sup>6</sup> Mayo, C. H.: *Ann. Surg.*, 1919, lxx, 237; and *Collected Papers of the Mayo Clinic*, 1919, xi, 41. <sup>7</sup> Mayo, W. J.: *Collected Papers of the Mayo Clinic*, 1922, xiv, 84.

## THE PREVENTION OF PUERPERAL MORBIDITY AND MORTALITY:

### AN EXPERIMENTAL STUDY IN CLINICAL OBSTETRICS.\*

BY

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In this paper I propose to give a short account of a series of consecutive midwifery cases which have occurred under my own general supervision in a municipal maternity home. I do so because I am of opinion that it is only by a detailed study of so-called normal labour, and of the slighter cases of puerperal morbidity, that we shall arrive at a full knowledge of the etiology of puerperal sepsis and the explanation of the terrible cases of fulminant puerperal septicaemia occurring after an apparently normal labour. When in possession of that knowledge we may hope to formulate a scheme to eliminate some of the dangers of maternity, and to decide upon a reasonable technique for the actual conduct of labour.

No one can have read the recent correspondence in the *BRITISH MEDICAL JOURNAL* without being struck by the great diversity of opinion expressed both with regard to the lack of improvement in puerperal statistics and the apportionment of blame for such a deplorable condition of affairs. Recently the published statistics of a practitioner<sup>1</sup> throw a doubt on the reliability of the statistics on which these statements are made—and I think he is probably right.

I do not think it can be denied, however, that even if puerperal mortality has really diminished there is still a vast amount of ill health among women of the poorer and middle classes which is the result of the traumata of labour, of sepsis, or of infection present in the patient before parturition. For a good many years I have been interested in this subject from a gynaecological standpoint, and it occurred to me that it would be both interesting and useful to make observations from the obstetrical side to determine how far these results were inevitable, or, if preventable, how they could be prevented. Accordingly I undertook, at the invitation of Dr. Hope, then medical officer of health for Liverpool, the supervision of the new maternity home which was started on his initiative, and which the lack of housing accommodation after the war made so necessary.

The home is small; it can take in only fourteen patients; but since its opening in 1920 1,000 women have been admitted. It was arranged that I should see, as far as possible, every case before admission, and I attended a weekly clinic at the home when women desiring admission presented themselves for examination.

After notes of the case had been taken and the urine tested, I examined each patient, measured the pelvis, and made an internal examination to determine the diagonal conjugate. A specimen of any abnormal discharge was sent to the city bacteriologist for report. Cases of active syphilis or gonorrhoea were referred to a special institution, as the size of the home did not permit of satisfactory isolation. Cases of albuminuria, cardiac disease, or hyperemesis were admitted for ante-natal care, and abnormal cases were kept under regular observation so that the obstetrical treatment required might be carried out at the proper time. The home was well equipped for simple cases, but any requiring Caesarean section were sent to the Stanley or Maternity Hospital, either before labour or when it had started. Each case was as far as possible admitted a day or two before the anticipated date of delivery.

On admission, after a preliminary abdominal examination has been made by the matron or sister, the regulation bath is given and a dose of castor oil and an enema. Before any internal examination is made the vulva is shaved and washed very thoroughly with lysol solution

\* Read at a meeting of the London Association of the Medical Women's Federation. A brief abstract was published in the *British Medical Journal* of March 7th (p. 450).

(1 in 320) over a douche-pau. In emergency cases tincture of iodine is also used.

During labour all those concerned with the case, including the pupil midwives (who are trained nurses), wear sterilized overalls and boiled gloves. Sterile towels are used, and great care is taken to avoid infection from the anus, especially in multigravidae where the perineum has been ruptured or where prolapsed or inflamed haemorrhoids are present.

The matron or sister conducts all normal cases, with the assistance of the pupil midwives, and reports any abnormality that has been discovered during ante-natal examination or that is discovered on admission. Should the case be not proceeding normally they are asked to send for assistance in good time, and where there is slight contraction of the outlet or uterine inertia and the second stage is unduly prolonged, forceps are not withheld if required. If perineal rupture takes place it is repaired at the earliest possible moment, silkworm gut being used. Catgut is avoided as being too favourable a culture medium.

During the puerperium the vulva is swabbed with lysol solution over a douche-pan (each patient has one for her own use) every four hours during the day, and a large sterile pad applied to absorb all lochial discharge. If the perineum is ruptured the wound is kept specially dry, and is touched once a day with tincture of iodine.

To help involution and to avoid a collection of lochia in the posterior fornix, the patient is encouraged to lie on her side part of every day, and to sleep in an exaggerated Sims's position, which is not uncomfortable. Anteversion of the uterus is thus encouraged. In cases of ruptured perineum metronitration is performed on the hands and knees, so that the wound is not soiled and catheterization is avoided.

The following is an analysis of the 1,000 patients admitted since the home was opened:

Pre-maternity cases	...	...	...	...	206
Maternity cases—					
Primiparae	...	...	...	390	679
Multiparae	...	...	...	289	
Post-natal cases	...	...	...	...	115

I propose to discuss in this paper the maternity cases only.

#### MATERNAL MORTALITY AND MORBIDITY.

There has been no maternal mortality and no maternal morbidity (under Central Midwives Board rule) among the cases delivered in the home. I shall deal in detail later with the few cases which have shown any slight deviation from the normal, and their causation as far as it could be traced.

#### Contracted Pelvis.

Contracted pelvis was present in 130 cases: in 92 of the 390 primiparae (23 per cent.) and in 38 of the 289 multiparae (13 per cent.).

**Primiparae.**—The rather high percentage of contracted pelvis in primigravidae is probably due to the fact that a proportion of the cases are referred from outside clinics, doctors, and midwives for special observation and care. Of the 92 cases in primigravidae—

1. Natural delivery took place in 36, with 35 living children. The dead child was a pelvic presentation; the mother had slight contraction of the pelvis.
2. Forceps were employed in 17, with 16 living children. The child born dead weighed 9 lb. 8 oz.; presentation right occipito-posterior; slight contraction. The size of the child was not discovered sufficiently early to permit of Caesarean section.
3. There was induction of premature labour in 17, with 16 living children. The mother of the dead child suffered from morbus cordis, which was followed by puerperal insanity.
4. Caesarean section was performed in 18, with 18 living children.

**Multiparae.**—Of the 38 cases of contracted pelvis in multigravidae—

1. Natural delivery took place in 16, with 16 living children.
2. Forceps were employed in 3, with 3 living children.
3. Premature labour was induced in 16, with 16 living children.
4. Caesarean section was performed in 3, with 3 living children.

Of the total 679 maternity cases natural delivery took place in 601 (88 per cent.).

Table showing Proportion of Contracted Pelvis in 679 Maternity Cases.

	Primiparae.	Multiparae.	Total Cases.
Normal measurements ...	298	251	549
Contracted pelvis ...	92 (23 %)	38 (13 %)	130
Total ...	390	289	679

#### Complications.

**Post-partum Haemorrhage.**—Three severe and two slight cases occurred; all survived. The treatment employed was massage of the uterus and pituitrin and ergotin injections. Occasionally a hot intravaginal douche was used.

**Adherent Placenta.**—Manual removal of the placenta was required seven times, but in no case followed by pyrexia.

**Perineal tears** of varying degree occurred in 78 cases of normal labour and 20 forceps cases. Primary union was almost invariable, and there was no pyrexia. Small tears were stitched.

**Fibromyomata.**—In two cases labour was complicated by the presence of fibromyomata, but progressed normally. In one case the tumours were enucleated three weeks later and were then found to be undergoing necrobiosis.

**Twin Births.**—Eight pairs of twins occurred, of which four were in primiparae. All the children but two lived—one a pelvic presentation in a primigravida, and the other a vertex with tight short cord. Locked twins occurred once. Considerable delay took place in the second stage. Under anaesthesia one twin was found to be presenting by the vertex with its neck stretched across the neck of the other, which lay transversely. The transverse twin was dislodged and pushed up, and the first delivered by forceps. The other then presented by the vertex and was also delivered by forceps. Both were born alive and survived; one weighed 5 lb. 12 oz., and the other 4 lb. 14 oz.

**Occipito-posterior Position.**—Eighteen cases of unreduced occipito-posterior position occurred; 9 were delivered by natural forces, 3 by forceps after manual rotation, and 6 by forceps. In one, an elderly primigravida with rigid cervix and slightly contracted pelvis, Caesarean section was performed. All the children were born alive, except in the one instance of large child and contracted pelvis already mentioned.

**Placenta Praevia.**—Eight cases occurred—2 central, 6 marginal. Two cases of central placenta praevia were delivered by Caesarean section in the Stanley Hospital. Both children were premature; one, though weighing only 3 lb. 11 oz., survived; the other died after a few hours. One multigravida with vertex presentation was treated by rupture of the membranes and full doses of pituitrin. The child was stillborn. The remainder were delivered by natural forces of living children.

**Prolapse of cord** occurred twice. In the first case the cord was prolapsed and feebly pulsating on admission. Reposition was effected, but the child was stillborn. The second instance occurred with a pelvic presentation.

**Pelvic Presentations.**—There were 23 cases. In 14 the child was born alive; in 5 the child was premature; in one primigravida with slight contraction the child died during delivery; in one primigravida with large child the infant was stillborn; one (a monstrosity with included twin) died five days after birth; in one primigravida the first twin was stillborn. Caesarean section was performed for two primigravidae with contracted pelvis. Both children were born alive, but one had congenital deformity of both arms (absence of the radius).

**Face Presentation.**—This occurred twice. One case was born alive by natural forces. One (an anencephalic monster) was stillborn.

**Eclampsia.**—Although a considerable number of cases of albuminuria were treated, no case developed eclampsia. One case of eclampsia was sent in as an emergency and had had no ante-natal treatment. She was admitted in labour, comatose, with swelling of legs, 7 grams of albumin per litre, and several fits had occurred. One fit took place after admission. Delivery was effected naturally, but the

child was stillborn. The first child had died of convulsions at 8 months. The mother made a good recovery, and when seen three years later the urine was normal.

#### *Induction of Premature Labour.*

Three methods have been employed—namely, quinine and castor oil (25), gum-elastic bougies (6), and toy rubber balloons (17). The first method was found to be unreliable, although it occasionally was successful where the child was post-mature. Bougies were discarded partly on account of their slow and uncertain action, partly on account of the risk of carrying vaginal organisms into the upper segment, of rupturing the membranes, or of causing retroplacental haemorrhage. (During bougie induction in one case slight haemorrhage occurred. Labour did not come on, and the patient was delivered three weeks later by Caesarean section. A large retroplacental haematoma was present.) The balloon method was brought to my notice by Professor Lowry of Belfast. A general anaesthetic is employed. The vagina is douched with 1 in 2,000 mercuric bichloride lotion, and the uninflated balloon introduced through the cervix, which is fixed by means of modified Collins's lung forceps; 16 oz. of sterile water are introduced with a syringe through tubing tied on a glass tube in the neck of the balloon.

The indication for an induction was usually some disproportion between pelvis and child. There were 17 cases, with 17 living children (one—a first twin in a primigravida—being stillborn owing to some delay with the after-coming head). The average gestation period was thirty-eight weeks, and the average weight of the children 6 lb. 13 oz.

Two cases required forceps—one a right occipito-posterior presentation with long second stage, and the other (a second twin) for uterine inertia. In the third case, induced because of post-mature child and slight contraction, the induction was delayed because of the history of septicæmia in the first confinement and risk of latent sepsis. The patient was removed to hospital, and high forceps were used. The child weighed 9 lb. 8 oz. and was delivered alive. Streptococci were isolated from the urine of the mother (Case v).

In two cases Caesarean section was required—the first a pelvic presentation in a primigravida with diagonal conjugate of 4½ inches; the second a multigravida of 42, who had had four forceps deliveries and one previous induction with a living child of 7 lb. 4 oz.

#### *Forceps Delivery.*

Delivery by forceps was effected in 30 cases (4.4 per cent.): in 20 for contracted pelvis (of which 8 were posterior positions); in 3 for cardiac disease; twice for twins, and the remainder for uterine inertia. Low forceps were employed in all but three cases of mid-forceps and the one case of high forceps already mentioned. Contraction of the outlet was noted in 8 cases. The children were all born alive, except the large child in posterior position already referred to. In one cardiac case the premature infant died four hours after delivery.

#### *Caesarean Section.*

Caesarean section was performed in 29 cases: for contracted pelvis in 21; for central placenta prævia in 2; for pre-eclamptic conditions in 3; for rigid cervix in 2; and for grave cardiac disease in 1. These cases were removed, either before or during labour, to the Stanley or Maternity Hospital, and operated upon by myself in 25 cases, in 3 cases by Miss Nicholson, M.S., and in 1 case by Mrs. Dobbin Crawford. The mothers all survived, and the children were born alive.

Three neo-natal deaths took place: (1) premature (placenta prævia); (2) premature (pre-eclamptic) on fifth day; (3) spina bifida on fifth day. In 24 cases the puerperium was afebrile and healing was by primary union. In 5 the puerperium was febrile.

#### *Infant Mortality.*

Thirty-nine infants were stillborn or died in the first ten days; 22 of these were premature.

Ante-natal death occurred in 12—prematurity 8, syphilis 1, anencephalic monster 1, spina bifida 1, cause unknown 1.

Intra-natal death occurred in 18; 8 were due to prematurity, and the following conditions were responsible for one each—placenta prævia, impacted shoulders, left occipito-posterior presentation with contracted pelvis and large child, achondroplasia, breech presentation with large child, toxæmia of pregnancy, breech presentation with contracted pelvis, twin (tight cord), breech presentation (primigravida), spina bifida.

Neo-natal death occurred in 9—prematurity 6, congenital heart 1, monster (included twin) 1, pemphigus 1.

#### *Infant Morbidity.*

There were 7 cases of pemphigus—one (premature, ?syphilitic) died; 3 cases of gonorrhoeal ophthalmia—all recovered; 1 case of congenital blindness; and 8 cases of inflammation of the eyes.

#### *MORBIDITY.*

Although no cases in the home itself have reached the Central Midwives Board standard of morbidity, some slight deviations from the normal have occurred. In 5 out of the 29 Caesarean sections, and in one case of high forceps with latent streptococcal infection, there was morbidity (Central Midwives Board).

#### *Latent Gonorrhoea.*

CASE I.—A primigravida had been under treatment for gonorrhoea and syphilis in a venereal diseases clinic. Before admission to the maternity home discharge had ceased for some weeks. A normal confinement took place. On the fifth day a rigor occurred; temperature 102.8°, pulse 120. The patient was anesthetized and the uterus explored. A little membrane was removed; 20 c.cm. of antigonococcal serum was given subcutaneously, together with 10 c.cm. of antistreptococcal serum as a prophylactic against a possible secondary infection. Gonococci only were found in the uterine discharge. Temperature and pulse dropped to normal, and the patient made a good recovery.

CASE II.—A primigravida, single, a dwarf. There had been a vaginal discharge during pregnancy, but no gonococci found. Caesarean section was performed (S.H.). The temperature reached 101° for the first few days and discharge was profuse. Gonorrhoea suspected.

CASE III.—A primigravida with a definite history of gonorrhoea and syphilis. Normal pelvis. In labour four days, with ruptured membranes twenty-four hours. The head was well in the pelvis, but the cervix did not dilate. Caesarean section was performed. The liquor amnii was discoloured and there was difficulty in removing the child, which was tightly gripped by the uterus. The membranes and placenta were yellow and unhealthy-looking. Drainage was employed. At the operation 20 c.cm. of antigonococcal serum and 10 c.cm. of antistreptococcal serum were given subcutaneously in saline. The wound was not healthy, but there was no rise of temperature. Gonococci had been found. In this case there is little doubt that the gonorrhoeal infection caused the rigid cervix.

CASE IV.—Primigravida. Husband seafaring man. Normal ante-natal history except for prolapsed hæmorrhoids. Normal confinement. Rigor on the ninth day, associated with pain in the right side. Some yellow discharge noted. Intracellular Gram-negative cocci present in pus. Mercurial vaginal douche. No further trouble.

#### *Latent Streptococcal Infection.*

CASE V.—A 2-gravida, aged 33. First child stillborn; forceps delivery, followed by septicaemia. She was an unhealthy-looking stout woman with some oedema of the ankles. Diagonal conjugate 4½ in. There had been an occasional trace of albumin during pregnancy. Perineum torn to anus. Induction was delayed on account of a history of septicaemia. When fourteen days overdue balloon induction was employed, as Caesarean section was contra-indicated and the child large. The head remained high and pains went off. She was transferred to the Maternity Hospital. Pulse 132; hæmorrhagic vomiting. A living child of 9 lb. 8 oz. was delivered with Tarnier's axis-traction forceps. Some post-partum hæmorrhage was controlled by pituitrin. Offensive lochia and raised temperature followed delivery. Streptococci were isolated from the urine. She was given 20 c.cm. of antistreptococcal serum, and made a good recovery.

In this case it is probable that streptococci were present in the bladder during pregnancy and accounted for the albuminuria. No vaginal discharge had been noted.

CASE VI.—A primigravida, aged 25. In this case albuminuria occurred at intervals during pregnancy, and some vaginal discharge was present. A specimen taken before delivery showed short chains of streptococci. Owing to uterine inertia, low forceps were employed for delivery, followed by mercurial douche. There was an afebrile puerperium.

CASE VII.—A 2-gravida, aged 31, with a previous history of prolonged labour with a large child, septicaemia, and white leg. She had had three attacks of appendicitis eight years before, but no operation. There was a trace of albumin in the urine during pregnancy. Labour was normal. On the seventh day she had

shivering and headache; temperature 101.6°, pulse 120. Streptococci in lochial discharge. She was given an intrauterine mercurial douche. The puerperium was normal.

#### Latent Infection with *B. coli*.

CASE VIII.—A primigravida with a rickety flat pelvis. Diagonal conjugate  $4\frac{1}{2}$  in. *Coli* bacilluria during pregnancy. The head did not fix. Caesarean section was performed and a child weighing 7 lb. delivered. The membranes were yellow and unhealthy. Some temperature during the puerperium with pyuria and unhealthy wound. *B. coli* isolated from urine and cervical discharge.

CASE IX.—A married woman, aged 28; one previous abortion. Diagonal conjugate  $4\frac{1}{2}$  in. Occasional albuminuria during pregnancy. In labour twenty-four hours with ruptured membranes. Head above brim; liquor amnii offensive; cervix rigid. Temperature 103°, pulse 104. Caesarean section performed; placenta adherent; drainage. Infant (7 lb. 10 oz.) blue from asphyxia. On the following day the infant had blebs on the fingers and vaginal discharge. Febrile puerperium; rigor on the fifth day. *B. coli* septicaemia. Anticoli serum, 20 c.cm., given subcutaneously in saline. The patient recovered.

In this case, unfortunately, the cause of the albuminuria during pregnancy was not investigated. It is possible that a latent bacilluria was present.

#### Coli Infection.

CASE X.—A primigravida, aged 25. Diagonal conjugate 4 in. Head entering pelvis. Membranes ruptured forty-eight hours. Liquor amnii discoloured. Cervix one-third dilated. It was decided to do Caesarean section. A child weighing 6 $\frac{1}{2}$  lb. was delivered; its head was much moulded. The patient was cyanosed and vomited haemorrhagic fluid in large quantities during the operation. The placenta and membranes were yellowish-green and adherent. The following day the infant's eyes were reddened and vulvitis was present. The mother's condition was serious. She had acute bronchitis with cyanosis, frothy sputum, and incontinence of urine and faeces. The pulse was very rapid and out of proportion to the temperature. Coliform organisms were present in the vaginal discharge. Anticoli serum, 10 c.cm., was given subcutaneously and she made a good recovery.

In this case it is probable that a *B. coli* infection from the rectum supervened during the prolonged labour with ruptured membranes. In one other case there was some morbidity, and the value of a few days' preliminary care in the home was demonstrated.

CASE XI.—A primigravida had been examined at the clinic and slight general contraction found, but it was thought that she would probably deliver herself. She came up in labour a few days before the expected date, the head above the brim. The membranes ruptured, but the head did not fix. Temperature 99.8°, pulse 100. The cervix was half dilated. Caesarean section was performed, and a living child, weighing 8 lb., was removed. The placenta was separated with difficulty. Post-operative bronchitis with rapid pulse and slight temperature occurred. Streptococci were found in the lochial discharge. The patient, however, made a good recovery.

In connexion with cases admitted in labour, the statistics of v. Nuben<sup>2</sup> on the association of premature rupture of the membranes and diseases of the puerperium with marital relations shortly before labour need consideration.

#### CONCLUSIONS.

From such a small number of cases it is unwise to draw any definite conclusions. I am of opinion, however:

1. That latent or pre-existing infection, streptococcal, gonorrhoeal, or coliform, is responsible for a considerable percentage of cases of puerperal sepsis. That the organism may not infrequently be isolated by bacteriological examination of the urine during pregnancy, especially in cases of streptococcal or coliform infection. That intermittent albuminuria during pregnancy is an indication for a bacteriological examination of the urine, even in the absence of urinary symptoms. That with latent infection uterine inertia is more likely to occur, especially when associated with premature rupture of the membranes. That bacteriological facilities for the examination of discharges during pregnancy, if utilized, will enable suitable precautions to be taken and an appropriate serum to be obtained.

2. That for the prevention of puerperal sepsis cases should be removed from unsuitable surroundings, especially when difficulty is anticipated, and that ample accommodation should be arranged so that patients may be admitted a day or two before labour is anticipated.

3. That a rigidly aseptic technique is as important as for a surgical operation. The patient should be carefully prepared and the vulva shaved before any vaginal examination is made during or immediately before labour. That well trained midwives can deliver a very high percentage

of maternity cases if satisfactory ante-natal examination and care have been given by the patient's doctor, and if skilled medical help, and, if necessary, institutional treatment, can be obtained when required. Co-operation between midwives and doctors should be aimed at, and maternity homes should be worked in conjunction with hospitals where expert ante-natal and obstetrical treatment can be obtained.

4. That with a reliable technique in good surroundings operative measures need not cause puerperal sepsis.

5. That in view of the need for study of the origin and character of the infecting organism in cases of fulminating puerperal fever, such cases should be placed at the earliest possible moment under the care of an obstetrical specialist and bacteriologist with facilities for research on the special type of organism.

In conclusion, I wish to thank Dr. Hope and Dr. Mussen for the extensive facilities they have afforded me; Miss Nicholson, M.S., who has assisted me indefatigably throughout; Professor Beattie and Dr. Ashcroft for their bacteriological reports; Dr. Capon and Mrs. Barton Hall for investigating most of the cases of stillbirth; and the matron, Miss Nicholson (Central Midwives Board), and Sister McCaughey (Central Midwives Board) for their invaluable and enthusiastic co-operation.

#### REFERENCES.

<sup>1</sup> Douglas: *Journ. Obstet. and Gynaecol.*, vol. 31, No. 4. <sup>2</sup> *Zentralbl. f. Gynak.*, No. 23, June 7th, 1923.

## FIBROCHONDROMA OF THE CAUDA EQUINA.

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Tumours of the caudal region of the spinal cord are by no means common in hospitals for nervous diseases; still less often are they encountered in general hospitals. On searching the clinical records of the Derbyshire Royal Infirmary we have been unable to find any other example of this condition.

Spinal cord surgery dates back some thirty-six years, when Horsley successfully removed a tumour from the dorsal region of the cord. It was in 1902 that the first lesion of the cauda equina was correctly diagnosed and successfully operated on.

In 1896 Dufour collected 21 cases of tumour of the spinal cord. Of these cases only one had been operated on, and that successfully. In 1908 Spiller<sup>2</sup> published an account of 9 cases, 3 of which had been operated on, and in one the tumour had been removed. There were 7 deaths, including all 3 who had been operated on.

Several other authors have published accounts of cases attended with greater success, including one of a cauda equina tumour.<sup>3</sup> This was removed, and the patient made a complete recovery.

The literature on the subject of the spinal cord tumours was analysed by Steinke<sup>4</sup> in 1918; he collected accounts of 330 cases, among which were thirty tumours of the cauda equina. Of the latter, 5 were cured, 9 were improved, and 14 died early.

In the recent reports<sup>5</sup> of the Mayo Clinic there is an account of 112 laminectomies for supposed tumour of the spinal cord in the years 1910-22. In 85 cases a tumour was found, but in 3 cases only was the lesion in the region of the cauda equina, and of these 2 were due to meningomyelitis and 1 to a tumour.

The following account is of a patient with typical symptoms, and physical signs, of a lesion of the cauda equina.

G. C., aged 42, a miner, was sent by his doctor in February, 1924, to the Derbyshire Royal Infirmary. He gave the following history. In 1920 he began to suffer from a dull ache in the lower lumbar region, and shooting pains down the back of the right

thigh. These improved during the next year, when he underwent treatment at a spa, but they recurred in 1922 and gradually became worse. In 1923 he noticed that his right leg was becoming weaker, and that there was some numbness about the perineum. In December of that year he experienced a sudden pain in the suprapubic region, and inability to micturate. After relief by catheterization there was incontinence of urine. He also stated that he was very constipated, and had not proper control over his bowel.

He was a . . . . . had not lost weight. He had difficulty . . . . . rked weakness in the right leg. There was . . . . . wasting, and loss of tone in the flexor muscles of the thigh. All . . . . . could be carried out, but they were weaker than those of the left side. There was no limitation of movement on bending the back, but there was some local tenderness over the lower part of the vertebral column. There was pain on pressure over the right sciatic nerve, which was increased on flexing the thigh on the trunk, and extending the leg on the thigh.

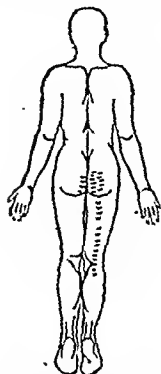


FIG. 1.—Area of loss of epiradic and protopathic sensation; also of superficial pain and temperature sense. The second, third, fourth, and fifth sacral roots are affected on the right side; on the left the fourth and fifth.

The most significant physical signs were those of disturbance in sensation. There was definite impairment and loss of epiradic and protopathic sensation, with superficial pain and temperature sense, which extended from the top of the back of the right leg up the thigh in a narrow strip, and over part of the right buttock, and to a lesser extent over the left one in a saddle-shape manner. Loss of sensation extended over the perineum, scrotum, and penis. Deep pain sense and joint sense remained natural.

The distribution of pain, sensory disturbance, and the loss of muscular power pointed to the involvement of nerve roots, the particular ones involved being the second, third, fourth, and fifth, and to a lesser extent the first sacral, on the right side, and the fourth and fifth sacral on the left. Testicular sensation had remained, since the normal nerve supply is from the lumbar plexus. The mucous membrane of the urethra and the lower part of the rectum and anus was insensitive, as the man could feel neither urine nor faeces when they were passed. On inserting the catheter it could not be felt.

On rectal examination the examining finger was not felt. The sphincter ani had lost tone, and on withdrawing the finger the orifice remained patulous.

The abdominal and cremasteric reflexes were active; the knee-jerks, though diminished, especially on the right side, could be elicited. Both ankle-jerks were absent, and the plantar response was flexor.

The patient suffered from retention and overflow of urine. The urine, on admission, was alkaline, and contained some pus cells and blood, and a growth of *Bacillus coli*. After regular catheterization, and with urotropin and acid sodium phosphate taken internally, the urine became sterile, and remained so during the time he was in hospital, with the exception of a slight attack of cystitis for a few days after operation.

An x-ray examination of the lower part of the vertebral column and sacrum showed no evidence of disease or injury of the bones. Lumbar puncture was performed, the needle being inserted in the space between the spines of the third and fourth lumbar vertebrae. The cerebro-spinal fluid was not under increased pressure, was colourless, and contained no cells or excess of albumin. The Wassermann reaction in this fluid and in the blood was negative.

There was no evidence of any disease of the abdomen or pelvis, or of any other part of the body.

The diagnosis of a lesion of the cauda equina in this case was made on the long history of pain in the back and down the right thigh, involvement of definite nerve roots, muscular weakness, loss of control of the sphincters, and the absence of any other nerve signs. These symptoms distinguished it from peripheral neuritis, or a more generalized disease of the nervous system. Disease of the vertebral column, abdomen, or pelvis could be excluded.

As regards the nature of the lesion, it might be due to a chronic inflammatory state or a growth, but it could not, in view of the history, be caused by a vascular or acute inflammatory condition. The commonest chronic inflammatory condition is a syphilitic meningomyelitis, a gumma, or even a tuberculoma. Against the two former was the negative Wassermann reaction in the blood and cerebro-spinal fluid, and the absence from the latter of any lymphocytes. Were the lesion a meningomyelitis we should have expected the physical signs in the legs to be symmetrical instead of being more advanced on the right side. It was more likely, then, to be a growth of a non-malignant type, for were the growth a sarcoma we should have expected a shorter history, more advanced signs, and a greater involvement of the cord.

The next point to be determined was the level of the upper part of the tumour. It was likely to be below the third lumbar intervertebral space, since the cerebro-spinal fluid from this space showed no evidence of compression of the cord elements. The fact that the fifth lumbar root on either side was not involved made us think that the upper limit of the growth was situated below the point at which this root left the cauda equina—that is, about the level of the upper part of the sacrum. But since lesions of the spinal cord tend to be located too low, we considered that the upper border was situated about the level of the fifth lumbar vertebra.

As regards the treatment, if nothing was done the patient's condition would gradually get worse, paraplegia would develop, he would become bedridden, and would die of cystitis and infection of the kidneys, or septic absorption from bedsores. This case, however, seemed a very hopeful one from the operative point of view. We had enough facts to justify us in thinking that we had diagnosed the possible nature and the level of the lesion; but in planning the operation it had to be borne in mind that lesions of the spinal cord tend to be situated higher up than the symptoms and physical signs indicate. Owing to the uncertainty, in any given case, of the obliquity of the course of the sacral nerves, and remembering the massive backward projection of the transverse processes, it was determined to remove the laminae of the fourth and fifth lumbar and the first sacral vertebrae, and further bone if found necessary.

#### Operation.

The operation took place on March 1st, 1924. An incision of the skin was made over the spinous processes of the fourth and fifth lumbar and the first sacral vertebrae, the cut edges being protected with tetra towels. The muscle layers were elevated from their bony attachments by means of a sharp periosteal elevator. The bleeding was controlled quite satisfactorily with pads of gauze, wrung out in hot saline solution, held in place by the retractors; no vessels were tied at this stage. The bony arches of the fourth and fifth lumbar and first sacral vertebrae were then removed, and a very good exposure of the thecal sheath was thus obtained. At the level of the upper border of the fifth lumbar vertebra a well marked narrowing of the theca was seen; above this narrowing pulsation under the dura could be seen and felt; below it there was no pulsation. On palpating the dura a definite hard nodule could be felt under the membrane lying to the right of the middle line. The dura was incised in the mid-dorsal line for about 1½ inches. No cerebro-spinal fluid escaped until the obstruction was divided, when immediately cerebro-spinal fluid, perfectly clear in appearance, started to flow. It did not appear to be under any great pressure. Fine catgut stitches were inserted on each side of the cut edge of the dura, to act as retractors. The cauda equina was now well in view, and a mass was seen lying to its right side, pressing the cauda equina to the left. The tumour was shaped like a leech, having its head downwards, and a long granular-looking tail extending upwards just out of sight. On carefully lifting up the tumour, which was quite hard, the head and body were found to be lying free in the subdural space, but the tail was attached. Extending the thecal incision slightly, the attachment was found to be to the inner side of the dura, and not to any of the nerve roots. With very slight traction the whole tumour came away. The dural incision was closed with the finest catgut. Pulsation throughout the exposed length of the theca was restored. The wound was then closed in layers, a few bleeding points being picked up with forceps, and ligatured. No drainage of the wound was employed. Except for firm bandaging over large pads of wool, no splinting was adopted. The patient was laid on a flat mattress, and sandbags were placed on each side of the pelvis to keep him still, whilst the foot of the bed was raised on blocks.



FIG. 2.—Photograph of the tumour after removal.

#### After-history.

The patient did not suffer to any extent from shock, although the operation lasted over two hours. The further surgical history of the case was uneventful; the wound healed by first intention, and there was no leakage of cerebro-spinal fluid through it. There were no post-operative symptoms attributable to loss of cerebro-spinal fluid during the operation. Previous operators have called attention to the serious consequences which may ensue if much fluid is drained away. For the first few days after his operation the pain down the right thigh was worse, being complicated with severe and painful flexor spasms. The right leg was also weaker. By the end of a week these symptoms began to improve, the pain slowly left him, and the power of movement increased in his leg. At the end



of a month he was out of bed and walking about. The anaesthesia was slower in clearing up, but improvement also occurred with regard to this, and has continued slowly up to the present. The slowest improvement of all was that of control of the bladder and rectum. Catheterization was still necessary, and he developed a mild attack of cystitis, which was, however, quickly overcome by the usual remedies. About the end of the third week he experienced slight feeling when the catheter was passed, and appreciated the passage of flatus. It was not till April 24th that he managed to pass urine spontaneously, this being helped by the pressure of his hands on the lower abdomen. This he did every hour, and so managed to keep the bladder empty, but if he went longer than an hour involuntary dribbling occurred.

#### Pathology of Tumour.

The pathology of this tumour is very interesting, and is unique according to the literature on the subject to which we have had access.

Dr. Hugh Barber, pathologist to the hospital, who cut a section of the growth, reported that it was a fibrochondroma. Professor Dudgeon also cut and examined several sections for us, and he says:

"This is a very interesting specimen. It is largely a chondroma with areas of necrosis, and at the periphery some calcification. There is a fibrous covering in places, and the fibrous tissue runs

bladder will empty itself. He is just conscious of the flow of urine. There is practically no dribbling between these times, so that he has been able to discard the absorbent bag which he formerly had to wear. He has educated his lower bowel to act once in the twenty-four hours at a certain time, but he is almost insensitive to the passage of the motion. The sphincter has regained most of its tone.

The prognosis in this case is good. Since the growth is non-malignant there is no likelihood of recurrence, which, of course, is not the case with the sarcomata. In Warrington's case, for instance, part of a sarcoma of the cauda equina was removed, with improvement of symptoms, but after three months recurrence took place, and the patient died. The same, though to a lesser degree, may happen to the endotheliomata.

Finally, although there has been pressure on the cauda



FIG. 3.

Microphotographs of a section of the tumour (Fig. 3, low power; Fig. 4, high power), showing large number of cartilage



FIG. 4.

strands of fibrous tissue which run into the tumour.

into the cartilaginous tumour. The fibrous tissue shows extensive old haemorrhage with tissue reaction, and marked phagocytosis of the blood pigment by the tissue cells. This would suggest that the tumour had become twisted. There are no other elements present. The cartilage cells are of the large type, such as we see in articular cartilage.

Having regard to the fact that at the operation we found that the tumour was attached only by such a narrow tail, we think Professor Dudgeon's surmise as to the twist is correct.

The nature of this tumour must be very rare. Steinhe,<sup>4</sup> in his analysis of the pathology of 330 tumours of the spinal cord, reports 26 cases of fibroma, 6 of chondroma, 2 of chondrosarcoma, but none of fibrochondroma. The commonest tumours are sarcoma (112 cases) and endothelioma (28 cases). The 3 cases of caudal tumours of which Percy Sargent<sup>5</sup> has given an account all proved to be sarcomatous.

The after-history of this case has been one of great though slow improvement. At the present time (February, 1925) his right leg is almost as strong as his left. He can walk several miles each day without undue fatigue, and is doing light work. He complains of no pain. The area of hypaesthesia is less, but it has been stationary for the last two or three months. The part involved now is over a small portion of the right buttock and perineum. Sensation in the urethra and anal canal is still impaired, especially in the latter. He can retain his urine for about three hours, then with an effort, helped by suprapubic pressure, the

equina for some considerable time in our case, we hope that we have interfered before degeneration has occurred, and that restoration of function may be complete.

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## IRRADIATION OF MILK AND THE HEALING OF RICKETS.

BY

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The two processes of growth and bone calcification in young animals are intimately connected, as has been repeatedly stressed by E. Mellanby.<sup>1</sup> An adequate supply of fat-soluble vitamin in the food is essential if the animals are to grow normally and to have their bones normally calcified. But it has been shown recently that if a minimum amount of fat-soluble vitamin is present in the animals' food or tissues, exposure of the animals to ultra-violet rays will, up to a certain point, make good the deficiency of vitamin, thus promoting both good growth and good bone calcifica-

tion in animals fed on diets which would otherwise be inadequate for these purposes.

Observations on the effect of ultra-violet rays on children were published by Hulschinsky<sup>2</sup> in 1919. He was concerned with the calcification effect, and showed that active rickets could be healed by exposure of the children to

the rays of a mercury vapour lamp. In 1922 Hume,<sup>3</sup> mainly concerned with the growth-stimulating effect of the rays, showed that young rats fed on a diet deficient in fat-soluble vitamin would grow if they were exposed to ultra-violet light. This same observation was made independently by Goldblatt and Soames<sup>4</sup> and published also in 1922. In 1923 Hume and Smith<sup>5</sup> found that good growth in young rats could be obtained, in spite of deprivation of fat-soluble vitamin in the food, if they were kept in glass jars which were periodically exposed to ultra-violet rays. They found subsequently<sup>6</sup> that this good growth, and with it good bone calcification, occurred only when sawdust was present in the jars while they were being irradiated, the "activated" sawdust having apparently a similar growth-promoting and bone-calcifying effect to that of fat-soluble vitamin. In the meantime Steenbock and Black<sup>7</sup> had shown that if a rat's food ration, deficient in fat-soluble vitamin, were exposed to ultra-violet rays it became "activated" and produced as good growth and calcification of bone as if the animal itself had been irradiated.

In the light of these experiments it seemed important to determine whether any similar effects could be demon-

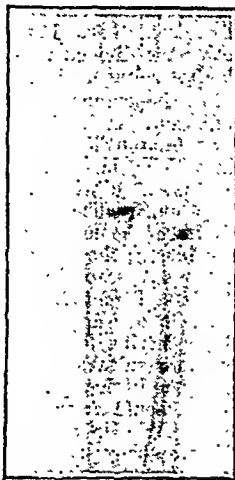
Breakfast: Bread 2 oz., margarine 1 oz., milk 8 oz., orange juice 1/2 oz.

Lunch: Milk 4 oz.

Dinner: Meat 2 oz., potatoes 3 oz., milk pudding 2 oz., orange juice 1/2 oz.

Tea: Bread 1 1/2 oz., margarine 1/2 oz., milk 4 oz., marmite 1 drachm.

Supper: Bread 1 oz., margarine 1 drachm, milk 6 oz.



(a)



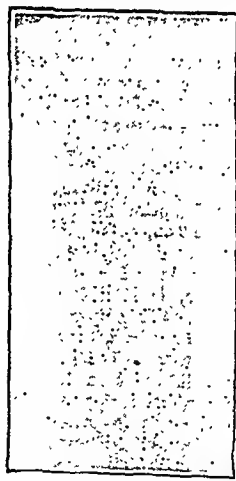
(b)

FIG. 1.—Radiograms of wrist of a girl, aged 1 year and 5 months, taken (a) on admission, (b) after one month's dieting, the milk not being irradiated. Active rickets with poor calcification of the ends of the bones is revealed in both radiograms, only a slight improvement having taken place during the month. The child had only very slight deformity of the limbs, and was remarkably fit and lively during the whole period.

The three children thus received each one pint of milk in the twenty-four hours, and this was virtually the only source of antirachitic vitamin in their diet. As the test was carried out during the winter months the amount of vitamin was presumably not great. The milk destined for two of the children was exposed to the rays of a mercury vapour lamp of the Hanat type before it was given to them, while the third child received untreated milk. The irradiation was carried out twice a day by exposing the milk in a wide shallow dish for twenty minutes at a distance of 3 feet from the lamp. At the end of four weeks the children's wrists were again x-rayed. It will be seen from the illustrations that in the case of the child that received untreated milk there was during the month only a very slight increase in the amount of calcification at the lower ends of the radius and ulna, while in the case of the

two children that had received milk that had been exposed to ultra-violet rays dense calcification had taken place, much in excess of what one would expect to have occurred in this short time as the result of giving this particular diet.

This quite definite and remarkable "activating" effect of ultra-violet rays on foodstuffs is obviously well worth

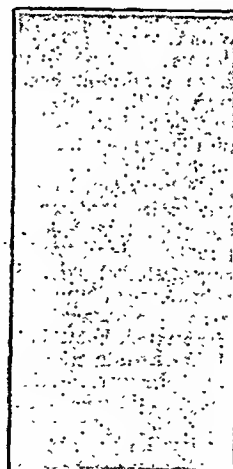


(c)

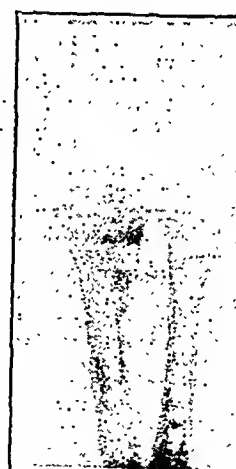


(d)

FIG. 2.—Radiograms of a girl, aged 1 year and 5 months, taken (c) on admission, (d) after one month of the same diet as in the first case, except that the milk was irradiated. Dense calcification is seen to have occurred during the month's treatment.



(e)



(f)

FIG. 3.—Radiograms of a girl, aged 2 1/2 years, taken (e) on admission, (f) after one month's dieting, irradiated milk being given. In this case also great increase in calcification occurred during the month.

strated in the case of children. Accordingly the following test was made of the efficacy of radiating children's food as regards the promotion of bone calcification. Three young children with active rickets, as determined by radiographic examination of their wrists, were admitted to hospital. They were given the following diet, which was not in itself calculated to promote particularly rapid calcification of their bones.

following up, and opens up new possibilities in the treatment of infantile disorders.

This work was assisted by a grant from the Medical Research Council and carried out in Professor E. Mellanby's wards at the Sheffield Royal Infirmary. I wish to express my gratitude to him for permission to publish the cases and for his valuable criticism and help.

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A GENERAL SURVEY OF RADIOTHERAPY IN  
MALIGNANT DISEASE.\*

BY

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This is the fifth annual discussion on radiotherapy since the year when, as President, I suggested that this subject should become a hardy annual until it had been thoroughly thrashed out.

The subject is being discussed in all countries by men who look at it from various points of view. Radiologists are swayed this way and that by new theories and methods which are advocated with persistent regularity. The subject is undoubtedly very complex, and we are apt to lose sight of the wood because of the trees. I propose to outline the wood a little more clearly.

To do this, let us call a halt and take a brief survey of the present position. This survey should embrace the disease, the therapeutic agent, and the patient.

## THE DISEASE.

To ensure keeping to the right road, it is essential that we should have a clear conception of the disease we are attempting to attack. I grant we know little as yet as to the cause of cancer, but we do know the usual course it takes, and we must plan our attack accordingly. We cannot expect to attain our object immediately. The high-voltage technique raised our hopes; it was thought that a short cut had been found to our object—a cure for cancer—but sufficient time has now elapsed since its introduction for us to realize that, while a definite advance has been made, we have yet a long way to go before reaching our goal—if ever it is reached. It might be said that prevention would be a short cut to the cure of cancer.

Some try to persuade us that malignant disease is a local disease. This is true within narrow limits; it certainly commences as a local lesion—the primary growth; but radiologists must not lay their plan of attack on this assumption alone. The surgeon very rarely sees early cases and radiologists practically never. We must, in any case, play for safety. The primary growth is but an indication that the patient has malignant disease, and does not by any means give us a correct idea as to its extent. A very small lesion, often undetected even *post mortem*, may give rise to extensive secondary deposits. I have in mind an operation for retrofixation disclosing a very small nodule of one ovary. This was removed. A very small island of malignant cells was detected microscopically, yet in three weeks the abdomen was full of large secondary deposits.

To ensure our plan of attack being developed on sound lines, it must be based on the assumption that malignant disease is a generalized disease and not a local lesion.

Ingenious and elaborate schemes have been devised to ensure the primary growth receiving its lethal dose. Satisfaction may be expressed on its reduction or disappearance, but the patient dies very shortly from secondary deposits. The gland areas are occasionally irradiated, but this is not enough; there are no means of being certain where stray pathological cells have already settled. I maintain that if the primary growth can be destroyed by radiation, metastases will be equally susceptible, possibly even to a much smaller dose, for they are usually less bulky. At present we concentrate on the primary growth; we must go further and endeavour to control the offspring which may be settling down comfortably elsewhere. I do not say that this control will ever be achieved, but it is the ideal we should certainly try to attain. It will, at the same time, ensure our working along the right lines. Surgeons are not content with removing the primary growth; why should radiologists be?

## THE THERAPEUTIC AGENT.

I must confine my remarks to x rays. Some radiologists advocate the high, others the low, voltage technique. A further distinction would be homogeneous and heterogeneous

radiation. *Homogeneous* radiation (high voltage) means, briefly, the use of a bundle of rays of one particular penetration. *Heterogeneous* (low voltage), on the other hand, means the use of a large number of rays of all penetrations, filtering out those rays likely to injure the skin. Either of these forms of radiation may be used on the intensive principle, but results do not necessarily depend on this factor. These two forms of radiation cannot be divorced from each other. It would be a tragedy if radiologists were to become divided into two separate schools—the high and the low voltage.

It is important that we should not discard heterogeneous radiation. It is of the greatest value, as those of us who have been utilizing it for many years know. It has its limitations, but the newer method should be an addition, and not a substitute. The reports from various countries make one realize that even under the best conditions the results of homogeneous radiation are, on the whole, disappointing; they may improve as the technique is developed. Let us not scrap our machine guns because a long-range gun has been invented. To be fully equipped we require elasticity in our apparatus, so that each case can be treated on its merits, for in some the heterogeneous radiation will be more suitable than the homogeneous, and vice versa. Every radiotherapeutic department, therefore, to be complete, should be so equipped that radiation at all voltages is available, in order that any desired condition of radiation may be repeated at will. Cannot the physicists investigate the low-voltage technique with the same care and enthusiasm they have bestowed on the high-voltage? The former has by no means been fully worked out.

Professor Wirtz, in his last report on results of radiation of carcinoma of the uterus—the most suitable type of case for high voltage—concludes with the following interesting statement: "In spite of the best technique with favourable initial conditions and good general state of the patient, the results are from time to time inexplicable, so that one is compelled to believe that for the cure of carcinoma with x rays certain unknown biological factors play a certain part." I should like to substitute "an important" for "a certain."

The question as to how radiation affects morbid cells is far too complex to be discussed in detail here. There are, however, several important factors that may be briefly mentioned.

Radiation does not destroy or remove unwanted cells like the cautery or knife. Profound changes are set up which allow them to be absorbed and replaced by healthy cells. This is important to remember, for it means that malignant cells can be made to undergo a change, resulting in their replacement by normal tissues, without necrosis taking place—in short, a metamorphosis without cellular death.

It is clear, therefore, that tissue reaction plays an important part. If, for some unknown reason, this reaction fails, no amount of radiation will succeed in destroying the pathological cells. It is thus evident that there is a local indirect effect of radiation; carried further, is it not possible to create it on a larger scale generally, calling up all Nature's forces to assist in the cure? In other words, may it not be possible by radiating a large area to set free in the body some antitoxin or enzyme that will assist in the desired destruction? The work of many physicists supports this theory. I have myself on several occasions seen lympho-sarcomatous glands in unirradiated parts disappear after large areas have been irradiated. In one case this was manifested in half an hour! Is radiation sickness evidence of the liberation of something of the nature of an antitoxin? I have said enough to indicate a line for future research.

To sum up, let us have all forms of radiation at our command, and apply them with judgement and circumspection, for each case is a study in itself. Uniform dosage for all the various forms of carcinoma or all varieties of sarcoma cannot be entertained. Lastly, our results may be dependent, not only on the direct effect of radiation, but on some as yet unknown indirect phenomena. Experimental data are rapidly accumulating, indicating that the occurrence and nature of immunity to cancer is a field of study from which we may expect much in the near future.

\* A paper read to the Section of Electro-Therapeutics of the Royal Society of Medicine, March 20th, 1925.

## THE PATIENT.

It is not fit that we medical men should be accused of treating the human body as if it were merely so many cubic centimetres of material. We are all conscious of the so-called "personal element"—that tantalizing something—present, but yet not measurable. A patient for radiation should not only be thoroughly investigated physically, but his age, state of health, and so on, must be taken into consideration before deciding whether radiation will achieve anything beneficial to him.

Radiation being decided upon, the next point is to map out clearly the lines of treatment to be adopted. These may be palliative or curative. Of the patients seen by radiologists, in the majority palliation only is all that can be hoped for. This side of radiotherapy is of great value, but is being lost sight of in our efforts to cure. It is quite impossible, in certain cases, to attempt to eradicate the disease, and the chances are that if we do not discriminate the last condition of the patient will be worse than the first. The therapeutic goal varies, and each case must become a study in itself. I make it a rule to put down the objects I hope to achieve by radiation, and my plan of treatment is arranged accordingly.

*Radiation Sickness or Malaise.*—Radiation sickness is the bughbear of radiation. We have to inquire what its cause is, and whether it should be regarded as evidence of over-dosage. The results are often disastrous to the patient, being sufficient to turn the scale against him. This puzzling phenomenon may manifest itself in several ways. Actual vomiting may occur as the patient is undergoing treatment, or sudden nausea with or without vomiting may be experienced from one to seventy-two hours after. As hospital patients describe it, "I come all over alike—sudden." Intense headache may be complained of without gastric symptoms. With the high-voltage line of treatment vomiting may become uncontrollable. In its treatment various drugs have been advocated from time to time, but so far I have found nothing to control it. At present I do not consider that we are justified in subjecting a patient to the risk of severe radiation sickness unless we can promise him something substantial in return.

*Carcinoma Mammæ.*

The majority of cases that find their way to the radiological department of the London Hospital, and probably at most of the hospitals in England, come under this heading. Over two thousand have been treated at the London Hospital in the last fourteen years. For this reason I have always endeavoured to improve the technique for this large class of case. Whether inoperable, recurrent, or requiring prophylactic treatment, malignant disease of the breast illustrates very clearly the problem we have to solve in radiation of cancer.

*Prophylactic Methods of Radiation.*—After the primary growth has been removed, not by radiation, but by the surgeon, the radiologist is called in. His interest now is not distracted by the presence of a tumour; he has to devise a technique that has a reasonable chance of destroying cells at unknown depths and positions. This is a complex problem, but it must be faced. The surgeon can, in a number of cases, remove the primary growth and glands without our help, but he is not satisfied with the results because he does not necessarily prevent metastases or recurrence. This, then, is where the radiologist can help. Even if it were possible to destroy with certainty every primary growth by radiation or any other method, I personally should not be satisfied. Metastases kill the patient just as rapidly. We must control these in addition to the original cancer.

I consider heterogeneous radiation to be of greater therapeutic value than homogeneous in the prophylactic treatment of breast cancer, for these reasons: It gives radiation absorption at various depths; a large radiation field can be utilized with minimum general disturbance. I readily grant that further development is required on these lines. I have already reached the limit of the toleration of the patient under these conditions.

There are four chief objections to the high-voltage method in this class of case:

1. The radiation field is necessarily much too limited.
2. There is no indication as to the depth at which the dose should be delivered.
3. Damage to the lung tissue is comparatively frequent.
4. General disturbance—such as sickness and blood changes—place too great a strain on the patient.

The response of many a hopeless case is often remarkable if the heterogeneous radiation is carefully carried out.

*Radiation of the Whole Trunk.*—I maintain that whatever form of radiation is used in cases of breast carcinoma, it is useless and against common sense to limit it to local areas. Radiation should, if possible, include the whole trunk. It benefits the patient but little to check the metastases in a localized area while they go ahead elsewhere. As there is also evidence for the theory that in many cases the patient's tissues—we do not know which—have the ability of producing some beneficial reaction, the larger the field of radiation the better.

As a preliminary effort towards achieving the conditions I consider necessary in the treatment of these cases, I introduced the dual open method at the London Hospital some three years ago. Briefly stated, it consists in placing a tube at the back and front of the patient, both running at the same time, the radiation field including practically the whole trunk. The results show, without doubt; that this arrangement has greatly increased our range of control, benefit being now obtained in cases previously out of our reach, such as secondary deposits in the spine. This is all to the good, but much research is necessary before any further advance can be expected. To my mind this is certainly a logical method of radiation, where stray pathological cells may be at unknown depths and positions. It must be realized that attempts to substitute physics for biology and medicine can only hinder sound progress in radiotherapy.

## EMPHYEMA OF THE LEFT SPHENOIDAL SINUS WITH OPTIC NEURITIS AND SUBSEQUENT POST-PAPILLITIC ATROPHY

BY

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WITHOUT actual exploration of the sphenoidal sinuses it is impossible to exclude disease of these cells as the responsible factor in certain cases of optic nerve disease. A very considerable amount of work has been published on this subject, but in spite of careful observations we are still without reliable guides, either signs or symptoms, to lead us to a definite diagnosis in cases of optic neuritis due to sphenoidal sinusitis. The case here recorded is an example of one in which there was little to indicate the true nature of the case; it also emphasizes the value of a routine examination of the sinuses on both sides.

A Hindu woman, aged 40, married, was brought to see me on April 17th, 1923, complaining of loss of vision in the right eye and headache of two months' duration. The vision of the right eye was fingers at 3 metres; left eye vision 6/9 bar one letter with plus 1.0. D.S. = 6/5. The headache was frontal for the most part, but with definite occipital pain, chiefly on the right side. The pupil reactions and tension were normal on either side. The right disc was somewhat swollen and oedematous on the nasal side, pallid and steamy in appearance; the arteries were narrowed and sheathed (subsiding papillitis). The left disc showed quiet neuritis, a red swollen disc with definite venous engorgement. The eye grounds were otherwise normal. There was no history of syphilis or evidence of it clinically; the Wassermann test was negative. There were no symptoms pointing to cerebral disease except headache. The reflexes were normal, as also the urine and blood. There was slight prorrhoea, but x-ray photographs did not show anything definite either as regards teeth or sinuses. The right field could not be taken; the left was examined with Lister's perimeter in uniform daylight illumination (intense north light over each shoulder). 5 mm. at 33 cm. for white and

colours, and was well within normal limits. Scotometric tests with Bjerrum's screen and Elliot's scotometer revealed nothing abnormal, either as regards scotomata, relative or otherwise, with white or colours, or enlargement of the blind spot.

The patient was temporarily put on mercury and large doses of potassium iodide. As a routine I would have examined the nasal sinuses on obtaining such negative results, but unfortunately I left for Europe on April 24th, 1923, and she went home and continued to take mercury and potassium iodide. On January 3rd, 1924, the Wassermann reaction was observed to be negative. On July 3rd I again had an opportunity of examining her. Vision was then: right, fingers at 2 inches; left, 6/5 partly with correction. There was definite post-papillitic atrophy of the right disc with narrowing of vessels. The left disc was oedematous and swollen to 5 D. (suggestion of papilloedema). Examination of blood, urine, nervous system, and skull by x rays gave negative results. There were no symptoms of pressure. The fields and vision of the left eye remained the same. I was unable, owing to indisposition, to undertake the exploration of the sphenoidal cells at this time. She went to her home and was not seen again till August 13th, when she was admitted to hospital. The result of ophthalmoscopic examination on this date is thus recorded: "The right disc is definitely atrophic. The arteries are quite narrow, the veins about normal; there are slight pigmentary disturbances at the disc edge; a post-papillitic atrophy. The left disc is red and slightly swollen, but much more like a neuritis than a papilloedema. There are no changes in the fundus otherwise." Perimetric and scotometric examinations gave the same results as before; the urine and blood examinations were again negative. The blood pressure was 125 mm. Hg.

On August 16th I made a full examination of the nose on both sides under local anaesthesia. The right side was normal. The sphenoidal sinus ostium when opened up disclosed a pearly-grey healthy membrane lining a small sinus. The left side of the nose appeared normal as regards frontal and ethmoidal regions, but the ostium of the sphenoidal sinus was blocked, and, on pushing the sias probe through, pus escaped under slight pressure along the probe. The anterior wall of the sinus was partially removed, revealing a thickened and red lining. The sinus was dried out and packed with bismuth gauze and the patient sent for x-ray examination.

This method of demonstrating the relation of one sphenoidal sinus to its fellow by packing one sinus with bismuth gauze and then taking a stereoscopic x-ray photograph is useful, and aids considerably in reading the x-ray plates aright. The left sinus was much more extensive than the right, and partially enveloped it. Presumably it was of the variety to which both nerves were related, the right nerve being more vulnerable (either by virtue of a larger course in the sinus or a thinner bony canal) than the left. Such relations of the optic nerves are described and exemplified by Onodi. The patient was discharged a few days later. In November, 1924, the vision was: right, fingers at 2 metres; left, 6/6 with correction. The left field showed a slight general contraction under the same conditions as above. On ophthalmoscopic examination the left disc was almost normal in appearance. The right disc showed a post-papillitic atrophy with threadlike sheathed arteries. My note says: "The fundus immediately surrounding the disc shows a greyish granular appearance, but I would consider the disc within normal limits did I not recognize the patient."

A most interesting point, in connexion with the case is the nature of the field of the left eye. Careful tests on several occasions elicited nothing. This is in contrast with many recorded cases, in which a relative central or paracentral scotoma is a prominent feature. The fact that the right nerve suffered most in a left sinus affection must be comparatively uncommon. The left nerve, although affected in greater or lesser degree for over eighteen months, retained its function (although subsequent subsidence of its inflammatory condition brought as a sequel a slight cicatricial damage associated with a trivial fall in vision and a contraction of the fields). It is noteworthy that in an ordinary x-ray examination pus in the sphenoidal sinus is liable to be overlooked. Evidently, in doubtful cases of papillitis, it is very desirable to explore the sphenoidal sinuses on both sides; one must not be content with finding a normal sinus on the side of the most affected eye. This is in many cases such a simple procedure that there is no justification for omitting it.

Dr. Muthayya, medical officer in charge of the refraction department, very kindly collected and analysed the notes of this case.

#### USEFUL REFERENCES.

American Encyclopedia of Ophthalmology, vol. xii, p. 5588.  
Onodi: The Optic Nerve and the Accessory Sinuses of the Nose (translation by Lückhoff).

## EMBRYOMA IN THE OMENTUM CAUSING SYMPTOMS SUGGESTIVE OF URETERAL CALCULUS.

BY

A. E. WEBB-JOHNSON, C.B.E., D.S.O., M.B.,

F.R.C.S.,

SURGEON TO THE MIDDLESEX HOSPITAL.

The following case is of interest, both from the point of view of pathology and of diagnosis.

A woman, aged 40, was sent to see me at the Middlesex Hospital, with a provisional diagnosis of renal calculus. Her symptoms were certainly suggestive of this condition being present. She complained of attacks of pain in the left loin coming on suddenly and radiating towards the inguinal region. She also complained of some irritability of the bladder with painful and frequent micturition, which persisted for some time after the attacks of lumbar pain. The urine contained pus, but no blood cells. The organism present was the *Dacillus coli communis*.

An x-ray examination showed the kidney region to be free from any sign of calculus, but in the pelvis was a shadow of irregular shape, about the size of a large plum-stone. Cystoscopic examination showed the bladder and the ureteral orifices to



FIG. 1.—Radiogram taken in an oblique direction with an opaque catheter in the ureter.

be normal, with the exception of some slight congestion of the bladder mucous membrane. Although the shadow in the pelvis was not in the least like that of a urinary calculus, I thought it better to make sure that it was not in the urinary tract. I therefore passed an opaque ureteral catheter, and had an x-ray photograph taken. The examination showed that the shadow of the catheter was superimposed on that in the pelvis, but another radiogram taken in an oblique direction showed that the shadow was separated by a small interval from the course of the ureter (Fig. 1). As the irregular shape of the shadow suggested that it might be caused by a calcareous deposit in an ovary, I asked Mr. Comyns Berkeley to co-operate with me in an exploratory laparotomy. Mr. Berkeley opened the abdomen, but found that both ovaries were normal; I then extracted a small, hard, irregular-shaped tumour, freely movable across the pelvis, but attached above to the lower edge of the omentum and below by a thin fold of peritoneum to the posterior wall of the bladder. The connexion with the bladder and the free mobility of this hard mass probably accounted for the patient's symptoms of pain and frequency of micturition, which were so suggestive of some disorder of the urinary tract.

On section the tumour was found to be of mixed formation, part of it being cystic and part of it hard, bony, and calcified. The cystic part contained a mass of hair and sebaceous matter. The tumour was evidently a small embryoma.

In Sir John Bland-Sutton's book *Tumours, Innocent and Malignant*, we read:

"Many cases have been reported in which cysts containing pilose skin, and occasionally teeth, have been found on the omentum and the serous covering of the intestine. In some



instances these cysts are due to the rupture of an ovarian dermoid, and some of the cells scattered about the abdominal cavity have engrafted themselves on the peritoneum, and formed independent cysts. Quite apart from cysts arising in this way, teratoid cysts do arise independently between the layers of the mesentery, the omentum, and the folds of peritoneum connected with the caecum, colon, and rectum, as well as the omentum. Most of the reported cases occurred in children and adolescents,

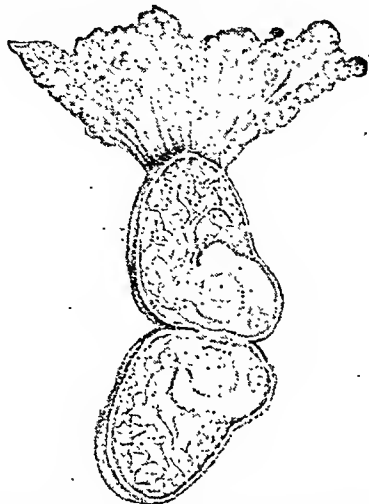


FIG. 2.—The teratoma cut across (two-thirds size), showing the hard part (opaque to the x rays) and the cystic part containing grease and hair.

especially females. As a rule the cyst contents are grease and hair, but some are more complex and contain bone, cartilage, muscular and nerve tissue.

"It is impossible to recognize the nature of such cysts clinically. They seem to remain latent for a variable period, and then with dramatic suddenness cause acute abdominal pain simulating peritonitis, or intestinal obstruction. Some never cause trouble and are found accidentally at a *post-mortem* examination."

These intra-abdominal embryomata, though quite rare, are well known. They are probably connected in some way with the development of the genital glands, and the position of this one in the immediate neighbourhood of the left ovary suggests that it was developed from a primordial cell isolated from the developing ovary.

The special interest of the present case lay in the anatomical connexions of the tumour, which produced a train of symptoms suggestive of disease of the urinary tract.

## Memoranda:

### MEDICAL, SURGICAL, OBSTETRICAL.

#### DIAPHRAGMATIC HERNIA AFTER BULLET WOUND OF CHEST.

The following case is interesting, not only from a pathological standpoint, but is worthy of comment as emphasizing the possibility of late sequelae in war pensioners who have received gunshot wounds of the chest.

W. J., aged 35, received a gunshot wound in the chest a fortnight before the armistice. The bullet (which was not removed) entered the back of the left side of the chest, approximately 4 in. below the inferior angle of the left scapula and 2½ in. from the middle line.

I was called to see him on the evening of March 2nd, 1924—approximately five and a half years after he had been wounded. He had been taken ill that afternoon with retching and recurrent attacks of vomiting, associated with colicky pain all over the abdomen. The condition did not subside, but continued till the following day, when it was obvious that he was suffering from acute intestinal obstruction.

He was admitted to Ulverston Cottage Hospital, and, approximately twenty-four hours after the onset of the illness, I explored the abdomen by an incision below the umbilicus, splitting the right rectus. The caecum, distended to the calibre of an adult fist, presented itself at the wound. The distended gut was traced along the colon, as far as the region of the splenic flexure, where it appeared to vanish. The descending colon was collapsed. With the arm in the abdominal cavity up to the elbow I was able to feel an acute kink in the region of the splenic flexure. The apex of the kink appeared to be firmly adherent to the diaphragm by strong cicatricial tissue, and the bowel to be enveloped by

tissue of a similar nature. As the patient's general condition was poor (he had had two or three faecal vomits just before the operation) I closed the abdomen and performed a temporary caecostomy.

Four weeks later the abdomen was reopened by a long paramedian incision, extending from the left costal margin to below the level of the umbilicus. The small intestine was packed off, and the area of the splenic flexure investigated. I was able to view the lesion. There was a fairly large diaphragmatic hernia, the sac containing the splenic flexure and the terminal part of the transverse colon. I was able to introduce two fingers into the sac externally to the gut. It was impossible to dislodge the contents of the hernia, as the gut was firmly adherent to the sac wall by thick bands of cicatricial tissue. At the fundus of the sac the scar tissue was most pronounced, and this may have been due to an encapsulated bullet, but I could not be certain of this.

To have attempted to reduce the hernia by breaking down adhesions would almost certainly have ruptured the diaphragm, and possibly also the pleura. Accordingly ileo-sigmoidostomy was performed and the abdomen closed.

Three weeks later the caecostomy opening was closed. Some leakage occurred about the seventh day after operation and the faecal fistula recurred. It was considered advisable to give the patient a period of rest to recuperate after the three operations before attempting to reclose the opening in the gut. Accordingly he was discharged from hospital, having been fitted with a suitable controlling belt.

Three months later he was admitted to the Ministry of Pensions Hospital, Liverpool, where the fistula was successfully closed. He is now fit and well, his bowels moving regularly *per vias naturales*.

There is nothing in the man's previous history of interest other than to state that for two years prior to onset of the illness he was particularly subject to flatulence. He had never been troubled with constipation. The case, therefore, was one of acute intestinal obstruction due to an irreducible diaphragmatic hernia of traumatic origin.

I must acknowledge the services of Mr. French of Birkenhead, who performed the fourth stage of the operation, and in supplying an account of it, without which the notes of the case would have been incomplete.

GRAHAM W. CHRISTIE, M.C., M.B.,  
F.R.C.S. Edin.

Ulverston.

#### PER-URETHRAL OPERATIONS FOR PROSTATIC OBSTRUCTION.

MR. KENNETH WALKER, in his excellent article on per-urethral operations for prostatic obstruction (*BRITISH MEDICAL JOURNAL*, January 31st, p. 201), has brought into prominence work that is, I believe, carried out by only a few surgeons in this country. Perhaps the conclusions I have come to in work which has been done largely in the Surgical Unit here during the last four years may not come amiss. The method employed has been fulguration of the prostate carried out by a diathermy electrode introduced through the cysto-urethroscope.

In the malignant prostate, where so much had been hoped for, the results were poor. In the adenomatous prostate, where enlargement of the lateral lobes could be detected by rectal examination or seen through the cystoscope, any improvement was only temporary, and not greater than that which followed the introduction of a full-sized metal bougie—a method of treatment in vogue many years ago. In addition, there can be no question that in this type of case such treatment is dangerous. When, on the other hand, the middle lobe was alone involved and not much enlarged, much improvement followed fulguration; this has so far been permanent, and the residual urine has completely disappeared.

In the prostatic bar, which was secondary to atrophy of the prostate, and in the small fibrous prostate, excellent results were obtained. But in the chronic inflammatory enlargement with residual urine, which did not react to massage and dilatation, the improvement was not so immediate or so marked, though it gradually became greater.

Fulguration is not so severe an operation as prostatectomy; the mortality is much less and the convalescence much shorter. But it should not be regarded as an alternative to prostatectomy except where the middle lobe alone is enlarged. It should be carried out only in those cases where prostatectomy is unsuitable, not on account of the general condition, but owing to the state of the prostate gland itself.

Cardiff.

T. F. HAMMOND.

TREATMENT OF GENERAL PARALYSIS BY  
MALARIA.

THE purpose of this note is to call attention to a new method for the preservation of malaria parasites—namely, on ice *in vitro*—first used, I believe, in this country in our laboratory in November, 1924. The technique of the new method, which comes from the clinic of Pöetzel of Prague, is as follows:

On withdrawal the parasite-containing blood is defibrinated by shaking it up with glass beads in a flask or test tube under sterile conditions; the fluid, containing corpuscles and parasites, is transferred to another sterile test tube, and this is kept in the ice-chest, or, if for immediate dispatch, packed surrounded by ice in a thermos flask.

By this means simple tertian parasites have been kept alive and capable of infecting for varying periods up to and beyond sixty-five hours, and thus the difficulty of successfully inoculating due to distance and time in transit has been overcome.

Mosquito-borne malaria need not and should not now be used, for, being more liable to relapse and not so completely under quinine control as inoculated malaria, it is a danger to the community.

It may be taken that sixty-six hours is by no means the limit, for we have found the parasite stain well after seven days in the ice-chest. Successful inoculation by this means has been obtained in London, Birmingham, and Liverpool, with blood sent from here.

R. M. CLARK.

County Mental Hospital,  
Whittingham, Preston.

## AN OBSCURE CEREBRAL CONDITION.

THE following account of a somewhat unusual case appears to be of sufficient interest to merit publication. The onset of the illness was acute, and included pyrexia, which lasted for a fortnight, severe gastritis, and constipation for three weeks, and violent eye movements which continued for a month.

On the evening of August 30th, 1924, I was called to see a boy, aged 14, who had not felt very well on the previous day, but had bathed twice in spite of this; after the second bath he felt sick and giddy and went to bed. When I saw him he was pale, sighed frequently, said he felt very giddy and sick, and looked as if he might vomit at any moment. The pulse rate was 80 and regular, the temperature 100° F.; the bowels had not acted for two days, and the tongue was very furred. He kept his eyes tightly shut, and the eyelids were twitching. I did not examine the eyes, as he said it made him feel sick to open them. He was a very intelligent, quiet boy, not at all drowsy, and he had no headache. Nothing abnormal was found in the chest or abdomen, but I did not examine the nervous system. The next day he vomited several times, and the tongue was very furred; the bowels had not acted. The temperature was 101° and the pulse 92. On September 1st the temperature ranged from 98.8° to 100.4°; he still complained of extreme giddiness, which made him sick, especially if he opened his eyes or moved his head. He could not move his head from the pillow without jerking it violently, but there was no twitching or jerking of the limbs, and the head remained stationary unless he moved it voluntarily. He could only open his eyes with an effort, and it was noticed that they were in violent motion, in no regular direction; the eyes would go round and round three or four times, then from side to side in the most irregular manner, and with great rapidity, so as I could make out both eyes moved together. There was no lateral deviation; on asking him to look to one side he was able to fix the finger for a moment, the violent movements would then This sequence occurred whatever the position of the finger again. had no diplopia. His most comfortable position was lying on his back with his head slightly inclined to the left on one thin pillow. He afterwards described his sensations at this period as if the bed first "pitched" very rapidly, then "rolled," then rotated so that he felt he was going to be flung out at an angle of 45 degrees, quite aware that the bed was really stationary. He attributed the sickness to the feeling of movement, being normally a bad traveller, and hardly able to look at the sea without feeling sick. He had no headache.

Dr. Basil Armstrong saw him in consultation that day and examined him very thoroughly. The ears appeared normal, and there was no history or evidence of past otorrhoea; tuning-fork tests showed aural conduction to be greater than bone conduction, and no diminution of hearing was detected. There was no facial weakness, but the tongue protruded very slightly to the left. No stiffness of neck was present. Examination of the arms showed that the muscular power was good, the jerks were normal, the co-ordination normal, and there was no dysidiadokokinesis. The abdominal and cremasteric reflexes were normal. The knee- and ankle-jerks

were slightly increased on both sides, and the plantar responses were flexor; Kernig's sign was absent. The sensation was carefully tested and found normal everywhere. Lumbar puncture was not performed. The urine was acid and highly coloured; albumin, sugar, and acetone were absent.

For the next week the temperature ranged from 98.2° to 99.4°, and the pulse remained slow, always under 80 and generally between 60 and 70. The eyes still continued their rapid movements of wide amplitude, but the patient gradually became able to fix objects for a longer time. The gastric symptoms then became more prominent; there was complete anorexia, furred tongue, very obstinate constipation, and vomiting of very tenacious mucus, which was alkaline in reaction. A differential blood count showed nothing abnormal. After September 11th the temperature remained normal, and the eyes gradually steadied, but the rate and amplitude of movement did not alter. The gastric symptoms and tongue cleared quite quickly between September 16th and 18th. On September 22nd the eyes were steady, but attempts to sit up brought back at once the rotatory movements as badly as ever, and made him feel sick and giddy. He had one or two restless nights about this time, but they soon got better, and never became a prominent symptom.

During the last week in September I began to prop him up with pillows, and after a few days he was able to sit up; he then went out in a bath chair, and no untoward symptoms appeared. In the first week in October he was able to walk, and he then returned to his home near London. On October 15th I heard from his parents that he was quite well, but that they had decided to keep him from school till after Christmas. Retinoscopy was impossible during the early part of the illness, but at the end of September I was able to see the fundus without difficulty; there was nothing abnormal, except that the veins seemed a little engorged.

The treatment was symptomatic and cannot be said to have had any effect on the disease; at first I gave chloral, bromide, and sodium bicarbonate; then sodium bicarbonate before and hydrochloric acid after food; in the third week he had hexamine, and when convalescence was established iron, quinine, and arsenic. In a letter dated March 6th, 1925, his mother tells me that he has had no return of the giddiness; he eats well and sleeps well; he has returned to school and is making good progress. In fact "he is quite his old self again." He has not suffered from headaches.

Westgate-on-Sea.

FREWEN MOOR, M.C., M.D.

## ANEURYSM OF THE SPLENIC ARTERY.

THE case published by Mr. D. C. L. Fitzwilliams (BRITISH MEDICAL JOURNAL, November 1st, 1924, p. 803) prompts me to send the following report of a case I have recently seen.

I was called at 8 a.m. to see a married woman, aged 27, who was said to be suffering from severe abdominal pain and persistent vomiting. I found the patient to be extremely blanched, restless, and showing evidence of air hunger.

She complained of severe pain in the left side of the abdomen, high up under the ribs. I was informed that she had been perfectly well until about 9 o'clock the previous evening, when, as she was getting into bed, she was seized with violent abdominal pains and vomiting, and felt faint and helpless. She was alone in the house and was unable to attract the attention of the next-door neighbours, so that she remained in this condition until the return of her husband next morning.

She was, according to her menstrual history, about four months pregnant and was a primipara. When about four weeks pregnant she had been treated elsewhere for pernicious vomiting of pregnancy, and was laid up in bed for several weeks; her symptoms at that time were, as far as I could gather, very similar to those now present. Since that time she had been perfectly fit. There was no history of vaginal haemorrhage.

The radial pulse was running and impossible to count. The abdomen appeared rather distended, and there was dullness over the left side, but she was difficult to examine properly owing to the persistent retching and vomiting. There was a pyriform swelling extending up from the pelvis and just palpable above the symphysis pubis. She was admitted to the local cottage hospital, where she died shortly afterwards.

## Post-mortem Examination.

On opening the peritoneal cavity a small quantity of blood-stained fluid escaped; the left side of the abdomen was filled with an enormous blood clot extending from the region of the spleen. The clot was densely adherent to the stomach and intestines in many places, and it was impossible to detach it without rupturing the organs, thus showing that the condition must have started some time before, and possibly during the first month of pregnancy, when the patient became ill.

The spleen was about normal in size, but flabby and pale in colour. A small aneurysmal sac, which had ruptured, was found on the splenic artery, and the blood clot extended from this.

All the internal organs were extremely pallid and flabby. No other abnormalities were found. The pelvic organs were normal, and the uterus contained a foetus of about four months. The splenic specimen was shown to Dr. Piney, pathological director, Charing Cross Hospital, who confirmed the diagnosis.

Bromley, Kent.

R. H. YOLLAND,  
B.A. Cantab., L.M.S.S.A. Lond.

## Reports of Societies.

### RADIATION THERAPY.

#### DISCUSSION IN ELECTRO-THERAPEUTIC SECTION.

WHEN Dr. Gilbert Scott was President of the Section of Electro-Therapeutics of the Royal Society of Medicine five years ago he suggested that a discussion should take place annually in that Section on the subject of radiation therapy. The fifth such discussion was held on March 20th, but the opening paper by Dr. Gilbert Scott on "Radiation, with special reference to the treatment of carcinoma of the breast by x rays," and a communication by Dr. J. H. Douglas Webster on "Results and problems in deep x-ray therapy," took up all the time available, and it was decided that the general discussion should be adjourned until the meeting of the Section in May.

Dr. STANLEY MELVILLE, the President of the Section, in opening the meeting, deplored certain attempts, made partly within and partly without the general body of radiologists, to divide radiology into two schools of thought, one supporting the old and the other the new therapy. Such a division was dangerous. Already surgeons were sending patients to radiologists with the proviso that they were not to be treated by the so-called deep therapy methods. He did not wish radiology in this country to be regarded as attached to any particular form of radiation. What people outside the ranks of radiologists were forgetting was that radiologists were increasingly inclined to view the matter from the biological standpoint, and that some very important research was taking place in that connexion; he instanced the experimental work on animals conducted by Professor Sidney Russ. More regard was being paid to the resistance of the tumour, the response of the surrounding tissues, and, above all—as a determining factor in the selection of the type of ray—the condition of the blood. Radiologists were not and must not be tied down to any particular type of radiation. No doubt a high-voltage radiation was wanted in many cases, but so was radiation of other kinds, and he would be very sorry to see two schools of thought, antagonistic to each other, arise. The radiologists were getting over many of their early difficulties, and he hoped they would resist this fissiparous tendency. He hoped also that light might be thrown on two questions: (1) Were radiologists spending too much time in considering the apparatus rather than the part to be irradiated? (2) Were they obsessed by the desire for rays of shorter and shorter wave-length? Were they thinking too much about voltage and too little about other factors? If all they wanted was radiation of greater hardness he did not doubt that physicists would be able to build machines which would furnish x rays of such hardness as to outdo by far the gamma rays of radium, but that did not seem to him to be the proper way to approach the problem.

Dr. GILBERT SCOTT then read the paper which is printed in full at page 596.

#### RESULTS AND PROBLEMS IN DEEP X-RAY THERAPY.

Dr. J. H. DOUGLAS WEBSTER (physician in charge of the Radiological Department, Middlesex Hospital) agreed with Dr. Scott and with the President that it was unfortunate in many ways that there should be a division between superficial and deep therapy. Such a division was quite legitimate from the point of view of the X-ray Protection Committee, but practical treatment was a different matter. In the prophylactic treatment of the breast, which was the subject he chiefly desired to speak about, what he called a medium deep therapy (that is, employing a voltage of from 100,000 to 150,000) was the most satisfactory.

#### Prophylactic Breast Treatment.

Dr. Webster went on to say that the problem of prophylactic post-operative treatment of cancer of the breast was different from the treatment called for after operation for cancer in most other sites. The presence of the air-filled lungs diminished the scattered radiation factor very

much at the pleura, and made it impossible with one application (except in extremely thin patients) to give a sufficient dose at the pleura without profoundly damaging the skin. Therefore breast prophylaxis had to be a cumulative treatment, prolonged over a number of months or even up to one or two years. The best results reported, so far as he was aware, were those of Anschütz and Hellman, relating to 240 cases, 77 per cent. of which were free from recurrence after one year, and 60 per cent. after three years of Group I patients at time of operation. Occasionally during the prophylactic courses the earliest signs of recurrence were discovered in the shape of enlargement of the opposite axillary or the supraclavicular glands, or, more rarely, nodules near the scar; in almost every case when such recurrences or suspicious signs appeared his practice was to change over to high-voltage therapy—that is, over 150,000 volts—and in a large proportion of cases with a successful result. Each of these patients was examined at six weeks' intervals for two years, and in only about 12 per cent. of cases did these earliest signs of recurrence fail to disappear. During the last two years he had paid special attention to the opposite axilla, following out Mr. Sampson Handley's theory of invasion of the opposite axilla by the lymphatics in the fascia, and very few opposite axillary enlargements had been encountered. Enlarged axillary and supraclavicular glands, of course, were not always malignant; when removed surgically they sometimes showed merely hyperplasia and appeared to be free from gross signs of invasion, but serial sections, he believed, sometimes showed, or at least suggested, an enlargement as a reaction to the very earliest invading cancer cells. In every case, therefore, in view of the fatal character of cancer of the breast—Leo, in the United States, had estimated that only 15 per cent. of all cases treated surgically were living at the end of five years—it was probably best to carry on treatment on the presumption of malignancy.

The technique to secure a comparatively homogeneous surface radiation of the breast was very difficult owing to the shape of the breast and the surrounding regions, and the great differences in the configuration of patients. It was entirely wrong to divide the area up into squares, according to one American method, for little strips between the marked-off portions were likely to receive no dose at all, and microscopic evidence showed that here the cancer cells remained organized; they were not degenerated as they were in the portions which had received the radiation. Radiation could be carried out in two ways: the first by radiation from one or more points at a great distance, 50 or 80 cm.; and the other—which was the one he preferred for prophylactic cases—based on Holzknecht's method of radiation over large surfaces, whereby the area from the supraclavicular to the umbilical level was covered by the rays from two or three points, at an angle of, say, 30 degrees from above and below, and from the side, and in most cases an additional dose was given into the apex of the axilla. This near method was more rapid and less troublesome to the patient, and he thought it gave as good results as any other.

#### Analysis of 336 Breast Cases.

Dr. Webster then gave statistics first of all of 148 cases of carcinoma of the breast which he had treated by the medium-voltage method, mostly following operation. If 30 cases were excluded because they had had only one or two treatments and had then been lost sight of, and 10 because they were inoperable, recurrent, pre-operative, or mastitis cases, the remaining 108 were analysed as follows: 34 (32 per cent.) had died; 36 were continuing treatment, and of this number 9 had already gone one year after operation and were apparently well; and 38 (35 per cent.) were now having no treatment, though they came up regularly for report, and apparently were well at the end of two years. If to these 38 were added the 9 just mentioned, the result was 47 cases (43 per cent.) of apparent successes—a good percentage considering the number of advanced cases at operation included in the series.

In addition to the above, 188 patients had been treated with high voltage (200,000 volts), in most instances combined with some areas with medium voltage. These were the most

severe cases (not prophylactic), the series including a number of inoperable breasts and recurrences, and they were also the most difficult to analyse. Of the 188 cases, 84 (45 per cent.) had died or had abandoned treatment and had been lost sight of, and 45 (24 per cent.) showed a good result and treatment had been discontinued. In 27 cases in which slight recurrences were noted during prophylactic treatment, 14 were now off treatment, recurrence, and only 3 had done badly. Ten groups among these 188 cases, dividing them according to the nature of the operation done or the type of the growth. Some cases of incomplete operation, with radiation immediately following, had done very well. He laid stress on the need for careful investigation of each bad result. The radiologist should make up his mind as to the reason for any fatal result, and whether any possible alteration of technique or treatment might have prolonged life. In nearly every case where the patient died the death was due to wider or deeper extensions of the disease.

#### "In Advance" Treatment.

During the last two years, Dr. Webster said, he had been feeling his way to what might be called the "in advance" method of treatment. In some sites this was a customary procedure, but in the breast it was very complicated. The method was based upon Mr. Handley's theory of lines of centrifugal lymphatic spread, and his aim had been to irradiate the lymphatic areas in advance of any clinical signs of the disease. Thus, if the axilla was involved, special attention should be paid to the supraclavicular triangle; if the latter was involved, radiation should also be given to the anterior mediastinum. If the tumour was in the inner quadrant of the breast, and radium had not been inserted at operation in the sterno-costal spaces, sternal radiation should be carefully carried out. If the tumour was in the lower quadrant of the breast the epigastrium and abdominal fascia and perhaps the hip on the same side should be irradiated. A primary breast case which he had treated some years ago, apparently satisfactorily for a year, ultimately died with hip metastasis. A prophylactic course, therefore, was not entirely routine technique, but was modified to suit the special requirements of the case. Several American surgeons had the lungs and spines of all breast cases radiographed before operation; certainly in some cases, even of very small breast tumour, invasion of the chest and spine could already be made out; he thought that this x-ray examination should always be done.

#### Factors Determining Recurrence.

Dr. Webster said that cancer of the breast offered one of the most satisfactory fields for the study of cancer, biologically and clinically, and the fact that patients came up even as long as eighteen years after operation with local recurrences at or near the scar made one hesitate to use the word "cure." Some patients treated had shown, after quiescent periods, a sudden flaring up of multiple recurrences, and this problem required much more study. Analysis of a large series of cases showed that many confidently expressed opinions in medical and lay journals were fallacious. A recent note in a medical journal stated that the greater number of cancer patients died during the winter, but among the patients who had died in his series of cases the deaths were very evenly divided between the different seasons. Recurrences had been noticed coming on after confinement to the house with bronchitis or sciatica, and patients who had done unusually well had been in several instances those who lived an open-air life, a circumstance which suggested that ultra-violet treatment might be tested as a means of raising the patient's resistance. Among the bad results were a number of patients who were really accepted in the terminal stages of the disease. In some instances radiation treatment might appear to accelerate death, though he saw no reason why, in the attempt to benefit some of the practically hopeless cases referred to him, the radiologist should not be given the immunity granted to the surgeon when faced with similar difficulties, and it was not right that the results of

the treatment in terminal cases should be held to afford a reasonable test of the value of any form of treatment. He mentioned one case of a gastric cancer in which the patient was in good condition, but in which, in view of her age, he decided not to give radiation treatment. The patient died quite unexpectedly two or three weeks after his visit, and had she been treated no doubt the radiation would have been blamed for the result.

#### Problems Awaiting Solution.

Dr. Webster went on to pose a number of problems:

1. Was there a stimulation dose? In plants it had been proved that growing seeds could be stimulated by small doses of x rays, but it was strongly disputed by Holzknecht and a number of others that stimulation could play any part clinically. At the same time there were some observations which suggested the contrary. In rodent ulcer on a convex surface like the forehead the centre could be more radiated than the edge with imperfect technique, and he had seen the edge growing rapidly after wrongly applied irradiation. In two radium cases a ring of nodules had appeared round an area to which radium had been applied for nodular recurrence.
2. Was it really better—and if so under what conditions—to give a maximal dose in a short time? In America the intense application of radium—500 millicuries of radium element applied for about one minute—had been employed on small rodent ulcers with good results. In other conditions the very opposite method gave excellent results with radium. The answer to this problem was not clear yet for either x rays or radium.
3. The physical and biochemical theories of action on which dosage and results depended had still largely to be determined.
4. A variety of opinions was advanced as regards the action on the cancer cells, some stating that radiation never acted directly on the malignant cell, or only acted through stimulating the surrounding tissues, and it was also claimed, as Dr. Scott seemed to believe, that it acted chiefly through a general effect on the whole body. In lymphosarcoma the rays seemed chiefly to act by the damage they did to the cancer cell, but in the breast they also stimulated connective tissue formation, and might also act largely by stimulating the resistance of the body.
5. Was radiation chiefly a local or a general action? Dr. Scott seemed to be giving up the local action theory and turning to the general. This might be a dangerous method, Dr. Webster thought, if given intensively. Local action was more certain than general, and its results had been proved in thousands of cases.
6. The relation of the tumour to the glands. He would like an opinion from radiologists as to whether they favoured the centrifugal or the centripetal method—that is to say, was it best to begin treatment in the opposite axilla or supraclavicular, and gradually work back to the primary growth, or to begin with the primary and go gradually out?

#### Conclusions.

Dr. Webster's conclusions were as follows:

1. Study of x-ray results and methods should be based on a large series of analysed cases, not on statements of results in a few selected cases.
2. The value of prophylactic radiation after operation seemed to him established. Cases treated promptly after operation practically never had the large inoperable local recurrences that were seen too often in patients who had no full post-operative x-ray treatment.
3. A medium-voltage technique for prophylactic breast work had given the best results hitherto published.
4. Any recurrences appearing should be treated with high-voltage radiation. He had seen a number of examples where the change over from medium to high immediately produced a satisfactory result, which treatment with medium voltage had failed to produce. The same sometimes happened with the change over from high-voltage x rays to radium. Sometimes, but rarely, the reverse—a change down—might prove beneficial.
5. A considerable number of cases had been observed in which early recurrences had completely disappeared with prompt radiation. This was a very valuable means of arresting the progress of the disease.
6. Operable and inoperable growths and recurrences had been arrested for considerable periods and inoperable tumours rendered operable.
7. The field of auxiliary therapy to radiation, whether arsenic, iodine, lead, or copper injections, organic extracts, or ultra-violet radiations, was one calling for much future hopeful work.

The discussion was adjourned until May 15th.

## VITAMIN DEFICIENCY.

THE resumed discussion on "Non-specific disturbances of health due to vitamin deficiency" took place at the Royal Society of Medicine on March 23rd, with the President, Sir St. Clair Thomson, in the chair. The report of the opening of the discussion appeared in the *BRITISH MEDICAL JOURNAL* of February 21st (p. 358). The four openers (Dr. Leonard Williams, Lieut.-Colonel R. McCarrison, Dr. W. Cramer, and Dr. G. M. Findlay) gave each an epitome of his previous contribution.

THE PRESIDENT remarked upon some "wise words from a wise old man" which had appeared in the *Times* above the signature of the late Sir Clifford Allbutt on January 6th last. Sir Clifford had written to support the advocacy of Professor Noel Paton for a richer flour, which, he said, would have advantages from the point of view of health, as well as the agreeable flavour which promoted digestion, and in the course of the letter he had asked whether any food could be more insipid than the present blanched loaf. He had gone on to say that vitamins were elusive bodies, but of their potency there could be no doubt, and it was probable they were eliminated with the offal. It was sometimes said (Sir Clifford had added) that any dietetic virtue which might be rejected in the bread was secured from her sources, but this seemed to him a chancy way of dealing with the staff of life.

*Vitamin Deficiency and Gastro-intestinal Infection.*

DR. WILLIAM HUNTER said that he had been greatly impressed by the exceptionally clear presentation of the subject by the opening speakers. What had appealed most to him was the pathological basis for the facts which three of them had brought forward. Reference had been made to gastro-intestinal changes consequent upon vitamin deficiency, to changes in the lymphoid tissue, and to the striking aplastic changes produced in the bone marrow. The changes described as atrophy of the lymphoid tissue and lymphopenia had particularly interested him. Lymphopenia could go on to such a degree that instead of a total of 2,000 lymphocytes per cubic millimetre they numbered only 400, or 20 per cent. The relation of vitamins to infection seemed to him a point of the greatest importance. Colonel McCarrison had shown how, consequent upon the withholding of vitamins, the resistance was lowered, more especially to any infections present in the intestinal canal, and he had illustrated his remarks by reference to amoebic dysentery, where the infection, which had been present in a harmless form, was, so to speak, awakened up into virulence when the vitamins were deficient. This failure of resistance seemed to the result directly of the pathological changes were not the result directly of the vitamin deficiency, but, in all cases, of infections, among which, to his mind, the streptococcal infection was the most prevalent, and potentially the most pathogenic to the human subject. From his own familiarity with pathological conditions, he fully supported the view taken by the openers as to the great importance of vitamin deficiency in favouring infection, and endorsed the arguments put forward by Colonel McCarrison in particular, that vitamin deficiency was a great factor in the causation of common intestinal disorders of many different kinds, seriously hampering nutrition and assimilation, and diminishing the resistance of the intestinal mucosa through the virulence of the pathogenic organisms in the tract, amongst which the streptococcal must, in his view, be considered the most important. The important thing to consider was the mischief which vitamin deficiency was doing in their own population, especially among children and young persons.

*The Theory Challenged.*

DR. ROBERT HENDERSON agreed with Dr. Cramer that the use of the term "vitamin" must be limited for the purposes of the present discussion to the three accessory food factors, A, B, and C. If it was extended, as Dr. Leonard Williams suggested, to mineral salts, catalysts, enzymes, and chlorophyll, not to say violet rays and electricity, the result would be hopeless confusion. When one was asked to believe that a deficient supply of these specific vitamins in the diet was a cause of widespread disorders of health,

it had to be remembered that the evidence which had been brought forward by the openers of the discussion in support of such a proposition was mainly experimental. It was very difficult to be sure that disturbances of health in animals fed on avitaminous diets were due solely to the absence of vitamins. Such diets were usually very abnormal in other directions as well. Some of them were "synthetic" diets; others—as one of the speakers had admitted—were deficient in proteins of high biological value, or had no proper balance of inorganic salts. Colonel McCarrison stated that his monkeys were taken from the Madras jungle and fed on an autoclaved diet, and that in these circumstances they developed various gastro-intestinal disturbances. But suppose the position reversed, and that the investigator was turned loose in the Madras jungle, and fed on a diet of raw fruits and vegetables—a diet rich in vitamins—was it not possible that in such circumstances he might also develop "a severe intestinal flux"? Apart from this, however, and granting for the sake of argument that the disorders mentioned were really due to deficiency of vitamins and nothing else, was there any real reason to suppose that comparable disorders were being produced to any extent from a similar cause in the ordinary community? The speaker doubted it; indeed, he simply did not believe it. He entirely agreed with Dr. Cramer that one could draw no hard and fast line between specific and non-specific disturbances of health due to vitamin deficiency, but that the former were only the final links in a pathological chain of which ill defined disturbances were the protagonists of the theory would have others believe, large numbers of persons were suffering from the early and non-specific disturbances, none of them ever reached the final link of the chain or exhibited the specific disturbance in its full-blown form. That this was true, in this country at least, could not be denied. He had himself, in twenty-five years' experience at the London Hospital, never seen a case of adult scurvy nor of beri-beri, unless imported from the East. Yet they were asked to believe that a deficiency of the antineuritic and antiscorbutic vitamins in the diet was an important cause of vague ill health in the community! One might as well be told that in a community in which poverty was widespread no one ever went bankrupt. This was particularly true of vitamins B and C. With regard to vitamin A, the case was a little different. Deficiency of this factor did not so much culminate in the production of a specific disease like beri-beri or scurvy (he regarded the case for rickets being a deficiency disease as still *sub judice*), as in interference with growth and development and with the power of resistance to certain infections. That impaired growth or low resistance to infections might sometimes be due to deficiency of vitamin A it was difficult to disprove, but he thought there was more evidence that when such disorders occurred in any class of the community they were due to a deficient total calorie value in the diet during the years of most rapid growth, rather than to deficiency of a vitamin which, after all, was so widespread in foodstuffs and so resistant to the effects of cooking as vitamin A. The disease xerophthalmia, which was known to result from a deficiency of this vitamin in the diet, was, after all, a rare one in this country, and he could not help thinking it would be commoner if the diet was really lacking to any extent in the fat-soluble vitamin. This was the true inference from the Denmark experience referred to by Dr. Cramer. The President had already quoted a wise English physician, and he, in conclusion, would quote a wise American one—Professor Emmett Holt, in his book *Food, Health, and Growth*:

"The physician can fall into no greater error than to assume that vitamin deficiency is the chief cause of all chronic nutritive disorders; just as not very long ago these were all referred to auto-intoxication. . . . The use of vitamins without definite indications will be popular for a period, but like other fads it will pass. With time and further investigation their true place will be determined."

*The Vitamins and Tuberculous Infection in Animals.*

DR. M. J. ROWLANDS reported on some experiments carried out on a large scale on an animal very much akin to the human being—namely, the pig. He claimed that he had been able by proper feeding to eliminate tuberculosis



from herds which, as shown by *post-mortem* examinations, were full of tubercle. He had fed the animals on food known to be rich in A, B, and C vitamins. Similarly with cows, if they were not fed on a vitamin-rich diet bovine tuberculosis was certain to increase. He had been able to eliminate tuberculosis in cattle by feeding them on a diet known to be rich in vitamins A and B. He kept his animals out of doors, but this did not suffice to prevent tuberculosis—he had to give them vitamin-rich diet as well. As a consequence of this feeding not a single tuberculous animal was to be found on his farm. In certain experiments on full and deficiency diets in pigs, the result of the examination of the stools had shown quite clearly that animals fed on a vitamin-full diet could absorb more nourishment from their food; they did not pass so large an amount of undigested food as did animals whose diet was deficient in vitamins.

#### *Terminal Stage of Vitamin Deficiency.*

Dr. F. PARKES WEBER said that, like Dr. Hutchison, he had seen many people in the out-patient class in the East End of London, and in his experience the terminal condition of vitamin deficiency did arrive. It arrived very often in the form of tuberculosis or of various acute infections. The people whom he had seen in his work as physician to the German Hospital, which covered a large area of the East End, might be roughly divided into two classes. The first were patients with digestive disturbances—disturbances connected with visceroptosis, mucous membranous colitis, and similar conditions, all of whom, without exception, suffered from constipation. In this class the terminal stage arrived in the form of death from tuberculosis or from various acute infections. The second class consisted of men, and sometimes women, of the muscular and corpulent type, who put on an enormous amount of fat, and in their case the terminal stage only too often was cerebral haemorrhage and arterio-sclerotic disturbances. This second class had excess of food, and probably sufficient vitamins; they did not suffer from the symptoms of avitaminosis. But there was little doubt that vitamin deficiency was a factor in the disorders of the first class.

#### *Recruiting Statistics.*

Dr. H. SCURFIELD was also of opinion that there was plenty of evidence of widespread derangements of health which might be due to vitamin deficiency. Was it not a fact that practically the whole nation suffered from constipation, resulting in fortunes for the vendors of patent medicines? Also, were not great numbers of the recruiting failures during the war to be assigned to rickets in childhood, rickets being caused, as there was much evidence to show, by defective diet? Recruiting failures were not limited to the war period. The figures for a recent year showed that among 80,000 men offering themselves as recruits for the army, 50,000 had to be rejected.

#### *Animals on Autoclaved Diet.*

Mr. ASLETT BALDWIN said that Dr. Hutchison had quoted one of Colonel McCarrison's experiments—that with the Madras monkeys—but had not told the whole story. He had said that the monkeys fed by Colonel McCarrison on the autoclaved food developed intestinal flux, but he had not added that other monkeys, similarly taken from the forest and kept and fed under identical conditions except that the food was not autoclaved, remained perfectly well. With regard to the absence of scurvy and beri-beri in this country, might not this be due to the fact that, although large numbers of the population did not get enough vitamins, it would be difficult to find a person who was absolutely deprived? He had discovered an interesting fact while feeding goldfish—that goldfish which for eight months had been fed only on crumbs of wholemeal bread remained well and vigorous, while other goldfish which had been fed on the crumbs of white bread had all died.

The PRESIDENT mentioned that at Midhurst Sanatorium it had been noticed that when patients left the tables sparrows came through the open windows and helped themselves, but that while these birds would eat as plentifully as might be of butter, they would not touch the margarine which took the place of butter during the war.

#### *Openers' Replies.*

Colonel R. McCARRISON, in replying to the discussion, took up the remark of one speaker on the relation of vitamin deficiency to cancer as found in native races. What he himself had seen with regard to cancer, and what he had stated elsewhere, was that cancer and chronic gastrointestinal diseases were generally very uncommon amongst certain races in the extreme north of India where the diet was well balanced and rich in vitamins. He had not generalized with regard to this, because his experience did not go beyond those particular races. Cancer was, he understood, quite as common among the people of Bengal, where the food was very faulty, as it was in this country. It was not a question of civilization as against want of civilization, or of native races as against Western races. What was of importance was that food should be well balanced and rich in vitamins and other essential substances, and he also thought that in the present state of knowledge or of ignorance, it would be as unwise to disregard the possible action which faulty food might have as a predisposing cause of cancer as to assert at the present moment that faulty food was the cause of cancer.

Dr. CRAMER said that Dr. Hutchison had really questioned the whole basis of the vitamin conception; he had said that the effects found in the experiments might be due not only to vitamin deficiency, but equally to other deficiencies. But the whole basis of the experiments was that everything else that was necessary was given to the animals—protein, fats, carbohydrates—in proper proportion; everything was given except these hypothetical substances, and yet the animals died. When a small amount of butter fat or yeast was added a rapid change at once came over the experimental animal. Dr. Hutchison had said that he did not see the terminal stages of this condition. But, surely, if the clinician saw an undernourished child who developed pneumonia he would describe the terminal stage as pneumonia, and so on. As to the Danish experience which the speaker had cited in his original paper, Denmark was an agricultural country; its main industry might be said to be the production of vitamin A, yet deterioration could be produced in the general health of a large population because too much of this vitamin A was being exported. Were not the same factors operating in this country? He protested that the fact that cases of beri-beri were not discovered here was no evidence that the whole population got a sufficiency of vitamins.

Dr. FINDLAY referred to Dr. Hutchison's statement that he had never seen a case of scurvy in an adult. The speaker was not a clinician, but in his very short course of medicine to get a degree he saw two cases of scurvy, not, indeed, in England, but in the country from which both he and Dr. Hutchison came (Scotland). A few years ago, also, he had the opportunity of investigating the effects of vitamin deficiency in an industrial school not far from Edinburgh. In this school, from 1902 onwards, there had been cases of very acute pneumonia; a boy would go down with an attack which perhaps ended fatally within twenty-four hours. In 1920, after the last outbreak, he went down and investigated the school. On paper the diet was excellent, but the method of cooking was unsatisfactory. To save expense the whole of the food was put into large cauldrons, the lids of which were screwed down, and the food was allowed to stew under pressure for three or four hours. On investigating the medical history of the school one found, in addition to the pneumonias, that there had been, also from 1902, cases of conjunctivitis—or so they were put down in the records—very chronic, and not to be cured by washing out the conjunctival sacs in the ordinary way. These two conditions—the conjunctivitis and the pneumonia—were practically the only conditions from which the boys seemed to suffer. On his recommendation the Scottish Office sent down orders for cod-liver oil and raw swede juice to be given, and since then no new cases of pneumonia had occurred. He also related some particulars of experiments on rats and guinea-pigs, all of them inoculated with tuberculosis, but some of them placed on a vitamin-deficient diet, and others not. The animals on the faulty diet died much more rapidly from tuberculosis than did those which had a sufficiency of vitamins.

At a meeting of the Medical Society of London held on March 23rd, with the President, Dr. EGSTACE M. CALLENDER, in the chair, Mr. L. BATHE RAWLING opened a discussion on oxaluria.

Mr. Rawling apologized for being in the position of opening a discussion on a subject which was medical in so many aspects, and he proposed to confine himself to the surgical side of the question. He had inquired among surgical colleagues, but he had obtained little information, although oxaluria was a condition which surgeons should bear in mind when confronted with certain symptoms. Mr. Rawling then dealt with the abdominal manifestations sometimes associated with oxaluria. He described the case of a house-surgeon who suddenly presented all the appearances of an acute intestinal obstruction, with a distended abdomen, vomiting, and absolute constipation. A laparotomy was performed, but nothing abnormal, save very distended intestines, was found. The patient made a rapid recovery, however, and the history showed that he had suffered from attacks of haematuria in the past, and some time after this attack of abdominal symptoms he passed an oxalate calculus. It had been noted, in reference to the urine in this case, that oxalate crystals were present, but their significance had not been appreciated. Two points of interest arose from this case: the patient stated that he did not feel as ill as he would have expected with acute intestinal obstruction, and, secondly, morphine, which had been given for the relief of pain, had undoubtedly helped to produce the abdominal symptoms. Mr. Rawling had seen similar cases since this one, but never so acute. He believed that the milder abdominal symptoms were due to the flatulent dyspepsia frequently associated with the condition of oxaluria. Reflex stimulation from the kidneys and ureteric tract might lead to inhibition of peristalsis of the intestine. The administration of morphine would further exaggerate such symptoms of intestinal obstruction, and thus error might arise if examination of the urine was omitted in such a case. The speaker then referred to a case of uraemia which had presented symptoms of subacute intestinal obstruction; such a case was related to the oxaluria cases referred to previously. With reference to the occurrence of oxaluric haematuria, the presence of crystals and blood in the urine, and the symptom of pain, frequently suggested the presence of a calculus. The haematuria caused by oxalates was sometimes painless, or, on the other hand, might be associated with severe colic and bladder symptoms. He referred to the case of a physician who had an attack of haematuria following the eating of too many strawberries. This, he found, could be prevented by eating duck and green peas at the same meal, for peas were apparently rich in magnesia and abolished the deleterious effects of the fruit! Mr. Rawling finally dealt with the question of a urethral discharge associated with oxaluria. Such a discharge varied from a mild purulent discharge, and was often mistaken for gonorrhoea. Vesical and rectal tenesmus might also occur. A microscopic examination of such a discharge would reveal the cause.

Sir WILLIAM WILLECOX said that he proposed to deal with the medical aspects of oxaluria. He had been struck with the remarkable absence of any references to this subject in recent literature, as he considered it one of great importance from the medical as well as from the surgical point of view. Oxalic acid was, he said, a normal constituent of the urine: an adult in health passed about 15 to 20 mg. of oxalic acid in twenty-four hours. If this quantity rose to about 30 mg. then this oxaluria became pathological. Under normal conditions blood contained this substance in the form of calcium oxalate, probably in a colloidal state, and crystals of calcium oxalate excreted in the urine were small, colourless, and usually of the "envelope" shape, the "dumb-bell" and "disc" forms being rarer and always in an alkaline or amphoteric urine. If the urine was acid as a result of the presence of sodium acid phosphate, calcium oxalate was usually in solution, but if above 20 mg. was being excreted in the twenty-four

hours it would crystallize out, and even when present in normal quantities in slightly acid or alkaline urine it would likewise be deposited. In cases of oxalic acid poisoning the acid might be present in the urine in a free state, as it also occurred in the liver, kidneys, and spleen, leading to a decalcification by combining with any calcium present. In chronic oxalic acid poisoning a condition similar to rickets might be brought about by such a decalcification process. In these cases the renal tubules, but not the glomeruli, were found to be full of crystals. In normal conditions the blood contained amply sufficient calcium and magnesium to deal with all the oxalic acid absorbed. Oxalic acid could be formed by the oxidation of carbohydrates, and also by the oxidation of proteins, while it was probable that it could also be produced from fats, since the administration of glycol to a normal person would greatly increase the amount of oxalates in the urine. A diet of milk and sugar alone would give rise to oxaluria, and a case had been recorded where a diet consisting of milk and sherry frequently associated with gastric dyspepsia or with colitis, and in both cases was due to the excessive fermentation of carbohydrate which occurred in these conditions in the gastro-intestinal tract. Lazy people, living in stuffy rooms, under defective hygienic conditions, were liable to get oxaluria. An idiopathic form of oxaluria had been described, due to some inborn error of metabolism. The question of foodstuffs containing oxalates was important, although there appeared to be a great difference of opinion on this subject. About 10 per cent. of the calcium oxalate ingested in food was excreted in the urine, and if a person was subject to oxaluria from defective metabolism such an excess might give rise to a greatly increased output. Foods containing oxalic acid, usually as calcium oxalate, included spinach, rhubarb, sorrel, beetroot, dried figs, certain beans, tea, cocoa, chocolate, pepper, and adulterated coffee. There was a constant fight going on in the body between the calcium and magnesium elements for possession of oxalic acid. Hence if there was a lot of magnesium ingested it grasped the oxalic acid and soluble magnesium oxalate was formed, and "oxaluria," in the sense of attacks of pain due to the insoluble calcium oxalate crystals, did not occur. Hence it was important in these cases to choose food which was rich in magnesium and comparatively poor in calcium, such as meat, flour, nuts, apples, peas, and potatoes, while foods in which the reverse was true and which should be avoided included milk, eggs, spinach, cauliflower, cabbage, grapes, sorrel, strawberries, asparagus, and pineapple. The speaker thought that the tomato had been much maligned, since its content of oxalic acid was very small. Symptoms of oxaluria were frequently absent in many cases where a deposit of oxalate crystals occurred. In hot climates, where the urine was frequently became concentrated, attacks of pain similar to renal colic often occurred, and were probably due to oxalate crystals. Oxaluria might be associated with a condition of mental depression and hypochondriasis with "real crisis of neurasthenia" which had long been known to be due to oxalate crystals. In treating this condition attention must be paid to the intestinal and gastric dyspepsias. Gastric lavage, doses of aperients such as Epsom salts, general hygienic treatment, with diet along the lines already indicated, were all important, and water should be freely drunk, attention being paid to the decalcification of hard water in districts with hard water supplies.

The President said that he had been struck with the frequency of oxalate crystals in the urine. He pointed out the danger of jumping to a conclusion because of the presence of such crystals. Dr. H. A. DES VOEUX thought it would be more correct to say that oxalate crystals were common in abnormal urines of whatever type. Any condition leading to the production of pus in the renal passages would give rise to an increase of oxalates in the urine. He recounted a case of oxaluria in a man of 80 associated with nightmares. Dr. T. J. HORSER inquired if there was any relation between oxaluria and orthostatic albuminuria. Dr. F. PARKES WEBER asked whether it was not the case that the presence of blood in the urine from any cause gave rise to an increased amount of oxalate crystals.

Mr. J. E. H. ROBERTS said he had been intending to ask whether the "tomato gall bladder" of certain American writers was due to oxaluria, but apparently the tomato had been freed from blame in this respect.

Sir WILLIAM WILLEON, in reply, pointed out that the presence of albumin or blood in the urine might, by its physical action, induce the crystallization of the oxalates. He thought the occurrence of oxaluria in neurasthenics was due to their intestinal toxæmia.

Mr. RAWLING also replied briefly.

### INFANTILE MORTALITY.

A MEETING of the Section of State Medicine of the Royal Academy of Medicine in Ireland was held on March 13th. The President, Dr. N. M. FALKNER, quoted Newsholme's dictum that infantile mortality was "the most sensitive index of social welfare and sanitary improvement which we possess." He referred to the decline in the infantile mortality rates of England and Wales from 158 to 69 in 1923, and mentioned the result of Dr. Wheatley's inquiry, which attributed this decline to child welfare centres and maternity visiting.

Dr. BRIAN CRICHTON, in a paper on infantile mortality, stated that the country was to be blamed for neglecting its greatest asset, the child. The responsibility of the State consisted in the supply of financial aid to municipal and other bodies for the maintenance of welfare centres, the feeding of school children, and the like. He compared the infantile mortality rates of various English towns with that of Dublin (125). To produce a healthy child, healthy parents, healthy surroundings, and good food were necessary. The greater portion of the centre of Dublin was hygienically bad and to be condemned. No more than 50 persons should be allowed to live on each acre, but in some wards in Dublin the number per acre was as high as 117, or even 138. No factory could exist under the conditions which were forced upon the infant population. The first and greatest evil to be remedied was the housing question. The Government had done something, but much more remained to be done. Dr. Crichton thought that the penalties for the sale of dirty milk were negligible compared with the harm inflicted on children by dirty milk. The mothers, in order to nurse their children, required good food; the cost of this was far too high, apart from the economic questions due to unemployment. He thought there was need for an inquiry into the prices charged for such foods as meat, butter, eggs, and milk by the middleman. The influence of sunlight and air on health was so well established that the need for more parks and open spaces was evident. Dr. Crichton then outlined a scheme for the improvement of child life in Dublin. Use should be made of the existing maternity hospitals in Dublin to which mothers had been accustomed to go for advice. Attached to these there should be welfare centres, both ante-natal and post-natal, where the mothers could be advised as to the health and feeding of their children, and food could be supplied at as near cost price as possible. Almoners and specially trained district visitors could go from these to visit the infants in their homes. These centres would also be very useful for the training of students and nurses. He pointed out the need of special schools for mentally deficient children, and also of open-air schools for delicate children. He added that the death rate among illegitimate children was six times that of legitimate children, and thought that more control should be exercised over women receiving nurse children.

Sir JOHN MOORE said that the infantile mortality under 1 year of age in 1923 was 66 per 1,000, and was much higher in boys than in girls, the male infant being probably more fully developed at birth than the female. The death rate among female children was 60 per 1,000, and among male children 73 per 1,000. It was the bounden duty of every mother to feed her child during the first nine months of the child's life, but this duty was very often disregarded. Recently there had been much use of milk which was contaminated, or preparations of milk which were probably very often poisoned. Child welfare in Dublin had made great progress, largely owing to the work of district

nurses. Remarkable results had been obtained at the Clieverstown Convalescent Home in the case of children between the ages of 3 and 5.

Professor J. W. BIGGER compared infantile mortality in Ireland with that in England. In the Free State, in 1923, this was 66 per 1,000, while in England and Wales it was 69 per 1,000. In the year 1915 the mortality in Ireland was 92 per 1,000, so the infantile mortality rate had been greatly reduced since then; in that year in England and Wales it was 110 per 1,000. In 1904 in Ireland it was 100 per 1,000, and in England and Wales 145 per 1,000. If this rate of reduction continued England and Wales would soon have a lower infantile mortality rate than Ireland. He felt that Ireland at present was too contented with her position; because it was said that the Irish infantile mortality rate was much less than anywhere else, nothing was being done to reduce it further. It had been recognized in England and Wales since 1904 that the rate there was too high, and successful steps had been taken to bring it down. If this had been done in Ireland, the rate in 1923 would have been only 47 and not 66 per 1,000. Whooping-cough caused 3 deaths per 1,000 births, probably because children did not get proper nursing in the latter part of this illness. Bronchitis and pneumonia also accounted for much of the infantile mortality, again due, probably, to the lack of good nursing. Diarrhoea, enteritis, and convulsions were very often caused by bad feeding. Breast-feeding would prevent many deaths. Premature birth was the cause of about 6 deaths out of every 1,000 births, and if Dr. Crichton's scheme of establishing pre-natal schools in connexion with the maternity institutions in Dublin could be brought into existence many of these deaths would not occur. Housing in Dublin was still deplorable, but he hoped that at last something was being done to make it better. To bring up children healthily in a tenement house was very difficult, and he agreed that it was necessary to provide open-air schools and more sunlight for children. The rural child had a better chance, even during the first seven days of life, than had the urban child.

Dr. R. H. MIEKS referred to the large number of sickly, wasting children in general hospitals; several months were required to effect any improvement in their condition, and bad cases of marasmus took a year to cure. He referred to the danger of the "tuberculosis houses" of which there were so many in Dublin, and the number of children suffering from tuberculosis, owing, probably, to the unhealthy state of their surroundings. This was not the fault of the parents, for no better houses were obtainable. In some families nearly all the children were suffering from tuberculosis; very few patients were willing to go to sanatoriums, and they came home very quickly. He thought that the question of improving sanatoriums should be taken up. There would be no definite improvement in the number of cases of tuberculosis amongst the poor until better housing conditions were established. He thought that the "nursing out" of children should be avoided if possible, as a great many infantile deaths were due to deliberate starvation under these conditions. He referred to the difficulty in procuring good milk, especially among the poor.

Professor J. T. WIGHAM said that it had been asked why infantile mortality should be avoided, since an easy way of limiting the population was to allow children to die soon after birth. It had been pointed out that at present there was a great excess of unskilled labour, and that many town-born children grew up to become unskilled labourers. The answer to such a question was that infantile mortality was an index of children's disease, and that a great many children who did survive from disease in childhood were unfitted by it to develop into healthy citizens. Great efforts were being made to improve the housing conditions in Dublin, and the help of every citizen was required. He referred to the work which was being done by Mr. Hall, and also by Messrs. Guinness. The Dublin Corporation was building very extensively on the banks of the Liffey, above Island Bridge; and Mr. Hall had stated that if he could procure £10,000 all the houses would be built before the end of June.

Dr. P. DE BURCA said that had housing and food (especially milk) were not the causes of infantile mortality, but were rather the symptoms of a disease. Decent housing and food would never be obtainable so long as the absolute necessities of life were produced for profit and not for use. Great care was taken to see that the water was pure, and that contamination was avoided. If that was done with water, why should it not be done with milk and bread? Before the infantile mortality was improved it would be necessary to improve the conditions under which the working man lived, and to enable him to get a living by means which did not bring him into competition with his fellow working man.

Dr. KENNEDY CAHILL drew attention to the appalling death rate amongst children who were "hoarded out." The population in France was stated to be low, because contraception was in vogue and the people decided not to have large families. He believed, however, that the birth rate there was as large as it was in England, but the death rate in France during the first few months was so high that the population did not increase. He thought that a bonus was given to every child that was born in France; if this money was given to pre-natal clinics it would be used for a much better purpose.

### INSANITY AND DIVORCE.

At a meeting of the Medico-Legal Society, held in London on March 17th, with Lord Justice ATKIN, the President, in the chair, Dr. NATHAN RAW read a paper entitled "Three suggested grounds for divorce: (1) hopeless insanity; (2) chronic inebriety; (3) penal servitude for life."

Dr. Raw said, while he was not in favour of weakening the marriage tie in normal conditions, circumstances often arose unfortunately where it was necessary to consider the desirability, urgency, and importance of making some alteration in the present divorce laws, in the interest both of the State and of the children, and more directly in the interest of the parties immediately concerned. The Royal Commission on Divorce, appointed in 1909, although divided on the cardinal points, was unanimous in the findings that nullity of marriage should be decreed in cases of (a) unsound mind, (b) epilepsy and recurrent insanity, (c) venereal disease. In April, 1920, he had an opportunity of pressing these three grounds in a debate in the House of Commons, but, although they were generally accepted, the motion was lost by forty-one votes, as the House was not prepared to accept the entire majority report. In Great Britain and Ireland there were 150,000 persons certified as insane under the Lunacy Acts, and of that number, almost 50,000 were suffering from dementia. Dementia was incurable, and he thought that this condition should be considered a ground for divorce. Between 20,000 and 30,000 of these people were married, and in a very large number of cases the husband or wife might not know his or her spouse: in fact, a great many of them could not realize that they were married. He had never known a case of dementia to recover after it had lasted five years. After that period elapsed, he suggested that the patient should be examined, at the request of his or her spouse, by a body of medical experts, who would then be satisfied as to whether or not the case was curable. If incurable, then it might be made a ground for divorce. These cases were particularly hard upon the poor. Another form of mental disease, epilepsy, should be a ground for prohibiting marriage to the sufferer.

Regarding habitual drunkenness, with which he associated the ground of hopeless addiction to drugs, he said it was proposed that, in such cases, after a separation order had been granted and had been in force three years, and the drunkard still continued without any sign of improvement, then the other spouse might petition for divorce. The ruin of the children of a drunken father or mother could often be traced to the evil of parental example. It was authoritatively stated that 90 to 95 per cent. of habitual drunkards died drunkards, and that if the state of drunkenness continued for three, four, or five years without improvement there was practically no hope of permanent cure.

The question of imprisonment for felony was more difficult, and different countries took varying views on the subject. The Commission was in favour of divorce for the spouses of felons whose death sentence had been commuted. He had the greatest respect for those who supported the ecclesiastical view that marriage was an indissoluble tie, but he thought that the three grounds he had mentioned were in a different category. They could not be foreseen at the time of the marriage, and one party should not be compelled to suffer for life for something for which he or she was in no way responsible and which had rendered married life impossible.

In the discussion which followed, Lord Justice ATKIN said, whilst they all agreed that it was important to the State to maintain, as far as possible, family ties, there were cases where it was necessary that the tie of marriage should be dissolved, otherwise family life was discouraged. If insanity for which the individual was not to be blamed was admitted as a ground for divorce, then there were other grounds which were equally not the fault of the individual, which would also have to be considered. The proposition ought not to stop at insanity. Then, as to the ground of a view of matrimonial life, more serious offences, such as indecency, attempted rape, and blackmail. Then, again, while incurable insanity was certainly a cause which would make a tremendous appeal to everybody, even there one would like to know whether the medical profession was quite satisfied that it could always with certainty say that the insanity was incurable. Chronic inebriety seemed to him to present even greater difficulties. He himself knew of cases where apparently incurable drunkards had in fact been cured; and the existence of the family tie would be the great motive in many cases for curing oneself of drunkenness.

A MEETING of the London Association of the Medical Women's Federation was held at the Elizabeth Garrett Anderson Hospital on March 10th, Miss M. CHADBEURN in the chair. Dr. DONOTY HARE, in a paper on the value of the electrocardiograph to the physician and surgeon, said that the apparatus she used at the Royal Free Hospital was similar to the original Waller instrument, invented in 1897, with the exception that the capillary electrometer was now replaced by the Einthoven string galvanometer. While no mechanical means of investigation should ever replace careful clinical examination, there did undoubtedly exist cases with few physical signs, in which the additional information supplied by the electro-cardiograph was a weighty factor in the diagnosis. She referred to the ease of obtaining a reading without discomfort to the patient, the equipment at the hospital making a complete examination possible with the patient in bed, if necessary. She then showed a series of interesting diagrams and records of clinical cases, selected mainly to bring out the special points which this method of investigation elucidated. The normal tracing was by no means simple, and the limits of variability of the normal had not yet been fully established. Cases illustrating the value of the tracing in the determination of the condition of the myocardium were described. It was here that the electro-cardiologist could be of help to the surgeon and obstetrician, since a definite opinion as to the patient's fitness for operation could be given from a study of the muscle element in the curve. A series of cases showing lesions of the conducting mechanism were then described. A short discussion followed, in which Dr. M. E. DALBY, Dr. M. DOBIE, Miss ALICE BLOOMFIELD, Dr. E. H. LEPPEL, Mrs. FLEMING, and Miss M. CHADBEURN took part.

At a meeting of the Chelsea Clinical Society at St. George's Hospital on March 17th, when the President, Dr. GORDON LANE, was in the chair, Dr. LEONARD WILLIAMS gave an address on the diseases of old age. He said that constipation and errors in diet, in the way chiefly of excess, were in great part responsible for senile troubles. He described the ductless glands and the control they exercised, and expressed the opinion that the adrenal was at fault in many cases of disease in the old man and woman. Mr. KENNETH WALKER thought that in some cases ligature of the vas deferens was a useful operation, but that grafting of the testicle did a great deal of good. Mr. IRON BACK said that he could confirm this of about 30 per cent. of his cases, but in a great many grafting had not fulfilled expectations. Mr. RALPH THOMPSON related some results of dissections of the ductless glands.

## Reviews.

### MEDICAL HISTORY OF THE WAR.

THE fourth volume<sup>1</sup> of the *General History of the Medical Services* during the great war is the last of the series, and thus brings the formidable task undertaken by Sir WILLIAM MACPHERSON to a close. In its main features it is identical with its predecessors, but differs from them in the multiplicity of the subjects considered and in the fact that it bears on its title-page, in addition to the name of Sir William Macpherson, that of the officer who acted as his assistant throughout the whole undertaking. This is Major T. J. MITCHELL, D.S.O., R.A.M.C., to whom also the authorship of certain chapters in the present volume is definitely assigned in its preface. Leaving out of account a large number of sketch maps, charts, diagrams, tables, and photographs, the text runs to a little under six hundred pages, which are made to cover the operations on seven widely separated fronts, and also a record of all the means—from hospital ships to sledges—for the transport of the sick and wounded employed anywhere during the war.

The Mesopotamia operations receive the lion's share of attention, ten chapters and some 238 pages being devoted to them. The share is even larger if the account of the work done in North-western Persia, which was an offshoot of that in Mesopotamia, be included. Nor does the largeness of this share seem remarkable when it is remembered that the Mesopotamia operations lasted practically four years, and from start to finish were full of incident and occasion for effort in the way of frequent contact with the enemy, hazardous movements of troops, very difficult transport, and the constant presence of unavoidable causes of disease. Included is an account of the siege of Kut-al-Amara, and the whole chapter, quite rightly, exclusively devoted to it is perhaps the most attractive in the whole volume. As is not always the case elsewhere, the reader at once feels that he has a clear idea of the nature of the country in which the operations took place, of the problems by which the medical service was faced, and of the difficulties encountered in meeting them.

The next largest share, four chapters and about 102 pages, goes to the operations which originally had Salonica as their base, but which eventually moved or extended to the Black Sea and the Caucasus. It is less easily read than the other, but this is perhaps natural since the force engaged was in the later stages split up into so many different parts and had its affairs complicated, more particularly on the medical side, by having to deal with Greek, Serbian, and eventually Russian sick and wounded. These four chapters are, like the rest of the volume, well supplied with photographs and sketch maps, but not all the latter are adequately explained either in the text or by the under-lettering. Many generations, for instance, of students at the Royal Army Medical College are probably destined to be puzzled by a sketch map of an unnamed brigade area which shows a field ambulance main dressing station in a line of regimental aid posts. The long-drawn-out and somewhat desultory warfare over a vast area in East Africa with disease as the chief enemy also receives four chapters, but these are somewhat shorter. The rest of the operations described—namely, those in the scorching Aden Protectorate; in North Russia amid ice and snow; and on the Gallipoli Peninsula—are each given one chapter apiece; in the last named case a long one of some sixty pages.

Finally comes a well illustrated account of all the methods of transport employed for strictly medical purposes on the various fronts held by British troops at one time or other during the war. Apart from its other merits, this chapter is intrinsically illuminating in regard to the diversity of conditions with which the medical services had to contend. Included in the chapter is a useful description of the boats, barges, and craft used on rivers, canals, and lakes

for moving the sick and wounded. In Franco the inland waterways were so utilized, not of necessity as on some other fronts, and it may be doubted if those who played an executive part in barge transport would fully share the favourable opinion that seems to have been formed by those more highly placed. The Italian overhead cable or Teleferico system of bringing wounded persons or goods from elevated situations also receives notice. It is said to have been occasionally used by the medical service of the Italian Expeditionary Force for the transport of severely wounded men, but according to our information this is a mistake. Only one of the three fronts successively occupied by the British in Italy lent itself to the system, and here, apart from the intrinsic drawbacks of the method, any temptation to use it was negated by the fact that the D.M.S. had placed an advanced operating centre, provided with a hundred beds, just under the rear edge of the mountain and alongside a first-class road devoted solely to downward traffic.

At several places in the volume reference is made to the dispatch of officers specially charged to bring about improvements or reforms in the medical situation on certain fronts and to the good results that ensued. It is to be hoped, however, that readers will not assume that such missions necessarily connote incapacity on the part of medical officers already on the spot. The occasion for them can never arise until much experience of local conditions has been gained, and the influence on headquarters of the emissaries concerned is apt to be much more potent than any that the D.M.S. of an army in the field can make sure of being in a position to exercise. However good an administrator a D.M.S. may be, his position is always one of much delicacy. This will be evident when it is remembered that ordinarily he can rely on there being considered by his commander only such version of his views as an intermediary may choose to convey; at all times also the service he commands is dependent for its ability to work at all on the co-operation of other branches, and this may be only grudgingly afforded unless it happens to be known that the D.M.S. has the ear of the commander. Worse still, a D.M.S. may be retained in the position of a convenient scapegoat should things go wrong, but ordered to take up his quarters at such a distance from the centre as to make it impossible for him to form or tender any balanced views at all, or even know what his own units are doing. Arrangements of this kind are, to use a colloquialism, simply "asking for trouble" in the way of undue wastage of man power through preventable disease and for loss of moral through undue suffering of individuals. This is the one clear administrative lesson to be derived from the work of the medical services between 1914 and the end of the war as set forth in the official history whose concluding volume has been the subject of this note. Yet it is a lesson of which the Army Council either remains in ignorance or to which it is unwilling to give heed.

### A GLASGOW MANUAL OF OBSTETRICS.

THE volume styled *A Glasgow Manual of Obstetrics*,<sup>2</sup> by Dr. S. J. CAMERON and a group of his colleagues on the staff of the Glasgow Royal Maternity Hospital, is of considerable interest as a presentation of methods employed in that very active institution, and it will be specially useful to their students. It is perhaps a little brusque in its dogmatism. Starting with the relation between ovulation and menstruation, it says that "the two functions usually occur simultaneously is undoubted." If the word "simultaneous" refers to the moment of rupture of the follicle and that of the onset of the menstrual flow, there is a fairly important volume of opinion ranged with Schroeder, who describes them as alternate. The short introductory chapter on embryology suffers a little from the difficulty of choice between detail that should be stated and that which should be left to recollection, but is probably adequate to the needs of those for whom the authors write.

In the chapter on the physiology of pregnancy one-third is devoted to metabolism and the ductless glands, and shows

<sup>1</sup> *History of the Great War, based on Official Documents. Medical Services: General History. Vol. IV. Medical Services during the Operations in the Gallipoli Peninsula; in Macedonia; in Mesopotamia and North-West Persia; in East Africa; in the Aden Protectorate, and in North Russia; Ambulance Transport during the War.* By Major-General Sir W. G. Macpherson, K.C.M.G., C.B., LL.D., and Major T. J. Mitchell, D.S.O., R.A.M.C. London: H.M. Stationery Office. 1924. (Demy 8vo. pp. xv + 711; illustrated. 25s. net.)

<sup>2</sup> *A Glasgow Manual of Obstetrics.* By Samuel J. Cameron, M.B.Glas., F.R.F.P., and S.G., Archibald N. McLellan, M.B.Glas., L.M.Dublin, Robert A. Lennie, M.B.Glas., John Hewitt, M.B.Glas. London: Edward Arnold and Co. 1924. (Med. 8vo, pp. xvi + 573; 214 figures. 21s. net.)



that, while the writers are well aware of the work that is going on in these subjects, they have the usual difficulty in arriving at a definite interpretation. All through the volume they give evidence of keeping in close touch with laboratory work, and they quite naturally refer to the researches that are in progress in Glasgow itself. In the chapter on toxæmias an account is given of the numerous tests which have been proposed for the measurement of acidosis and of the vital functions of kidney and liver, but in deciding for or against induction of labour clinical evidence, including blood pressure, is at present relied on, and a like attitude of open mind is maintained with regard to the various etiological theories. The statement that in the urine in acute yellow atrophy of the liver "crystals of leucin and tyrosin are present" is more interesting as an historical reminiscence of Frerich's initial paper than useful in the diagnosis.

Glasgow Maternity Hospital has a large ante-natal department with twenty-five beds, and it is rather disappointing that the authors have not taken their opportunity of giving a unified sketch of the preventive work that can be accomplished there, especially in the control of position and presentation. On this the improvement of domestic midwifery, which is needed in Glasgow doubtless as well as elsewhere, is dependent. The index gives "Malpresentations, p. 335." There, in the chapter on constricted pelvis, we read only: "Malpresentations and malpositions are more common than in a normal pelvis . . ." but it is just to the writers to say that other passages occur in which the theme is touched. In the same chapter several ages and three plates from a recent paper by Cameron and Hewitt are devoted to the question of head-brim fit, and raise in the mind a doubt whether, after all, Glasgow doctrine is so far unified as to justify the full implications of the title of the book.

The practical parts of the book are clear, and based on the wide experience of the writers, who also draw on their wealth of material to furnish good illustrations of many conditions of great interest which others may not have met. The diagrammatic drawings of Mr. A. K. Maxwell are clear and emphatic, and the type is good. The proof-reading has been unfortunate. We find "antiflexed" (p. 36), "muscular succurus" (pp. 48-49), "uroinin" (p. 184), "sagittal" (p. 506), and the famous writer on deficiency diseases has given place to the scion of a new clan "McGarrison" (pp. 30-31). References to original papers are rarely given.

### GOLD TREATMENT OF TUBERCULOSIS.

Those of our readers who have been following the promising researches which are being carried out in Denmark on the treatment of tuberculosis with gold preparations will be glad to know that a copy of Professor MOELLGAARD'S book, *The Chemotherapy of Tuberculosis*,<sup>3</sup> is available in English. These researches have aroused a great buzz of interest in Denmark (see *BRITISH MEDICAL JOURNAL*, November 22nd, 1924, p. 961), the echo of which is passing from one country to another. We have commented on this work whenever new information was at hand (*BRITISH MEDICAL JOURNAL*, November 8th, 1924, p. 870, and January 24th, 1925, p. 176), and we hope to publish in an early issue a paper on the experimental and clinical evidence by Professor Moellgaard himself.

The title of the present book does not describe completely the line of treatment Professor Moellgaard has introduced; its distinctive feature is the destruction of tubercle bacilli by a sodium gold salt, accompanied by a neutralization of the tuberculous toxin liberated from the bacilli by injecting at the same time an antiserum. This salt has for convenience been named "sanocrysin." Warnings have repeatedly been given of the danger which may arise from rapid destruction of tubercle bacilli within the tissues of a living animal: sanocrysin, injected into a tuberculous animal, causes the

death of living tubercle bacilli, with the result that the whole system is flooded by the liberated toxin. To neutralize this intoxication Professor Moellgaard has prepared an antiserum, and it is the combined use of an agent lethal to the tubercle bacillus and of protective serum that gives originality to this well conceived method of attack. We read in Moellgaard's book that when sanocrysin is injected into tuberculous guinea-pigs they die almost invariably, showing signs and symptoms of tuberculin shock. Administered to larger animals, such as calves, goats, and monkeys, sanocrysin gives rise to a definite train of symptoms—albuminuria, myocarditis, oedema of the lungs, and fall of body temperature, leading to death. This fatal shock may be warded off by injection of the blood serum of an animal suffering from chronic retrogressive tuberculosis or one artificially immunized. The injection of sanocrysin into a tuberculous animal may be made less dangerous if the protective serum is given earlier, but it does not appear that all upset can be avoided, for fever, nausea, and focal reactions are almost inevitable. More accurate dosage and a larger experience is teaching the Danish workers how these reactions may be lessened.

From what has been said it is obvious that Moellgaard's methods must be employed cautiously in the treatment of human tuberculosis, and no one is more insistent on this account of a large number of cases of human tuberculosis treated in various Danish hospitals and sanatoriums. We cannot summarize these carefully tabulated records, nor would it be just to do so, for the work is still in an experimental stage, so that it is likely to be handicapped rather than advanced by too early definition. Sufficient to say that there is plenty to guide physicians who seek to learn Moellgaard's methods, and that a careful study of these Danish cases should be made before sanocrysin is used in medical treatment, in order to learn which cases are suitable and the correct doses to employ. The book is lavishly illustrated and arranged in an orderly manner, but loses by the absence of an index.

### ENCYCLOPAEDIA MEDICA.

We have recently received the last volume (Tn-Zi and Supplement) of the second edition of the *Encyclopaedia Medica*,<sup>4</sup> the penultimate volume of which we reviewed a few months ago (October 11th, 1924, p. 670). Of the principal articles three are new—those on vitamins by Dr. Marshall Findlay, on the modern treatment of diabetes by Dr. C. G. Lambie, and on respiration by Dr. H. Whitridge Davies. The last two form a supplement to the volume. Twenty-two articles have been rewritten. The article on the uterus, which is the longest in the volume, consists of five parts, three of which have been rewritten—those on displacements by Mr. G. S. Davidson, on non-malignant tumours by Mrs. Scharlieb and Dr. Louisa Martindale, and on malignant tumours by Dr. Comyns Berkeley. The principal articles on general medical pathology changes in the urine by Dr. C. G. Lambie, visceral pain by the late Sir John F. Broadbent, therapy by Dr. W. H. Wynn. The chief articles dealing with surgery are those by Sir D'Arcy Power on the urethra and venereal diseases, by Mr. J. T. J. Morrison on wounds, and by Mr. R. C. Alexander on diseases and injuries of the wrist-joint. Public health is represented by articles on ventilation and warming by Sir Leslie Mackenzie, on vital statistics by Dr. W. Robertson, and on water by Dr. J. C. Thresh. Among the miscellaneous subjects we may call attention to the excellent articles by Dr. T. B. Hyslop on unconsciousness, by Dr. Robert Knox on x rays and radium, and by Dr. H. M. Traquair on the field of vision. We offer our cordial congratulations to Dr. ALEXANDER GOODALL and his able band of contributors on having successfully terminated a work which is admirably representative of British medicine.

<sup>3</sup> *Chemotherapy of Tuberculosis*. By Holger Moellgaard, Professor of Physiology; Physician, Royal Veterinary and Agricultural College, Copenhagen. Copenhagen: Arnold Busck, 1924. (64 x 94, pp. 419; illustrated.)

<sup>4</sup> *Encyclopaedia Medica*, Vol. XIII. Edited by Alexander Goodall, M.D., F.R.C.P.E. Second edition. Edinburgh: W. Green and Son, Ltd. 1925. (Roy. 8vo, pp. vii + 671; illustrated. 30s. net.)

## NOTES ON BOOKS.

A SHORT time ago we published a note calling attention to the field which exists for medical women in India. The same point is made in a chapter on the healing art in India in an interesting little work by Mr. H. HARCOURT, I.C.S., now on the retired list.<sup>1</sup> He believes that, whatever happens to the Government of India, no political change will ever oust Western medicine and especially Western surgery. The situation of the parda lady in sickness is pathetically helpless. Missionary women doctors and Government women doctors are an urgent need, the supply inadequate; in India it is difficult to train women in medicine for the want of a good general education on which to build. The prospect, Mr. Harcourt holds, is ample for an indefinite number of years. "Whoever else may be repulsed, the lady doctor, and hardly less the trained nurse, are still, and long will be, welcome in India." In these days, when lament is being made of the great numbers of applicants for posts for medical women in this country, at least the more enterprising of recent graduates will surely give some consideration to the sphere of useful work which is open to them in India.

The first volume of the seventh edition of Professor H. OPPENHEIM's textbook of nervous diseases for practitioners and students<sup>2</sup> has been issued; the last edition was reviewed in the year before the war (JOURNAL, August 2nd, 1913, p. 243). The author died in May, 1919, and the present edition has been revised by four well known neurologists: R. Cassirer of Berlin, K. Goldstein of Frankfurt, M. Nonne of Hamburg, and B. Pfeifer of Halle. The bulk of the present volume has been revised by Dr. Cassirer, who is responsible for the chapters on the methods of examination and general symptomatology, diffuse diseases of the spinal cord, peripheral paralysis of the spinal nerves, and nerve tumours. Dr. Pfeifer is responsible for the chapters on systemic diseases of the spinal cord, peripheral paralysis of the cerebral nerves, multiple neuritis and neuralgias; and Dr. Goldstein for the section on the pathology and physiology of the spinal cord. The principal new features of the present edition are the descriptions of war injuries, epidemic encephalitis, extrapyramidal diseases, and the close association between endocrine disturbance and nervous disorders. To judge by this first volume the work has been well brought up to date and will continue to hold its place among the leading textbooks on nervous disorders.

To those whose knowledge of tobacco literature has hitherto consisted of the mistaken idea that Raleigh introduced "the weed" to England, of Calverley's "Ode," and of Kipling's lines "A woman is only a woman, but a good cigar is a smoke," WILFRED PARTINGTON'S *Smoke Rings and Roundelays*<sup>3</sup> will come as a boon and a blessing. For here we learn much in pleasant guise. The introduction of tobacco to Europe, for example, is a feather in the cap of medicine, and lies to the credit of a Spanish physician, by name Francesco Hernandez, who brought samples of the weed from Mexico for the inspection of His Most Catholic Majesty Philip II. About the same time—*circa* 1560—Jean Nicot (whose name is still enshrined in "nicotine"), master of the requests of the French king's household and ambassador to the Portuguese court, purchased at Lisbon some tobacco seed imported from Florida. This he sent to the Grand Prior of France; and, "chiefly by the aid of members of the Chancery," the habit of smoking was propagated. Even yet it may safely be asserted that the doctor and the parson are the greatest devotees of the weed; though some there be in both professions—and these, heavy-minded men—who would rather *Nicotiana* on Old Nick. But the majority of the great pipe band will welcome *Smoke Rings and Roundelays* with avidity as a very mine in prose and verse of all that has been written regarding tobacco. Nay, that curiously white-elephantine article of furniture—beloved of a woman as a gift, in the vain hope that it may lead to tidiness—the "smoker's cabinet" need no longer hang useless on the wall if employed as a handy barbour for this volume; and the tired man, in slippers and ease and pipe in mouth, may well double his restful pleasure by pulling it out and perusing its pages.

Messrs. George Philip and Son have republished their well known *Life-size Anatomical Model*.<sup>4</sup> It consists of a signor of the human body lithographed in natural colours on linen card-board, and opening out in sections to display the blood vessels, nerves, muscles, internal organs, and the skeleton in their correct positions and dimensions. A handbook, supplied with the model, contains a numbered list of the different structures illustrated. The model folds into a stout millboard portfolio measuring 22 by 33 inches, and its portability, as well as the excellence of its general construction, should render it very useful to teachers of anatomy.

We have received the *Proceedings of the Pathological Society of Philadelphia*<sup>5</sup> from January, 1923, to January, 1924. In addition to numerous short clinical notes the volume contains the address of Dr. O. H. Perry Pepper, the retiring president, on metastasis.

<sup>1</sup> *Philip's Life-size Anatomical Model of the Human Body*. London: G. Philip and Son, Ltd. 1925. (Portfolio cover, 22 in. by 33 in. £3 3s. net.)

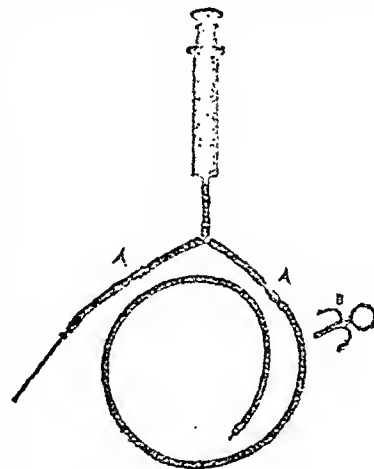
<sup>2</sup> *Proceedings of the Pathological Society of Philadelphia*. Edited by Baldwin Lucke, M.D. New Series, vol. xxvi; Old Series, vol. xlii. Philadelphia, 1924. (Med. 8vo, pp. 122.)

## PREPARATIONS AND APPLIANCES.

## An Aspirator.

Dr. DANIEL McLELLAN (Vancouver, B.C.) has forwarded a description of an apparatus designed by him for aspirating body fluids.

A 30 c.c.m. Luer syringe is connected by an adapter and rubber tube to the stem of a Y-shaped glass tube. A Luer aspirating needle is connected by an adapter and rubber tubing to the receiving arm of the Y-tube, and to the discharging arm is attached a longer section of tubing. Between the needle and the receiving arm a glass valve is inserted, and between the discharging arm and the exit end of the long discharging rubber tube is a similar valve. As the piston is drawn up the valve in the receiving arm opens, allowing fluid to be drawn up into the syringe, and as the piston is pushed down the valve closes, preventing the passage of fluid backwards through the needle. As the piston is pushed down the valve in the discharging arm opens, allowing the passage of fluid through the valve and out at the exit end of the long rubber tube, and as the piston is drawn up the valve closes, preventing fluid from being drawn backwards through the discharging arm. These valves (A, A), which are of



ground glass accurately fitted, are cone-shaped. The apex of the cone in the receiving arm should point towards the needle, while in the discharging arm the base of the cone should face the exit end of the long rubber tube.

In aspirating pleuritic fluid the procedure is as follows: The patient having been prepared, fill the apparatus with normal saline solution so as to expel the air. This is done by placing the needle in a bowl of saline or sterile water and taking a few strokes of the syringe. The last bubble may be expelled by inverting the syringe. A clamp (B) is then placed on the long tube to prevent the fluid running off. The exit end of the long tube must not be left standing open; it should have an adapter (C) of the same calibre as that in the receiving end. The needle being inserted into the chest, and everything ready, remove the clamp and proceed by easy steady strokes to evacuate the fluid. To ascertain beforehand that the needle is actually in the fluid, connect the syringe direct with the needle, draw up a small quantity of fluid, thus proving the point, then connect up with the apparatus and proceed.

This apparatus is intended for fluid, not for pus. It was demonstrated on a patient at the November (1924) meeting of the Vancouver Medical Association, and is in use in the Vancouver General Hospital and at the Rotary Clinic for Chest Diseases, Vancouver.

## Vulpro Waterproof Sheeting.

Vulpro waterproof sheeting is a substitute for ordinary rubber sheeting for and can be sterilized. It is said to be moist and seems very suitable for surgical operations, for fomentations, and for any purpose for which jaconet is commonly used.

<sup>1</sup> *Sidelights on the Crisis in India, being the Letters of an Indian Civilian and some Replies of an Indian Friend*. By H. Harcourt, I.C.S. (ret.). B.A., Barrister-at-Law. London: Longmans, Green and Co. 1924. (Cr. 8vo, pp. xi + 118. 3s. 6d. net.)

<sup>2</sup> *H. Oppenheim Lehrbuch der Nervenkrankheiten für Ärzte und Studierende*. Sechste Auflage. Bearbeitet von R. Cassirer, K. Goldstein, M. Nonne, B. Pfeifer. Erster Band. Berlin: S. Karger. (Roy. 8vo, pp. x + 523; 325 figures, 4 plates.)

<sup>3</sup> *Smoke Rings and Roundelays*. Compiled by Wilfred Partington. London: John Castle. 1924. (Cr. 8vo, pp. xvi + 320. 7s. net.)

# THE SAFETY OF GAS FIRES IN REGARD TO CARBON MONOXIDE.

BY  
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At times alarm has been expressed in connexion with the use of gas fires as to the probability of chronic poisoning arising from inhalation of carbon monoxide. In a pamphlet published recently by a medical officer of health of a large city, and circulated at the recent Smoke Abatement Conference, this view was put forward definitely, but without supporting evidence.

We thought it worth while, then, to carry out a few experiments to see whether we could put this fear at rest and remove any antagonism against the wider use of smokeless fuel which is necessary in order to secure freedom from smoke pollution of the air and an adequate supply of the health-giving ultra-violet rays. Carbon monoxide has no poisonous effect other than that of combining with haemoglobin and depriving the tissues of oxygen. Blood taken and diluted to 1 in 200 parts of distilled water afforded a standard transparent solution of haemoglobin: when placed in the narrow test tube of the Gowers-Haldane haemoglobinometer and viewed against a white background by daylight, it appeared yellow-red as is characteristic for this dilution and width of containing tube. Saturated with carbon monoxide by shaking with coal gas the tint of the solution under the same conditions is carmine. Partial saturations vary from the yellow-red very slightly tinted with pink up to the full carmine colour.

**Experiment 1.**  
A balloon was filled with a measured volume of air by means of a blower fan and meter, and enough coal gas introduced to give 1 in 1,000 parts of air. A sufficiency of the standard solution of haemoglobin was placed in a tube 6 inches long and 1 inch in diameter, which at each end was closed by a cork through which a narrow tube was inserted. The tube was held horizontally so that the solution of haemoglobin lay from end to end along its floor exposed in a shallow layer to air above which was drawn through the tube in a steady stream through the narrow tubes, one of which was connected to the balloon, while the other was suitably attached to a suction fan driven by an electric motor. During half an hour 670 litres of air from the balloon was drawn over the haemoglobin solution. On comparison with the control solution (kept in pure air) this solution gave a just perceptible change in tint, indicating a very slight formation of carbon monoxide haemoglobin.

**Experiment 2.**  
Two parts of coal gas per 1,000 of air were then put into the balloon and the experiment repeated. After thirty minutes a slight but quite definite carmine tint was clearly seen on comparison with the control.

**Experiment 3.**  
The experiment was now arranged so that air was drawn from the neighbourhood of a gas fire, a position being chosen where the person's face would be who sat down by the side of a fire in order to warm his legs. The gas fire 12 inches wide was of the modern type and properly flued, being built into a chimney, and was turned full on. During one hour 760 litres of air was drawn over the standard haemoglobin solution. No perceptible change in tint resulted.

**Experiment 4.**  
The solution was reintroduced and the experiment continued for another eighty minutes. No change in tint resulted after 1,304 litres in all had been drawn over the blood. A resting man breathes on the average about 6 to 7 litres of air a minute, or the above amount in a little over three hours. More air was then drawn over in the two hours and twenty minutes' observation than a man would breathe.

**Experiment 5.**  
An experiment was arranged so that air, in place of being drawn over, bubbled through the standard haemoglobin solution contained in a flask. In this case the rate of ventilation was about 150 litres an hour. The air was drawn from the neighbourhood of another gas fire in a different room, but of similar type and properly flued. No indication of carbon monoxide escaping into the room was found in this case.

**Experiment 6.**  
This experiment was repeated on a windy day when possibly there might be some down draught in the flue. No evidence of carbon monoxide was obtained.

**Experiment 7.**  
The experiment was repeated on a gas fire arranged in the grate of an ordinary open fireplace, the flues from the fire escaping up the open chimney above the fire. No evidence of carbon monoxide escaping into the room was obtained.

## SAFETY OF GAS FIRES.

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**Experiment 7.**  
The experiment was repeated with this variation, that a door adjoining the gas fire was set open to create a draught between door and window across the neighbourhood of the fire. The result was negative.

**Experiment 8.**  
The experiment was repeated and varied by placing a small electric fan to blow across the gas fire to where the inlet to the sample tube lay. The fan blew across the warmed strata of air which lay in front of the fire, and this warm air was perceptible to the face when placed near the inlet tube and gave one at once a stuffy feeling. No evidence of carbon monoxide escaping into the room was found even in this extreme condition of artificial draught, which might be expected to blow fumes into the air.

**Experiment 9.**  
To make the conditions as severe as possible, four *flueless* gas stoves of various types were placed in a small room about 12,000 cubic feet in capacity, and the door and window about The stoves were lit and a mouse placed on the table in the room. After two hours the temperature of the air at head level was 100° F. dry bulb, and 87° F. wet bulb, and the room on entrance felt at once stuffy. The mouse's blood showed 16½ per cent. of carbon monoxide haemoglobin.

The difference between inside and outside temperatures set up enough natural ventilation through the crannies of door, window, and up the chimney to prevent very serious contamination of the air with carbon monoxide in this extreme case, showing how small is the amount of this gas arising from Bunsen flames burning in modern gas fires. The touch of heated air to the face on entering such a room is unpleasant, while the breathing of the heated air, which contains traces of sulphur acids, congests the nose and gives a stuffy feeling. At the same time cold feet may arise from the draught, cool air entering beneath the door. Gas fires should, then, always be properly flued. No *flueless* gas burners or stoves should, of course, be used in *sealed-up* places where natural ventilation is almost nil. In such sealed-up places carbon monoxide may collect in dangerous amounts if cold surfaces are brought in contact with Bunsen gas flames so as to check combustion.

## ROYAL COMMISSION ON LUNACY AND MENTAL DISORDER.

EVIDENCE OF THE MENTAL HOSPITALS ASSOCIATION.  
On March 10th evidence was tendered to the Commission on behalf of the Mental Hospitals Association by Alderman J. G. Taggart, J.P., of Liverpool, and Alderman Sir William Hodgson, J.P., of Crewe.

Alderman Taggart said that his association desired to eliminate the pauperization element which at present entered into lunacy administration. Were it not for their illness, less than 5 per cent. of the persons afflicted with mental disorder would be pauperized. He urged that instead of sending cases of incipient insanity to a Poor Law institution, it ought to be possible to admit them to hospitals supported by the public health authority, in the same way as fever cases and cases of tuberculosis were admitted. Mental ailments should be dealt with as one of the classes of disorders for which public health authorities had to make provision in the same way as for tuberculosis or for the treatment of venereal diseases. He was sanguine that this would prevent a very large number of persons from going on to the asylum. Such clinics would be clearing houses, relieving the asylum population, and would receive out-patients as well as in-patients. In Liverpool he thought this provision could be made with very little extension of existing accommodation at the hospitals which were provided wholly or partly by the public authority, and, indeed, a scheme might be worked out for the whole of Lancashire, and perhaps for a group of counties. In each county—or, in the more sparsely populated parts of the country, each group of counties—there should be a central clinic to which the patient might be brought. Choices at present under the control of the public health authorities were supported by grants from the State up to 50 per cent. the remainder being supplied by local taxation, and he took it that the grant would be made for mental clinics as well. In Lancashire 11 per cent. of the entire population of asylums was discharged annually, but of the cases admitted during a year 33 per cent. were discharged within twelve months of admission. He would have a modified form of provisional order, similar to that required for notification and removal in the case of infectious diseases. The witness caused some amusement by insisting on minimizing, although himself a justice, the value of the judicial functions in relation to insanity; he declared that the medical authority must be the governing one. He also put forward his views with regard to discharges. At present it was possible for three members of the visiting committee to discharge a patient even without the medical superintendent's consent. In Liverpool this arrangement had worked disastrously in one instance, where ten patients were discharged in this way by three members new to asylum work,

and most of the ten found their way back. The medical superintendent's view should not be overridden in this fashion, and any decision to discharge a patient otherwise than with the medical superintendent's concurrence should be on the responsibility of the whole committee.

Sir William Hodgson said that he approved of the general principle embodied in the Mental Treatment Bill, and the Mental Hospitals Association had passed resolutions to that effect. He wanted to fill up the gap in the treatment of mental disorder by some such scheme as was embodied in that measure, but he disagreed with some of the machinery and methods proposed, notably with the clause dealing with the constitution of visiting committees and the provision for co-option. Visiting committees should be strictly representative of elected bodies. He expressed himself generally in antagonism to the principle of co-option on public bodies. The witness was asked for his views as to the prosecution of research at asylums; the line he took was that the impetus for research among workers in asylum laboratories ought not to be smothered by interference from the Board of Control or other central authority. The inventive and discovering mind was of a peculiar type, and was not necessarily revealed in team work. Asylums with well equipped laboratories should be given a free hand in their researches. The Chairman pointed out that the requirement of approval by a central body would prevent unnecessary duplication of research and undesirable overlapping. Sir Humphry Rolleston asked whether the Board of Control had exercised any action which was detrimental to research, and the witness replied in the negative, saying that the Board had not the power; and in reply to a further question from Sir H. Rolleston, he said that he did not think it was an advantage to have the advice of the Board of Control; his association was not in favour of State grants if it would mean more control by the Board. The Chairman pointed out that the Board of Control had to deal, not only with large up-to-date laboratories and asylums, but with places where there was less zeal. Sir H. Rolleston asked whether the witness thought that the Board of Control should be dispensed with, and Sir W. Hodgson replied that he did not think that anything he had said called for that question, but he was of opinion that the Board was not doing very effective work, and he would not be sorry to see it "scrapped." The Chairman asked whether, if the Board of Control were "scrapped," it would not be necessary for some other body to be substituted. The witness replied that he thought committees elected and appointed by the people, and in direct touch with the people, would afford the best system of control. He agreed that there should be central bodies to direct and diffuse information, but not to control.

The Commission adjourned its public sittings for, we understand, some weeks. It has still much evidence to hear in public, as well as evidence tendered by the National Society for Lunacy Reform, which, dealing with specific charges against asylum administration, is to be heard in private.

### THE HOUSING PROBLEM.

THE National Housing and Town Planning Council has now issued its Technical Committee's first report, which will be read with interest by all who are specially occupied with questions of housing. The committee includes "architects, surveyors, building trade employers, building trade operatives, members and officers of local authorities, and housing reformers generally." Nearly all these classes are engaged in one capacity or another with the erection of houses, and are therefore possessed of technical knowledge. Occupants of houses, whose interests are the most important of all, are not technicians, but their case would doubtless be borne in mind, especially by local authority members who served on the committee. The subjects reported on are briefly: standards of design and construction, new methods of construction, labour supply, production of building materials, and regional distribution of new houses. It is held that houses should have three bedrooms as a rule, though two may suffice for elderly and newly married people. This is excellent in principle, but many an elderly worker, male or female, or even some of the newly married, might prefer to do with a single bedroom as part of their house, and so long as the supply of houses falls far short of the demand, which seems likely to be the position for many a year to come, the provision of more than minimum accommodation is apt to result in the occupation of houses by more than one family. The question is of great practical difficulty, but there are these two sides to it.

As concerns non-traffic streets, it is wisely recommended that, though there should be at least 70 ft. between houses on opposite sides, the roadway should be limited, and much of the space occupied by front garden or grass plots.

Turning to alternative building systems and new methods

of construction, four sets of materials are considered—concrete, timber framing, steel, and asbestos, wood pulp, etc. Concrete blocks, where suitable material can be locally obtained, and granular concrete properly prepared and poured in *situ* between shutters, are well spoken of. Only three or four lines are devoted to timber-framed houses, and in that brief space attention is called to risks of fire and vermin. Those who have had experience of timber-built hospitals which have lasted for half a century in fair condition may think that this alternative hardly receives the attention it deserves.

The subject of steel-sheeted houses is treated in much detail and has evidently received much consideration. The opinions are frankly stated, and it is right they should be, even though they must be rather disappointing to the general reader who has vaguely hoped that a way out might be found in this direction. Cost is a great difficulty. Subject to the very important reservation fully emphasized by the committee, that mass production should considerably reduce the cost, it is held that in the meantime for the same accommodation the outlay will not be less for a steel than for a brick house. Indeed, comparative figures point in the other direction. A two-story brick house of over 900 superficial feet, providing three bedrooms, parlour, living room, scullery, and bathroom, is estimated to cost, including land, sewers, and roads, a total of £580, while a bungalow steel house of only 690 superficial feet, two bedrooms, living room, scullery, and bathroom, is estimated to cost (including land, etc., as above) £565, or only £15 less. The annual loss on the former house would be £15 15s. 1d., and on the latter £22 16s. 1d. That is very disconcerting, but once more the committee lays stress on the saving that would be effected by mass production.

Concerning the supply of building labour, the position is deplorably bad. Between 1901 and 1924 the total number of men in the various occupations of house construction has fallen from 828,462 to 367,030. Of bricklayers there were, at the latter date, only 57,000 (in round numbers) as against 120,000; of masons, only 22,000 as against 97,000; of carpenters and joiners, only 125,000 instead of 306,000; slaters, 5,000 instead of 16,000; plasterers, 16,000 instead of 36,000; plumbers, 34,000 instead of 76,000; and painters, 106,000 instead of 176,000. Much space is usefully given in the report to the subject of apprentices and their educational training, but meantime the facts are as above. Also, there is a shortage of brick, stone, tiles, and slates, and it is recommended that definite steps be taken by the Government and by local authorities to stimulate increased supplies.

Thus the country cries out for more houses, larger houses, and better houses. But there are not sufficient materials with which to build them, nor half enough skilled men to use the materials even if they were obtainable. At the same time more than a million men of other occupations are wandering about the streets out of employment, living on the dole, and complaining that it is not enough, while overburdened taxpayers and ratepayers declare themselves exhausted by what they are already called on to pay. The million of idle men includes thousands of shipbuilders, who now have to witness the dispatch of orders for new British ships to German makers, though shipbuilding has hitherto been the supreme example of the benefits of free trade, which enabled this country to out-distance all competitors, by buying at the lowest possible price every kind of raw material produced in any part of the world. Meantime the man in the street reads in the press suggestions that housebuilders, whether employers or employed, object to new methods of construction, as poaching on their preserves, whilst by no means enthusiastically welcoming the recruiting of their thinned ranks from the army of the unemployed. It does not lie with the medical profession to express any opinion between rival contentions, but every reasonable person must wish God-speed to the Prime Minister in his earnest endeavour to substitute for all these mad rivalries a spirit of conciliation and co-operation so as to save civilization from the destruction which at present threatens to overwhelm it. And not the least of its dangers is the failure to find means to provide reasonable housing accommodation for



those who are so urgently in need of it. The relation of housing to both moral and physical health makes the whole subject of special interest to all who are occupied with the prevention and cure of disease.

### POST-GRADUATE TEACHING IN LONDON.

A MEETING, to which all practitioners were invited, was held at the house of the Royal Society of Medicine on March 18th, under the auspices of the Fellowship of Medicine and Post-Graduate Association, to discuss the best means of developing the Fellowship and increasing its range of usefulness. Sir W. ARBUTHNOT LANE presided over an attendance of from eighty to one hundred.

The CHAIRMAN said that the Fellowship had already grown to considerable dimensions and was rapidly becoming more popular. In time it must become a most important agent for education. Post-graduate study was a habit which every medical man must acquire if he hoped to succeed in his profession and to gain the respect and confidence of the lay public. The consulting branches of the profession had recognized the great value of interchange of ideas, but medical men in general practice had to realize equally the importance of being well abreast of recent knowledge.

Mr. HERBERT PATERSON, one of the joint honorary secretaries of the Fellowship of Medicine and Post-Graduate Association, said that in America almost every doctor attended post-graduate teaching at least once a year, and the habit was one to be encouraged in this country. It was also hoped to make London a world centre of post-graduate teaching and to intercept some of the students from overseas who were intending to go on to Vienna. Since the institution of the Fellowship five years ago over £7,000 had been distributed in fees to the various hospitals. The purpose of the present meeting was to ascertain more clearly what post-graduates wanted.

#### *Post-Graduate Study in the Navy.*

Surgeon Commander T. BROWN SHAW, R.N., expressed the regret of the Director-General of the Medical Department of the Royal Navy (Surgeon Vice-Admiral Chambers) for his inability to be present. Every medical officer in the navy, when he attained eight or ten years' seniority, must pass an examination to qualify for the rank of surgeon commander. The first period of post-graduate study consisted of three months devoted to medicine and surgery at a London hospital, and two months at the Naval Hospital at Greenwich, with visits to the School of Tropical Medicine. The second period commenced when the officer had attained a seniority of fourteen years' service, the course extending for three months, and being designed to afford him an opportunity of refreshing his general knowledge and of taking up special subjects. These courses were not compulsory, but every facility was given to officers to take part in them. During the three years 1922-24 seventy-one naval medical officers attended such post-graduate courses, and it was thought probable that this number would be materially increased in the future. In arranging courses of study for senior officers the facilities afforded by the Fellowship of Medicine had proved invaluable, and the speaker's own work as Director of Medical Studies had been simplified. The requirements of the Naval Medical Service included extended courses in general medicine and surgery, and in special branches, notably neurology, psychological medicine, cardiology, dermatology, ophthalmology, diseases of the ear, nose, and throat, and operative surgery. While centralization of teaching might be considered by many a desirable objective, the facilities afforded by the Fellowship for attending different hospitals and hearing the views of different teachers were a great asset. The special courses in general medicine and surgery, lasting about two weeks, had been highly spoken of by the officers, but a little more clinical work would be appreciated in place of some of the lectures; the courses were a little too crowded, and there should be more courses in operative surgery, which at present could be arranged only with the greatest difficulty, if at all.

#### *Post-Graduate Study in the Army.*

The Director-General of the Army Medical Service, Lieut.-General Sir W. B. LEISHMAN, said that the army had not so far resorted to the Fellowship. Arrangements for post-graduate study had grown up gradually at the Royal Army Medical College, had been interrupted by the war, but had been restarted, and were now in full working order, to the profound gratitude of every officer concerned. These courses were compulsory. Officers joined the college, on the average, at about the eighth or tenth year of their service, which, in normal times, coincided with their return after their first period of foreign service, when their knowledge was naturally a little rusty. In the army it was necessary to forecast the need and the provision, and to adjust the establishment to allow of a sufficient number of officers being trained at the college at any one time. Thus, successive bodies of officers were continuously under instruction. On an average thirty captains attended the course, which was divided roughly into three parts. In the first part they went to the college and received instruction from the staff in medicine—largely tropical medicine—surgery, pathology, and State medicine. That instruction might be called internal or domestic, and it was supplemented in various directions outside—for example, by attendance at the recruiting stations. This lasted for three months, and was terminated, like every stage of the training, by an examination. In the second stage, the officers, while still in residence at the college, were detached for further study in clinical medicine and surgery, and attended by arrangement at large civil hospitals—at present Charing Cross and St. Thomas's—where they had the benefit of seeing modern practice and also of attending special tutorial classes. At the end of this period, which extended for two months, making five months in all, came another examination. The third stage went a little further. It was desired to encourage every officer who had any particular bent to obtain the fullest instruction in the branch he favoured and to qualify himself as a specialist. Not all officers could be trained as specialists, of course, for that would bring about an absurd position in the army. It was possible only to justify the provision of specialists for whom there was work, and only about 50 per cent. of those attending the general course went on to specialization. Officers were not allowed to go on to specialize unless they had attained a certain standard of efficiency in the general examinations preceding that stage. A list of eleven subjects was presented from which the officer might choose: medicine (including tropical medicine), advanced operative surgery, pathology, hygiene, ophthalmology, ear, nose, and throat diseases, obstetrics and gynaecology (a very necessary army subject), dermatology (including venereal diseases), radiology, anaesthetics, and mental diseases. The course was for four months, except in hygiene, where it was extended to six months to make it fit in with the General Medical Council's new regulations for the D.P.H. The examination in these subjects demanded a very high standard, and it was not all who succeeded. Certain of the subjects could be taught at the college as well as anywhere else, but it was realized that in the majority of cases there must be resort to various hospitals and other institutions, and this help from the civil side of the profession was greatly esteemed. The attainment of qualification meant an addition of 2s. 6d. to the daily pay, but, much more than that, it gave its possessor the opportunity of developing his professional skill on lines for which he had an inclination. An endeavour was made to encourage the men wherever possible to obtain higher degrees and technical qualifications in particular subjects—the diploma in psychological medicine, for instance. A further point was that this nine months' post-graduate education was carried out without expenso to the officer. This was because the service was a State medical service, and the State, once convinced of a good case, was not an ungenerous paymaster.

#### *The General Practitioner's Needs.*

Dr. GILBERT ORME spoke as a general practitioner who had lately settled in London after a long experience of Lancashire. He paid a tribute to the good work done by



the Fellowship, under whose auspices he had taken a three months' post-graduate course. He had met with courtesy and help in every direction; one or two complaints from others which he had heard seemed to him groundless. It was said that strangers coming to London were at a loss to know where to attend, and that when they went to certain hospitals nobody took any notice of them. If these persons studied the monthly syllabus issued by the Fellowship they would have no occasion for complaint. He suggested, however, that certain consultants or junior members of staffs of hospitals should be asked to allow their names to be placed on a panel, and that as part of their work they should arrange "personally conducted tours" round certain hospitals, which he supposed must be hospitals not having medical schools. It was not out-of-the-way and mysterious cases which would be taken, but such cases as might be met with in general practice from day to day. There should be a close relation between the central post-graduate body in London and post-graduate schools existing in the provinces. It was conceivable that men from the colonies or abroad might wish to take part of their course in London and spend the rest of it at some medical school in the provinces or in Scotland. The officials of the Fellowship should try to arrange for parties to be made up in London to go abroad to various foreign schools. This method, widely adopted in America, would be of interest and value to those practitioners who wanted to learn foreign methods, and would also bring before Continental schools the work that the Fellowship of Medicine was doing in England.

Mr. ZACHARY COPE thought that many would feel, after the explanation of the way in which officers in the navy and army had their needs met, that some national scheme ought to be set up whereby civil practitioners who felt the need of a "refresher" course could have adequate opportunity for taking it. Such a scheme should embrace the whole country, and co-ordinate London and provincial post-graduate courses. Sir William Leishman had stated that the State was not ungenerous. If that was so, the complaint of civil practitioners that they could not afford post-graduate courses ought to be met by some form of subsidy. While he would not suggest that the courses, compulsory in the army and navy, should be compulsory in the civil profession, he thought the Fellowship might try to get some official endorsement for a plan whereby civil practitioners would not only be given the opportunity but would be actually induced to improve their medicine for the good of the community as a whole.

Dr. MURIEL LANE asked for more obstetric and gynaecological courses, to which might be added some ante-natal and post-natal work. It would be useful, in the study of preventive medicine, if some children's welfare centres were added to the list of places attended. She also mentioned the paucity of clinical material on the woman's side in venereal diseases.

Dr. SOPHIA JEVONS reminded those present of the excellence of the Polyclinic of the old days, and thought that something on the same plan might be adopted by the Fellowship—that is to say, lectures, with or without cases, at a certain hour every afternoon four or five days a week. This would be better than intensive courses which the practitioner had to give up his work to attend.

#### *Criticisms of Post-Graduate Teaching.*

Dr. H. B. NEWHAM said that he had been connected with post-graduate teaching for the last seventeen or eighteen years at the London School of Tropical Medicine, and 2,000 students from all parts of the world had passed through his hands. He had heard from them many criticisms of post-graduate teaching in London, but he had no complaint to bring forward against the Fellowship. His complaint was rather against those actually engaged in the work of instruction, that they did not take a greater interest in the art of teaching. London had first-class physicians and surgeons, but frequently they had no flair for teaching and were not inclined to try. In London—unlike Scotland—men were appointed to the staffs of hospitals without any regard to their teaching capacity. Again, many people who came for post-graduate instruction

did so at considerable inconvenience to themselves; probably they desired, say on two days a week, to go round with one particular physician attached to a hospital. He recalled that, before the days of the Fellowship, he once paid a fee for a course of instruction, and wanted to go round with a physician in charge of in-patients. He attended the hospital five times, and on three of those occasions this physician did not turn up, and there was nobody present to take his place. Another criticism was that there was too much tendency to have lectures on "curiosities"; what the average practitioner desired as a "refresher" was to see the cases he was likely to meet with in general practice, not the rare cases he might scarcely see in a lifetime.

#### *A Plea for a Post-Graduate School of Medicine.*

Dr. M. B. RAY said that a glance at the *Bulletin* would show that facilities for post-graduate instruction existed at practically every hospital in London, so there could be no complaint as to lack of material, nor, indeed, the quality of the instruction. It remained only to inquire into the organization. Those seeking post-graduate instruction might be divided into two classes. There were, first, those resident in London or its neighbourhood who occupied their spare time in sporadic attendances at various hospitals, occasionally taking up intensive courses; together with these were visitors from abroad who combined sight-seeing with a certain amount of post-graduate study. The needs of all these casual post-graduate students were admirably met by the existing arrangements. The second class was much more important, or at least its potentialities were greater. It included all who desired to spend from four to six months in earnest study. The idea might be Utopian, but it would be a great advantage if after a given time in practice all medical men were compelled to take up "refresher" courses. It was extremely difficult to run a practice and at the same time be *au courant* with the progress of medical learning. Such practitioners might at the present time enter into the same sort of arrangements as the casual post-graduate student, but the result was usually mental dyspepsia and fatigue; or they might go back to their old school and take up what they could in the way of instruction, but, as the school was intended for young men, this might prove irksome. Dr. Ray favoured the establishment of an up-to-date thoroughly equipped post-graduate school of medicine, devised to meet the needs of general practitioners, with a teaching staff devoting their entire energies to this work. The school and hospital to which it was attached should be definitely known by a distinctive title implying post-graduate work. The course of study should be sufficiently long to ensure adequate teaching. At the end of each course an examination should be held entitling the successful entrants to a diploma so that they would be able to style themselves graduates of the post-graduate school or some such title. At first the only men to come forward would be those in a position to delegate their practices to others, but as the fame of the school extended more and more men would flock to it. As matters stood, wonderful clinical material and unrivalled teaching were running to waste for lack of adequate direction.

Dr. FORTESCUE FOX said that one unfortunate circumstance that attended the amalgamation of societies in the Royal Society of Medicine was the forfeiture of the right of sections to promote post-graduate teaching in their own subjects. He urged the value of post-graduate teaching in balneology, and climatology, in which probably five hundred members of the profession in this country were specially interested.

Mr. E. B. TURNER spoke of the desirability that practitioners should take part in public health work. This would be first-rate post-graduate work, and would help to avert the tendency for public health work to get solely into the hands of whole-time officers.

#### *Adjournment.*

On the motion of Sir THOMAS HORDER, seconded by Sir HOLBURN WARING, the discussion was adjourned to Wednesday, April 8th, at 6 p.m.

# MEMORIAL TO SIR WILLIAM MACEWEN.

The committee appointed to arrange for a suitable memorial to the late Sir William Macewen, Regius Professor of Surgery in the University of Glasgow, has prepared a first list of subscriptions, which is printed below. The proposal is, as we have already announced, that the fund should be applied to three main purposes: (1) The provision of a bust to be presented to the University and a replica for Lady Macewen. The making of the bust has been entrusted to Mr. G. H. Paulin, A.R.S.A., and it is hoped that both bust and replica may be completed during the course of this year. (2) The endowment of a Macewen memorial lectureship, to deal with some surgical subject, and to be given annually or biennially. (3) The foundation of a Macewen medal or prize in surgery, to be awarded annually. To achieve all these three objects the committee finds that £3,000 will be required; the amount so far obtained (£1,550) is a little more than half that desired. We feel sure that there will be no difficulty in obtaining the remainder, and that in particular members of the British Medical Association will be ready to contribute. The Annual Meeting of the Association at Glasgow, over which Sir William Macewen presided, was a great success, and in many other ways he showed his deep interest in the welfare of the Association, not only at home, but overseas. Among other evidences of this was the visit he paid to Australia in 1923, and the welcome he received there was very grateful to members in this country. Sir William Macewen's reputation was world-wide, and it will be seen that among the subscribers in the list published below are some foreign surgeons of great distinction, including Professor Harvey Cushing of Boston, Professor Rosing of Copenhagen, Professor Hartmann of Paris, Rome, Dr. George W. Crile of Cleveland, and Professor de Quervain of Berne. The chairman of the executive committee in Glasgow is Dr. Archibald Young; the honorary secretary is Professor Archibald Young; the honorary treasurer is Professor Archibald Young; the is Mr. James Macfarlane, D.L., LL.D., Wesleyan Street, Glasgow, S.E.

## FIRST LIST OF SUBSCRIPTIONS.

- £110.—H.R.H. Princess Louise, Duchess of Argyll.
- £100.—Dr. James W. Allan (Peebles), Bailie David McCowan (Glasgow), Mr. James Macfarlane, LL.D., J.P. (Glasgow), Sir John Reid (Glasgow), (Troon), Mr. Robert H. Parry (Boar's Hill, near Oxford).
- £25.—Sir Robert MacAlpine, Bt. (Glasgow), Mr. and Mrs. George Morton LL.D. (Carlisle), Mr. J. Hogarth Pringle (Peebles).
- £21.—Mr. Leonard Gow (Glasgow), the Right Hon. Lord Newlands, George W. Macfarlane, J.P. (Glasgow), Professor Archibald Young (Glasgow).
- £10.—Mr. and Mrs. W. Martin (Core).
- £11 9s.—Dolance of Royal Infirmary Staff Memorial, per Dr. John Henderson (Glasgow).
- £10 10s.—Mr. A. H. Burgess (Manchester), the Right Hon. Lord Glenarthur (Troon), Dr. J. N. Marshall (Bolton), Professor T. K. Munro the Marquess of Bute, K.T. (Cardiff), Mr. Harold E. Yarrow (Glasgow).
- £10.—Dr. A. McAl. Blackwood (Taunganyika Territory), the Most Hon. Mr. Walter Macfarlane (Glasgow), Dr. B. H. A. Whitelocke (Oxford).
- £5 5s.—Messrs. Bilsland Bros., Ltd. (Glasgow), Mr. William George Black, C.B.E. (Glasgow), Sir John J. Croir (Glasgow), Sir Hector C. Craig (Glasgow), Dr. Oswald Fergus (Glasgow), Dr. Albert A. Gray (Glasgow), Mr. Thomas Ray, P.S.O., T.D. (Glasgow), Mr. James S. Corliff, Dr. George S. Middleton (Glasgow), Dr. John Patrick (Springburn), Dr. A. D. Power (Glasgow), Dr. Robert Barclay Mess Jean R. Shaw (Uddingston), Dr. Robert Barclay Mess Stevenson, Bt. (Glasgow), Dr. W. John A. Spens (Glasgow), Sir D. M. J. P. (Butterfield), Mr. G. Grey Turner (Newcastle-on-Tyne), Sir Herbert F. Waterhouse (London).
- £5.—Mr. James Andrew (Glasgow), Mrs. Aikman (Glasgow), Dr. Kenneth Bruce (Glasgow), Mr. Robert Clark (Glasgow), Colonel William Clark (Edinburgh), Dr. William Dow (Glasgow), Lady Dunlop (Glasgow), Dr. James D. Gardner, K.B.E. (Glasgow), W. R. Farquhar (Glasgow), Sir F. C. Stralichde (Hilbertsburg), Sir Hugh Beid, Bt. (Springburn), Sir F. C. Professor Thorild Rosing (Copenhagen), Dr. Serge Thomas (Liverpool), Timothy Warren (Glasgow), Mr. Roy F. Young (Glasgow).
- £4.—Société Internationale de Chirurgie (Dr. J. Lorthoir, treasurer, Brussels).

# MEMORIAL TO SIR WILLIAM MACEWEN.

- £3 5s.—Sir Charles Ballance, K.C.M.G., C.N. (London), Mr. Edith C. Burley (Glasgow), Dr. Robert H. Currie (Glasgow), Dr. R. Scott Frew F.R.S. (Glasgow), Dr. W. Greenhorn (Glasgow), Professor J. W. Gregory, James A. McCullum (Glasgow), Dr. Peter McBryde (Glasgow), Mr. Taylor C. McVall (London), Mr. George A. Mitchell (Glasgow), Dr. (Monkton), Dr. Hugh Walker (Glasgow), Mr. James Weir (London).
- £2 11d. (100 francs).—Professor Hartmann (Paris).
- £2 2s.—Dr. James A. Adams (Glasgow), Mrs. Balmian (Glasgow), Sir George Thomas Watson, K.C.B. (Glasgow), Mr. Thomas W. L. Brown (Glasgow), Dr. R. M. Buchanan (Glasgow), Sir Malcolm Campbell (Glasgow), Dr. James Carslaw (Glasgow), Dr. Joseph Chalmers (Keighley), Mr. V. O. (Moryhill), Dr. John Cowan (Glasgow), Sir Archibald Craig (Glasgow), Dr. D. Mackellar Dewar (Glasgow), Mr. W. S. Dickie (Glasgow), Dr. T. L. Forbes (Glasgow), Dr. W. J. Ferran (Glasgow), Dr. John Corda (Harrow-on-the-Hill), Professor John Gloister (Glasgow), Dr. William Hamilton (Glasgow), Dr. Irene Higgin (Glasgow), Dr. James Hudson (Newcastle-on-Tyne), Dr. John L. Howie (Glasgow), Dr. Andrew James (Bradford), Dr. John L. Hunter (Glasgow), Dr. W. W. Keen (Philadelphia), Miss E. M. S. Jackson (Glasgow), Professor John G. Kerr, F.R.S. (Glasgow), Dr. William Kelly (Glasgow), Dr. W. H. McKendrick (Glasgow), Dr. William Monaghan (Glasgow), Dr. W. B. Inglis Pollock (Glasgow), Dr. William Pennington (Glasgow), Dr. W. A. Readman (Glasgow), Dr. William Rankin (Glasgow), Sir A. Melnes Shaw, C.B. (Glasgow), Dr. William Rodger (Glasgow), Dr. J. H. Stevenson (Glasgow), Dr. Archibald Snodgrass (Glasgow), Dr. Alexander White (Ayr), Dr. C. Young (Glasgow), Dr. George W. Crile (Cleveland, Ohio), Mr. Robert J. Dunlop (Glasgow), Dr. Fritz Kayser (Helsingborg, Sweden), Mr. Hugh Osborne (Glasgow).
- £1 2s.—Dr. R. B. F. McKail (Whalley, near Blackburn).
- £1 1s.—Dr. Peter H. Abercrombie (London), Dr. C. A. Allan (Glasgow), Dr. Andrew Allison (Glasgow), Dr. John Anderson (Glasgow), Dr. Wallace Anderson (Dennistown), Mr. Robert Anderson (Glasgow), Dr. J. Barr (Unstoe, near Sheffield), Mr. C. J. Brad, C.M.G. (Leicester), Dr. Leonard Brown (Fau, France), Mr. Nicol Paton Brown, C.B.E. (Glasgow), Dr. J. Douglas Brownlie (Glasgow), Dr. M. S. Bryce (Leicester), Mr. Henry J. Campbell (Glasgow), Dr. James Carruthers (Uddingston), Dr. David Cooper (Glasgow), Dr. Charles Court (Kirkham), Dr. George Gibson Cooper (Glasgow), Dr. John Cunningham (Glasgow), Dr. J. S. Craik (Glasgow), Dr. Donald Dunne (Nottingham), Dr. James Dunlop (Glasgow), Dr. James A. Dunlop (Nottingham), Dr. John Donald (Glasgow), Dr. Allan D. Fraser (Glasgow), Dr. James Dunlop (Glasgow), Dr. Galbally (Glasgow), Dr. Marion Gillespie (Glasgow), Dr. William Gilchrist (Glasgow), Mr. W. E. A. Graham (Glasgow), Dr. Alexander Glen (Glasgow), Dr. Ronald J. Grant (Glasgow), Dr. Andrew Parlane Granger (Glasgow), Dr. J. Irving (Motherwell), Dr. J. Ewing Hunter (Glasgow), Dr. James P. Kilby (Motherwell), Mr. A. E. Webb-Johnson (Glasgow), Dr. Thomas Lovett (Barnard Castle), Dr. John J. G. MacBeane (Glasgow), Dr. J. Duff MacCallum (Glasgow), Dr. J. G. MacCallum (Glasgow), Dr. James H. Macdonald (Glasgow), Dr. J. McEwen (Glasgow), Dr. James H. Macdonald (Glasgow), Dr. George McLeod (Glasgow), Dr. Andrew MacLellan (Glasgow), Dr. James B. McKinnis, G.C.M.G., C.B. (London), Dr. Lewis McMillan (Glasgow), Dr. J. D. R. Munro (Glasgow), Dr. John Sirlang (Glasgow), Dr. Gardner Neill (Glasgow), Dr. Andrew Ross Muir (Glasgow), Mr. Robert Robertson (Glasgow), Dr. J. Duff MacCallum (Glasgow), Dr. William F. Russell (Glasgow), Dr. C. J. Ross (Glasgow), Dr. Sandeman (Glasgow), Dr. Alexander Scott (Glasgow), Dr. John Simpson (Glasgow), Dr. C. K. Stevenson (Glasgow), Dr. Alexander Scott (Glasgow), Dr. F. W. Thom (Glasgow), Dr. A. Beahm Stieh (Glasgow), Dr. Graham (Glasgow), Dr. W. G. Innes Strachan (Glasgow), Dr. William H. Wallace (Glasgow), Dr. M. Thomson (Glasgow), Dr. William Taylor (Glasgow), Dr. R. A. M. Colclough (Glasgow), Dr. J. Robson Turner (Glasgow), Dr. Cuthbert Wallace, K.C.M.G., C.B. (Glasgow), Dr. J. Thomson (Glasgow), Dr. E. M. Watkins (Glasgow), Dr. William Scapple (Glasgow), Dr. H. M. Wilson (Glasgow), Dr. James Williamson (Glasgow), Dr. F. Wood (Glasgow), Dr. William S. Young (Glasgow), Anonymous.
- £1.—Dr. George Dalziel (Glasgow), Rev. Dugald C. MacRae (Duror, Switzerland), Dr. MacGregor (Liverpool), Professor Dr. F. de Quervain (Bern, port, Men).
- 11s. 6d.—Dr. Jean Louis Faure (Paris), Dr. Mark L. Thomson (Glasgow).
- 10s.—Rev. James Hunter (Edinburgh), Dr. G. Murie McLellan (Newcastle).

## Nova et Vetera.

### NIGEL, THE PHYSICIAN OF THE DOMESDAY BOOK.

NIGELLUS, the only representative, so far as I am aware, of the medical profession mentioned in Domesday Book, is held by some to have been the Conqueror's physician, by others the physician to Earl Roger de Montgomery; both views are probably correct, for Earl Roger was the Conqueror's near kinsman. Contemporary records in which to search are not numerous; they consist of Domesday Book and the various charters to religious houses in England and France which were expedited by William. While I do not pretend to have read every charter in the eight folio volumes of Dugdale's *Monasticon*, I have looked through those of the Conqueror, and I do not find that the physician witnessed any of them; for the most part they are witnessed by great ecclesiastical dignitaries and the great feudal nobles of the realm, and if Nigel acted as a witness to any of them he must have been included in the "*multis aliis*" with which the attesting clauses usually end. In passing, I may state that it is very rare to find a medical witness in any of these early charters; I only noticed three, and they were all of a date much after that of the Domesday survey.

Domesday tells us the names and details of the estates which were conferred on Nigel. They are scattered over half a dozen counties, but for the most part occurred in Shropshire, Hereford, Wilts, Somerset, and Devon. In most instances, save, I believe, in the Exon Domesday, where he is named Presbyter, Nigel is styled Medicus. He was probably a priest-physician; at this date he can have been only a priest or a quack, and my respect for the Conqueror will not allow me to think that he can have been so easily gulled as to have admitted a quack as his physician.

One extract from Domesday will suffice for all, and I therefore transcribe the record of Nigel's Shropshire holding. In this county he finds himself in distinguished company. The tenants in *capite* in the county consisted of two bishops (Chester and Hereford), the Church of St. Remigius, Earl Roger with his men, Osbert FitzRichard, Ralph de Mortemer, Roger de Lacy, Hugh L'Ane, and Nigel the Physician. The extract is as follows:

#### TERRA NIGELLI MEDICI. IN LENTEURDE HUNDREDO.

Nigellus Medicus tenet de Rege WISTANSTOW. Spirtes presbyter tenuit de S. ALMUND. et erat T.R.E. victus canonicorum. Ibi iiii hidae. Terra est xv carucarum. Ibi vii villani cum vii carucis, et unus Francigena habens molinum quod reddit v summas annonae. T.R.E. valebat xxx solidos; modo xx solidos. Wastam invenit. Idem Nigellus tenet CLEU. Spirtes tenuit. Ibi i hida geldabilis. Terra est iiii carucarum. In dominio est dimidia caruca, et unus servus, et unus radman, et iiii bordarii cum i caruca. T.R.E. valebat xii solidos; modo x solidos. Wastam invenit.

#### Translation.

Nigellus the physician holds of the King WISTANSTOW. Spirtes the priest held it of St. Alkmund, and it was in the time of King Jf. I. a victual of the canons. There are 4 hides. It is a post-graduate teaching place. There are 7 villas with 7 ox-teams, and one year at the London School of Trade of corn. In the time 2,000 students from all parts of the land found it waste through his hands. He had heard. In the demesne is criticism of post-graduate teaching in London, and 4 bordarii no complaint to bring forward against them, it was worth His complaint was rather against those actual, in the work of instruction, that they did not take 16s. interest in the art of teaching. London had in the physicians and surgeons, but frequently they had let that for teaching and were not inclined to try. In London unlike Scotland—men were appointed to the staffs of hospitals without any regard to their teaching capacity. Again, many people who came for post-graduate instruction

Hundred, were held at the Domesday survey by Nigellus; in none of these manors is he styled medicus. Eyton, in the *Antiquities of Shropshire* (vol. 10, p. 1), says that the Nigellus of Hodnet Hundred

"has been identified by some with Nigel de Stafford, the reputed brother of Robert, first Baron Stafford, and the undoubted ancestor of the Gresleys. I must bespeak for our Shropshire Nigel a position far inferior both in its antecedents and its consequents. He was a clerk, and a physician—physician, indeed, to Earl Roger de Montgomery himself. In seven instances he succeeded to the benefices of Spirtes, a Saxon priest. This was in his spiritual capacity. The compact estate of four manors, which he held under Earl Roger in North Shropshire, would probably have descended, as a lay-fee, to his heirs, if heirs he had. I should here observe that a lay-fee in Staffordshire, consisting of three manors held in *capite* of the King by Nigellus, was much more probably the fee of Nigel de Stafford than of Nigel the physician. There can be no doubt that Nigel the physician died in the time of Earl Hugh de Montgomery (1094-1098), and that his estates in Shropshire escheated to the same Earl."

and so to his brother Earl Robert de Belesme, at whose defeat by Henry I they escheated to the King.

Before leaving Nigel's Shropshire holding it is of interest to turn to his rent of 16s. from the manor of Bromfield. Domesday has, "et Nigellus Medicus habet de hoc manerio xvi solidos." In the time of King Edward, Spirtes had a large holding in this manor. Eyton (vol. 5, p. 207) tells us a good deal about Spirtes.

"He lived in the reigns of three Saxon kings, Harold I, Hardicanute, and Edward the Confessor. With the first two he was a special favourite; the last banished him, for what cause is not known. The Herefordshire Domesday refers to a period of the Confessor's reign, when Spirtes the priest held four manors in that county under the Church of St. Guthlac. At Domesday St. Guthlac had lost the seigniorship of these manors, and the same Nigel the physician, who had an interest in Bromfield, held them in the Church. Spirtes was a canon of the Church of Alkmund, Shrewsbury. His prebend was both the Church and the Manor. A monastic memorial of great credibility tells us nothing of Spirtes's previous banishment, but begins with the fact of Edward the Confessor bestowing the prebend of Wistanstow on Godric Wifesunc, on whose death, says the same record, Earl Roger gave the prebend to Nigel, a clerk, his own physician. (Lilleshall Charters, fo. 100.) Domesday, in all but perfect harmony, gives Nigel the physician as Lord of Wistanstow, but holding it of the King, not of Earl Roger."

It will have been observed that under Bromfield, Nigel is expressly called Medicus, and that in the case of the four manors in the north of the county he is not so styled. It must be remembered that the primo object of the Domesday survey was fiscal. It was a territorial record enumerating those who held the land in 1085; by whom it was held in the Confessor's reign; how much there was of it; how many plough-teams, serfs, villains, radmen, bordarii, etc.; what it was worth at the survey, and how much it was worth before the Conquest. With Domesday at hand the King could settle disputes of succession, and he could also get a shrewd idea as to the amount of taxation the country would stand. Now it was immaterial from the revenue point of view whether Nigel was called Medicus or not. A King's writ would have reached him in Hodnet or in any of his other holdings as easily as the G.P.O. delivers us our income-tax forms at the present day, allowing for the difficulties of transport at that early date; but I cannot see why the commissioners should have called Nigel Medicus in one place and not in another in the same county. Far be it from me to question the accuracy of, or to appear to sit in judgement on, the late Rev. R. W. Eyton, the historian of my native county and one of the greatest genealogists and experts on Domesday that has ever lived. I simply state the difficulty as it appears to me. The only difference in the two holdings was that in the south of the county Nigel held direct from the King, and in the north from the Norman earl, Roger. We have seen that Nigel succeeded Spirtes in Shropshire and Hereford; the same was the case in Wilts and Somerset. I do not give the extracts from Domesday as I do not wish to be accused of prolixity; but in the four manors in Wilts Nigel succeeded Spirtes and was a tenant in *capite* of the Crown.

Here let us leave him, surrounded by his serfs, his villains, his radmen, and bordarii, and his 16s. from St. Mary's, Bromfield, until the Judgement Day.

R. R. JAMES, F.R.C.S.

## British Medical Journal.

SATURDAY, MARCH 28TH, 1925.

## CARCINOMA OF THE CERVIX.

Two main difficulties are encountered in investigating the incidence and response to treatment of carcinoma of the cervix uteri. The first is that of constructing some system of classification applicable to a large series of cases so that statistical deductions may be soundly based. The second difficulty is that of assessing the value of different remedies in a disease in which the criteria of the effectiveness of treatment are so uncertain at present that the adjective "cured" is usually replaced by the more cautious term "arrested." This problem of the incidence of carcinoma of the cervix, and of its response to radium therapy, alone or combined with x-ray treatment, has been attacked during the last few years by several investigators, both in this country and in the United States of America, and statistical reports are increasing in number.

Two recent American reports call for special attention. H. Schmitz<sup>1</sup> has published an account of 450 cases treated in his clinic between 1914 and 1923; and H. C. Taylor and T. C. Peightal<sup>2</sup> describe their investigation of 201 cases observed between 1910 and 1921. Of the 450 patients of Schmitz 345 had primary carcinoma, while in 104 recurrence of the disease had followed pan-hysterectomy. Schmitz points out the disadvantage of grouping cases according to the uncertain criterion of operability, into which the complicating personal factor of both the patient and the surgeon enters. He prefers the four following groups, based on the results of general and bimanual physical examination, together with endoscopic examination of the bladder and rectum. Group 1 contains the cases in which the cancer is clearly limited to the cervix, and Group 2 the doubtful cases in which there is some evidence of infiltration of the paracervical connective tissue; in Group 3 he places cases in which there is induration of the contiguous tissues and advanced disease, with large areas of necrosis, toxæmic cachexia, and metastases. He first tabulates his 450 cases according to the calendar year and the years 1914 to 1917 there was no appreciable change in the number of cases dealt with in any of the four groups, from 1918 onwards there was a marked and progressive increase in both primary and recurrent cases.

Schmitz agrees with Taylor and Peightal with regard to the age incidence of this disease. Of Schmitz's cases 84 per cent. occurred between the 30th and the 60th years, the Taylor and Peightal figures giving 90 per cent. Between the ages of 40 and 60 the Schmitz percentage is 67, as compared with 70 of the two other authors. The relation of cancer incidence to past pregnancies is considered in both papers, and Schmitz, in common with Taylor and Peightal, opposes the prevalent view that the occur-

rence of carcinoma of the cervix is related to multiple pregnancies. Schmitz considers the deduction permissible that chronic infections resulting from trauma and bacterial invasion predispose primarily to cancer, and that the number of pregnancies is only a possible secondary predisposing factor. In a total of 400 consecutive cancer cases he found that 241 patients (60.25 per cent.) had three or fewer pregnancies or were childless. Recognizing that it might be suggested that marriages resulting in from none to three children predominated in American families, he tabulated 400 case-histories of healthy married women, aged 41 or older, according to the number of children. He thus found that the percentage of the number of pregnancies was practically the same as in the case of cancerous patients. Schmitz found that in 406 case-histories the most prominent symptom which induced the patient to seek medical aid was definitely stated to be hæmorrhage in 249 cases (61.5 per cent.); pain in 82 cases (21.1 per cent.); and vaginal discharge in 60 cases (or 14.7 per cent.). He concludes that hæmorrhage of less than three months' duration probably indicates that the patient belongs to Group 1; if pain was the most prominent symptom the patient might be referable to any of the other three groups; while discharge as the most prominent symptom gave very little information as to the extent of the disease. He adds that hæmorrhage is the most alarming symptom; discharge the first to appear; and pain the most unfavourable symptom of carcinoma of the cervix. Patients in Group 4 (advanced cases) always presented the three symptoms.

With regard to the results of different methods of treatment, Schmitz agrees with Taylor and Peightal that radium therapy gives better results in the inoperable cases of Group 4 than are obtainable by any other non-operative palliative procedure or by cautery. In early cases Taylor and Peightal assert definitely that the hysterectomy statistics compare very favourably with those of radium treatment: Schmitz, however, takes the opposite view. Taylor and Peightal's figures for early cases treated by hysterectomy gave 34 per cent. free from recurrence three years or more after the operation; 25 per cent. free five years or more. When hysterectomy was combined with radiation 44 per cent. had no recurrence three years or more after treatment, and 31 per cent. five years or more. Schmitz's clinic very few early cases (those in Groups 1 and 2) were treated; he was mostly concerned with patients in whom operation had been pronounced with advisable. Using radium combined with x rays, three patients in Group 1 were free from active disease after five years, and six in Group 2, the relative percentages being respectively 100 and 40. He also publishes a table of statistics of cases collected from six clinics. Three of these clinics made use of radium only, and three combined radium with x rays; in the latter case the percentage of cases of all groups remaining free from disease after five years was in the neighbourhood of 14 (211 patients were alive out of 1,480 treated). In Group 1, 14 out of 30 patients (44.4 per cent.) treated by radium only at two clinics were alive, as compared with 69 out of 175 (33.7 per cent.) treated by both radium and x rays at three other clinics.

Although the figures are at present too small for any final deductions to be drawn, yet the conclusion in both articles is that the combination of radium and x rays in the treatment of carcinoma of the cervix is likely to gain favour, especially in border-line or inoperable cases.

<sup>1</sup> Journ. Amer. Med. Assoc., January 10th, 1925, p. 81.  
<sup>2</sup> Amer. Journ. Obstet. and Gyn., September, 1924, p. 228.

## THE INTERNATIONAL CONTROL OF DRUGS OF ADDICTION.

IN the JOURNAL of February 28th reference was made to the agreement, convention, and protocols, which were the outcome of the two prolonged opium conferences held at Geneva between November, 1924, and February, 1925. The agreement reached by the first conference, signed by Great Britain, France, India, Japan, Netherlands, Portugal, and Siam (the two last with reservations), purports to bring about the suppression of the use of opium for smoking, as enacted in Chapter II of the Hague International Opium Convention of 1912. It lays stress on the increase of smuggling as "greatly hampering" the accomplishment of this suppression. It seeks to make the traffic in opium and the manufacture of smoking opium Government monopolies (even "dross" is to be purchasable only by the monopoly), and illicit traffic is to be prohibited. These provisions will be applicable only to those territories in which the use of prepared opium is "temporarily authorized." The protocol recites that the signatories, "anxious to ensure the complete and final execution of the obligations and to strengthen the undertakings assumed under Article VI of the Hague Convention of 1912," will, "as soon as the poppy-growing countries have ensured the effective execution of the necessary measures to prevent the exportation of raw opium from their territories from constituting a serious obstacle" to reduction of opium smoking, take measures "to reduce consumption of prepared opium . . . so that such may be completely suppressed within a period of not more than fifteen years" from the time when a commission appointed by the Council of the League of Nations shall decide that such effective measures to prevent the export of raw opium have been taken.

There are not wanting critics who doubt whether experience of Government monopoly in opium elsewhere has tended to the abolition of traffic in the drug, and it is urged that the extension of the possible period for legitimate opium smoking to fifteen years from some indefinite future date is a rather disingenuous method of achieving that effective suppression or prohibition which the Hague Convention of thirteen years ago undertook to effect either "immediately" or "as soon as possible." A recent reply in the House of Commons has shown that in Brunei 18.24 per cent. and in the Straits Settlements no less than 45.4 per cent. of the Government revenue is derived from opium, and the question is being asked whether a commencement in the policy of prohibition or suppression might not be initiated in the British Crown Colonies. On March 13th in the Indian Assembly at Delhi, by 60 votes to 52, a motion was carried, against the Government, for reduction of the revenue from opium, with a view, it is alleged, of securing investigation into the opium policy of the Indian Government.

The convention, protocol, and final act of the second Geneva opium conference, directed against the traffic in manufactured narcotic drugs, in some respects repeats, in others strengthens and elaborates, and in others possibly weakens, the provisions of Chapter III of the Hague Convention. Indian hemp is added to the list of scheduled drugs; a permanent central board, with watching, advisory, and carefully limited powers, is set up, to which information as to supplies, stocks, and demands is to be furnished. "Tincture of opium, Sydenham laudanum, and Dover powder" for urgent cases may be exempted from the usual regulations up to a dose of "25 centigrams of

official opium." Up to the present time the convention, protocol, and final act have been signed by Albania, Australia, Belgium, Brazil, France, Germany, Great Britain, Greece, Japan, Luxembourg, Netherlands, Persia, Poland, Portugal, Siam, and Uruguay. Bolivia and Hungary have signed only the Final Act. The United States of America and China, it will be remembered, withdrew from the second conference shortly before its close.

### CONDUCT AND BODILY DISEASE.

SIR HUMPHRY ROLLESTON has had reprinted from the pages of the *Midland Medical Journal* an address upon some historical cases of disease and their remote effects on others which he delivered last autumn to the Midland Medical Society. The theme is one which has been touched upon by a number of writers whom Sir Humphry quotes, and it is one of perennial interest. Although it may be idle, it is nevertheless generally interesting to speculate on what would have happened had the Napoleon of 1815 been as efficient as he of the "whiff of grape-shot" twenty years earlier. Many other cases are considered in the address, and many more will suggest themselves to the thoughtful reader, whether he holds with Jeffrey and Brinkham that "the mind is independent of the body," or accepts the teaching of Mandsley and others that the mind is a function of the body. We may judge how strong and resistant is Dryden's "thin partition" in cases such as that of John Hunter, as quoted by Sir D'Arcy Power, and in many of the historical instances referred to by Sir Humphry Rolleston. Yet is the finest intellect at the mercy of a minute wandering particle of fibrin which, if it blocks the appropriate vessel, may reduce the poet, the statesman, or the man of science to second childishness and mere oblivion. Sir Humphry recalls to us the very polemic writings of the late George M. Gould of Philadelphia, who contended in six volumes of *Biographical Clinics* that every distinguished man of letters suffered from eye-strain, and that the prescription of proper spectacles would have cured him. If it were objected that some of these sufferers had the best available ophthalmological advice, it appeared further that only in Philadelphia could the correct lenses be prescribed and fitted. Others have urged that defect or excess of internal secretions has been responsible for the maladies of genius, and in this connexion it is noteworthy how little is written, probably because so little is known, of the sexual lives of great men. Sir Humphry Rolleston's address is full of suggestive information which may well prove fruitful. It furnishes corroborative evidence, if such can be needed, of the excellence of the judgement which selected him to succeed that most learned and wise physician, Sir Clifford Allbutt, in the Regius Chair of Physic at Cambridge.

### WHAT IS AN EYE SPECIALIST?

DR. FREELAND FERGUS, the veteran ophthalmic surgeon of Glasgow, has written a pamphlet in which he discusses the question set at the head of this note. It is in the form of an open letter addressed to a colleague. The epistolary form of communication lends itself to a certain degree of discursiveness, and in this letter Dr. Fergus lets himself go on more than his main topic. But the intention of his letter is plain. It is an onslaught upon the General Assembly Council for certain shortcomings he lays to its door, whether or not that Council is to blame for the "succeeded" finds in medical practice is a matter of discussion. He says: "At the moment there is no recognized, his villains, qualification; any registered practitioner in St. Mary's,

<sup>1</sup> *What is an Eye Specialist? or the General Ophthalmology.* By A. Freeland Fergus, M.D., F.R.C.S. (Edinburgh, 1924. (Pp. 31.)





inquiries before and since. Whether it is possible to do so adequately without a comprehensive reform, not only of coroners' law, but of the whole mechanism of death certification and registration, in which coroners' law plays an important part, is open to doubt. The British Medical Association has long held the wider view, and for the last eighteen months a special subcommittee has been working to adapt the policy of the Association as originally laid down between 1904 and 1909 to the existing situation. It is now recognized that the bill introduced for the Association by Major Molloy in 1923 was in several respects unsatisfactory. A bill on similar lines was introduced by Dr. Salter in 1923, and in 1924 on behalf of the Federation of Medical and Allied Services. Pending such radical reform there are several points besides those mentioned by the Home Secretary which call for immediate attention, and on the merits of which opinion can hardly be divided. The fees for medical witnesses under the Coroners Act of 1887—namely, one guinea for attendance to give evidence during the whole course of the inquiry and an additional guinea for a *post-mortem* examination carried out by a private practitioner—were inadequate in 1909, when the departmental committee sat; they are to-day little less than absurd, whilst the provision of Section 22 of the Act, whereby certain medical officers are altogether debarred from receiving fees in connexion with inquests on patients dying in the institutions they serve, is not rendered more equitable by the lapse of time. In this connexion the decision of the London County Council, on the representation of the Government auditor, that Poor Law infirmaries, hospitals controlled by the Metropolitan Asylums Board, general infirmaries, prisons, and other medical institutions of a public character can properly be included among the institutions to which this section applies, was noted in the BRITISH MEDICAL JOURNAL on August 9th last. To extend materially after so long an interval the application of a provision generally recognized as inequitable is, to say the least of it, unusual. It may be hoped that it will have the effect of focusing departmental attention upon the position to good purpose, and that the promised bill will afford the desired relief. That the coroners themselves resent the necessity for withholding fees under this provision is made amply clear by their comments from time to time when the question arises. Dr. Waldo, the City coroner, especially has never neglected an opportunity of pressing the point, and recently advised institutional medical officers to approach their members of Parliament on the matter. The London County Council, which has secured a saving of £1,500 a year by the new rule, allows the payment of travelling expenses up to 2s. 6d. At a recent inquest this provision secured for the medical superintendent of Shoreditch Infirmary the offer of 2d. for his tram fare to the Southwark coroner's court.

#### A CODIFICATION OF RULES FOR SPECIAL SCHOOLS.

In the past half-dozen years there have been issued by the Board of Education many memorandums giving regulations regarding the conduct of special schools provided for under various statutes. The Board has now issued in a single set of regulations<sup>1</sup> the requirements which have hitherto been contained in these several regulations. The codified regulations deal with medical inspection and treatment of school children in elementary schools and in secondary schools; with the provision of meals; with schools for the blind, deaf, defective, and epileptic, and the higher education of such; also with nursery schools, with physical training, and with grants to institutions not provided by the local education authority. In a covering circular letter

it is stated that the new regulations are in the main the codification of existing provisions, but there are changes in the omission of requirements specifically laid down by statute, and by the limitation of the regulations to such as experience has shown to be essential. Besides these changes there are some in substance to which attention is drawn in the circular letter. The chief of these appears to be related to the training of such children as are blind and deaf. Hitherto it has been a common custom to retain children over age—that is, over the age of 16 years—where it was considered that a further period of school might be of advantage. The custom was illegal, and gave rise in some instances to difficulties. Now that the further training of these children is provided for elsewhere the Board has decided that it will not for its part consent in future to the retention of any child at a special school after the date on which he ceases to be under an obligation to attend school. The change will be advantageous for these older children did not mingle well with the very young children who form the greater number of the special classes. There is one cause for complaint in the manner of the drafting of this circular letter: it is a case of continued discussion by reference. Such a sentence as "This Article takes the place of the former Article 9 (b) of Grant Regulations No. 6, and Articles 3 (b) and 21 of Grant Regulations No. 19" may be necessary, but is apt to produce irritation in the mind of the reader; whereas the use of the more popular "parallel column," showing the old and the new, would impress and inform.

#### THE BACILLUS OF NECROSIS.

THE "bacillus of necrosis" is commonly found as a saprophyte in the digestive tract of many herbivorous animals. In some circumstances it may penetrate the tissues, and, adopting a parasitic existence, cause very considerable disorders. A varying clinical picture is seen, but a characteristic necrosis is always present. The organism has been recovered from many mammals and birds, and is much more familiar to the veterinary surgeon than to the medical practitioner. The recent clear summary of our present knowledge of this organism by Césari<sup>1</sup> is therefore the more useful. The systematic position of this bacillus is by no means definite. Its generally accepted name is *Bacillus necrophorus*, but the American Association of Bacteriologists considers that it belongs to the genus *Actinomyces*, a genus of fungi to which also belongs the organism of actinomycosis. It was first discovered by Locflier in 1884, and since that date has been extensively studied by many workers. It is very pleomorphic; in young lesions it most commonly appears as long filaments, varying in length from 10 to 100  $\mu$ ; in older ones it is as a rule bacilliform (about 2 to 3  $\mu$  long); while it sometimes appears as a coccus with a diameter of 1.5  $\mu$ . The organism is Gram-negative, and is easily stained by most basic aniline dyes, when it shows chromatic granules—a fact which causes some bacteriologists to place it in the genus *Corynebacterium*. It is immobile, non-sporulating, and non-flagellate. It is strictly anaerobic, but can grow under aerobic conditions in the presence of *B. subtilis*, calcium sulphate, and other reducing agents. It is not difficult to cultivate, growing at 37° to 38° C. in a variety of media and forming characteristic growths. In liquid media—especially glucose broth—it produces a thermolabile toxin. The bacillus may be recognized by its morphology, staining reactions, and its cultural characteristics. The diagnosis may be confirmed by animal inoculation, the rabbit being the animal of choice. Many specific infections (ophthalmic) are due to this bacillus, although, as a primary agent, its necrotic action may open the way to secondary infections. It can, moreover, cause medical and surgical conditions. It can, moreover, cause medical and surgical conditions.

<sup>1</sup> Draft Statutory Rules and Orders, Education, England and Wales. The Board of Education (Special Services) Regulations, 1925. (Pp. 18. Price 5d. net. With covering circular letter No. 3725.)

<sup>1</sup> Rev. Path. Comp., November, 1924, pp. 1-10. Medical Council and R.F.P.S.G. Glasgow.

existing lesion or disease as a secondary invader. In the horse it is regarded as the essential agent of a specific necrosis of the extremities and of an ulcerative dermatitis of the hip; it has also been found in the diphtheritic exudate covering ulcerations in the large intestine. In young cattle it causes a very serious "calf diphtheria," a disease characterized by the appearance of plaques and ulcers at the back of the mouth. It also gives rise to a caseous necrosis of the digestive tube in calves and an epizootic necrobacillosis in fully grown animals, with necrotic or purulent foci in the lungs and liver, and ulcers in various parts of the intestinal tract. In these animals also it is the agent of various epizootic outbreaks, the bacillus being found on the genitalia of cows, in lesions on the feet (epizootic contagious "foot rot"), and in a nodular necrotic hepatitis frequently seen in slaughtered animals. In sheep this organism is the cause of epizootic "lip-and-leg disease," characterized by ulcerative plaques on these situations and on the external genitalia, and showing some resemblance to foot-and-mouth disease. It also produces hepatic lesions in this animal as in cattle. In the pig it is present in diphtheritic ulcers in the intestinal tract, while in dogs it sets up a fistulous dermatitis in the interdigital spaces and in other positions exposed to friction. It is the agent of other epizootic infections in animals, domestic and wild, and is frequently found in the lesions of avian diphtheria in fowls. The pathological picture in the different diseases is very varied; but the underlying process is constant in all. The course of the disease depends partly on whether the bacillus remains localized or becomes generalized, and partly on the sensitiveness of the host to the toxin. When the animal is very sensitive the process is characteristically necrotic; when it is resistant the leucocytes alone die, and the lesion is suppurative. Accordingly, as in tuberculosis, necrobacillosis appears as a disease which, single in principle, is multiple in expression. It would seem legitimate to expect that an organism which affects practically all the higher mammals would not spare man. Such infections are, however, extremely rare, and in most cases such a diagnosis amounts to no more than conjecture. Ellermann has cited one case where this bacillus caused a pseudo-diphtheritic affection resulting in the death of a child. Several more recent instances have been recorded, but although it is highly probable that this organism was the cause of some of the lesions it has not been proved to be so. Man may be resistant to the disease, but that he is not entirely so was proved thirty years ago, when Schmorl accidentally wounded his hand with a culture tube of the bacillus. However, the risk of human infection is infinitely less than in the case of other animals, and, admitting that the organism can have a pathogenic action in man, it would only endanger those who have sick animals under their care. Nevertheless, a study of the flora of necrotic or gangrenous lesions of the extremities and the mouth might possibly bring to light the presence of this ubiquitous bacillus in man.

#### THE REPROACH OF BRITAIN.

The visit of foreign health officers to this country to study public health administration, arranged, for the third year in succession, by the League of Nations, began on February 28th, and came to an end on March 23rd. The countries represented were Canada, Denmark, Estonia, France, Greece, Holland, Italy, Jugoslavia, Norway, Prussia, Russia, and the United States of America. After a busy day in London the party divided and visited Leeds, Easington, and East Riding (where they were guided by Dr. J. J. Service and Dr. J. R. Kaye), Middlesex and Willesden (guided by Dr. G. F. Buchan), and Staffordshire (guided by Dr. W. D. Carruthers and Dr. J. J. Service). The visit of foreign health officers to this country to study public health administration, arranged, for the third year in succession, by the League of Nations, began on February 28th, and came to an end on March 23rd. The countries represented were Canada, Denmark, Estonia, France, Greece, Holland, Italy, Jugoslavia, Norway, Prussia, Russia, and the United States of America. After a busy day in London the party divided and visited Leeds, Easington, and East Riding (where they were guided by Dr. J. J. Service and Dr. J. R. Kaye), Middlesex and Willesden (guided by Dr. G. F. Buchan), and Staffordshire (guided by Dr. W. D. Carruthers and Dr. J. J. Service).

R. H. H. Jolly). The three parties reassembled in London on March 9th for the study of health schemes and institutions in the metropolitan area, and on March 23rd were entertained at luncheon by the Government. Sir John Gilmour, Bt., D.S.O., M.P., Secretary for Scotland, who was in the chair, after giving the toast of the King and of the sovereigns of the kingdoms and the presidents of the republics represented, gave that of the guests. He welcomed them in the name of the Government, and expressed the hope that their visit would, through the personal intercourse which had taken place and through the friendly reception they had met with, contribute to the cause of peace, and by the interchange of opinions promote the development of public health science and administration. He coupled with the toast the name of Dr. M. D. Horst, medical officer to the city of Leyden, Holland. Dr. Horst, in his response, said that this visit, which had been rendered possible by the financial support of Mr. J. D. Rockefeller, would be productive of much good, and would, as the chairman had said, contribute to the cause of peace. Foreign countries ought to act together, like the organs of the body, for the good of the whole. The visitors were much indebted for the great pains taken in the arrangements for the tour to the Society of Medical Officers of Health and its indefatigable secretary, Mr. G. S. Elliston, and also to many individuals whose hospitality had rendered the visit most agreeable. He praised the public health administration of this country and the judicious way in which it was co-ordinated through the Ministry of Health. He commended in particular the progress that had been made in school hygiene and in the care of defective children; there was, however, one respect in which Great Britain was lamentably behindhand, and that was in vaccination. It appeared that a large proportion of the children attending school were unvaccinated. So serious was this that other countries had been compelled to take notice of it, and in his own country, where a bill had been introduced to enforce revaccination, one of the chief arguments used in its support was the unvaccinated condition of certain neighbouring States. It was a strange thing to find the country of Jenner in this category, but other countries had to face the fact. Turning then to general principles, he said that it was very necessary for the State to take a part, not only in public health administration, but also in the scientific study of hygiene. But too much State interference was to be deprecated. The spirit of science was the spirit of liberty, and there was a risk that State interference, if not judicious and well timed, might have the effect of retarding progress. He concluded by proposing the toast of His Majesty's Government, which was acknowledged by Sir John Gilmour in his own name and in that of Viscount Peel, First Commissioner of Works, who was also present.

#### THE SUFFIX "-ITIS."

It is very generally assumed by medical men and by many of the general public that the suffix "itis" implies inflammation, that etymologically "appendicitis" means inflammation of the appendix and "arthritis" inflammation of a joint. As long ago as 1836 a radical newspaper, desirous of ridiculing the special constables whom the Government of the day had enrolled to cope with the Trafalgar Square rioters, headed an article "Truncheonitis," any stick being good enough with which to beat the Home Office dog. In this instance the subject of the article was not "inflammation of a truncheon," but what might be called "the truncheon disease." Recently, in an address to the History of Medicine Section of the Royal Society of Medicine, Dr. J. D. Rolleston said that "Bretonneau invented the new word 'diphtherite,' derived from the Greek *δέρμα*, meaning a skin or leather coating." Boisseau attacked this term "on the ground that it must

mean 'inflammation of a skin.' Bretonneau, however, who was a better Hellenist than his critic, pointed out in the supplement to the treatise on diphtheria that the termination 'itis' did not really indicate inflammation, but was merely a feminine adjective often used as a substantive, the word *πόρος* [disease] being understood, so that 'diphtheritis' merely meant the pellicular disease." Since Bretonneau's time other writers have pointed out the mistake of Boissieu, who, however, was not alone in making it. In the *New English Dictionary* (in the volume H to K, published in 1901), under the heading "Itis," the true meaning of this suffix is stated. The Greeks used the word *ἀρθρίτις* (arthritis) to signify, not inflammation of a joint, but disease affecting a joint, and similarly *νεφρίτις* (nephritis), *πλευρίτις* (pleurisy), *ραχίτις* (rachitis) for disease of the kidneys, the chest wall, and the spine respectively, without any relation to inflammation. The history of the recurrent discussions of the meaning of 'itis' is a good example of wasted effort, for the whole question had been settled as early as 1826 in the excellent *Kritisch-etymologisches medicinisches Lexikon* of L. A. Kraus, published in Göttingen and Vienna in that year. Under the heading of "Arthrodynia=Arthritis" the true meaning is given, and comment is made on the "new" custom of using the suffix to indicate inflammation. Again, under "Iritis" the custom of misapplying the termination "itis" is further condemned as a neologism, and particularly its use with roots of Latin origin, such as conjunctivitis and many others. "Diphtheritis" does not appear in the *Lexikon* of 1826, but in the appendix published six years later it is to be found with the primary meaning, "inflammation of a membrane," and the secondary, "according to Bretonneau and others=laryngitis, tracheitis, etc." It is to be feared that, however much we may regret the inaccuracy of the present usage, based as it is upon mere ignorance, it is too late to correct it, and we must submit to seeing medical literature disfigured by such monstrosities as "diverticulitis." It is an axiom of economists that bad money in circulation will always drive out and replace good money, and it has sometimes seemed to us, in our more pessimistic moments, as if a similar law regulated the use of words, as shown in the disappearance of "trustworthy" and its replacement by "reliable," despite the gallant and protracted defence made by the *Times* and some other papers.

#### THE F.M. AND P.G.A.

THE discussion on post-graduate teaching in London, promoted by the Fellowship of Medicine and Post-Graduate Association, was quite well attended, and, as will be seen from the report at page 613, was adjourned until April 8th. The date is perhaps not very well chosen, as it will be the Wednesday before Good Friday. Still, it may be hoped that if another day cannot be found there will be a good attendance on that occasion. The arrangements for the meeting last week left something to be desired. The honorary secretaries had issued a circular letter stating that the object of the meeting was to ascertain how the convenience and requirements of those who wished to pursue post-graduate study in London might best be met; it was added that, after a brief account of the aims and objects of the Fellowship and of its present arrangements for co-operating with hospitals, there would be a discussion, when criticisms of the existing arrangements and suggestions for improvement would be welcomed. The letter asked persons addressed, if unable to be present, to send a written expression of their views. To those attending the meeting last week a typewritten document was given on entering the Barnes Hall of the Royal Society of Medicine. This document contained a list of fourteen opinions and suggestions received; it was headed "Fellow-

ship of Medicine and Post-Graduate Association," and, judging from some of the speeches, many of those who attended must have thought that the document contained a plan favoured by the executive of the Fellowship. After brief opening statements by the chairman and one of the honorary secretaries, statements were made by a representative of the Director-General R.N., and by Sir William Leishman, Director-General of the Army Medical Service, setting out the plans for post-graduate study in force for medical officers of those two services. These statements induced Mr. Zachary Cope to express the opinion that some national scheme ought to be set up whereby civil practitioners who felt the need of a "refresher" course could have adequate opportunity for taking it. This, of course, was very good counsel, but it is what all those interested in post-graduate study in London have been striving to achieve for the last six years without the degree of success which so much energy and good will ought to have attained. One speaker, indeed, declared that he did not know whether there were two bodies—the Fellowship of Medicine and the Post-Graduate Association—or a single body formed by a combination of the two. No doubt he ought to have known, but that he did not seems to argue some defect in propaganda, or at least in the preparations for the meeting; those attending would have profited more from a brief printed statement of the methods of the combined association, its successes and failures, than from the paper of disjointed suggestions with which they were presented. We hope that this defect will be remedied at the adjourned meeting. As has been said, one of the objects of the promoters of the meeting was to learn what sort of post-graduate facilities general practitioners desire, and upon this head a certain amount, but only a small amount, of information was tendered. There is, however, the other side of the matter, and that is, what can be offered without disturbing the arrangements for undergraduate instruction, which is the main purpose of the medical schools. Upon this point we may, when the discussion is resumed, hope for enlightenment from Sir Thomas Horder and Sir Holburt Waring, who respectively proposed and seconded the motion for adjournment.

#### THE TAUNGS SKULL.

At a meeting of the Royal Physical Society of Edinburgh on March 16th, when Dr. James Ritchie was in the chair, Professor Arthur Robinson lectured upon the Taungs skull, described by Professor Dart of the University of Witwatersrand in *Nature* and discussed by Sir Arthur Keith in our issue of February 14th (p. 325). Professor Robinson compared the photographs and tracings published by Professor Dart with photographs and tracings of some of the chimpanzee skulls in the Edinburgh University Anatomy Museum, and especially those of four skulls of chimpanzees of the same age as the Taungs skull. Professor Robinson considered that the Taungs skull differed less from one or other of the four specimens of chimpanzee skulls than the extremes of the four differed from one another. In his opinion the Taungs specimen was the distorted skull of a chimpanzee just over four years old, probably a female.

#### THE MENTAL AFTER-CARE ASSOCIATION.

THE Mental After-care Association was established forty-five years ago through the exertions of the late Rev. Henry Hawkins (then chaplain at Colney Hatch Asylum) with the support of Sir James Clark, M.D., Drs. Bucknill, Lockhart Robertson, Haek Tuke, and later of Lord Shaftesbury. The annual meeting was held, by the hospitality of the Clothworkers' Company, at their hall in Mining Lane, E.C., on March 18th. The chair was taken by the president of the association, Sir Charles Wakefield, Bt.,

C.B.E., who opened the proceedings by giving a brief account of the recent activities of the association. They had, he observed, been much increased in recent years, and had entailed considerable increase of expenditure, with which, unfortunately, subscriptions had not kept pace, so that it had been necessary to encroach on the financial reserves. The value of its homely, kindly work was increasingly recognized, and it was more and more resorted to by Poor Law and other local authorities throughout the country; it was greatly to be desired that funds might be forthcoming in connexion with possible changes in lunacy administration. The valuable services of this association and the kindly personal attention of its officers are greatly appreciated by convalescents, and it is much to be regretted that there has been of late a tendency to decline in private contributions towards assisting a return to such industrial conditions as they are capable of on the threshold of workaday life, when emerging from a period of mental confusion. The adoption of the report was proposed by Dr. Henry Rayner, for many years the chairman of the council. He stated that during the year (the forty-sixth of the association's existence) there had been an increase of 13 per cent. in the number of cases assisted. In this increase are included a considerable number of mental patients treated to recovery in Poor Law infirmaries, mental clinics, and out-patient departments of general hospitals. This was seconded by Sir Frederick Willis, K.C.B., Chairman of the Board of Control, who spoke sympathetically of the good work of the association, and expressed the hope that it might receive some recognition in any forthcoming lunacy legislation. The motion having been carried, the treasurer (Sir Maurice Craig) presented a report on the financial position of the association, which, he said, was unsatisfactory owing to the excess of expenditure over income in the past year and for the two preceding years. This was a source of great anxiety to the council. In 1923 the expenditure exceeded the income by £203 6s. 8d., and the council was obliged to sell stock to meet this; and in 1924 the excess amounted to £1,163 3s. 3d. The bulk of the expenditure was for the cottage homes to which the patients are sent to consolidate convalescence, and as this expenditure had to be met week by week it was impossible to contract any indebtedness in connexion with it. The motion for the adoption of the report was seconded by Mr. Lionel Faudel Phillips (honorary treasurer of Bethlem and Bridewell Royal Hospitals). The re-election of officers was proposed by Dr. Wolsley-Lewis (medical superintendent of Maidstone Mental Hospital), seconded by Dr. Percy R. Smith, and carried. A generous donation of £500 from the president (Sir C. Wakefield) towards the necessities of the association, and a contribution from the Clothworkers' Company of £10 10s., were announced. During the past year H.R.H. the Prince of Wales has graciously consented to become the patron of the association, following the example of His Majesty the King, who had subscribed £100 last year to its funds.

#### THE ANNUAL MEETING, BATH, 1925.

THE committee responsible for the organization of the Pathological Museum is anxious to secure the co-operation of the officers of the various scientific Sections at the forthcoming Annual Meeting in Bath of the British Medical Association next July. The committee will be glad to take charge of, and place in the museum for exhibition, any specimens, casts, photographs, diagrams, or microscopic slides during the time they are not required by those who are reading papers or taking part in the discussions. Every care will be taken of specimens, and the contents of the museum will be insured. We are asked to announce also that active preparations are being made for ladies' sports in connexion with the Annual Meeting at Bath. The local golf and tennis clubs are making the visitors

honorary members, and it will greatly assist in the arranging of matches and competitions if intending players would send their names in advance to Mrs. Doveton, 16, Queen Square, Bath, who is the chairman of the Ladies' Sports Subcommittee.

#### THE TEACHING OF INFANT CARE TO SCHOOLGIRLS.

SINCE the memorandum (Circular 758) prepared by the Medical Department of the Board of Education was issued in 1910, the interest in maternity and child welfare has enormously increased, and its importance has been more generally recognized. In a new memorandum (Circular 1353) on "The teaching of infant care and management to schoolgirls" we find the following passage, which may be taken to epitomize the Board's point of view: "If it be granted that the mother does not possess an instinctive knowledge of infant management, and may make disastrous blunders if she tries to bring up her baby by the light of nature, it is evident that at some period of her life she must learn the art and practice of mothercraft. What is the best time for such teaching? Should she wait until the baby is born and the health visitor comes to advise her? Should an endeavour be made to interest all newly married women in the welfare of the children who may come to them? Should instruction be given to young women before marriage? Or, should we begin with the schoolgirl? Something may be done at any and all of these stages, but it seems desirable that the elements of this knowledge should be acquired while the girl is still at school. This is the only time when we can make sure that she shall have some teaching in mothercraft." The Board expresses an earnest hope that mistresses responsible for girls who are approaching the end of their school life will consider what teaching such girls may properly receive in the care of their own health and in the management of infants and little children. The teaching of infant care in public elementary schools is discussed under the following headings: the nature of the course, the teacher, when the course should be given, and where infant care should be taught, including co-operation with infant welfare centres. Since different localities and personalities must always produce their own particular problems, the Board has refrained from making fixed regulations upon this subject. Rather has it emphasized the elasticity of its suggestions, leaving much to the initiative of individual mistresses. Medical officers engaged in maternity and child welfare work will, we believe, welcome an opportunity to co-operate with the schools and to give all possible assistance in facilitating the teaching of so important a subject. The memorandum closes with a brief recommendation for the teaching of infant care in secondary schools and in day continuation schools. In the interest of the health of the community it is to be hoped that the teaching of infant care will shortly be included in the curriculum of all schools for girls.

THE March number of the *Canadian Medical Association Journal* contains a full report of the Conference on the Medical Services in Canada arranged by the Canadian Medical Association, and held in Ottawa from December 18th to 20th, under the chairmanship of Dr. Alexander Primrose, C.B. Among the subjects discussed were medical education and the conditions of issuing and controlling licences to practise medicine, post-graduate medical education, the need of a full-time local health organization throughout the country, health insurance, and maternal mortality. All the provinces were represented, and also the medical colleges. It was unanimously decided that the conference should be held every year.

1 Circular 1353. Issued by the Board of Education, London: H.M. Stationery Office, 1925. (Medium 8vo, pp. 14. 2s. net.)



## THE HEALTH OF THE ROYAL AIR FORCE IN 1923.

THE Report on the Health of the Royal Air Force for the year 1923,<sup>1</sup> just published, is an admirably compiled document. The vital statistics are so tabulated as to show the incidence of sickness in great variety of detail, contrasting favourably in this respect with the recently published Army Report for 1922.

The ratio of admissions to hospital for the whole force was 473.8 per 1,000 in an average strength of 29,771, as compared with 514 in 1922 and 497.3 in 1921. If, however, trivial cases of sickness of less than forty-eight hours' duration are added the ratio exceeds that of the previous years, but the increase is due entirely to trivial cases in the United Kingdom. Injuries were the chief cause of admission, followed by diseases of the upper air passages, sandfly fever, and malarin. Venereal diseases, which caused the highest ratio of admissions in the army in 1922, accounted for comparatively few cases, the ratio being 23.8 per 1,000 in the United Kingdom, 44.3 in the Mediterranean littoral, 21.9 in Iraq, and 21.1 in India. These figures are in marked contrast with 254.2 per 1,000 in the Army of the Rhine and over 100 per 1,000 amongst troops in Gibraltar, Egypt, and Malta in 1922; and in marked contrast also with Air Force sickness during the later years of the war and after the armistice.

The high incidence of injuries was chiefly due to athletics, which accounted for 35.6 per cent. of the total injuries. Flying accidents accounted for 6.3 per cent. only of the injuries, practically the same as in 1921 and 1922. The deaths from flying accidents were, however, considerable—46 in 112 accidents, as compared with 50 in 102 accidents in 1922. Of the 46 deaths, 33 were amongst officers and 13 amongst airmen; 38 injuries and 1 death occurred from swinging the air screw, as compared with 23 injuries in 1922 and 35 in 1921; several accidents with 5 deaths occurred in connexion with motor vehicles. In a table (VIII) showing the incidence of disease and injury amongst the different trade groups of the R.A.F., the driver group showed a high injury ratio and the highest ratio of sickness. The venereal ratio in this group was markedly high, 34.4 per 1,000, as compared with only 1.3 amongst officers, cadets, and air pilots. It may be noted, however, that the venereal ratios in this table seem to exclude syphilis, as they do not correspond with the ratios for venereal diseases in the two following tables.

A large proportion of the total sickness in stations abroad was due to malaria in Basrah and sandfly fever in Hinnadi and Mosul. In Hinnadi sandfly fever caused the high admission rate of 640 per 1,000, and for all stations in Iraq a rate of 301.6 per 1,000.

A feature of the statistical tables of diseases generally and of tropical diseases in particular is the disintegration of disease groups into individual diseases, as used to be the case in the old army reports. The value of this can hardly be overestimated, and it is gratifying to find such group diseases as malaria and dysentery disintegrated into their different causative agents and into primary and recurrent attacks. An interesting conclusion that can be drawn is that the bacillary type of dysentery appears to be confined almost entirely to the Mediterranean littoral and the amoebic type to Iraq and India. Only 20 cases of typhoid fever with 3 deaths are recorded, all but 6 in Iraq. Fourteen of the cases are stated to have been fully protected by prophylactic inoculations. A severe epidemic of cholera broke out in Abadan in Persia and spread rapidly throughout Iraq during the year, and an epidemic of plague occurred in Basra; 4,078 inoculations against cholera and 1,000 against plague were carried out amongst R.A.F. personnel, and no cases occurred.

Some statistics of measurements and other physical data

in connexion with candidates for cadetships, tests of serving officers, and medical examination of recruits, are tabulated in the report. A new classification of officers in respect of their medical fitness was adopted in 1923, the letter A representing fitness for aerial duties and the letter B fitness for ground duties, with numeral subdivisions under A to represent fitness for full or limited flying duties and for combatant and non-combatant passenger duties, and lettered subdivisions under both A and B to represent fitness for home service only, temporary unfitness, or permanent unfitness. Thus an officer labelled A.h Bh would indicate limited fitness for flying at home only and fitness for ground duties at home only. The tests applied in 1923 and 1922 at home and abroad are stated to have given great uniformity in results, indicating consistency in technique. With regard to recruits, the causes of rejection were chiefly dental defects, poor physique, diseases of the heart, deformities of the feet, defects of vision, and middle-ear disease; 4,288 out of 12,092 recruits were examined by civil medical practitioners, and 1,752 rejected. Excluding these 1,752, the balance of 10,340 were examined by R.A.F. medical officers and 4,935 rejected.

The report concludes with an account of the aerial transport of some 200 cases of diarrhoea and dysentery from a column of British troops operating in Northern Kurdistan to Baghdad in Vickers-Vernon aeroplanes. The evacuation was carried out over a flying mileage of 9,615 miles in 128½ hours flying time. One aeroplane with sick crashed in inaccessible country, but was brought to the ground so skillfully that none of the sick were injured, and one patient actually had to be roused from sleep after the aeroplane had come to rest.

Other features of interest in the report are the summaries of the sanitary conditions of R.A.F. stations and the research work in connexion with phlebotomus fever and the bionomics of the sandfly. Attempts were made to transmit by sandflies the infective agent of Oriental sore, but the results were negative.

If the reports on the health of the Royal Air Force continue on the same lines as that under review they should provide in time a valuable series of comparative statistics. One point, however, must be noted. The ratios are based on small average strengths in the different geographical areas, and are consequently liable to great fluctuations from minor causes, much more so than ratios based on large numbers. In forming comparisons this fact will have to be borne in mind.

## ROYAL MEDICAL BENEVOLENT FUND.

At the last meeting of the Committee forty-two cases were considered and £642 11s. voted to forty applicants. The following is a summary of the new cases relieved.

Widow, aged 51, of M.D.Glas. who died in May, 1924. She is left with three sons; the eldest is a dental apprentice, the second a junior clerk at 15s. a week, and the youngest is at school. Applicant's only income is a share of a trust, £32, and the estimated profit from one boarder (5s. a week); other charities have granted her £38. Rent and rates come to £126 per annum, and the house is rented to May, 1925. Applicant is endeavouring to find a smaller one. Voted £20.

Daughter, aged 59, of M.D.Edin. who died in 1857. For the last thirty years she has maintained herself by painting Christmas cards, but is now hemiplegic. Only income an annuity of £50; rent £27 per annum. Voted £20.

Daughter, aged 23, of M.B.Edin. Applicant has been trained as a milliner, and her aunt is now endeavouring to get her to a cousin in Montreal, who has a millinery business; the money has been raised with the exception of £20. Voted £20.

Subscriptions may be sent to the Honorary Treasurer, Sir Charters Symonds, K.B.E., M.S., at 11, Chandos Street, Cavendish Square, London, W.1.

The Royal Medical Benevolent Fund Guild still receives many applications for clothing, especially for coats and skirts for ladies and girls holding secretarial posts, and suits for working boys. The Guild appeals for second-hand clothes and household articles. The gifts should be sent to the Secretary of the Guild, 58, Great Marlborough Street, W.1.

<sup>1</sup> Report on the Health of the Royal Air Force for the Year 1923. London: H.M. Stationery Office. February, 1925. Air Publication 1103. Pp. 71; 4 charts, 25 tables. 3s. 6d.)

## Scotland.

### ACHIEVEMENTS OF PREVENTIVE MEDICINE.

AN address was delivered by Dr. Walter Elliot, M.P., Under Secretary of Health for Scotland, to the students of the Anderson College of Medicine, Glasgow, on March 12th, dealing with the achievements of preventive medicine. Mr. J. B. Kidston, chairman of the governors of the college, presided, and the occasion was the closing of the winter session and presentation of class medals. Dr. Elliot at the outset remarked that in the last century the problems of preventive medicine had to do with the conquest of infections. Between 1801 and 1851 the population had increased from 77,000 to 345,000 (346 per cent.), and another 650,000 people came into the town during the second half of that century. The first quarter of a million increase was accompanied by a tremendous increase in the death rate, and the last 600,000 by an equally striking decrease. The expectation of life of a 10-year-old boy in Glasgow in 1821-27 had been 42 years; in the period 1832-34 it had fallen to 37 years; in 1870-72 it had risen again to 40 years; while at the present day it was as high as 50½ years. Half of every thousand boys born in Glasgow as late as 1870 were dead at the age of 25 years, whereas at the present day half of them were alive at 58 years. Estimating that improvement in round figures, it meant that the present population of the city would live an aggregate of twenty million years more than a similar number half a century ago; and averaging £50 value for the year, that meant an increase of something like £1,000,000,000 in the life capital of the city. It could not be said that people were being kept alive who would be better dead, seeing that the improvements were more at the age of 25 years than at that of 70 years. This achievement of preventive medicine was largely due to the conquest of infections. In England and Wales between 1871 and 1880, roughly speaking, 470,000 people died from the great group of fever diseases, whereas from 1911 to 1920 the deaths not only did not increase, but were reduced to 243,000. The same thing applied to tuberculosis, the deaths for the respective decades being 697,000 and 513,000. On the other hand, measles and whooping-cough had not been conquered. In England and Wales between 1871 and 1880 there were 91,000 deaths from measles, while in the period 1911-20 the numbers rose to 98,000. Against these figures he would mention small-pox, the deaths from which fell from 57,000 in the first period to 140 in the second, and typhus fever, for which the figures were respectively 13,000 and 50. Measles was one of the chief killing diseases in Great Britain, and was responsible for over 100,000 deaths in Scotland alone. It was impossible to treat all cases of measles in hospital; he thought only 25 per cent. should have hospital treatment, and that the remainder should be dealt with individually; he favoured better nursing and visiting, and a more rigid and earlier notification of cases. Speaking of London, he said that London was not recruited from the country, the increase of population coming from within the city, and yet the death rate in London was far below the death rate in the very heart of many of the Scottish counties. Emphasizing the necessity for purifying the air in cities, he said that the death rate in London on November 17th, 1923, was at the rate of 10.9 per 1,000, on November 24th it was 11.9, and on December 1st it rose to 15.4, solely owing to an intense and heavy fog prevailing during November 24th and 25th. So far preventive medicine had been helpless before great epidemics such as influenza, and they had as yet no clues for many of the individual diseases which had to be attacked.

### PRESENTATION TO SIR HAROLD STILES.

Sir Harold Stiles, who recently retired from the chair of clinical surgery in the University of Edinburgh, has been presented by the students with a beaten silver rosette. Mr. J. B. Colquhoun, president of the Students' Representative Council, who presided at the gathering, referred to the work Sir Harold Stiles had done for students in the

University Court and to his founding of the Alumni Association. Mr. A. W. Sanderson, in making the presentation, said it was the privilege of the students to have organized the gift. It was, he said, by courage, sacrifice, and perseverance that Sir Harold Stiles had added fresh lustre and dignity to the chair of clinical surgery, and his name would be added to the illustrious list of former occupants—Lister, Annandale, and Caird. Sir Harold Stiles expressed his gratitude for the hearty reception he had received that day. He said that when he became a medical student at Edinburgh forty-five years ago he vowed never to leave the city unless obliged; he had fulfilled that vow. In acknowledging the gift on behalf of Lady Stiles and himself, Sir Harold said that it would be preserved as a priceless heirloom and token of their goodwill and mutual affection.

### MATERNITY TREATMENT BY MEDICAL WOMEN IN EDINBURGH.

The annual meeting of the Edinburgh Hospital and Dispensary for Women and Children was held on March 20th at Bruntsfield Hospital, Edinburgh, when Mrs. J. C. Johnston was in the chair. The annual report, presented by Lady Walker, referred particularly to the new Elsie Inglis Memorial Hospice at Spring Gardens, Edinburgh. Work on the new maternity hospice had been considerably retarded by a strike, but the building would be ready to receive patients in the coming summer. The problem of providing a hospice for ante-natal and post-natal clinics had been partly solved by the purchase of a steel double house, but further extension of the out-patient premises would soon be necessary, because attendance at the ante-natal clinics had more than doubled during the past two years. Funds were urgently needed to provide one or two extra wards at the Bruntsfield Hospital in order to relieve the pressure on the gynaecological beds. The financial report, presented by Miss Eveline Maclaren, LL.B., stated that the ordinary expenditure at Bruntsfield Hospital, the dispensary, and the hospice had amounted to £7,903 and the income to £7,570, leaving a deficit of £333, which, however, was less than that of the previous year. A total sum of £27,445 had been paid up to date for the new hospice. Dr. A. B. Lothian, one of the attending medical officers, said that while medical women no longer needed to demand encouragement of their work, that more happy state of matters was not entirely an advantage. The woman doctor was quite a professional rival to the male doctor, and, partly owing to that and to the increasing number who qualified, it was difficult for women to get hospital training. She therefore urged the need of a fully equipped hospital for the training of women, and this meant more ward accommodation in the hospital. Women doctors were now beginning to find themselves able to organize team work, and this development was increasing the claim of their dispensary on the good will of its supporters. The chairman said that the new buildings, when completed, would give women doctors an unrivalled opportunity to pursue that line of maternity work in a definite intensive hospital service in a part of Edinburgh which had never had a proper hospital service, or had always been so far away from any out-patient department that hospital work had not affected the lives of the people.

### NOTIFICATION OF CHICKEN-POX IN EDINBURGH.

In view of the prevalence of small-pox in several districts in England, the Infectious Diseases (Notification) Act, 1893, is to apply within the city of Edinburgh, so as to include chicken-pox, from March 23rd till June 30th, 1925. The co-operation of the medical officer of health in any case of doubtful diagnosis will be cordially provided. The number of cases of chicken-pox in hospital during the week ending March 14th was 7, as compared with 9 in the previous week; 110 cases of measles were notified during that week, and 123 cases of whooping-cough; the number of fatal cases of measles was 6 and of whooping-cough 7. The principal other diseases notified were scarlet fever (57) and diphtheria (42).

## MEMORIAL TO DR. EBENEZER DUNCAN.

A memorial to the late Dr. Ebenezer Duncan, one of the founders of the Victoria Infirmary, Glasgow, and first physician to the institution upon its opening in 1890, was recently unveiled by Sir Hector Cameron. The memorial, which is installed in the infirmary, takes the form of a bronze bearing the following inscription: "Erected to the memory of E. Duncan, M.D., C.M., F.R.F.P.S.G., to whose persistent advocacy for the need for an infirmary on the South-Side of Glasgow the Victoria Infirmary owes its origin, and who for thirty years was one of its physicians."

## GLASGOW HOSPITAL SUNDAY FUND.

The Glasgow Hospital Sunday Fund has now been in operation since 1894. The largest sum which had been obtained by direct appeals to the churches and similar institutions by the infirmaries of the city was £2,090. In 1894 the Hospital Sunday Fund raised £3,640, and in succeeding years the amount steadily increased until in 1920 the sum obtained was £11,877. As the result of trade depression since that time this level has not been quite maintained, but for last year the amount available was £10,396, and of this £10,100 was distributed to the three infirmaries in the following proportions: Royal Infirmary, with 726 beds, £4,676; Western Infirmary, with 548 beds, £3,529; Victoria Infirmary, with 294 beds, £1,893.

## BOVINE TUBERCULOSIS.

We have received a report on the detection of bovine tuberculosis from Mr. Howard Jones, of the veterinary department of the city of Edinburgh, and secretary of the Scottish Metropolitan Division of the National Veterinary Medical Association. Mr. Jones states that it has been his practice for some years to examine with the greatest care any bovine carcass in which tuberculous lesions were discovered in the liver substance or its hepatic and portal lymphatic glands. He cites the following incident and points out that it illustrates the extraordinary distribution of tuberculosis by way of the lymphatic system, which is frequently to be observed when the liver substance or the corresponding lymphatic glands are affected. As an example, the conditions found in a bullock three years old, in apparently perfect health and prime condition, having a live weight of 12 cwt. 1 qr., are described. Taking the organs in their order of removal it was found that the right and left retropharyngeal lymphatic glands were tuberculous, that two mesenteric lymphatic glands were infected, that the hepatic and portal lymphatic glands were calcifying and caseating, and that there was one small tuberculous lesion in the liver substance. The stomach, omentum, spleen, kidneys, the lung substance, and the mediastinal lymphatic glands were normal, but one right bronchial gland was tuberculous. Mr. Jones points out that to anyone acquainted with meat inspection this would not appear to be a widespread infection, and is a combination of lesions comparatively often found in home cattle. It is frequently unaccompanied by other lesions, but as this is not invariably the case a minute scrutiny is always necessary when this combination is found. On superficial examination the carcass showed a perfect state of nutrition, and to all appearance the animal was perfectly normal. There was no trace of tuberculosis in either of the serous membranes, nor were any enlarged lymphatic glands to be seen in other parts. Mr. Jones remarks that from his knowledge of the prevalent laxity in many towns, and of the need for more systematic meat inspection, particularly in rural areas, he has little doubt that in some places such a carcass would have passed into a butcher's shop without further examination. A careful investigation of the lymphatic glands revealed widespread evidence of active tuberculosis. In consequence of these findings the carcass, with all its organs and offal, was condemned. Mr. Jones considers the existence of such cases as this to be evidence of the necessity for instituting public abattoirs throughout the country, for eliminating private slaughterhouses, and for appointing properly trained and qualified inspectors to examine and pass judgement upon meat supplies.

## DUNDEE ROYAL INFIRMARY.

The work of Dundee Royal Infirmary during the year 1924 was reviewed by Mr. Drummond Taylor, chairman of the directors, at a meeting held on March 9th. The total number of patients treated in the wards during the year was 7,270, an increase of 650 over the number for 1923. The wards were constantly filled to overflowing, and in several departments there were long waiting lists, so that a considerable extension of the existing accommodation would have to be faced at an early date. The last extension (the Caird building) had been opened in 1907, and since that time the number of patients had increased from 3,651 to its present figure, the daily average under treatment having increased from 238 to 338. The income for last year amounted to £30,000 and the expenditure to almost £41,000. Last year the Dundee Convalescent Home showed a deficit of £877, and the Sidlaw Sanatorium one of £586.

## CENTRAL MIDWIVES BOARD FOR SCOTLAND.

At a special meeting of the Board for the hearing of penal cases, Dr. James Hugh Ferguson in the chair, a certified midwife was cited for failure to take and record the pulse and temperature of her patients, and for other breaches of the rules. The Board found the charges proved, and instructed the secretary to remove the name of the midwife from the Roll and to cancel her certificate. At the same session a certified midwife appeared in answer to charges of having neglected to give the necessary directions for securing the cleanliness, comfort, and proper dieting of a patient during the lying-in period, and having discontinued her attendance on the case on the third day, and other breaches of the rules; they were found proved, but to give her an opportunity of proving amendment a decision was postponed for reports from the local supervising authority.

## England and Wales.

## KING EDWARD'S HOSPITAL FUND FOR LONDON.

The annual meeting of the General Council of King Edward's Hospital Fund for London, to receive the accounts and report for 1924, was held at St. James's Palace on March 17th, H.R.H. the Prince of Wales taking the chair. The total receipts were £412,472, of which £112,240 was from the estate of the late Mr. John Wells and £50,203 from that of the late Sir Thomas Sutherland. Other legacies brought in £35,563; and the general receipts, which amounted to £214,242, included £19,751 from annual subscriptions, £2,659 from donations, £14,500 from the League of Mercy, £15,000 from the British Charities Association, £142,232 derived from investments, and £200 from the trustees of the Bawden Fund. The amount of the ordinary distribution was £235,000, as in 1923. The grants to hospitals for extensions and improvements increased by nearly £5,000, and there was a corresponding reduction in the grant for maintenance. The amount distributed among hospitals, convalescent homes, and sanatoriums during the last ten years has been £3,020,438. During the year the amount spent on administration was £10,614, as compared with £8,904 in the previous year. In addition to the cost of the ordinary administrative work, this amount included the work of the central body, which considerably increased since, under the report of Lord Carey's Committee, the King's Fund became the Local Voluntary Hospitals Committee for London. The report of the Ambulance Cases Disposal Committee, received in April, 1924, was included in our issue of April 12th (p. 684); it contained recommendations that the Distribution Committee should consider whether hospitals applying for a grant provided adequate bed accommodation for ambulance cases; also that inadequately equipped hospitals should not be retained on the list of hospitals used by the police and ambulance authorities; and, lastly, certain suggestions were made for changes in the law and the procedure in connexion with Poor Law institutions. The first two proposals were put

into force by the authorities concerned, and the third was still under the consideration of the Ministry of Health. In May the King's Fund co-operated in an inquiry, begun by the Voluntary Hospitals Commission at the request of the Minister of Health, with regard to the need for hospital extension, including the provision of accident beds. A questionnaire was issued by the King's Fund, and a report of the information obtained was presented to the Commission in November. In July the General Council decided to make use of the Wells legacies in aid of schemes of extension and improvement, and by the end of the year grants amounting to £81,000 had been approved, thus providing for an additional 301 beds, of which 53 were to be reserved for accident cases. The grants were for the most part accompanied by conditions designed to stimulate and reward efforts made by the hospitals themselves. The Wells legacies also enabled the King's Fund to enlarge the area of its operations from a radius of nine miles from Charing Cross to a radius of eleven miles from St. Paul's Cathedral. In 1919 the King's Fund issued the report of a special committee of inquiry into the question of pensions for hospital officers and nurses, and in this connexion a conference will be held shortly between the Hospital Officers' Association, the College of Nursing, the British Hospitals Association, and the King's Fund. The work of the Propaganda Committee during the year was chiefly concerned with educational programmes rather than finance. A film illustrating the work of a modern hospital was displayed at Wembley Exhibition as part of the Government programme. In October, 1924, a scheme of lectures on the work of modern hospitals was drawn up for the use of colleges and secondary schools, a panel of experts was compiled, and several lectures had already been given. The committee reported that it had secured a large number of voluntary workers, and had been assisted by the press and the co-operation of many hospital representatives.

The Prince of Wales, addressing the Council, pointed out that the accounts for the year were better than had been anticipated, and were an encouragement for the present year. The claims on the King's Fund would continue to increase, both in consequence of new hospital extension schemes and the enlargement of the area with which the Fund was concerned. The support of the public would be obtained in increasing amount when the need was realized; in this respect the value of the propaganda work of Lord Burnham's committee was very great. The Hospital Economy Committee was still engaged in the work of bringing up to date the revised uniform system of hospital accounts. His Royal Highness stated that during his absence from England his powers as president would be exercised by a committee consisting of Lord Donoughmore, Lord Cave, and the Governor of the Bank of England.

#### VENEREAL DISEASE ARRANGEMENTS IN LONDON.

The London County Council on March 17th received a report from its Public Health Committee on the working of the venereal diseases scheme during 1924. The councils of six adjoining counties and of three adjoining county boroughs participate in the London scheme, but the cases which come from the London county area are reckoned at 80 per cent. of the whole. The total number of new cases attending the clinics in 1924 was 25,573, of which 7,292 were found to be non-venereal. Of the venereal cases, those of syphilis numbered 6,626, those of gonorrhoea 11,350, and those of soft chancre 305. The total attendances at the clinics were 589,002, as compared with 555,509 the previous year. It is considered that the great increase in the ratio of attendances to new venereal cases points to the success which has followed the efforts made to secure the further attendance of patients so long as treatment is necessary. The number of bacteriological specimens examined at hospitals in 1924 at the request of and free of cost to medical practitioners was 24,797, a higher number than ever before; 405 practitioners are on the approved list for the supply free of cost of salvarsan or its substitutes for the treatment of patients resident in the county and for the prevention of the spread of the disease. It is proposed to continue the scheme for another year on the same basis as before. The total expenditure contemplated in the year

1925-26 is £122,810, compared with £124,050 for 1924-25, three-fourths of this sum being met by Government grant. The provision of £2,020 is to be made for publicity and propaganda work, and the National Council for Combating Venereal Diseases is again to be permitted to exercise such of the powers of the county council under the scheme in relation to propaganda work as are necessary for lectures, conferences, cinematograph exhibitions, and other occasions.

#### THE FREEDOM OF WEYMOUTH CONFERRED ON TWO MEDICAL PRACTITIONERS.

On March 19th the freedom of the borough of Weymouth was presented to Dr. J. Macpherson Lawrie, D.L., J.P., and Mr. H. H. Du Boulay, J.P. Dr. Lawrie, who began practice in Weymouth in 1883, has devoted himself particularly to the building of the Princess Christian Hospital, now the Weymouth and District Hospital. He was appointed a country magistrate in 1889, a member of the first Dorset County Council in 1892, and a deputy lieutenant in 1906. Mr. H. H. Du Boulay, now consulting surgeon to the Weymouth and District Hospital and to the Weymouth Eye Infirmary, has practised in Weymouth for nearly thirty years, particularly in connexion with the old Royal Hospital, now merged in the amalgamated Weymouth and District Hospital. The streets of the town were decorated for the occasion, and many speeches were made eulogizing the high services of the two new freemen of the borough of Weymouth and Melcombe Regis.

#### ROYAL DENTAL HOSPITAL, LONDON.

Much improved facilities for the treatment of children have now been obtained by the Royal Dental Hospital in London. At the annual general meeting of the governors, held on March 19th, the chairman referred gratefully to the help of Sir Oswald Stoll, who, by placing the Alhambra Theatre at the disposal of the hospital for a concert, had enabled a sum of over £600 to be raised for the children's department. The considerable enlargement has been effected partly by reorganization, and, to a certain extent, by rebuilding, and the special attention necessary in the case of children can now be more satisfactorily provided. The x-ray department has also been greatly extended, the work in it is expanding, and its value in diagnosing the more obscure diseases is becoming increasingly evident. The total number of attendances at the hospital during the past year was 54,950. A large proportion of the mortgage on the building is still outstanding, and the chairman appealed for efforts to be made to obtain a larger number of annual subscribers.

## Ireland.

#### RELIEF OF THE DESTITUTE (IRISH FREE STATE).

THE Minister for Local Government has announced that the Commission to inquire into the relief of the destitute sick and poor, including the insane poor, will consist of Mr. C. H. O'Connor, formerly of the Local Government Board (chairman), Alderman Corish, T.D., the Right Rev. Monsignor Dunne, Senator Sir John Keane, Dr. Hennessy, T.D., Sir Joseph Glynn, the Rev. M. O. Murphy (Dublin), Senator Mrs. Wyse Power, Major Myles, T.D., Mr. P. Sugrue, Commissioner for Co. Leitrim. The terms of reference are:

With the object of devising permanent legislation for the effective and economical relief of the sick and destitute poor, to inquire into the laws and administration relating thereto, and particularly as regards the following matters:

1. To inquire into the adequacy and suitability of relief which have been formulated under the Local Government (Temporary Provisions) Act, and make recommendations.
2. To advise as to whether the existing law and regulations as regards home assistance require alteration (towards securing that due provision is made for the sick and destitute poor in their own homes without avoidable wasteful expenditure on healthy persons who are incorrigibly idle).
3. To examine the law and administration affecting the relief of the following destitute classes, and to make recommendations:

committee meetings, but to ascertain through correspondence and exchange of visits the particular lines followed by surgeons at different centres in Great Britain and Ireland, and to persuade individual workers to carry out, as far as possible, some one technique through a series of at least fifty cases. Tedious clerical work would be obviated by the use of standard forms requiring simple answers (such as yes or no), and by the carrying out of statistical analyses at headquarters, the original records being returned to the sender. By this simplification of returns, and centralization of analysis, it is hoped that busy individual workers may be drawn into the fold. Those interested in the matter are asked to communicate with the honorary secretary, Inoperable Carcinoma of the Cervix Association, c/o the British Empire Cancer Campaign, 19, Berkeley Street, W.1.

#### THE SLOW MARCH OF HYGIENIC EDUCATION.

SIR GEORGE NEWMAN, in presiding at the Society of Arts on April 29th, when Dr. Andrew Balfour read a paper on "The trend of modern hygiene," confessed that he found something gravely dissatisfying in the outlook so far as education in hygiene was concerned. Someone from abroad had remarked to him, "This is the land of Jenner, and yet you have an unvaccinated people." The teaching of Jenner had gone out into all the world, and yet during the previous week 168 fresh cases of small-pox had been notified—mild small-pox, happily, but entirely unnecessary and preventable. The fundamental truth that lay behind vaccination, however cumbersome the procedure of vaccination might be, had not been grasped by large masses of the people. Only the other day, again, there was an outbreak of typhoid fever in the North of England, in which fifty cases were proved to be milk-borne from a farm where a case of typhoid fever was being nursed. Yet so long ago as the reign of Sir John Simon it was impressed upon all concerned that a case of infectious disease should not be nursed on a milk farm. Apparently each generation had to learn afresh from new disasters. In America the Schick test was widely used as an instrument for the prevention of diphtheria. But in this country, although the truth of it was known as well as it was known in New York, it was only with difficulty that it was made applicable at all. Another instance was furnished by tuberculous infection. Tuberculosis was one of 'ho most preventable and in some ways the most curable of maladies. The answer to tuberculosis was known—it was the sanatorium principle. But the sanatorium principle had still to find its application in the homes of this country. Again, there were 700,000 women who would give birth to children during the next twelve months, but not 200,000 of them would take full advantage of ante-natal care and supervision during pregnancy, with the result that child-bearing was still hazardous in England. There was one great positive result to which modern hygiene could point. A child born to-day had a prospect of life some ten or twelve years longer than had a child born two generations ago, but what he wanted to see was disease "turned off at the tap," and the only way to bring that about was to have an educated people. Dr. Balfour's paper which occasioned these remarks by Sir George Newman was a comprehensive survey of public health in its more popular aspects, from Leviticus and Deuteronomy right down to the protocols of the Health Section of the League of Nations. He spoke at length of the need for the education of the lay public. Perhaps, like other preachers of good causes, Dr. Balfour showed too great faith in the power of the press. He urged a closer co-operation between the public authorities and the newspapers, whose columns should be open to the skilled hygienist for the deliverance of his message, not in his own name, but under the aegis of a health department. It is often forgotten, however, that newspapers are neither

educational nor philanthropic institutions, but commercial concerns, and that, in those which have the widest popular appeal, a sensational, sometimes an alarmist, titbit—often inaccurate in its information, and always inaccurate in its emphasis—will have precedence over any amount of "copy" officially furnished. Dr. Balfour seemed to have discovered for himself, so far as the cinematograph was concerned, the weakness of propaganda when subject to the restraints rightly imposed by public authority. When he went to see a private exhibition of the "Swat that fly!" film, the operator, an American, said to him, "This kind of thing don't cut ice. Let me show you something with 'pep' in it," and he proceeded to demonstrate a comic film which illustrated grotesquely the advantages of life insurance—apparently the style of film to which, however good its motive, a public department could hardly give its imprimatur. That is one of the difficulties besetting the path of hygienic education. Dr. Balfour devoted much of his paper to the consideration of the private medical practitioner discharging the function, not of curing the sick, but of keeping people in health. He quoted from Dr. John Dill Robertson of Chicago, who has put this point forcibly, and even acridly, and has not hesitated to charge the general practitioner with criminal negligence for his failure in this respect. But Dr. Balfour pointed out that the same plea was urged, more quietly and effectively, long ago by Dr. John C. McVail, in the memorandum accompanying his report on Poor Law medical relief, and that Dr. McVail had more recently elaborated his theme by envisaging the physician as the health guardian, the confidant, and the philosopher at all stages of life. On the question of the possibility of periodical medical inspection of the population Sir George Newman also had a word to add. He said that the late Dr. Hermann Biggs, State Commissioner of Health for New York, dissented this point with him on his very last visit to London. Dr. Biggs was more hopeful than he—but then he came from a hopeful country!

#### HUXLEY.

THE centenary of the birth of Huxley has been celebrated this week. He was born on May 4th, 1825, at Ealing, then a village, near London. He was a brilliant boy, and entered Charing Cross Hospital Medical School with an open scholarship at the age of 16. He passed the first M.B. Lond. in his twentieth year, and within twelve months was appointed to the Medical Department of the Royal Navy. Huxley therefore began life as a member of the medical profession, though without any formal diploma; it was not until 1862 that he became M.R.C.S., and not until 1883 that he was elected F.R.C.S. He had, however, already distinguished himself as a physiologist, and after a short time at Haslar was appointed surgeon to the *Rattlesnake*, which, under the command of Captain Owen Stanley, a brother of Dean Stanley, was during the next four years engaged on a survey of the coasts of New Guinea and the Louisiade Archipelago, and of the Barrier Reef of Australia. His energy and industry while with the *Rattlesnake* expedition were extraordinary, and within a year of his return to this country he was elected F.R.S. at the very early age of 26. He entered upon his career as the champion of science, therefore, with a solid basis of technical achievement. His significance for the age was that he became the fearless defender of the freedom of science and of its right to pursue its own course untrammelled by authority. Convinced himself by the study of Darwin's *Origin of Species*, Huxley, through the sheer strength of intellect displayed in his brilliant advocacy by speech and pen, forced the public to listen, and left no man or woman of education the excuse to ignore or misunderstand the true meaning of evolution, and its importance, not only to zoology and botany, but also to palaeontology and anthropology, and even to social problems. His success



accomplishing this self-imposed task has perhaps rather obscured his extraordinary achievements as a laboratory and field worker. He took to writing as a means of livelihood—as a means, at any rate, of augmenting his meagre salary as professor of palaeontology and professor of natural history at the Royal School of Mines. It was characteristic of him that when he decided to become a writer he determined to write well. He attained his object without labour, and even to the last was in the habit of making four or five drafts of everything he published. He came to exercise a tremendous influence. "Darwin's bulldog," as he styled himself, was for years the intermediary to whom the thinking public who were not skilled naturalists owed their deepest appreciation of the problems involved. He was quite fearless. He never allowed himself to be overawed by temporal or spiritual dignitaries, and after the famous Oxford meeting of the British Association at which he administered a well merited rebuke to the then Bishop of Oxford (Wilberforce), he described himself as being "episcopophagous." He had perhaps a certain joy in combat, as was natural in so skilful and sturdy a fighter; but all through his public life of nearly forty years he was actuated always and in all matters by a simple-minded love of truth.

#### DR. JOHNSON'S DOCTORS.

ANOTHER social evening, with Sir St. Clair Thomson as host, was held at the house of the Royal Society of Medicine on May 4th. The brief address on this occasion was delivered by Dr. Robert Hutchison, who showed some Johnson portraits, the best of them by Opie, and spoke of the connexion between the great lexicographer and medicine. Samuel Johnson, said Dr. Hutchison, paid many high compliments to the medical profession. The most elegant, according to Boswell, was his remark that "every man has found in physicians great liberality and dignity of sentiment, very prompt effusion of beneficence, and willingness to exert a lucrative art without hope of lucre." Johnson might well have been impressed by the work which physicians did for nothing, because he never paid them any fees himself. "Illness is of little expense to me," he wrote, "thanks to the generosity of my physicians." After Dr. Richard Warren had been called into consultation Johnson said to him, "Sir, you come at the eleventh hour, but you shall be paid the same as the others"—and caused his servant to put a copy of the *Lives of the Poets* in Dr. Warren's coach. Warren was one of the most successful physicians of his day from a monetary point of view, with an income for many years of at least £9,000. Johnson was quite wrong in his statement that no estate had ever been made by medicine. Richard Mead was a wealthy man, Radcliffe had been a munificent benefactor of Oxford, Lettsom and Fothergill had very large incomes. In fact, Dr. Hutchison believed that, relatively speaking, the practice of medicine was more lucrative in the eighteenth century than to-day. Of the doctors of Johnson's circle, one of his most intimate friends was Thomas Lawrence, for seven years President of the Royal College of Physicians, who had a bond of sympathy with Johnson in that, like him, he suffered from convulsive movements of the head. Another was William Heberden, whom Johnson called the last of the learned physicians. Then there were Brocklesby, George Fordyce, and Lettsom. Another medical celebrity was the eccentric Sir Thomas Browne, who went about carrying a muff, a copy of Horace, and a spy-glass, and was about the only person who ventured to oppose Johnson when he was extolling Oxford at the expense of Cambridge. Nor should that curious irregular practitioner, Robert Levett, be left out of account. Johnson's own medical knowledge, Dr. Hutchison continued, must have been

considerable. He had some sound views, disapproved of periodical bleeding, fulminated against rapid diagnosis—"life is not to be sacrificed to an affection of quick discernment"—had a strong contempt for polypharmacy, and in a hard-drinking age was himself abstemious. When taken ill at Montrose he wrote out a prescription for himself in technical characters, and he did not hesitate even to prescribe for the President of the Royal College of Physicians; when Lawrence had paralysis of the hand Johnson suggested treatment by electricity. Of the physicians who attended him towards the close of his days were mentioned William Cruikshank, "a sweet-blooded man," the surgeon who was called in to scarify his legs; Percival Pott, Sir Lucas Pepys, and Sir Richard Jebb. Dr. Hutchison described Johnson himself as one who was robust but not healthy; he suffered from various complaints, including scrofula, habit-spasms, and melancholia; Johnson said of himself that his diseases were "an asthma, a dropsy, and, what is less enurable, seventy-five." All must admire his sterling common sense, his hatred of fads, his great personal courage, his compassion and charity, and the fortitude with which at last he approached death. Had his steps turned to medicine he could hardly have been a great physician. Certainly he could never have acquired the bedside manner, and his appearance in the sick-room might, as was said of Levett, have disgusted the rich and terrified the poor. Mr. Augustine Birrell, who proposed a vote of thanks to Dr. Hutchison, said that he had always admired Johnson, but after seeing portraits of twenty of his doctors he marvelled at him the more, wondering how he had survived at all. Mr. Birrell was not impressed by the portraits, save only those of Cruikshank and Brocklesby. Both these were evidently delightful fellows, though one of them (Cruikshank) took to drink, and the other was a failure in his profession!

#### HARVEY MEMORIAL: REBUILDING HEMPSTEAD CHURCH TOWER.

WILLIAM HARVEY died in his eightieth year on June 3rd, 1657, and on June 26th his remains were deposited in a vault adjoining the parish church of Hempstead in Essex. He was "lapt in lead," and on his breast in great letters was his name, "Doctor William Harvey." By the middle of the last century this vault underneath the Harvey Chapel had become ruinous. On January 23th, 1882, the tower of the church fell towards the south-west; it is still a heap of stones in the churchyard. On October 18th, 1883, the body was removed from the vault and placed with all due reverence in a handsome white marble sarcophagus erected by the Royal College of Physicians of London in the chapel above the vault. With it was deposited a leaden case containing the edition of the works of Harvey published by the College in 1766, and a vellum memorial recording the circumstances of the removal.<sup>1</sup> It is now proposed to restore the fallen church tower as a further memorial to William Harvey. The village of Hempstead lies in a sparsely populated agricultural district, seven miles from the railway station of Saffron Walden and some fifty from London. It is therefore necessary to make a far-reaching appeal for the sum of £5,000 which is needed to carry out the project. The clergy of the diocese and the Royal College of Physicians have given their hearty support, and a committee has been set up, including the bishops of the three neighbouring dioceses; the President and other distinguished Fellows of the Royal College of Physicians; Sir H. K. Anderson, M.D., Master of Gonville and Caius College, Cambridge (of which Harvey was a member); Sir Charles Sherrington, M.D., President of the Royal Society; Sir Archibald Garrod, M.D., Regius Professor of Medicine

<sup>1</sup> See BRITISH MEDICAL JOURNAL, April 11th, p. 705, where by inadvertence Levett's Christian name is given as "William."

<sup>1</sup> See BRITISH MEDICAL JOURNAL, October 20th, 1883, p. 780. Of those Fellows of the College of Physicians who took part in the ceremony there described, two, Sir Richard Douglas Powell and Sir Dyce Duckworth, are still with us.

at Oxford; Sir D'Arey Power; and Dr. A. D. Brenchley, Master of the Society of Apothecaries. The chairman is Lord Stanmore, treasurer of St. Bartholomew's Hospital, to which Harvey was physician. Donations from members of the medical profession may be sent to Dr. Sidney Phillips, joint honorary secretary of the fund, at the Royal College of Physicians, Pall Mall East, S.W.1.

#### THE CHARCOT CENTENARY.

As already announced, the centenary of the birth of Charcot will be celebrated in Paris at the end of this month. Professor Pierro Mario will deliver an éloge of Charcot at the Académie de Médecine on the afternoon of May 26th, and on the evening of the same day at a meeting at the Sorbonne, which will be attended by the President of the Republic, M. Babiniski will deliver an address, and will be followed by the official delegates of foreign Governments. Addresses will also be given by the Dean of the Paris Faculty of Medicine, by representatives of the Académie des Sciences, the Académie de Médecine, the Institut Pasteur, and a number of medical societies. On May 27th a visit will be paid to the Clinique Charcot and the Salpêtrière. On the afternoon of the following day the Municipal Council of Paris and the General Council of the Seine will hold a reception at the Hôtel de Ville. The Royal College of Physicians of London will be represented by Dr. Gordon Holmes. Dr. Farquhar Buzzard, who will attend the centenary as president and representative of the Neurological Section of the Royal Society of Medicine, will deliver a short address on Charcot at the social evening of the Royal Society of Medicine to be held on Monday, June 15th, and there will be on this occasion an exhibition in the library of books and articles by Charcot and his pupils.

#### AMERICAN RESEARCH IN VENEREAL DISEASE.

In America, in recent years, much attention has been given to the problems of syphilis and gonorrhoea, and a *Report of the Scientific Researches on the Venereal Diseases*, prepared by Dr. E. L. Keyes, has been recently published by the American Social Hygiene Association (370, Seventh Avenue, New York) by agreement with the United States Interdepartmental Social Hygiene Board. This report is essentially an epitome of the published accounts of the scientific researches concerning venereal disease that were financed and directed by the Social Hygiene Board during the years 1918 to 1921. The American Social Hygiene Association made grants subsequently to some of the investigators in order to enable them to complete their researches. The choice of subjects seems to have been particularly happy, and, though no brilliant discovery is recorded, a definite advance has been made in methods of diagnosis and treatment. The difficult problem of recognizing types of gonococci was attacked, and the conclusions reached appear to be much the same as those of British investigators—namely, that at present it is not possible to separate the strains into definite classes. Much valuable information is given as to the successful cultivation of the gonococcus, and Torrey and Buckell very rightly emphasize the necessity of a moist atmosphere for optimum growth—a point not mentioned by most writers. It would appear, however, that they allow rather too wide a margin for the reaction of the medium, and overlook the many advantages which hydrocele fluid presents over other kinds of enriching agent. Oxygen tension is not considered to be of importance. The complement fixation test for gonorrhoea has received a due meed of attention, and it is claimed to be rather more valuable in women than either cultures or films for diagnostic purposes. Much study has been devoted to the staining of *Spironema pallidum*, and a simplified tissue stain is given which appears to give good

results; it remains an open question, however, whether staining is a better method than dark ground illumination for detecting spirochaetes in surface lesions for diagnostic purposes. In this country the latter is favoured, for the reason that it is simple and rapid, and also brings out two distinguishing features of the organism—its motility and whiteness. The report, which includes a full bibliography, is an excellent summary of a valuable inquiry into admittedly difficult problems. Both clinicians and pathologists will find much information to add to their armamentaria for the diagnosis and treatment of venereal diseases.

#### MEDICINE AT THE ROYAL ACADEMY.

This year's exhibition at the Royal Academy of Arts, like its predecessors, contains a number of medical portraits and a few other exhibits of immediate interest to our readers. Of the oil paintings, No. 156 is an admirable portrait by Charles Sims, R.A., of Dr. Matthew Hay, the veteran professor of forensic medicine in the University of Aberdeen, and medical officer of health for the city from 1888 to 1923, who is shown seated in doctor's scarlet robe; it is described as a civic and academic tribute. The next gallery has a picture (225) by the same artist, entitled "The Children's Ward, St. Thomas's Hospital"; this is a balcony scene, and the boy patients, the nurses, and a house-surgeon form a delightful group, with the river, St. Stephen's clock tower, and Westminster Bridge in the background. Near at hand (192) is a portrait of a Hunterian professor, Mr. Alexander Fleming, in F.R.C.S. gown, by John Wheatley—a curious piece of work, but interesting. In strong contrast with this is the presentation portrait of Sir Humphry Rolleston, Bt., K.C.B. (260), by George Henry, R.A., a gift to St. George's Hospital by his friends and pupils. It is a dignified and pleasant likeness of the new Regius Professor at Cambridge, seated in a red chair and robed in the gold-embroidered presidential gown of the Royal College of Physicians, with the silver caduceus of John Caius in his hand. Another ceremonial painting, but more sombre in tone, is the three-quarter length portrait by Fiddes Watt of Sir Gilbert Barling, Bt., F.R.C.S. (371), robed as Vice-Chancellor of the University of Birmingham. The smallest of the medical portraits in oils, but by no means the least effective or characteristic, is a "study in scarlet" by Maurice Greiffenhagen, R.A., entitled "Sir Donald MacAlister of Tarbert, Bt., K.C.B., M.D." (477). Obvious hero is the painter's delight in a subject worthy of his brush. Other oil paintings which will appeal to medical visitors are the fine group "A Street Accident," by Glyn Philpot, R.A. (79); "The Founder's Tomb, St. Bartholomew the Great, West Smithfield," with Rahere's recumbent figure well known to all Bart's men, by Miss Irene Ryland (443); also, but from another point of view, Walter Sickert's "Freekied Boy" (460), whose features give a hint of something in a big glass jar at the museum in Lincoln's Inn Fields. Among the works of sculpture in the Lecture Room is a bronze bust of Dr. Maurice A. Cassidy (1344) by Henry Pegrain, R.A. Here also is a case of exhibits illustrative of the work of the Royal Mint during the past year (1363); it includes the prize medal of the Harveian Society of London and the Rivers Memorial Prize Medal of the Royal Anthropological Institute, both by Langford Jones; and the nurses' medal for the Bristol Royal Infirmary, an excellent little work of art by T. H. Paget. Medical visitors this year should certainly go into the Architectural Room, where, besides a number of designs for hospitals and university buildings, are the large-scale model (1201) and the plan of site (1210) for the wonderful Memorial to the Missing at St. Quentin, by Sir Edwin Lutyens, R.A., architect of the new British Medical Association House in Tavistock Square, now nearing completion.

## FOOD POISONING.

THE Medical Research Council has issued a special report by Dr. W. G. Savage and Mr. Bruce White on food poisoning,\* founded on a study of 100 recent outbreaks in this country, most of which have not been previously published. It is prefaced by a general survey of the different causes of outbreaks of food poisoning, the epidemiological and clinical features of food poisoning, the paths of infection, and prevention of food poisoning. It is an important addition to the literature on food poisoning, and the sections dealing more especially with the clinical features and prevention are discussed elsewhere in a leading article.

This report (No. 92) is a continuation of the special studies of Dr. Savage and Mr. White, published in the Medical Research Council Report No. 91, and entitled "An investigation of the salmonella group, with special reference to food poisoning" (see BRITISH MEDICAL JOURNAL, February 21st, 1925, p. 373), which dealt chiefly with the classification and distribution of the salmonella bacteria.

*Causes of Food Poisoning.*

By far the commonest cause of food poisoning in this country is infection of food by living salmonella bacteria or by the toxins of these microbes. Salmonella bacteria multiply rapidly in food without betraying their presence by any obvious decomposition, and they secrete powerful endotoxins capable of resisting temperatures as high as 100° C. In 20 of the 100 outbreaks recorded in this report living salmonella bacteria were proved to be the agents of infection, and in 14 of these 20 outbreaks *B. actyricus* was the particular member of the group found. The isolation of these bacilli is a difficult procedure, for they are fastidious in their diet, and it is worth while noting, in view of the remarks we make elsewhere about the more thorough investigation of outbreaks of food poisoning, that in 6 of these outbreaks the bacilli were only captured from material obtained at *post-mortem* examinations; if this material had not been available the bacterial cause would not have been definitely established, though deductions might, of course, have been made from other examinations.

It is well known that food in which salmonella bacteria have grown may continue to be poisonous after the bacilli themselves have been destroyed, because the toxin which these germs secrete is more resistant to heat than are the living cells. Food poisoning by the toxins of the salmonella bacteria alone is perhaps the most difficult of all to analyse, because ingestion of these toxins leaves no specific stamp upon the body tissues: thus agglutinins do not appear in the blood serum. It might be thought that the poisonous nature of the food could be demonstrated by feeding experiments on animals, but this method is not often successful because animals are exceptionally resistant to these toxins. The method of injecting extracts of suspected food parenterally has led to many false conclusions in the past and does not now command much confidence. A promising new method of study was referred to in Report 91—namely, the possibility of demonstrating toxic properties in food by feeding animals with large quantities, killing the animal nine to twelve hours afterwards, and examining the stomach and intestines for evidence of inflammatory reaction. Another new method which we believe Dr. Savage was the first to employ, at any rate on an extensive scale, is the demonstration of the production of specific agglutinins to the salmonella bacilli through the injection into animals of suitable emulsions of the incriminated food. By one method of investigation or another the authors of this report have satisfied themselves that 17 out of the 100 outbreaks should be ascribed to salmonella toxins.

Four of the outbreaks were caused by bacteria of the dysentery group. The chief interest of this observation is that it widens our view of food poisoning, for until recently it would have been denied that bacteria of the dysentery type could cause outbreaks of food poisoning indistinguishable in their clinical characters from salmonella infections.

Only one outbreak of botulism—that at Loch Maree—is represented in this series.

To summarize the cause of these 100 outbreaks of food poisoning, epidemiological and laboratory investigations, separately or together, provided evidence that 66 outbreaks were due to members of the salmonella group of bacilli, 4 to members of the dysentery group, and 1 to *B. botulinus*. The remainder were either of definitely chemical origin, or possibly due to some undetected microbe, or were not examples of true food poisoning.

*Epidemiological Features.*

Food poisoning outbreaks are commonest in the warm months of the year. The peccant food was almost invariably perfectly wholesome as judged by sight, taste, and smell. Turning to the vehicles of infection, we find that tinned food constituted 42 per cent. of the whole. Nearly all the outbreaks from undestroyed bacterial toxin arose from canned food, whereas "made up" meat was much the commonest vehicle for the living bacilli, and milk products for the remainder. The infectivity rate was high, and often all partakers of the incriminated food were made ill.

*Special Types of Food Poisoning.*

Apart from the salmonella type, there are two other forms of food poisoning which the report discusses at some length, and to which brief reference should be made here—namely, botulism and cheese poisoning.

*Botulism.*

Nowadays a good many different types of illness are being falsely labelled botulism, so it is useful to call attention to certain characteristic symptoms of this disease and distinguishing features of the bacillus in order to facilitate the early diagnosis of outbreaks and prevent cases of illness being brought forward as examples of botulism without reasonable probability. A provisional diagnosis of botulism must be based on symptoms and epidemiological factors; the conversion of a provisional into a definite diagnosis is the task of the bacteriologist. The characteristic symptoms of botulism are well known—eye disturbances, such as double vision; throat symptoms, such as difficulty in swallowing and talking; general muscular weakness. It is equally important to know the symptoms which do not occur—thus pain is absent, the cardinal symptoms of salmonella type of infection are not found, constipation rather than diarrhoea is the rule. Fever is rare. Mentality and consciousness are usually clear to the end.

Distinguishing epidemiological and technical points stressed by the report are that *B. botulinus* is an anaerobe, and the food vehicle must be such as will allow growth only in the absence of oxygen. *B. botulinus* is a proteolytic anaerobe, and will originate decomposition changes in the food if it multiplies sufficiently to yield toxin, a feature which distinguishes it from the behaviour of salmonella bacteria, which do not betray their presence by any evident decomposition. The physical condition of the food is therefore an important diagnostic point, but though the food is altered the changes may be slight, and only detected by an expert. Perhaps, as at Loch Maree, they may be missed altogether. Finally, it is important to remember that, owing to the high potency of *botulinus* toxin, nearly everyone who partakes of food infected with this organism becomes ill. To the salmonella type of infection some individuals are much more resistant than others, and may escape.

*Cheese Poisoning.*

Cheese poisoning has always been a puzzling disease. There were eight instances of it in the present series. The most characteristic symptom was abdominal pain, sometimes attended with vomiting, less frequently with diarrhoea. Everything pointed to the ingestion of a gastro-intestinal irritant. The incubation period in these 8 cases was about four to twelve hours, and the infectivity rate about 90 per cent. The cheeses appeared perfectly natural and wholesome, and the types of cheese responsible were not those in which secondary ripening changes of a decomposing nature were customary.

From the experimental work recorded in this report, particularly that in relation to outbreak No. 41, it seems almost

\* Medical Research Council, Special Report Series, No. 92, *Food Poisoning: A Study of 100 Recent Outbreaks*. By W. G. Savage, M.D., B.Sc., and P. Bruce White, B.Sc. Price 2s. 6d.

certain that the toxic agent must have been the product of bacterial activity. Orthodox opinion held formerly that a toxic substance known as tyrotoxin was responsible for cheese poisoning, but Dr. Savage and Mr. White looked for this substance in vain. They think that it may have been the cause of outbreaks in the past, but they note that there are few if any references to the finding of this body in poisonous cheese since the days when the ptomaine theory of food poisoning was abandoned, and conclude that tyrotoxin has no connexion with cheese poisoning as met with at present. Experiments reported by the authors demonstrate that some salmonella bacteria will survive for several weeks in cheese or acid whey, though they do not appear to multiply, but rather diminish, therein. Such infected cheese was not specifically toxic when fed to laboratory animals. Evidently the toxic agent in cheese poisoning may not have been the same in all cases, but probably the commonest cause was an undestroyed toxin of some special germ, and in some cases members of the salmonella group of bacteria were to blame.

#### *Paths of Infection.*

How does food become infected with poisonous bacteria? This is the vital question, but search for an answer has been hampered by insufficient material for analysis. More knowledge is needed of the primary reservoir of these bacteria, and practically nothing is known at present of the way in which they get into food. It is to be regretted that previous investigators for the most part have been content with mere evidence of excretal contamination of the food, not reflecting that the salmonella bacteria are not constituents of the normal excreta of man or animals.

Speaking of the primary reservoir of infection, Dr. Savage and Mr. White point to three possibilities. These germs may have a habitat outside the body, but there are no facts which suggest the likelihood of this. Again, infection may come from a human case, but such an origin is rarely suggested by epidemiological survey, and is rendered unlikely by the fact that sufferers from food poisoning disease do not excrete salmonella bacilli for more than a few days. Thirdly, infection may come from an animal source—either from the meat or milk of an infected animal being used for food, or due to infection of previously wholesome food with bacilli from an infected animal.

After considering the pros and cons of each of these the authors conclude that in the majority of the 100 outbreaks reported the food was originally sound, but became infected with salmonella bacteria from outside sources. The particular channel of contamination in most of the outbreaks remained undetermined.

This part of the report closes with a memorandum giving instructions as to the collection and transmission of samples for bacteriological and chemical analysis. The remaining fifty pages contain the detailed history of the 100 outbreaks of food poisoning on which this report is based.

#### ROYAL MEDICAL BENEVOLENT FUND.

At the last meeting of the Committee thirty-two cases were considered and £476 voted to thirty applicants. The following is a summary of some of the cases relieved.

Widow, aged 62, of L.S.A. who died in 1923. Applicant lets rooms to provide for herself and two daughters living at home. Her total income is £55 per annum, but a daughter who is a nursery governess pays her 10s. a week. Applicant asks for a grant towards 50 guineas per annum for a son who has been in Earlswood for seven years. Voted £20 in two instalments.

L.R.C.P. and S.I., 1879, aged 74. During the war was on sea transport. He received £52 10s. for acting as locum tenens during the last twelve months. Room, breakfast, and supper cost him £1 a week. Owing to influenza and phlebitis has not been able to pay his landlady, to whom he owes £28. Voted £30.

Daughter, aged 56, of M.R.C.S.Eng. who died in 1914. She is in ill health and has rheumatoid arthritis. Plain needlework brought her in £12, and she has £14 a year from War Loan and £5 from the National Benevolent Institution. Rent 3s. a week. The Fund local secretary says, "With the new occupiers." Voted £25 in twelve monthly instalments.

Widow, aged 49, of L.R.C.P. Edin. who died in October, 1924. She is left with three children aged 19, 12, and 10, and only £40 a year. The eldest son is a farm pupil and only receives pocket money; the other children are at school. Applicant wishes to sell out her capital and start a business, and asks the Fund to help her with the education of her two youngest children until she is established. Voted small grant and referred to the Guild.

Subscriptions may be sent to the Honorary Treasurer, Sir Charles Symonds, K.B.E., C.B., M.S., at 11, Chandos Street, Cavendish Square, W.1.

## England and Wales.

### REBUILDING THE MIDDLESEX HOSPITAL.

It has been decided to rebuild on the present site, at a cost of £500,000, the main portion of the Middlesex Hospital, including the east and west wings, the connecting block, and the old houses in which many of the nurses are accommodated. The present buildings, erected between 1756 and 1780, replacing a smaller hospital opened in 1745, have become seriously damaged in consequence of the lapse of time and faults inherent in their structure. The foundations extend only three or four inches below the level of the area, the floors are full of dry rot, and the ceilings are cracking. Moreover, in spite of the many extensions that have been made, the facilities that were adequate for the 102 in-patients of the first recorded year, 1746-47, are now unequal to the demands of the special departments and the additional work consequent on the triumphs of medical research with which the Middlesex Hospital has been so frequently associated. The cancer department of the hospital is one of the portions that will remain untouched under the reconstruction scheme, but greater accommodation is required for the in-patients associated with the special departments, such as the aural, neurological, and radiological, and also for the medical school. During each year some 6,000 in-patients receive treatment, and yet there is always a long waiting list; in the out-patient department seven and a half million attendances have been registered since the foundation of the hospital. The approval of representatives of the King Edward Hospital Fund has been obtained for the rebuilding, and arrangements are being made so that during the work the in-patient accommodation shall not be reduced by a single bed. The existing site of the building presents several advantages; the land on which it stands is held at a nominal rent through the generosity of the Berners family, and the hospital serves a district containing one and a half million workers. In close association with it are the more modern buildings, including the cancer wing, the research department, the x-ray and physical medicine section, and the medical school. Temporary steps already taken to avert any danger include the closing of two wards, and the strutting of the basement and of fourteen wards with heavy baulks of timber. All the old buildings will be demolished as soon as accommodation for the patients can be found. The rebuilding of the hospital is a matter of necessity, not of choice, since the condemned blocks have deteriorated too far for less radical treatment to be possible.

### TUBERCULOSIS ARRANGEMENTS IN LONDON.

A report on tuberculosis arrangements in London was submitted to the London County Council by its Public Health Committee on May 5th. For the year 1925-26 provision has been made for 1,793 beds for adult cases; of these, 1,019 will be available in the institutions of the Metropolitan Asylums Board and 774 in voluntary institutions. Twenty beds have been taken at Burrow Hill Colony for cases specially selected for extended sanatorium treatment. Grove Park Hospital is being prepared for the reception of adult advanced cases, and it is expected that arrangements will be completed at an early date. The provision for children comprises 800 beds, of which 590 are in the institutions of the Metropolitan Asylums Board. Six beds have been taken at the New End Hospital, Hampstead, for artificial light treatment of specially selected cases, and the Public Health Committee is considering the question of providing for a large-scale test of artificial light treatment. The dispensary service now includes twenty-one municipal dispensaries, one voluntary dispensary largely aided by a borough council, and nine dispensaries, also aided by borough councils, at hospitals. The history of 3,060 adult patients under treatment during 1921 has been ascertained. The records up to July, 1924 (that is, two and a half to three years after completion of residential treatment), showed that among 512 cases in which bacilli had been absent from the sputum, 91.2 per cent. were alive; out of 344 cases in which, although bacilli were found in the sputum, there was only slight constitutional disturbance;

and in which the obvious signs were of very limited extent, 78.2 per cent. were alive; of 858 cases with profound systemic disturbance or constitutional deterioration, or with grave complications, 9.2 per cent. were alive, and of 1,346 cases which fell somewhere between these last two groups 51.7 per cent. were alive. The committee is not satisfied as to the number of early cases coming under treatment, and is investigating the possibility of obtaining earlier notification. The arrangements for children include five special open-air schools, accommodating 365 children, and it is intended to increase this provision. The committee quotes mortality figures which reflect the success of the co-ordinated efforts of public authorities and voluntary agencies. During the year 1923 the deaths from tuberculosis in London numbered 5,285, the lowest number hitherto recorded, and 439 below the previous year.

#### ESSEX COUNTY HOSPITAL, COLCHESTER.

During the past year there has been a considerable increase in both the number of in-patients and out-patients at the Essex County Hospital, Colchester, and, though the ordinary income rose by about £1,500, a deficit of £2,844 resulted from the year's working. A contributory scheme for workers and their families has been launched in the country districts served by the hospital, and after being in operation for three months has produced gratifying results. It is expected that during the current year very substantial help will be received from this source. Valuable support has been given also by the Colchester and District Workers' Committee. A serious shortage of accommodation is handicapping the work in both the in-patient and the out-patient departments, and the nursing staff is restricted similarly. The new out-patient block is nearing completion, and twelve new wards for private patients will also become available, reducing somewhat the pressure on the general surgical wards. A fund has been opened for the erection of a new nurses' home.

#### SIR MALCOLM MORRIS MEMORIAL.

The fund inaugurated a year ago to perpetuate the public services of the late Sir Malcolm Alexander Morris, K.C.V.O., F.R.C.S.Ed., has now been closed, and the committee, representative of the various organizations and institutions with which he was intimately associated, has allocated the money raised in providing a prize at St. Mary's Hospital, Paddington, to the final year's student best qualified in dermatology, and in endowing a public lectureship under the Chadwick Trust upon the preventive aspects of public health and upon dermatology in alternate years.

## Scotland.

#### INAUGURAL LECTURE IN THERAPEUTICS.

PROFESSOR LONRAIN SMITH, Dean of the Edinburgh Faculty of Medicine, presided at Professor D. M. Lyon's inaugural lecture on the development of therapeutics. The lecturer said that it was interesting to recognize traces of long-discredited theories in the medical teaching of to-day. The primitive mind had recognized three views as to the cause of disease—the religious view that disease was due to some spiritual tendency, the magical view that disease was due to the action of some human agent, and the natural view that disease was due to simple natural causes. The primitive savage often regarded disease as a material thing which could be magically transferred into a victim's body from a distance, and a strong strain of magic was still to be found in the belief of the lay community. During the four centuries since the Renaissance authority had been suspect and traditional reputations had been submitted to close scrutiny. It seemed highly probable, therefore, that there must be some virtue in drugs recommended by successive generations of trained observers. Many laymen apparently believed that for each ailment there existed a satisfactory combination of drugs and that no proper treatment was possible without the inevitable "bottle." Modern practice, however, was tending to give drug therapy its

proper place in treatment. Many other remedial measures were now in use, such as by thyroid and adrenaline extracts, antitoxic serums for diphtheria and tetanus, and appropriate vaccines for the prophylaxis and treatment of the enteric group of diseases. Massage and remedial exercises were now extensively used, and radium emanations, Roentgen rays and electricity, the ultra-violet rays, Finsen light, and heliotherapy had all been pressed into the service of treatment. Psychotherapy was a recognized branch of comparatively recent introduction, and, divorced from the showy tricks of hypnotism and mesmerism, it had taken its legitimate position in treatment. The number of true curative specifics was limited, but other drugs, though not leading to cure, possessed definite actions in restoring health, such as thyroxin in myxoedema and insulin in diabetes, and such drugs as digitalis in heart failure and adrenaline in asthma were extremely valuable. A certain number of diseases were still beyond assistance, and the patient medicine vendor was alive to the limitations of the healing art. Though for the most part the ingredients of proprietary medicines were drugs employed in legitimate medicine or rejected by the profession as useless, the danger associated with such practices was real, so that it was time that the public took steps to control this trade.

#### EDINBURGH MATERNITY HOSPITAL NEEDS.

Dr. William Robertson, medical officer of health for Edinburgh, who presided over the annual meeting of subscribers to the Edinburgh Royal Maternity and Simpson Memorial Hospital, said that the total number of cases treated during last year had been 92 fewer than in the previous year, which had shown the highest record in the history of the institution. Out of over 9,000 births during the year in Edinburgh, fully 3,000 were attended at the Simpson Memorial Hospital. It thus did excellent humanitarian service, but it also did work of great preventive and educational value, and the city was under a deep debt of gratitude to it for the knowledge disseminated by its medical and nursing staff. He hoped shortly to see a great extension of maternity and child welfare work in connexion with the hospital. The fact that Edinburgh was a great centre of medical education must not be lost sight of, and for this purpose more accommodation was required in the Maternity Hospital. The Rotunda Hospital of Dublin had for long possessed a magnetic attraction for students of medicine, and an enlarged maternity hospital in Edinburgh would exercise an equal attraction. As long ago as November, 1923, the directors had made suggestions to the managers of the Edinburgh Royal Infirmary as to a suitable site for a new maternity hospital, and as to the form and extent of the desired affiliation between the two institutions. Dr. T. G. Nasmyth said that the infirmary managers were negotiating with the Merchant Company to get part of the site of George Watson's College, and they had addressed to the secretary of the Maternity Hospital recently a letter saying that, looking to their further needs, they might not be able to give the Maternity Hospital any part of the site. This was disappointing. The financial statement showed a shortage of £1,094, as against £726 last year.

#### DR. DAWSON TURNER.

At a meeting of the managers of the Edinburgh Royal Infirmary, held on April 27th, Lord Provost W. L. Sleigh presiding, the retirement of Dr. Dawson Turner on account of ill health from the post of extra medical electrician was intimated. The board placed on record its appreciation of the services rendered to the Royal Infirmary by Dr. Dawson Turner for a period of twenty-nine years. He had been appointed assistant medical officer to the medical electrical department in 1896, and promoted to full charge of the department in 1901. After ten years spent in the practice of radiology he became extra medical electrician, and in 1914, at his own request, in view of the deleterious effect of x rays upon his system, his charge was restricted to the care of cases requiring radium alone, and he had continued to hold this special appointment to the present time. The board further expressed its obligation to Dr. Turner for his generosity in employing his own stock of



radium from time to time to supplement the quantity owned by the Royal Infirmary; and invited him to continue his association with the institution as honorary consulting physician in radiology.

#### NEW SCHEME FOR FALKIRK INFIRMARY.

A meeting was held in the Town Hall, Falkirk, on April 27th to start a campaign for the collection of £50,000 towards the erection of a new infirmary for Falkirk and district. Provost Muirhead presided over a large gathering, which included representatives from other burghs in the district. The Marquess of Louthgow stated that the scheme would cost the district approximately £100,000, but almost one-half of that had either been already subscribed or was in sight. The present infirmary had begun in a small way in 1889 as a cottage hospital of 14 beds, and had gradually been increased decade by decade until in 1920 it had been decided to alter its name to the Falkirk and District Infirmary, because for some time and in an increasing degree the institution had been serving a wider area than Falkirk itself. The accepted proportion of beds to population in these days was about 2 per 1,000, so that with a population of 100,000 in the area there should be 200 beds instead of the 74 in the existing infirmary. Institutional treatment would increase in importance as time went on, and it was to be expected that the population of the district would grow year by year. The infirmary had no pathological laboratory because there was no room for it, and the time had now come when it was necessary to proceed with a building scheme. A site of 11½ acres had been purchased on the estate of Gartcows, which would allow for future extension. The voluntary principle provided the zeal, elasticity, and adaptability that came from the absence of control from a distance and from eager people giving voluntary services. The governing body of the infirmary depended for money to carry on its operations upon the contributions of no fewer than 25,000 wage earners in the district, who were adequately represented on the governing body, and that was a guarantee against any too close a corporation in the management of the infirmary. The present appeal was an appeal to local patriotism, and he did not think that £50,000 was beyond the measure of those who had been brought up on Stirling Brig, Falkirk, and Bannockburn. Sir Norman Walker said that the committee appointed by the Scottish Board of Health had had no difficulty in satisfying itself that the supply of hospitals in Scotland was inadequate; a hundred years ago there were about 6 hospitals in Scotland, while to-day there were 286, and of these 132 were voluntary. It was possible to supply the needed beds in two ways—either by increasing the number of beds in the hospitals of the large centres, or, as Falkirk proposed, by developing the local hospital into a really efficient general hospital for the district. He knew that there was no place where rich and poor could be better looked after than in one of the general hospitals, and if persons were dying they would, of course, be taken into these hospitals, but the same ready admission could not at present be promised to persons suffering from some malady which was hampering their usefulness. For this reason he welcomed an increase of hospitals such as that at Falkirk.

### Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

THE House of Commons has this week passed the Gold Standard Bill through all its stages and has taken the report of the Budget resolutions imposing taxation. It has also passed the Rent Restriction Bill through report and third reading after a debate, in which Dr. Fremantle took part. The Moneylenders Bill has been read a second time and sent to the Committee of both Houses, and the Advertisements Regulation Bill, which has come down from the Lords, has been sent to a Grand Committee. The Therapeutical Substances Bill was down for second reading on May 5th, but was put back. Bills such as this may have to be postponed owing to the introduction of the Widows, Orphans, and Old Age Contributory Pensions Bill, which will require much time for discussion. In particular,

the Government does not expect this session to get the Factories Bill beyond the second reading, nor to pass the Rating and Valuation Bill, which is regarded as a necessary preliminary to a general measure of Poor Law reform. Mr. A. V. Alexander, having won first place in the ballot for private members' motions on May 27th, has given notice that he will call attention to the overlapping and duplication of services and establishment due to the existence in England and Wales of rival local authorities dealing with the children, the sick and infirm, the aged, and the able-bodied unemployed.

The text of the Widows, Orphans, and Old Age Contributory Pensions Bill was issued on May 5th, with an accompanying memorandum and actuarial statement, but a fortnight was promised for its examination before second reading. The bill follows the lines sketched out by the Chancellor of the Exchequer when introducing the Bridget, and comprises forty-five clauses. The provisions for pensions to widows and orphans would come into force from January 4th, 1926; those for the removal of the means limits on old age pensions drawn by persons over 70 on July 2nd, 1926, and for old age pensions at 65 on January 2nd, 1928. As a result of the reduction of the health insurance maximum age from 70 to 65, the health insurance contribution is being reduced by a penny a week for a man and by a halfpenny for a woman. But the actuarial memorandum explains that though the right to sickness and disablement benefits will cease at 65, when the new pensions accrue, the proposals in the bill make no alteration in the existing right of an insured person to receive medical benefit for the whole of life.

#### Small-pox.

Sir William Davison asked the Minister of Health, on May 5th, whether his attention had been called to the recent increase in cases of small-pox throughout the country; what was the total number of cases notified during the past three months; and whether he had received any report on the courses which had brought about the recent increase in such cases.

Sir Kingsley Wood said that the total number of cases of small-pox notified in England and Wales during the twelve weeks from January 4th to March 28th was 1,609. The Minister of Health had received numerous reports made by medical officers of the Department who had visited the districts in which small-pox was prevalent, and he was advised that the recent increase in the number of cases might be attributed to the neglect of vaccination in many of the invaded districts, and to neglect of the precautions which were essential if the spread of the disease was to be checked. He took this opportunity of informing the House and the country that Mr. Chamberlain was advised that there was no doubt the disease, now so prevalent in certain districts, was true small-pox, though happily mild in degree, and that vaccination was the only reliable protection against it. (This statement was greeted with protests from the Labour benches.)

Sir William Davison asked whether it was a fact that the late Minister of Health issued an Order making it easier for people to obtain exemption from vaccination. (Labour cheers.) Dr. Watts asked whether each of these cases cost the local authority £250 for treatment, isolation, disinfection, and so forth; and whether the Minister's attention had been drawn to the report of a medical officer of health that in his area the money spent on these cases could have built 1,000 or 1,500 houses. Mr. N. McLean asked if the Government would issue orders to the local authorities to extend the building of houses and the clearing of sites, and to take steps to eliminate this disease by means of fresh air and pure food and not by vaccination.

Sir Victor Warrender asked whether the incidence of the disease had increased since the coming into effect of the present regulations affecting exemption from vaccination.

Sir Kingsley Wood presumed that Sir Victor Warrender referred to the Order issued by the late Minister of Health, which had the effect of reversing an Order issued by Mr. Neville Chamberlain on July 20th, 1923, and of reinserting in the form of statutory declaration of conscientious objection in the notice of the requirement of vaccination handed to the parent or guardian when the birth of a child was registered. The Order of the late Minister came into force on October 1st last, and Mr. Chamberlain was watching its effect, but there was not yet sufficient evidence to enable him to form a final opinion on it.

Dr. Watts asked how Sir Kingsley Wood explained the fact that, despite the number of cases of small-pox, proceedings were rarely, if ever, instituted under the present Vaccination Act. Sir Kingsley Wood asked for notice of that question. Dr. Fremantle asked whether the Government was considering the transference of these powers from the boards of guardians to the sanitary authorities, so that they might be worked out in common with the general upkeep of the public health. No reply was given to this question.

**Vaccination as Condition of Employment.**—Mr. Clowes asked the Minister of Labour, on May 4th, whether he was aware that at the instance of Messrs. Brunner, Mond and Co., an application for bricklayers between the ages of 26 and 40, who must be willing to be vaccinated, or had recently been vaccinated; whether it was in accordance with regular practice for applications of this nature to be posted at employment exchanges; and whether an unemployed bricklayer who refused an offer of employment under such conditions would be disqualified for benefit. Mr. Betterton (Parliamentary Secretary to the Ministry of Labour) replied that he had not yet completed his inquiries into this case. It was the ordinary practice to post up in the exchange notices of vacancies which could not be immediately filled from the registers. The question whether benefit would be disallowed on refusal of vacancies of this kind would be determined by the usual statutory machinery.

**School Children and Infection.**—Colonel Day asked the Minister of Health, on May 5th, if he would consider the introduction of legislation to prevent persons in control of children, as, for example, headmasters and managers of schools, from permitting them when in an infectious condition to enter public vehicles or go into public places at the risk of spreading infection. Sir Kingsley Wood said provision was already made in Section 126 of the Public Health Act, 1875, for preventing the exposure, without proper precautions, in public places and public conveyances of children suffering from any dangerous infectious disorder. Similar provisions as regards London were contained in Sections 68 and 70 of the Public Health (London) Act, 1891, and there were numerous supplementary provisions on this subject contained in local Acts. The question of introducing further legislation dealing generally with the matter would be considered in connexion with the proposed amendment of the Public Health Acts.

**Cost of Child Welfare and Maternity Clinics.**—Mr. Lansbury asked the Minister of Health, on May 5th, the amount of public money spent by local authorities during the years ending March, 1913, and March, 1925, on child welfare clinics and other centres, and on the supply of milk to nursing and expectant mothers, during the same period, showing the sum raised from the rates and that paid from the National Exchequer. Sir Kingsley Wood, in reply, said no figures were available as regards mothers' child welfare services in respect of the year ended March, 1913, year ended March 31st, 1915, being the first in respect of which an Exchequer grant was paid on these services. The total net expenditure of local authorities in England and Wales on all maternity and child welfare services in that year was (approximately) £66,700, and of voluntary agencies receiving the Exchequer grant (approximately) £16,200. No separate figures on the expenditure of local authorities on maternity and child welfare centres and clinics, or on the supply of milk to nursing and expectant mothers and children, were available prior to the year ended March, 1920. For that year the net expenditure was: maternity and child welfare centres and clinics, £132,379 (exclusive of the cost of medical supervision and services of health visitors, which could not be given separately in respect of health visitors, of the voluntary agencies receiving Exchequer grants in that year was approximately £102,000. Particulars of the actual expenditure on these services for the year ended March, 1924, was: maternity and child welfare centres and clinics, £134,340 (exclusive of medical supervision and health visitors services); supply of milk and food to nursing and expectant mothers and to children, £200,100; centres and clinics provided by voluntary agencies receiving Exchequer grant (approximately), £105,100. One-half of this expenditure was met by way of Exchequer grant, and one-half of the net expenditure of local authorities was met out of the rates.

**Dried Milk.**—Mr. Groves (Stratford) asked whether the reduction in the infantile death rate in West Ham had not proceeded side by side with the increased supply of dried milk and the general development of the borough health services; and whether the Ministry of Health would recommend the local authorities of the country to use dried milk in preference to liquid milk. The Parliamentary Secretary to the Ministry of Health replied that the reduction in the infantile mortality of West Ham was comparable to that in other areas and could not be attributed exclusively to any particular measures made in the West Ham area. The Ministry was not prepared to make the recommendation suggested.

**Necropsies in Criminal Cases.**—Mr. A. R. Kennedy asked the Home Secretary, on May 4th, if he were aware of the disadvantage which might attach to a person accused of murder or manslaughter in the conduct of his defence from the practice of appointing one medical man only to conduct a *post-mortem* examination, and whether he would take the necessary steps to ensure that, where a person had died in circumstances which might lead to a criminal charge against another, and a *post-mortem* examination was held, a fully qualified medical practitioner should be appointed to watch the examination in the interests of the person, if any, thereafter to be charged. The Under Secretary for Home Affairs replied that the Home Secretary did not see his way to propose legislation for this purpose. A *post-mortem* examination was not a matter of advocacy but of scientific investigation. The Director of Public Prosecutions was, however, considering whether it might not be possible to arrange that the defence should have the opportunity of appointing a medical man to be present on behalf of the defendant when the *post-mortem* examination was performed.

**Pensions.**—The Minister of Pensions has made the following replies to various questions: (1) Where an applicant's appeal had been rejected or a final appeal had been confirmed the decision was final, but if fresh evidence was subsequently produced which clearly showed that the disability or death was due to war service, an award was made. In cases of final award where, in the course of medical treatment and observation by the Ministry, it was clearly demonstrated to the Ministry that the award had been wrongly declared final owing to error of diagnosis or prognosis involving a serious underestimate of the degree of permanent disablement, the award was reviewed and a further grant made. (2) Steps have recently been taken to secure that the speediest decision possible is reached in cases outstanding before medical boards. The cases were as a whole decided far more rapidly than a short time ago. (3) That during the year ended March 31st, 1925, about 50,000 fresh claims were decided by the Pensions Ministry, and some 17,000 awards were made, of which 11,500 were to persons not previously in receipt of pensions. The Pensions Appeal Tribunals heard 46,570 appeals in the same time, and disallowed 24,500. At March 31st the beneficiaries under the Pensions Acts numbered 2,037,000, compared with 3,366,000 in March, 1921.

**Lead Paint Bill.**—The Lead Paint (Protection against Poisoning) Bill, to make better provision for the protection against lead poisoning of persons employed in painting buildings, was introduced into the House of Commons by the Home Secretary on May 1st, and was read a first time.

**The Indian Services.**—Earl Winterton, Under Secretary for India, stated, on May 4th, that the recommendations of the Lec Commission Report on pay and passage have been extended to members of the fifteen central services, which it had been decided to regard as superior, in precisely the same way as they had been given to members of the All-India services, other than the Indian Civil Service. Eligibility for these concessions depended upon an officer having a non-Asiatic domicile. The pension concessions had also been given to thirteen of these fifteen services.

**Notes in Brief.**  
The additional excise duties on proprietary medicines which were imposed by the Finance Act of 1915 have been continued as part of the new Budget, by resolution of the House of Commons under the Provisional Collection of Taxes Act.  
The number of accidents during 1924 caused by passengers falling out of moving railway carriages was 75. Of these, 30 were fatal.  
The Advisory Committee on Opium Traffic, which advises the Council of the League of Nations on the supervision of the traffic, will meet some time before September. It is not proposed to lay before Parliament at this stage the protocol drawn up by the recent Opium Conference at Geneva.  
The Ministry of Health is unable to say when the report of the Royal Commission on National Health Insurance will be presented to Parliament.

## Correspondence.

**THE DECLINE OF LITHOLAPAXY.**  
Sir,—Major-General A. Hooton's interesting paper on the decline of litholapaxy (BRITISH MEDICAL JOURNAL, April 11th, p. 690) prompted us to look up the statistics of cases of stone admitted into St. Peter's Hospital, London. We find that out of 371 consecutive cases of vesical calculus recently admitted to the wards, litholapaxy was performed on 226, suprapubic lithotomy on 144, and perineal lithotomy on one.

At first sight these figures appear to confirm the impression that the operation of litholapaxy is declining in frequency, but further investigation shows that this is not the case. We found that in 79 of the 144 cases on which suprapubic lithotomy was performed some form of prostatic obstruction was also present, which necessitated an open operation. Sixty-nine of these cases were simple scute vesical diverticulum and 2 by urethral stricture. Five of the remaining 10 cases were cases of obstruction recurring after prostatectomy, while the last case was one of obstruction caused by a prostatic bar. There were also 14 cases in which litholapaxy was contraindicated by reason of some vesical condition. These were diverticulum (9 cases), diverticulum carcinoma (2 cases), vesical carcinoma, recto-vesical fistula resulting from a rectal carcinoma, and prolapse of the nreter. One case was associated with an impassable stricture of the urethra. This leaves 50 cases to be accounted for. In 8 of these the stone was too large to be crushed, 3 were vesico-urethral calculi, one stone was adherent to the bladder wall, one formed round a drainage tube left in the bladder after a previous operation, and one was found

on opening the bladder to deviate the urine prior to an operation for hypospadias. There were 4 cases in which litholapaxy failed. In one of these the stone was composed of fibri covered by a thin layer of phosphates; in another the patient was suffering from advanced tabes, and, although the stone was easily crushed, the fragments could not be evacuated. The bladder was opened, and it was found that they had slipped through the relaxed sphincter vesicae into the posterior urethra. In the remaining 2 cases the cause of the failure was not mentioned. In 31 cases no definite reason was given in the notes why lithotomy was performed instead of litholapaxy, but in all these cases foul cystitis was present, and it is probable that the bladder was opened in order to relieve the infection.

The one case of perineal lithotomy was of interest. The patient had stones in both kidneys, in the right ureter, in the bladder, and in the urethra. As the urethral calculus could not be displaced back into the bladder, external urethrotomy was performed, and the bladder stones were removed at the same time through the urethral incision.

From these figures it will be seen that litholapaxy is still considered the operation of choice for uncomplicated vesical calculus, and that the surgical staff of the hospital only resort to lithotomy when there is a definite contraindication to the crushing operation. In one sense only has the operation declined. Before the introduction of prostatectomy, litholapaxy was considered to be the correct treatment of stone complicating prostatic obstruction. The results in these cases were very bad, as it was practically impossible to evacuate fragments which had fallen into the post-prostatic pouch, and recurrence was the rule and not the exception. No recurrence due to imperfect evacuation of the fragments has been noted in the present series of 226 operations, and the mortality is only 2.2 per cent., so that the end-results are eminently satisfactory.—We are, etc.,

J. SWIFT JOLY.

J. ALBAN ANDREWS.

London, W.1, May 4th.

### THE EFFECT OF ANTISYPHILITIC TREATMENT AS GAUGED BY THE SIGMA REACTION.

SIR,—Table I in the paper on this subject by Dr. P. H. Jones, which appears in the *JOURNAL* of May 2nd (p. 821), conveys an impression of the Wassermann and Sigma results obtained by one of us (E. J. W.) which is entirely erroneous. Under the columns headed "Controls" appear 14 Wassermann and 20 Sigma positive reactions. The 20 Sigma reactions are qualified by a note to the effect that 11 of these cases were later diagnosed as syphilis, leaving the impression that the Wassermann test gave 14 non-specific reactions and the Sigma 9. Reference to the report from which Dr. Jones quoted<sup>1</sup> will show that, of the 14 results classed by him as positive, 5 were doubtful reactions, which we are always careful to say should never be regarded as positive in unknown cases. The remaining 9 cases gave positive reactions also to the Sigma, Sachs-Georgi, and Meinicke tests, and, incidentally, positive Wassermann reactions in another laboratory. The reactions were strong ones and indicate that, although counted under "controls" (since no clinical signs or history of syphilis had been discovered at the time of reporting), they were in fact syphilitic.

Of the 20 Sigma results, 3 were reported as doubtful and should not be classed as positive, and 9 have been explained above. As to the remainder, we may not trespass so much on your space as would be necessary to explain them in detail, and must content ourselves with referring to the report made to the Copenhagen Conference in November to December, 1923.<sup>2</sup> In this we mentioned that further investigation had made it necessary to revise some of the diagnoses shown in the first report (from which Dr. Jones has quoted), with the result that, in a total of 2,240 serums (1,701 syphilitic and 539 probably non-syphilitic) which had been tested up to the time of the Conference, the Wassermann test had afforded us no non-specific results and the Sigma only one, a reaction of 1.6 units. At the Technical

Laboratory Conference in Copenhagen, to the report on which we have referred, eight serums described as "controls" were found by those of the eight representatives of European laboratories who tested them to be positive by the Wassermann, Sachs-Georgi, Sigma, Meinicke III, and Meinicke Trübungs methods, showing that they were in fact syphilitic. With these exceptions, neither the Wassermann nor the Sigma test gave, in our hands, a positive reaction in a control case.—We are, etc.,

I. W. HARRISON.

E. J. WYLEN.

St. Thomas's Hospital, May 2nd.

### DERMATITIS FOLLOWING ULTRA-VIOLET LIGHT.

SIR,—While Mr. W. E. Schall (April 25th, p. 806) is correct in his comparison of the physical properties of sunlight and radiation from the mercury vapour lamp, I would like to point out that he is not correct in his conclusion as to the clinical effect of the mercury vapour lamp.

The shorter wave ultra-violet rays which this lamp produces—that is to say, rays of a wave-length between 3,000 and 2,000 A.U.—should give a slight erythema (when a properly regulated dose is given) at first, but after a few treatments the skin becomes tolerant and is not inflamed by these rays. I have not been able to detect any harm from their use, and their presence in the radiation of the mercury vapour lamp is, in my opinion, no reason why it should not be used. I find that in skilled hands the mercury vapour lamp, used in conjunction with other lamps to produce the longer rays, gives far better results when used for the general irradiation of the normal skin than the open carbon arc lamp, and never produces chronic dermatitis.

The case described by Drs. MacCormac and Moreland McCrea, in which an old gentleman went to sleep under the mercury vapour lamp with which he was treating himself, can surely have no bearing on the question at all, because you might as well say that one should never have a hot bath because someone had once fallen into a boiler.—I am, etc.,

London, W.1, May 3rd.

G. MORRAT LEVICK.

SIR,—In your issue of April 25th (p. 806) Mr. Schall, B.Sc., points to the use of the mercury vapour lamp, with its intenser radiation of ultra-violet rays in the region of 300 to 200  $\mu\mu$ , as having caused the severe attack of dermatitis recently reported in your columns. Mr. Schall advocates the use of a carbon arc lamp as a superior instrument for general irradiation because its spectrum more closely resembles that of the sun, and he would reserve the mercury vapour lamp for the treatment of cases of a more definitely surgical nature.

I hold no brief for the mercury vapour lamp, and use both it and the carbon arc, but the experience of several years of ultra-violet and light therapy has brought me to just the opposite conclusion to Mr. Schall. First of all, no one dreams of employing the mercury vapour lamp alone except perhaps in certain cases of dermatitis. In all general irradiation its cold ultra-violet rays must be supplemented by the longer infra-red and red rays of a lamp of the Sollux or some other type of thermic lamp. This, in my opinion, is more efficiently done by the combination of two lamps, which makes it possible to modify and adapt treatment to individual cases much better than is possible when both ultra-violet and thermic rays come from one unvarying source.

It is this adaptability and variety that makes the mercury vapour lamp such a valuable instrument in general irradiation. By increasing or decreasing the distance of one or other lamp the intensity of actinic and thermic rays can be altered, while by the skilful use of "ulviol" filters the shortest ultra-violet rays can be excluded altogether if necessary, and the patient can very quickly be brought up to the ideal maximum (half an hour's unfiltered quartz light daily) without fear of too strong reaction, and this with a very small expenditure of current. The carbon arc, on the other hand, requires a very large amount of current, and general treatments are very much longer.

<sup>1</sup> League of Nations Health Conference, Paris, 1922.  
<sup>2</sup> League of Nations Laboratory Conference, 1923.

its on Serological  
Paris, 1922

of the Technical  
November 19th to December

Its use is therefore much more expensive, and it has minor drawbacks, such as flickering and sputtering, the handling of dirty carbons, and the fact that the air of the room is soon vitiated by fumes of nitrous oxide and carbon dioxide.

But in the treatment of local conditions, particularly in surgical tuberculosis and lupus, it is far superior to the mercury vapour lamp, which is only effective in superficial forms of lupus. In chronic cases with deep indurations and infiltrations we need the greater penetration of the carbon arc to get the results which Doutrelepon has so well described as

"an inflammatory process involving the whole of the cutis with serous and fibrinous exudate from the dilated vessels and migration of leucocytes to surround and penetrate the tuberculous foci. A further stage is the vacuolar degeneration of the cellular elements of the tubercle and their ultimate replacement by spindle cells. Thus the lupus scar is formed."

—I am, etc.,

JUSTINA WILSON, M.R.C.P. Edin.,

D.M.R. and E.Camb.,

Physician in Charge of Electro-therapeutic Department,  
St. Mary's Hospital, London.

April 29th.

### THE IMMEDIATE AND REMOTE EFFECTS OF SUNLIGHT.

SIR,—Supplementing the note of warning by Sir Lenthal Cheate and Dr. Heald (*JOURNAL*, March 28th, p. 631, and April 11th, p. 717) I would like to add a further note of warning—namely, that a method of treatment apparently so valuable should not be discarded as a remedial agent for lung tuberculosis before it has been fully and fairly tried.

This treatment has been in use at Stannington Children's Sanatorium for the last five years. Both medical and surgical cases have been dealt with. The tungsten arc lamp was installed in 1919, and the mercury vapour lamp (Hanan "mountain sun lamp") in August last. With regard to the surgical cases, our surgeon, Mr. H. M. Johnston, has had results as encouraging as those obtained by other workers who have recorded their experiences in the medical literature, although the results reported so optimistically in the lay press have not been obtained here.

With the medical cases we have naturally proceeded with the utmost caution, and although we have not attained the striking results recorded in surgical cases we have been emboldened to go on. Only in one instance do we suspect that the treatment may have done harm. This was a very chronic and severe case, in a girl aged 16 years, who was obviously going downhill. Realizing, however, that tuberculous patients may get a recrudescence, sunlight or no, we resumed treatment when the acute symptoms had to some extent abated, and carefully increased the dose. The results now have certainly been beneficial.

Reference was also made to Sir Henry Gauvain's opinion, that there is no definite correlation between bronzing of the skin and satisfactory clinical results. As one who has the pleasantest recollections of Sir Henry's discourse on heliotherapy, I must, however, beg leave to differ from him on this matter. Of natural sunshine, I have of necessity, in the North, no useful experience. Summer sunshine is so limited that it is impossible to acclimatize the patients to it gradually, and evil from overdosage is just as likely to accrue as good. I have however had, at Davos Platz, considerable experience through several winters of the effects of direct sunlight on lung cases, and while I agree that bronzing *per se* is no criterion, the quality of the bronzing is a very distinct indication of the prognosis of the case. A patient who is doing well maintains a pleasing, sometimes ruddy glow, while a retrogressive case will exhibit a sickly, yellowish, even jaundiced hue, or else no coloration at all. This distinction is patent to a layman.

In conclusion, while my treatment has been only tentative, I have had cases which have encouraged me to continue, but if this treatment is to go on—and there are signs that there will be lavish expenditure all over the country—I would urge that suitable light, airy, roomy buildings should be erected, as it is obvious that for both surgical and medical cases, but especially the latter, more

harm than good will accrue from the huddling together of numerous patients in a confined space, polluted by human emanations.—I am, etc.,

Morpeth, Northumberland,  
May 2nd.

T. C. HUNTER, M.D.,  
Medical Superintendent,  
Stannington Sanatorium.

Dr. R. KING BROWN (M.O.H. Bermondsey), after reading Sir G. Lenthal Cheate's letter, forwarded a copy to Dr. Axel Royn, chief physician at the Finsen Light Institute, Copenhagen, who has written the following note for publication:

I have read with the greatest interest Sir G. Lenthal Cheate's letter in the *BRITISH MEDICAL JOURNAL* of March 28th, in which he states that, with Dr. Arthur Whitfield, he has examined skin that had been "bronzed" by therapeutic exposure to sunlight and has found mitosis occurring in the epithelial cells situated above the basal layer, from which he seems to conclude that with the use of sunlight—or artificial irradiation—there may be connected a risk of inducing epithelioma. It is true that atrophic changes are sometimes observed in the skin of persons whose hands and face are habitually exposed to strong light and air, and that in such cases epithelioma is sometimes seen to develop there. But up to the present nothing has been brought forward to prove that it is the light, particularly, that produces these changes. From all indications they are due fully as much—or chiefly, rather—to such other influences as wind and rain and all the various assaults to which the constantly uncovered and unprotected skin of these persons is daily exposed. Do we not see epitheliomata of the skin develop in almost any site exposed to constant mechanical influences? We need only think of cancer of the lips, chimney-sweep's cancer, tar cancer, and many others. That the therapeutic application of light should produce epithelioma is in the highest degree unlikely. Nothing argues more strongly against this suggestion than the fact that up to this day no case of cancer of the skin has been reported as caused by the light bath, among the hundreds of thousands of persons who take either sun or artificial baths of this kind. And I may state, further, that among the thousands of patients who have received local phototherapeutic treatment for lupus at the Finsen Institute, we have not observed one case of lupous carcinoma resulting from this treatment. On the contrary, the percentage of lupous carcinoma shown by our records is the lowest existing, a fact which must be ascribed exclusively to the phototherapeutic treatment, which cures the patients so that they do not get carcinoma, while, if the light were particularly provocative in this respect, we should, of course, see a great many cases of this complication.

Of the fact that the phototherapeutic treatment does not produce epithelioma I see another proof in the conclusions arrived at by Dr. K. A. Heiberg, the histologist of the Finsen Institute, as the result of microscopical examinations made of the skin of twenty-five patients who had been under treatment with carbon arc light baths for a considerable period. Not in one single instance did Dr. Heiberg observe any change involving a risk of epithelioma; on the contrary, he proved that there takes place a vigorous regeneration of healthy skin, which greatly assists in improving the functioning of the latter. I therefore urgently recommend the use of light baths—sunlight or artificial—in all diseases for which this treatment is suitable. It is a therapy which has already proved so rich in beneficial results that it should be used, also in the future, to an ever-increasing extent; and we certainly must not allow ourselves to become frightened at dangers that are non-existent.

Dr. R. King Brown wrote also to Dr. Rollier of Leysin, who replied to somewhat the same effect.

Dr. Rollier considers that to obtain complete and well balanced therapeutic action a complex of rays should be used, the proportion of which is given by the solar light. They produce an increase of all vital phenomena in the skin, and it is therefore not extraordinary that the generative layers of epidermis should present more numerous mitoses. Dr. Rollier has never seen cutaneous atrophy follow phototherapy properly applied. The violet and ultra-violet rays used alone have an irritative action on the skin; nevertheless the most acute reactions, even those due to abiotic ultra-violet rays, get well if the irritation is not maintained by other traumatisms. He has never seen cutaneous epithelioma occur in a case of lupus treated only by heliotherapy. In Dr. Rollier's opinion heliotherapy—and he assumes that this applies also to artificial heliotherapy—does not cause any damage when it is applied in a rational manner, but the question of dose plays an important part.

### SLOW HEART.

SIR,—My old friend Dr. Rickard Lloyd's letter (May 2nd, p. 860) brings to memory a very remarkable case I had to deal with many years ago. An elderly man was to be operated on for obstructed inguinal hernia. Sir Rickman Godlee, who was the surgeon, told me that the patient's pulse was abnormally slow, and that under chloroform it would become slower, as it had done when he was operated on for a similar condition some time previously. Sure enough, before operation the pulse was 25 to 28; when fully under it dropped to 12 to 15 a minute. His breathing remained slow but regular all the time, but it was a rather trying experience to count five to six full seconds for each

beat. I went on the old rule, "Watch the breathing and keep the airway open," and all went well. The case was a remarkable one, as the patient had a double hernia with practically all his bowels in his scrotum. The patient recovered, but died some little time after from another trouble.—I am, etc.,

Appledore, Kent, May 2nd.

F. WILLIAM COCK.

#### APPENDICITIS.

SIR,—I was much interested in Mr. Sherren's article on the symptoms of appendicitis, in the *BRITISH MEDICAL JOURNAL* of April 18th (p. 727). I should be grateful if he or some other surgeon or pathologist would solve a mystery that has been puzzling me for years—that is, What is the cause of the suddenness of the pain which usually ushers in appendicitis—what pathological or mechanical change occurs at the moment of onset? Is it obstruction and distension of the appendicular tube? If so, is an appendicitis which is characterized by a more gradual onset of a different type, and likely to take a different course, from one commencing suddenly?

An interpretation of the symptoms in appendicitis by those who have the opportunity would enable us general practitioners to read our cases with a more intelligent interest, and consequently diagnose them more accurately and earlier.—I am, etc.,

Croydon, April 28th.

T. A. BLACE, M.B.

#### INDIVIDUAL MEDICAL DEFENCE.

SIR,—The recurring suggestion that the British Medical Association should undertake individual medical defence has now, apparently, received the qualified support of the Council, and will appear before the Representative Meeting in rather a new form.

What the Representative Body will do will be interesting to watch, as the present suggested policy is diametrically opposed to previous decisions of the Representative Body. I think it is a fact that at Edinburgh in 1898 it was definitely decided that the British Medical Association should not undertake medical defence; and again, at Leicester in 1905, a resolution was carried that it was inadvisable for the Association to undertake medical defence in competition with the existing societies. Other Annual Representative Meetings have also turned down similar suggestions. Apart from this, however, let us examine this suggestion on its merits.

The Medical Defence Union (of which society I know most) has as its General Secretary an ex-Deputy Medical Secretary of the British Medical Association, and on the Council are the present Honorary Librarian, one member of the Council of the British Medical Association, and a past Chairman of the Representative Body. Other members of the Council of the Medical Defence Union are also members of the British Medical Association. Surely the British Medical Association could hardly hope for any committee or governing body, even if entirely nominated by itself, to have more regard for members of the British Medical Association.

Again, the accumulated funds of the existing defence societies form a protection to members that no new society could hope to give for many years to come. It would even be possible that heavy claims in the first year or so might break a society which embraces only some 6,000 to 7,000 members.

Another point. The position of the individual who resigns from one of the existing societies to join the new one would be somewhat precarious. On his resignation he forfeits all protection for any matter occurring prior to his resignation. A new society is not likely to give retrospective protection; it could not possibly afford to do so. Thus there would be an interregnum, during which the individual would be totally unprotected.

I am a keen supporter of the British Medical Association, and have done a good deal of work for it at one time and another; but I should be very sorry to see it embark upon this fresh scheme for many reasons, a few of which I have mentioned above.—I am, etc.,

Birmingham, April 28th.

W. TRACEY LINDALL.

SIR,—In your issue of May 2nd (p. 861) Dr. Manson refers to the early history of the medical defence question, both within and without the British Medical Association.

Thanks to the researches of the Association's Intelligence Officer, I am able to give some of the details for the benefit of those who are interested.

On February 13th, 1886, it is recorded that the following resolution was unanimously passed by the Essex district of the East Anglian Branch:

"That as medical men may at any time become liable to false and groundless charges of a ruinous nature, it is most desirable that a medical defence fund be formed and administered in connexion with the British Medical Association, and that its members should be asked to contribute a small sum annually to this fund, those who do so becoming entitled, if occasion arise, to legal advice and assistance."

It was in the same year (1886) that the Medical Defence Union was formed as the result of a meeting held in May at the Medical Institute at Birmingham.

It would appear, however, that considerable discussion must have taken place within the Association for at least ten years previous to 1886, as Mr. George Brown, speaking to a resolution moved by Dr. Arthur Welsford at the Annual Meeting in London in 1895, stated "that he had wrestled with the Council for twenty years on this subject."—I am, etc.,

S. MORTON MACKENZIE,  
Chairman, Organization Committee,  
British Medical Association.

Dorking, May 2nd.

SIR,—Dr. Manson's reply to my letter on this subject discloses a number of misapprehensions, and I ask leave to make my argument clearer to him than my previous letter appears to have done.

He attributes to me the view that what would have been right in 1880 is wrong in 1925. What I said was that a certain course which would have been expedient in the circumstances of 1880 is not expedient in those of 1925, and I went into details of the changed circumstances.

I urged the overwhelming importance of a large reserve fund to a medical defence society; and pointed out that the Medical Defence Union and the London and Counties Medical Protection Society have such reserves, whereas the new company which it is suggested should be started under the auspices of the British Medical Association will have none. Dr. Manson glazes over this issue, and replies that the existence of these reserves proves how profitable is the work of medical defence, and how probable it is that in time the new company will also possess a reserve. It has taken the Defence Union forty years, and the Protection Society thirty-three years, to accumulate their respective reserves; and both societies in their early years risked bankruptcy in the process. The risk had to be run because it was the only way by which medical and dental practitioners could get individual medical defence. The risk still confronts any new society, and is definitely greater than it was forty years ago. Then why start a company which has to run such a risk when the existing societies have got beyond it? And which society is likely first to be able to reduce subscription rates—that which has a reserve of thousands of pounds, or that which may with luck hope to have an equal amount in forty years' time?

I disagree with Dr. Manson's thesis that a number of societies (necessarily weak ones, of course) are preferable to two strong ones. Personally I hold that one exceedingly powerful society would be even better. He puts forward in mitigation of the argument of the wastefulness of multiple offices, secretaries, and overhead charges in general, that no doubt the British Medical Association would let the new company have cheap office accommodation in the new buildings. Does Dr. Manson not perceive that this merely shifts on to the Association part of the burden in question, and that my argument that these multiple overhead charges come out of the pockets of the medical profession is unanswered?

I hope to see Dr. Manson withdraw unreservedly the paragraph in which he speaks of the relations between the Medical Defence Union and the Yorkshire Insurance Company, because upon reflection he will realize that the words he has used are bound to create a wrong impression and



to mislead. I demur also to his belief that "very little is happening in the defence societies," which is the inference he draws from my statement (not disputed by him) that there is extraordinarily little dissatisfaction among the members of the two defence societies. His inference is not only illogical, it is also incorrect.

One last point. Dr. Manson asks whether the Medical Defence Union would prosecute a member of the Union before the General Medical Council for a grave professional offence. It is *ultra vires* for the Medical Defence Union to do such a thing, and it will be equally *ultra vires* for the new company that Dr. Manson wants to see started to act similarly to a member of that company. This is a question of law; thus the aspirations expressed in his last paragraph are unattainable, because the law prevents their realization.—I am, etc.,

London, S.W., May 3rd.

HENRY ROBINSON.

SIR,—I read Dr. Manson's criticism of Dr. Robinson with much interest till I reached the last paragraph; then I rubbed my eyes. He desires to know if a medical defence society "would prosecute a member before the General Medical Council for advertising, touting, or other grave professional offence." He intimates not. There is a case for the British Medical Association undertaking the responsibility of a defence society, and against. But Dr. Manson's naïve query, I hazard, settles it. The idea of the British Medical Association prosecuting its own members is too entrancing.

Medical ethics, medical amenities, comprise a curious world, in a jealous profession. Sir William Osler plaintively refers to it in his writings, and the best antidote, as he always maintained, is a liberal education. The British Medical Association is constituted on a broad, democratic basis, I take it, for medical politics. The addition of the function could but weaken it.—I am, etc.,

London, N.W., May 3rd.

RICHARD GILLBARD.

#### HARVEY MEMORIAL AT HEMPSTEAD.

SIR,—By this time all members of the Association (and practitioners who are not) have doubtless received the circular from the Harvey Church Tower Memorial Fund Committee, appealing for monetary aid to erect a fabric to be named after the great William Harvey, and to restore to its pristine beauty the interesting old church at Hempstead, Essex, in which he (and many members of the Harvey family) was buried. I intended, in the first instance, to ask a few of my immediate medical colleagues to join with me in making at least some response to the appeal. But on reflection it seemed that a move in the same direction by the Association through the JOURNAL would be more appropriate and infinitely more effective.

The small subscription of half a crown from every British practitioner would, it appears, be sufficient to finance the project. There are two reasons why all should respond—first, because an old fourteenth century church requires restoration, and, again, the great and momentous discovery of a fellow countryman and physician is to be suitably recorded in stone.—I am, etc.,

London, N.W., May 1st.

HOPE GRANT, F.R.C.S., etc.

\* \* A note on the subject of Mr. Hope Grant's letter appears elsewhere, at page 895.

### The Services.

#### OSBORNE CONVALESCENT HOME.

THE KING has approved of the reappointment of the following to the consulting staff of King Edward VII's Convalescent Home at Osborne, Isle of Wight, for officers of H.M. Navy, Army, and Air Force: Sir Cuthbert Wallace, K.C.M.G., C.B., F.R.C.S., Sir Herbert Waterhouse, M.D., F.R.C.S., G. E. Gask, C.M.G., D.S.O., F.R.C.S., Sir W. H. Wilcox, K.C.I.E., C.B., C.M.G., M.B., F.R.C.P., C. H. Miller, C.B.E., M.D., F.R.C.P., H. S. French, C.B.E., M.D., F.R.C.P., H. Morley Fletcher, M.D., F.R.C.P.

#### TERRITORIAL DECORATION.

THE KING has conferred the Territorial Decoration upon the following medical officers: Colonel Frank G. Proudfoot, M.D. Royal Army Medical Corps; Lieut.-Colonels R. M. Vick, O.B.E., Sir Ewen J. Maclean (ret.), Major R. Coffey, E. J. Boome, D. S. Sutherland, A. E. Webb-Johnson, C.B.E., D.S.O.

#### INDIAN MEDICAL SERVICE.

As already announced, the annual dinner of the Indian Medical Service in London will be held at the Trocadero on Wednesday, June 17th. Lieut.-Colonel A. W. Alcock, C.I.E., F.R.S., will be in the chair. Tickets and all particulars may be obtained from the joint honorary secretary, Colonel J. J. Pratt, I.M.S. (ret.), 18, Nevern Mansions, Warwick Road, S.W.5.

### Universities and Colleges.

#### UNIVERSITY OF OXFORD.

At a congregation held on April 30th the degrees of M.A. and D.M. were conferred on H. D. Haldin-Davies.

#### UNIVERSITY OF SHEFFIELD.

Dr. B. Brouwer, professor in the University of Amsterdam, will give a lecture (in English) entitled "The projection of the retina in the brain," on Tuesday, May 19th, at 8.45 p.m., in the Medical Library, the University of Sheffield. All medical practitioners are invited.

#### UNIVERSITY OF DUBLIN.

##### TRINITY COLLEGE.

At the first summer commencements, held on April 28th, the undermentioned degrees were among those conferred:

M.D.—J. C. J. Callanan, R. A. D. Pope.  
Sc.D.—J. W. Bigger, M.D.

#### ROYAL COLLEGE OF PHYSICIANS OF LONDON.

An ordinary comitia of the College was held on April 30th, the chair being occupied by the President, Sir Humphry Rolleston.

##### Fellowship.

The following were elected to the Fellowship:

Robt. C.B.E., M.D. Lond.  
(London), Frederic  
William MacNee,  
M.D. Lond. (London).

##### Membership.

The following candidates, having passed the required examination, were admitted Members:

Frederick M. B. Allen, M.D. Relf., Herbert A. Brookes, M.B. Edin., Morris J. Cohen, M.D. Liverp., Leslie B. Cole, M.B. Camb., Robert H. Cook, M.B. Lond., Macdonald Critchley, M.D. Bristol, John N. Cruickshank, M.D. Glasg., Charles F. Harris, M.B. Lond., Amy Hodgson, M.D. Liverp., William A. Lister, M.R.C.S., L.R.C.P., J. Oxf., David C. Muir, M.B. Lond., Robert D. Power, M.D. Dub., D'Arcy J. Prendergast, M.D. Lond., Chennagiri K. Rau, M.D. Madras, and Ambrose Spong, M.D. Manch.

##### Licence.

Licences to practise physic were granted to the following 138 candidates, who have passed the Final Examination of the Conjoint Board and have complied with the by-laws of the College:

C. S. Anderson, W. A. Barnes, St. C. E. J. Barrett, I. C. P. Beauchamp, J. H. Beagley, Diana J. K. Beck, P. B. T. Becker, Elizabeth E. Benson, C. P. Blacker, W. B. Bomer-Morgan, E. H. Boodrio, D. de C. Boxhill, P. G. Brain, M. K. Braybrooke, R. B. Bray, C. W. Brook, G. M. Brooks, J. F. Butler, L. I. M. Castleden, I. A. D. Ceirios-Cadle, M. Chandra, R. J. K. Chatter, J. E. Church, Hilda A. Cohen, Jean Cooper, Catherine A. Cowan, P. V. Cramer, D. P. Crawford, D. A. L. Crawshaw, Victoria M. Crosse, G. P. Crowden, J. Crowther, J. Cumming, R. N. Curnow, R. R. Dalling, H. E. Daniel, R. K. Dehenham, A. E. De Hazal, J. D. Dillon, W. H. A. Dodd, A. S. M. Douglas, J. L. C. Doyle, G. I. Evans, P. F. Evans, Christabel S. Eyre, C. R. Fielding, F. J. T. Focander, C. A. Francis, D. B. Fraser, H. E. Gamlen, A. W. Gardner, J. H. Gibbens, G. D. Gilbard, A. Gompertz, R. T. Gooden, D. R. Grant, G. S. Hale, C. Howard, Marjorie F. M. Hayward, J. E. Howie, W. Hughes, J. T. Hunter, go, L. E. Jones, L. R. Jones, W. H. M. Kapur, R. St. J. Kemm, G. M. King, J. G. Kingsbury, C. K. Lakshmanan, J. C. C. Langford, Kathleen M. Lankester, G. A. Q. Lennane, H. M. O. Lester, Muriel A. Lester, T. J. Lloyd, A. McMillan, S. P. Meacock, J. G. Milner, V. S. Mitcheon, S. K. Montgomery, A. J. Moody, C. A. Moody, Florence I. R. Moore, W. G. B. Morris, C. A. Mulligan, Marjorie Murrell, V. Ogden, J. B. Oldham, Dorothy M. Payton, A. P. Pearce, C. O. Peters, A. Pierce, E. P. Pratt, B. Press, J. Rafalowsky, S. Randall, Grace D. Rice, H. S. Rich, G. D. Robb, J. E. C. Rouse, A. T. F. Rowley, T. A. Seeking, R. Sellick, G. D. Shields, J. R. Smith, J. S. Spickett, A. A. Spiro, E. F. Stead, G. H. Steele, J. S. Symons, Catherine F. Taylor, G. Taylor, Henrietta Trend, Joan W. Urwick, K. H. Uttley, J. M. van Schalkwyk, Y. S. Wan, E. C. Warner, R. L. Waterfield, M. A. Weisman, W. S. Whimster, R. M. Winder, K. K. Wood, J. Wood, H. M. Woodman, and H. C. Wykerd.

##### Diplomas.

Diplomas in the undermentioned subjects were granted, jointly with the Royal College of Surgeons of England, to the following candidates:

Diploma in Public Health.—J. V. Armstrong, Amarnath Bajaj, Bal Mokand, E. M. Berghem, E. R. W. Gilmore, Andrew M. Hughes, J. A. Kerr, J. H. M. Lloyd, Marian Lones, H. L. Oldershaw, Ethel B. Poole, Gian Singh, L. H. D. Thornton, J. G. Walker, and Moreen Whelton.

*Diploma in Tropical Medicine and Hygiene.*—Bal Mokand, J. N. Banks, A. Blair, J. H. Bowyer, H. H. Brown, E. N. Cook, A. C. Craighead, N. E. Goldsworthy, T. S. Goodwin, P. F. A. Grant, A. N. Hawthorth, L. H. Henderson, S. Khan, R. A. E. Klaher, E. Lumsden, J. R. Maleri, J. S. E. Manloy, A. S. Mohammed, H. J. More, J. W. Scharff, E. B. Struthers, and J. L. Stuart. (All the above were students at the London School of Hygiene and Tropical Medicine.)

Sir Wilnot Herringham, K.C.M.G., M.D., was re-elected as Representative of the College on the Senate of the University of London.

Dr. William Gordon was nominated to represent the College at the Congress on Thalasso-Therapeutics at Arcachon, France. Dr. Raymond Crawford was elected Registrar of the College. A report from the Committee of Management was received and adopted, also the quarterly report of the examiners for the licence on the examinations held in January last. The report of the Committee on Regulations for the Membership Examination was received and was in part referred back for further consideration. Books and other donations to the library presented during the last quarter were received.

The President then dissolved the comitia.

#### SOCIETY OF APOTHECARIES OF LONDON.

The following candidates have passed in the subjects indicated:

*SURGERY.*—T. A. Lazaro, I. H. Mackay, K. E. R. Robertson, F. Smith (Section II), P. W. Tobin.  
*MEDICINE.*—E. H. Boodrie, F. Carroll, T. G. L. Davies, C. M. Moody, A. B. Osbourne, J. Wilson.  
*FORENSIC MEDICINE.*—F. Carroll, P. H. Knowles, C. H. Mason, A. B. Osbourne, O. W. Percival.  
*MIDWIFERY.*—R. V. Cookes, B. Horwitz, T. McD. Kellough, P. H. Knowles, C. S. Netscher, W. I. Pierce, S. H. G. Pimm, G. E. Rowan, B. L. Steele, R. F. Stubbs, P. W. Tobin, D. Winstanley.

The diploma of the Society has been granted to Messrs. E. H. Boodrie, T. McD. Kellough, C. M. Moody, B. L. Steele, R. F. Stubbs, J. Wilson.

### Obituary.

DR. ARTHUR BANCES PROWSE died at Clifton on April 26th in his 70th year. He was the son of Dr. William Prowse and grandson of Dr. James Prowse, who practised in St. James Barton. He received his early education at Amersham College, and subsequently became a student at the Liverpool School of Medicine, and St. Mary's Hospital, London. He took the diplomas of M.R.C.S.Eng. in 1877 and F.R.C.S. in 1882, graduated M.B.Lond. with honours in medicine, forensic medicine, and obstetric medicine in 1878, and proceeded M.D. in 1881. He was appointed assistant surgeon to the Bristol Royal Infirmary in 1883, and in 1888 succeeded Dr. W. H. Spencer as physician, a post which he held until 1919, when he retired and was appointed honorary consulting physician. Dr. Prowse served for seventeen years as a lecturer on materia medica, pharmacology, and therapeutics in the Bristol Medical School, and was honorary financial secretary on the occasion of the Annual Meeting of the British Medical Association at Bristol in 1894. He was appointed to the command of the 2nd Southern General Hospital in 1919, with the rank of lieutenant-colonel R.A.M.C.(T.).

DR. ARTHUR STORRS, who died at Capri on February 6th, received his medical education in Edinburgh and McGill Universities. He graduated M.D.McGill in 1876, and received the Edinburgh diplomas L.R.C.P., L.M. 1879, and the M.R.C.P. in 1882. A colleague of very long standing (A. D. W.) writes: We were both born and brought up in the Annapolis Valley, Nova Scotia, in sight of the Minas Basin of the Bay of Fundy, his father being rector of a parish near the famous Arcadian village of Longfellow's *Evangeline*. He was educated at Horton Academy and King's College. We studied medicine together at McGill University, and both came home and settled in practice on this side of the Atlantic—he in England and I in Scotland. From Barnsley he went to practise at Mexborough, and afterwards in Southport; three years ago he retired to Bovey Tracey, Devon. His work as a practitioner of medicine would have rejoiced the heart of the late Sir James Mackenzie; he was so precise and methodical, so anxious and exact in diagnosis, so careful of every interest of his patient, and so skilful in treatment. He was a connoisseur in old china, and croquet was his favourite recreation. He only allowed himself a brief summer holiday, often choosing to spend it among the Scottish

Highlands. His first wife, for many years an invalid, died not long after he retired. In October last he set out, after his marriage with Mrs. Romilly of Southport, for warmer climes, hoping to accomplish a long desired visit to Palestine. At Cannes he contracted a slight chill, which at Capri developed into bronchopneumonia, of which he died. The remains were brought to England and buried at Bovey Tracey. He leaves his wife and many friends to mourn his loss.

DR. HERBERT LIVINGSTON EVANS of Goring-on-Thames, who died on April 9th after a short illness, aged 65, was educated at Clifton College, Edinburgh University, and Guy's Hospital Medical School. He graduated M.B., C.M.Ed. in 1887. After serving as clinical assistant at the Bristol Eye Hospital he settled in practice at Goring some thirty-six years ago. He was assistant medical inspector of schools, medical officer and public vaccinator for the No. 2 District of the Bradfield Union, and medical officer to the Post Office. In his earlier days Dr. Evans was a fine athlete, and during three seasons played for Scotland in international Rugby football matches. He was a member of the Reading Division of the British Medical Association.

DR. HENRY TRENTHAM MAW, who died at Westcott, near Dorking, on April 23rd, aged 58, was educated at Repton and Christ's College, Cambridge, and studied medicine at St. Bartholomew's Hospital. He took the diplomas of L.R.C.P. and M.R.C.S. in 1892, graduated M.B., B.Ch.Cantab. in the following year, and proceeded M.D. in 1896. He served as house-surgeon at the Leeds General Infirmary and the Hospital for Sick Children, Great Ormond Street, and resident medical officer at the Royal Hospital for Diseases of the Chest, City Road. He had been a partner in the well known firm of Messrs. S. Maw, Son and Sons, Ltd., since 1901, and became chairman of the board of directors on the death of his brother, Mr. C. T. Maw, in 1918.

DR. ALEXANDER CHRISTY WILSON, who died at Doncaster on April 27th in his 80th year, was the son of Mr. Walter Wilson of Hawick. He received his medical education at the University of Edinburgh and in Paris, took the diploma of L.R.C.S. Edin. in 1866, graduated M.B., C.M.Edin. in 1867, and proceeded M.D. in 1870. After holding resident posts at the Edinburgh Royal Infirmary, he settled in practice at Doncaster some fifty-five years ago. For over forty years he was an honorary surgeon to the Doncaster Royal Infirmary, and on his retirement was appointed consulting surgeon. He was a member of the Royal Medical Society of Edinburgh, and had served as president of the Leeds and West Riding Medico-Chirurgical Society and of the Yorkshire Branch of the British Medical Association. In 1923 he and his wife celebrated their golden wedding. He is survived by his widow and two sons, both of whom are members of the medical profession.

DR. ARTHUR HEFFTER, director of the Institute of Pharmacology in Berlin, and author of various works on pharmacology and toxicology, has died at the age of 65.

DR. SIDNEY ALRUTZ, director of the Institute of Experimental Psychology at Upsala, and well known for his investigations on the sensibility of the skin, has recently died.

DR. GIUSEPPE RUGGI, formerly senior surgeon to the Ospedale Maggiore, Milan, and one of the pioneers of Listerism in Italy, and Dr. GAETANO GAGLIO, professor of pharmacology in the University of Rome, and author of a well known treatise on pharmacology, have recently died.

M. ALEXANDRE MALOINE, the well known Paris medical publisher and bookseller, has died at the age of 76.

## Medical News.

DURING his visit to Sierra Leone the Prince of Wales made an inspection of the Sir Alfred Lewis Jones Tropical Research Laboratory. This branch of the Liverpool School of Tropical Medicine was built after the war out of funds bequeathed by the founder of the Liverpool School of Tropical Medicine. Sir Alfred Jones, aware of the handicap to commercial development caused by the diseases of tropical West Africa, wished that research institutes for the study of such diseases should be established in places where these diseases are rampant; Sierra Leone was the first locality chosen by him. His Royal Highness with his staff visited the laboratory on April 7th and was met by the Director, Professor B. Blacklock, with Mrs. Blacklock, Dr. Gordon, assistant director, and Dr. Macdonald, research assistant. A series of exhibits was shown, illustrating the life-histories of insects and parasites.

THE appeal on behalf of the British Institute of Radiology, to which we referred on November 8th, 1924 (p. 872), has resulted in a sum of £1,680 having received up to April 10th, of which £238 was definitely allocated to the Reid Memorial Fund. This sum has been mainly contributed by radiologists, and, in order that the total amount required (£6,000) may be obtained, it will be necessary for the general public, as well as members of the medical profession other than radiologists, to co-operate.

PROFESSOR ELLIOT SMITH will deliver a lecture, with lantern illustrations, on "The Taungs skull—missing links" at University College, London, on Friday, May 22nd, at 5.30 p.m. The proceeds from the sale of tickets will be devoted to the St. Christopher's Working Boys' Club, which is largely maintained and organized by the students and staff of University College. Particulars can be obtained by sending a stamped addressed envelope to Miss Hushands, University College, London, Gower Street, W.C.1.

THE annual oration before the Medical Society of London will be delivered by Sir William Hale-White, K.B.E., M.D., on Monday evening next, May 11th, at 9 o'clock. The subject is "The medical career of John Keats." The president, Dr. Eustace M. Callender, C.B.E., will receive Fellows and guests at 8.30 p.m., and the oration will be followed by a conversation.

THE next dinner and smoking concert of the Cambridge Graduates' Medical Club will be held at the Langham Hotel, Portland Place, W.1, on Wednesday, May 27th, at 7 for 7.30 p.m. The president of the club, Sir Humphry Rolleston, Bt., K.C.B., P.R.C.P., Regius Professor of Physic in the University of Cambridge, will take the chair. The price of the dinner, exclusive of wine, is 10s. 6d. The honorary secretary is Mr. W. H. C. Romanis, F.R.C.S., 31, Harley Street, W.1.

THE dinner of the Queen's University Club, London, will be held at the Connaught Rooms, Great Queen Street, on Thursday, May 21st. Among the guests will be Lord Carson, Mr. Winston Churchill, and Sir John Ross, formerly Lord Chancellor of Ireland.

THE annual dinner of the Harveian Society of London will be held at the Connaught Rooms, Great Queen Street, on Thursday, June 11th, at 7.30 p.m.

THE next quarterly meeting of the Medico-Psychological Association of Great Britain and Ireland will be held on Thursday, May 21st, at the house of the Medical Society of London, at 2.30 p.m., when Dr. J. Shaw Bolton will deliver the Maudsley Lecture, entitled "Mind and Brain."

TWO Chadwick public lectures (illustrated with epidiascope and lantern slides) will be given in London this month by Dr. Emile Brumpt, professor of the Faculty of Medicine in the University of Paris. The first, on how to conduct an antimalarial campaign, will be delivered in the Barnes Hall, Royal Society of Medicine, 1, Wimpole Street, W., on Monday, May 25th, at 5.15 p.m., with Sir William J. Collins in the chair. The second, on the prophylaxis of sleeping sickness, will be delivered in the lecture room, Royal Society of Arts, John Street, Adelphi, W.C., on Friday, May 29th, at 5.15 p.m., with Sir James Crichton-Browne in the chair. Immediately preceding Professor Brumpt's first lecture the Chadwick Gold Medal and Royal Air Force Prize of £100 will be presented to Wing-Commander Harold E. Whittingham, who during the past five years has specially assisted in promoting the health of the men of the Royal Air Force. This award is made in accordance with the scheme of the Chadwick Trust, upon the nomination of the Director of Medical Services, R.A.F.

THE London (Royal Free Hospital) School of Medicine for Women has purchased 6½ acres of freehold land at Sudbury for a sports ground for the students of the school.

THE Fellowship of Medicine announces that on May 12th, at 5.30 p.m., Mr. J. P. Lockhart-Mummery will lecture at No. 1, Wimpole Street, on the diagnosis and treatment of internal piles. From May 18th to 29th the London Temperance Hospital will hold a course for general practitioners; a clinical demonstration will be given at 4.30 p.m., followed by a short lecture at 5.30. A course in psycho-logical medicine at the Maudsley Hospital began on May 4th. The Central London Throat, Nose, and Ear Hospital will hold a special course from May 11th to 30th, consisting of clinical demonstrations with out-patient clinics and ward rounds; an operative surgery class will also be arranged. From May 18th to the end of the month there will be a special course at the Infants Hospital, consisting of lectures, out-patients' clinics, "round table" consultations, and visits to four different centres outside the hospital. There will also be a two weeks' course in dermatology from May 18th at the Hospital for Diseases of the Skin, Blackfriars; instruction will be given in the out-patients' department from 2.30 p.m., with a special demonstration on selected cases on May 19th, together with venereal clinics twice weekly. There will be courses in June at the Victoria Park Hospital for Diseases of the Heart and Lungs, the Chelsea Hospital for Women, the London School of Hygiene and Tropical Medicine, the London Lock Hospital, and an intensive course at the London Temperance Hospital and associated hospitals. Full particulars of these courses may be obtained from the Secretary of the Fellowship of Medicine at No. 1, Wimpole Street, W.1.

THE party arranged by the Inter-State Post-Graduate Assembly of America, which is to visit this country in June under the leadership of Dr. Charles Mayo, will spend the first week in London, where it will visit a large number of hospitals and medical institutions. The Duke of York will attend the opening ceremony on June 2nd. On June 2nd there will be a garden party at the London Hospital, when Dr. Charles Mayo will present the prizes to students. On June 3rd there will be an evening reception at the Royal Society of Medicine, and on June 4th a garden party at St. Bartholomew's Hospital. On June 5th there will be an afternoon reception at the Royal College of Surgeons, and on the evening of the same day Dr. Mayo and the members of the advisory committee of the Inter-State Post-Graduate Assembly of America will give a dinner at the Guildhall. On the afternoon of June 6th a garden party will be given at Crewe House by H.E. the American Ambassador and Mrs. Houghton, and in the evening of that day Dr. Mayo will be entertained to dinner by the Section of Surgery of the Royal Society of Medicine. The party will afterwards visit Manchester, Liverpool, Leeds, Dublin, Belfast, Glasgow, Edinburgh, and Newcastle, and will then proceed to Paris.

THE Board of Education has issued a revised form of the report in connexion with the medical examination of mentally deficient children (Form 306 M, or Schedule F, of the Board's Revised Model Arrangements). Local authorities will be permitted to use alternative forms, provided that such forms are so constructed as to include the same information as in the new form. The Board has also issued a revised form of report or use by head teachers in the case of children whose education is retarded (Form 41 D), certain recognized tests of scholastic attainments, reprinted from Burt's *Handbook of Tests for Use in Schools*, being incorporated in it. Certificate forms (311 M and 312 M) have now been provided for the purpose of reporting to the local authority cases in which a child is an idiot, imbecile, or moral imbecile.

SIR GILBERT WHEATON FOX of Liverpool bequeathed £2,000 to the Liverpool Royal Infirmary, £1,000 each to the Royal Southern Hospital, the David Lewis Northern Hospital, the Stanley Hospital, and the Birkenhead Borough Hospital. Miss Mary Russell of Manchester, who left estate of the gross value of £50,618, with net personalty £60,525, directed that after the fulfilment of a number of personal legacies the residue of the property is to be divided between the Christie Hospital Cancer Pavilion and Home, St. Mary's Hospitals, Manchester, the Manchester Royal Infirmary, the Manchester Eye Hospital, the Salford Royal Hospital, and the Royal National Lifeboat Institution. Sir William C. Gray of Bedale, Yorks, who died in November last, bequeathed £5,000 to the Hospitals Trust of the Hartlepoons and £2,000 to the Victoria Homes, West Hartlepool.

THE Cambridge University Press announces, for early publication Volume XIX of the Royal Society's *Catalogue of Scientific Papers*, covering the letters T-Z during the years 1884-1900.

THE fifth Northern Surgical Congress will be held at Copenhagen, under the presidency of Professor Rorsing, from June 25th to 27th, when the following subjects will be discussed: treatment of acute osteomyelitis and its sequelae; non-tuberculous disease of the adnexa; tuberculosis of the kidneys and urinary tract. The general secretary is Professor P. Bull, Incognitogade 26, Oslo, Norway.

It is proposed to erect a new nurses' home in connexion with the Elizabeth Garrett Anderson Hospital at a cost of £15,000 as a memorial to the ninety-seven members of the Overseas Nursing Services who died in the war. A reception will be held by the Dowager Marchioness of Dufferin and Ava, chairman of the Memorial Fund, in the Conference Hall, Wembley, on May 23rd, at 3.30 p.m. Subscriptions should be sent to her at the Elizabeth Garrett Anderson Hospital, 144, Euston Road, N.W.1, and further information can be obtained from the Secretary, Overseas Memorial Committee, at the same address.

A SYMPATHETIC obituary notice of Sir James Mackenzie, with a portrait, appears in *Il Policlinico* of April 20th.

A COURSE of instruction in diagnosis of diseases of the heart will be held at Naubeim from May 25th to 30th. Further information can be obtained from Dr. Gabriel, Zander Institut, Naubeim.

A CONGRESS of physiotherapy will be held at Leningrad, under the presidency of Professor A. S. Brustein, from May 23rd to 27th, when the following papers will be read: helleotherapy, by Professor Brustein; ionotherapy, by Professor S. B. Vermel; physiotherapy of arthropathies, by Professor A. L. Polianov; physiotherapy of endocrine disturbances, by Professor G. M. Czernizky.

THE volume of the report on the Census of England and Wales (1921), dealing with dependency, orphanhood, and fertility, was issued on May 7th. It contains 252 pages of tables, 230 of them relating to dependency, including particulars of the numbers and sizes of families of children under 16 years. Its price is £1 10s.

THE Royal Society will give its first conversazione for this year on the evening of Wednesday next, May 13th.

THE medical faculty of Copenhagen has offered a prize of 5,000 kronen for the best critical study of the modern surgery of the sympathetic nervous system.

## Letters, Notes, and Answers.

ALL communications in regard to editorial business should be addressed to **THE EDITOR, British Medical Journal, 429, Strand, W.C.2.**

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the **BRITISH MEDICAL JOURNAL** alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Matter intended for the current issue should be posted so as to arrive by the first post on Monday, though in special circumstances urgent communications can usually be received on Tuesday morning.

Authors desiring REPRINTS of their articles published in the **BRITISH MEDICAL JOURNAL** must communicate with the Financial Secretary and Business Manager, 429, Strand, W.C.2, on receipt of proofs.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the **JOURNAL**, should be addressed to the Financial Secretary and Business Manager, 429, Strand, W.C.2. Attention to this request will avoid delay.

The TELEPHONE NUMBER of the **BRITISH MEDICAL ASSOCIATION** and **BRITISH MEDICAL JOURNAL** is **GERARD 2630** (Internal Exchange).

The TELEGRAPHIC ADDRESSES are—

EDITOR of the **BRITISH MEDICAL JOURNAL**, *Antology Westrand, London.*

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate Westrand, London.*

MEDICAL SECRETARY, *Mediscera Westrand, London.*

The address of the Irish Office of the **BRITISH MEDICAL ASSOCIATION** is 16, South Frederick Street, Dublin (telegrams: *Daedalus, Dublin*; telephone: 4737 Dublin), and of the Scottish Office, 6, Rutland Square, Edinburgh (telegrams: *Associate, Edinburgh*; telephone: 4361 Central).

## QUERIES AND ANSWERS.

"X" writes: I have a patient who has the greatest dread of thunderstorms. Can any reader suggest a plan for giving relief?

"BORNEO" writes: I have a patient who is not a true "bleeder," but who, on having three teeth extracted, nearly bled to death. That is fifteen years ago. His teeth are now in a very bad state and should all be extracted. What is one to do to prevent recurrence of the bleeding?

## THE TREATMENT OF FIBROSITIS.

Dr. R. CHALMERS (Darlington) asks for information as to the dose of trisodic potassium phosphate recommended by Dr. Ellis during the discussion on the nature, prevention, and treatment of fibrositis, reported in our columns on March 14th (p. 509).

The dose is not given in any book of reference to which we have access, but Dr. Ellis informs us that it should be 2 grains and upwards, according to result. It may disagree and produce general discomfort. It is contraindicated in "alkaline thin gastro-neurasthenic cases." Dr. Ellis adds that the drug should be given carefully; he has gone as high as 10 grains three times daily, but very rarely.

## RELAPSE IN MEASLES.

"G. P." asks: Is there such a thing as a relapse in measles? I can find no reference in the textbooks. Three sisters had typical measles recently; seventeen days later the eldest girl again came out in a typical measles rash, with slight elevation of temperature, injected eyes, and cough. Can this be a true relapse, and must the quarantine period be again extended?

"\*." We find the following references, but they leave the final question unanswered:—Albutt and Rolleston's *System of Medicine*: "It has sometimes been asserted that relapse is of common occurrence in measles, but it seems clear that a true relapse is a very rare event. Some of the cases noted as examples of relapse are really instances of irregular development of the rash; others rest, apparently, upon an error of diagnosis—the first or the second eruption being in reality that of German measles." Osler and McCac's *Principles and Practice of Medicine* (ninth edition): "Relapse is occasionally seen, the symptoms recurring at intervals from ten to forty days; but it is not always easy to say whether there may not have been new infection from without."

## LETTERS, NOTES, ETC.

### EASY WRITING AND HARD READING.

WE are indebted to Dr. C. O. Hawthorne for the following postscript to the note under this heading (April 25th, p. 812), in which he quoted from Moore's *Life of Sheridan*, where it is stated to be quoted from *Clío's Protest*:

I think I have run the couplet to earth. In the form I sent it to you it appears, as stated, in Moore's *Life of Sheridan*, but the page is not 155 but 55. Further, the couplet is quoted alone—I mean without its context. *Clío's Protest* is a topical or personal set of verses apparently intended to scarily a certain "poetaster," and it includes references to a number of persons indicated by initials or by an initial and dashes. Probably no one could now interpret the references, and I take it that this limited interest of the *Protest* explains the exclusion of the lines from volumes offered as *The Works of Sheridan*. They appear, however, together with other odd verses, in two different volumes which I have seen at the British Museum. But there is a disappointment. The full-blooded vigour of "d—d hard reading," as you quoted it, was somewhat reduced in the lines of the *Life*: it became "curst hard reading." A still milder tone marks the original (Thomas Moore did not quote it correctly): it runs "vile hard reading." I have a suspicion that somewhere in Macaulay the "d—d hard reading" may be found, but I cannot turn up the reference. I now send the lines and the immediate context, and plainly they bear out the interpretation you have placed on them:

"If in my strictures I've been free  
—You know the Muse's liberty.  
However I'll make all matters equal  
By wholesome counsel in the sequel.  
And first leave *Panegyric* away;  
"That way," "that way,"  
"your breeding."  
"reading."

From *Clío's Protest*, or the Picture Framed.

### TO RELIEVE PAIN IN BURNS AND SCALDS.

Dr. W. F. MOORE (Kingsbury, Tamworth) writes to recommend as a simple and effective application for pain in burns and scalds equal parts of linseed oil and lime water, with the addition of half an ounce of tincture of opium to each eight ounces. This, he says, stops the pain quickly and is excellent treatment during the painful stage in very severe and very extensive burns. Later he applies an antiseptic, such as boric acid ointment.

## ERRATUM.

In the report of the discussion on puerperal sepsis at the Congress of Obstetrics and Gynaecology, published on May 2nd (p. 831), Dr. F. J. McCann is reported to have expressed the opinion that "puerperal general infection" would be a better term than "puerperal sepsis." The word "general" was a misprint for "genital." He thought it desirable to retain the word "infection" because it brought home the fact that puerperal infection was comparable with wound infection in general surgery.

## VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 35, 36, 37, 40, and 41 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 38 and 39.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 199.

# Lady Jones Lecture ON CRIPPLING DUE TO FRACTURES: ITS PREVENTION AND REMEDY.

DELIVERED BEFORE THE UNIVERSITY OF LIVERPOOL,  
MAY 12TH, 1925,  
BY

SIR ROBERT JONES, K.B.E., C.B., M.Ch., F.R.C.S.

There are personal associations so intimately woven into the texture of this occasion that it is my duty in gratitude and in remembrance to recall them. This first triennial lecture was inaugurated by Mr. John Rankin in memory of my wife. To him I offer my deep gratitude for a thought that you will understand cannot be expressed in conventional terms, but must be accepted in terms that are nearer to silence. Secondly, I have to thank the Council of the University for the privilege—a source of pride as well as gratitude—which they accord me by once again offering me their honoured hospitality in this place.

I have chosen for this lecture a subject which has attracted my attention for many years. It deals with a neglected branch of surgery, and offers suggestions as to the remedy. While dramatic progress has been made in our art as it affects the brain, chest, and abdomen, there has been a deplorable inertia in the surgery of fractures. This is evident when we read the older writers from Hippocrates to Astley Cooper, Percival Pott, and R. W. Smith. The cause is not far to seek. The surgeon of olden days had far fewer problems to solve than are presented to the surgeon of to-day, who is constantly annexing territory previously the province of the physician. The older surgeon consequently had more time to study the deplorable condition of the results of treatment of fractures in this country, and although many of us looked upon some of his operative procedures as drastic his attitude encouraged the spirit of introspection. This is exactly what was, and what is still, needed. I have written so often upon the relative values of open and closed treatment of fractures that I shall not dwell upon this aspect of the matter now. I willingly admit, however, that operative procedure is more than justified if a surgeon cannot obviate malunion and functional defect by non-operative mechanical means. Our position to-day, however, is tragic, for the majority of fractures treated by conservative, or non-operative, methods are badly handled, with resultant disability, and expert operative aid, if desired, is not always at hand. This is the reason I have ventured upon a critical survey of the causes which continue to produce thousands of crippled every year. There is no need to apologize for the choice of subject, whatever may be thought of the way in which it is presented.\*

## LESSONS OF THE WAR.

The treatment of fractures is at present a blot upon our surgical escutcheon. The great war afforded the most convincing proof of the mishandling of complicated, and even of simple, fractures. In the early period these cases arrived home with appalling deformities. Excessive shortening and malunion were the rule. It would, however, be unfair to blame surgeons for this. Men with no experience in this branch of work did the best they could, while men who understood how to treat fractures found the conditions such that it was impossible to obtain satisfactory results. They deplored the fact that the splints supplied were not those to which they were accustomed; that immediate evacuation was inevitable; and that continuity of treatment was impossible. Fractures of the femur serve as a notable

\* Readers are referred to the presidential address of Mr. Muirhead Little on "Specialism and General Surgery," delivered to the British Orthopaedic Association in 1918, and reported in the *Journal of Orthopaedic Surgery*, February, 1919. (A short abstract was published in the *British Medical Journal* for November 30th, 1918, p. 601.)

example. The splint with which we are all so familiar, invented by H. O. Thomas, was barely known, and yet it was the type of splint which ultimately saved the situation. In 1916 the mortality from these fractures amounted to 80 per cent., a large proportion of the deaths occurring on their way to or at the casualty clearing stations. Later, when the Thomas splint was applied almost exclusively, and as near to the firing line as possible, we have it on the authority of Sir Henry Gray that the mortality in 1918 was reduced to 20 per cent. This is an astounding and inspiring fact, and led Colonel Crile, of the United States Army, to say that the Thomas splint did more to prevent death from shock than any other single measure.

The next great advance in the treatment of fractures at the front occurred when we were able to secure the segregation of cases. The country owes a great debt of gratitude to Major Maurice Sinclair for his most excellent work at Boulogne. After our earlier experience it was a delight to meet with his cases. His femurs came over with problems of segregation and of team work had been overcome with very admirable results. In England, however, we were not in a position to segregate these fractures when they arrived. They were distributed to places which were most convenient as regards transport, but they were often denied efficient treatment. Splints were removed too soon, thus sadly interfering with the good work abroad as often changed unnecessarily, and the want of efficient after-care and continuity of treatment. After a time permission was granted that all fractures of the femur should be segregated in our special military centres at home or their arrival from the front, and Colonels Watkin Williams and Pearson, and others, who had done good work in fracture hospitals abroad, were brought home to take charge of them. The results were astonishingly good. In 300 cases treated at one time at the special surgical centre at Edmonton the average shortening was about half an inch. In Liverpool, where 97 cases were at one time at Alder Hey and Knotty Ash, the measurements were similar. At Liverpool the Thomas splint was used in the way to which we are accustomed. At Edmonton the protected ice-tong calliper was employed by Pearson. In all these hospitals gunshot fractures were of the worst type, and the results proved the value of expert supervision, segregation, and team work.

The difference between such results and the average pre-war treatment may be emphasized by the statement of a surgeon to a large teaching hospital, who said of the femur, "I am satisfied if the shortening is not more than from one to two inches." Thomas, over thirty years ago, was unhappy if he had more than half an inch of shortening, and as a boy I have often helped him to put up a fractured femur in his rooms without an anaesthetic, and have immediately afterwards accompanied the patient home in a four-wheeled cab. This experience would more than establish the safety of immediate transport on the field of battle. Let me emphasize again that the success in the treatment of fractures during the later phases of the war was due to expert supervision, simplicity of apparatus, team work, segregation, and appropriate after-care. These are the lessons the war taught us. Are we going to apply them, and improve upon them, or are we to revert to the old bad way? Upon an answer to this question much depends, both in respect to the reputation of our teaching hospitals, and to that of our profession as a whole. It will be admitted that our brethren all over the country, both in the treatment of a fracture entails because of results with which they are only too familiar. This is due to faults of teaching, and the responsibility does not rest with the general practitioner, but with the surgeons who were his teachers. Let us, therefore, first of all deal with our big teaching hospitals.

## METHODS BY WHICH FRACTURES ARE BEING DEALT WITH AT THE "BIG TEACHING HOSPITALS."

I lay stress on the phrase "big teaching hospitals" because their responsibility in teaching generations of medical practitioners is the gravest. They have the means



at their command, both as regards personnel and equipment. What they need is a more modern vision as to the needs of the student. In criticizing our teaching hospitals I may fall into the error of grouping them in such a way as to suggest that their methods are all quite alike. They may and do differ, but not sufficiently to make any of them adequate.

It will, I think, be generally agreed that the teaching of the proper treatment of fractures can only be effective when based on experience, not of mechanical detail alone, but also of the principles which relate to deformity. Every fracture should be looked upon as a potential deformity. Some of these deformities develop in very insidious ways. They may be traced to omissions or commissions, or both. They may arise during treatment, or when treatment is discarded. The least obvious frequently prove the most disabling. Function is impaired, not because of the presence of an ugly lump—often quite harmless—but if strain is cast upon joints above or below the fracture trouble begins. The external contour of a forearm may appear normal even when it hides a cross union. The surgeon called upon to teach should possess the experience enabling him to visualize all such difficulties and dangers, which are sure to encompass the practitioner in after-years. This necessity, however, is not recognized. It is the custom in big teaching hospitals that ambulatory fractures—that is, those among out-patients—are treated by junior officers. These officers are usually not supervised, and the department is not connected with any in-patient service. Results are not inspected by any higher authority. There is no probability that this officer has the knowledge necessary to teach, and it rests with him whether a case should be sent, usually for operation, to the wards. He is not appointed to the post long enough to acquire a sound working knowledge. He starts as the raw material, and rarely graduates as the finished product. To an especial degree what experience he acquires is largely due to mistakes which need never have occurred. This officer remains at his post, which is a subsidiary one, until he is happy enough to be removed to one which he considers more congenial and important. He has no definite period assigned to him with the object of making him useful to the department, but he leaves it when another junior takes his place, who probably repeats all his mistakes. In this way we have a constantly changing personnel, who are neither able to reflect credit on the hospital nor do bare justice to their responsibilities. This system is hopelessly wrong and does not admit of argument, much less of defence.

When we come to deal with recumbent or in-patient fractures we are scarcely, if at all, better off, for they are generally left to the care of the house-surgeon. The honorary surgeon may cast an eye upon them from time to time, but as a rule he resents the occupation of beds by patients in whose infirmity he has little or no interest. Indeed, the house-surgeon is in an awkward dilemma, for he is expected to treat a fracture adequately and expeditiously, while at the same time he is unpopular because he blocks a bed. He has only one thing to do, and as a rule he does it. The fracture is put up in plaster-of-Paris and sent out at the first opportunity. A more unscientific and certainly less satisfactory method it is not easy to conceive. The reduction of a difficult fracture is not the work of a moment, but often of days. There is a finality about placing a fracture in a plaster case which does not admit of compromise, for it assumes the reduction to be immediate, complete, and ended. Readjustment of the bone ends cannot be made. An experienced surgeon knows this, and yet it is a commonplace that fractures of the shaft of the femur are frequently taken into our hospitals to be almost immediately evacuated in plaster. Even more pathetic is the fate of a patient with a fractured neck of the femur, one of the gravest of accidents. Such a case is rarely admitted into the wards of a teaching hospital, but is sent directly to a Poor Law infirmary. I have not an unkind word to say of this type of institution—many of them are most admirably and efficiently conducted. There are some of them, however, quite unfitted for the modern treatment of fractures, and our teaching hospitals should appreciate this fact.

The surgeons, with rare exceptions, neglect to teach because few of them are sufficiently interested or sufficiently informed to do so. They do not emphasize the essential points. Their teaching is perfunctory, not intensive. They pay homage to a duty, but there is no true allegiance. Should the fracture be a spontaneous one, due to a malignant tumour, its rarity arouses every spark of enthusiasm, and opens a fine field for prolonged contemplation. But the common, everyday fracture, the treatment of which may make or mar a student after his graduation, is neglected. Is it a wonder that so many of our large teaching hospitals suffer in reputation? But let us leave this aspect of the matter for a moment and consider the general question from two aspects—the effect on the patient and on the medical student.

#### (a) *The Effect on the Patient.*

The object of treatment is the restoration of function with the least risk to the patient, and the least anxiety to the surgeon. The large proportion of fractures occur in healthy young adults. To them, and to their families, it is of paramount importance that they leave hospital with function restored. Again, it is important that the period of convalescence should be as short as modern methods can ensure. To a surgeon who takes pride in his work the full recovery from a bad fracture should be a thrilling achievement, while malunion, stiffened joints, and wage-earning disabilities should, as correspondingly, fill him with remorse. To the patient it is inconceivable that a hospital with a world-wide reputation should give him anything but the very best, and I think we as a profession feel the same.

#### (b) *The Effect on the Medical Student.*

The effect on the medical student is deplorable. He is brought up in an atmosphere where the teaching of the treatment of fractures is placed in a subsidiary position. It is only after he has qualified that he realizes how little he knows of the subject, and how often by the grim irony of fate he is reminded of it. It is the one department of medicine in which mistakes cannot be hidden, and which the public never forgive. The haunting limp and the well-thumbed radiograph are a constant menace to a surgeon's future, and I have known more than one instance where a young practitioner—the victim to such a fate—has had to strike his camp and travel further afield.

#### COMMON MISTAKES.

Now, what are the common mistakes which we find as the result of imperfect knowledge and deficient tuition? These mistakes are rife both in cases treated within and without our hospitals. I have only time to state a few of them, and they will represent average defects of treatment met with every day in our consulting rooms. To take a common example, it must be recognized that although an end-to-end apposition of a fracture is desirable, it is not essential to perfect function. Indeed, the ill effects following fractures are often due to injury to the soft parts, as may be instanced by ischaemic palsy and injuries to nerves. An end-to-end apposition with imperfect deflection of body weight is infinitely more serious than a slight overlapping, where body weight falls in correct line. The smooth working of a limb depends on preserving the true axis of movement of a joint, so that the stresses of muscular action may act across the joint in normal lines. Otherwise abnormal stress will produce abnormal strain, for we are dealing with living bone in accordance with Wolff's law, which is the physiological equivalent of that universal law that strain is proportional to stress. In dealing with fractures of the shafts of long bones the first consideration, therefore, is to secure a true anatomical alignment of the bone, so that the axis of movement of the joints at the two ends of the bone may retain their correct relative positions. Many crippling deformities are due to a want of recognition of this fact.

Again, let us instance the femur. It is a common experience to find elderly persons, whom the hospitals were unable to treat, handicapped by the extreme disabilities

which follow fracture of the neck of the femur. The limb is shortened, adducted, and rotated outwards, and yet quite a large proportion of such cases simply but properly treated would have resumed their useful citizenship. Abduction and inward rotation under extension would have secured in the limb a range of movement which would have more evenly distributed the pressure of the head in the acetabulum, while later a weight-bearing splint would have prevented the shortening. I have met students who have never seen such a case treated, but in after-life they have never seen it to meet with an old case of fracture of the upper third hobbling with a shortened and adducted limb, his body weight so deflected as to strain both hip and knee. By a simple manipulation and fixation this catastrophe could have been averted. Or it may be a fracture of the middle of the femur with lateral or antero-posterior angulation, with which any practitioner could have dealt if his tuition had been effective. The lessons of the war should have impressed everyone with the knowledge that a femur in good alignment while recumbent would almost surely become crooked if walked upon without weight-bearing protection. Or take that most common and distressing deformity following a fracture of the lower third of the femur due to sagging at the seat of fracture, and resulting in a genu recurvatum. A piece of bandage used as a sling under the seat of fracture should easily prevent such a deformity.

Such deplorable results are frequently found. Every excuse but the right one is offered. A common one is muscular spasm. My experience in the treatment of fracture is that if muscles are sufficiently controlled they come to rest and cease to struggle, but that if the control is inefficient or intermittent then reflex movements are active, and that all muscles enervated from the same region share more or less in the excitability. I do not believe that the desire to contract is as inherent in muscles as if it were original sin. How commonly we see a knock-knee following a fracture of the lower third of the tibia. This is generally due to the common practice of setting a fracture of the tibia as if it were a straight bone; we place a pad on the inner side of the ankle in such a way as to obliterate the normal curve. But of all fractures which are badly managed that described by Percival Pott is the most common. A distinguished hospital surgeon, who looked after the London police, stated once that he had never known a police officer who had sustained a Pott's fracture return to his full duty. This statement is a notable testimony to the inefficiency of routine hospital treatment, for most of such fractures are taken direct to our teaching centres. As we all know, a Pott's fracture exhibits a dislocation backwards of the foot, together with eversion. We constantly find the unreduced dislocation as an end result; yet this dislocation is never difficult to reduce provided the method has been taught. The reduction of the deformity should be undertaken at the earliest possible moment, although it can often be accomplished by manipulation at any time under three weeks. Every student should be taught that the knee should be fully flexed, the heel pulled forwards, and the lower end of the tibia simultaneously pushed backwards. The reduction is usually accompanied by a click, which is heard and felt as clearly as in the reduction of a dislocated shoulder. The foot should be fixed in inversion. Even if the bones are restored to their normal relationship eversion will recur later unless during standing and walking body weight is deflected to the outer side of the tarsus.

In the upper extremity, how common it is to find a stiff elbow following a fracture just above or through the joint, and this sometimes in spite of complete flexion. Failure to reduce the fracture accurately is generally the cause of this. It is not enough to take hold of the arm and merely to flex it. It should first of all be supinated, then extended and pulled, and while the upper end of the fracture is pushed back, the forearm should be pulled forwards and flexed. A student should be taught this manipulation, for it will save him many a serious dislocation. The application of the internal angular splint is happily becoming less frequent. It is a pernicious method. The advantage of the manipulation I have

described is invaluable to the practitioner, for it is applicable to most fractures of the elbow, and indeed to dislocations also. I could multiply these various types of fractures, but it is sufficient to give these few clinical illustrations. There are, however, other general principles which are commonly ignored, and to which I will refer.

#### AVOIDANCE OF COMPLICATIONS.

First, let me give a word of warning against the growing tendency of the immediate application of plaster-of-Paris. It assumes, as I have said, the immediate and complete reduction of a fracture, which is not always possible. It prevents the intelligent use of pads, and does not allow of inspection and supervision. Unless applied by an expert it often tends to interfere with the vitality of the limb because of circular compression. If put on a limb newly injured it will become slack as soon as the swelling subsides. It does not permit of massage, so often necessary to hasten recovery. In spite of this, circumstances may arise where the application of plaster is the only available procedure. No student should be allowed to leave his hospital until he is familiar with the modern methods of applying plaster. A badly applied plaster often proves a very dangerous splint, and is a common cause of non-union and of pressure sores.

The student is not sufficiently warned against the pressure slough, nor the best ways of avoiding it. A slough may occur in twelve hours or less if plaster is placed over a thinly clad bone, and while developing give rise to nothing more than discomfort. I have known deep sloughs occur without any complaint having been made by the patient. This type, which occurs without pain, is generally the worst, the pressure over bone having benumbed the skin from the first. If, therefore, it becomes imperative to employ pads on such places they should be examined and changed frequently, despite the fact that the patient may be feeling very comfortable.

Another defect in the student's training, if we can consider it as reflected in the practitioner, relates to delayed union and non-union. Granted a fair apposition of non-union rarely occurs. It is generally the result of nervousness and impatience. Some surgeons are never content unless they worry the fractured ends week after week to see how consolidation proceeds. Such procedure is as unscientific as the action of a cook who opens her oven door every five minutes to see how the hot-pot progresses. Until the normal period of completion of consolidation, absolute rest should be ensured. If union is delayed the surgeon should be patient. I have often known a fracture of the shaft of the tibia take many months to unite.

#### AFTER-TREATMENT AND PROTECTION.

Another source of error is to be traced to deficient instruction in prognosis. The student is not taught the length of time restraint should be continued, nor the nature of after-care. Even to-day, textbooks do not instruct him as to when he may reasonably expect complete consolidation. The result is that a patient may leave a surgeon with a limb of normal form and length, and in a few weeks it may be short and crooked. It cannot be too clearly emphasized that a lower limb which can pass the test of a manual examination may completely fail when body weight is superimposed. Adequate protection should, therefore, always be given to a fractured limb when walking is prescribed. These faults in principle and errors in technique are the direct outcome of imperfect instruction, and the student has a just cause of complaint. In spite of a well equipped physiotherapy department attached to the hospital, how few students are able to give intelligent instruction to a masseuse, or to direct a gymnast in treating a deformity, or show an electrotherapist the muscles he should stimulate in order to overcome weakness. The instruction generally given is, "Have your arm massaged," or "Use the faradic current," or "Give exercises to this man." We blame the physiotherapists if they do not carry out the doctor's instructions; we do not dwell on the fact that the doctors—with few exceptions—do not possess the knowledge to instruct. Surely there is some

thing radically wrong with a syllabus which leaves the students ignorant in matters of such practical importance. It is an open invitation to every species of quack.

How few students have been taught to distinguish between a joint which may be moved and one which should be kept at rest—and how many bitter disappointments result from this. How few men know how to handle a fracture; how to hold the broken arm with a minimum of pain; how to feel for crepitation; how to avoid muscular spasm; how to reduce deformity, and, as it has been called, "set" the fracture. A surgeon who is interested in his subject, and knows it, will teach the student more by demonstrating one case than can ever be learnt by the student in personally handling twenty cases in a spirit of adventure. The student should be taught to use his eyes, his measuring tape, and the art of reducing a fracture almost painlessly by postural muscle relaxation. Such an education in manipulation is worth any amount of untutored experience. The rough handling of fractures by the unskilful is an outrage on a patient, and when done in the presence of a student is an extremely bad example.

I might multiply instances in evidence of inadequate tuition, but this is no longer needed. The cry of the practitioners all over the country is, "We have not been taught." It is, I submit, our duty to remedy all this.

It is not my intention to deal with malunited fractures, but it is necessary to emphasize one fact. If the treatment after correction is no better than in the first instance there will be a repetition of the tragedy. A malunited fracture cannot be cured merely by an operation; all the operation can do is to reconstruct the fracture, and a satisfactory result can only occur by the maintenance of the alignment until consolidation of the bone is complete.

#### ORGANIZATION NEEDED: THE FRACTURE CLINIC.

As I have already indicated, the permanent lessons of the war were not concerned solely with the value of certain methods of treatment, but rather with the essential importance of the efficient organization and handling of clinical material. It was made more clear to us abroad than it is even in our general civilian hospitals that the wide field of general surgery could not be creditably traversed by one and the same man. Team work and segregation in many fields of surgical endeavour saved the lives of patients, and the reputation of surgery. This became evident in fractures more than in any other branch of work. I have no hesitation in saying that greater progress was made in the treatment of fractures during the four years of war than had occurred during a generation in our big teaching hospitals. Beginning with complicated and ill considered contrivances, we developed on lines of simplicity to a very efficient goal. The experience we gained then we have to apply now to the problems of civil life. Brilliant achievements in abdominal surgery during the past twenty years have proved irresistible to the imagination of our younger surgeons. The less exciting disabilities of the extremities have been crowded out of the wards and out of their minds.

The treatment of fractures must be placed on a different plane. Our students must be taught, and our teachers must be wisely chosen. In developing a scheme, certain general principles must be agreed to:

1. The necessity for the segregation of in-patient fractures either into: (a) wards under the control of a special surgical unit, or (b) in special wards not allocated to one unit alone.
2. The creation of a special out-patient fracture clinic, to be included with the fracture wards as part of a general scheme. Out-patient fractures should not be dealt with as a separate entity—in other words, their control should be under the surgeon or surgeons in charge of the fracture wards.
3. A surgeon in charge of the fracture department should be a consultant, the director of a unit, and one in whose practice and teaching the treatment of fractures will be maintained during the whole of his active surgical career. If there exists an orthopaedic department, as should be the case in every teaching hospital, the chief of this department should be one of the surgeons in charge of fractures—even if he is not the only one.

In an ideal scheme the fracture wards should form part of the orthopaedic service; this would simplify both the organization and the teaching. It is certain that no real advance in the treatment of fractures will ever take place if the department is placed on a secondary plane, which is inevitable if the system is inaugurated or maintained of leaving it under the control of a junior surgical officer, who makes this position a mere stepping-stone to some other surgical post.

The fracture team should consist of:

1. One or more surgeons, including the orthopaedic surgeon.
2. A senior assistant. This appointment should be well thought out, and only given to a man with special qualification for the post. There should be security of tenure for a period sufficiently long to make him not only expert, but to secure his skill for the training of the students. He should display special interest in the surgery of the extremities, and preferably intend to follow it up. I consider that the success or failure of the department will largely depend upon this appointment. It may be asked, "What is to become of this assistant in after-life? How is he to earn his living? Is there room for fracture specialists in private practice?" My answer is that if the right man is chosen for this post he will almost surely gravitate to orthopaedic work, where his knowledge will be of the greatest service, and form an integral part of his expert education.
3. The third member of the team should be a physiotherapist, preferably the chief of his department. In addition to these there will be the house-surgeons, who attend the clinic as part of their duties, dressers, and clinical assistants.
4. Another most important member of the fracture team should be a sister, specially trained, who should be in charge of the fracture ward. She should remain in undisturbed possession. The care and nursing of fracture cases requires very considerable skill and training, and it is essential that the sister should not be transferred to other departments.

If the fracture ward is under the control of more than one surgeon the first assistant should be in the service of all. He will maintain a salutary rivalry between his various chiefs, which is an important step towards efficiency. I lay the greatest stress upon the segregation of fractures in special wards, even in those hospitals which do not specialize in teaching. It makes for healthy criticism, and often to much-needed introspection. Surgeon A, with a case of shortened malunited femur, will realize his limitations when he sees what Surgeon B can do with a similar injury. Surgeon C may feel that his reputation would be enhanced if he handed over his fractures to a more interested colleague.

#### The Magnitude of the Problem.

What proportion of beds should be put aside for fractures? My friend Mr. Platt of Manchester tells me he has worked it out to be about 10 per cent. In a hospital of 300 beds with five surgical units, each surgeon would direct 60. If the fracture cases are under one control, 35 of his 60 beds would be devoted to them. This would supply an ample field for instruction. Let us assume we have our beds and an expert staff of teachers. What can be done in order that the student may derive full advantage from the scheme?

#### The Plan of Instruction.

In the first place, once or twice a week there should be an out-patient fracture clinic, which all senior students are obliged to attend. At least twelve attendances should be compulsory. No formal lectures are needed, but, instead, a series of clinical demonstrations, in which groups of fractures are collected and compared, and instruction given in relation to diagnosis, prognosis, and end-results. More especially the student should be taught the principles that underlie the prevention of deformity and its correction. The tuition must be direct and simple, most of the time being devoted to the common fractures with which the practitioner is likely to meet. The x-ray department, with the wealth of information it represents, should be in close touch with the fracture clinic. The student should be

taught never to lose an opportunity of obtaining an x-ray photograph, and, above all, endeavour to derive instruction in interpreting it. In 1900 I wrote:

"The advent of the x rays has added immensely to the accuracy of our knowledge and to the classification of our cases, and has saved our patient from much unnecessary and often aimless manipulation. We must, however, beware that we do not paralyse our diagnostic faculties from pure inanition. The Roentgen rays should not usurp every other diagnostic means at our disposal."

I think these words are true to-day. In the fracture clinic measurements and visual impressions as practised by the great past clinicians should be recorded, and comparisons made between the healthy and the injured limb. Thus the student will be taught to diagnose the existence of a fracture, in the absence of a radiogram, with the least possible discomfort to the patient. Indeed, in the ideal fracture clinic the groan of an adult and the tears of a child should be a rare event. In this clinic will be found the common deformities so often associated with simple fractures. The lessons he will learn from these will be of incalculable service to the student in later life.

The student should not leave the fracture clinic without having practical experience, not merely of putting on plaster bandages, but applying them artistically and well. Nor should he be certified until he has a sound working knowledge of the application of splints.

#### *The Choice of Splints.*

At this stage I should like again to emphasize the urgent necessity there is for each hospital to scrap its useless splints and retain for teaching purposes only those of known efficiency. Bearing on this point, I will tell you an experience I had during the war. An army surgeon took me into a large shed the walls of which were covered by hundreds and thousands of splints of every type and age. I stood positively bewildered. There were hardly any of them I knew how to use. I asked the very intelligent officer who had charge of them what use could possibly be made of them. He knew the tragedy as he told me, "They will all be sent to the front when the slaughter begins." I can imagine the utter hopelessness of even the most experienced surgeons in the presence of such futile implements. Hospital staffs should, from time to time, meet and select the most useful—and they are generally the simplest—splints, and no student should graduate unless he has completely mastered their correct application. Furthermore, in order to simplify the training and to stabilize the examination of the students, this idea could be extended by the formation of a committee, representative of all teaching hospitals, to decide upon the best type of splint.

This would be of immense service in a national emergency, and would save the student much waste of time. It is a harrowing thought that many thousands of lives would have been saved abroad if every surgeon had been taught to apply splints correctly and expeditiously, and if only those splints had been at hand whose efficiency had been tested. We were able to be of considerable help in this matter to our American colleagues, who learnt from our mistakes, and they published an illustrated little handbook of splints, simple in construction and effective in use, which every surgeon had to master thoroughly. Instruction in a fracture clinic such as I have outlined would have met the urgent need in the great war, and such dire experiences as we encountered in its early stages should leave an indelible impression upon our mind and conduct.

The instruction carried out in the out-patient department should next be continued in the fracture ward, where the best methods of dealing with the recumbent cases could be taught.

#### CONCLUSION.

I venture to suggest that the scheme I have formulated is neither difficult in conception nor revolutionary to bring into effect. In our large teaching hospitals it means merely a practical readjustment of studies. There is sometimes a natural inclination on the part of the general surgeon to resist what he fears to be an encroachment of specialism. This, I am happy to think, is less evident than in days gone by. There is no more circumscribed a specialty than that of the surgery of the abdomen. That an expert abdo-

minal surgeon often appears in other parts does not alter the fact. Many men who have excelled in the subject of their choice have told me they would be glad to hand over their fracture cases, but, they ask, "To whom?" Without a fracture department there is no remedy for them. There can be little doubt that many surgeons would, to their advantage, prefer to leave such cases in the hands of a fracture team than be held responsible for mistakes, which are bound to be made by inexperienced juniors. Even if they did not hand their cases over to a colleague, they would welcome the assistance of an expert first assistant. The average hospital surgeon takes neither pride nor scientific interest in the treatment of fractures. He knows it himself, his house-surgeons know it, and so do the students. Wherein and with whom lies an advantage? No! it is not a mere matter of the encroachment of specialism, but a call to our sense of proportion and sense of duty. Whether we use the term "specialism" or not, there is no mind so comprehensive that it can keep pace with all the requirements of modern surgery.

Another criticism likely to be levelled against this scheme is that the student curriculum is already too overcrowded. This does not bear examination. We do not wish to crowd the student's mind; on the contrary, we desire to simplify and clarify his instruction. By securing expert men to teach we exclude much waste of energy. His education becomes intensive instead of being diffuse and desultory. He is taught what is necessary and practical by teachers who have a real knowledge and interest in their subject. When we find students crowding the operating theatre on every opportunity, watching work they will probably never be called upon to do, and this for years, we appreciate how valuable time is wasted. It is doubtless necessary that they should know something of intricate and rare cases, but the out-patient department affords them a better equipment in after-life than academic lectures, the matter of which they can equally well glean from textbooks.

Another objection that may be urged is that our hospitals are already too crowded, and that the so-called chronic cases should not be allowed to exclude the acute ones. This is but poor comfort to a young working man sent off to a Poor Law infirmary, with a wife and family dependent upon him. It is inefficient treatment and neglect which transform a simple fracture to a chronic deformity. It is far better for our hospital authorities to say, "We are not prepared to treat fractures," than that they should take on responsibilities which they cannot meet. The responsibility is not met by sending a fracture of the femur from their door directly to a Poor Law infirmary, unless they know that its staff and equipment can meet the indications. On the contrary, they are very much to blame. We cannot disguise the fact that great numbers of adult cripples are manufactured by want of adequate provision. If our city hospitals admit they cannot cope with the problem for want of beds, wards should be procured in Poor Law infirmaries or other institutions. These wards, however, should be fully staffed and equipped, and brought into close association with our teaching centres. But whatever the arrangement, the student should have the full benefit of it. There can be no justification for any system which adds to the complexity, and not to the relief, of our cripple problem.

My early education with H. O. Thomas brought me into close contact with every type of cripple due to neglected fracture which he was called upon to treat. Experience since that time has led me to the conclusion that the same old mistakes occur now as they did then, and for this reason I have tried to indicate a remedy.

I earnestly hope that it will not be thought I have betrayed any spirit of hostility in this address. Nothing has been further from my mind. My aim has been to express in a temperate manner opinions which are shared by many distinguished hospital surgeons. I have spoken plainly, as I know you would have me do, but it has been my endeavour to understate rather than to exaggerate the defects of our present system. May I hope that my remarks will be received in the friendly spirit in which they are offered. Should they be the means of opening a new chapter in the organization and handling of fractures I shall rejoice, for most assuredly a blot on British surgery will thereby be erased.

# A STUDY OF THE HAEMOCLASIC CRISIS TEST FOR LIVER FUNCTION:

WITH SPECIAL REFERENCE TO THE LEUCOCYTIC  
CHANGES.

BY

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In 1920 Widal, Abrami, and Ivanescu<sup>1</sup> described a new test for liver function under the title "digestive haemoclasis." From experiments on dogs they claim to have proved that during protein digestion the peptones absorbed from the intestine are arrested by the liver ("proteopexic function") and do not reach the general circulation. In the normal dog the protein meal excites a digestion leucocytosis. On the other hand, intravenous injection of peptone into the systemic circulation in a fasting dog immediately provokes a "haemoclasic crisis"—namely: (a) leucopenia with a relative lymphocytosis; (b) fall of blood pressure; (c) hypercoagulability; (d) decrease of the refractometric index of the serum. These data were then applied as a clinical diagnostic test for hepatic insufficiency in man, on the theory that in liver disease the proteopexic function is impaired or destroyed and allows a haemoclasic crisis to develop after a protein meal. In practice the test is extremely simple, serial leucocytic counts being all that are required according to Widal. Estimations of blood pressure, coagulation, and refractometric index are not essential for diagnosis.

Preliminary starvation of the patient is essential (five hours at least). A leucocytic count is done and the standard test meal, which is 200 c.cm. of milk, is immediately given. The counts are repeated every twenty minutes for one hour. In liver disease a leucopenia of 30 to 70 per cent. with a relative lymphocytosis develops and reaches its maximum in twenty to forty minutes after the test meal. A leucocytosis appears about one and a half hours after the milk. Associated with the leucopenia there is a fall of blood pressure (10 to 20 mm. Hg), hypercoagulability, and a fall in the serum index. With 8 grams of dried casein (=200 c.cm. milk) the reaction is intense and precocious. Widal found that in 39 cases of definite liver disease 38 gave a positive reaction. He claims that the test is extremely sensitive, being capable of detecting "latent hepatism" and also liver damage due to salvarsan compounds. It is negative in alcoholic jaundice. In 11 normal persons the test was negative; in 9 a leucocytosis appeared and in 2 no appreciable change; in all the blood pressure rose 10 to 30 mm. The reaction was also negative in diseases of the alimentary tract and in other conditions in which the liver was intact.

In criticism of Widal's work it may be said that although the accuracy of the test depends entirely on the technique employed in counting and the interpretation of the results therefrom, yet he omits to describe his technique and gives no protocols of his counts. Only one count is done before the test meal, and this is accepted as a fixed point on which to interpret the subsequent variations; but this assumes that in a starving person the number of leucocytes is either constant or if fluctuations occur they are so small as to introduce no serious error. The extensive literature provoked by the test is open to the same criticism, and is itself sufficiently conflicting to throw doubt on the value of the reaction as a means of clinical diagnosis in hepatic insufficiency.

## Observations on the Haemoclasic Crisis.

My own observations refer to the leucocytic changes in (1) cases of liver disease, including alcoholic jaundice and persons treated with novarsenobillon (N.A.B.), after 200 c.cm. of milk; (2) normal persons after 200 c.cm. of milk; (3) normal persons fed with substances other than milk; (4) normal persons after the local application of cold; (5) normal persons during physiological rest. Blood

pressure readings were taken in some cases. No records were made of coagulation or serum refractometry.

**Conditions of Experiment and Technique.**—All subjects were starved of food and fluid overnight. To eliminate possible effects of periodicity, temperature, and exertion the zero count was made between 9 and 9.30 a.m. in a room of uniform temperature. Patients were examined in bed; normals were kept in a position of complete rest for at least half an hour before zero count.

**No. 1. Leucocytic Crisis. Male. 54 years. Confirmed post-mortem.**

Time	0'	20'	40'	70'	Remarks
Total leucocytes	4450	4600	3700	3700	Leukopenia = 17% in 40'

**Differential Count.** Relative increase of polymorphs by 6% at leukopenia with relative and absolute decrease of lymphocytes.

**No. 2. Obstructive Jaundice. Female. 57 years. Post-mortem—cancer found of pancreas; obstruction of common bile duct; metastases in liver.**

Time	0'	20'	40'	70'	Remarks
Total leucocytes	4150	4700	3450	5400	Leukopenia = 17% in 40' Leucocytosis in 70'

**Differential Count.** Slight and irregular oscillations throughout but no evidence of lymphocytosis.

**Blood Pressure.** Rise of 6 mm. at leukopenia otherwise no change.

**No. 3. Catarrhal Jaundice. Male. 24 years. Recovery.**

Time	0'	20'	40'	70'	Remarks
Total leucocytes	7200	6300	5950	7350	Drop jaundice of Leukopenia 17% in 20'
"	8050	8200	8000	8300	Slight jaundice, Leukocytosis in 70'
"	7100	6900	7500	7750	Jaundice, Urine—no bile constituents, Leukocytosis in 70'
2 months later	6500	5150	7300	6750	At work 2 months. No jaundice, Urine—no bile constituents, Leukopenia = 21% in 20'

**Differential Counts.** On 13" and 24" days showed irregular oscillations but no lymphocytosis.

**No. 4. Alcoholic Jaundice. Female. 65 years. Case-2, 34 years; increased frequency of red cells. Urine—excess of urobilin. No other bile constituents. Two tests on consecutive days.**

Time	0'	20'	40'	70'	Remarks
Total leucocytes	9000	7050	8200	8500	Leukopenia = 22% in 20'
"	9000	7350	8150	7150	Leukopenia = 16% in 20'

**Differential Count.** There was a slight relative lymphocytosis (4%) coinciding with leukopenic phase in first test.

**No. 5. Jaundice after N.A.B. Male. 26 years. Primary syphilis. Course = 2.2 grms. N.A.B. Jaundice appeared 6 months later.**

Time	0'	20'	40'	60'	Remarks
Total leucocytes	4100	3300	3650	3600	Drop jaundice. Leukopenia 16% in 20'

**Blood Pressure.** No appreciable change.

**No. 6. Jaundice after N.A.B. Male. 27 years. Course = 2.2 grms. N.A.B. Jaundice and ascites appeared 2 months later. Post-mortem—advanced, subacute atrophy of liver. Tested three times; the second test 4 days after the first and the third 16 days after the second.**

Time	0'	20'	40'	60'	80'	Remarks
Total leucocytes	2300	2250	1600	1600	1800	Leukopenia = 30% in 40'
"	2300	1500	1450	2250	2200	Leukopenia = 35% in 40'
"	3050	2400	2450	2750	—	Leukopenia = 21% in 20'

**Differential Counts.** In first test a relative increase of polymorphs by 13% at maximum leukopenia. In second test an absolute and relative decrease of polymorphs and a relative lymphocytosis (7%) at time of maximum leukopenia. **Blood Pressure.** Maximum depression was 4 mm. and did not coincide with leukopenia.

**No. 7. Primary Syphilis. Male. 34 years. Primary chancre. N.A.B. Course = 2.2 grms. N.A.B. never had jaundice.**

Time	0'	20'	40'	60'	70'	Remarks
Before treatment	6550	5100	5800	—	5850	Leukopenia = 22% in 20'
3 days after 0.45 grms N.A.B.	6650	6650	6500	—	6750	No change
1 day after 1.5 grms N.A.B.	6550	5500	6200	5450	—	Leukopenia = 16% in 20'

Blood was taken from the ear with the usual precautions. Preliminary experiments with the Thoma-Zeiss counting chamber showed that this apparatus is subject to considerable error. All readings were made with the Fuchs-Rosenthal counting chamber and Thoma-Zeiss leucocytic pipette. The blood was diluted 1 in 10; it was shaken vigorously for three minutes. The cells on ten squares were counted, this number being one-fifth of the total in 1 c.mm. of undiluted blood. The cover-glass designed by Allport<sup>2</sup> was used; owing to its thickness (4 mm.) there is no risk of bending and it can be placed in position with formation of the Newtonian rings before the counting chamber is charged. The error with this technique does not exceed 2 per cent., but variations of less than 10 per cent. from the zero count were accepted.



as indicating no alteration in the number of leucocytes. The zero count was made immediately before ingestion of the test meal. For differential counts 500 cells were registered.

#### The Reaction in Liver Disease and after *Novarsenobillon*.

Observations were made in 7 cases with 200 c.cm. of cold milk, the maximum leucopenia recorded within one hour being taken as a positive result. The clinical details of the cases and the results of the test were as shown in the protocols (p. 914).

Examination of the protocols shows that in 4 cases (Nos. 1, 2, 5, 6) of obvious liver disease the test gave consistent results as indicated by a leucopenia of 17 to 36 per cent. in twenty to forty minutes, although in the severe and fatal case of obstructive jaundice (No. 2) the reaction is not very convincing, an echelon curve being present, which Widal regards as indicating improvement in liver insufficiency. The serial tests in catarrhal jaundice (No. 3) are conflicting. There is a positive reaction during the period of severe icterus, followed by a negative at a time when it is extremely doubtful if the liver function has been restored to normal, while two months later haemoclasis recurs in the absence of any clinical or urological signs of hepatic disturbance. The attempt to assess the value of the test during arsenobenzol treatment (No. 7) was frustrated by the presence of a positive reaction before treatment was commenced and in the absence of any signs of impaired liver function. The positive result in alcoholic jaundice (No. 4) is contrary to Widal's statement that haemoclasis is absent in this disease. Although continual fluctuations appeared in the differential counts there was no evidence of a consistent lymphocytosis, and in none of the cases in which blood pressure readings were taken did a hypotension develop. The results, on the whole, discount the value of the test as a means of diagnosis in liver insufficiency, and further investigations have been directed to elucidating the mechanism and significance of the leucocyte variations in the haemoclasic test by a study of the reaction in normal persons subjected to various stimuli.

#### The Reaction in Normal Persons.

The majority were student volunteers; only those were accepted who gave no history of liver disease and in whom the urine contained no bile constituents. The total examined numbered 23, of whom 8 were tested once and 15 two or more times, usually on successive days. The test meal was 200 c.cm. of cold milk, and the result was registered on the percentage variation in one hour. As the leucocyte response varied not only in different persons but sometimes in the same person from day to day, it was necessary to divide the results into four groups—namely:

(1) leucopenia, (2) no effect, (3) leucocytosis, (4) paradoxical. The protocols of these are shown in Tables I, II, III, and IV. The total examinations made were 40, and taking these as a basis there was a leucopenia 20 times (50 per cent.), leucocytosis 7 times (18 per cent.), and no effect 13 times (32 per cent.)—proportions which correspond fairly closely with the results of Schiff and Stransky<sup>3</sup> in infants. Consequently alimentary leucopenia is not peculiar to infancy, as suggested by Glazer,<sup>4</sup> but appears to occur as frequently in adults.

In the leucopenic series the extent of the fall varies from 10 to 28 per cent., often corresponding in the same person on consecutive days (Nos. 2, 3, 4, and 102). Usually the fall reaches its maximum in twenty to forty minutes, but in some cases the decline has set in or even reached its apogee ten minutes after the milk. Occasionally it is evanescent and only registered at one examination. The subsequent course of the curve is also variable, the count returning to the initial level or the fall persisting. The appearance of a leucocytosis after an hour is inconstant. Obviously in this group the curve is quite comparable in its general characters to that in liver disease, and it can be concluded that many normal persons react with a haemoclasic leucopenia. This agrees with Eisenstadt,<sup>5</sup> who found a leucopenia in normal adults (number not recorded) after 200 c.cm. of milk, in spite of the fact that he accepted a variation of less than 17 per cent. in the count as due to experimental error. However, in 4 normals (Zehnter<sup>6</sup>) and in 3 normals (Mauriac and Ragot<sup>7</sup>) there was no leucopenia after

20 c.cm. of milk. Unfortunately the authors do not state what other change took place. Whether the leucopenia can be attributed to the milk at all seems extremely doubtful. In 32 per cent. of my tests the count remained more or less constant for an hour or longer, and in several cases reacting with leucopenia the response to a second test showed that the milk had either no influence or appeared

to produce a leucocytosis. Similarly it is difficult to accept the view that the milk produces a "digestion" leucocytosis—that is, a chemiotactic response to the products of digestion. Only in 18 per cent. of tests did a rise, which sometimes was evanescent, develop in one hour. The leucocytosis which Widal found to appear in about one and a half hours is not confirmed by my protocols, as the results in seventy to ninety minutes are quite variable—a rise only occurring in about half the cases. If the rise represented a true reaction to the milk products absorbed during digestion it should appear in every normal person within a definite period of time. Its absence cannot be attributed to the small amount of milk given, for in 6 normal persons fed with 400 c.cm. the leucocytic response was similar to that following half the amount. Moreover, the times selected for doing the counts

TABLE I. Illustrating leucopenia after 200cc milk (9 cases).

Case No.	0'	10'	20'	30'	40'	50'	60'	70'	80'	90'	Percentage Fall
2.	9400	—	7100	—	7200	—	—	8500	—	—	24% in 20'
"	5000	3900	—	4100	—	4400	—	4300	—	—	22% in 10'
3.	5600	—	5150	—	4350	—	5150	—	5700	—	18% in 40'
"	5800	5150	—	4900	—	5000	—	5150	—	—	15% in 30'
4.	8050	—	6050	—	6250	—	—	6250	—	—	25% in 20'
"	9650	7850	—	7250	—	—	—	7550	—	—	25% in 40'
5.	3600	—	3350	—	3250	—	3200	—	—	—	10% in 40'
"	4350	3450	—	3300	—	—	3700	—	—	—	19% in 30'
10.	4000	—	3350	—	3600	—	—	3750	—	—	10% in 40'
"	3950	—	3100	—	2850	—	—	3400	—	—	27% in 40'
12.	4300	—	3450	—	3550	—	—	3650	—	—	20% in 20'
13.	7650	—	5700	—	—	7500	—	6050	—	—	28% in 20'
14.	6450	6450	—	—	5950	—	—	5550	—	—	12% in 40'
23.	5650	—	4200	—	5050	—	5250	—	—	5700	25% in 20'

TABLE II. Illustrating no effect after 200cc milk (5 cases).

Case No.	0'	10'	20'	30'	40'	50'	60'	70'	80'	90'
8.	3550	—	3350	—	3500	—	—	—	6150	—
"	5000	—	5050	—	4850	—	5000	—	—	—
13.	6000	6000	—	6200	—	6450	—	—	6300	—
24.	7350	—	6750	—	7450	—	—	7600	—	—
103.	4500	—	3500	—	4850	—	4300	—	—	4500
"	4800	—	5150	—	4700	—	4750	—	—	4300
18.	3300	—	3000	—	3150	—	—	2800	—	—

\* Gradual fall to 5100 at end of 3 hours

TABLE III. Illustrating leucocytosis after 200cc milk (3 cases).

Case No.	0'	20'	30'	40'	50'	60'	70'	80'	100'	Percentage Rise
11.	6100	6200	—	—	7700	—	—	6600	—	26% in 50'
"	6000	5900	—	—	6950	—	—	6600	—	16% in 50'
104.	4900	6190	—	—	5900	—	7300	—	4600	25% in 20'
7.	7050	6400	—	7800	—	8000	—	—	—	10% in 40'
"	7350	7650	—	7300	—	8800	—	—	—	12% in 60'

TABLE IV. Illustrating paradoxical results after 200cc milk (6 cases).

Case No.	0'	10'	20'	30'	40'	50'	60'	70'	80'	90'	Result
1.	7300	—	6100	—	5850	—	5100	—	5450	—	Leucopenia = 20% in 40'
"	4750	5350	—	4750	5050	—	—	6350	—	—	No effect (Leucocytosis after one hour)
6.	3850	—	3750	—	4000	—	3900	—	—	—	No effect
"	3900	4050	—	3250	—	3550	—	—	—	—	Leucopenia = 17% in 30'
100.	3650	—	6150	—	4250	—	8900	—	3700	—	Leucocytosis = 68% & 142% in 20' & 60'
"	3500	—	3500	—	3350	—	3850	—	4400	—	No effect (Leucocytosis after one hour)
9.	5300	—	4500	—	4700	—	4700	—	—	—	Leucopenia = 15% in 20'
"	4350	—	4700	—	4650	—	5150	—	—	—	No effect (Leucocytosis after one hour)
101.	7000	—	6200	—	5400	—	6750	—	5800	—	Leucopenia = 25% in 40'
"	6700	—	7250	—	7000	—	4850	—	7350	—	No effect (Leucocytosis after one hour)
"	6850	—	7200	—	6900	—	—	9300	—	—	No effect (Leucocytosis after one hour)
102.	7200	—	5800	—	5650	—	6100	—	8600	—	Leucopenia = 25% in 40' (Leucocytosis after one hour)
"	5200	4500	—	4500	5000	—	—	4900	—	—	Leucopenia = 22% in 10'
"	6000	—	10500	—	5300	—	4600	—	5200	—	Leucocytosis = 67% in 20'

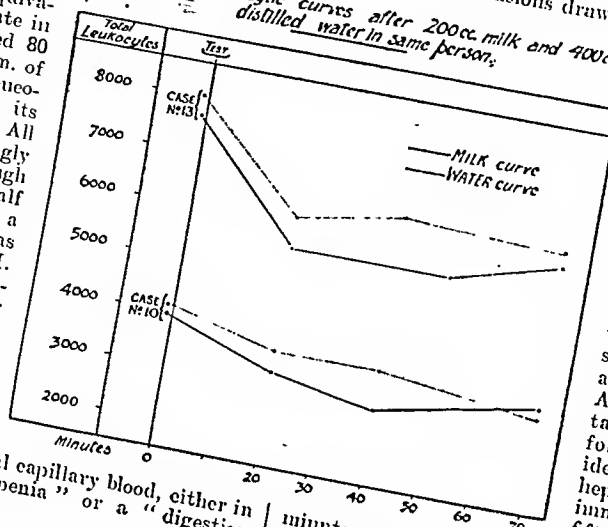
## THE HAEMOCLASIC TEST FOR LIVER FUNCTION.

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being arbitrary, it is difficult to avoid the impression that the oscillations are often more rapid than the observations indicate, and possibly the results in some cases might have been different if the counts had been made at shorter intervals, though technically it was impossible to do this and ensure accuracy.

In 10 cases selected from the three types of response the differential count revealed qualitative changes similar to those found in liver cases—that is, there was no schematic alteration. The blood pressure taken in 4 cases (2 leucopenia and 2 leucocytosis) showed oscillations of a few millimetres bearing no relation to the leucocytic curve. However, there are some investigators who find that leucocytosis does develop in normal persons. Holzer and Schilling<sup>8</sup> say that a digestion leucocytosis follows a normal amount of carbohydrate in normal adults with 200 c.cm. of milk, and in every case a leucocytosis appeared, reaching its maximum after an hour. All the curves were surprisingly similar in character, and though the first count was made half an hour after the test meal a fall below the initial count was never registered. C. M. Wilson<sup>10</sup> also records a leucocytosis within one hour after 200 c.cm. of milk in 30 normal students. Nevertheless, in my evidence that the ingestion of 200 to 400 c.cm. of milk produces a specific effect on the leucocytic content of the peripheral capillary blood, either in the form of a "digestion leucopenia" or a "digestion leucocytosis."

CHART A. Leukocytic curves after 200cc. milk and 400cc. distilled water in same person.



The leucocytic variations are quite independent of the ingestion of food or fluid in the amounts given, and do not represent either a response to any chemical stimulus provided by the products of digestion or the effect of blood dilution following absorption of fluid.

## The Reaction to the Local Application of Cold.

It is generally thought that the external application of cold, such as a cold bath, produces a leucocytosis. But Widal, Abrami, and Brissaud<sup>12</sup> maintain that exposure to cold is followed by a haemoclastic shock identical with that occurring in hepatic insufficiency. In dogs immersed in a bath at 2-3° for fifteen to forty-five minutes the crisis developed in ten to fifteen minutes from the moment of immersion and persisted for half an hour to an hour. Tinel and Sautenoise<sup>13</sup> say that after freezing the finger with ethyl chloride for a few seconds there is an immediate fall in the leucocytic count by 2,000 to 4,000, but whether this occurs in the peripheral circulation generally or only in the domain of application is not made clear by the authors. On the other hand, Jolly and Saragea<sup>14</sup> working with rats, found that leucopenia followed exposure to hot air. In my experiments the arm was immersed for twenty-five minutes in a water-bath at 80° C., a leucocytic count having been done previously from the finger. At the end of twenty-five minutes another count was done with the arm still in water; subsequent counts were done locally—that is, from a finger of the

## The Reaction in Normal Persons to Other Substances.

1. Distilled Water.—Under usual conditions of experiment 7 normal adults were given 400 c.cm. of cold distilled water. The results (Table V) show that one case reacted with a rise which reached its maximum of 23 per cent. in forty minutes, and in 6 cases a leucopenia of 11 to 32 per cent. developed in twenty to forty minutes. The differential counts in 4 cases gave similar results to those obtained in the milk cases. Evidently there is no essential difference in the response of normal persons to milk and water, as both substances give contradictory results and the curves are similar in their degree and periodicity of variation. There can hardly be any question of a chemical

TABLE V. Illustrating leukocytic variations after 400cc. distilled water.

Case	0'	10'	20'	30'	40'	60'	70'	Result.
10	4100	-	3650	-	3650	-	3200	Leukopenia = 11% in 20'
12	6300	-	4300	-	4250	-	3700	Leukopenia = 32% in 40'
13	8000	-	6100	-	6450	-	6300	Leukopenia = 24% in 20'
14	8050	7700	-	6200	-	7300	-	Leukopenia = 23% in 30'
16	6200	-	4500	-	4350	-	3600	Leukopenia = 30% in 40'
17	4950	-	3900	-	3700	-	4250	Leukopenia = 25% in 40'
25	4850	-	2800	-	5850	-	4850	Leucocytosis = 23% in 40'

TABLE VI. Illustrating leukocytic variations after the local application of cold.

Case	Before Immersion	Immediately after	10'	20'	30'	40'	50'	60'	70'	80'	Result
74	6650	7350	-	7700	-	6650	-	-	-	-	Leucocytosis = 16% in 20'
53	5350	5800	5200	5650	-	5700	-	-	-	-	No effect
54	5100	6100	7050	-	5800	-	-	-	-	-	Leucocytosis = 40% in 10'
55	6050	4750	4500	-	3950	-	5350	-	5700	-	Leukopenia = 35% in 40'
56	8150	6500	6000	7050	-	7750	-	-	-	-	Leukopenia = 20% (immediately after)
57	6050	6350	6700	-	7250	-	8350	-	7850	-	Leucocytosis = 38% in 60'

immersed limb. Percentage variations were reckoned on the alterations appearing between zero and up to one hour from the time immersion ceased. Six normal adults were tested (Table VI). Three reacted with a leucocytosis, two with leucopenia, and in one there was no appreciable change. In 4 cases (Nos. 54-57) the differential counts revealed no consistent alterations. It is evident that under the conditions of experiment employed the local application of cold has no specific effect on the number of leucocytes—the cases falling into the three categories which have been described in connexion with alimentary stimulation. The results also appear to eliminate the possibility of the milk

action as the cause of the leucocytic fluctuations following distilled water, and blood dilution is eliminated by the development of a rise in Case 25, and also by comparing the reaction to 200 c.cm. of milk and 400 c.cm. of distilled water in the same person. This was done in 4 cases (Nos. 10, 12, 13, 14). All reacted with a fall to both substances, but in Nos. 10 and 13, the comparative curves of which are shown in Chart A, the fall was greater with milk than with water. These results agree with the work of Moutier and Racht,<sup>11</sup> who tested 10 persons with distilled water. A fall followed in 6 and a rise in 4, while in 9 of the cases the milk curve ran parallel to the water curve.

or distilled water, which were given cold, exerting any specific influence on the leucocytic count by means of their low temperature.

#### Leucocytic Variation during Physiological Rest.

The conflicting results obtained suggest that there must be some other factor wholly or partly responsible for the oscillations observed after the various stimuli used. It has already been said that Widal—and indeed nearly all writers on the subject of haemoclasis—has assumed that during physiological rest the number of leucocytes in the peripheral blood remains practically constant until the alimentary or other stimulus is applied. Consequently they have accepted a single pre-test count as representing a fixed point, subsequent variations from which are held to be the response to the stimulus.

But my observations show conclusively that leucocytic equilibrium is not necessarily maintained in the absence of alimentary stimulation. I have examined 10 normal adults during physiological rest over periods ranging from eighty minutes to two hours and twenty minutes, the protocols of which are shown in Table VII. To make the readings comparable to my other observations the zero count is taken as a fixed point and the percentage variation calculated during the succeeding hour. If, however, the difference between the maximum and minimum counts over the whole period of observation is taken, the variation, in some cases, would be greater. The protocols show that during the first hour a fall occurred in 3 cases, a rise in 1 case, and in 6 cases the leucocytic content remained stable. Therefore each case falls into one of the three groups found after stimulation. Moreover, when oscillations occur during physiological rest, they are similar in rapidity and extent to those following milk, etc. This is confirmed by comparing the "rest" curve and "stimulation" curve in the same person, which was done in 7 cases. In 4 cases the milk curve and the "rest" curve ran parallel in 2, while the distilled water curve and the rest curve were similar in one of the three cases tested. This is illustrated in Chart B. Evidence of

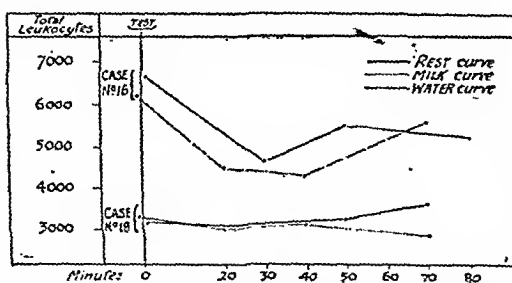
during physiological rest there is a leucocytic curve composed of large waves, which in their course show subsidiary variations, the latter sometimes exhibiting considerable oscillations. It is obvious, therefore, that the single count before stimulation cannot be accepted as necessarily indicating a state of equilibrium. Frequently it is only an index of the number at the particular moment, and represents nothing more than a point on one of the oscillations of the physiological rest curve.

Furthermore, a study of the total series of pre-test counts in my observations indicates that the particular result obtained in the haemoclasic test depends on the phase of the normal curve at the moment of test. The

lowest counts were between 3,000 and 4,000, the highest between 8,000 and 9,650, and these represent the extreme limits of undulation in the series of normal persons. In every count above 8,000 the test was followed by a considerable fall—that is, at the time when the curve was presumably at its zenith—while the variable results

following low and intermediate counts appear to be due to the particular direction pursued by the curve during the period of test. But my observations also show that phases of equilibrium do occur, and are associated more especially with relatively low counts. Possibly this may explain why Friedemann and Nubian<sup>13</sup> failed to obtain a fall in cases of leucopenia due to various causes and in which they concluded a permanent state of haemoclasis existed. Even assuming that the stimuli I have used do influence the number of leucocytes, the result must be considerably modified by the physiological variations, and it would be necessary to eliminate the latter to arrive at the effect of the stimulus. But it has been shown that the two curves are so similar as to be practically identical, and therefore I think that the stimuli employed have no effect on the number of leucocytes in the peripheral blood—the variations recorded in the experiments being nothing more than the fluctuations of physiological rest. Kobryner's work confirms this, for he has shown that food, fluid, movement, etc., do not influence either the total leucocytic curve or its phases. Consequently I think that there is neither a "digestion leucocytosis" nor a "digestion leucopenia," the results recorded as such in the literature on haemoclasis being simply the expression of the phase of the normal curve at the time the test is done—a descending phase being registered as a leucopenia and an ascending one as a leucocytosis.

CHART B. Leucocytic curve during rest compared with curve after 200 cc. milk or 400 cc. water in the same person.



oscillation during physiological rest also appeared in persons subjected to the haemoclasic test. In all my protocols only one pre-test count has been recorded, but in 7 cases two counts were made at intervals of fifteen to twenty-five minutes, the test meal being given immediately after the second count. The percentage difference between the two counts in the 7 cases was: -13%; -10%; -9%; +16%; -7%; +4%; +30% (the minus sign indicates that the first count was the higher of the two; the plus sign the reverse). If the first count had been accepted as representing the leucocytic content immediately before the test meal the results would have been altered in 5 of the 7 cases.

Fluctuation in the number of leucocytes apart from food has been noted by several observers. Mauriac and Cabonat,<sup>14</sup> examining the leucocytic variations in two normal adults, not in absolute physiological rest, over a period of fifteen hours at intervals of thirty minutes, found considerable and sudden oscillations in the count. Servantie, Panzatz, and Monod,<sup>15</sup> in one normal person during starvation, record fluctuations of 2,000 to 3,700 in counts done every ten minutes. Kobryner<sup>17</sup> concludes, from numerous observations made over long periods, that

1. Widal's haemoclasic test for liver function lacks a theoretical basis, and in practice is of no value in the diagnosis of hepatic insufficiency.

2. During physiological rest the number of leucocytes in the peripheral blood is subject to considerable and rapid fluctuations, though there are phases in which a state of equilibrium exists.

3. There is no evidence that the ingestion of milk, casein, butter-fat, and distilled water in certain quantities, or the local application of cold, influences the leucocytic content of the peripheral capillary blood, the oscillations following these stimuli being the same as the physiological variations during rest.

4. The phenomena of "digestion leucocytosis" and "digestion leucopenia" described in connexion with the

haemoclastic test are simply physiological variations and not the response to ingestion of foodstuffs.

5. The conflicting conclusions as to the value of the haemoclastic test arise from a failure to recognize that normally the leucocytic content is in a state of flux, and consequently that a single count made before the test does not represent a state of equilibrium.

My special thanks are due to the British Medical Association for a grant, through the Science Committee, to defray the expenses of this work.

## ACTINOMYCOSIS OF THE PLEURA.

AN ACCOUNT OF TWO CASES, WITH PATHOLOGICAL FINDINGS,

BY

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THE two cases here recorded differ considerably in type, but the clinical features are worthy of study, as also are certain considerations which the cases raise as to the vexed question of the etiology of this disease.

### CASE I.

A woman, aged 20, an assistant in a drapery shop, had always lived in Newcastle. In October, 1921, she complained of pains in the back and general malaise, and about a fortnight later was laid up with "pleurisy" on the left side and pain in the left shoulder. She appeared to get over this, but, not gaining strength, reported to her doctor late in November, and was found by him to have a coarse pericardial friction rub over the base of the heart. She was seen in consultation with Dr. S. Worthington on December 10th, on account of the development of a lump above the left breast. She was pale and somewhat hectic, had a temperature of 100° F., and a pulse of 120. There was an oval swelling about half the size of a hen's egg in relation to the anterior end of the second left rib and second interspace. The swelling was tender, elastic in consistency, not red and not hot; the skin could be moved freely over it, but it was fixed to the deeper structures. There was no pulsation, nor impulse on coughing. Immediately under the swelling there was some diminution of the breath sounds and of the vocal resonance and fremitus, otherwise there were no abnormal signs in the lungs. At the right border of the sternum, in the second and third interspaces, a well marked systolic bruit was audible, the characters of which suggested that it was exocardial. The heart appeared normal in size and position, and there were no other murmurs. Nothing abnormal was found in the other organs.

No definite diagnosis was made and the case was admitted to hospital. Slight fever continued, and the lump gradually increased in size. At the end of a fortnight the lump had doubled in size, and the skin was becoming stretched over it and red in places. The swelling was then explored with a hypodermic syringe, and a little blood withdrawn, but no pus. The site of the needle puncture failed to heal, and within forty-eight hours began to discharge typical oily pus, containing opaque greyish-white granules. Stained specimens revealed the branching mycelia of actinomycetes, and there was also definite evidence of clubbing. No other organisms were found, and pure cultures were obtained anaerobically in 2 per cent. glucose agar, growth being obtained in all of six tubes inoculated. The organism also showed feeble powers of growth under aerobic conditions, two colonies developing on the surface of one of two agar slopes inoculated. A few spores occurred in the stab cultures on the fourteenth day.

The swelling continued to increase rapidly in size, and discharging sinuses appeared in several places; the breast became invaded, and the appearance shown in the photographs was gradually assumed. Surgical intervention was discussed, but abandoned by the surgeons in view of the evidence of involvement of the



FIG. 1.—Early stage.

mediastinal tissues. As alternatives various lines of treatment were followed, namely—

1. Ionization of the growth with potassium iodide.
2. An autogenous vaccine of the streptothrix was prepared from the discharge and administered in increasing doses for many weeks.
3. Potassium iodide was given by the mouth in large doses for several months: 60 grains three times daily were taken for a week at a time, followed by four days without the drug. No signs of iodism appeared at any time.
4. In place of ionization a long course of x-ray treatment was given. In all eighty-one applications were given with a 10-milliamperé Coolidge tube and a 2 mm. aluminium filter, the tube distance being 12 inches.

None of these measures had any appreciable effect, the local condition remaining more or less stationary while general cachexia and emaciation advanced. Considerable glandular enlargement appeared in the left axilla, and two additional swellings appeared, one behind the right ear and one at the lower end of the left scapula. The former burst and discharged pus and then healed; no actinomycetes was obtained from the pus. The latter also broke down, and continued to discharge a small amount of pus. Gradually dullness developed over the greater part of the left lung and numerous crepitations were heard; immediately beneath the growth breath sounds were absent. For several months remittent pyrexia of moderate degree continued, and by January, 1923, the patient's condition was desperate. The spleen became enlarged, the anterior edge descending a handbreadth below the costal margin; the lower edge of the liver reached to the umbilicus. The urine contained a considerable amount of albumin, and there was intermittent diarrhoea. Cough, which had been almost entirely absent, increased a little, but there was very little sputum throughout.

Blood films showed secondary anaemia and a slight polymorphonuclear leucocytosis. Oedema of the left upper limb developed, and death occurred on March 8th, 1923.

Post-mortem Examination, March 9th, 1923 (Dr. A. F. Bernard Shaw).

On reflection of the skin containing the growth a wide area of suppuration was found extending from the left breast, the pus being green and odourless; the suppuration involved all the tissues of the chest wall, and the periosteum of the ribs was stripped and the bones eroded; the necrotic tissues were soft and ochre-yellow. There was gelatinous oedema of the anterior mediastinum, and the pericardial sac was obliterated by adhesions, which were not very dense. The left pleural sac contained abundant loculi of greenish pus, and the rest of the sac was obliterated by dense adhesions. The left lung was collapsed and airless, but contained no actinomycotic lesions. The glands at the root of the right lung were congested, and there was a small area of invasion of the hilus of this lung by the actinomycotic process. No other evidence of actinomycosis was found throughout the body. Though the liver and spleen were markedly enlarged, neither these organs, nor the heart or kidneys, showed naked-eye evidence of amyloid change, and the iodine test for amyloid degeneration was everywhere negative. Smears from the pus in the left pleura showed numerous streptothrix colonies.

### CASE II.

A shipyard labourer, aged 42, was admitted to the Royal Victoria Infirmary complaining of "abscesses" over the right lower ribs, which had been present for three months.

History.—The patient stated that he had an attack of pleurisy six months before admission and that he had never been well since. At first he was off work for five weeks, and on attempting to start again he developed a second attack of pleurisy. Some time after this second attack the skin condition commenced with



FIG. 2.—Later stage.

what he described as a small blister. He had a troublesome cough at night, but said that he had been troubled with his chest for about sixteen years since an attack of pneumonia.

**Condition on Examination.**—The patient was very thin, with a tall complexion, and the fingers were clubbed. A little to the right of the lower end of the sternum, and extending from the level of the fourth rib to the seventh right intercostal space, was a raised, livid patch of very firm consistency. The surface was glazed and somewhat nodular, with here and there small circular points of superficial necrosis from which a little thin yellow pus could be squeezed. A similar but smaller lesion was situated over the eighth right intercostal space in the mammary line, and a larger lesion measuring 13 by 6 cm. extended over the right costal margin.

**Right Lung.**—Anteriorly the lung was emphysematous. Posteriorly there was dullness on percussion from opposite the fourth dorsal vertebra and increasing towards the base of the lung, where the note was quite flat. The area of dullness, with no breath sounds over the extreme base, vocal resonance was greatly diminished. The left lung was generally emphysematous but fluid until a fortnight before death, when some purulent blood-stained fluid was drawn off from the right pleural sac. At first repeated examinations of the pus from the skin nodules showed nothing, but about a fortnight after admission streptothrix filaments, staining poorly, were discovered. No granules were found to the discharge at any time.

**Progress.**—From 90 to 100 grains of potassium iodide were given daily, and the skin lesions were treated at first with antiseptic dressings and later painted with Gram's solution frequently during the day, but little or no beneficial effect was to be noticed. A month after admission to hospital the patient developed acute pleurisy over the base of the left lung. Later he began to cough up a considerable amount of green purulent expectoration, but no streptothrix could be found on examination of the sputum at any time. The progress of the case was steadily downhill—a swinging temperature developed, the abdomen became distended and tense, there was considerable enlargement of the inferior epigastric vein on the right side, coma set in, and the patient died three months after admission to hospital.

**Post-mortem Examination (Dr. A. F. Bernard Shaw).**  
There was dense thickening of the right pleura, which, on being separated, revealed slimy green pus which had perforated the diaphragm, passed behind it and spread along the spine. The right lung was collapsed and showed moderately large bronchiectatic cavities. The bodies of the ninth and tenth dorsal vertebrae were covered with pus and there was some superficial erosion of the bone. There was a pyaemic abscess in the liver, two abscesses in the spleen, two abscesses in the right kidney, and one in the left kidney. Under the left cerebral cortex five abscesses containing slimy green pus were found and one abscess under the right cortex. The right occipital lobe was destroyed by a similar abscess. Streptothrix in thread form was found in all these abscesses, and was especially abundant and characteristic in the pus from the brain.

#### DIAGNOSIS.

It is clearly important to bear in mind the possibility of this disease in the case of a lump of obscure origin in any part of the chest wall. The appearances may suggest tuberculosis of a rib, sarcoma, gumma, etc., and it may be possible to decide the diagnosis by exploratory puncture, followed by microscopic examination or culture. In our first case the typical granules were numerous and the organism was easily obtained and isolated in pure culture; in the second case no granules were seen, and the organism was only found after many examinations, and never in the sputum, though the lung lesion was extensive. This difficulty in isolating the organism has been encountered by many observers, some of whom would exclude from the category of actinomycosis any case in which granules are absent. While there are no doubt different types of mycelial infection, the presence of branching filaments in a typical lesion appears to us to justify the diagnosis from a clinical point of view.

#### MODE OF INFECTION.

Evidence is accumulating against the view, originally put forward by Bostrom, that the infection is conveyed to man from vegetable sources. Such a mode of infection cannot be considered as likely in either of our cases. One patient was a shipyard labourer; he had not handled grain or straw, nor worked at any time on a ship which had carried a grain cargo. The other was an assistant in a drapery shop, who had never lived outside Newcastle. The type of organism present in this latter case corresponds to that described by Wolff and Israel and by Homer Wright.<sup>1</sup> The recent observations by Colebrook<sup>2</sup> lend fresh support

to the work of Wolff and Israel. Colebrook points out that a truly anaerobic organism, such as is found in most cases of human actinomycosis, has not been recovered from any vegetable source, and in view of the slight viability of the human organism its survival upon vegetable matter is unlikely. He impregnated sterile oats with a fluid culture of the human organism and introduced it into the pleural and peritoneal cavities of rabbits; in no instance was actinomycotic infection established. He favours the view that so-called *Actinomyces bovis* is a frequent inhabitant of the alimentary tract of man, and may be carried into the tissues in certain unknown circumstances. He has isolated Gram-positive filaments resembling actinomycetes from carious teeth, and refers to similar observations from the investigation of these observations it would appear desirable to investigate systematically the bacterial flora of the mouth in cases of actinomycosis in any part of the body.

The pathway of entry of the organism also remains uncertain. Actinomycosis of the lung is a well recognized affection, and in the second of our cases infection could be explained by inhalation; in the first case, however, no pulmonary lesion at all was found at autopsy, and the disease remained throughout limited to the pleura and adjacent mediastinal tissues. Invasion from the skin is certainly not the explanation in this case, as the skin in the early stages was quite normal in appearance and free from movable over the underlying abscess. Inhalation into the main bronchi with infection of the mediastinal glands and subsequent lymphatic spread to the pleura is unlikely, as there was no trace of any lesion in the bronchi, and the only mediastinal gland involved was a small one on the side opposite to the pleural lesion. Finally, the possibility exists of infection by way of the oesophagus, a view put forward by Poncet and strongly supported by Cope.<sup>4</sup> In a considerable number of the reported thoracic cases pulmonary symptoms have been late in onset and have been preceded by the appearance of the lesion in the chest wall. The theory is that the mediastinum is infected from the oesophagus, and thence the disease spreads directly to the pleura, usually in the lower part of the chest. In these cases, therefore, extensive disease is usually to be found in the mediastinum, but this was not so in our first case, and it appears to us very doubtful if oesophageal infection can be held to account for the pleural lesion in this case. The suggestion, therefore, is that the pleura was infected by the blood stream from an unknown primary focus, probably in the mouth or other part of the alimentary canal.

We would refer the reader to a useful summary of the present evidence regarding the etiology of the disease by Warwick.<sup>5</sup>

#### TREATMENT.

Our experience of treatment in these two cases was that neither potassium iodide, vaccine, nor x rays was of any avail. In the case in which the disease was limited to the pleura and adjacent mediastinum it is possible that more radical surgical treatment, in combination with the other measures, might have been effective. In a remarkable case recorded by Bigland and Sergeant,<sup>6</sup> recovery followed the following treatment: (1) irrigation of the right pleura and pericardium with a solution containing collosol iodine; (2) potassium iodide, 25 grains three times daily by mouth, later changed to iodopin, 1 drachm three times daily; (3) collosol iodine intravenously. In another case of pulmonary actinomycosis recorded by Malcolm,<sup>7</sup> cure was obtained by incision, scraping and removal of ribs, potassium iodide by mouth, and finally vaccine treatment.

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## TORSION OF THE GALL BLADDER.

BY

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TORSION of the gall bladder is a very rare condition, and in consequence I report the following case.

A married woman, aged 54, with six children, whilst taking tea on February 17th, was seized with severe pain in the right upper abdomen. She vomited frequently bright green bile, and the pain and vomiting continued until the morning of February 19th, when she was admitted to the London Hospital. She had not previously had similar pain, nor flatulent dyspepsia, jaundice, or any abdominal condition, although, until seven years ago, she was alleged to have suffered from periodic "bilious attacks," consisting of headache, slight sickness, but no pain, lasting for about a day. She was always constipated.

The temperature on admission was 99°, pulse 94, and respirations 24. The abdomen was slightly distended, and did not move well on respiration. Tenderness and rigidity of the right upper abdomen were pronounced, and a rounded lump, suggestive of a distended gall bladder, could be felt. Acute cholecystitis with a gall stone in Hartmann's pouch obstructing the cystic duct was the clinical diagnosis.

**Operation.**—A right upper rectus incision was made and the rectus muscle retracted outwards. As soon as the peritoneal cavity was opened some serous fluid escaped and a black distended gall bladder presented. It was about 3½ in. long, the shape of a thick sausage, with the concavity directed upwards and forwards. The peritoneum completely covered it and attached its proximal end to the liver by a mesentery, which also contained the cystic duct. A cystico-duodenal fold ran from the under surface of the proximal end (the cystic duct end) to the duodenum. The gall bladder had rotated once completely on the cystic duct from right to left. The gall bladder was extremely mobile, and its wall in the region of Hartmann's pouch so thickened as to suggest to the palpating fingers a stone therein. I removed the gall bladder and explored the biliary passages, but found nothing else abnormal.

The gall bladder contained blood mixed with a little bile, but no stones. The wall was greatly thickened by haemorrhage, especially at the proximal end, where it measured a quarter to a third of an inch. The patient made an uninterrupted recovery.

I am indebted to Sir Hugh Rigby for permission to publish this case.

## Relation of the Peritoneum to the Gall Bladder.

The gall bladder lies in a groove on the under surface of the liver between the right and quadrate lobes. Generally the postero-inferior surface and fundus are covered by peritoneum, and the antero-superior surface is attached to the liver by fibrous tissues. Sometimes the gall bladder is crossed by a bridge of liver tissue, and may even be entirely embedded. Rarely it is completely surrounded by peritoneum and attached to the liver by a mesentery. Lett quotes Brewer as finding this condition in 5 out of 100 dissections of the gall bladder and ducts, while Mr. A. J. Walton observed it in 7 of his cases at operation. Very rarely this mesentery does not extend beyond the proximal end ("neck") of the gall bladder, so that nearly the whole of the latter is entirely unconnected with the liver. In such cases the gall bladder is extraordinarily mobile and liable to torsion. It is suggested by Mr. Walton that a mesentery is more common in cases of virginal ptosis. Not infrequently, especially in cases of ptosis, a peritoneal fold passes from the inferior surface of the gall bladder to the colon or duodenum or both. It is known as the cystico-colic or duodenal fold, and is a continuation of the gastro-hepatic omentum. It was present in three of Brewer's five cases of gall bladders with mesenteries, and also in the case of torsion here recorded.

## Previous Cases of Torsion.

Wendel in 1838 described the case of a woman, aged 23, who had torsion of the gall bladder, in which there were stones, whilst other stones had escaped through a perforation and were lying free in the surrounding abscess cavity. The cystic duct had twisted many times, but there was no gangrene of the gall bladder, presumably on account of the many adhesions present.

In 1909 Lett recorded a case in which the patient, aged 72, was found to have her cystic duct twisted four half-turns, but there were no stones present. She died twelve hours after operation.

In the *Medical Annual* of 1913, in the section on volvulus of the gall bladder, Moynihan and Upcott quote Kubig, who in 1912 published his own case, found *post mortem*, and the records of three and Fischer. These four cases occurred in elderly women. The gall bladder had rotated once or twice completely from right to left, was kidney-shaped, full of blood, and its wall was greatly thickened. In one of the four gall stones were present.

Hansen's case in 1921 was that of a woman, aged 79, who had an hour-glass gall bladder; whilst in 1921 Irwin published the case of a woman, aged 34, who on operation was found to have a volvulus, there being one complete twist in the proximal part of the gall bladder itself and not the cystic duct. No stones were present and she recovered.

Jonas operated on a woman, aged 67, in 1923, and found two half-twists of the cystic duct and stones in the gall bladder. She recovered.

## Summary.

In all the recorded cases the patients were women and the majority of advanced age. In just over a quarter (3 out of 11) stones were present.

The physical signs and symptoms were practically the same in nearly every case: sudden onset of severe pain in the right upper abdomen, vomiting, slight abdominal distension, rigidity most marked in the right hypochondrium, and a tender lump in the position of the gall bladder. In no instance was a correct diagnosis made, the condition generally being considered acute cholecystitis with a stone obstructing the cystic duct.

Although in nearly all cases the gall bladder was strangulated and gangrene inevitable, apparently (for example, Wendel's case) it may obtain a sufficient blood supply through adhesions to prevent this.

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## OTITIC INTRACRANIAL INFECTION.

BY

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As a sequel to otorrhoea, with or without mastoid involvement, the presence of pus in the cerebro-spinal fluid is a condition from which recovery is unfortunately not so common as to be uninteresting; and when the surgeon is not only faced with obvious meningitis, but also, in obedience to strong indications of brain abscess, is obliged to explore cerebrum and cerebellum, the patient's prospects are certainly not improved.

Recently at a hospital of 120 beds (the London Temperance) I had simultaneously under my care two cases of this type; and each made a quite unexpected recovery. The following are brief reports.

## CASE I.

A girl, aged 17, had had a discharge from the right ear for two years. In August, 1924, a radical mastoid operation (right) was performed. A month later she complained of giddiness and intense frontal headache; right external strabismus was present, with spontaneous nystagmus of the first degree on deviation to the left; there was indefinite thickening over the right jugular vein, and oedema of both optic discs. At first rigors were present; later the temperature, pulse, and respirations fell to subnormal. Pus was found in the lumbar cerebro-spinal fluid.

**Operation.**—The dura mater was widely exposed, and found to be under slight tension; the wall of the lateral sinus was rough and unhealthy. The sinus was explored with a needle, but only normal blood was extracted. At a second operation, two days later, the dura was very tense and quite devoid of pulsation; first the cerebrum, and then the cerebellum, was explored for pus—without success.

**Post-operative History.**—Spasticity of the left psoas, adductors, and hamstrings supervened and persisted for a month, then gradually cleared. Hernia cerebri slowly subsided. The intense headache was controlled by heroic doses of morphine and heroin. The patient was discharged well.

## CASE II.

A girl, aged 3, in November, 1924, underwent myringotomy for right acute otitis media. In January, 1925, she was admitted to hospital suffering from right mastoiditis, and a cortical mastoid operation was performed. Two days later she was isolated for pertussis. Four days later still the head was retracted, and there were convulsions of the right limbs, with paresis of the right side of the face and complete paralysis of the left arm. Pus was found in the lumbar cerebro-spinal fluid.

**Operation.**—Chloroform was the only anaesthetic employed, ether being contraindicated on account of cough. The dura mater was widely exposed, and found under slight tension. The wall of the sigmoid sinus was healthy. At a second operation, two days later, the dura was very tense, there was no pulsation whatever. Both

the cerebrum and cerebellum were fruitlessly explored for pus. The child appeared to be moribund, and required only a very little anaesthetic.

*After-history.*—The hernia cerebri gradually subsided, and the patient made a complete and uninterrupted recovery.

I would emphasize the value of the two-stage operation. It often happens, as in these two cases, that while it is manifestly the surgeon's duty to open the cranium it is not so obvious what further steps should be taken. It may be necessary to drain the meninges, or turn clot out of the lateral sinns, or explore the brain. Therefore it is often wise, in the first instance, merely to expose the dura widely. This drains any local extradural abscess; the relief of tension helps the patient; and, since the dura is more resistant to infection than is bone, no harm has been done. If there is no clear indication to proceed further, the patient is returned to bed. Except in the rare cases in which the condition clears up, apparently as a result of the simple decompression, the second stage is undertaken one or two days later. By now there is usually more exact evidence of the lesion to be dealt with—both clinical evidence and evidence from the appearances of the exposed area. But by now, also, the patient is more ill, and would possibly not stand the prolonged operation of removing bone. This, however, has been obviated by anticipation, and the exploration of brain or sinns only occupies a few minutes.

## Memoranda :

### MEDICAL, SURGICAL, OBSTETRICAL.

#### PROLAPSE OF GUT DISTAL TO A COLOSTOMY.

In performing colostomy, after finding the sigmoid colon, the surgeon gently pulls down the loose bowel until the descending colon is nearly taut, so that any loose folds of sigmoid are not left just above the opening. The interest of the case here recorded lies in the fact that the sigmoid distal to the colostomy made in the recognized fashion prolapsed 9 inches.

W. M., male, aged 75 years, admitted to the Paddington Infirmary on January 26th, 1925, stated that colostomy had been performed twenty years previously for cancer of the bowel. There was a left iliac colostomy through which 9 inches of gut prolapsed. The abdomen was tender and rigid, but replacement of the prolapsed gut caused these signs to disappear. The patient suffered also from capillary bronchitis. Death occurred in fifteen hours.

#### Necropsy.

In addition to advanced bronchitis in both lungs, chronic interstitial nephritis and generalized arterio-sclerosis were present. The colostomy had been performed at the lower end of the descending colon. The gut for 16 inches distal to the opening was oedematous, congested, and dilated. The remainder of the large gut was contracted and empty. There was no sign of any malignant growth in the abdominal cavity, but there was well marked diverticulitis of the pelvic colon; some of the diverticula were minute, containing nothing but mucus, but one, resembling a normal appendix in size and length, contained a small amount of faecal matter. These observations were confirmed on microscopical examination. The appearance did not suggest that any portion of the gut had been removed at the previous operation.

We wish to express our thanks to Dr. Bendle, medical superintendent of the Paddington Infirmary, for permission to record this case.

It would appear that this case of diverticulitis of the colon had been regarded as an inoperable carcinoma. Retroperistalsis depends on a state of tension. Retroperistaltic waves once started may be augmented by an increase of internal pressure (Causton). The fact that at the necropsy all the large gut except the 16 inches distal to the colostomy was empty suggests that the tension of this part of the gut caused by the presence of faeces initiated a retroperistaltic wave, which was sufficiently strong to cause prolapse of a portion of mucosa, and that the lumen of the gut was thereby obstructed, causing a further rise in tension which led to a greater degree of prolapse. Such a complication is obviously prevented by the frequent periodic flushing out of the segment of the bowel distal to a colostomy opening.

C. M. GREENSLADE, M.B., F.R.C.S.

London, W. F. J. S. HALL, M.B., M.R.C.S.

### TREATMENT OF DIABETES BY RAW FRESH GLAND (PANCREAS).

I DECIDED to try the treatment of diabetes by raw fresh gland in a lady of 67, who had been on a strict diet for six weeks without any appreciable improvement. The percentage of sugar present before gland treatment was 2.65; after four days' trial sugar had completely disappeared. I then recommended gland ingestion every other day for a week, when the urine showed a return of the glycosuria, but only 0.22 per cent. She returned to her original daily dose, when again, after a few days, the urine was free of sugar. She declares herself wonderfully better, her abnormal thirst and appetite having practically disappeared.

From experience I think it unsafe to be too dogmatic on any line of treatment for diabetes, as, despite recent research, the etiology and pathology of some cases are most puzzling and they refuse to respond to any form of treatment.

HELENA POMEROY KELLY, M.B., Ch.B.

Wolverhampton.

Mrs. K. aged 50, who had been treated for diabetes by dieting since January last, appeared from the history to have suffered from diabetes for at least two years. Under treatment some symptoms subsided, but the specific gravity of the urine was never reduced below 1030; it was usually considerably higher, and the percentage of sugar was only reduced to 2.5. The patient objected to trying insulin. Raw pancreas was started on March 17th (as recommended by Dr. Hollins, *BRITISH MEDICAL JOURNAL*, March 14th, p. 503), and on March 21st the urinary sugar was reduced and the specific gravity of the urine was 1025. By April 24th the urine was free of sugar and the specific gravity, 1020. The patient put on one pound in weight, and all symptoms disappeared. Apart from the addition of the pancreas, which was taken five days a week, no change was made in the diet.

Cardiff.

CONSTANCE L. GRIFFITHS.

### X RAYS IN THE TREATMENT OF WHOOPING-COUGH.

Dr. H. I. BOWDITCH, in the *Journal of the American Medical Association* (vol. i, 1924, p. 1422), gave an account of the treatment of 300 cases of whooping-cough by x rays at the Boston Floating Hospital. References to the work of Dr. Bowditch and his colleagues appeared in the *Epitome*, November 29th, 1924 (para. 424), and December 20th, 1924 (para. 491). A previous article on this subject was published by Dr. Bowditch in the *Boston Medical and Surgical Journal* of March 8th, 1923. Acting on the suggestion, but adopting a rather simpler technique, I have used the method in nine consecutive cases of whooping-cough during the past three months, and my experience may be summarized as follows.

1. The cases were all well established examples of uncomplicated whooping-cough, and four were very severe. The ages of the patients ranged from 1 year and 9 months to 55 years, and the duration of the attack from ten days to four months.

2. The dose of x rays varied with the age of the patient from 1/4 to 3/4 pastille dose, using in each case a suitable aluminium filter and a tube of equivalent spark-gap of 8 inches. In each case the dose was directed to the inter-scapular area from behind, this being the nearest point of approach to the root of the lungs, where enlargement of the lymphatic glands occurs in this disease. Two doses were given, with an interval of one week, in all except three cases, in which one dose only was given. The patients received no other treatment.

3. In all the nine cases so treated the cough ceased in less than a fortnight, and in no case did it recur; the cough at night was the first to be stopped.

The rationale of the method is explained by Dr. Bowditch, and I have personally confirmed the existence of enlarged glands at the root of the lungs. I do not believe that any bad sequelae are likely with these small doses, which have been employed in a large number of cases of early tuberculous adenitis; this invariably clears up under similar but

more prolonged treatment without unpleasant results. I venture to draw attention to the method in the hope that it may be more extensively practised in a disease in which other methods of treatment have been generally unsatisfactory. The relief which followed its use in these cases was extraordinary. If the good results are confirmed by more extensive trial we appear to have at our disposal a method of treating whooping-cough which will cut short its distressing symptoms, prevent the onset of many complications, and materially reduce its mortality.

Glastonbury, Somerset.

J. W. J. WILLCOX, M.B.Lond.

### POISONING BY EUCALYPTUS OIL.

The following case of poisoning by eucalyptus oil, in which alarming symptoms arose, may be of interest to readers. Other cases have been recorded in the *BRITISH MEDICAL JOURNAL* (1906, i, pp. 558, 1020, 1085).

A boy, aged 16, was recovering from measles when he was given by mistake half an ounce of eucalyptus oil. He swallowed the draught from the medicine glass without looking at it, and immediately said, "You have given me eucalyptus instead of my medicine." He felt some burning in the mouth and tried to cough the oil up, without success. In two or three minutes he suddenly became faint, and, according to the parents' account, was quite unconscious. On arrival ten minutes later I found the patient much collapsed, almost pulseless, and completely unconscious. The conjunctival reflex was nearly absent, and the breathing stertorous. With difficulty I got a little mustard and water down, but as there was no proper reflex action of swallowing I desisted. However, the boy vomited twice; whether this was due to the poison or the mustard I cannot say. His colour and pulse improved, but as I was not satisfied I washed out the stomach three or four times with the stomach tube. Three hours later the bowels acted involuntarily, but the patient remained comatose for another hour, when coughing commenced and the conjunctival reflex became brisk. Two hours later still, speech and recognition of relatives had returned, and the subsequent recovery was uneventful. The patient told me that he remembered nothing of what happened from the time of his feeling faint at 11 a.m. until about 5 p.m. On recovery of consciousness he complained only of thirst; there was no abdominal uneasiness. The symptoms therefore were those rather of a narcotic poison than of an irritant.

The poisonous nature of such a common household remedy is probably not widely known.

Horwich, near Bolton.

J. S. SEWELL, M.D.Ed.

### SACRALIZATION OF FIFTH LUMBAR VERTEBRA WITH PRESSURE ON LUMBAR PLEXUS.

The following case, of a condition which I believe to be rare, seems worthy of record. I am indebted to Mr. A. M. Sinclair, honorary surgeon to the Victoria Hospital, Burnley, for permission to publish these notes.

A man, aged 30, sustained an injury in March, 1924, to the lumbar region of the back. A week after the accident the patient was completely free from pain. On returning to light work, five weeks later, he noticed that his back was easily fatigued, and towards the end of April, 1924, he began to suffer pain in his back over the site of injury. He experienced increasing weakness in the right leg, and later on pain in it on exertion. About November, 1924, he found he could not completely extend his right knee, the attempt to do so causing pain in the back, shooting down to the right heel.

When examined in March, 1925, some flaccidity and wasting of the muscles of the right thigh and right calf (? due mainly to disuse) and considerable weakness of the right quadriceps femoris were present. There was limitation of all movements at the hip-joint, in particular of those of extension and internal rotation, and all movements at that joint caused pain over the right posterior superior iliac spine. The knee-joint could not be completely extended, and attempts to do so produced pain over the right posterior superior iliac spine, shooting down the back of the right leg to the heel. There was evidence of interference with sensory filaments in a slight loss of the sense of superficial touch, marked loss of pain sense over the anterior aspect of the right thigh extending upwards as far as Poupard's ligament, and also considerable loss of deep muscular sensibility in the right calf. No variation in the reflexes could be made out. The Wassermann reaction was negative.

The skiagram disclosed a shadow, suggesting bone in density, extending from the lower portion of the right transverse process of the fifth lumbar vertebra downwards to the first piece of the sacrum, and outwards, rather more vaguely, to the iliac crest a short distance above the posterior superior iliac spine. A homologous but rudimentary process was present on the left side.

In March, 1925, the patient was operated on at the Victoria Hospital, Burnley. On separating the muscles through a posterior incision a small bony process was found tapering downwards and outwards from the lower portion of the right transverse process of the fifth lumbar vertebra, and being prolonged as a band of firm fibrous tissue to the iliac crest. Below it was connected with the first piece of the sacrum. The fibrous band was cut, and the bone removed flush with the transverse process of the fourth lumbar vertebra.

After the pain immediately subsequent to the operation had subsided the patient found that he could completely extend his knee without pain. When the operation wound had healed, all movements at the hip-joint were found to be normal and painless, and also there was definite evidence of returning cutaneous sensibility. On April 18th the patient was discharged from hospital, all symptoms of the condition having disappeared.

R. B. HENDERSON,  
House-Surgeon, Victoria Hospital, Burnley.

### SECONDARY CARCINOMA TREATED WITH DEEP X RAYS.

ALTHOUGH the patient in the following case eventually died, the effect of deep x-ray therapy was in certain respects so favourable that it appears worth while to record the facts.

A lady, aged 48, in the spring of 1921 had a small nodule just above the clavicle on the right side. The left breast had been excised five years earlier for carcinoma. The right arm was slightly swollen. The patient was of a very nervous temperament, with dilatation of the left pupil and a suggestion of exophthalmos; the pulse rate was frequently accelerated, and her condition resembled in certain respects the thyroid type. By the autumn of the same year there was considerable glandular involvement in both supraclavicular regions, especially the left; the glands were very hard and adherent to the cervical tissues.

The surgeon who had operated in the first instance pronounced the condition inoperable, and she was transferred to Frankfurt, where she was placed in the City Hospital, under the care of Professor Schmieden. Though the condition was not considered suitable for irradiation, in view of the extent of the glandular involvement and the swelling and neuralgic pains down the arm, she received irradiation of three hours on each side of the chest on October 25th, 1921. First field (left breast and axilla): Distance 80 cm.; dose 100 per cent.; filter 0.5 mm. of zinc. Second field (right supraclavicular area from front): Distance 40 cm.; dose 100 per cent.; filter 0.5 mm. of zinc. Third field (right supraclavicular area from behind): Distance 40 cm.; dose 100 per cent.; filter 0.5 mm. of zinc.

Within a month from the date of treatment a distinct difference in the size of the glands was observable, an improvement that still held at the end of five months. Marked improvement was observed in the general health; the condition, however, could not be regarded as cured, pleuritic friction being audible between the shoulder blades. Blood examination showed: Haemoglobin 100 per cent.; red blood cells 7,400,000, white blood cells 10,600 per c.mm. Anaemia of the ordinary hyperplastic type was therefore present. X-ray examination gave no evidence of intrathoracic involvement.

She paid a second visit to Frankfurt on April 10th, 1922. For about six weeks prior to this visit the supraclavicular glands had shown a tendency to increase. Professor Schmieden found her general condition improved. X-ray examination of the thorax revealed a long narrow mediastinal band, but screening showed the retrocardiac space free. Several bronchial glands appeared enlarged, which may explain pains she experienced in the chest. The mediastinum, however, being free, was treated with high x-ray doses. The left thorax, axilla, and clavicular area were treated at 70 cm. and 80 cm. distance by two fields, giving 50 per cent. erythema skin dose each, the filter being 0.5 mm. of zinc, the milliamperage 3, the spark-gap 44 cm., and the time 115 minutes with each tube. This was immediately followed by a 70 per cent. dose at 50 cm. distance, given obliquely from the left scapula, the irradiation field being 10 by 15 cm. Five days afterwards the right clavicular region was also irradiated—moderated, owing to the state of the patient, to a 90 per cent. dose at 50 cm. distance with a field of 10 by 15 cm.

A third visit was paid in August, 1922. The left gland had markedly decreased and flattened out, the right glands had increased and even slightly involved the skin—a striking commentary upon the relative underdosage on the right side in April. The general condition of the patient was poor, although Dr. Hoffelder, who had charge of the patient while she was in Frankfurt, reported that she stood the journey fairly well. The percussion note was damped in the left posterior thorax, with pleuritic friction; there was pain, and a diagnosis of pleural metastases was made. The supraclavicular and infraclavicular regions were treated with 100 per cent. erythema skin dose at a distance of 80 cm. This was followed by almost immediate retrogression of the glands in the right supraclavicular area.

During the ensuing year the general condition sank. Constipation remained a marked feature; she became thinner. The blood sank to 55 per cent. of the colour index. The glands involved the skin above and below the clavicles. The pulse rate rose to 120 to 140. Arsenic and radium made little difference.

The facts of the case were of interest, notwithstanding the negative outcome. It was over seven years from the date of the primary operation that the patient succumbed, and, giving a year for the primary growth, the illness was of over eight years' duration, with a clear interval of five years. In October, 1921, she was so ill that x-ray treatment was almost refused. The opinion of the observers, both in London and on the Continent, was that the first and second irradiations exerted a definitely retarding effect on the growth of the cervical glands. The advantages of the treatment lay therein, in a partial relief of pain, and in the belief that everything possible was being done for her.

Glasgow.

ARTHUR TURNBULL.



FRIEZE IN FAÇADE OF PATHOLOGICO-SURGICAL SECTION OF THE POLICLINIC IN ROME; LISTER.

## LISTER, THE INVESTIGATOR AND SURGEON.

BY

SIR WILLIAM WATSON CHEYNE, Bt., F.R.C.S., F.R.S.

THE first Lister Memorial Lecture, established under the International Lister Memorial Fund, was delivered by Sir William Watson Cheyne, Bt., before the Royal College of Surgeons of England on May 14th. The full text, with an appendix, will shortly be published by Messrs. Longmans, Green and Co. In the course of his lecture Sir William Watson Cheyne said:

The story that I have to tell, though it goes back for just sixty years, is still full of vitality; it is a fascinating tale, far exceeding in interest the most exciting detective story ever written. And it is a true story. It is the story of a fight against a series of diseases—the infective or septic diseases of wounds. Until Lister's time any wound of the skin, whether the result of an accident or of an operation performed by the surgeon, involved a very great risk to the patient of serious illnesses. A surgical ward in a hospital was a place in which most of the patients were visibly ill, with flushed faces, parched lips, delirium, severe pain, etc., and many of them were evidently on the verge of death; the wards were pervaded with a peculiar mawkish odour which was very trying to newcomers. Lister's first introduction to septic diseases was when he became a dresser in the surgical wards at University College Hospital, London. I think that his very first case had been attacked by phagedenic gangrene, one of the most terrible of these septic diseases. That and other similar cases impressed him so greatly that he never forgot them, and always felt that no study was more urgent or might be more fruitful than the attempt to find out the cause.

When Lister became professor of surgery in Glasgow and was appointed one of the surgeons at the Glasgow Royal Infirmary, late in 1861, he had done excellent experimental work on the early stages of inflammation, coagulation of blood, etc.—work which was to be of the greatest value to him in future and for which he had been elected, at the early age of 33, a Fellow of the Royal Society. Lister made an extensive experiment in his wards with ordinary cleanliness, but without success, and one can imagine his depression when he found that the best methods he could think of did not help him at all, and that pyæmia and all the other septic troubles dogged his footsteps and rendered his best work nugatory.

But it so happened, though Lister did not then know it, that the cause of putrefaction was being revealed about the time that he was appointed professor of surgery in Glasgow. About 1860 Pasteur not only closed the proof against the spontaneous generation of yeast cells, but also opened up a new and extremely vital line of research by pointing out that other fermentations than the vinous, such as the butyric and the putrefactive, were also dependent on living organisms. Pasteur himself does not seem to have had at the time any idea of the importance of this part of his

investigations, and as far as I can ascertain only three men thoroughly realized it, or at any rate made any attempt to utilize the knowledge, within the next few years. These men were Jules Lemaire, Spencer Wells, and Joseph Lister.

Jules Lemaire was, I fancy, of the type of the delightful old learned family doctor. He had no surgical hospital appointment. He at once saw that Pasteur's statement was of great importance, and wrote on the bad effects which might arise from bacteria; he washed his wounds with various antiseptics, notably carbolic acid, with the view of hindering the growth of bacteria in the discharge, but never suggested, as Lister did, that these antiseptics should be used to kill the germs before they got a footing in the body or in the wound.

In 1864 Spencer Wells, one of the pioneers in ovariotomy, in an address at the meeting of the British Medical Association,\* gave a most excellent description of Pasteur's work and its bearing on surgery. He was a great practical surgeon and a bold operator, but, curiously enough, he did not follow up the logical conclusions he drew from Pasteur's works. Indeed, his only remark as to the practical application of the work was that "surgeons should always secure the most scrupulous cleanliness and purity of everything surrounding them"; as regards any other treatment, he advocated the internal administration of sulphites.

The third man, so far as I can find, who took up Pasteur's work was Joseph Lister. I understand that he was walking home with his colleague Professor Thomas Anderson, the professor of chemistry in Glasgow, one afternoon towards the end of 1864, discussing putrefaction and its causes, when the latter suggested that he should read certain papers on fermentation and spontaneous generation which had been recently published by a rising young French chemist, Louis Pasteur. Lister, who naturally was not conversant with chemical literature, at once got these papers, and from their perusal he found that it was not the gases of the air that the surgeon had to fear but minute living particles floating in the air and settling on surrounding objects in the form of dust, and that so long as these particles were excluded from the putrescible material after it had been boiled putrefaction did not occur. When the protection was removed and the dust was allowed free admission, minute bodies belonging to the lowest class of vegetable life could be seen swarming in the fluid, and putrefaction very quickly set in.

The conclusion was that some of the particles excluded by filtration or destroyed by heat were actually living germs, which, as they developed in the putrescible material, set up the putrefactive fermentation, just as the vinous fermentation was only set up on the admission of living yeast cells.

\* BRITISH MEDICAL JOURNAL, 1864, vol. ii, p. 381.





At that time, and until Lister left Edinburgh, the rivalry among the students—between Lister's followers and those who continued the old system—was very marked. The Listerians, who were considerably the more numerous, looked on the non-Listerians as lost souls, Tories of the most die-hard description, and not likely, when they came to practise their profession, to be able to give their patients the best chance possible. The non-Listerians, on the other hand, looked on the others as crazy believers in vain things like germs, rash to a degree, blinded with their enthusiasm, placing their patients in the greatest danger by the outrageous treatment that they proposed, and, as they said that their wounds did not suppurate while those of the other side did, liars of the first water. This rivalry increased for a considerable time, and when I became Lister's house-surgeon in Edinburgh, in 1876, it was probably at its height. It was, I believe, of the greatest value to the cause of asepsis. It made us all extremely careful, because we knew that everything we did was closely watched and no excuses would be accepted if a case went wrong; it would be the principle that would be blamed, and not the individual. By this time the antiseptic treatment had reached a stage where we felt that suppuration should not occur in an operation wound made through unbroken skin; if it did occur—and as we were not perfect, one or two cases would suppurate during the six months' session—we all felt it very much; we went about as if everything were lost, ashamed to raise our heads, and subjected to merciless chaff. Our only topic of conversation among ourselves on such occasions was how the infection had got in, what was the error in technique which had been committed, and whose fault it was. I do not hesitate to say that this holds true at the present time just as much as it did in the olden days.

By this time (1872 onwards) Lister's work had attracted more and more attention, and quite a number of surgeons began to visit Lister's wards. Curiously enough, very few British surgeons were to be seen, but other countries were well represented, especially Germany. Lister made a special point of showing all his methods and results to the visitors, and as there were constantly fresh arrivals he had to repeat his story frequently; thus his hospital visits were somewhat prolonged. In the early days to which I specially allude the steam spray had not yet been introduced, and it was very hard work to keep a hand spray going for any considerable time. The dressing of a patient followed a regular routine: the dresser on duty got on his knees at the side of the bed, and as soon as the bandages had been cut he started his hand spray; Lister then lifted off the outer dressing, which was solemnly handed round to each distinguished foreigner to smell. Having satisfied themselves that there was no putrefaction, the deeper piece of gauze which was generally placed over the region of the wound was passed round to show that there was no pus; in cases where it had not been possible to bring the edges of the wound completely together blood clot could be seen in places between the edges of the incision. In such cases Lister usually covered the wound with a piece of material called "protective," which was impermeable to carbolic acid; when this was exposed he would take a pair of forceps and peel it off, exposing the wound with the adherent organizing blood clot lying in the spaces where the edges had not come together, solid and firm, and with no sign of inflammation or suppuration in the wound. As a rule, this was followed by a sort of gasp of surprise by the distinguished foreigners, and then a violent conversation would break out among them, accompanied by equally violent gesticulations, so that one became alarmed lest the peace of the nations was going to be endangered. The poor dresser, who was almost, and indeed sometimes actually, faint from the pumping of the carbolic spray, was for the time being completely forgotten. But, however exhausted he was, and however much his wrist and arm ached, not one of his dressers would give in and let Lister down.

For some years Lister was probably most interested in revising the operative treatment of every disease or injury that presented itself from the point of view that he need not now fear sepsis in the operation wound. At first he did

more bone work than anything else—ununited fractures, badly united fractures, deformities of bone (he was the first to operate for knock-knee, very much on the lines of operation devised by Sir William MacEwen some time later), wiring or pegging recent fractures—for example, fractures of the patella or olecranon—operations for varicose veins, open radical cure of hernia, extensive operations for cancer of the breast, and so on.

He was the first to resuscitate suprapubic lithotomy, though this is generally attributed to others. His remarks on this matter will be found in my notebook, where his reasons for this suggestion are given, but he was not very happy in their practical application.

He continued his efforts to find fresh antiseptics which might be less irritating and more useful than those he had hitherto employed, and reconsidered the treatment of all sorts of cases which came before him from the point of view of whether something better might not be done for them by operation than was being done at that time on the knowledge that sepsis might be reckoned to have now been entirely abolished from wounds made by the surgeon through unbroken skin. It was probably in that direction more than in any other that Lister's work became so intensely interesting to the students. They would come to his wards and see treatment employed which had apparently never been heard of or thought of by the other surgeons who did not employ antiseptic measures. It would be hopeless to attempt to give any sort of list of the new operations which Lister did, and he himself absolutely declined to publish them.

When I became more intimately associated with Lister I made repeated requests to be allowed to publish notes of his clinic, especially of the new operations and new lines of treatment which he was employing; but although he had done that sort of thing for Mr. Syme, he pointed out, quite correctly, that the matter was very different, and that if such procedures as opening joints, complicated operations on bones, and many others, were published, it might quite well happen that some surgeon who was not a believer in antiseptic treatment, or not sufficiently acquainted with the technique, might perform an operation on similar lines, and being without the protection of antiseptics the patient might quite well lose his life or limb as a consequence. That is the explanation why so little is known of Lister as a surgeon. But, as I said, I think that it was his fresh outlook on treatment, and the interest of speculating what fresh procedure Lister would suggest in a particular case, that fascinated the students most. The only sphere of operative work in which he did very little was abdominal surgery. Indeed, with the exception of ovariectomy, which was curiously enough supposed to be a very difficult operation and one sacred to a few specially gifted men, comparatively little work had been done in abdominal surgery as we now know it before Lister retired from practice, and he openly stated that he did not feel justified in embarking on surgery in a region with which he was not thoroughly familiar.

I became Lister's house-surgeon in Edinburgh in October, 1876, having spent nearly a year in Vienna and Strasbourg. I found the greatest enthusiasm over Lister and his work. Indeed, the fact that I had worked in his wards and was going to be his house-surgeon on my return to Scotland was a sort of open sesame, and one of the professors actually asked me to show him exactly how Lister dealt with his cases.

It was in the spring of 1877 that Lister accepted an invitation to go to London as professor of clinical surgery at King's College, conjointly with Mr. John Wood. The first that I heard of it was one Sunday morning, I think a day or two after he received the invitation, when I was sleeping quietly in the house-surgeon's bedroom. I woke up to find someone shaking me, and to my astonishment on opening my eyes I found that it was Lister. He told me about his invitation to London. He had not yet at all made up his mind about it, but if he went he would need to take a small staff with him familiar with his methods, and he had come down that morning to know whether, if he decided to go, I would go with him and again act as his house-surgeon for six months at King's College Hospital. Go

with Lister to London! I could not believe my ears. Of course, I would go with him to London or anywhere else. In addition he took Dr. John Stewart (now one of the leading surgeons in Canada and held in very great esteem there), Dr. W. H. Dobie of Chester, and Dr. Altham (who died soon afterwards) as clerks.

He arranged to begin his work there at the beginning of the winter session in October, 1877, and he was asked to give the address at the opening of the winter session. At that time he had become very interested in the question whether there were different "species" of bacteria, each with its own actions on fermentescible substances or in connexion with diseases. He had already been working with milk, and he decided to investigate the lactic fermentation of milk, which he did during the summer and autumn of 1877. He satisfied himself by many ingenious experiments that a small bacillus, to which he gave the name of *Bacillus lactis*, was the only cause of the lactic fermentation of milk, and its sole external function in the scheme of nature. The research was carried out with the precision and thoroughness which characterized all Lister's work.

He not unnaturally thought that the absolute demonstration of a specific bacterium, explaining much that was obscure at that time, would be of the highest interest to his audience. Large numbers of the leading surgeons in London and the provinces came to hear this lecture. Perhaps not unnaturally they expected to be told about the revolution in surgery which Lister had inaugurated, and instead they had to sit for an hour listening to details of a series of experiments which proved that the lactic fermentation of milk was due to a particular bacterium. The expressions on the faces of the audience were very interesting and rather amusing; the majority of the surgeons present could not understand what the lactic fermentation of milk had to do with surgery. Those were the days of the "practical surgeon," as opposed to the "scientific surgeon," the latter being supposed (why I cannot imagine) to have no practical skill or knowledge. It took a considerable time before the "practical surgeon" realized that his day was past.

When we arrived in London, as far as I can remember no one at King's College was doing anything specially in the direction of antiseptic work, and indeed only a very few surgeons in London. As regards Lister's lectures, the chief thing that struck us at once was the almost entire want of enthusiasm among the students as compared with Edinburgh; there was no crowd running to get a good seat. Apart from Lister's dressers, only a few students would stroll into the theatre quite casually, apparently taking little interest in the lecture and seldom taking any notes. After the enormous classes in Edinburgh and their great enthusiasm it was very disappointing and depressing. We found after a time that probably the main cause of this was that the examiners in surgery for the various diplomas and degrees were for the most part not favourable to Lister's views, and the students were therefore afraid to attend Lister's lectures in case they should by accident give his views to the examiner. A good many of them, however, planned to stay in town for some time after they qualified so as to see something of Lister's work. This state of matters continued for some time but gradually died away.

Lister was quite well received by the staff and the students, but the nursing department was very difficult to work with. The hospital was at that time nursed by a sisterhood who looked on the wards as their private rooms, into which no man should come without their permission, nor should he interfere with any of their arrangements, such as ventilation, etc. They could always produce a rule of their sisterhood why we should not do this or the other thing which we considered essential for the success of our work. Had we not possessed a keen sense of humour (being more or less of Scottish descent) I do not know how we could have got through, but most of the restrictions were so childish and so evidently invented on the spur of the moment that we could not but laugh at them. I believe the real trouble was that till we appeared on the scene the nurses dressed the wounds, but when Lister arrived he

naturally would not allow them to meddle with the dressings; this solution did not occur to me for some considerable time.

The staff, on the other hand, were quite cordial and interested. Not long after we arrived one of the surgeons was going to amputate a limb, and he asked me to come and look after the antiseptic arrangements. His technique was pretty defective, and he did not seem able to visualize the germs which were ready to seize every opportunity of getting into the wound, so I accidentally from time to time squeezed a quantity of carbolic lotion over his hands, for which I was, of course, very apologetic. He did everything that I suggested till it came to tying the vessels, for which he used silk and left the ends long. I begged him repeatedly to cut them short, and told him that they would never separate if the wound remained aseptic; but he was adamant—he had never seen a case where the ligature could not be pulled out after a few days. The wound healed by first intention except where the bunch of ligatures was, and no suppuration occurred. Day after day I dressed the case for him and he pulled the threads without success. Gradually he began to think that I had told him the truth, and ultimately I got him to pull the threads as far down as he could and cut them off as high up as possible. This he did, and fortunately, as I had taken special pains to keep everything aseptic, no infection took place, and that end of the wound was healed in a few days and no further trouble resulted.

At the time of the migration to London we were still using carbolic gauze, carbolic spray, and carbolic lotions, and although thymol, eucalyptus, and various other antiseptics were tried during the next four or five years, no real progress was made in this respect till after the publication of Koch's work on antiseptics. After that Lister took up various mercurial preparations, and a variety of gauzes impregnated with preparations of mercury were employed, which had all to be discarded after a time on account of irritation of the skin. Ultimately Lister examined a double cyanide of mercury and zinc, and this, being insoluble in water, was found to be unirritating. But it was effective as an agent to inhibit the development of bacteria, though possibly not to destroy them. It was soluble in the mixture of serum and blood which came from the wound in sufficient amount to render it an unfit soil for the growth of bacteria. This we have used ever since with quite satisfactory results, and I believe that it just fills up the loophole which is left where dressings which are simply sterilized but do not contain any antiseptic are employed. Where a large amount of discharge is expected I generally reinforce the cyanide dressing by a mass of salicylic wool placed outside it. As to these gauzes and wool, it must be remembered that though they contain antiseptics they must be sterilized in the autoclave also, because the antiseptics are not volatile, so that bacteria which may lodge in the dressing are not acted on by the antiseptic. The diluted lotions of mercury bichloride (1 in 2,000 and 1 in 4,000) were also largely substituted for carbolic acid; the carbolic spray had been given up in 1887.

Lister's active work in surgery came to an end about 1893. The death of Lady Lister in the spring of that year, followed soon after by his retirement from the hospital on account of the age limit, changed entirely the current of his life. But by that time general septic diseases had become practically unknown in his practice in so far as operations through unbroken skin were concerned, and suppuration, even of the mildest type, was an occurrence of extreme rarity, and the possibility of septic complications was quite negligible. He had also reached a point in his technique where the possible irritation caused by the antiseptics employed was not noticeable and did not interfere at all with the healing of the wounds.

In 1895 Lister was elected President of the Royal Society, and the work connected with that society gave him another five years of life. But after that, although honours continued to be showered on him, the great brain gradually became tired, his memory failed, and he began to long for the time to come when, as he firmly believed, he would meet his wife and his friends again and commence a new life.

## Reports of Societies.

### ABDOMINAL EMERGENCIES IN CHILDREN.

At a meeting of the Brighton and Sussex Medical-Chirurgical Society on May 7th, Dr. E. F. MAYNARD, the President, in the chair, Mr. M. FITZMAURICE-KELLY read a paper on some abdominal emergencies in children.

The mortality associated with these conditions was, he said, to a great degree preventable, and improvement in results was to be looked for mainly in the direction of earlier diagnosis and treatment. Dealing first with appendicitis, attention was called to the fact that, early in the attack, pain was often not localized, but was felt across the abdomen. The importance of a band of hyperaesthesia above Poupart's ligament, as evidence that perforation had not yet taken place, and the information to be derived from rectal examination, were especially emphasized. Treatment consisted in immediate operation, delay being dangerous in young children. The right paramedian incision with internal displacement of the rectus was preferred in most cases; in those with definite localization to the right iliac fossa Mr. Fitzmaurice-Kelly preferred Battle's incision, closing it again with drainage of the rectus sheath, and providing stab drainage elsewhere if necessary. In each individual case it had to be decided whether the peritonemum was capable of dealing with the exudate, but as a general rule drainage was more frequently required in diffuse peritonitis in children than in adults. The value of pituitary extract and eserine, in combination, in post-operative ileus was mentioned; in the worst cases jejunostomy was the only hope, and should not be unduly delayed. Acute inflammation of Meckel's diverticulum was briefly mentioned, and the value of a paramedian incision in dealing with it pointed out. Pneumococcal peritonitis was not very rare among young girls of the poorer class; many cases were mistaken for appendicitis; suggestive evidence was the onset with symptoms of pelvic irritation—loose stools, painful and frequent micturition—and in acute cases severe toxæmia, with disproportionate increase of the respiration rate. The acute cases did best with drainage, and the value of blood transfusion, as recommended by Fraser and McCartney, was mentioned. Referring to intussusception, Mr. Fitzmaurice-Kelly laid stress on the extreme gravity of the condition, and the serious mortality—about 30 per cent.—associated with it. This was almost entirely due to a failure to recognize the urgency of the case at the outset. The clinical picture was very definite and strikingly uniform, and it was a serious error to delay treatment because a tumour could not be felt or no blood was passed when the symptoms were otherwise suggestive. Three recent fatal cases were detailed, illustrating the sources and the dangers of delay. Pyloric stenosis in infants was, in the light of recent improvements in technique, claimed as a surgical emergency. The early diagnosis, and especially the differentiation of stenosis from pyloro-spasm, were discussed, and Rammstedt's operation was described. In view of the fact that the mortality of cases operated on by this method was of the order of 30 per cent., against 80 per cent. in those treated medically, Mr. Fitzmaurice-Kelly contended that an operation should be performed at the earliest possible moment after the diagnosis was definitely established.

Mr. L. A. PARRY recalled a case of intussusception in which pain had been absent throughout, and the symptoms were otherwise obscure. He did not find cutaneous hyperaesthesia of much value in practice, and regarded the physical signs of rigidity and tenderness on pressure as of more value than symptoms. He called attention to the difficulty of diagnosis between appendicitis and certain cases of ileo-caecal tuberculosis, and was strongly in favour of immediate operation in appendicitis in children.

Mr. H. NETHERSOLE FLETCHER remarked on the virulence of cases of appendicitis starting with diarrhoea. In the matter of drainage he thought no risk should be taken, and in cases of doubt a tube should be left in. He discussed the diagnosis of intussusception from gastro-intestinal catarrh with bloody stools in infants, and noted particularly the intermittency of the symptoms in the former.

Mr. J. R. GRIFFITH advocated a transverse incision outside the linea semilunaris, splitting the rectus sheath if more room were required, in cases of acute appendicitis. The President and Mr. H. M. GALT also took part in the discussion.

Mr. FITZMAURICE-KELLY, in reply, agreed with the President that the diagnosis of appendicitis had not grown more exact, but contended that, in the presence of acute symptoms, an early exploration was the safest course, and the attempt to arrive at certitude might lead to a fatal delay. The same argument applied with even greater force to intussusception, and he had never seen any harm come of a negative exploration.

### DIAGNOSIS AND TREATMENT OF INTRA-THORACIC DISEASE.

A MEETING of the Manchester Medical Society was held on May 6th, the President, Professor G. R. MURRAY, being in the chair.

Mr. H. MORRISTON DAVIES read a paper on observations on the diagnosis and the treatment of intrathoracic disease. In the first part of the lecture five cases of particular interest, as regards either diagnosis or treatment, were described. The first was a case of gumma of the lung simulating tuberculosis. The second was a case of primary bronchial carcinoma, which was discovered accidentally by the x rays in a patient suffering from chronic bronchitis and emphysema. The diagnosis was made originally on the radiogram, then made more certain by the appearance of characteristic symptoms, and finally confirmed by operation. The third case was that of a woman who for thirty years had attended hospitals for dyspepsia, dyspnoea, and tachycardia; the x rays revealed a diaphragmatic hernia. The fourth case was a unilateral bronchiectasis, due, it was discovered as a result of treatment, to fragments of teeth which must have been in the lung for ten years. The bronchiectasis was treated by artificial pneumothorax and phrenicotomy; following collapse of the lung, fragments of tooth were expelled. Later, owing to the lung creeping out, the symptoms returned and a thoracoplasty was performed. Following this a still larger fragment of tooth was coughed up, since when the patient had remained perfectly well. The last case was of a man wounded in the neck by shrapnel which caused mediastinal suppuration and chronic pneumonia, the consequence of which was bronchiectasis with offensive sputum. The shrapnel in the base of the lung escaped notice until an x-ray photograph was taken with very oblique rays (from above downwards). Phrenic evulsion was done, paralysing that dome of the diaphragm, since when there had been disappearance of all symptoms. The second part of the lecture was devoted to a description of the value of phrenic evulsion and thoracoplasty. Phrenic evulsion had superseded phrenicotomy because it broke the continuity of the accessory phrenic as well as the phrenic itself. It was therefore much more effectual, and almost constantly resulted in paralysis of one half of the diaphragm, the dome on that side rising up into the thorax and producing partial collapse of the base of the lung. The operation was of value for basal tuberculous and bronchiectatic lesions of the lung, for abolition of diaphragmatic cough, for relief from

with coughing, as an aid in cases of as a means of reduction of the pleural cavity in cases of chronic effusion, as a preliminary to thoracoplasty, and as a means of testing the resisting capacity of the opposite lung. It was also a prophylactic measure against onset of bronchiectasis in cases of unresolved pneumonia. The statistical results of thoracoplasty were practically the same as those for pneumothorax—namely, 35 per cent. healed, 30 per cent. improved, 35 per cent. unimproved or worse. The operative mortality was about 8.5 per cent. It was indicated in unilateral, or mainly unilateral, cases of tuberculosis in which there were extensive mechanical changes, and in which artificial pneumothorax was impossible owing to adhesions, also in unilateral bronchiectasis. Slides were shown illustrating the collapse of the lung and chest wall, and the comparatively slight and resultant outward deformity.

## ANEURYSM.

A MEETING of the Section of Medicine of the Royal Academy of Medicine in Ireland was held on May 1st, the President, Dr. F. C. PURSER, in the chair.

Dr. J. SPEARES read a paper on aneurysm, based on his examination of 607 cases in the cardiac clinic of the Ministry of Pensions; in 37 cases a diagnosis of aneurysm was made. An aneurysm was present in one patient, aged 30. In 13 cases the Wassermann reaction was positive and in 17 cases negative. In 10 cases the diagnosis depended entirely on the x rays, and in no case was a tracheal tug present. Dr. Speares attributed the large number of aneurysms in his series to the fact that an x-ray examination was made as a routine in all cases.

The PRESIDENT referred to the difference between the blood pressure in the two arms as a very important diagnostic point; it would be interesting, he said, to determine whether this difference occurred only when the aneurysm was in one place, or when the aneurysm was in the ascending aorta or elsewhere. He had never seen a case in which stimulation of the sympathetic from an aneurysm had occurred.

Dr. H. C. DRURY commented on the small number of cases of aneurysm found in patients under 30 years of age, and asked if these cases were marked out as being syphilitic. He had almost always been unable to detect tracheal tugging. A change in their voice was often the first thing noticed by these patients, and Dr. Drury thought that in a great many cases this was a very good indication as to what was wrong. For some time now the difficulty of diagnosing the presence of aneurysm, without an x-ray examination, had been recognized. The lack of pain in these cases was one of the great difficulties regarding diagnosis. At present he had a patient in hospital, an elderly woman, with no symptoms at all except some indefinite pain in the chest, but an x-ray examination showed an undoubted aneurysm.

Dr. T. G. MOOREHEAD commented on the fact that while 37 cases of aneurysm were encountered out of the 600 cases that were examined in Dublin, only 6 cases of aneurysm were found amongst the 300 similar cases examined in Glasgow. His own experience was that radiologists differed enormously in their diagnosis of aneurysms. In his experience, nearly every patient with a genuine aneurysm had a positive Wassermann reaction also.

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Dr. V. M. SINCE thought that swellings of the aorta fell into three classes: (1) The cases in which the lumen of the aorta was a little larger than usual but there were no pressure symptoms; there was usually a systolic aortic murmur and an accentuated second sound. These cases should not, he thought, be classed as aneurysms. (2) The typical cases of sacular aneurysm, due to syphilis; he had never come across one in which the Wassermann reaction had been negative. (3) Cases with a general dilatation of the aorta, occurring in old people with marked arterio-sclerosis, associated with some pressure symptoms, such as dysphagia, and with a negative Wassermann reaction. He agreed that tracheal tugging did not often occur, but at present he was treating a case in which it was exceedingly well marked, and it could be both seen and felt.

Dr. W. G. HARVEY said that there was a great difference in the width of the aorta in different people, and the width of the aorta measurement was no criterion of an aneurysm at all. The diagnosis was made almost entirely on the screen, and not from the photograph. A dilated aortic arch had occasionally been taken for an aneurysm by radiographers. He did not think that it was for want of a uniform plan of examination that mistakes were made, for nearly every radiographer adopted the same plan.

Dr. SPEARES, replying, said that in five or six cases they had been put on the track of an aneurysm simply by noticing the difference in blood pressure in the arms. Every patient had been examined by x rays, some twice. No mention had been made of any cases except those reported as definite aneurysms. Each man had been examined

eight, and sometimes ten, times for tracheal tugging, and this condition had never been found. They had never been able to satisfy themselves that in any of the cases there was any reasonable evidence of diastolic shock, and he would put this condition in almost the same class as tracheal tugging. Two of the patients with aneurysm, under 30, had syphilis, but the others had not. As a result of his experiments, he had not any doubt that x rays were the most reliable means at present available for diagnosing aneurysm. He thought it quite possible that there were cases of what might be called border-line aneurysms, but these were very few. They were indebted to their radiologist for detecting aneurysms in some cases when they had been doubtful about it, and also for finding aneurysms in cases in which previously they had not been suspected.

## Reviews.

## FRACTURES AND DISLOCATIONS.

THE new book on *Fractures and Dislocations*<sup>1</sup> by Dr. PHILIP D. WILSON of Harvard and Mr. WILLIAM A. COCHRANE of Edinburgh is an important one, for it embodies the experience and the opinions, not only of the authors whose names appear upon its title-page, but those of a large number of American surgeons skilled in the treatment of these injuries. Primarily it is the expression of the views of the members of the fracture service of the Massachusetts General Hospital in Boston, which service grew out of the fracture squad organized by that well known authority Dr. C. L. Seudder. This service has been at work since 1920. It is responsible for the treatment of all cases of fracture and dislocation admitted to the wards or cared for in the out-patient department of the hospital. It is composed of six surgeons, two being appointed from each of the two surgical services and two from the orthopaedic service. The results of this innovation have been most satisfactory. In 1922 the staff had arrived at practical unanimity concerning methods of treatment, and in the same year a conference of surgeons of wide experience in the States and Canada agreed with the service as to the main conclusions now set forth in this book. As the authors remark, "It was perhaps surprising and certainly gratifying to find such an unanimity of authoritative opinion."

Very rightly the authors have had an eye, in writing this book, to the needs of the general practitioner, and it will, we think, be found that the appliances required are such as are within the reach of most up-to-date medical men. The authors have set before them as their main object the attainment of a good functional result, which, as Mr. Dowden of Edinburgh has elsewhere shown, is not incompatible with considerable anatomical deformity. The chapter on the principles of treatment is valuable. The authors clearly state the paradoxical situation which faces the surgeon, who must choose between complete immobilization and its attendant risk of muscular atrophy and malnutrition of the limb, and incomplete immobilization with risk of imperfect alignment. The principles and means of treatment are well and clearly set forth; among the latter the Thomas splint occupies a prominent place. As regards the use of plaster-of-Paris, the authors are in agreement with Sir Robert Jones in recommending that encircling plaster should not be used unless it is divided along at least one side. For compound fractures débridement is recommended as much in peace as in war, when the soft parts are extensively damaged, and the Carrel-Dakin system is advocated in infected cases.

In sixteen chapters the injuries of various regions of the body are described, each chapter beginning with well illustrated statements of the normal anatomy, followed by descriptions of the methods of treatment which have been found to give the greatest satisfaction. The chapters on fractures of the femur and leg bones are very full, as befits these important

<sup>1</sup> *Fractures and Dislocations*, by Philip D. Wilson, F.A.C.S., and William A. Cochrane, M.D. J. B. Lippincott Company, 1924. (Med. 8vo, pp. xv + 789; 978 figures, 65s. net.)

general recommended, and direct skeletal traction by ice-tongs is favoured, especially for fractures of the femur. These chapters represent a complete survey of the subject of the book, and even include fracture of a sesamoid bone of the great toe. The illustrations are many and good.

We can safely recommend this book as one of the best and most up-to-date guides for the general practitioner, as well as for the expert surgeon and the student. It well fulfils the promise of its title-page to deal with the immediate management, after-care, and convalescent treatment, with special reference to the conservation and restoration of function.

### TUMOURS AND CANCER.

MORE than sixty years ago Virchow stated his belief that no man then living could say what precisely constituted a tumour. In a recently published monograph on present knowledge of tumours with special reference to the carcinoma,<sup>2</sup> Professor CARL STERNBERG of Vienna expresses the opinion that Virchow's dictum still holds good. He reviews the subject from several aspects and in the light of an extensive literature. The literature, it is true, is mainly German, but this limitation is here not altogether a disadvantage, since it serves to bring out the fact that the conclusions of German writers are practically identical with those reached by authorities in other countries.

Several authors are quoted to show how varied are the attempts at a satisfactory definition of a tumour, the nearest approach being that it is a new growth increasing autonomously, independently of other structures and without a functional objective. The benign and malignant tumours are best differentiated by the degree of maturity or completed growth, the former being mature, the latter immature growths. A clear line of demarcation, however, is not anatomically possible, for benign tumours, which histologically have many malignant characteristics, are not uncommon. Several investigators have endeavoured to determine the malignancy of a tumour by the morphological, chemical, or functional characters of its cells, but none of the explanations are adequate. Professor Sternberg expresses special interest in the Freund-Kaminer reaction of the serum of cancer-free individuals on cancer cells, but he points out that, though this may be of value in diagnosing cancer, it does not demonstrate any actual difference between the chemical characters of malignant and of normal tissue cells. Similarly no clear differentiation is possible from a consideration of such functions as secretion, phagocytosis, motility, and liability to degenerative or other changes. We are warned, therefore, against diagnosing malignancy by the character of individual cells.

Professor Sternberg also agrees with Virchow in considering that neither chemistry nor physiology affords a basis for the classification and nomenclature of tumours. Their classification must be anatomical. The nomenclature, however, has become confused by the introduction of new names ending in "oma," such as cerebroma, nephroma, hepatoma, and so on. In a chapter on metastases and recurrence, the impossibility of setting a term to the period within which the latter may occur is emphasized. Cases are quoted of tumours recurring thirty years after operation.

The etiology of tumours and the experimental researches on animals are considered. The author points out that the many theories of the causes of cancer all come within the range of Virchow's cell irritation theory, Cohnheim's embryological theory, or the parasitic theory. None are held to be altogether satisfactory, although they go a long way and add to our knowledge. Experimentally the most acceptable theory of causation is held to be that, as indicated by the tar-cancer experiments on mice, under the influence of some excitant, pathological regeneration is induced, which will develop into a tumour, will continue to grow independently and may become malignant, if the irritant acts long enough and often enough on cells predisposed to excessive pathological regeneration. In this

sense any mechanical, chemical, thermal, or parasitic irritant might become the causative agent of cancer. Although this theory enables us to understand many of the facts in the pathology of new growths, Professor Sternberg considers that we are far from a definite solution of the problems involved.

The concluding chapter of his book deals with the vexed questions of heredity, transformation of benign into malignant tumours, formation of new growths on cicatricial tissue, spontaneous disappearance of tumours, coexistence of cancer and tubercle, cancer and gastric ulcer, cancer and gall stones, and the influence of pregnancy. Statistics are regarded as untrustworthy, especially in connexion with the increase of cancer generally or in some countries more than in others. The only statistics regarded as approaching reliability tend, it is said, to show that no general increase in cancer is taking place, and that differences in its incidence in one country and in another are probably due to the personal equation of the observers and to different methods in diagnosing and recording the cases.

### X-RAY THERAPY.

*The Principles and Practice of Roentgen Therapy*,<sup>2</sup> by Dr. I. SETH HIRSCH of New York, is a book which is the direct outcome of the later developments of x-ray therapy due to the introduction of the high voltage transformers and the use of a well filtered stream of highly penetrating x rays. As the author points out, the striking development of this technique is that it has placed x-ray therapy on a scientific basis, and that it now rests firmly upon the foundations of physics, chemistry, and biology. That the final word has not yet been written is obvious, but present-day procedures are far removed from the somewhat haphazard and go-as-you-please methods of the earlier days—methods, however, which in many hands often gave surprisingly good results: it should be remembered that the more scientific use of the small repeated x-ray dose now possible plays an important part in rational x-ray therapy. It is neither necessary, nor, indeed, indicated, that every case suitable for x-ray treatment, even cases of malignant disease, should be treated by the so-called method of "deep therapy."

The book under review is divided into three parts. The first, in which the illustrations are numerous and valuable, deals with the apparatus which is required, and consists of ten chapters. Of these the first section deals with high potential generators, the second with high tension voltage measurement, the third with x-ray tubes, and the fourth with installations. As regards tubes the author states definitely that the "electron" is the most practicable for therapeutic purposes. It is interesting to note Dr. Hirsch's statement that with respect to the protection of the operator, the patient, and those adjacent to the apparatus, nothing better can be written than the report of the X-ray and Radium Protection Committee of Great Britain.

The second part of the book contains two sections, of which the first is devoted to the question of the measurement of the quality of the radiations, and the second to the measurement of their intensity. All the different methods are explained and come under critical review. Many illustrations and tables are of great assistance in making the letterpress quite clear. The third part has four sections. Dosage, practical and theoretical, accounts for the first two; in the third the clinical aspect is dealt with; and the last, after an introductory chapter, contains particulars of the dosage formulae and tables of Dr. HOLZKNECHT, the professor of roentgenology at Vienna.

It will be seen that this book is not based upon a narrative of various cases treated by x rays in which the methods of treatment and the results obtained are related, but is a clear and scientific study of the methods of production of x rays, the apparatus used, and the principles upon which modern methods are based and carried out.

Well and clearly written, beautifully illustrated, exceed-

<sup>2</sup> *Der heutige Stand der Lehre von den Carcinomen*. Von Professor Dr. Carl Sternberg. Verlag der Medizin. Vienna: pp. 93. 0.65 dollar.)

<sup>2</sup> *The Principles and Practice of Roentgen Therapy*. By I. Seth Hirsch, M.D. With Dosage Formulae and Dosage Table by Guido Holzknecht, M.D. New York: American X-Ray Publishing Company; London: H. K. Lewis and Co., Ltd. 1925. (Cr. 4to, pp. xviii + 359; 300 figures, 57 tables. 43 net.)



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## FRACTURES AND DISLOCATIONS.

THE new book on *Fractures and Dislocations* by Dr. PHILIP D. WILSON of Harvard and Mr. WILLIAM A. COCHRANE of Edinburgh is an important one, for it embodies the experience and the opinions, not only of the authors whose names appear upon its title-page, but those of a large number of American surgeons skilled in the treatment of these injuries. Primarily it is the expression of the views of the members of the fracture service of the Massachusetts General Hospital in Boston, which service grew out of the fracture squad organized by that well known authority Dr. C. L. Scudder. This service has been at work since 1920. It is responsible for the treatment of all cases of fracture and dislocation admitted to the wards or cared for in the out-patient department of the hospital. It is composed of six surgeons, two being appointed from each of the two surgical services and two from the orthopaedic service. The results of this innovation have been most satisfactory. In 1922 the staff had arrived at practical unanimity concerning methods of treatment, and in the same year a conference of surgeons of wide experience in the States and Canada agreed with the service as to the main conclusions now set forth in this book. As the authors remark, "It was perhaps surprising and certainly gratifying to find such an unanimity of authoritative opinion."

Very rightly the authors have had an eye, in writing this book, to the needs of the general practitioner, and it will, we think, be found that the appliances required are such as are within the reach of most up-to-date medical men. The authors have set before them as their main object the attainment of a good functional result, which, as Mr. Dowden of Edinburgh has elsewhere shown, is not incompatible with considerable anatomical deformity. The chapter on the principles of treatment is valuable. The authors clearly state the paradoxical situation which faces the surgeon, who must choose between complete immobilization and its attendant risk of muscular atrophy and malnutrition of the limb, and incomplete immobilization with risk of imperfect alignment. The principles and means of treatment are well and clearly set forth; among the latter the Thomas splint occupies a prominent place. As regards the use of plaster-of-Paris, the authors are in agreement with Sir Robert Jones in recommending that encircling plaster should not be used unless it is divided along at least one side. For compound fractures débridement is recommended as much in peace as in war, when the soft parts are extensively damaged, and the Carrel-Dakin system is advocated in infected cases.

In sixteen chapters the injuries of various regions of the body are described, each chapter beginning with well illustrated statements of the normal anatomy, followed by descriptions of the methods of treatment which have been found to give the greatest satisfaction. The chapters on fractures of the femur and leg bones are very full, as befits these important and crippling injuries. Traction is in

*Fractures and Dislocations.* By Philip D. Wilson, A.B., M.D., F.A.C.S., and William A. Cochrane, M.B., Ch.B., F.R.C.S. (Edin.). London: J. B. Lippincott Company, 1923. (Med. Bro. pp. xv + 769; 978 figures. 45s. net.)

general recommended, and direct skeletal traction by ice-tongs is favoured, especially for fractures of the femur. These chapters represent a complete survey of the subject of the book, and even include fracture of a sesamoid bone of the great toe. The illustrations are many and good.

We can safely recommend this book as one of the best and most up-to-date guides for the general practitioner, as well as for the expert surgeon and the student. It well fulfils the promise of its title-page to deal with the immediate management, after-care, and convalescent treatment, with special reference to the conservation and restoration of function.

### TUMOURS AND CANCER.

More than sixty years ago Virchow stated his belief that no man then living could say what precisely constituted a tumour. In a recently published monograph on present knowledge of tumours with special reference to the carcinomata,<sup>2</sup> Professor CARL STERNBERG of Vienna expresses the opinion that Virchow's dictum still holds good. He reviews the subject from several aspects and in the light of an extensive literature. The literature, it is true, is mainly German, but this limitation is here not altogether a disadvantage, since it serves to bring out the fact that the conclusions of German writers are practically identical with those reached by authorities in other countries.

Several authors are quoted to show how varied are the attempts at a satisfactory definition of a tumour, the nearest approach being that it is a new growth increasing autonomously, independently of other structures and without a functional objective. The benign and malignant tumours are best differentiated by the degree of maturity or completed growth, the former being mature, the latter immature growths. A clear line of demarcation, however, is not anatomically possible, for benign tumours, which histologically have many malignant characteristics, are not uncommon. Several investigators have endeavoured to determine the malignancy of a tumour by the morphological, chemical, or functional characters of its cells, but none of the explanations are adequate. Professor Sternberg expresses special interest in the Freund-Kaminer reaction of the serum of cancer-free individuals on cancer cells, but he points out that, though this may be of value in diagnosing cancer, it does not demonstrate any actual difference between the chemical characters of malignant and of normal tissue cells. Similarly no clear differentiation is possible from a consideration of such functions as secretion, phagocytosis, motility, and liability to degenerative or other changes. We are warned, therefore, against diagnosing malignancy by the character of individual cells.

Professor Sternberg also agrees with Virchow in considering that neither chemistry nor physiology affords a basis for the classification and nomenclature of tumours. Their classification must be anatomical. The nomenclature, however, has become confused by the introduction of new names ending in "oma," such as cerebroma, nephroma, hepatoma, and so on. In a chapter on metastases and recurrence, the impossibility of setting a term to the period within which the latter may occur is emphasized. Cases are quoted of tumours recurring thirty years after operation.

The etiology of tumours and the experimental researches on animals are considered. The author points out that the many theories of the causes of cancer all come within the range of Virchow's cell irritation theory, Cohnheim's embryological theory, or the parasitic theory. None are held to be altogether satisfactory, although they go a long way and add to our knowledge. Experimentally the most acceptable theory of causation is held to be that, as indicated by the tar-cancer experiments on mice, under the influence of some excitant, pathological regeneration is induced, which will develop into a tumour, will continue to grow independently and may become malignant, if the irritant acts long enough and often enough on cells predisposed to excessive pathological regeneration. In this

sense any mechanical, chemical, thermal, or parasitic irritant might become the causative agent of cancer. Although this theory enables us to understand many of the facts in the pathology of new growths, Professor Sternberg considers that we are far from a definite solution of the problems involved.

The concluding chapter of his book deals with the vexed questions of heredity, transformation of benign into malignant tumours, formation of new growths on cicatricial tissue, spontaneous disappearance of tumours, coexistence of cancer and tubercle, cancer and gastric ulcer, cancer and gall stones, and the influence of pregnancy. Statistics are regarded as untrustworthy, especially in connexion with the increase of cancer generally or in some countries more than in others. The only statistics regarded as approaching reliability tend, it is said, to show that no general increase in cancer is taking place, and that differences in its incidence in one country and in another are probably due to the personal equation of the observers and to different methods in diagnosing and recording the cases.

### X-RAY THERAPY.

*The Principles and Practice of Roentgen Therapy*,<sup>3</sup> by Dr. I. SEIT HIRSCH of New York, is a book which is the direct outcome of the later developments of x-ray therapy due to the introduction of the high voltage transformers and the use of a well filtered stream of highly penetrating x-rays. As the author points out, the striking development of this technique is that it has placed x-ray therapy on a scientific basis, and that it now rests firmly upon the foundations of physics, chemistry, and biology. That the final word has not yet been written is obvious, but present-day procedures are far removed from the somewhat haphazard and go-as-you-please methods of the earlier days—methods, however, which in many hands often gave surprisingly good results; it should be remembered that the more scientific use of the small repeated x-ray dose now possible plays an important part in rational x-ray therapy. It is neither necessary, nor, indeed, indicated, that every case suitable for x-ray treatment, even cases of malignant disease, should be treated by the so-called method of "deep therapy."

The book under review is divided into three parts. The first, in which the illustrations are numerous and valuable, deals with the apparatus which is required, and consists of ten chapters. Of these the first section deals with high potential generators, the second with high tension voltage measurement, the third with x-ray tubes, and the fourth with installations. As regards tubes the author states definitely that the "electron" is the most practicable for therapeutic purposes. It is interesting to note Dr. Hirsch's statement that with respect to the protection of the operator, the patient, and those adjacent to the apparatus, nothing better can be written than the report of the X-ray and Radium Protection Committee of Great Britain.

The second part of the book contains two sections, of which the first is devoted to the question of the measurement of the quality of the radiations, and the second to the measurement of their intensity. All the different methods are explained and come under critical review. Many illustrations and tables are of great assistance in making the letterpress quite clear. The third part has four sections. Dosage, practical and theoretical, accounts for the first two; in the third the clinical aspect is dealt with; and the last, after an introductory chapter, contains particulars of the dosage formulae and tables of Dr. HOLZKNECHT, the professor of roentgenology at Vienna.

It will be seen that this book is not based upon a narrative of various cases treated by x-rays in which the methods of treatment and the results obtained are related, but is a clear and scientific study of the methods of production of x-rays, the apparatus used, and the principles upon which modern methods are based and carried out.

Well and clearly written, beautifully illustrated, exceed-

<sup>2</sup> Der heutige Stand der Lehre von den Carcinomen. Von Professor Dr. Carl Sternberg, dem Gesamtgebiet der Medizin. Vienna: pp. 93. 0.65 dollar.

<sup>3</sup> *The Principles and Practice of Roentgen Therapy*. By I. Seit Hirsch, M.D. With Dosage Formulae and Dosage Table by Guido Holzknecht, M.D. New York: American X-Ray Publishing Company; London: H. K. Lewis and Co., Ltd. 1925. (Cr. 4to, pp. xviii + 359; 300 figures, 57 tables. £3 net.)

ingly well presented, it is a standard work on the subject which will become indispensable to any radiologist who is practising x-ray therapy.

### EDUCATIONAL PSYCHOLOGY.

THE interest displayed in psychology by teachers of the young has both advantages and disadvantages. So far as it enables them to understand their charges, to enter into their minds, and recall something of their own memory of the processes of mentality at an early age, the study of psychology is all to advantage. But if it should lead them to explore the more remote and devious passages mapped out by some of the more revolutionary of modern psychologists it is doubtful if it will be to the advantage of either the teachers or their charges. Some of the ramifications of modern psychology are calculated to have unhappy effects upon the minds of youthful teachers, and the majority of teachers are young. Youthful minds are very open to suggestion, and the ultra-sexual bias of some psychologists is likely to have effects upon these young minds which may bring about the very conclusions of these theorists. With such fears in mind it is not easy to recommend a useful work on psychology as a suitable guide to study for young educationists. It is therefore with pleasure that we read the volume written by Dr. GODFREY H. THOMSON, entitled *Instinct, Intelligence, and Character*.<sup>1</sup> Dr. Thomson is professor of education at the Armstrong College, Newcastle-upon-Tyne, and a year ago became visiting professor of education in Columbia University, New York. The lectures delivered there have become the basis of the book now under review.

It is a thoroughly good book, the product of a well read, thoughtful, and well balanced mind; the author knows so clearly what he wishes to say that he says it simply and forcefully. His general plan has been to show how man's mind has grown out of the animal mind. Out of instinctive behaviour grows the beginning of reason, as the reactions grow less inevitable. Evolution creates out of this an animal which replaces some of the behaviour by substitutes which save time. Imagery, and then symbols unlike the actual behaviour, come to replace it still more subtly; words bring with them the dangers of parrot-learning as well as the powers of abstract thought. The educational implications of this way of thinking are that we should recognize the trial and error aspect of creative thought, and provide for the increasing abstraction in the materials. We should provide opportunities for problems to arise, encourage the widest variations in the solutions offered, and should insist on ruthless rejections after trial.

This is a dry summary of a most interesting thesis, but it is a fair indication of the trend of the best thought in education, one that provides for the natural elasticity of fresh minds.

### ESSENTIALS OF INFANT FEEDING.

THE highest commendation can be given to a little book entitled *Essentials of Infant Feeding*<sup>2</sup> by Dr. E. A. BARTON, medical officer to the Child Welfare Department, University College. He modestly claims in the preface that the book is no more "than a collection of those facts which it is essential that a student should know if he is to profit by attendance on a hospital infant clinic." It is at the present time compulsory for students to have some slight knowledge of the manner of life of infants. Very few students there are, however, who are sufficiently philosophical to take the long view expressed in the adage "Prevention is better than cure." The operating theatre would be crowded when a Caesarean section is performed, but a very small percentage of these students is found to attend the infant clinic in order to observe the regulation of a normal infant's life. Yet, how many Caesarean sections is the average practitioner called upon to perform compared with the number

of healthy or mildly ailing babies for whom his advice will be asked? Possibly the blame for this lack of interest in the normal infant lies at the door of the infant dietitians, whose dogmata and formulae have become so complicated and so unpractical, not only for the student's memory, but for the mother's.

Hence it is that such a book as this will be heartily welcomed, read, and digested by practitioners and students alike. It is a clear, explanatory survey of the present teaching on the subject. There is an entire absence of dogmatic statements, and there is no particular reference to the various schools of teaching on infant feeding.

Fortunately, in the present decade, it is more readily recognized that the feeding of infants is important, and the practitioner who advises a mother "to put it on milk and water," without giving exact quantities, modifications, and times of feeding, is becoming more and more rare. Nevertheless, those doctors who have acquired such accurate and detailed knowledge as is necessary for dealing with infants have won their experience only at the cost of considerable effort, and much expenditure of time and patience.

In this little book of 80 pages will be found every fact of importance in infant feeding. The condensation of the subject-matter into paragraphs with clear headings makes for easy reading and rapid reference. We confidently recommend this excellent book to every practitioner and student.

### LABORATORY DIAGNOSIS.

VOLUME XXVII<sup>3</sup> of the French series of books on medical pathology and applied therapeutics is written by Professor. PRUVOST, with an introduction by Professor LERULE, and deals with common laboratory methods employed in the diagnosis of disease. With the multiplication of biochemical, bacteriological, and histological tests the subject of laboratory diagnosis has grown to be a separate branch of pathology, or, more exactly, a stout limb of the tree of pathological knowledge which is continually budding fresh branches. The practising physician, looking to the laboratory for help in the diagnosis of disease, often needs counsel in the interpretation of the pathologists' reports; or he may wish to know what particular tests are likely to be of service in a particular case. The authors of this book have written with these thoughts before them, but, carried away with their subject, have produced a book which, as it stands, is more likely to be of value to the laboratory worker himself than to the clinician. Its pages are closely packed with detail of technical tests, the descriptions gaining an added value from the intensive fund of practical experience on which the authors call. They have lauded their subject in a sensible fashion, distinguishing between specific and non-specific methods of analysis. Non-specific tests only reveal lesions or disordered functions of organs; examinations of blood, urine, and sputum are commonly non-specific tests. Specific tests are such as disclose the actual nature of the disease or its etiology—for example, the search for pathogenic bacteria or protozoa. Working on this plan the book has been divided into two parts: in the first are described tests which are useful in the examination of gastric secretion, sputum, cerebro-spinal fluid, pus, blood, faeces, and urine; in the second the authors deal in alphabetical order with the army of bacteria, protozoa, and worms which attack mankind. The book is liberally illustrated with 168 figures and 12 coloured plates.

The little book by Dr. J. A. KOLMER and Dr. F. BOERNER ou *Laboratory Diagnostic Methods*<sup>4</sup> is a successor to the popular *Manual on Clinical Pathology* by Pepper and Klaer, which apparently is no longer obtainable. Drs. Kolmer and Boerner have adopted the style of their predecessors and written a book which describes the technique of various laboratory tests without any discussion of their value,

<sup>1</sup> *Instinct, Intelligence, and Character: An Educational Psychology*. By GODFREY H. THOMSON, Ph.D., D.Sc. London: George Allen and Unwin, 1924. 10s. 6d. net.

<sup>2</sup> *Essentials of Infant Feeding*. By E. A. BARTON. London: H. K. Lewis, 1924. 10s. 6d. net.

<sup>3</sup> *Traité de Pathologie Médicale et de Thérapeutique Appliquée. Tome XXVII: Diagnostic de Laboratoire. 1: Méthodes Usuelles de Laboratoire appliquées au Diagnostic des Malades*. Par les Professeurs Letulle et P. Pruvost. Paris: A. Maloine et Fils. 1924. (6 x 8½, pp. 720; 168 figures, 12 coloured plates. Fr. 60.)

<sup>4</sup> *Laboratory Diagnostic Methods*. By JOHN A. KOLMER and FRED. BOERNER. New York and London: D. Appleton and Co. 1923. (Demy 8vo, Pp. xxi + 328. 10s. 6d. net.)

limitation, or clinical applications in the diagnosis and treatment of disease. It has no illustrations. Every alternate page is blank, presumably so that the student may fill in notes on the tests mentioned or add others found serviceable. No doubt this will be a useful guide to the students who work under the direction of the authors, but it is not the sort of book for a beginner who is not receiving guidance from an experienced pathologist. The four sections into which the book is divided deal successively with clinical, pathological, bacteriological, serological, and blood chemistry methods. Usually only one method of performing a particular test is given, and not infrequently that one method does not happen to be the favourite in this country; for instance, Jensen's modification of Gram's stain, Leishman's stain, and Maclean's methods for blood sugar estimation are not mentioned.

### FRENCH MEDICAL YEARBOOKS.

There is a pathetic interest in the fifth issue of the *Année Thérapeutique* (1924).<sup>4</sup> On November 14th its author, Dr. CHEINISSE, left the unfinished preface on his desk, and within three hours met with an accident which ended his life. His son has published the work as it then stood, though two or three chapters had not been finally revised. The book is divided into two sections, both arranged alphabetically; the first deals with diseases and symptoms, the second with technical methods. It is a summary of work in the treatment of disease recorded in many countries. The striking feature in all these records is the use of the syringe, a practice which must be even more prevalent abroad than in the home of vaccine therapy. Thus, there are descriptions of intrahepatic injections of emetine for amoebic abscess of the liver; injections of insulin and glucose for pre- and post-operative acidosis; intra-articular injections of sodium iodide for syphilitic arthropathies; intrajugular injections for inefficiency of the right ventricle; and intraumbilical injections of adrenaline for asphyxia neonatorum, and injections of water into the umbilical cord for retained placenta. In the technical section Dr. Cheinisse called attention to the report of a committee of the American Medical Association on the dangers of local anaesthesia. Though there is a natural disinclination to publish cases of mishap, the committee collected forty-three cases of death following local anaesthesia, and found that in many of them the supposed diagnosis of status lymphaticus was not supported by facts. The ex-anguination-transfusion experiments and practice of Bruce Robertson are described in their application to the toxæmia of extensive burns, to erysipelas of the newly born, to acute intestinal intoxication, malignant scarlet fever, and septicaemia. Dr. Cheinisse mentions very few English writers, but alludes to a warning to surgeons by Sir James Mackenzie that they may not have sufficient knowledge of angina pectoris to justify them in resecting the depressor nerve or the sympathetic for the treatment of this disease.

The *Précis de Thérapeutique*,<sup>5</sup> the latest number of the French series *Bibliothèque du Doctorat en Médecine*, has been compiled by Professor PAUL CARNOT and Drs. F. RATHERY and P. HARVIER. It is based on the lectures delivered by Dr. Carnot, professor of therapeutics in the University of Paris, and covers the course prescribed by the university syllabus. It is divided into three sections, the first of which deals with prescription writing and tabulates the principal remedies used in medicine and the manner in which they may be administered; it closes with some general remarks on doses and incompatibilities. The authors deal next with general therapeutics, classify available medicinal substances into different groups according to their manner of action, and in each group discuss the value and method

of employment of each substance in various diseases. The second section of the book, which occupies much less space, concerns itself with dietetic treatment of diseases such as diabetes, gout, and rheumatism. The third section, which deals with glandular treatment, is included in the last seventy pages. This book, written by experienced teachers in the University of Paris, is likely to be valuable to the French medical student.

The fourth issue of *L'Année médicale pratique*,<sup>10</sup> edited by Dr. CAMILLE LIAN, supported by a staff of thirty-three contributors, contains in alphabetical form a concise account of the principal contributions to medical literature in the widest sense of the term during the past year. A new feature of the present issue is a review of Swiss publications by a committee composed of Professor Roch of Geneva and his two assistants. We learn that similar committees are being formed in Belgium, Canada, the Argentine, and Brazil for the review of the literature of these countries in the next issue.

### NOTES ON BOOKS.

In his little book entitled *Resistance to Disease*<sup>11</sup> Dr. HARRY MERRALL maintains that the mucous membrane of the nasopharynx constitutes the first line of defence against disease, the second and third being formed by the lymphoid tissue lower down in the alimentary canal and the thyroid gland respectively. He regards adenoids merely as an expression of the overwork of the defensive organs in the nasopharynx, and urges that in operations for enlarged tonsils and adenoids the affected portion only of the glands should be removed. Restoration of a healthy condition of the naso-pharyngeal mucosa—which, according to the author, can best be effected by local applications of iodine—constitutes the most effective means of preventing recurrent colds as well as more serious affections, especially intestinal toxæmia and constitutional disorders, including cancer.

Professor OGDEN has produced a book on *Hearing*<sup>12</sup> which he hopes will be helpful to the teacher, the musician, the linguist, and the medical practitioner, especially if the latter be an otologist. It will, however, probably appeal still more to the psychologist and physiologist. The author begins by discussing the physics of sound, the physiology and the psychology of hearing, and the appreciation of music and language from every point of view; he returns to different aspects of these matters in later chapters in a manner which is rather bewildering. The main theme is the psychology of hearing, and the author has gathered together a vast amount of information hitherto scattered in articles and monographs; he has provided also an excellent bibliography. It is unfortunate that only too often the pleonasm and truism beloved of the psychologist obscure the meaning, which can only be dimly discerned in a cloud of verbiage. Thus the difficulties of a subject in itself complicated and frequently lacking precision are intensified. The accounts of the anatomy of the ear and of the theories of hearing are not complete; the author is more informing when discussing the sensation of tone and its various attributes. A chapter is devoted to vocabularies. The exact meaning of this term is not made clear, but it appears here to be applied to any vocal sound. The best part of the book is that which deals with the principles and teaching of music; here there is much of value about speech and music in education and tests of musical talent. The writer seems more in his own province on these topics. The scope of the book is wide, and perhaps too much has been attempted, but it improves vastly as it goes on.

The National League for Health, Maternity, and Child Welfare has issued a pamphlet containing outline syllabuses of *Health Talks*<sup>13</sup> to mothers. Drawn up by Miss MIRIAM SHEWELL, superintendent of an infant welfare centre in Birmingham, after years of experience in giving talks to mothers, she has condensed her informal lectures into the

<sup>4</sup> *L'Année Thérapeutique: Médications et Procédés Nouveaux*. Par le Dr. E. Cheinisse. Cinquième année, 1924. Paris: Masson et Cie. 1925. (54 x 73, pp. 185. Fr. 8.)

<sup>5</sup> *Précis de Thérapeutique*. Tome I: *Art de Formuler Médications Générales*. Par Paul Carnot, F. Rathery, et P. Harvier. Bibliothèque du Doctorat en Médecine. Paris: J. B. Baillière et Fils. 1925. (Post 8vo, pp. xvi + 640. Paper cover, Fr. 32; bound, Fr. 38.)

<sup>10</sup> *L'Année médicale pratique* (Médecine, Chirurgie, Obstétrique, Spécialités, Questions professionnelles). Publiée sous la direction du Dr. Camille Lian. Quatrième année. Paris: René Lépine. 1925. (Fcap. 8vo, pp. xviii + 527. Fr. 20.)

<sup>11</sup> *Resistance to Disease*. By Harry Merrall, M.B., Ch.B. London: Williams and Norgate, Ltd. 1925. (Cr. 8vo, pp. xiii + 179. 10s. 6d. net.)

<sup>12</sup> *Hearing*. By Robert Morris Ogden, Professor of Education in Cornell University. London: Jonathan Cape. 1924. (Demy 8vo, pp. xiii + 351; 18 figures. 15s. net.)

<sup>13</sup> *Health Talks*. By Miss Miriam Shewell. London: The National League for Health, Maternity, and Child Welfare. 1925. (Demy 8vo, pp. 16. 6d.)

outlines found in this book. The talks are divided into three series of twelve. The first series is for young married women and expectant mothers, and deals with the growth of the foetus and ante-natal care generally; the second is for mothers with young children, and details the daily routine with hints on food and clothing, on habits and on character building. The final series is limited to mothers who have attended the first two courses, as it deals with the causation, prevention, and nursing of simple diseases in children. Each syllabus has headings, which, although very brief, are quite sufficiently explanatory. The Ministry of Health requires all health visitors to give periodic talks to mothers, and this pamphlet supplies a working basis for such talks.

## MEDICAL AND SURGICAL APPLIANCES.

### *Automatic Skin Forceps.*

MR. E. DRYBROUGH-SMITH, F.R.C.S. Edin. (St. Leonards-on-Sea), writes: With ordinary skin forceps much time is wasted in approximating and everting the edges when suturing wounds, especially when operating without an assistant. The forceps depicted are designed to save time, and permit the surgeon to use both his hands to thread the needle, and pass and tie the suture when operating without an assistant. They are made of rustless steel and have a strong spring which firmly approximates the blades—thus the skin edges are automatically held tightly together; the teeth are long and firmly grip into the skin, at the same time everting its edges. In applying the forceps both edges of the skin are gripped simultaneously, the needle is passed just distal to the ends of the blades, and the suture tied before removing the forceps. Messrs. Down Bros., Ltd., 21 and 23, St. Thomas's Street, S.E.1, have kindly undertaken to make the forceps.



## THE UNITED STATES ARMY MEDICAL REPORT.

THE annual report of the Surgeon-General of the United States Army for the year 1924<sup>1</sup> maintains its reputation for carefully collected facts and lucid explanation of its statistical data. The vital statistics are for the calendar year 1923, but the general remarks cover the activities of the medical department for the fiscal year ending June 30th, 1924. In his letter of transmission to the Secretary of War the Surgeon-General, Major-General M. W. Ireland, refers specially to the important developments which have taken place in the formation of a reserve corps of medical officers, in enrolling and training the medical personnel of the National Guard, and in the training of the officers and men of the regular Army Medical Corps.

The medical department of the United States Army differs from that of the British Army in that it includes the veterinary as well as the dental and nursing services. The new reserve corps is intended to provide reserves, in the event of the mobilization of the man-power of the nation, for all these services from civilian sources. Up to June 30th, 1924, 7,559 were enrolled for medical, 3,055 for dental, 865 for veterinary, 880 for administrative, and 416 for sanitary services; 40,636 Red Cross nurses formed a reserve for the Army Nursing Corps. The National Guard resources are distinct from this reserve, and for federal purposes is able to put in the field 166 medical detachments (regimental), 10 medical regiments, 10 collecting (bearer) companies, 32 ambulance companies, 24 hospital companies, 10 medical laboratory sections, 10 veterinary companies, and 10 service companies, with a personnel of 950 officers and 8,459 men. An interesting table on page 177 of the report gives a statement of the organized reserve units required in the event of general mobilization. The number is 917, of which 270 are general and 180 stationary hospitals. To man them 23,563 reserve officers are required; but only 3,840 have as yet been definitely assigned to units, of which there are twenty-six different classes, all of them for rearward or lines of communication and base services. They include, for example, such units as "consultants at large," "specialist groups," aviation

medical laboratories, and medical supply depots. So far a complete personnel has been assigned to 3 stationary hospitals, 1 veterinary convalescent hospital, and 2 corps medical headquarters only. Many of the civil institutions throughout the country have undertaken to supply several of the units, 65 as surgical hospitals, 66 as evacuation hospitals, 126 as general hospitals, 1 as a stationary hospital, 1 as a general medical laboratory, and 1 as a veterinary general hospital.

These figures are of interest for comparison with the organized medical reserves of our own army. They are not, however, the equivalent of our Territorial Army Medical Service, which is represented more by the National Guard services of the United States; but of organized civil medical resources outside it. They represent a wide and far-seeing view of national requirements which we might do well to imitate if that were possible. It is only in our Voluntary Aid Detachment organization that we approach it.

The regular army medical officers were 46 below strength, being 939 of an authorized establishment of 985 for a mean annual strength of 130,827, exclusive of nurses and pensioners, who also come under the care of the regular Army Medical Corps. The officers of the Dental Corps numbered 155. Both medical and dental officers are considered totally insufficient in number. Only 62.8 per cent. of the medical officers were available for duty at general hospitals, camps, and laboratories, and only 71 per cent. of the dentists. The allowance of dentists is in the proportion of 1 for every 1,000 of army strength, but this proportion was determined nearly a quarter of a century ago, when the relation of dentistry to the general health was little known. The report states that at least twice the existing proportion is an urgent necessity.

General Ireland notes with satisfaction the great advance that was made during the year by the establishment in September, 1923, of an "Army Medical Center" in 110 acres of land about five miles north of Washington. This centre comprises the "Walter Reed" General Hospital, the Army Medical School, the Army School of Nursing, the Army Veterinary School, and the Army Dental School. A School of Aviation Medicine, it may be noted, also exists; it was established in New York in 1921.

The report enters into full details of the courses of instruction in the various schools and training camps for regular, National Guard, and reserve corps. Among the methods employed are medical correspondence courses for the officers of the reserve corps—a method which is at present occupying the attention of writers in the *Journal of the Royal Army Medical Corps*. The courses cover about 200 hours of work each, and deal with regimental duties, military organization, tactics, hospitalization, sanitation, first aid, military law, and other subjects. Tests and problems are sent out to the officers concerned, who in their turn submit their solution of them to the corps area instructor. An advanced correspondence course of thirty-nine hours' work deals with special subjects for reserve officers of the higher grades.

As regards the vital statistics, there is not much of special interest. Officers and men of all grades and colours seem to be wonderfully healthy, whether serving in the United States, the Philippines, Hawaii, Panama, or China. The only remarkable feature is the extent of invaliding on account of nervous diseases; 40.9 per cent. of the officers and men discharged on account of medical unfitness were invalided on account of these, while suicide was the cause of 9 per cent. of the deaths. A large proportion of the deaths—17.7 per cent.—was due to automobile, motor-cycle, aeroplane, and balloon accidents, or to drowning. The admission rate for venereal disease was comparatively low—60 per 1,000 of strength; it is the lowest rate for any of the previous ten years. Prophylactic packets are issued and prophylactic stations maintained in many of the garrisons, if not in all. The admissions for alcoholism, on the other hand, although lower than in 1922, were higher than in any other year of the decade. The report states that this was probably due to the injurious character of the illicit liquor consumed in recent years. Admissions for drug addiction were higher than in 1922, but compared favourably with other years.

<sup>1</sup> Annual Report of the Surgeon-General U.S. Army, 1924. Washington: Government Printing Office, 1924. (350 pp. xiv + 425; 165 tables in text, 5 statistical tables, and 25 figures. Price 60 cents in Washington.)



# British Medical Journal.

SATURDAY, MAY 16TH, 1925.

## THE TREATMENT OF FRACTURES.

MANY lives and limbs were needlessly sacrificed in the earlier part of the late war, before the treatment of gunshot fractures was reformed, and the mortality of cases of fractured femur—to take only one class of injury—was reduced from 80 to 20 per cent. The knowledge of the good results obtained in the special surgical hospitals led many of us to hope that the lessons taught by Sir Robert Jones, Major Menrice Sinclair, Sir Henry Gray, and others would not be wasted, but would be applied effectively by those responsible for the treatment of injuries in civil life. This hope was expressed during the last year of the war by Mr. Muirhead Little in a presidential address to the members of the British Orthopaedic Association,<sup>1</sup> in which he called attention to the defects of the then existing system, and pointed out that it was possible under it for the pupils of some metropolitan schools of medicine to become qualified to practise without having had any practical instruction in the treatment of some of the most disabling injuries to which the human frame is liable. He expressed the view that the treatment of fractures should be transferred from the general surgeons, who had neither time nor inclination to carry it out properly, to the orthopaedic departments of the hospitals. Unfortunately, as the lecture delivered by Sir Robert Jones on May 12th (published at page 909) will show, the hopes entertained nearly seven years ago were doomed to disappointment. The lecturer, who has had unrivalled opportunities of knowing the present state of things, tells us that “the majority of fractures treated by conservative or non-operative methods are badly handled, with resultant disability, and expert operative aid, if desired, is not always at hand.” He describes in graphic terms the usual course of events in the treatment of a fracture in the casualty department of a great general hospital and in the wards of those institutions which consent, more or less reluctantly, to admit fracture cases as in-patients. Few, we believe, will be found to deny the general accuracy of this description, or to assert that the present state of things is one with which we ought to be satisfied. It was a realization of the poor functional results obtained in treating fractures among the industrial classes that led some enterprising surgeons to advocate open operation and metallic fixation in simple fractures. These procedures have great value in certain cases, but in most cases better results can be attained without them, and they have the grave drawback of being generally inapplicable except in very well equipped hospitals.

The proper treatment of fractures with a view to the attainment of the best possible functional results needs much more time and attention to the details of after-treatment than can be given in most general hospitals as at present organized. The abdominal surgeon—and most surgeons to general hospitals must be so classed—accustomed to discharge his cases after two or three weeks or even less, does not want to have his beds occupied by cases in which the process

of recovery is inevitably prolonged, and his time is so fully taken up that he could not spare enough of it for the treatment of difficult cases of fracture, even if he had additional beds. Yet there is generally no skilled and experienced junior officer to whom he could delegate the work with confidence.

Sir Robert Jones, well knowing that it is useless to denounce a wrong without at the same time pointing out a remedy, has made very definite recommendations for reform. They are, perhaps, rather drastic, but may be taken as suggesting the ideal at which we should aim. The years since 1918 have not been wasted in all countries. In the United States, where industrial and transport injuries are so numerous, the treatment of fractures has been more specialized than it has been in Europe, and with excellent results.

We review in this issue (p. 928) an important book on dislocations and fractures by Dr. Wilson of Boston (Massachusetts) and Mr. Cochrane of Edinburgh, in the preface to which there is an instructive account of the special department of the Massachusetts General Hospital devoted to the treatment of fractures. This fracture service, as it is called, is staffed by six surgeons, of whom four are drawn from the two ordinary surgical services and two from the orthopaedic department. Since 1920, when this service was established, it has worked with complete harmony and success, and a remarkable consensus of opinion has been reached on the principles of practice. What is possible in New England might at least be attempted in Great Britain, and we trust that the appeal made by Sir Robert Jones will be answered in a practical manner, with the result that much suffering, crippling deformity, and economic waste will be avoided.

A century ago Sir Astley Cooper, who was one of the foremost surgeons in the world, did not disdain to devote much of his ability and experience to the treatment of fractures and dislocations. It will not be very creditable to his countrymen of to-day if they do not seriously set to work to restore the practice of this branch of surgery in Great Britain to the same relatively high position as that in which he left it.

## MEDICAL EDUCATION: TWO LAY VIEWS.

WITHIN the last few months two books by Americans of great ability have been published, each of which is mainly devoted to problems of medical education. One is a novel, Mr. Sinclair Lewis's *Martin Arrowsmith*,<sup>1</sup> the other a systematic treatise by Mr. Abraham Flexner.<sup>2</sup> Both authors are educated laymen, but their equipments for the task are different. Mr. Flexner has been for many years in close touch with the organization of medical research and education, and has had a large personal share in important developments of both. Mr. Sinclair Lewis is a man of letters who, until he conceived the idea of writing this tale, perhaps had no more intimate knowledge of medical education and research than any other cultivated man. Mr. Flexner's conclusions, then, are the product of many years' study, but, as a necessary defect of the quality, coloured by the fact that he has been an actor in as well as a spectator of the events he describes. Mr. Lewis's conclusions are based upon an experience much shorter and much less intimate, but more intensely realized, and, being expressed in terms of human personality by a skillful artist, far more vividly presented than those of Mr. Flexner. It would be strange indeed if two authors

<sup>1</sup> BRITISH MEDICAL JOURNAL, November 30th, 1918, p. 604.

<sup>2</sup> Published by Jonathan Cares, Ltd. 7s. 6d. net.  
<sup>3</sup> Medical Education: A Comparative Study. New York: Macmillan Company. 1925. (Pr. 33s. 2.50 dollars.)

so differently equipped reached identical conclusions; yet upon a number of important points they do reach the same conclusions; we shall be mainly concerned with these. Mr. Lewis has written the *Odyssey* of a lad endowed with intellectual ability and imagination who passes from the office of a drunken general practitioner to the medical faculty of a university, then, through general practice and the municipal public health service, into an institute of medical research. We leave him, if not among "barren crags," at least in the wilderness.

We shall not dwell upon the merits of Mr. Lewis's book as a piece of literary art, but one merit must be noticed because it is relevant to our limited argument. He sustains the thesis that the American medical student is, culturally, a mere barbarian, and that his professional training is machine-made and uninspired by any disinterested ideals; he further maintains that the organization of research in America is deeply tinged with a commercialism that puts power into the hands of persons as incapable of appreciating the spirit of disinterested research as is a deaf-mute of apprehending a sonata. Mr. H. G. Wells's most acrid humours never distilled such an acid as has eaten out the portraits of Dean Silva of Winnemac University, of Dr. De Witt Tubbs, director of the McGurk Institute, and of the director's favourite colleague Dr. Rippleton Holabird. But Mr. Lewis is a more accomplished artist than Mr. Wells because he can both see and dramatize the strong points of the men he satirizes. Dean Silva and Dr. Tubbs cut poor figures in comparison with the noble old Gottlieb as witnesses of scientific truth; they are mere wordy quacks. But in the sick-room it is not Gottlieb, but Silva, who is, and is made to appear as, the strong man. As director of a research institute Gottlieb fails, and fails miserably, in the very matters wherein he might have been expected to be Dr. Tubbs's superior; under Gottlieb there is not less, but much more, vulgar intrigue than under Tubbs; Tubbs, with all his intellectual dishonesty and desire for "stunts," is a better director than Gottlieb.

With Mr. Lewis's indictment of commercialized research we shall not deal, but that it is not wholly unsupported by the writer whose knowledge of organized research is unrivalled the following sentences from Mr. Flexner will show: "The speed and ease with which, in favoured spots, a complete and brilliant material transformation has been effected in the United States is not, perhaps, wholly without danger. Kraepelin has suggested that, up to a certain point, equipment improves efficiency; beyond, increase of equipment may be at the expense of the higher efficiency. . . . Mediocrity, to be candid, is more dependent than genius." Passing, then, to the other counts, both Mr. Lewis and Mr. Flexner agree that the American medical student is poorly educated. Mr. Flexner extends the same criticism to England. He finds that, while on the continent of Europe the medical student has "received a severe and excellent general education"—that he is "respectably educated in the technical sense of the term"—"in Great Britain and America no such selection has been made and no such intellectual training has been generally procured, though the medical student may be a more wholesome human being." As an indication he points to the very low standard of attainment in the use of their native tongue reached by American medical students, and even by many of their teachers—a criticism which, as most readers and all editors of medical journals know, is applicable, though with perhaps less force,

on this side of the Atlantic. Although, from the use of the word "selection" in the extract we have cited, it is evident that Mr. Flexner does not ignore all factors other than the national educational system, we think he may overrate the importance of the differences of system between the countries compared. We do not know whether it is still true that the proportion of qualified medical men per 1,000 of population is higher in England, and very much higher in America, than in France or Germany; but, even if it is not, there are social and historical reasons why the attraction of the medical profession for those who have undergone a really severe intellectual training—have been liberally educated, in the ordinary loose sense of the word—should be greater on the Continent than in the English-speaking countries.

Passing to the content and method of medical education itself, Mr. Flexner sometimes uses language as vivacious as that of Mr. Lewis satirizing Winnemac. Mr. Flexner, not Mr. Lewis, writes of the "inferior student, who had by main force to be held with his nose to the grindstone and in whose interest the American curriculum was invented." In his judgement of European systems, Mr. Flexner ranges us in a different order from that he found appropriate for pre-professional training. While, with some minor limitations, he ranked France first in the production of generally educated youths, he regards her medical schools as the least efficient of any—much inferior to the English and the better American schools. The French, in fact, are the worst, as we are the best, exponents of the "natural" system of training; a system which its admirers would describe as the practical method, the method emphasizing the fact that medicine is an art as well as a science, which its critics deride as the method adopted by Mr. Wackford Squeers—"C-l-e-a-n, clean, verb active, to make bright, to scour. W-i-n, win, d-e-r, der, winder, a casement. When the boy knows this out of the book, he goes and does it." To imitate an epigram of Matthew Arnold, Mr. Flexner's view is that the German medical school has plenty of science but too little art, the French school so little science that the art is not learned, the English school too little science but very admirable art.

It is not very easy to cite a representative passage, for Mr. Flexner is a cautious writer and not always self-consistent, but perhaps the following is typical: "The merits of the British system are great and obvious. They are fully appreciated by the British themselves and not unappreciated in other countries. In effect, the British student learns clinical medicine as an intelligent apprentice—an apprentice, I mean, who, in virtue of previous training, is soon capable of orderly procedure in the analysis of symptoms, the arrangement of data, and the drawing of tentative conclusions. Aside from the inadequate time usually given by the English chief to his teaching and the excessive responsibility laid upon the juniors, the educational defect lies, not in the system as such, but in the spirit in which it continues to be administered—namely, its short-sighted practicality. It is, indeed, as I have previously noted, remarkable how little British physiology has yet achieved in changing the spirit of British medicine. Annually, for years, a group, well trained in physiology at Cambridge, Oxford, and University College, London, enter the hospital schools and with rare exceptions soon settle down to clinical study at a level much below the level of their physiological training. They are, indeed, lost in the

mass of students with inferior preparation in whom they are merged. Listening to a succession of bedside expositions, not infrequently quite chatty in substance and tone, one is struck by the positive note; this, that, or the other indication is pointed out—rarely is the unknown, the problematic, the profounder question, the historic background alluded to. . . . As contrasted with the infinite complexities of the actual process, whether of health or disease, bedside teaching of this type enormously over-simplifies. It hardly penetrates the surface, and is apparently unaware of the fundamental activities involved in the phenomena of life." We have quoted this passage at length because it brings out very clearly both the weak points and the strong points of Mr. Flexner's criticism. The strong point is that too little provision is made in England for the minority, the small minority, of undergraduate students who have been liberally educated and could profit by the type of instruction given by a professor of the German model. The weak point is that in teaching adolescents who have undergone but little serious intellectual discipline—and that is the lot of nine clinicians out of ten—the instructor who ceases to be chatty and positive, who does advert to the historic background, the infinite complexities, of Mr. Flexner's peroration, will harm both his listeners and himself. They will snatch at ignorance-concealing phrases, he will degenerate into an orator.

There is surely one weakness of the present generation which a radical change of system along the lines which Mr. Flexner seems to advocate might accentuate. It is a slovenly omniscience, a lack of courage to confess that one is too ignorant of a subject even to criticize it. The old surgeon who, seeing his medical colleague enter the wards, turned to his dressers and said, "Thank God, gentlemen, I know nothing of medicine," has few successors. Mr. Flexner does realize this, for he has written another passage which seems to us the truest and finest in his book: "The remedy is to do less for the student rather than to do more for him. But when the curriculum has been simplified, defects and disappointments will not disappear; these, due largely to human frailty, cannot be exorcised by jugglery. Far more wholesome would it be to admit once for all the difficulty of learning medicine, and the impossibility of teaching it." That passage should be learned by heart by all students, teachers, organizers, patrons, and after-dinner orators. That Hippocrates made a similar remark some time ago does not detract from its immediate practical importance.

#### JOHN KEATS, MEDICAL STUDENT.

THE medical career of John Keats has been the subject of many writings, but Sir William Hale-White, in the Annual Oration before the Medical Society of London on May 11th, disclosed a few facts not generally known, the result of his own researches. The house of Mr. Thomas Hammond, the surgeon of Edmonton, to whom Keats was apprenticed, is still standing (No. 7, Church Street), and has still a doctor for its tenant. Close at hand is a tiny cottage, about to be demolished, in which Keats and a fellow apprentice lived. At the end of four years' apprenticeship—that is, midsummer, 1815—Keats entered himself as a student at Guy's Hospital, with which St. Thomas's, then just across the way, was associated. Some scoundrel, said the orator, had cut out from the register at Guy's, in which all students signed their names, the signature of Keats, evidently erasing the autograph; but two other books in possession of the hospital mentioned the poet, one of them in an entry as follows: "October 1st, 1815. John Keats, No. 57,

six months, place of education, Mr. Thomas Hammond, Edmonton, fee, £1 2s.," while the other recorded the fact that he had become a dresser to Mr. Lucas. Sir William Hale-White had studied the student's notebook of Keats, which is in the possession of the Hampstead Public Library, and had been permitted to make a photographic copy of each of its twenty-eight pages. On each left-hand page were notes on descriptive anatomy, well written and spaced, evidently set down at leisure, while each right-hand page was filled with closely written, hurried memoranda, many of the words misspelt or abbreviated—the notes of a student taking down a lecture. The notes of eleven lectures on physiology appeared in this fashion. A careful study showed that both the leisurely and the hurried notes were in the same handwriting, and a comparison with the letters of Keats proved that the handwriting was that of the author of *Endymion*. In one place some flowers were scrawled on the margin of the lecture note, as though Keats's attention had wandered from the theatre to those "realms of gold" of which he had already written. Keats had said once how during a lecture a sunbeam came into the room, and "with it a whole troop of creatures floating in the ray; and I was off with them to Oberon and fairyland." Sir William Hale-White read a number of passages from these old notes. There were many references—six in the anatomical part and fourteen in the physiological—to "Mr. C.": "Mr. C., by an experiment on a dog, showed that arterial and venous blood had the same temperature"; "Mr. C.'s opinion is that it (blood) is prevented from coagulating in the body by nervous energy"; "the lowest pulse Mr. C. . . . had ever heard of was in general 20, sometimes 28, at others as low as 14"; "Mr. C. had seen a dissection of the nerves in a man who had *tic doloieux*." Strangely enough, there were four men at that time lecturing at Guy's whose names began with "C," but a process of elimination showed that Keats's lecturer must have been Astley Cooper, and this was clinched by a reference to Cooper's lectures, published in 1824, many of the points and illustrations in which coincided with the rough notes taken by Keats in the lecture theatre in 1815-16. It is rather unfair to judge the merits of a lecture from a student's notebook, but Sir William Hale-White said that even on this test it was evident that the lectures were very good indeed, the facts well and clearly put, and the teaching extremely practical. He went on to give some account of the curriculum undertaken by the students attached to Guy's and St. Thomas's in the early years of the last century, the almost incredible rough-and-tumble of the operating theatre, and the personalities of the various physicians and surgeons, of whom Astley Cooper had by far the largest following. He thought it greatly to Astley Cooper's credit that, busy and popular man as he was, he noticed "little Keats," who was not his own dresser, and placed him under the special care of George Cooper, a relative of his. Keats lodged close to the hospital, for part of the time in a house in Dean Street, a street now cut through by the railway, though a portion of it remains under the name of Stainer Street. Here, among the "jumbled heap of murky dwellings," Keats wrote some of his poetry, he saw visions of Arcady in Southwark, and from his favourite window-seat coined that imperishable line, "A thing of beauty is a joy for ever." Keats never practised medicine, though in his letters there are many allusions to the possibility of his doing so; but he obtained the licence of the Apothecaries' Society of London, presenting himself for examination on July 25th, 1816, and passing with credit. Sir William Hale-White was fortunate enough to discover in the *London Medical Repository* of about that date a list of certified apothecaries who had just received their passes, and among them was the name of John Keats of Edmonton. But there were two persons in the

body of Keats—one of them the diligent student, sufficiently outstanding to attract the attention of Sir Astley Cooper, and popular among his fellow students, by whom he was known as "little Keats," and the other the poet; and the poet gained the day. Keats threw aside the lancet for what he called "the living pleasures of the bard."

#### THE COMMON GROUND OF LAW AND MEDICINE.

LORD JUSTICE ATKIN was the speaker at the annual meeting—the 151st—of the Middlesex Hospital Medical Society on May 12th, and explored what he called "the dusty purloins of a lawyer's mind" on the subject of law and medicine. Touching lightly on the history of the two professions, he remarked on the early embodiment of sanitary measures in legal codes, and said that perhaps the most powerful legislators of history had been Moses, Mahomet (both of whom were sanitarians), and the chief medical officer of the Ministry of Health. The professions had proceeded together, but not always at the same pace. While it might be said that the law had exhibited a fairly constant development from later Roman times, medicine had stood still for many centuries after Galen, and, indeed, until about fifty years ago medicine remained more or less an empirical art based upon incomplete experience and upon hypotheses which were to a large extent untrue. In recent times medicine had made enormous advances and had become a science, which could hardly yet be said of law, for law was subject to variation at the instance of legislatures as well as to the fallible interpretations of judges. Medicine and law were working towards the analogous goals of health and justice, which had much in common. Both professions sought after truth, and both tested carefully the evidence presented to them—lawyers by a process of cross-examination, medical men by ever closer and more accurate observation assisted by elaborate instruments. Cross-examination was rather repugnant to the popular mind because it represented the application of well known and tested principles by which the ordinary man was not guided in his own particular judgements and affairs; instead of relying on what was ascertained by accurate observation, the ordinary man was guided largely by emotional preferences, prejudices, and impressions which had persisted from his youth in spite of evidence that they were erroneously based. Lord Justice Atkin believed cross-examination, properly applied, to be the most effective means of ascertaining the truth whether as to a fact or a theory. In some branches of medicine—psycho-analysis, for example—cross-examination was one of the principal arts, pursued, he did not doubt, at times with great success. That it was an art which required cultivation and practice was illustrated in the courts when some litigant conducted his own case, and failed miserably in his attempts at cross-examining the other side. The Lord Justice went on to speak of the various ways in which the two professions could assist one another, and the great range of subjects, relating to both civil and criminal law, in which the law depended upon the information given by the medical man. In civil law these subjects included such large matters as marriage, injuries, insurance, and workmen's compensation. The general attitude of the law towards the medical man was to treat him, not as an advocate or as one supporting a particular thesis for its own sake, but as himself a minister of justice, anxious to assist the court at arriving at a true conclusion. To doctors who were called upon to give evidence he would say that it was of first importance for them to make sure whether they were speaking of something which they had ascertained as a fact or were simply putting before the court their impression or theory. Many topics of interest to both professions, he continued, were still outstanding. The most important was the great question

of insanity and the responsibility of the insane person for criminal acts. Medical men had not yet been able to define what they meant by insanity. The difficulty was as old as Hamlet, and the speaker was not sure that the definition of "true madness"—"nothing else but mad"—had advanced much further. But he hoped that at any rate in respect to criminal responsibility it would be considered a fair and proper thing to find irresponsibility when the crime was committed from irresistible impulse the result of a diseased mind, and he was himself awaiting the time when some legal authority would explain what the true position was in quite well authenticated cases. Another outstanding question was professional secrecy. The extreme claim for privilege probably could not be upheld. There was no protection for a medical man in respect of such matters, and the law would so remain, he had no doubt, until some doctor—might he say, some fanatical doctor?—in the witness box declared that the confidence existing between himself and his patient was as sacred to him as that between priest and penitent or lawyer and client, and that he was prepared to go to prison for the rest of his life rather than violate it. The question would then arise whether the conflicting claims could not be reconciled by something less than a complete obligation on the part of the doctor to make a disclosure when called upon. The lecturer also mentioned another question, which he said was too controversial to enlarge upon—the question whether medical men might not fairly claim to have decisions affecting professional conduct made subject to some judicial investigation, instead of being left to the decision of any tribunal which did not act upon legal principles and upon evidence which could be tested and controverted by cross-examination. That was a matter he must leave to the doctors. In conclusion, he declared that law, equally with medicine, had important preventive aspects. He was surprised and pained when, at an important medical dinner two years ago, the remark of the Lord Chief Justice that the ideal and practice of lawyers was to be peacemakers was received with derision. Lord Hewart's remark was perfectly true, however much opposed it might be to the "picture-house" view of the lawyer. Each profession had much to learn from the other, and each depended in a large measure on the other's confidence and goodwill.

#### METEOROLOGY AND MEDICINE.

IN the course of a communication on Indian meteorology, read before the Royal Society of Arts (Indian Section) on May 8th, Sir Gilbert T. Walker, late director of Indian observatories, mentioned the rapidly growing importance of the relation between meteorology and medicine. The meteorological department at Simla, he said, now issued warnings to the medical department of the Indian Government of the danger of sunstroke or heat apoplexy when the wet bulb temperature approached 85° F. It also collated information from various areas regarding rainfall, and was able to forecast in what parts of the Punjab malaria was likely to be serious, so that local arrangements could be made to combat the disease before it had actively developed. He showed a diagram covering several decades to illustrate the direct influence the rainfall of July and August had on the malaria of the succeeding October and November in the Punjab; in recent years this relationship had been less marked, owing, he thought, to the activity of the medical department in the administration of quinine. An attempt had been made to cool the air in the big Government buildings of India. Over the large part of India in which the air is dry during the hot weather the process of cooling by 15° would not be expensive if the necessary appliances were inserted when the buildings were being erected. On entering the cooled premises it might be desirable to wear

a light overcoat for a few minutes, but after that no difficulty would arise, and the circulation of fresh air at a moderate temperature would add considerably to the mental activity of the staff. In regions where the air was damp special arrangements would be necessary for drying it, like those generally employed in the cotton mills. In the subsequent discussion Sir Leonard Rogers repeated the well known results of his investigations into the distribution of leprosy, tuberculosis, and pneumonia in India in relation to rainfall, humidity, and winds, and also spoke of some more recent work on the incidence of small-pox. On working out the monthly figures for small-pox in India from 1877 to the present day, he found that small-pox outbreaks always occurred in the year following a year of deficient rainfall. In the case of eight different outbreaks of small-pox in Bombay, for instance, the rainfall in the year preceding the outbreak had been below the average. A great fall in the incidence of small-pox invariably occurred during the rainy season when the humidity was at its height, and Sir Leonard Rogers was of opinion that in years of exceptionally low rainfall the humidity did not rise high enough to bring about the customary decrease in small-pox, so that when the cold weather came there was, so to speak, a legacy of cases remaining to which was added the ordinary seasonal incidence, and with this as a basis an epidemic occurred.

#### ROYAL COMMISSION ON FOOD PRICES.

The Royal Commission on Food Prices, appointed last December, with Sir Auckland Geddes, G.C.M.G., M.D., as chairman, has presented a first report dealing with wheat, including flour and bread, and with meat; it was issued at the end of last week. If the Commission continues its inquiry it will deal on a future occasion with other articles of diet, including milk, fish, fruit, and vegetables. The chief recommendation is to set up a food council under the Board of Trade. The council would have no executive powers, but would supervise staple food trades and give publicity to precise information as to the stocks and prices of the chief foodstuffs. It would replace the existing food department of the Board of Trade, but would be autonomous and would report to the President of the Board of Trade, who would be the Minister responsible to Parliament for its actions. The Commission attaches much importance to the autonomy of the food council, which it is desired should act as a mediator between producer, trader, and consumer in reconciling for a common end interests which it does not regard as necessarily conflicting. The council, it says, would not be a new Government department administering Acts and regulations and thereby bound at all times by precedent and the letter of the law. Nevertheless it is difficult to see in what respects it would in practice differ from a new department of Government, and this is the view expressed by Mr. Ryland in a minority report. He considers, also, that the proposal would be a definite advance towards State socialism. The council would consist of a whole-time chairman and of eleven other members, of whom one would be nominated by the Minister of Agriculture, another by the Minister of Health, and a third by the Secretary for Scotland; four members would be appointed by the President of the Board of Trade on the ground of wide business experience; and the remainder would be representatives of the consumer—two (one a man and the other a woman) nominated by the Trades Union Congress, and two (one a man and the other a woman) nominated by or on behalf of the local authorities. "The primary duty of the food council would," it is said, "be to study the situation in regard to bread and meat supplies, and to keep the public fully informed by periodical reports as to the working of these essential trades. The food council's reports should be not merely statistical compilations, but

should provide a commentary on the trend of events and so far as possible explain the causes which lead to important movements in prices. For this purpose the council would need to collect information relating to production, import, consumption, and stocks, together with more precise information than is at present available with regard to wholesale and retail prices." One of the effects of giving wide publicity to this information would, the Commission hopes, be to steady prices and to stimulate supplies by timely warning if stocks showed a tendency to fall below the normal level. The Commission, however, believes that public apprehension will not be set at rest until the State has armed itself with the necessary powers to deal with antisocial action by monopolies, trusts, and combines. "But," it adds, "the danger of the abuse of monopolistic power is not confined to the food trades, and it would, in our view, be unwise to set up special machinery for dealing drastically, by the application of sanctions, with antisocial actions in these and not in other trades." The other chief recommendation of the Commission is an endorsement of that made by the Interdepartmental Committee on Meat Supplies in 1919 in favour of the compulsory registration of retail butchers. Registration would be carried out by the local authorities, but the food council would lay down the conditions of registration and the grounds on which it should be cancelled or temporarily suspended. The Commission has drafted the principles upon which the grant of registration would be determined. The first is "the due observance of public health regulations with regard to the sale of meat." The others have reference to the marking of meat and its accurate description, and the exhibition of a list of prices and charges for all classes and joints of meat on sale in the shop. The report has already come in for a good deal of criticism, for the most part foreshadowed in Mr. Ryland's minority report. The comparatively stable level of prices which existed for long periods before the war has given place to a fluctuating level of prices, so that consumers have lost their safeguard of practically customary prices. Mr. Ryland considers that the best way of meeting the difficulty is to strengthen that normal feature of the competitive system. The Ministry of Agriculture, the Board of Agriculture for Scotland, the Board of Trade, and the Ministry of Health each already has its statistical staff dealing with food matters, and Mr. Ryland advises that immediate steps should be taken for the formation of a co-ordinating committee comprising the principal officers of the statistical branches of the departments mentioned. A well informed public opinion is, in his view, the best safeguard of the interests of consumers, distributors, and producers alike; and the proposal for a co-ordinating committee would provide a basis for the formation of such opinion, and would involve practically no additional cost to the State.

#### THE PROSTHETIC HOSPITAL AT ROEHAMPTON.

THE new buildings of Queen Mary's Hospital at Roehampton, to which the Ministry of Pensions has transferred the patients and staff from Du Cane Road, Shepherd's Bush, were formally declared open by Queen Mary on May 6th. As was stated in the JOURNAL of April 11th, the surgical treatment of war pensioners and the fitting of artificial limbs will in future be carried on at Roehampton, and limbs will be supplied to civilians of certain classes. The Queen, who was accompanied by Princess Helena Victoria and Mrs. Baldwin, made a very thorough inspection of the whole establishment. The new wards, which have been erected on the northern side of the lawn at the back of the house, are of a pleasing appearance, owing largely to the spacious red-tiled verandahs which mask the southern gable-ends and afford open-air shelters; they will also keep the wards cool should we ever again experience



a spell of warm weather. The two operating theatres, with the necessary anaesthetizing, recovery, and sterilizing rooms, are situated at the back of the wards, with which they are connected by a corridor. They are well lighted and ventilated, and their skylights are cooled and kept clean by a flow of water over them. In addition to these new wards, which are built of brick, a number of the wooden huts which were built during the war for the accommodation of men who had undergone amputation have been redecorated and refitted for the reception of patients. The fine lawn has been somewhat encroached upon, but what remains is still of imposing proportions, and although it was necessary to sacrifice an ancient mulberry tree and, we believe, one of the smaller cedars, the beauties of the grounds and gardens are practically undiminished. The distance from the centre of London and the main railway termini is no doubt a drawback, but it will doubtless be more than balanced by the change from the now crowded and rather low-placed site at Shepherd's Bush to the purer air, nearly rural surroundings, and elevated position at Roehampton, where fogs are less frequent and of shorter duration than on lower levels, and not nearly so smoke-polluted as at Hammersmith.

#### ROYAL SOCIETY'S CONVERSAZIONE.

THE first conversazione of the year given by the Royal Society was held on Wednesday evening in the Society's rooms at Burlington House. Dr. A. H. Drew (Imperial Cancer Research Fund) contributed a most interesting series of microscopic slides illustrating tissue culture experiments. He demonstrated the initiation of growth in tissue culture by substances produced in damaged tissues, and also showed that differentiation in epithelial tissue was dependent on the presence of an adequate amount of connective tissue. A culture medium, the basis of which was a saline solution, was found to permit fragments of post-embryonic tissues to survive in a quiescent state for fourteen days or even longer if kept at body temperature. The addition to this medium of an extract of emulsion of kidney substance which had been incubated at body temperature for four hours started emigration and growth of the cells of the kidney (rat) within twenty-four hours. The emigrated cells appeared as a flat sheet surrounding the original central fragment of tissue. If a rapidly growing culture of connective tissue was implanted beside a kidney growth which was in this usual sheet form, the interaction of epithelium and connective tissue led to the formation of tubules resembling the normal renal tubules. Stratified squamous epithelium of the skin behaved in an analogous way, and if connective tissue was absent or only present in very small amount in the culture medium a sheet of closely packed spindle cells, resembling fibroblasts, resulted. If, however, connective tissue cells were incubated together with epithelial cells, the characteristic formation of epithelial pearls was observed. This same alternation between epithelial sheet growth and tubular gland growth was also obtained with an alveolar mammary cancer of the mouse. Dr. O. Rosenheim and Dr. J. C. Drummond (National Institute of Medical Research) demonstrated a colour test for the presence of vitamin A. A brilliant ultramarine blue colour reaction is given by the fat-soluble vitamin A present in cod-liver oil and butter when arsenic chloride is added to it. Other dehydrating reagents, such as dimethyl sulphate, trichloroacetic acid, benzoyl chloride, in the presence of zinc chloride give similar reactions, showing identical spectral absorption phenomena. This reaction has been used for the colorimetric determination of the growth-promoting activity of medicinal cod-liver oils and butter. Dr. H. W. Dudley and Dr. O. Rosenheim also demonstrated the peculiar crystals found in semen, known since 1865 as "Böttcher's crystals," though their presence

was originally reported to the Royal Society by Leeuwenhoek in 1678. These crystals, which are composed of spermin phosphate, are not specific to semen, but have been isolated from almost all animal tissues except blood, and also from yeast. It is thought possible that the wide distribution of this salt of spermin may have some biological significance. The International Western Electric Company demonstrated an electrical stethoscope which, in addition to providing the usual facilities, enables any number of persons up to 600 to practise auscultation simultaneously. An audiometer exhibited by the company enables measurements to be made of the sensitivity of any ear by relating its "threshold of audibility" to that of an average ear, as determined by experiment on a large number of persons whose powers of hearing were normal. An artificial larynx, also shown by the firm, is intended to restore vocal powers to patients from whom the larynx has been removed so that the trachea terminates at the base of the neck. Professor W. M. Thornton exhibited a miner's electric lamp which indicates and measures firedamp. A thermal device involving the use of a platinum preparation enables the percentage of methane in the air to be both registered and measured by a very simple manipulation. Although electric lamps are widely used in coal mines, they have not hitherto been made capable of indicating or measuring firedamp. Dr. R. S. Clay and Mr. Thomas H. Court demonstrated the Lucernal microscope of Samuel Washbourn, which is 120 to 130 years old, and has the usual pyramidal wooden body; it is mounted on an elaborate collapsible mahogany stand. Mr. George H. Gabb showed a telescope bearing the name and date "Jacob Cnigham, 1661"; it is, so far as is known, the oldest optical instrument existing in this country to which a date can confidently be ascribed. The instrument is of the curious trumpet shape characteristic of many of the smaller telescopes of that period. Other exhibits included fused quartz ware, contributed by the Thermal Syndicate, Ltd., and comprising laboratory equipment of various kinds, mercury vapour lamps, hypodermic syringes for flame sterilization, and a silica valve for naval wireless telegraphy. During the evening cinematograph demonstrations were given to illustrate the main characteristics of the Brownian motion of minute particles.

#### ROCKEFELLER MEDICAL FELLOWSHIPS.

THE Rockefeller Medical Fellowships for the academic year 1925-26 will shortly be awarded by the Medical Research Council, and applications should be lodged with the Council not later than June 10th, 1925. These fellowships are provided from a fund with which the Medical Research Council has been entrusted by the Rockefeller Foundation. Fellowships are awarded by the Council, in accordance with the desire of the Foundation, to graduates who have had some training in research work in the primary sciences of medicine or in clinical medicine or surgery, and are likely to profit by a period of work at a university or other chosen centre in the United States before taking up positions for higher teaching or research in the British Isles. A fellowship will have the value of not less than £350 a year for a single Fellow, with extra allowance for a married Fellow, payable monthly in advance. Traveling expenses and some other allowances will be made in addition. Full particulars and forms of application are obtainable from the Secretary, Medical Research Council, 15, York Buildings, Adelphi, London, W.C.2.

THE twelfth International Physiological Congress will be held in 1926, at Stockholm, from August 3rd to 6th. Professor Johansson will be president, Professor Liljestrand honorary secretary, and Professor Santesson honorary treasurer.

MAY 16, 1925]

# BRITISH EMPIRE EXHIBITION.

## BRITISH EMPIRE EXHIBITION, 1925.

WEMBLEY EXHIBITION was reopened by the King on Saturday, May 9th, under weather conditions that were rather mixed, but were certainly less depressing than the average of last year. If some rain greeted the opening ceremony, yet the sun shone with greater warmth than was usual in 1924.

### MEDICAL EXHIBITS.

The Exhibition as a whole may be summed up tersely as having become more domesticated: it is less startling than last year, but more interesting. This is exemplified, for instance, in the Medical Section, which we described in our issue of April 11th, 1925 (p. 703). Here the horrors of jungle and other tropical diseases, which were such an outstanding feature in the section of 1924, have given place in 1925 to the triumphs of therapeutics and prophylaxis. Domestic hygiene, hidden away last year in a little-frequented corner, has now expanded both in extent and interest and occupies deservedly one of the finest sides of the Government Pavilion. The historical side of medicine receives more consideration this year, and it may be added in this connexion that Messrs. Burroughs Wellcome and Co. are exhibiting a tabloid medicine chest used in the Everest expeditions of 1921, 1922, and 1924, which, after many thousand miles of travel and accidents, is still fit to do duty with a fourth expedition. The firm is also exhibiting a group of the actual medical and first-aid cases which were used by the pioneer aviators. When Blériot crossed the Channel in a monoplane in 1909 he carried with him a tabloid first-aid outfit. This, with the outfits carried by Sir John Alcock in his flight across the Atlantic, by Ross Smith from England to Australia, and by Squadron Leader Maclaren in his attempt to travel round the world, are also being exhibited, as is the case which accompanied R.34 in the first airship flight from England to America. Other exhibits include the tube of solidified ginger essence carried by Peary in his last dash to the North Pole, and the cases used by Amundsen and Scott in 1912.

### PALACE OF ARTS.

The Palace of Arts at Wembley is of wide interest, representing as it does so many periods and forms of art. There is a very interesting retrospective collection of oil paintings, with examples of the work of Holbein, Reynolds, Gainsborough, Romney, Hogarth, Lawrence, Millais, Sargent, and many others. The rooms devoted to modern British art are fairly representative, though there are no really important works and many of the pictures are not quite recent. The beautiful study of two figures for "A Western Wedding" shows Orpen at his best. "A Norfolk Landscape" by Arnesby Brown, "The Lady with a Fan" by Augustus John, "The Tortoise" by William Nicholson, "The Check Shawl" by Algernon Talmage, and "A Lady in Black and White" by F. C. B. Cadell, are but a few of the delightful works which should be studied at leisure in this part of the Exhibition.

The standard of the modern prints is high, and a great many delightful woodcuts are shown. The modern illustrations are chiefly by a few of our best known illustrators, the most entertaining being the collection of caricatures by Max Beerbohm. Of the works in the Sculpture Gallery we may mention Frank Mowbray Taubman's "The Steps of Life," and Sir Hamo Thornycroft's "The Kiss." It is of special interest to have two rooms devoted respectively to Australian and South African art, and two to Canadian art. In the attractive Canadian rooms we were impressed with the freshness of style, and particularly liked "Autumn, Ottawa Valley" by Graham Norwell (lent by the National Gallery of Canada), and "Village in the Laurentian Mountains" by Clarence Gagnon. Australia is well represented, also "The Quarry" by J. D. Moore, and many others. The work of the South African painters seems to be rather immature, but their colours are fresh, and "Market Carts" by D. Kay and several others are pleasing. Unfortunately some of the special rooms were not

finished on private view day. The bronze "Orpheus," by J. M. Swan, is in a perfect setting in the beautiful tapestry room, whose walls are hung with tapestry designed by Burne-Jones and executed at the William Morris works (1898-99). The Basilica, though unfinished, gives a most pleasing general effect. The apse decoration this year is done by Colin Gill; J. Kerr Lawson's decorative panel in coloured paper is very effective, and so is the altar tomb designed by Frederic Etchells. Special attention might well be paid to the Applied Arts Section, as this should help the public to realize the advantage of beautiful things for ordinary use. There are many beautiful examples of pottery, metal work, hand-woven material, and other textiles. Mr. Rowley shows some of his decorative wood panels, designed by W. H. Chase. The Royal Mint shows several cases of medals, many designed by young artists, and the inn signs exhibited by Captain Kettleworth should not be overlooked. The modern jewellery is very good, and it is a pity we do not see more posters on our hoardings like those in the Poster Room.

## Non et Vetera.

### "PARSON MALTHUS."

MANY writers have been praised and blamed by those who have never read a line of their works. What percentage of the teachers of clinical medicine who acclaim Hippocrates the Father of Medicine and Sydenham the English Hippocrates have read the works of either Hippocrates or Sydenham? It may be doubted whether all young graduates in biology have read the *Origin of Species*. In such instances perhaps little harm is done. Hippocrates, Sydenham, and Darwin are names indeed associated with ideas once hotly controverted, but the ashes of the fire have long been cold. Judgement was passed long ago upon the Cnidians, upon the advocates of a heating regimen in small-pox, and upon Samuel Wilberforce and St. George Mivart. On these matters second-hand information is incomplete, but unbiased. This cannot be said of Malthus's work; the controversy he provoked is still raging, while it is still true that more people praise (or blame) him than read his books.

The *Essay on Population* is not, indeed, inaccessible. It was reprinted some years ago in "Everyman's Library" with a concise and useful introduction by Mr. W. T. Layton; but, with many merits, the style is not attractive—one cannot read it for pleasure. It is hard to say precisely what is lacking; perhaps there is a certain coldness uncompensated by the satisfaction of the reader's vanity due to grappling with difficult technical investigations. There are indeed difficulties, but not on the surface; although the book is largely statistical it contains very little algebra.

Almost forty years ago the distinguished economist Dr. James Bonar published a volume of elucidations, entitled *Malthus and His Work*; this he has now reprinted with important additions, in particular a biography, and the book supplies just what was wanted. It traces the development of Malthus's thought and humanizes the philosopher. Anybody who has read Dr. Bonar's volume will approach the *Essay* in a sympathetic mood and will assess its virtues and shortcomings more justly.

It is nearly a hundred years since the last edition published in its author's lifetime was printed; in that century much has happened. But living, as was Malthus, under conditions of great industrial distress following a terrible war, we ask ourselves the same questions. In 1815 there were perhaps fewer political rhetoricians proclaiming the arrival of a new heaven upon earth than in 1918; nobody, we think, said anything about providing homes for heroes; nobody pretended that a peace was going to be made upon any newer or nobler principle than that of getting as much for oneself as one could; certainly nobody supposed that the victors would be able to extract a large war bonus from the vanquished. But if far fewer hopes were aroused only to be disappointed, the amount of physical distress was without

doubt much greater, proportionally, in the years after 1815 than in the last six years.

We are all pessimists now; but however heartily we anathematize (in accordance with our political sentiments) the Coalition, the Bonar Law, the Baldwin, or the MacDonald Ministry, we should at least place this to the credit of one and all, that England in 1918-24 has not been so harsh a world for the vast majority as was the England of 1815-21.

Yet the Sphinx still asks her riddle; it is still a question whether population is not outrunning the means of subsistence, using the phrase less literally than did Malthus. His thought envisaged population pressing upon the actual physical margin of subsistence; we substitute for the notion of bare subsistence that of a standard of life, deemed the minimum permissible, and ask whether our growth of population is compatible with the maintenance of that standard. Since Malthus's day the concept of checks to growth of population other than those he discussed has been considerably enlarged. Dr. Brownlee has for some years sustained the thesis that fertility waxes and wanes following laws wholly beyond the power of man, whether acting consciously or unconsciously, to deflect. Professor Raymond Pearl has rediscovered and greatly extended a hypothetical law of population growth proposed many years ago by Verhulst, and, in his recent presidential address to the Royal Statistical Society, Mr. Udny Yule, as we have already noted,<sup>2</sup> has expounded this principle with his customary lucidity and generally approved it; the upshot being to regard "the growth of population as a biologically self-regulating process; indeed, a process of which the regulation is extraordinarily sensitive." This doctrine leads to the conclusion of Burke—"Let us be saved from too much wisdom of our own, and we shall do tolerably well." But it will not pass without challenge, and in the next years we may expect a large output of literature on the population problem. Anyone who intends to take part in the fray should read, or reread, Dr. Bonar and Malthus.

## ROYAL COMMISSION ON LUNACY AND MENTAL DISORDER.

### EVIDENCE OF THE MEXICO-PSYCHOLOGICAL ASSOCIATION.

(Concluded from page 889.)

#### Psychiatric Education and Research.

On the second day of the sitting Sir FREDERICK MOTT gave evidence on the need for better provision for psychiatric education and research. He said that as long ago as 1907 he was convinced that a diploma in psychological medicine would prove as valuable as the diploma in public health. Just before the war Cambridge instituted such a diploma, and its example had since been followed by many of the universities. In the London county mental hospitals the possession of the diploma had become indispensable for senior appointments. Universities did not provide special courses unless there were a sufficient number of students; recently in Manchester, for instance, a course was not proceeded with because not enough candidates were forthcoming. He agreed with Sir Humphry Rolleston that it would be desirable to standardize the examinations of the different bodies. In reply to Sir David Drummond, who commented on the large amount of time devoted in the Maudsley syllabus to theoretical work and the comparatively small amount to practical, he said that the diploma was given only to men who had served a year or two in an asylum, so that it was rather on the theoretical side that they needed instruction. But at Maudsley arrangements were made for cases from the London asylums to be brought up for illustration and discussion. He mentioned the doctorate in psychological medicine of the University of London, and said that this at present had only three holders.

Sir F. Mott next spoke on the need for research. He favoured a plan whereby a group of asylums would have, apart from their own separate laboratories, a central laboratory, like that in Birmingham, which it was hoped would be the centre for the mental hospitals of the Midlands. He pointed out that in this country, while a large amount of money was spent in medical research in other directions, almost no one had come forward to assist the investigation of insanity except Dr. Maudsley, who gave half his fortune earned in his practice, and in Birmingham Sir Charles Hyde had founded a lectureship in psychology and had given a certain sum of money for a scholar in the research laboratory. Asked by the Chairman why mental sciences remained "a Cinderella without a Prince,"

Sir F. Mott said that he thought it was attributable to the persistence of old metaphysical ideas with regard to mental diseases—people had not got away from demonology yet.

Dr. EDWIN GOODALL thought that there was no barrier to the local authorities who were responsible for public asylums assisting financially in the setting up of such laboratories as Maudsley, Birmingham, and Cardiff. At Cardiff already large sums of money had been spent on pure research. The Chairman said that legally there was no obstacle to local authorities spending money on such objects within their own area, but difficulties would arise when it was proposed to spend money on a laboratory or other institution outside their own area. Dr. Goodall went on to speak of the inadequacy of the present teaching of psychiatry, which had not greatly advanced since the time, thirty years ago, when he was a student. Save for the Bethlem Royal Hospital and now the Maudsley Hospital, only "asylums" were available for students to go to, and at asylums the cases such as they would be required to deal with in practice were very rarely to be seen. He compared the teaching of students in England, to its disadvantage, with the teaching at the University of Utrecht. The lack of teaching facilities here resulted in the appointment to asylums of junior medical officers who knew very little of mental disorders.

Mr. MICKLEM asked whether it was the suggestion of the association that the local authorities should be asked to afford moneys for the upkeep of central laboratories. Sir F. Mott said that that would be very desirable. In return the local authorities would be able to have investigations carried out with regard to epidemics, for example, arising in asylums, or, indeed, any form of research work, and students would have facilities for instruction. Lord Russell said that the Commission had heard a Lancashire witness who had objected strongly to directed research. Sir F. Mott said that the director of a laboratory would not interfere with any research he thought likely to be of use, although he would desire to have control over what was published from his laboratory. Lord Russell said that the objection of the witness to whom he had referred went further; he had even deprecated team work, believing that research should be left to individual inspiration. Sir F. Mott argued that this was not a true view. The most valuable achievements had been the result of team work, and could have come about in no other way. He would not, however, agree that the Board of Control should exercise control over research at all; that was not its province.

Dr. COLR, at the conclusion of the evidence, said that he hoped the Commission would recommend that in some way Parliament would allow research to be encouraged at asylums. Mr. MICKLEM, who had meanwhile taken the chair, said that the Commission fully appreciated the views which the representatives of the association had so well expressed.

A valuable memorandum was submitted to the Commission by Dr. J. R. LORD on the legal and administrative position of psychiatry in some European countries and in America, and another by Dr. MENZIES on the constitution of the central authority in mental health. Dr. Menzies's view was that the Board should consist of five medical and two legal members, and that the medical members should be paid not less than £2,000 a year. For a pension the years served under a local authority should be counted. The Commissioners should be experts of the highest standard of medical and scientific attainment.

## England and Wales.

### A NEW HOSPITAL AT WOOLWICH.

A new general hospital is to be erected by public subscription at Shooters Hill, in memory of residents of Woolwich and the adjacent districts who died in the war. The new institution will serve a population of 200,000, the nearest general hospital being four and a half miles away. It is proposed that the foundation stone of the first section of the hospital shall be laid by the president, the Duke of Connaught, on July 7th. This section will provide accommodation for 110 beds, and include the administrative block, operating theatres; radiological and electrotherapeutic departments, and a pathological laboratory. The total cost of the first section, including equipment, is approximately £200,000, towards which £170,000 has been raised, £80,000 of which was received in small sums locally. A substantial grant has been made by King Edward's Hospital Fund, and Viscount Burnham opened a fair and festival in the Woolwich Town Hall on May 6th, with a view to obtaining sufficient money so that the hospital may open free from debt. The second and third sections will increase the accommodation up to 318 beds.

<sup>2</sup> November 22nd, 1924, p. 1014, and January 10th, 1925, p. 74.

**ROBERT DAVIES NURSING HOME, LIVERPOOL.**

Through the munificence of the late Mr. Robert Davies, a shipowner of Liverpool, a nursing home has been established for the exclusive use of middle-class patients of limited means. A mansion was acquired in Sandfield Park, West Derby, near Liverpool, and after suitable alterations was opened in January last. It stands in twenty acres of ground, secluded from the noise of a large city, and yet within easy access from all districts. Thirty patients can be accommodated, and the loftiness of the rooms, of which there are three on the first floor and six on the second floor, ensures ample air space. All these rooms give the impression of comfort in surroundings to which this class of patient is accustomed. Each bed is capable of being screened by an ingenious arrangement, ensuring privacy and sacrificing nothing of the nursing requirements of the patient. The lavatory arrangements are complete in every respect, and perfect ventilation is ensured. There is a lift for bed cases, and the corridors are wide. Heating is central, and the whole building is thoroughly dry. There is a complete operating unit, consisting of surgeon's dressing room, sterilizing room, anaesthetic room, and operating room. The last has a northern aspect, a terrazzo floor, and the operating table as well as the fittings are of the latest type. In fact, although designated a home it is in reality a hospital with all the amenities to which these patients are accustomed in their daily life. Patients are attended by their own medical men, and on them devolves the onus of recommending applicants for admission; this recommendation is submitted to the honorary secretary for confirmation. No neurasthenic, infectious, phthisical, or mental case will be admitted, and maternity cases must receive the special permission of the committee. The charge for each patient is three guineas a week, which includes nursing, surgical dressings, and medicaments. The honorary secretary is Mr. Frank White, 12, St. George's Crescent, Liverpool, from whom full particulars can be obtained. It would appear that this home really meets, not only the wants of many patients, but those of medical men, who know only too well how expensive on the one hand, and the objection to entering a hospital and being no longer under the care of their own medical men on the other, militate against the patients' speedy convalescence.

**ROYAL ALBERT INSTITUTION FOR THE FEEBLE-MINDED, LANCASTER.**

New buildings are being added to the Royal Albert Institution for the Feeble-minded at Lancaster, and it will soon be possible to accommodate about 1,100 patients. The Cavendish Reception House, which has been built at a cost of £6,624 apart from furnishing expenses, will, it is hoped, be ready for occupation early in June. An open-air school for use during the summer months has been completed recently at a cost of £850, and a start will shortly be made with the erection of six new blocks to house low-grade defectives who require little more than ordinary supervision. Each of these blocks will accommodate about fifty patients, and will be associated closely with the central administrative block. At present the institute contains 788 patients, of whom 308 are from Yorkshire, and though it appears that the flow of payments by patients, donations, and subscriptions from this county during the last year was insufficient for the maintenance of these patients, yet the deficit is more than covered by the income arising from invested Yorkshire contributions. The deficit was due to an increase in both the number of Yorkshire patients and the cost of their maintenance. Since 1878 the members of the various Yorkshire associations have collected over £33,000, and the ladies' associations of the seven counties which are co-operating in the support of the Royal Albert Institution have raised a sum of over £112,000.

**CENTRAL MIDWIVES BOARD.**

The Central Midwives Board for England and Wales met on May 7th, Sir Francis Champneys presiding. At the penultimate five cases were dealt with and all the midwives concerned were removed from the roll. The principal business dealt with by the standing committee included consideration of the proposed new rules as to training, pre-

pared by the Central Midwives Board for Ireland. The following reply was agreed on:

That the Board has no observations to make on the draft rules, other than to state that, as at present advised, it does not consider the training which has led to the appearance of the name of a candidate on the general part of the register (otherwise than by passing the examination of one of the joint nursing councils) or the supplementary part of the register, containing the names of sick children's nurses, as justifying a reduction in the full period of midwifery training required by the rules of the Board, and her admission to the roll under such conditions.

A letter was received from the honorary secretary of the Welsh branch of the Society of Medical Officers of Health, stating that the branch approved of the holding of a conference between representatives of local supervising authorities and members of the Board to discuss points raised out of the administration of the Midwives Act, but suggesting that the Welsh authorities should not be grouped with English authorities, and also suggesting the desirability of the Board approaching the Welsh Board of Health with a view to a joint conference with Welsh authorities.

**Scotland.****FINANCIAL POSITION OF EDINBURGH UNIVERSITY.**

At a meeting of the General Council of Edinburgh University on May 6th the Principal, Sir Alfred Ewing, stated that during the past half-year a remarkable and agreeable change had come over the University's finance; as regarded both capital and income there had been an improvement of the most significant kind. Six months ago the University had been involved in a heavy burden of debt contracted in respect of the new chemical laboratory; this burden had been so heavy that it had seemed impossible to contemplate any fresh schemes of expenditure for many years to come, but the situation had been entirely altered by the great generosity of Sir Alexander Grant and other donors. The extinction of the debt would still be a matter of some time, but it would now be possible to enter with confidence on enterprises for new buildings the University greatly needed. With regard to annual revenue, the Chancellor of the Exchequer had allowed the inclusion in the estimates for the current financial year of a supplementary sum to the annual grant for the universities of Great Britain, although it was not yet possible to say exactly what the amount would be. It would represent substantially the same amount as that by which the annual grants had been reduced some years ago. These two things would ease the financial position of the University and enable it to increase its activities in other directions, but there would remain the necessity of impressing on the friends of the University the fact that it still had need of help. Reference was also made to the founding of a chair of archaeology, for which funds had been left by the late Lord Abercromby. The Business Committee of the council submitted a report recommending the council to approve of a proposal to institute an honours course in experimental psychology for the degree of B.Sc.

**MAN'S EVOLUTION.**

Sir Arthur Keith has given a course of Munro Lectures before the University of Edinburgh. His subject was the evolution of man as told by his fossil remains. In his first lecture, given on May 1st, he said that if nothing more was to be known of the origin of the British people than was contained in the history of classical writers, the work compiled in the sixteenth century by that prince of Scottish scholars, George Buchanan, would be the standard treatise on British origins. He was right in holding that the early Scots were a Celtic-speaking people who inhabited the centre of the Continent and were the first to reach the British Isles, coming by two routes: one party, after spending several generations in Spain and France, entered by the west, and the other by the eastern shores, after dwelling for centuries in North Germany. The first man in Scotland to write history in a new way had been a distinguished native of Edinburgh, Daniel Wilson. He was born in 1816, and, when still a young man, Scandinavian

antiquaries were making the wonderful discovery that history could be read from ancient tombs as well as from ancient manuscripts. They dated tombs according to the kind of implement found in them, and accordingly could assign the skulls and skeletons found in these tombs to the stone, bronze, or iron period. Wilson's pioneer work, *The Archaeology and Prehistoric Annals of Scotland*, appeared in 1851. In it he maintained that there had been a succession of races in Scotland; at least two had preceded the coming of the Celts. The next progressive step in the writing of pre-history had been made by the archaeologists of France in the sixties of last century, who investigated the debris on the floors of caves in which their remote ancestors had lived. These cave dwellers had lived with animals now extinct which were adapted for life in the coldest of climates, and the stone implements were of a much older kind than those found in the tombs of Scandinavians. Sir John Lubbock had named the kind of stone implements used by the Scandinavians "neoliths," and the weapons of the caves "palaeoliths." In Scotland the land had risen some fifty feet since neolithic times, and the carse lands contained stranded whales, sunk canoes, and the implements of early neolithic Scotsmen; the same kind of thing had been found in the valleys of the Somme and the Thames. These deposits carried man's history back to the beginnings of the Pleistocene period, at least 100,000 years ago. In his second lecture Sir Arthur Keith referred to researches regarding pre-history in Crete, which had covered a period of nearly 7,000 years, from 8000 to 1200 B.C., and to early civilization in Babylonia and Egypt. There was no evidence, he said, of any influence exerted by these civilizations upon the ancient inhabitants of Britain. The people buried in our oldest tombs differed from the earliest natives of Egypt and of the lands to the east of the Levant in the characters of the skull and face. The Scandinavians and Egyptians of to-day were at opposite ends of the European scale of racial types, and between them lay a series of intermediate types, the northern or Nordic type fading gradually into the Egyptian. The people of Britain had belonged most definitely to the Nordic end of the scale. Until 2,000 years ago cemeteries had not been required for the burial of the dead, who were laid in isolated family tombs. The explanation of this fact was to be sought in the sparsity of English communities down to the centuries which preceded the coming of the Romans. The third lecture dealt with the arrival of modern man in Europe. There was a regrettable tendency among students of human races to give up the use of the term "Caucasian," which indicated the type of man who now occupied not only Europe but also Western Asia, from Ireland to Afghanistan, and extended a short way into Northern Africa. "Mousterian" was a very definite term, standing for a period of human history which began in Europe before the last forward creep of the Arctic ice about 40,000 B.C. and ended about 20,000 B.C., when there was a respite in European climatic conditions. This term denoted also the people of that time who lived in caves, fashioned stone implements, and buried their dead in the floors of the caves. These people were separated by a great structural gulf from the Caucasian race—a greater gulf than that which separated a pronounced negro from the fairest of Scandinavians. Ten caves or rock shelters had been found dating from this Mousterian period; of that period the best known representative was the Neanderthal man. The culture which the Caucasian pioneers brought to Europe got the name of Aurignacian; they had great skill as hunters, artisans in stone and bone, and artists. These Caucasians of the Aurignacian period were not only our ancestors, but they had brought with them the foundations of our way of living. Their burial customs, their ornaments, and their implements had remained almost unchanged for several thousand years, as could be seen from caves at Mentone, Cromagnon, and from a large hunting-station, extending over several acres, which was now being explored in Moravia. At the close of the Ice Age England was joined to the Continent. The North Sea was a bay, and the Caucasians could make their way from Germany to Scotland, so that the types of implement found in caves at Oban and in the raised beach at Oronsay belonged to the same order of culture as the implements of Baltic lands. On

this reckoning Scotland had been an inhabited country for about 10,000 years. If Scotland had already had pre-glacial inhabitants, they were not men of the Caucasian stock. Of this earlier race only one human skull had been found—in the McArthur cave at Oban. This skull represented a type which still abounded among people of the south and west of Scotland and in Ulster—men with long massive faces, of whom, if one might dare to cite well known and justly esteemed modern representatives, one might call to mind the faces of Lord Carson and Sir Auckland Geddes. Throughout the vicissitudes of the Ice Age the southern parts of England beyond London and Bristol had always been habitable, and some half-dozen Englishmen of the Ice Age were known. Their culture and their bones had been dug out of caves in Derbyshire, the Mendips, and from deposits in the Thames valley.

#### CLEAN MILK.

Several Scottish papers in the past week have published an article by Dr. Chalmers Watson dealing with graded milk, with special reference to hospitals. He believes it probable that more than two-thirds of disease in a children's hospital arises directly from defective nutrition, and very largely from the impurity of the milk supply. At the present time other countries are, he affirms, ahead of Britain in the appreciation of the importance of this subject, especially America and Denmark, where the annual milk consumption is estimated to be three times as great in proportion to population as in this country. Until quite recently the milk consumer was accustomed to buy his or her milk for domestic purposes at a flat rate, irrespective of anything but the quantity purchased. It did not matter to the consumer whether the milk itself was good, bad, or indifferent, although a standard of chemical composition, which was comparatively low, was demanded; the requirement was 3 per cent. of butter-fat and 8.5 per cent. of other solids. The milk, however, might be comparatively clean or extremely dirty; it might or might not be infected with living tubercle bacilli, or it might have infections of various kinds; it might keep sweet for several days or it might go sour in a few hours; and none of these important considerations made any difference to the price charged to the consumer. It had not been realized that milk might be of great value, of little value, or actually dangerous, until, as the result of inquiry by various committees—and we may add of the strenuous efforts of the medical profession—the Government took action by legislation in 1922 to standardize definite grades of milk. A previous grading had been established by the Food Controller in consultation with the Ministry of Health and the Scottish Board of Health. This came into force on March 14th, 1920, and was described in detail in our issue of March 6th, 1920 (p. 336). The more recent grading of milk was defined by the Minister of Health in the Milk and Dairies (Amendment) Act, 1922, which was reported in our columns of December 23rd, 1922 (p. 1239), and an explanatory memorandum, issued later by the Ministry of Health, was discussed on March 10th, 1923 (p. 433). The grades of milk now recognized are as follows:

1. *Certified milk* from herds every animal in which must have passed the tuberculin tests specified in the appendix to the memorandum before the licence was granted, and thereafter at intervals of six months. Every animal reacting to the tests was forthwith to be removed from the farm, and no animal was to be added to the herd unless it had passed the tests. The milk must be bottled on the farm immediately after production, the bottles being closed by a cap forming a seal, and bearing the address of the producing farm, the day on which it was produced, and the words "certified milk." The milk must not contain *Bacillus coli* in 1/10 c.c.m., or more than 30,000 bacteria per c.c.m. It must not be pasteurized.
2. *Grade A (Tuberculin Tested) Milk*.—The regulations in this case are similar to those for certified milk as regards the testing of the herds and prohibition of pasteurization, but otherwise production and distribution are governed by the regulations for Grade A milk.
3. *Grade A Milk*.—The herd must be examined once every three months by a veterinary surgeon. If the milk is pasteurized the fact must be stated on the cover of the containing vessel. The milk must not contain *B. coli* in 1/100 c.c.m., or more than 200,000 bacteria per c.c.m. The milk must be distributed from the farm in an unventilated sealed container on which is recorded the address of the farm, the day of production, whether produced morning or evening, and the words "Grade A Milk."



4. *Pasteurized Milk*.—The milk must be retained at a temperature of not less than 145° and not more than 150° F. for at least thirty minutes, and then must be immediately cooled to a temperature of not more than 55° F. The milk must not be otherwise treated by heat, and must not be pasteurized more than once. After pasteurization there must not be in the milk *B. coli* in 1/10 c.cm., or more than 30,000 bacteria per c.cm.

Dr. Chalmers Watson points out that the pasteurization has the defect of diminishing the nutritive value of the milk, and makes a fifth grade for ordinary milk, which may contain tubercle and other bacilli, and also grosser impurities. Such milk, it is held, is only suitable for use when cooked. Dr. Watson admits that laudable attempts have been made by practical dairymen to raise the standard of milk, but says that the producer gets no material value for his efforts in this direction. He looks on the education of public opinion as the one stimulus required to bring about a very necessary reform, and that this would also be of value in assisting the medical profession to achieve the improvement it desires. Examples of action in this direction are given, as, for example, the recent work carried on by the Town Council of Edinburgh, which was noticed in the *BRITISH MEDICAL JOURNAL* of May 2nd, 1925. Dr. Chalmers Watson states that none of the leading general hospitals or children's hospitals in this country have yet given this subject serious consideration, and he considers that the time is ripe for an effort on the part of the medical profession in the interests of preventive medicine more strenuous than has yet been made.

#### NEW EAR, NOSE, AND THROAT HOSPITAL FOR GLASGOW.

H.R.H. Prince Henry paid his first visit to Glasgow on May 2nd, when he fulfilled a number of public engagements, including the laying of the foundation stone of the new Ear, Nose, and Throat Hospital in St. Vincent Street, which is at present in course of erection. Sir John Hunter, K.B.E., chairman of directors, stated that through a special effort £54,000 had been raised out of a total cost of £60,000, and it was hoped when the building was put in use it would be free of all debt. The hospital, when finished, would contain 42 beds, and would have the most up-to-date equipment. His Royal Highness unveiled a memorial bronze tablet on the front of the building.

#### APPOINTMENTS IN EDINBURGH.

Mr. Keith Paterson Brown, F.R.C.S.Ed., has been appointed assistant surgeon to the Edinburgh Royal Infirmary, and Mr. Norman M. Dott, F.R.C.S.Ed., and Miss Gertrude Herzfeld, F.R.C.S.Ed., surgeons to the Royal Edinburgh Hospital for Sick Children. Mr. Dott was assistant to the Church of Scotland Deaconess Hospital and Chalmers Hospital, and Miss Herzfeld has acted for some years as assistant surgeon to the Sick Children's Hospital and junior surgeon to the Edinburgh Hospital for Women and Children.

## Ireland.

#### FUTURE OF LOCAL GOVERNMENT.

At a recent meeting of the Dublin Rotary Club Mr. E. P. McCarron, Secretary to the Local Government Department, spoke on the future of local government in the Irish Free State. His object, he said, was to provoke a quickening of interest in some of the more important basic facts underlying the system of local government at present in operation. A modern American authority, referring to local government in that enlightened country, had said that the business was in general the most poorly managed in the world. Until the dawn of the twentieth century the business of government was characterized by a lack of interest on the part of stockholders and customers, by extravagance in the expenditure of money, and by lack of business method on the part of officials. The root of the matter was that no community had in matters of local concern yet succeeded in reconciling two fundamental principles—first, that all government, local as well as central, must be based on government by the people; and secondly, that grave evils could not be eradicated if their

causation could not be traced with precision to particular individuals on whom responsibility could be effectively placed. The corrective influence of the Dail tended increasingly to remove apathy from officialdom, a term which at one time was supposed to connote a place or state of rest. Another powerful influence for change was the ever-growing perception of the fact that all men must conform to certain regulations that were necessary to the health and well-being of others. The present immunity from such virulent diseases as cholera and typhus, and the well maintained decline in mortality rates from tuberculosis, could not have been possible without general measures independent of the fluctuating views held individually in parochial units. The bill of health of the Saorstát was a national matter, and an asset worthy of development. To put it on a higher plane, a country with considerable exportations of food commodities could not afford to delay too long in unifying and co-ordinating its various public health services. The Department of Local Government was becoming more and more convinced of the value of preventive expenditure, especially in matters of public health. The centralization of health and road matters already effected in the Local Government Act of the present year should have the effect of eliminating unproductive expenditure and of focusing criticism when it was deserved on parties who could not afford to ignore well grounded complaints. Health matters would be completely centralized in the county board of health, and the county medical officer, it was hoped, would be entirely independent of local influence. There appeared to be some promise that in the immediate future the business of local government would be allowed to proceed unfettered by any dividing lines arising out of political views. Representatives of the public had ungrudgingly in the past voluntarily done useful work, and in the time that was coming he hoped that there would be a great extension of voluntary workers in social activities. It was wonderful how much public economy could be achieved by voluntary workers.

#### DR. STEEVENS'S HOSPITAL, DUBLIN.

In his *History of Doctor Steevens's Hospital* Dr. T. Percy C. Kirkpatrick has given us a work which is a valuable contribution to the history of medicine in Dublin during the last two hundred years. At the beginning of the eighteenth century there was practically no other provision for the treatment of the sick poor in either Great Britain or Ireland than that provided—a very important exception—by St. Bartholomew's and St. Thomas's Hospitals in London. The Jervis Street Hospital, founded in 1718, was the first of the modern Dublin hospitals. Richard Steevens, President of the College of Physicians of Ireland and professor of medicine in the University, died in 1710, leaving directions in his will for the building of a hospital for the sick poor of the city. Owing to the energy of that remarkable woman, his sister, Grizel Steevens, the foundation stone was laid in 1720, but it was not until 1733 that the hospital was finally declared open.

The book contains an account of the lives of the most eminent physicians and surgeons connected with the hospital during the two hundred years of its existence, such as Richard Helsham, the friend and physician of Swift, and professor of natural and experimental philosophy at Trinity College; Edward Worth, who left a valuable library and £1,000 to the hospital; Bryam Robinson, described by Sprengel as one of the most celebrated iatromathematicians of his time; and lastly Abraham Colles and William Cusack, who did for surgery at Steevens's what Graves and Stokes did for medicine at the Meath. A medical school in connexion with the hospital was founded in 1857, but came to an end in 1880. Among other chapters of interest we may allude to those on the early history of Dublin hospitals, on fever in Ireland in the eighteenth century, on the relations of Dean Swift with the hospital, and on the early history of nursing. Dr. Kirkpatrick's book is illustrated by portraits of physicians and surgeons connected with the hospital, as well as by photographs of the buildings and wards at different dates.

<sup>1</sup> *The History of Doctor Steevens's Hospital, Dublin, 1720-1920.* By T. Percy C. Kirkpatrick, M.D., M.R.I.A. Dublin: University Press, 1924. (Double cr. 8vo, pp. xvi + 397; illustrated.)

An appendix contains lists of physicians, surgeons, and other members of the staff of the hospital from its foundation until the present day, as well as of contemporary judges, ecclesiastics, and others holding high official positions in Dublin.

#### ULSTER MEDICAL SOCIETY.

On April 30th at Londonderry, before the Ulster Branch, Lieut.-Colonel R. McCarrison, C.I.E. I.M.S., gave a British Medical Association Lecture on some problems of thyroid disease. On the following day a special meeting of the Ulster Medical Society was held at Belfast, with Dr. Singleton Darling in the chair, when Colonel McCarrison gave a lecture on some points observed during his researches on goitre and deficiency diseases during the last twenty years. The room was filled to overflowing and the address was followed with the greatest interest. At the end a hearty vote of thanks was passed with enthusiasm. Colonel McCarrison is an Ulster man, and received his medical education in Queen's College, Belfast; this is the first time his fellow countrymen have had an opportunity of showing their appreciation of his work. In the evening he was entertained by a few medical friends to dinner, but the notice was so short that many who desired sincerely to join in doing him honour were unable to be present.

#### A MEDICAL FAMILY.

Dr. William S. Boyd, assistant tuberculosis officer for County Down, has been unanimously elected medical officer of the Hillsborough Dispensary District, County Down, in succession to his father, the late Dr. Henry J. Boyd, who had held it for many years, and who had succeeded his father in the same post. The many friends of the late Dr. Boyd, whose death was noticed in our issue of April 11th, will be much pleased that he is followed by his son; the unanimous and enthusiastic election of Dr. William Boyd proves that the feeling of the public is one with that of the profession.

### Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

The House of Commons has this week completed the report stage of the Budget resolutions, taken the second reading of the Rating and Valuation Bill, and debated unemployment on the Ministry of Labour vote. Before the debate on the Rating Bill the Minister of Health met the Unionist Public Health Committee; Dr. Fremantle, who presided, explained that the Government meant to carry this bill into law this session, in order that Poor Law reform might be effected next session. It is recognized that to carry the Rating Bill the Government will have to ask Parliament to reassemble in the autumn to complete the business of 1925, and thereafter to hear the King's Speech before Christmas. The Public Health (Scotland) Amendment Bill was passed through Grand Committee on May 12th without amendment. A proposal by Mr. William Adamson to extend the operation of the bill to remedies other than insulin and diseases besides diabetes was ruled out of order.

The spokesmen of those osteopaths who desire Government recognition and statutory registration propose to arrange a deputation to the Minister of Health early next month, and are drafting a bill incorporating their demands. Mr. Basil Peto has tabled a series of questions to the Minister of Health asking for action in the same sense.

#### Small-pox and Vaccination.

Sir William Davison asked the Minister of Health the number of children in this country who were unprotected by vaccination and the percentage of babies for whom certificates of exemption were granted last year. The Minister replied that this information was not available, but the figures of exemption for 1922 were equal to 44.5 per cent. of the children born, the corresponding figure for children vaccinated being 40.5. Sir William Davison further asked what steps the Minister was taking to protect the country against an extension of the present outbreak of small-pox. Mr. Chamberlain replied that the responsibility rested on the local authorities and their officers, but the medical officers of the Ministry of Health were giving all possible assistance and advice to authorities of affected areas.

Sir William Davison asked whether the Minister would consider reimposing the regulation which had been withdrawn last year. Captain A. Evans asked what percentage of the objections were medical and what conscientious. No answer was given to either

question. In figures which were circulated later in reply to a question by Dr. Watts, Mr. Chamberlain stated that 849,069 children were born in 1921; 324,864 were vaccinated, and in respect of 382,157 children certificates of conscientious objection were received. In 1922 there were 780,277 births, 314,550 vaccinations, and certificates of conscientious objection in respect of 347,511 children. The Minister had no information as to the number of cases in which proceedings had been taken for the enforcement of the provisions of the Vaccination Acts during the same years.

Dr. Fremantle asked the number of cases and deaths from small-pox in the first four months of this and of the previous three years. In reply the Minister stated that in the first four months of 1922 there were 317 cases with 1 death; in the first four months of 1923, 692 cases with no death; in the first four months of 1921, 1,563 cases with 3 deaths; and in the same period of the present year there were 2,214 cases (provisional figures) with 3 deaths. Dr. Fremantle further asked the Minister of Health whether he proposed to rely on present methods of sanitary administration and of vaccination administration to check the further spread of the disease or to promote, and, if so, in what way, a fuller recourse to protection by vaccination. Mr. Chamberlain replied that he was carefully watching the course of the present outbreak of small-pox, but as at present advised he did not consider it at this time necessary or expedient to modify the existing administrative arrangements for dealing with small-pox. At present he did not think it necessary to issue any fresh regulations.

Colonel Day asked the Minister of Health, on May 12th, how many deaths had been registered during the half-year ending December last from small-pox, measles, pneumonia, scarlet fever, diphtheria, and influenza. Sir Kingsley Wood (Parliamentary Secretary to the Ministry of Health) replied that the figures for England and Wales were: small-pox, 3; measles, 1,517; pneumonia, 12,331; scarlet fever, 426; diphtheria, 1,205; and influenza, 2,145. In two of the cases classed as small-pox that disease was entered by the medical practitioner as a contributory cause of death.

**Patent Medicine Duties.**—In explanation of the financial resolution continuing the additional medicine duties, Mr. Gnuines (Secretary of the Treasury) said, during the report stage, that the original scales of medicine duty were permanent. They had been doubled in 1915, with the unexpected result of more than doubling the revenue from them, which for the nine subsequent years had been £1,089,000, against £329,000 for the nine previous years. The Treasury found that these increased duties had not affected the sale of patent medicines, and they did not impede the work of panel doctors, less than 1 per cent. of whose prescriptions were estimated to come under the operation of the duties. The Government regarded them as valuable duties, which imposed no hardship on any class. The resolution continuing the duties was then accepted without debate.

**"Headache Powders."**—Answering Colonel Day, on May 1th, the Minister of Health said that he was aware that so-called headache and nerve powders sold by small traders frequently contained acetanilide, a drug which, if improperly used, was likely to cause in the case of a young woman at se body a packet of a powder containing showed that an excessive dose had been taken deliberately. It was a matter of controversy whether acetanilide, though its action might be injurious, could be regarded as a poison in the ordinary sense. It did not come within the terms of the Dangerous Drugs Acts, and, pending legislation for the control of secret remedies, he doubted whether effective steps could be taken to restrict the sale of headache powders containing it.

**Morphine and Heroin Production.**—Answering Commander Kenworthy, on May 7th, the Home Secretary said that, according to provisional figures, two factories in Edinburgh, in 1921, manufactured 99,400 oz. of morphine, 16,700 oz. of heroin, and 153,300 oz. of codeine. The exports of morphine, including morphine in preparations made direct from raw opium, were 88,870 oz., and of heroin 10,704 oz. No statistics were available of the export of codeine, which was not a dangerous drug. Europe took 60,000 oz. of morphine and 7,600 oz. of heroin. The imports of raw opium for 1924 were 155,792 lb., of which the two morphine-manufacturing firms took 109,004 lb.

**National Health Insurance.**—The Minister of Health will consider whether the Royal Commission on National Health Insurance should issue an interim report. In 1913-21 the average number of weeks of sickness benefit paid to men under the National Insurance Act was 6,300,000, and to women 3,790,000. In 1923 it was 6,750,000 for men and 4,250,000 for women. In 1913-21 the average disablement benefit was 2,975,000 weeks for men and 1,550,000 for women. In 1923 it was 6,000,000 for men and 3,500,000 for women.

**Pensions.**—Mr. Windsor asked Major Tryon why, seeing that Supplementary Estimates for 1924-25 had provided £920,000 for treatment allowances in excess of pension, the estimates of the Ministry of Pensions for 1925-26 showed a reduction of £1,140,500 in the provision for treatment and treatment allowances. Major Tryon replied that only £430,000 had been voted as a Supplementary Estimate for treatment allowances. The reduction of the vote during the present financial year anticipated that the normal decline in the requirements for treatment would continue. Mr. Windsor further asked whether any instructions had been issued to the medical officers of the Ministry that they should, as far as possible, reduce the number of cases in which allowances were to be paid, even though the pensioner might be totally disabled temporarily as a result of his war disability. Major Tryon replied

that no instructions in this sense had been issued, and that no change had been made in the conditions of eligibility for treatment allowances. Major Tryon informed Mr. Roblson, on May 7th, that the Government was not considering proposals to terminate the Ministry of Pensions as a separate department in 1927 and to hand over its duties to the Ministry of Health.

**The Trevelth Report.**—Mr. Neville Chamberlain, in reply to Mr. Basil Peto, on May 7th, said the Ministry of Health had accepted the principal recommendations of the report of the Committee presided over by Lord Trevelth, and action was being taken to give effect to them. He was still in correspondence with the two societies interested in the combating and prevention of venereal disease with regard to the recommendation of the report referring to the sale of disinfectants by chemists. Mr. Peto further asked whether agreement between the two societies would be followed by legislation in the present session. Mr. Chamberlain said that did not depend on agreement between the societies, but he had been in correspondence with them.

**General Nursing Council.**—The Minister of Health is prepared to recommend the appointment of a Select Committee to examine the revised scheme for the election of nurse members of the General Nursing Council, and to report whether the adoption of the Council's syllabus of training should be compulsory. Our Parliamentary correspondent adds that the Government is proceeding with the setting up of this Select Committee, of which Major Barnett will be chairman. Mr. H. A. L. Fisher and possibly Dr. Fremantle are to be members of it.

**Pollution of Water Supplies.**—In reply to Dr. Fremantle, Mr. Neville Chamberlain said before considering legislation for safeguarding supplies of underground water and preventing its pollution, as proposed by the Advisory Committee on Water, he must consider the views of the interests affected. These views would be available at an early date, but he did not think the legislation could be carried through this year.

**Unemployment and Health.**—The Minister of Health, on May 12th, informed Mr. Groves that the figures for certain districts with the highest average degree of unemployment for the twelve months ended February last indicated that in the majority of those districts the birth rate and the infant mortality for 1924, and the percentage of population living more than two persons to a room, according to the census returns for 1921, were above the average for England. There was not, however, sufficient correspondence between the figures to warrant any general conclusion. The Government was exploring all possible means of reducing unemployment, overcrowding, and infant mortality.

#### Notes in Brief.

The Minister of Health hopes to introduce legislation dealing with the reconstitution of the registration service for births, marriages, and deaths.

The proposed improvements in the ventilation of the House of Commons will not be made before the autumn recess.

The Bombay Government has adopted a declaration of the Bombay Excise Committee that the extinction of the traffic in alcoholic liquor and drugs by suitable steps should be the goal of its excise policy.

A smoke abatement bill is proposed for next year.

The Home Secretary has not reached any decision on the inclusion of bursitis with miner's heat-knee in the schedule of industrial diseases.

The Home Secretary cannot say when the Factories Bill will be introduced. It is quite impossible to give a pledge to pass the bill this session.

According to the latest returns there are 36,518 blind persons in England and Wales, of whom 12,024 between the ages of 50 and 70 receive the old age pension. Of the blind population over school age, 20,759 are returned as unemployable and 8,234 as employed. In workhouses and workhouse infirmaries there are 3,000 blind.

The Minister for Education is considering, in consultation with the local authorities, the whole question of the provision of special schools for blind, deaf, physically and mentally defective, and epileptic children.

The Minister of Health will fix the date of operation of the regulations on preservatives in food so as to allow time for the disposal of existing stocks.

The Home Secretary informed Colonel Day, on May 7th, that it was impracticable to issue an order for the compulsory sterilization of hides, as no effective method was known which did not seriously damage them for commercial purposes. The Chief Inspector of Factories stated that the existing statutory precautions under the Hides and Skins Regulations were in general well observed. Two recent cases of anthrax in the Southwark area were not due to any breach of the regulations.

The Ministry of Labour calculates that about 137,700 young women between 16 and 30 are drawing unemployment benefit.

A school dental service has not been started by the education authorities of 12 counties, 4 county boroughs, 21 boroughs, and 11 urban districts. Fourteen of these have made proposals for dental schemes.

The Therapeutic Substances Bill was down for second reading on May 11th, but was again postponed.

In 1914 8,834 children in England and Wales were classed by local authorities as suffering from some form of tuberculosis but as attending no recognized school or institution.

## Correspondence.

### SLEEPLESSNESS IN ENCEPHALITIS.

SIR,—Dr. C. P. Symonds in his interesting paper on sleep and sleeplessness, in the *British Medical Journal* of May 9th (p. 870), definitely classifies the insomnias of the chronic stage of encephalitis as due to disease directly involving the sleep centre (if there is one). My own experience in Ruchill Fever Hospital showed that the capacity for sleep was not in any case impaired, although the time was altered.

In a small ward were seven boys who had passed through the acute stage of encephalitis two or three months previously. Their ages varied from 4 to 14 years, and they all suffered from nocturnal restlessness associated with ties, such as nose-tugging, "trumpeting," sniffing, etc.

I determined to try the effect of turning their night into day. Accordingly they were put to bed at 6 a.m. and made to rise at 6 p.m. for breakfast. Dinner was served about 11 p.m., tea at 3 a.m., and supper about 5 a.m. They were told that they were on "night duty," and were allowed to read or play about the ward. For the first few nights they kept awake with difficulty until 6 a.m., but the new rhythm was soon established. They had no difficulty in falling asleep. All day they slept soundly till 4 or 5 p.m. In a short time they showed a distinct general improvement. They put on weight, and their faces lost the tired or excited expression. The ties diminished in frequency, but did not disappear.

After five weeks of this treatment I tried reversing the periodicity back to normal. Accordingly one morning the boys were told that they did not require to go to bed until they liked. Next morning they were roused at 6 a.m. For seven to fourteen days (varying in different cases) they slept well at night, but the old night restlessness returned along with an increase in the ties. Their hours of sleep were diminished. By again turning night into day improvement again resulted.

I concluded that the treatment was in no sense a cure, but by securing an adequate sleep must tend to assist natural recuperation. It certainly diminished excitability. Unfortunately conditions prevented me from continuing the experiment for a further period. It would have been interesting to see if a "morning restlessness" finally resulted.—I am, etc.,

JAMES L. HALLIDAY, M.D.

Public Health Department, Glasgow,  
May 12th.

### THE MORTALITY OF APPENDICITIS.

SIR,—The post-operative mortality of appendicitis is still very large and has shown no diminution during the past decade.

It is generally admitted that: (1) Operations performed during the first twenty-four hours of an acute attack have a mortality of less than 1 per cent. (2) In cases of local peritoneal infection the death rate is highest when the operation is performed from the third to the fifth or sixth day (10 per cent. or more). (3) If, in cases of local infection, an operation is performed during the second week (opening and draining an abscess), the mortality rate is much lower. (4) Cases where there is general peritoneal infection have a higher death rate, although owing to improved methods—that is, pelvic drainage, Fowler position, etc.—this is far lower than it used to be fifteen or twenty years ago.

It is generally agreed that an operation should always, if possible, be performed during the first twenty-four hours after the onset, and that in all cases where the general peritoneal cavity is involved operations should be performed without delay, the appendix removed, and the pelvis drained.

There is considerable difference of opinion as to the advisability of operating during the dangerous period when the infection is local—that is, from the third to the sixth day. Some surgeons advocate delay till after the

first week, others operate at any time that the case presents itself.

Why is it safe, or almost safe, to remove an inflamed appendix during the first twenty-four hours and dangerous to perform the same operation from the third to the fifth day, when the inflammation has spread to the neighbouring peritoneal surfaces, and a local abscess has formed? The explanation is that in operating upon an early case, while infection is confined to the appendix, it is generally possible to remove the appendix by cutting through healthy uninfected tissue at its base; in this case there is no more danger than in performing an interval operation or removing a normal appendix. But when infection has involved the neighbouring peritoneum, caecum, etc., it may be necessary, in removing the appendix, to cut through or crush tissue infected with virulent organisms—the *Bacillus coli* and *Streptococcus faecalis*—and so drive these organisms into the blood stream, setting up an acute septicaemia or bacillaemia, after an incubation period of twenty-four to forty-eight hours; and even handling inflamed tissue or removing the protective layer of lymph from the abscess wall may give rise to the same infection.

The symptoms of this septicaemic infection are very evident, especially in children. A sudden change for the worse in the facial aspect occurs, the pulse rate increases, and pallor of the face, restlessness, followed by delirium and dilatation of the pupils, develop. A shrill "meningeal" cry is very noticeable, and death, preceded by coma, follows within twenty-four hours of the onset of serious symptoms. Some of these deaths have been attributed to delayed chloroform poisoning. I have seen a good many such cases during the past fifteen years, and in every instance in which I have made a culture from the blood during life, after the onset of the symptoms, there has been an abundant growth of the *Streptococcus faecalis* or *Bacillus coli*; in most cases the *Streptococcus faecalis* was the organism present. In no case of appendicitis in which these symptoms have not appeared have I been able to find any blood infection.

When patients are operated upon after the first week, sufficient toxins have been absorbed into the circulation to produce a considerable degree of immunity to infection owing to the development of antibodies; hence the diminution of mortality after the first week.

When there is general peritoneal infection the danger to life is due to toxin absorption and bowel paralysis, and operation is imperative at any stage of the disease. —I am, etc.,

HERBERT H. BROWN, M.D., F.R.C.S.

Ipswich, May 4th.

#### RELAPSE IN MEASLES.

Sir,—In further reply to "G.P.'s" question, "Is there such a thing as a relapse in measles?" (*BRITISH MEDICAL JOURNAL*, May 9th, 1925, p. 908), I answer in the affirmative.

One of the best modern authorities on infectious diseases, the late Dr. Claude B. Ker of Edinburgh, whose death from pneumonia so recently as March 25th of the present year we all deplore, wrote in his standard work:

"Relapse of measles is exceedingly rare. I have seen one case, however, in which a typical attack was followed seven or eight days later by a repetition of the disease with equally classical symptoms. Neither attack was in the least like rubella. The patient, a young female adult from the Highlands, made a good recovery."

Describing measles in my *Eruptive and Continued Fevers* many years ago, I wrote:

"In rare cases a relapse of the eruption has been known to occur with a return of the fever movement also. In these cases, according to Thomas [of Leipzig], the spots appear on parts of the skin previously uninvaded by the exanthem. These relapses are of short duration."

In thirteen years' practice at Cork Street Fever Hospital I met with no case of relapse, a fact which testifies to the rarity of the condition.

In the *Deutsche medizinische Wochenschrift* (December 3rd, 1892) Dr. W. Streng reports from the medical clinic at Leipzig a case of relapse in measles in a little girl aged 6 years. On the tenth day after the eruption the temperature began to rise gradually to 103.8°, and on the twelfth

day a measly rash appeared for the second time, corresponding with the highest temperature, accompanied by a recrudescence of the catarrhal symptoms, and attaining its greatest intensity the following day. During the night between the fourteenth and fifteenth days after the first eruption a critical fall of temperature occurred, while the rash faded gradually during the next two days.

In a *Treatise on the Acute Infectious Exanthemata* Professor William T. Corlett of the Western Reserve University, Cleveland, U.S.A., mentions that he saw a case of relapse in measles in consultation. In that instance there was an interval of eight days between the subsidence of the eruption and the second efflorescence. In both attacks the usual symptoms were present, although the exanthem was most marked in the second. He looked upon the case as one of recurrent measles such as was described by Trojanowsky (*Dorpat. med. Zeitung*, 1873, iii), but he quotes several authors who had observed cases of relapse occurring most frequently about the end of the second week, accompanied by a return of the fever and, to a less extent, of other constitutional symptoms.—I am, etc.,

Dublin, May 9th.

JONX W. MOORE, M.D., F.R.C.P.I.

#### NODAL FEVER.

Sir,—A number of years ago I treated a case beginning as erythema nodosum, which certainly suggested that this disease should rank as a specific infective fever, and the modern name, "nodal fever," seems quite fitting.

The patient was a middle-aged lady on a visit to friends. The illness began with typical nodes on the shins without any marked prodromata. Strict rest was enjoined, with protection of the legs, and salicylate was given internally. All went well for a time and then dry pleurisy came on, later pericarditis and endocarditis, as evidenced by the physical signs. At the same time signs of pneumonia of a fleeting nature were present—distant tubular breathing, quite distinct—in one place one day, in another the day following.

As the patient's condition was not satisfactory a very distinguished consultant, who knew the family, kindly came from the North and gave me the benefit of his advice. Unfortunately no improvement took place, and the patient eventually died with well marked symptoms of meningitis. At various times there was a considerable amount of "rheumatic" pain in the limbs.

Here was a marked case of polyserositis—or, as it was more comprehensively, perhaps more accurately, but less gracefully, called then, polyarthromenitis—following erythema nodosum.—I am, etc.,

Oxford, April 22nd.

F. G. GARDNER.

#### TREATMENT OF DIABETES BY RAW, FRESH GLAND (PANCREAS).

Sir,—On my return, a few days ago, from a trip abroad my attention was called to the letter on the above subject by Dr. Harrison published in the *BRITISH MEDICAL JOURNAL* on April 18th (p. 760). Dr. Harrison is guilty of an inaccuracy when he states that he repeated the experiments of Dr. Young and myself, for our cases were treated by raw gland from the beginning and never had any insulin. This also applies to the letter of Dr. Graham (May 2nd, p. 859).

The result obtained by Dr. Harrison from his experiments is just what I should have expected, as, for some reason which I am at a loss to explain, cases that have been treated with insulin do not seem to respond at all when raw gland is substituted, or, apparently, when raw gland is given in conjunction with insulin. This is a matter which I am at present investigating, and had intended referring to at a later date. One case, a lady, who was sugar-free on 1½ oz. of raw gland, went on to a course of insulin for some months, and on resuming gland treatment again became glycosuric at once.

Dr. Harrison suggests that any improvement from gland treatment is really due to altered diet. A glance at my article will show that he is wrong. The first case recorded by me had been most carefully dieted for some months both by me personally and at the local hospital, and notwith-

standing the "alteration in diet" he became steadily worse. When, however, raw gland was added to this diet he began to improve at once. As further proof that alteration in diet alone cannot account for the extraordinary success obtained in some cases, I have only to refer to the case recorded by Dr. Dunn (*BRITISH MEDICAL JOURNAL*, April 4th, p. 680). This case too, it must be remembered, was a member of a diabetic family, and could only tolerate a very limited amount of starchy food before starting gland treatment, but shortly after being put on raw gland he was able to take "full diet." I may say in conclusion that I welcome the destructive criticism of Dr. Harrison and others, and am anxious that this treatment may be subjected to the most rigid and carefully controlled tests, as my object in writing was to call the attention of the profession to a form of treatment which I firmly believe to be of very real value in many cases, possibly in all cases, of diabetes.—I am, etc.,

Sandwich, Kent, May 5th.

THOMAS J. HOLLINS.

## THE DECLINE OF LITHOLAPAXY.

SIR,—We have been much interested in the article on "The decline of litholapaxy" by Major-General Hooton in the *JOURNAL* of April 11th (p. 690), and the letter by Mr. Southam the following week.

I think it is fairly evident that this operation is much more common abroad than at home. In the Church Missionary Society's Hospital in Old Cairo we have a good many cases of vesical calculus, and though our figures cannot touch those of Hyderabad yet they compare well with the others mentioned.

In the last ten years (the period mentioned for the English hospitals in Mr. Southam's letter) 636 cases of vesical calculus were treated here. The operation was litholapaxy in 424 cases and suprapubic cystotomy in 212. Formerly perineal cystotomy was performed in preference to the cutting operation, but during the above period this operation has only been done very occasionally, the suprapubic route nearly always being chosen. It will be seen that while the proportion of crushing to cutting is not nearly so frequent here as it is in India, yet it is much more frequent than in any of the English hospitals. The crushing operation is always chosen unless there is some contra-indication; but we do consider it a dangerous operation in this country except in experienced hands. This is due to the great proportion of cases where stone is associated with bilharziasis of the bladder, which condition causes weakness of the bladder walls, with consequent risk of rupture and papillomatous growths on the lining mucous membrane which may easily be injured.

We find that the routine use of spinal anaesthesia by stavaine makes the operation of litholapaxy much easier than when a general anaesthetic is used.—I am, etc.,

ROBERT B. COLEMAN,  
Church Missionary Society's Hospital,  
Old Cairo, Egypt.

May 2nd.

## RECENT ADVANCES IN THE STUDY OF CARDIO-VASCULAR DISEASE.

SIR,—In your issue of May 2nd (p. 859) Professor MacIlwaine kindly referred to my work on the venous pulse. May I take advantage of the occasion to draw the attention of your readers to the fact that the optical method of recording reveals a sharp-pointed oscillation on the v wave which is not revealed by any lever system, though a small corresponding notch or two may be seen in a delicate lever record in certain types of pulse. The different types of venous pulse met with in health formed the subject of a verbal communication at the December meeting of the Physiological Society, when it was suggested that this v oscillation, useful marking point of the onset of diastole, may, by its relationship to the point of opening of the a-v valves, reveal varying time relations for the process of venous return. The causation, time of occurrence, etc., of this new element are discussed in my original paper (*Journ. of Physiol.*, lix, 1924, p. 293).—I am, etc.,

Physiological Department, University College,  
Cork, May 4th.

D. T. BARRY.

SIR,—The courteous letter of Professor MacIlwaine (*BRITISH MEDICAL JOURNAL*, May 2nd, p. 859), for which I thank him, demands a few words from me.

To my regret he does not deal with the specific objections to the current interpretation of the venous tracing which I have put forward; I had hoped for his comments upon them. He alludes to Professor Barry's recent work upon the v wave (*Journ. of Physiol.*, vol. lix, p. 293), which certainly does draw attention to the conflict of opinion obtaining as to this wave—I am indebted to Dr. MacIlwaine for this reference—but as it does not bear in any way upon my criticisms of the wave, I need not consider it here.

I have questioned whether, among modern instrumental methods, the polygraph has led to a real advance in the study of cardio-vascular disease; hereupon Dr. MacIlwaine comments: "I am afraid this must remain a matter of opinion." Surely this is the one thing which is not possible if medicine is to make any claim to be a science.—I am, etc.,

Swanage, May 11th.

HARRINGTON SAINSBURY.

## SLOW HEART.

SIR,—Dr. Lloyd's letter (May 2nd, p. 860) induces me to state that my pulse rate is 55 at rest and 59 to 60 for moderate activity. My attention was first called to the fact when, just over twelve years ago, at the age of 27, I began to study medicine. At the end of 1912 I suffered from a mild form of neurasthenia, and I found I had an intermittent pulse. Between 1913 and 1916 I was examined several times and cardiac arrhythmia of the extra-systole variety was diagnosed, but the cause was not so easy to find, as there was no history of dyspepsia and I have always been a non-smoker and abstainer. The only thing to explain the condition seemed to be the antecedent neurasthenia. I had been a keen athlete until I was 25—long-distance swimmer, gymnast, cyclist, and in the habit of rowing long distances, and no doubt the effect of primary cardiac overstrain had, and still has, something to say to my condition. My pulse, which was intermittent until 1920, has since been regular, but the average rate of about 56 has not at all altered in the last five years. It is well known that the pulse rate in active animals—for example, the horse and dog—often diminishes in old age, and the same thing is true of the human pulse; but is it not curious that the pulse rate of a racehorse should be 40 to 45 but that of a dog 90 to 100? Is not the faster rate more what we should expect with rapidity of motion?

During the last five or six years I have been keenly interested in the pulse, and have met quite a number of instances of the slow variety. The members of my family have normal pulses, so I think I must have started life with a normal one.—I am, etc.,

Wallasey, May 9th.

BAUCE BRIGGS (CLK.), M.B.

## OSTEOPATHY AND CHIROPRACTIC.

SIR,—Your article headed "Osteopathy and Chiropractic" in the *BRITISH MEDICAL JOURNAL* of April 11th (p. 706), in which you have coupled with my name a criticism of osteopathy and a serious attack on American medical education, chafes me to reply.

"The conditions," as you state, "are not the same in the two countries." In the British Isles no university, college, or medical school is empowered to grant a degree unless the standard of teaching and professional examinations meets the requirements laid down by the General Medical Council. British medical degrees are, therefore, more or less uniform, and the possessor of a British medical degree is admitted without further examination to the *Medical Register*. In the United States of America a medical degree from a university or medical college does not automatically confer a licence to practise. Each State in America prescribes and conducts its own State Board examinations. Even a Harvard medical graduate has to pass a State Board examination before he can obtain a licence to practise.



The American colleges of osteopathy did not introduce such subjects as bacteriology and surgery into their curricula in order (as you imply) to become assimilated to orthodox medicine, but in order that their graduates might be knowledgeable, might be able to make a complete diagnosis and refer cases to the surgeon when necessary, might be able to pass State Board examinations and obtain a full licence to practise.

You suggest that in this country "the type of diploma appropriate to them [the osteopaths] is the medical diploma and nothing less. They should take it before receiving a licence to practise." I would point out that in the British Isles no one need take a licence to practise anything except medicine and surgery. The osteopaths are not asking for a licence to practise medicine or surgery.

It is obvious, when you convey the impression that osteopaths ask you to "believe that a cold in the head, a crop of pimples on the face, an attack of vomiting and diarrhoea after a gorge, an attack of gout or measles . . . are, one and all, due to small spinal irregularities which may be readily corrected by manipulation of the back," that your conception of osteopathy is founded on the views and practices of the very osteopathic charlatans from whom the British Osteopathic Association is anxious to protect the public. Qualified osteopaths do claim that spinal column abnormalities not hitherto detected by the medical profession do exist, and that such framework abnormalities cause a lowering of local or general resistance, thereby allowing other etiological factors in disease, such as organisms, etc., to exert their influence unduly.

You say "our osteopathic visitors will have to fall in with our ways." In reply, your qualified osteopathic visitors are trying to fall in with your ways. They realize that they can continue, unheeded by the law of the land, to practise—as they very successfully do—their art, but they are anxious that the British public should have some means (to use your words) of distinguishing the sheep from the goats. They ask for an official register of qualified osteopaths in Britain, and they ask for a charter for the British school of osteopathy in order that their diploma may be of more value than the paper it is written upon.—I am, etc.,

Edinburgh, April 28th.

W. KELMAN MACDONALD, M.D.

#### APPENDICITIS.

SIR,—In reply to the letter from Dr. T. A. Black in the *JOURNAL* of May 9th (p. 904):

In my experience the sudden onset is due to obstruction and distension of the appendix, the gradual to inflammation without these conditions. It is impossible to predict the course of any case of appendicitis at its onset, therefore whether the attack be sudden or gradual the only safe procedure is to terminate it by early removal of the appendix.—I am, etc.,

London, W 1, May 9th.

JAMES SHERREN.

#### CENTRAL MIDWIVES BOARD INQUIRY.

SIR,—In the article on puerperal sepsis in the *BRITISH MEDICAL JOURNAL* for May 9th I observe that it is stated that the Central Midwives Board contemplates an inquiry into the matter through the agency of the local authorities.

This statement is not accurate. The Board is proposing that a conference between members of the Board and representatives of local supervising authorities shall be held with the object of bringing into closer touch the authorities specifically charged with the administration of the Midwives Acts—namely, the Central Midwives Board and the various local supervising authorities in England and Wales—with a view to more efficient administration, if possible, of those Acts.

It is not proposed that the conference shall deal specially with puerperal sepsis, the object of the conference being general, as above explained.—I am, etc.,

Central Midwives Board, May 11th.

H. G. WESTLEY,

Secretary.

## Medico-Legal.

### A CASE OF MALINGERING.

A CASE of much medical interest was heard in the County Court at Doncaster on April 22nd. In summing up, his Honour Judge Turner spoke of it as the most clearly proved case of malingering that had come before him, and awarded costs on the highest scale against the workman claiming compensation. The facts were briefly as follows.

A. B., aged 45, a builder's labourer, on January 4th, 1922, was breaking a slate, when a piece of the slate struck his left eye, causing a wound of the lower third of the cornea, with entanglement of iris and lodgement of small fragments of slate in the anterior chamber. Compensation had been paid by the employers, who were now applying for the termination or diminution of the weekly payments, on the ground that the workman was capable of resuming his original employment. The man's counsel contended that he was now in the position of a one-eyed man. On the other side it was contended that he was malingering and had good vision still in both eyes.

Mr. G. H. Pooley, F.R.C.S., ophthalmic surgeon to the Royal Infirmary, Sheffield, stated in evidence that the man had been a patient under his care at the infirmary. Iridectomy was done on January 13th, 1922; a piece of slate in the anterior chamber was removed (by washing out). The lens was not injured. Twelve months later the vision in each eye was 6/9 without glasses. In August, 1923, the man's vision in the injured eye was said to be less than 6/60, the vision in the right eye being still 6/9. In November, 1923, there was redness of both eyes, and at the suggestion of Mr. Whitehead of Leeds a small particle was removed from the anterior chamber which might possibly have been a small foreign body, or possibly consisted of exudate. Though the eyes were red at that time there was no sign of iritis or deep-seated inflammation. Three months later (February, 1924) vision in the right eye was stated to be 6/24, and no perception of light was admitted in the injured eye. Both pupils reacted well. Both eyes showed superficial redness, but no sign of any deep-seated inflammation. "I then formed the suspicion of malingering," Mr. Pooley continued, "because I could find no cause for this surface redness. He could have induced it by rubbing. If the left eye was as bad as he made it out to be it would have been my duty to remove that eye. If it was as good as I thought, then it was my duty to leave it in. I could never find any sign of internal inflammation, and I could find no reason why vision of either eye should have fallen below what it was in January, 1923 (6/9 in each eye). He asked me to remove the eye. He was admitted to the Royal Infirmary again in August, 1924, to be under observation. The eyes were both superficially red, but there was no sign of any internal inflammation. There was no iritis, no irido-cyclitis. From observations in hospital I satisfied myself that the redness was due to self-inflicted injury—namely, rubbing. We put blistering fluid on the outer surface of his lower eyelids, so that he could not rub the eyes. The eyes quieted, the redness was gone, while this was on." Subsequently, the redness having returned, each eye was covered with a watch-glass and adhesive plaster, and again the redness disappeared for a time. "I came to the conclusion that he had good working sight in both eyes, and that there was no need to remove the left eye." On April 16th, 1925 (six days before the case was heard in court), the man was examined again, at Mr. Pooley's consulting rooms, his house-surgeon, Mr. Nutt, being also present. On this occasion, on his vision being tested, the man would only admit bare perception of light in the right eye—the uninjured eye. "He told me he could not see a bright light at six yards with his right eye. He could not count my fingers. When a light was thrown in his right eye from a mirror he said he could just see that. He would admit no perception of light in the left eye. Both pupils reacted normally to light." Both eyes were perfectly healthy in appearance except for the scar in the lower part of the left cornea and the gap in the iris left by the iridectomy, and some superficial redness of the lower part of the white of both eyes, similar to that seen on previous occasions. About five minutes later the man admitted that he could see 10 mm. squares of red and green at about a foot distance. This showed he must have much better vision than he had admitted a few minutes before. Later on he saw 6/24 with the right eye, and then saw 6/24 with the left eye. This observation was obtained by placing a +3 D. lens in front of the right eye and leaving the left uncovered, when he read 6/24. It was subsequently demonstrated that with the +3 D. lens in front of the right eye, that eye could read barely 6/60. "At the end of the interview he pulled out his watch and read the time accurately. In my opinion he has perfectly good sight in both eyes."

Mr. A. B. Nutt, M.B., Ch.B., ophthalmic house-surgeon at the Royal Infirmary, Sheffield, confirmed Mr. Pooley's evidence as to the examination at his consulting room on April 16th, 1925, and also as to the observations made in hospital in the preceding August. He gave evidence of a further test which he had made, at which Mr. Pooley was not present. "I seated the man in a small ante-room, and put goggles set in plaster on to both eyes. The right glass was opaque, the left glass clear. He would not be able to see anything with the right eye. I seated him with the door on his immediate right hand, so that he could not see if he was being observed through the door unless he turned right round and faced the door with his left eye. I watched him, and he remained quite still for about five minutes, after which he turned round and faced the door with his left eye." He repeated this after another five minutes' interval.

Mr. A. L. Whitehead, F.R.C.S., senior ophthalmic surgeon to the Leeds Infirmary, said he had examined the man in February, 1923, when the right eye was quite normal and the vision of the left eye 6/24; there was a ragged scar across the lower third of the cornea. He examined the man in February, 1924, when the vision of the left eye was said to be no perception of light. "I tested him with a prism and came to the conclusion that he had considerably better vision than he stated. I was in considerable difficulty because the man struck me as being an honest and truthful man, but I could not find anything in the condition of his eye to account for so marked a deterioration of vision as from 6/24 to no perception of light. I thought that he should have had about 6/60 vision in that eye." Asked if he accepted Mr. Pooley's test (as to the vision of the left eye), Mr. Whitehead replied that he did accept it. In February, 1924, he found that the injured eye was congested over the lower portion. "This redness did not subside after an interval of half an hour as it would have done if produced by rubbing, but was markedly increased and spread over the whole eye after exposure of the eye to a bright light and the manipulation of the eye necessary for testing it. That indicates that the eye is not perfectly sound, and work exposing it to dust and other irritating influences is unsuitable." In reply to a remark by the judge that this would exclude most kinds of work for such a man, Mr. Whitehead said he was referring more especially to irritating dust such as lime dust. In cross-examination, he stated that he had not found signs of iritis or keratitis punctata in this case, and that, apart from another injury, there was no likelihood of sympathetic disease being set up.

A. B., the injured workman, stated in his evidence that he could not see at all out of his left eye, that the right eye had been "rather damaged from the left eye," that since the injury he had had pains in the head and both eyes and been very dizzy. "It prevents me doing any work. I am afraid of falling over. Any time I might fall over."

The judge was assisted on the bench by Mr. Herbert Caiger, F.R.C.S. (Sheffield), as medical assessor. In giving his verdict in favour of the employers, the judge said that he had been able to form his own opinion as to the credibility of the man's statements by what he had himself just said in the witness-box. Malingering had been proved in this case more completely than usual.

Judgement was given in favour of employers with costs on scale C.

This case deserves the attention of all ophthalmic surgeons engaged in work connected with the Workmen's Compensation Act.

## Obituary.

THE death took place recently of Dr. CHARLES ALFRED RAYNE of Lancaster at the age of 79 years. He was a native of Kendal, and received his medical education at University College, London. He graduated M.B., B.S. Lond. with honours in 1873, and M.D. in 1887; he also took the diploma of M.R.C.S. Eng. in 1873. After serving as clinical and pathological demonstrator at the University of Oxford, resident physician to the Radcliffe Infirmary, Oxford, and assistant physician to the Children's Hospital, Manchester, he succeeded in 1881 the late Dr. Moore in practice at Lancaster. For thirty-two years he served as honorary medical officer to the Royal Lancaster Infirmary, of which institution he was consulting physician at the time of his death. Dr. Rayne, who was unmarried, had been in indifferent health for some time.

Dr. JOHN HENRY HERBERT PEARSON, who died on April 30th, in his 40th year, was a son of the minister of Newhaven, a suburb of Edinburgh. He graduated M.B., Ch.B. in the University of Edinburgh in 1908 and M.D. in 1913. After doing post-graduate work in the Royal Infirmary as clinical assistant in various departments, he began general practice from his father's manse. He got on well; with an inborn love of medical study and work he devoted himself to the care of his patients. Later he took a house and soon had an important practice. At the outbreak of the war he volunteered for service, and later was sent to Gallipoli, where in 1915 he contracted dysentery. He was sent home from the East, but went to France in 1916, where he was awarded the Belgian Croix de Guerre and the Order of Leopold, and was severely wounded. His long illness, pernicious anaemia, showed to those around him the full beauty of his character. At intervals hope was revived by temporary improvements in his condition, and he worked again amongst his patients and fished in his spare time. But with one of the relapses it became clear that his work was over, and the house and practice were disposed of. For eighteen months after that he lived, so ill at times that it seemed as if he could not last an hour; but now and

then better to the extent of getting out of bed and even, once or twice, of going for a little time into the country. Through all these alternations of hope and disappointment he remained cheerful and uncomplaining. He leaves a widow and a son and daughter.

We regret to record the death, on May 4th, of Miss GWYN YFOULKES ROBERTS, M.B., Ch.B. Liverp., in her 28th year. She had only a few weeks taken up her duties as one of the house-surgeons at the Royal Liverpool Children's Hospital when she contracted scarlet fever from a case admitted in error to her ward, and succumbed to a malignant attack to which she offered little resistance. It is inevitable in a children's hospital that the incidence of infectious disease among the unprotected members of the nursing and junior medical staffs should be high. It is tragic when infection results in the cutting short of a young and promising life and the termination of a career upon its threshold. As a student at Liverpool University and at the hospital where she became resident, Miss Roberts had given much promise of success in her profession. Her work was done with meticulous care and self-sacrifice; her disposition endeared her to all. She was the only daughter of Dr. J. W. Roberts of Knayton, Yorkshire, who died suddenly a few months ago; and much sympathy is felt with her widowed mother and her only brother, also a member of the medical profession.

The deaths are recorded of Professor P. FRIEDRICH, formerly professor of oto-rhino-laryngology at Kiel; Professor F. SCURFFENS, president of the Belgian Society of Oto-rhino-laryngology; and Dr. ALBERT MAHAUX, professor of psychiatry at Lausanne.

## The Services.

### ROYAL NAVAL MEDICAL SERVICE.

SURGEON VICE-ADMIRAL J. CHAMBERS, C.B., C.M.G., Director-General, Medical Department, R.N., has been appointed Honorary Physician to the King in succession to Surgeon Vice-Admiral Sir Arthur W. May, K.C.B., K.H.P., deceased.

The Royal Naval Volunteer Reserve Officers' Decoration has been awarded to Surgeon Commander H. L. Murray.

### DEATHS IN THE SERVICES.

Brigade Surgeon Patrick Walter Stafford, R.A.M.C. (ret.), died at Wimbledon on April 14th, aged 87. He was born in Wexford, and, after taking the L.K.Q.C.P. and the M.R.C.S. in 1859, entered the army as assistant surgeon in January, 1860. He became surgeon major in 1875, and retired, with a step of honorary rank, in 1885. As a regimental officer he served in the 56th Foot, now the 2nd battalion of the Essex regiment. During the Ashanti war of 1873-74 he was present at the battle of Amoaful, and received the medal with a clasp; in the Zulu war of 1879 he took part in the battle of Ulundi, was mentioned in dispatches, and received the medal with a clasp.

Brigade Surgeon William Edmondson Dudley, R.A.M.C. (ret.), died at Bath on April 13th, aged 86. He was educated in the school of the Royal College of Surgeons in Ireland, took the L.A.H. and L.R.C.S.I. in 1862, and the L.R.C.S. Ed. in 1863, and entered the army as assistant surgeon in April, 1863. In the old regimental days he served for five years in the 76th Foot, now the 2nd battalion of the Duke of Wellington's West Riding regiment. He became surgeon major in 1876, and retired, with a step of honorary rank, in 1884. He served in the Zulu war of 1879 with the 3rd Foot, the Buffs, and received the medal with a clasp.

Lieut.-Colonel Joseph Andrew Gormley, R.A.M.C. (ret.), died at Bournemouth on March 1st, aged 76. He graduated M.D. and M.Ch. (Queen's University, Ireland) in 1873, and entered the army as surgeon in the following year. He became surgeon lieutenant-colonel after twenty years' service, and retired on June 3rd, 1903. He had seen a great deal of war service: Perak campaign, 1875-76, medal with star; Afghanistan, 1878-80, medal; Sudan, 1884-85, Nile campaign, medal with clasp, and Khedive's bronze star; South Africa, Matabele campaign of 1896, as principal medical officer, mentioned in dispatches, *London Gazette*, March, 1897, and specially promoted to brigade surgeon lieutenant-colonel; and South Africa, 1899-1902, as principal medical officer of a division and of a general hospital, operations in the Orange Free State, actions at Paardeberg, Poplar Grove, Kamee Siding, Vet River, and Zand River, operations in Transvaal at Queen's medal with three clasps and clasps. After his retirement he was Thames from August, 1903, to April, recent great war.

## Universities and Colleges.

## UNIVERSITY OF OXFORD.

## Fellowship in Physiology at New College.

THE College proposes to elect, not later than October next, to a Fellowship in Physiology. The person elected will be required to undertake, as from Michaelmas term next, the teaching of members of the College reading for the Honour School of Physiology and the medical examinations. Details of the appointment and forms of application can be obtained from the Warden. These forms, duly completed, should be returned to the Warden not later than June 15th.

## UNIVERSITY OF CAMBRIDGE.

At a congregation held on May 9th the following medical degrees were conferred:

M.B., B.Chir.—J. H. Doggart, N. F. Adeney, J. Ness-Walker, A. S. H. Walford.

The Raymond Horton-Smith Prize, awarded to the candidate who presents the best thesis for the M.D. degree during the academical year, has been awarded to M. B. R. Swann (Caius); *proxime accessit*, D. V. Pickering (Emmanuel).

## Diploma in Psychological Medicine.

An examination for Part II of the Cambridge Diploma in Psychological Medicine will be held in London on June 10th, 11th, and 12th. Applications should be addressed to "The Registry, Cambridge University," at once.

## UNIVERSITY OF LONDON.

## DEGREE CEREMONY.

The annual degree ceremony of the University of London was held in the Albert Hall on May 13th.

## The Principal's Annual Report.

The Principal, Sir Cooper Perry, reported that the total number of those who had entered the University during the academic year 1924-25 was 7,605, as compared with 3,852 in the last year before the war and 7,751 in 1923. Of the total in the past year 5,542 came in through the ordinary matriculation examination, 360 as graduates of other universities, 998 as holders of the Oxford or Cambridge School Examination certificate, 483 as holders of other approved certificates, and 220 after examination under Statute 116, which authorizes the admission of a student after a special test. The total number of candidates for all examinations was 31,625, about 200 fewer than in the last year. Of the 3,420 candidates for degrees, 2,079 were internal and 1,341 external, figures which corresponded very nearly with those for the previous year. The number of candidates at all examinations who obtained diplomas and degrees was 2,642, as compared with 2,598 last year. The number of internal students had risen from 8,649 to 9,002.

The Principal enumerated various gifts made to institutions of the University, and mentioned that over 10,000 volumes had been added to the University library. The inspection of the various schools of the University had been continued, and through the reports of the inspectors the Senate was acquiring a valuable store of information. The Senate had also investigated the general question of the salaries of the teaching staffs; it was largely want of money, and the Principal hinted that gifts for the augmentation of salaries would be very welcome. The grants for scholarships had been increased from £1,800 to £3,000 a year; this had made it possible to establish two university post-graduate travelling studentships open to internal and external graduates in all faculties, and three post-graduate studentships open to the faculties of theology, arts, laws, music, and engineering.

Correspondence had passed during the year between the University and the Treasury upon the subject of the Bloomsbury site, but this matter, so important a chapter in the history of the future, still remained for decision. The departmental committee established by the President of the Board of Education had been sitting for some months to consider the final report of the Royal Commission on University Education in London (1913), and to indicate the principal changes now most needed in the existing constitution of the University of London. Its findings might be awaited with confidence, remembering that, in whatever form the body of the University constitution might be moulded, the spirit which gave it life and growth remained.

The annual service for graduates was held at Westminster Abbey at 5.45, and a graduation dinner followed at Drapers' Hall at 8 p.m.

## MEDICAL RESEARCH FUND.

Applications for grants from the Thomas Smythe Hughes Medical Research Fund for assisting medical research must be sent to the Academic Registrar (from whom full particulars can be obtained) by June 15th.

## UNIVERSITY OF GLASGOW.

The History of Medicine prize has been awarded to Dr. Dan McKenzie (London) for his essay entitled "The infancy of medicine." This is the first award of the prize, value £50, founded by a professor in the Faculty of Medicine.

## ROYAL COLLEGE OF PHYSICIANS OF IRELAND.

W. H. ASHMORE has been admitted a licentiate in medicine of the College.

## CONJOINT BOARD IN SCOTLAND.

The following candidates have been approved at the examination indicated:

D.P.H.—D. G. Anderson, M. J. Bell, A. H. Campbell, Agnes F. Dickson, W. Fraser, Clara F. Gertzen, Jean M. Gilchrist, Mary M. Jack, J. C. Lindsay, P. L. McKinlay, Elizabeth P. Y. Paterson, G. H. Percival, W. C. Sharp, Annie V. Taylor, J. Walker, Elizabeth Wheatley, A. H. Williamson, Anne C. Wilson. Part I: Ruth M. Allanson, Mary V. F. Beattie, Elizabeth S. Cook, Elsie B. Dickson, Jane T. Gilmore, Hilda R. Hay, R. Levinson, W. R. Logan, Elizabeth M. Mackay, R. Norton, Margaret M. Paterson, J. Sachs, D. A. M. Shearer, M. Somerville, Jeanie M. Strathie, H. W. Sutherland. Part II: G. A. Pollock.

## Medical News.

THE Leicester Medical Society has issued invitations to the opening of the Leicester Private Hospital on Wednesday afternoon, May 20th. The new hospital, in Regent Road, is the gift of Mr. T. Fielding Johnson, J.P., late chairman of the Leicester Royal Infirmary. It has been built and equipped, as far as possible, with all the facilities and conveniences of a voluntary hospital. The object of the donor has been to make available for the use of private patients the advantages of a modern hospital. The capital outlay having been given, it is intended that, as regards its maintenance and upkeep, the hospital shall be managed on a self-supporting basis. It is open to the patients of any medical practitioner, with no restriction upon free choice of doctor. There is accommodation for fifty patients, mostly in single rooms, and provision has been made for the reception of medical, surgical, and maternity cases.

A FESTIVAL dinner in aid of the funds of the Infants Hospital, Vincent Square, Westminster, was held at the Guildhall on May 8th, under the chairmanship of H.R.H. Prince Henry, who read a telegram from his sister, Princess Mary, president of the hospital, wishing success to the occasion. In proposing the toast of "The Infants Hospital," Prince Henry said it was the first of its kind to be established in Europe; it was founded with the object of placing on a scientific basis the management of infants up to 5 years of age, the treatment of diseases of nutrition, and the investigation of means by which infantile mortality could be prevented. A subscription list of £15,000 was announced, which included £4,500 subscribed by friends of the hospital for the endowment of nine cots at a cost of £500 each, in honour of His Royal Highness's presidency at the festival.

THE annual prizegiving at the London Hospital Medical College will take place on Tuesday, June 2nd, at 3 p.m. The prizes and certificates will be distributed by Dr. Charles H. Mayo of Rochester, Minnesota, in the Medical College library, and the distribution will be followed by a garden party in the hospital grounds.

H.R.H. THE DUKE OF YORK has accepted the Honorary Presidency of the thirty-sixth Congress of the Royal Sanitary Institute to be held at Edinburgh from July 20th to 25th, at which the Secretary for Scotland will preside and deliver the inaugural address.

THE annual general meeting of the London and Counties Medical Protection Society will be held at the offices of the society, Victory House, Leicester Square, W.C.2, on Wednesday, May 20th, at 4 p.m.

THE bi-annual dinner of the Aberdeen University Club, London, will be held at Gatti's Restaurant on Thursday, May 21st, at 7.30 p.m. The Hon. Sir Arthur Greer will be in the chair, and Sir Leslie McKenzie, M.D., will be the guest of honour. Dr. Milligan, 11, Upper Brook Street, W.1, will be pleased to hear from either men or women graduates wishing to join the club or attend the dinner.

THE Fellowship of Medicine announces that Dr. T. W. Eden will lecture at No. 1, Wimpole Street, on May 18th, at 5.30 p.m., on the prevention of puerperal sepsis. On the same date will begin the two weeks' course for general practitioners at the London Temperance Hospital; at 4.30 p.m. a clinical demonstration will be given, and at 5.30 a brief lecture. A special course will be held at the Infants Hospital from May 18th to 30th, and a two weeks' afternoon course in dermatology has been arranged from May 18th to the end of the month by the Hospital for Diseases of the Skin (Blackfriars); a special demonstration of cases will take place on May 19th. During June there will be courses in diseases of the chest at the Victoria Park Hospital for Diseases of the Heart and Lungs, in gynaecology at the Chelsea Hospital for Women, in tropical medicine at the London School of Hygiene and Tropical Medicine, in urology at St. Peter's Hospital, in venereal diseases at the London Lock Hospital, and an intensive course in general medicine, surgery, and the specialties at the London Temperance Hospital. Full particulars may be obtained from the Secretary of the Fellowship of Medicine at No. 1, Wimpole Street, W.1.

A SUMMER school of maternity and child welfare will be held in London, under the auspices of the National Baby Week Council, from July 1st to 7th. Sir Arthur Newsholme will preside over a session dealing with maternal mortality and morbidity in childbirth, the introductory address being contributed by Dame Janet Campbell, M.D. Addresses will also be given by Dr. A. E. Giles, on medical preventive measures; by Dr. Mabel Brodie, on the social problem of establishing preventive measures for combating maternal mortality and morbidity; and by Dr. James Fenton, on the administrative aspect of preventive measures. Visits will be paid to hospitals for children and other institutions of interest to child welfare workers. The full programme may be obtained from the Secretary, National Baby Week Council, 117, Piccadilly, W.1.

At a meeting of the Royal Microscopical Society to be held at 20, Hanover Square, at 8 p.m., on Wednesday, May 20th, Dr. R. J. Ludford, of the Institute of Anatomy, University College, will read a paper on the cytology of cancer.

THE annual medical missionary breakfast of the Medical Prayer Union will be held on Wednesday, May 20th, at the Rectory, University College, Gower Street, W.C., at 8 a.m., under the presidency of Mrs. Scharlieb, C.B.E., M.D., M.S. An address will be given by Dr. E. J. Pelli, of Tsangchow. An intimation of intention to be present will be welcomed by the honorary secretary, Dr. Tom Jays, Livingstone College, Leyton, E.10.

THE late Sir G. Anderson Critchett, Bt., surgeon oculist to the King, who died in February last, left estate of the gross value of £92,150, with net personality £91,632. He has bequeathed £100 each to Epsom College and to the Royal Medical Benevolent Fund.

THE seventh Congress of the Middle German Surgical Association will be held at Chemnitz on June 6th and 7th, when the following subjects will be discussed: modern treatment of carcinoma of the rectum, introduced by Professor Reichel; surgical treatment of pulmonary tuberculosis, introduced by Dr. Wendel of Magdeburg.

In his report for 1924 Dr. Walter Garstang, the medical officer of health for the urban district of Hucknall (population 17,760), states that the small-pox outbreak which began in August, 1923, continued throughout 1924. The total cases in 1924 were 193, and all were removed to hospital. The vaccinated numbered 37 and the unvaccinated 156. Of the vaccinated none were under 20 years of age, and 15 were vaccinated after exposure to infection. The disease has been of a very mild type, and the medical officer is emphatic that it can be stamped out only by vaccination, and that, looking to the continued neglect of vaccination, cases of small-pox may be expected for a considerable time—probably for years.

DR. J. G. MACQUEEN of the Middle Temple, and Drs. W. R. H. Heddy and R. B. Davidson of Gray's Inn, were called to the Bar on May 6th.

THERE has been a reduction in mortality from tuberculosis in Germany from 26 per 10,000 inhabitants in 1919 to 11.5 in 1923. Germany possesses 514 sanatoriums for tuberculosis, with a total of 43,000 beds.

THE following foreign appointments have been recently announced: Dr. Stoeltzner of Halle to be professor of children's diseases in the University of Königsberg; Dr. H. E. Sigerist of Zürich to succeed Professor Sndhoff in the chair of the history of medicine at Leipzig; Dr. Ceelen to be professor of morbid anatomy at Greifswald University in succession to Professor Grosz; Dr. Eric Hessé to be professor of surgery at Leningrad; Dr. Ombredanne to be professor of the surgery of childhood and orthopaedics, and Dr. Roussy professor of pathological anatomy, in the Paris faculty of medicine; Dr. Lecercle to be professor of clinical surgery in the Damascus faculty of medicine; Dr. C. Roques has been nominated professor of medical physics in the Bordeaux faculty of medicine in place of the late Professor Bergonié; and Dr. Patel has been nominated professor of operative surgery in the Lyons medical faculty.

THE late Mr. J. David Williams of Styal, Cheshire, a director of the Manchester Ship Canal Company, has left estate of the gross value of £634,959, with net personality £529,080. He has bequeathed one hundred £10 fully paid up preference shares in the Manchester Ship Canal Company each to the Manchester Royal Infirmary, for cancer research; to the Ancoats Hospital and Ardwick and Ancoats Dispensary, to endow a J. D. Williams bed; and to St. Mary's Hospital, Manchester, to endow a J. D. Williams bed.

WE have received the first issue of the *Journal of the Australian Veterinary Association*; it bears date March, 1925. It is edited by Mr. M. Henry, with the assistance of an editorial committee, and is issued from the Veterinary School of the University of Sydney. It contains several original

articles, and a report of the fourth general meeting of the Australian Veterinary Association held in Adelaide last year. It is intended to keep veterinarians in Australia acquainted with the progress of their art and also to let the rest of the world know what is being done in Australia.

THE first International Child Welfare Congress will be held in Geneva from August 24th to 28th, under the patronage of the Swiss Federal Government, and it is anticipated that about 1,000 delegates from fifty different countries will be present. Papers will be contributed by Sir Henry Gauvain, Mr. R. C. Elmslie, Dr. Cyril Burt, and Dr. D. C. Kirkwood. The congress will be divided into three sections, the first dealing with hygiene and medicine, under the presidency of Professor Clémens Pirquet, director of the children's clinic at the University of Vienna; the second, concerned with social welfare and administration, under the presidency of Mr. George Scelle, professor of international law at Dijon; and the third, which will discuss educational propaganda, will be presided over by the Marchioness of Aberdeen, president of the International Council of Women.

ONE of the results of the earthquake in Japan has been a great deterioration in the sanitary conditions. During 1924 three times as many cases of typhoid fever occurred as in 1923; 3,863 cases were admitted to hospital, and 198 deaths were due to this cause in November alone. Infantile mortality in Japan is also very high.

THE Dutch Congress of Public Health will be held at Leenwarden on June 26th and 27th.

WE regret to announce the death, on May 13th, of Dr. Howard H. Tooth, C.B., C.M.G., consulting physician to St. Bartholomew's Hospital and to the National Hospital for the Paralysed and Epileptic. We hope to publish an obituary notice next week.

## Letters, Notes, and Answers.

ALL communications in regard to editorial business should be addressed to **THE EDITOR, British Medical Journal, 429, Strand, W.C.2.**

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the *BRITISH MEDICAL JOURNAL* alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Matter intended for the current issue should be posted so as to arrive by the first post on Monday, though in special circumstances urgent communications can usually be received on Tuesday morning.

Authors desiring REPRINTS of their articles published in the *BRITISH MEDICAL JOURNAL* must communicate with the Financial Secretary and Business Manager, 429, Strand, W.C.2, on receipt of proofs.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the *JOURNAL*, should be addressed to the Financial Secretary and Business Manager, 429, Strand, W.C.2. Attention to this request will avoid delay.

THE TELEPHONE NUMBER of the *BRITISH MEDICAL ASSOCIATION* and *BRITISH MEDICAL JOURNAL* is **GERHARD 2630** (Internal Exchange).

THE TELEGRAPHIC ADDRESSES are:

EDITOR of the *BRITISH MEDICAL JOURNAL*, *Antiology Westrand, London.*

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate Westrand, London.*

MEDICAL SECRETARY, *Mediscra Westrand, London.*

The address of the Irish Office of the *British Medical Association* is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 4737 Dublin), and of the Scottish Office, 6, Rutland Square, Edinburgh (telegrams: *Associate, Edinburgh*; telephone: 4361 Central).

## QUERIES AND ANSWERS.

"IGNORANUS" asks whether there is any record of injections of adrenaline, used for the relief of spasmodic asthma, inducing eczema or aggravating an existing attack of eczema.

## INCOME TAX.

### Additional Assessments.

"M. H." (Kent) has received notices of assessment for the three years 1921-22 to 1923-24, that for 1921-22 being the second additional notice. What are his chances of appealing successfully?

\* We should advise our correspondent to write to his local inspector of taxes giving formal notice of appeal, to keep himself right as regards the time limit, and asking for information as to what precise fees or emoluments the assessments cover. It is at least possible that it may be found that the additional assessments may relate to some particular earnings which have been included in the general Schedule D return and already assessed accordingly.



*The "Cash Basis."*

"E. N. B." has been assessed on the "cash basis" for the last seven years in respect of the same practice. He has now been requested to state the amount of his outstanding book debts, presumably with a view to the alteration of the basis from "cash receipts" to "bookings."

\* \* This matter was discussed in November, 1921 (see SUPPLEMENT to the BRITISH MEDICAL JOURNAL of 19th of that month), between a principal inspector at Somerset House and two officials of the Association. "E. N. B." may usefully refer to the account given in the SUPPLEMENT; it may suffice to say here that the attitude of the authorities appears to be to regard the cash basis as well adapted to the assessment in normal circumstances of medical practitioners and as the usual custom, to be departed from only where special circumstances render it inequitable. "E. N. B." might point this out to the inspector of taxes and inquire what, in his opinion, are the special circumstances which require a departure from the normal custom in his case. In the last resort, "E. N. B." should insist on deducting from the nominal amount of his book debts a reasonable amount for (a) cost of collection and (b) irrecoverable debts.

## LETTERS, NOTES, ETC.

*"RELIABLE."*

DR. WILLIAM L. STOREY (Belfast) writes: In the instructive editorial, "The suffix '-itis,' in your issue of March 28th, reference is made to the disappearance of the word 'trustworthy' and its replacement by 'reliable.' According to the *New English Dictionary* that piece of bad money, as you would call it, was first uttered only about 1850, and the earliest illustration is from one of Gladstone's writings: "1857—Gladstone in *Oxford Ess.* He seems to think that the reliable chronology of Greece begins before its reliable history." The Grand Old Man revelled apparently in the use of that word, but later on his addiction was cured by Dean Stanley. Mr. Frederick Locker-Lampson in *My Confidences* describes how it was effected: "Dean Stanley complained that, much as he had seen of Gladstone, and often as he had talked with him, he did not think he had ever influenced him in anything. 'Yes,' said the Dean, recollecting himself, 'I influenced him in one matter. I told him he ought never to use the word *reliable*, and I gave him my reasons. Some time afterwards I met Gladstone in the street, and he said, as we parted, *I have never used that wretched word 'reliable' since you spoke to me about it.*" Curiosity prompts one to ask, What were the reasons which the Dean advanced with such beneficial effect?

## RELIEF OF PAIN IN BURNS AND SCALDS.

DR. E. NICHOLAS HUGHES (Wallasey) writes with reference to the note by Dr. W. F. Moore (Kingsbury) on the treatment of burns and scalds (May 9th, p. 908): When acting as a house-surgeon some three years ago I used a treatment for the relief of pain in burns and scalds which I found extremely efficacious. The affected part, after cleansing and removal of fragments of clothing, was covered with a solution of novocain (1/2 per cent.) the part covered with white lint. In very extensive burns and scalds opium was given by mouth. Young children treated in this way were often soundly asleep within an hour of being admitted into hospital. I have applied the novocain treatment to very young babies, with no signs of toxic effect. It is difficult to sterilize caron oil; liquid paraffin can be readily sterilized without undergoing decomposition.

DR. REGINALD COCK (London, E.2) writes to draw Dr. Moore's attention to the following statement in Whitt's *Pharmacy, Materia Medica, and Therapeutics* (tenth edition): "Opium has no sedative influence on sensory nerve endings, hence it is a mistake to employ the drug or its alkaloids for the local relief of pain."

## PAIN-RELIEF AND TEETH EXTRACTION.

DR. CYRIL H. COCK (London, E.2) writes in reply to "Borneo" (May 9th, p. 908): I would adopt to prevent excessive haemorrhage following extraction of the teeth would be to get the gums in as healthy condition as possible by removing any salivary calculus; mouth-washes, etc., before the operation. I should for forty-eight hours dose the patient with calcium lactate, 20 grains three times a day, and an hour before extraction inject 2 c.cm. of haemoplastin (P., D. and Co.); 2 c.cm. or more later if necessary. The extraction should be carefully done, and the alveolus well pressed into place directly after extraction. The patient should then remain quiet in a sitting position. If any haemorrhage of serious nature occurs, plug with oil of turpentine.

## DANGERS OF ZINC STEARATE DUSTING POWDERS.

ON August 16th, 1924 (p. 255), we referred to the dangers of zinc stearate dusting powders reported by American investigators. At a meeting of the board of trustees of the American Medical Association in June, 1924, a special committee reported that it had obtained no evidence that zinc stearate dusting powders

possessed any advantages over other dusting powders, and that special containers with permanently attached covers were essential in order to prevent infants from being poisoned. A second report by this committee (*Journal of the American Medical Association* of March 7th, 1925, p. 750) states that details of 131 cases of poisoning had been received, of which 28 terminated fatally. The committee had also obtained indirectly reports of many other accidents arising from the use of zinc stearate powders, and considered the danger greater than was originally surmised. A conference was arranged with the manufacturers and distributors of these powders at the end of October, 1924, and subsequently it was unanimously agreed to adopt a self-closing type for containers, and further consideration was given to the number, size, and shape of openings in it. A precautionary statement on the label was held to be desirable, and it was agreed that this should be submitted by the manufacturers to the committee for its approval. The committee, therefore, recommended that, in view of this action on the part of the manufacturers, no steps should be taken by the Association for the introduction of legislation, but that all manufacturers of these powders should be requested to use such a self-closing container, and also that the use of zinc stearate as a dusting powder for infants should be discouraged by the medical profession.

## STAGES OF DRUNKENNESS.

DR. J. GOOD (Tenbury) writes: Having unfortunately had considerable experience of drunkenness, I suppose I ought to express my opinion thereon. As idiosyncrasies vary in different persons, so do the effects of alcohol on individuals. Some may consume a lot, others but little, before entering on the stages of drunkenness. Those are:—(1) *Fool*: When the whole vitality is apparently stimulated and the man becomes merry, restless, witty, and facetious. In this stage in motor he may take on and successfully negotiate increased risks. (2) *Knave*: When his higher moral nature is dulled and he becomes more indifferent to right and wrong, and more careless in motor driving. (3) *Ruffian*: When his higher moral nature is in abeyance his animal instincts are more conspicuous. He may become vicious on trifling matters—for example, should another car pass him—and a public peril. (4) *Lost beneath the fumes of his* ... the road and sleep off his debauch, or if suffocated. He is unable to drive a car. (5) *A corpse*: At the disposal of the coroner. As regards diagnosis, the surgeon must use his own powers in differentiation, discreetly remembering that difficult pronouncements, chalk lines, and poises alone are unreliable, and that the police constable, being more familiar with the accused and with his type of humanity, may be better able to judge of a deviation from his normal condition. The shock of detection or accident may recover a man in stage 1 or 2, but he is too fortified in stage 3. Speaking for the chauffeur, "he may drive a car in stage 1," but, speaking for the public, "not at all," as the public becomes to him of decreasing importance from the beginning.

## LITERARY NEOLOGISMS AND BARBARISMS.

"M.A., M.D." writes from India: May I be allowed to enter what I hope will prove a timely protest against the threatened introduction into English medical literature of barbarisms such as "to evaluate," instead of "to value"; "to stress," instead of "to lay stress upon"; "view point," instead of "point of view"; "such and such diet was fed to such and such an animal," instead of "such and such an animal was fed with such and such diet"; and the like? I would quote in this connexion the exceedingly apposite remarks of Peter Mark Roget, himself a member of our profession, on the use of such expressions in the beautifully written introduction to his well known *Thesaurus of English Words and Phrases*:

"Some modern writers, however, have indulged in a habit of ... raw words and a new-fangled phraseology, ... with manifest injury to the purity of the ... practice, the offspring of indolence or conceit, ... perfect of the riches in which the English applied them with the same meaning 'their own fancy.'"

## ANTHRAX IN TANGANYIKA.

DR. OWEN FITZPATRICK (Singida, Tanganyika Territory) writes to record the fact that during March seven cases of anthrax had been reported, all amongst natives. Of the two cases it was possible to admit to hospital both presented typical cutaneous lesions—in the one case of the shoulder, and in the other of the abdomen. The infection had occurred some four days before. There were ... and the treatment was purely local. Of the other five cases one was fatal and the meat from an animal that had died.

## VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 38, 39, 40, 41, 44, and 45 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 42 and 43. A short summary of vacant posts notified in the advertisement columns appears in the Supplement at page 207.



## An Address

ON

THE IMPORTANCE OF EXPLORATORY INCISION  
IN CANCER OF THE BREAST.\*

BY

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LECTURES given to students and addresses given to practitioners are two different things; one dogmatizes in the former, and the student, having no experience, has perforce to take what is offered him. The practitioner, however, is a person who has experience, who has formed his own opinion. We all have our own ideas—some may be right and some may be wrong; but in any case we have formed them slowly and we shall only change them slowly. At the same time, it is difficult to gauge how much of our original teaching tinges our views, biases our minds, and governs our judgement. At first it must do so very largely, as time goes on to a less and less extent; to a less and less extent, too, as we keep ourselves abreast of the times and hear new views. It is with this object in view, doubtless, that you ask men from the teaching schools to address you.

In this sense I come to lay before you my views on what I believe our procedure should be in connexion with the early diagnosis of cancer of the breast. These views represent the present trend of thought, or the direction in which I hope we are travelling; they are by no means final, and will probably be changed in the next generation, but you will find that they resemble in no way the teaching of twenty years ago. These views may seem extreme to some because they are new, and all new views seem at first extreme; but they will presently be accepted by all, taught in our medical schools to the younger generation, and pass in time into the limbo of what is old-fashioned.

In the first place, it will be as well to define what is here meant by "early carcinoma of the breast." To me it is an indefinite something or an undefined thickening—we are not quite sure; it is difficult to make out; at all events, there is not a single sign of malignancy, and nothing even to bring malignancy to mind. That, I consider, is possibly early cancer of the breast. Anything which has any characteristic of malignancy I no longer regard as early; it is sufficiently well established to give rise to signs and symptoms. This early stage is the time at which cancer of the breast can be diagnosed if we will do it, and that is the time, and the only time, that we can almost guarantee a cure to our patients.

The breast is the one place where cancer is seen early; it is the one place in which a radical operation can be performed—that is to say, it is the one place in which the growth, the glands, and the whole lymph field is removed in one. Compare it with carcinoma of the abdominal viscera: in the abdomen we cannot even begin to suspect cancer until symptoms develop; ulceration occurs and blood is passed, diarrhoea is constant or obstruction threatens; but even then we may not be able to locate it, above all we can do nothing approaching a radical operation. Compare it with a superficial growth like epithelioma of the lip; we remove the growth and also the glands of the neck; we do not remove the lymphatics by which spread has taken place, neither can we remove all the glands of the neck, but we rest content with what we do; luckily, epithelioma is not nearly as malignant as cancer of the breast, and therefore our results escape criticism. In cancer of the tongue, to take another example, we remove the growth and we remove as many glands as we can: many glands are, however, left behind, and the lymph

field is untouched; our results are what we should expect in such cases.

All know the signs and symptoms of cancer of the breast, so I need not waste time upon them except to draw attention to the fact that they are all due to one thing—namely, extension of the growth. The growth must extend for these symptoms to be suspected, to appear, and to develop. We need, therefore, only assign their appropriate value to each of them in their order of importance.

Fixity of the skin is the earliest sign of malignancy it is possible for us to have, and is the most suspicious and significant. But the time at which it develops is not constant. Gross saw it develop in about two months, but states that it is usually about fourteen months before it is developed. Fourteen months is a long time to wait in order to get the first sign of malignancy. If the onset of the cancer is in the superficial parts of the gland, then the skin is attacked earlier than if it starts in the deeper portions. It is seen better and earlier in a thin person than in one in whom there is a thick layer of adipose tissue. A cancer may therefore become well established before even puckering, wrinkling, and anchoring of the skin develops at all. There are other conditions, too, in which it is found: old fibro-adenomata, chronic abscess, tuberculous masses, and occasionally in chronic mastitis.

Retraction of the nipple is the next sign of importance, and this, again, is quite inconstant. It is present early in cancer which starts near the nipple, and is absent till quite late, and may never develop, if the cancer starts at the periphery of the gland. Another important fact is that in the rapidly growing carcinomata the opposite may occur, and the breast become prominent and the nipple protrude, while it is well seen in the less malignant and more atrophic forms. It is also present in any chronic condition in which fibrous tissue forms, so that it is met with in chronic abscess and chronic tubercle.

Enlargement of glands in the axilla is a sign to which some attach great importance, but personally I think it one of small significance. Cancer can hardly grow without being accompanied by chronic mastitis, and chronic mastitis nearly always causes enlargement of the axillary glands. In addition every form of inflammatory change will cause enlargement of the glands in the axilla, and therefore very little reliance should be placed upon this sign. Far more important really is the feel of those glands; small but very hard glands are far more significant than large ones.

Often enlarged glands can be felt in connexion with cancer of the breast, and yet when examined after the operation nothing malignant is found in them. On the other hand, during the operation small glands are sometimes found right up at the apex of the axilla, in the triangle between the first rib, the clavicle, and the coracoid process, which cannot be felt, are not enlarged, but yet are infected. Stiles pointed this out long ago and drew attention to the fact that it was impossible to feel them. They become infected as a rule through the lymphatics which run upwards between the pectoral muscles and which pierce the costo-coracoid membrane; sometimes there are infected glands lying on the costo-coracoid membrane.

Age is, I think, a great factor in diagnosis; sometimes, however, it is misleading. The commonest age at which carcinoma of the breast occurs is between 45 and 55; all agree upon this. All agree too that after this age carcinoma is very frequent, and I think in the minds of all of us there is the impression that the older a person is the more likely is any given lump to be a carcinoma, and this is true because the inflammatory conditions in the breast are less likely to occur in a withered and functionless organ. There is the general impression too that carcinoma hardly ever occurs in people under 35; nothing, however, could be more misleading. I know of several cases which occurred in the teens. Thompson and Battle and Mayberry reported cases at 11 years old, one of which was a squamous-celled carcinoma; Commichael one at 12 years; Home one at 15, which was bilateral; and Brewer one at 16.

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If we go to the male sex, Blodgett noted carcinoma in a boy of 12 and Bryan in one of 14. A little while ago Professor Pannett took the second breast from a woman aged 34 in St. Mary's Hospital, having removed her other breast nearly eight years previously. Rodman in a collection of 5,000 cases found that 9 per cent. were in people between the ages of 20 and 30. All through the public records you would be surprised at the number of cases recorded, not on account of the age, but for some other reason, in which the age was under 30. So that you cannot exclude carcinoma merely on account of youth, and we must correct the very strong and almost irresistible tendency we all have to do so. We all, in spite of ourselves, tend to acquit a tumour of the breast of being malignant merely because it occurs in a young person, a thing we are in no way justified in doing.

These are the signs upon which we rely for suspicion of cancer. There are others, such as discharge from the nipple, which is very rare; it is present in only about 3 per cent. of the cases. Fixity to the muscle or chest wall, the condition of "pig-skin," ulceration of the skin, enlargement of the supraclavicular glands, are all very late symptoms, and need not be considered. When they are present the question of diagnosis no longer troubles us; we then only have to decide if an operation can still do any good.

#### DIAGNOSIS.

There are three different classes of cases clearly distinguished in my own mind into which the patients may be divided.

In the first category there is the patient who obviously has cancer; the first glance at her breast tells us so. Here all the signs and symptoms which characterize malignancy are fully developed. The nipple is displaced, the veins are enlarged, the skin bound down and may be ulcerated with a fungating and discharging sore, pig-skin appearance widely developed over a large area, and small nodes and nodules visible in the skin round about; large masses are visible in the axilla and above the clavicle. The patient is thin, emaciated, and anxious-looking. She excuses herself for not seeking advice sooner, giving every excuse except the real one—that she was afraid. She regards us anxiously, guiltily, and beseechingly, hoping against hope for a comforting and favourable verdict; but in her own mind she has made the diagnosis, and she has made it correctly without any medical training. What more does the picture need? Fortunately these cases are rarely seen, though probably every practitioner has come across one or more such patients who have hidden their condition till the last moment. Here, then, the problem solves itself.

The next category is where there is a definite mass in the breast, the nature of which is doubtful. Here the question of diagnosis is one of the most important which can be put to the medical man—so much depends upon it. The greatest skill, care, and trouble should be taken to arrive at a correct diagnosis. There is no infallible guide: skill, experience, common sense, and that curious faculty we call intuition, all come to our aid in a way it is impossible to explain.

In the case with which we are dealing the signs are not sufficiently developed for us to differentiate clearly, and the question arises, Are we dealing with a malignant or innocent tumour? An innocent tumour is here taken to include all inflammatory conditions as well as innocent. To take first the probabilities. It is estimated from large numbers of collected figures from various sources that 30 per cent. of all tumours of the breast are malignant and 20 per cent. innocent. That is a proportion of 4 to 1 in favour of malignancy. These figures, to my mind, are not quite accurate; they are derived very largely from hospital records, but records are only kept of those cases which are of sufficient importance to gain admission to the institution, and many small innocent cysts, tumours, and miscellaneous inflammatory masses, of which no records are kept, are dealt with in out-patient departments. We shall therefore possibly be more accurate if we say that 70 per cent. are malignant and only 30 per cent. innocent.

I am putting it as fairly as I can. This, in sporting terms, is nearly 2½ chances to 1 that the condition is malignant—a figure which at once must forcibly attract our attention. With these odds in mind, it is only right, it is only safe, to regard all tumours as malignant until we have proved them innocent. This is the only way in which we can do justice to our patient. We have unfortunately a natural tendency which is almost irresistible to do the exact opposite, and to regard all tumours as innocent till malignant symptoms develop.

The things which guide us to a correct diagnosis are all small in themselves, and we can take them in order.

The presence of pain in a small growth is very much against the mass being cancer; similarly, but to a less extent, is the presence of pain on handling the mass. Inflammatory masses are often more or less painful or tender; cancer is a painless malady till the later stages. Pain is associated with cancer in the minds of the laity simply because the later stages of the disease are familiar to them through their looking after or visiting relations and friends in the last stages of the disease.

Cancer in the later stages, as we all know, is a very painful and distressing disease, wearying, even repellent, and fear-inspiring to those who nurse the patients, but in the early stages it is insidious, quiet, and painless. The fact that cancer is painless till its later stages should be broadcasted widely among the laity, as many do not seek advice for tumours because, as they are painless, no alarm is caused.

The presence of masses in both breasts is against cancer and in favour of interstitial mastitis; cancer very seldom starts in both breasts at once. It is said that if at this stage a tumour can be felt with the fingers, but is impalpable to the flat of the hand, this is against its being cancer; but it is a sign that I am rather chary of mentioning, as great stress is often laid upon it as a way of telling whether cancer or chronic mastitis is present, though as a sign to tell this it is quite useless and, as we now regard matters, mischievous and misleading; a small cancerous mass is quite as impalpable to the flat hand as is chronic mastitis. Moreover, chronic mastitis may be present in which cancer is starting, but has as yet none of the characteristics of cancer.

The margins of the tumour should be carefully considered, for the margins of a scirrhus are usually much better defined than those of an inflammatory mass. This, however, does not hold good if the scirrhus is rapidly extending, while sometimes the edges of a chronic abscess are remarkably well defined.

Dimpling or the slightest adhesion of the skin, as already stated, is very much in favour of malignancy, but is not pathognomonic. The hardness of a scirrhus is rarely attained by any other tumour, but sometimes the mass is too deeply situated for this to be made out, and hardness can easily be simulated by a tense cyst. Enlarged veins seen coursing over the tumour are in favour of malignancy.

Lastly, there is the important fact that cancer rarely takes origin at the time of lactation; it does so sometimes, we all know, but it is rare, while this is the favourite time for inflammatory conditions to start.

These, then, are the various points which guide us in difficult cases. Sometimes, of course, they are insufficient to guide us correctly, and therefore an exploratory incision should be made before performing the radical operation, or else with the best intention in the world serious mistakes will be made. Now this is the ordinary case which presents itself to us in the usual course of events, and it is the one which some are still inclined to call "early cases" just because malignancy is not written across the chest by the display of every malignant characteristic.

The third category is the one to which our attention is especially directed. Here there is only an indefinite lump. We may suppose it is deep seated in a voluminous breast so that nothing definite can be made out. Examination prompts us to say that there seems to be a vague thickening in the breast that should not be there, but beyond this there is nothing whatever to be felt. There is not even the certainty that there is anything, beyond perhaps some-

thing that feels like a slight mastitis; signs and symptoms of malignancy do not arise. This is the problem which I am going to ask you to regard as the problem of the early case. The patient is 50 years of age; what advice is to be given to her? Yours is the responsibility.

Well, there is the ordinary thing which is so easy to do, which is a ready way out of the difficulty, and which will be pleasing and acceptable to the patient; that is to say to her, "Yes, perhaps I can feel a little thickening in your breast, but that is not surprising at your time of life; in fact, it is almost normal; do not take any notice of it. Come and see me in a month's time." A month passes and there is no perceptible change. Another month, and yet a third pass, and perhaps the mass is a little larger; it is deep seated; it is very difficult to say definitely; you reassure her, and perhaps you do not see her for two or more months; you have said, "There is nothing to be alarmed at," and she is not nervous about it. In any case you say to yourself, "There certainly is no sign of malignancy—no harm can come from waiting." Six or eight months pass, and now there is a mass for sure; perhaps the skin does not slide over it quite so freely, but if the mass is deep seated and the person is fat the skin may be quite free, so that even yet there is no sign of malignancy. Perhaps the practitioner suggests a consultation, not as necessary really, as you have already committed yourself by saying the condition is nothing, but merely advisable; the patient demurs—she feels so much better, the liniment is doing her good, she is sure the lump is smaller; and in this way ten to twelve months may have passed before a consultation is arranged and an operation suggested.

An operation is performed and cancer is found. We still regard the condition as early, but if it is early now, what was it twelve months ago? I do not think that I have drawn the picture inappropriately or exaggerated it; we have lost a year. We have acquitted the lump of being cancer merely because it was small, had not spread and infiltrated the tissues sufficiently to enable us to say that it was malignant. We have been oblivious to the obvious fact that cancer must begin in a microscopic area and has at first no sign of malignancy, and we have forgotten the 2½ chances to 1 that it was malignant to start with; we have failed to treat the condition as malignant until it was proved innocent. Many writers have endeavoured to calculate the average time the mass has been suspected before it comes to the surgeon, and different observers have varied from a year to thirty months as the time lost.

This method of procedure does not seem to be unusual; we were brought up "to watch such cases carefully." It is what we are used to, and it does not seem strange—in fact, you say it is the obvious, the ordinary, and the best thing to do. But it means, in blunt English, that we are going to do nothing *except waste time*. Curiously enough, we do not realize this. But let me put it to you, Is there any other condition in which the chances are 2½ to 1 in favour of malignancy in which you would knowingly waste a year in order to be certain? If there is, then I do not know it. Let us reduce the matter to absurdity: Why have you waited? You will say, In order to be certain. But you were not certain when you operated—why not wait another six months till all the symptoms of malignancy gradually blossom forth? You then really will be certain. You say, That would not be fair. My reply is that it is as fair to wait now as it was to wait then, with the chances always 2½ to 1 against the patient. You waited at the only time when operation held anything approaching a certainty of cure. You should have held the mass to be malignant until it was proved innocent. What right had you to say to the patient, "It is nothing," simply because you did not know?

The Johns Hopkins School teaches—and I believe it is right—that the development of any malignant sign whatever diminishes the patient's chance of cure by 25 per cent. Moreover, what has been done while we have waited? Ointments and liniments have been energetically applied to the breast, which has been well massaged. And when we consider that the spread of the cancer is by the cells passing

along the lymphatics, is not massage of this sort the very last treatment we should care to apply? Yet I can assure you it is ordinary treatment, and the only form of treatment if anything is done at all.

Having waited, then, till some symptoms of malignancy have developed, the patient is operated upon. The best results we have of operations at the present day are—39 per cent. living and well at the end of five years, 61 per cent. dead or dying. This analysis is from America; no other analysis gives such favourable figures. There is a very marked difference in the results we get from private cases and those we get from hospital cases; the former are much better than the latter, the difference being due to the fact that we see private cases usually at a much earlier date. I should be surprised if 20 per cent. of the hospital cases were alive and well at the end of five years. Surely this is a poor result for surgery. No wonder every form of treatment has its loud-throated advocates, and every form of treatment can always produce its cancer cures, from violet leaves through the range of pastes up to the more orthodox procedures such as injections of selenium, lead, and gold, right up to the palliative treatment supplied by x rays and radium. If these are the results of surgery, surely every one of these methods is justified. The only thing that the surgeon can boast is that, had as his results are, they are infinitely better than those of any other form of treatment.

Such, then, is the result of adopting the plan I have indicated. Is there no better plan? I think there is, and one I would earnestly ask you to try.

The woman is 50 years old, with this indefinite thickening and no more, and we are to advise her to the best of our ability. By no possible means of examination can we make a diagnosis by the ordinary methods, therefore we must adopt new ones. The answer to our doubt can be given to us without delay, and without dulicity, if we will remove the suspected mass and have it examined under the microscope by an expert. If it proves to be simple, we then can say to the patient, "It's nothing—you can now set your mind at rest," and we have now good authority for saying so which we never had before. If it proves to be malignant it can be removed at a time when she has the greatest possible chance of cure.

We need not go into the technique of the procedure, beyond saying that a circumferential incision can be made in the sulcus between the breast and the chest wall, the breast turned upwards, and the mass removed from the back of the breast. Radiating incisions are made outwards from the nipple, and a piecrust-shaped piece removed. The edges are seared with a cautery to prevent the escape of cancer cells in the event of its proving to be a carcinoma; the raw surfaces are sewn up and the breast replaced. The nipple is not interfered with, and there is no visible scar left. If preferred the pathologist can be present, and by means of a freezing microtome examine the mass then and there, and if necessary the complete operation can then be proceeded with in the event of the mass proving to be cancer. I prefer, however, the more methodical examination in the laboratory, where it can be conducted without haste, as I think a truer estimation can then be formed. Sir Lenthal Cheate shows how difficult it is to decide, even by the microscope, as to whether the mass is really early cancer or not by the examination of only one or two sections. In these early cases the whole mass must be carefully searched and any suspicious piece cut separately. The search must be carried out by a skilled person; it cannot be done by the laboratory boy.

By this means we can avoid the delay which accompanies the other and the commoner method of arriving at a diagnosis, and we place our patient in a far happier position with regard to the result.

I have drawn attention to the best statistics we have of the results of operation, and they are poor enough, and I have also conscientiously gone through all the cases of breast carcinoma of St. Mary's Hospital since 1900, and have written to a great many of the people operated upon in recent years. I cannot give the exact figures as I have

not made them out, but our hospital results are not anywhere near as good as the figures of private cases. I tell all my breast cases to come and see me after the operation, and I try to keep an eye upon them every so many months. I do not believe 20 per cent. of them are alive and well after five years. Surgeons will give many instances of people alive and well after the five years mentioned, but I believe the bulk of these are private patients; I myself have them up to seventeen years. But in private, whatever the delay may be, we see them, as a rule, far earlier than we see the hospital cases.

For my own part I freely admit that in the best cases I have the operation on the breast in the first place was not done with any idea of cancer, but always for chronic mastitis, and the cancer found later and the whole breast removed. That is the secret of the best of my cases, and that is how the importance of avoiding delay became impressed upon me. I believe that if operations for cancer of the breast could be carried out at this time there is no reason why we should not have 75 per cent. alive and well at the end of five years.

In the last twenty years the operation on the breast has quadrupled its gravity, but I do not think it has as much as doubled its benefit to the patient, and much even of that benefit is due to earlier operation, for the dread of operations is less now than it was. The extent of the operation has reached its limit, and if our results are to improve, as I am confident they can, then it must be by earlier diagnosis; and earlier diagnosis along the lines I have just indicated is bound to come.

I know the objection that will be raised is that many early cases would be operated upon in which no malignancy was found, and therefore the operation need not have been performed and is therefore unjustifiable. But the preliminary operation is a comparatively slight one; it leaves no visible scar, and if nothing serious is found the patient's mind can be set at rest; she is rid of the mass, and she is all the better for being rid of it. Does not getting rid of the mass and the giving of a definite diagnosis compensate and justify the proceeding? Think, too, what we gain every time we do find a cancer. How many cases of obscure abdominal disease undergo an exploratory operation and nothing is found? but the operation is not held to be unjustified. How many cases of obscure abdominal trouble are operated upon, and an apparently normal appendix removed? But it is not therefore said that the operation was unwarranted. How many times are gall stones diagnosed and at the operation no gall stones are found? We all know these cases, but we do not say that we have done more than take proper precautions.

Those who were at hospital twenty-five or more years ago can recall how few were the operations for gall stones or for appendicitis then seen. We were only beginning to operate upon these cases, and now they are more than common. Before that time exploratory operations upon the abdomen were unheard of; now they are a matter of common practice, and are carried out on quite slight grounds—the suspicion of gall stones or appendicitis, enteritis, chronic constipation, slight obstructive pains the cause of which is obscure; they are exploratory and diagnostic, and therefore considered necessary for diagnosis. The likelihood of cancer is certainly present, but it is not the formidable bogey it is when we are dealing with the breast. Nothing is thought of exploratory abdominal operations, but the same people will often object to having an exploratory operation performed on the breast, though no one could compare the severity and seriousness of the two operations.

Believe me, the same change which has come in your lifetime in the case of appendicitis and gall stones is going to come in the case of the breast, and exploratory operations will in time be common, and greatly to the benefit of the patient. It may be a new doctrine now, but in a few years it will be the ordinary teaching of all medical schools, and the "wait and see" policy will be a thing of the past; it will be that policy which will be called unjustifiable, and the more we think of it the more unjustifiable it is from every point of view.

## THE CAUSATION AND PREVENTION OF RICKETS.\*

BY

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(From the National Institute for Medical Research.)

RICKETS is a disease of civilization, and is so frequently found in the large cities of America and Europe that it is doubtful whether the children of the poorer classes ever wholly escape it. Good evidence of a seasonal variation in the incidence of rickets has been shown by many observers—Schnorr, Hansemann, and others. It reaches its height in the winter and declines in the summer. Palm was the first to correlate this seasonal variation with the incidence of sunlight, and thus to anticipate by many years wider discoveries.

### CAUSATION.

Many theories have been advanced to explain the cause of rickets: overfeeding, starvation, intestinal intoxication, defective hygiene, disorders of the ductless glands, and acidosis. The first great impetus to the modern intensive study of rickets was given by the work of Mellanby in this country in 1918. He varied the diets of young growing puppies until he found diets that would invariably produce rickets. To these diets he added various substances, and noted if any effect was produced in the process of calcification. He experimented on a large number of puppies and brought out many interesting facts. His most important conclusion was that rickets was really a deficiency disease—that is, it was caused by the absence from the food of a vitamin, and that the particular vitamin concerned was vitamin A or something closely associated with it. He found generally that fats richest in vitamin A were the most potent in preventing rickets, cod-liver oil being by far the best.

Soon after the publication of Mellanby's work the American investigators, McCollum, Simmonds, Shipley, and Park, and Sherman and Pappenheimer, showed almost simultaneously and independently that rickets could be produced in the rat by diets that were abnormal in their inorganic constituents. Their investigation showed that apart from any vitamin deficiency the essential thing in the production of rickets was to impoverish the diet in the raw materials of the skeleton—that is, in calcium and phosphorus. They found that rickets could be produced by diets poor in phosphorus or in calcium, or by diets that contained these elements in unbalanced amounts. More especially was it shown that a diet with a minimum amount of phosphorus could be made a rickets-producing one by the addition of excess of calcium. Although bone owes its rigid structure to its calcium phosphate content, most previous workers on the subject had, curiously enough, confined their attention to the part played by calcium in bone formation only. It is obvious that calcium without sufficient phosphorus to combine with it is useless to the organism for bone formation, and the work of the American investigators gave this point due consideration. Sherman and Pappenheimer more particularly proved that the form in which the phosphorus was given—that is, as a simple inorganic phosphate or as an organic phosphate in various types of combination—was important. They showed generally that soluble inorganic phosphates were more efficient in preventing rickets.

This work on rats paved the way for extensive work on the part played by deficiency substances in the etiology of rickets. Cod-liver oil was introduced as a specific for rickets by the Frenchman Bretonneau. Trousseau and other physicians had convinced themselves of its effectiveness by clinical observation. By means of a histological test—the so-called lime test—McCollum, Simmonds, Shipley, and Park showed that cod-liver oil caused a remarkable deposition of lime salts in the cartilage of the rachitic rat close to its junction with the metaphysis. Howland and Park demonstrated also, by means of the x rays, the

\* Read at the Association Internationale de Thalassothérapie, at Arcachon, April 27th.

deposition of lime salts in the bones of rachitic children following administration of cod-liver oil. The specific action of cod-liver oil in curing and preventing human rickets has been established by many observers, more particularly by Chick and her collaborators in an extensive investigation in Vienna.

Although Mellanby was inclined to believe that the antirachitic principle of cod-liver oil was fat-soluble A, other observers began to doubt it. Findlay, using butter-fat, claimed that though it was rich in vitamin A yet it was poor as an antirachitic agent. Sherman and Pappenheimer first showed clearly that a diet deficient in vitamin A only would not produce rickets. This was confirmed by other investigators.

McCollum, Shipley, Simmonds, and Park compared the action of butter-fat and cod-liver oil, and came to the conclusion that the latter contained in abundance a substance that was antirachitic but which had no specific action on growth or the prevention of keratomalacia. McCollum, Simmonds, Becker, and Shipley proved that the antirachitic substance was distinct from fat-soluble A vitamin. Hopkins has shown that fat-soluble A vitamin is destroyed by combined heat and oxidation. McCollum and his co-workers treated cod-liver oil in this way until, as shown by tests on animals, it had lost its power to promote growth; this oil was found, nevertheless, to be potent as an antirachitic agent. This conclusive experiment settled once and for all the non-identity of vitamin A and the unknown antirachitic agent.

#### RADIANT ENERGY.

In 1919 the German physician Hulschinsky reported that he had cured cases of rickets in children by radiating them with the light from a quartz mercury vapour lamp. The action was not local, radiation of one limb healing the rickets of both limbs. This important observation was confirmed by many workers.

The quartz mercury vapour lamp emits rays rich in the ultra-violet region, and it was proved that the active rays were these short invisible ones. Window glass cuts off these rays, and Hulschinsky found that he could not cure rickets if the light of his mercury vapour lamp was filtered through glass. The active rays were the ultra-violet ones. Hess and his co-workers extended these observations and showed that ultra-violet light would cure and prevent rickets in rats. They also proved that other sources of ultra light—the carbon arc and cadmium spark—were active against rickets. By means of selective filters they were able to cut off different portions of the spectrum, and arrived at the conclusion that the active rays were those having a wave-length of 300  $\mu$  or shorter.

Hess and his co-workers and McCollum and his also showed that the rays of the sun would prevent rickets in rats. The sun's rays, it may be mentioned, extend down to about 290  $\mu$  in the ultra-violet region. If the sunlight is filtered through glass then it does not protect against rickets. Miss Chick and her co-workers proved the protective power of sunlight on a large number of children in Vienna fed on rachitic diet. The experiments we describe confirm and amplify the fact that ultra-violet light is specific in protecting against experimental rickets in rats.

Radiant energy, it must be concluded, is as important a factor in the cure and prevention of rickets as the unknown substance present in cod-liver oil and other oils. The children in city tenements in Britain are made rickety by a diet insufficient in antirachitic substances and by over-clothing and confinement indoors. Exposure of children more or less nude to sunshine or are lamps would be of great benefit.

Iversen and Lenstrup and Howland and Kramer showed independently that the blood in cases of rickets is low in inorganic phosphorus. The inorganic phosphorus of normal children is about 5 mg. per cent.; in cases of rickets it may fall as low as 1 mg. per cent. In rickets complicated by tetany the calcium in the blood is below normal. These chemical changes in the blood are well established by a large number of investigators, and it can now be asserted that rickets is always associated with a

diminished content of calcium or inorganic phosphate or both in the blood. In rachitic children it is usually the inorganic phosphorus that is low.

Hess, examining the blood of children in New York, claims to have shown that there is a seasonal variation of inorganic blood phosphate; it falls during the winter, reaching its minimum in March, and rises again in the spring and summer till it is at its maximum in the late summer. This observation confirms in a striking way the opinion of Palm, expressed, as has already been mentioned, so many years ago, that rickets is due to insufficient sunlight.

If a cardinal symptom of rickets is a blood low in calcium or inorganic phosphorus, then cod-liver oil or ultra-violet light, if they are specific antirachitic agents, might raise the concentration of these substances in the blood when administered to cases of rickets. That this is so has been shown by many investigators. Hess was the first to demonstrate a rise in inorganic blood phosphate in the blood of rachitic children following ultra-violet light treatment.

Iversen and Lenstrup and Howland and Kramer have shown that cod-liver oil has the same effect. McCollum and co-workers produced rickets in rats by giving diets (1) poor in phosphorus, and (2) poor in calcium. Other rats on the same diets had cod-liver oil in addition. Howland and Kramer examined the blood of these rats, and showed that (1) were low in inorganic phosphorus, and that (2) were low in calcium. Those rats having cod-liver oil had the normal calcium and inorganic phosphate blood contents. The histological structure of the bones follows, in a quite remarkable way the concentration of calcium and inorganic phosphorus of the blood.

It is well established, then, that rickets is a metabolic disease characterized by bones deficient in calcium phosphate, and accompanied by a diminished content in the blood calcium and of inorganic phosphate; that it can be cured both clinically and in experimental animals with certainty by administering cod-liver oil, and that the curative action is not due to vitamin A. It can also be cured with certainty by the action of ultra-violet light.

In what way do these two dissimilar agencies act? A consideration of the calcium and phosphorus metabolism may throw some light on this problem. The experiments of one of us (A. W.) described in this paper show that experimental rickets is accompanied by defective absorption of calcium and phosphorus from the intestinal tract and a very low uptake of these elements from the food supplied. Other observers, notably Paton, Sharpe, and Findlay, and Telfer have found that this is also the case with rachitic infants. Telfer has proved that the administration of extra calcium decreases the absorption of phosphorus, as shown by the urinary output; ingestion of fat also lowers the absorption of calcium, which is excreted in the faeces as calcium soaps. It is often urged against metabolism experiments that they are of too short duration and consequently are liable to gross errors. This cannot be said of the experiments described in this paper, in which the calcium and phosphorus metabolism was recorded throughout the experimental period of one month. In the rachitic rats A. W. did not get a negative calcium or phosphorus balance, and it is obvious that rickets is possible without the actual loss of calcium or phosphorus from the organism. Telfer finds that this is the case with rachitic infants. A. W.'s experiments show conclusively that both ultra-violet light and cod-liver oil greatly increase the absorption of calcium and phosphorus from the intestinal tract, and that this is followed by an increased retention in the skeletal structures as shown by bone analysis.

These results suggest very strongly that the primary seat of rickets is the gastro-intestinal tract—a view that is by no means new. In this connexion the experiments of Zucker, Johnson, and Barnett are of interest; when they made their rickets-producing diet acid it no longer produced rickets. They also examined the faeces of rachitic and non-rachitic rats, and found that the pH of the faeces of the non-rachitic rats was lower—that is, more acid—than those of rachitic rats on the same diet. If the intestinal contents are made acid it will prevent the formation of



insoluble calcium compounds, more especially the basic calcium phosphate, and so facilitate absorption of calcium and phosphorus in the blood stream. It has been suggested that the bacterial flora of the intestine may have some influence on absorption, and the experiments of Hill, Eidinow, and Colebrook, who have shown that radiation with ultra-violet light increases the haemobacterial power of both man and experimental animals, are of interest in this connexion. On the other hand, Korenchevsky was unable to produce rickets experimentally by bacteriological means. Findlay, who in a recent review of this subject is inclined to look with favour on the gastro-intestinal tract as the primary seat of rickets, was also unable to produce rickets by infecting the intestinal canal. He suggests that the digestive processes are impaired in rickets, and quotes some experiments that support this view.

The beneficial effects of exercise and a healthy open-air life are in great part due to a raised rate of metabolism, which must be followed by increased absorption from the intestinal canal, but, as shown later, rickets can be prevented in rats by ultra-violet radiation when these animals are kept in stagnant moist warm air. Mere increase of metabolism by exposure to cool open air does not suffice to prevent rickets on a deficient diet. A border-line diet, however, may well be made sufficient by increase of metabolism through exercise and open-air life.

It may be argued that the inability of the rachitic animal to maintain normal levels of calcium and phosphorus in its blood is not due to defective absorption but to other causes; these substances may be absorbed and excreted at a lower level owing to the animal's inability to make use of them—this inability to build up bone from supplies of material present being the root cause of rickets. The present state of knowledge does not permit us definitely to refute this view, but there is quite good evidence against it. The diets used for the experimental production of rickets do so by virtue of their deficiency either in quantity or in balance of calcium and phosphorus, and if this is rectified, then the animals do not develop rickets even if they are deprived of vitamins and radiant energy. Take, again, the experiments of McCollum and his co-workers on the effect of starvation in rickets; they took rats, which they rendered rachitic, and starved them for a few days and then killed them. Histological examination showed that the period of starvation was followed by a marked deposition of lime salts. The breakdown of the starving animal's tissues liberated phosphorus and calcium, which were promptly used to build up bone. This tends to show that it is not the rachitic animal's power of forming bone which is at fault, but lack of the raw materials—that is, calcium and phosphorus.

A consideration of the evidence given in this paper strongly suggests, then, that the primary cause of rickets is a low calcium and inorganic phosphate level in the circulating blood, and that this is due to defective absorption from the intestinal canal; and we favour this view.

Given the presence of adequate amounts of calcium and phosphorus in the blood, how does the animal convert this into bone? Until quite recently knowledge of this process was very meagre; recent work of Robison and his co-workers throws new light on it. They have shown that growing bones contain an enzyme capable of splitting hexose phosphates into inorganic phosphate. If strips of fresh young bone are placed in a solution of a calcium hexose phosphate insoluble calcium phosphate is deposited in the bone. Robison has further shown that a hexose phosphate is a normal constituent of blood, and that it occurs chiefly in the red blood corpuscle. This work is of great interest, but not yet advanced enough to consider specifically from the standpoint of the etiology of rickets. Both normal and rachitic bone contains the enzyme.

#### EXPERIMENTAL METHODS.

Our experiments were all carried out on rats. Except in a few early experiments when we used the diet described by McCollum, we used exclusively the diet 84 of Sherman and Pappenheimer. This has the following composition:

Patent flour	...	...	95 grams
Calcium lactate	...	...	2.5 "
Ferric citrate	...	...	2.0 "
Sodium chloride	...	...	0.1 "

It is a very deficient diet, poor in protein, practically free from vitamins, poor in phosphorus, and rich in calcium in relation to the phosphorus content. The ratio of calcium to phosphorus is about 4:1. It is the low phosphorus content together with the relatively large amount of calcium that gives this diet its rickets-producing character. The content of phosphorus, while being of itself ample, is not absorbed, and is mostly excreted in the faeces in combination with calcium. This diet produces, in fact, phosphorus starvation, and with the stock of rats we used it never failed to produce rickets.

The rats used were the ordinary white albino or black and white rats bred in the Institute. The stock rats were fed on oats principally, with occasional scraps from the canteen and a little greenstuff. The young rats were known to have a minimal quantity of vitamin A stored.

No attempt was made to select particular litters; the rats were taken at random from the Institute stock, animals weighing 40 grams, or as near as possible to this figure, being chosen. Each experimental group consisted of four animals; unless otherwise stated, they were kept in wooden boxes 14 by 9 by 7 inches, with perforated zinc lids; sawdust was used as bedding. The boxes were kept in a poorly lit room, what little sunlight there was having to come through plate-glass windows. The diet was mixed in the form of a stiff paste with distilled water and fed to the animals daily. Distilled water for drinking was supplied *ad lib*. Each rat was weighed at the commencement of an experiment and then weekly. The experimental period was twenty-eight days. At the end of this time they were killed and samples of blood taken for analysis; the bones were either examined histologically or they were x-rayed. In most cases the diagnosis was made from an examination of the x-ray photographs; although we used histological methods in some of the early experiments we found the x-ray method more useful. There is no doubt of the correctness of the diagnosis by this method, the difference between radiographs of rachitic and non-rachitic animals being most striking. Generally the inorganic phosphorus in the blood of the rats was determined at the end of each experiment, as was also the calcium and phosphorus of the bones. Young rats of about 40 grams weight put on the Sherman-Pappenheimer diet increase a little in weight and then decline, their appetite fails, and if left longer than twenty-eight days they usually die. If killed at the end of twenty-eight days gross rachitic changes are obvious and unmistakable. Typical experiments will be described here with the experimental results obtained.

We first tried the effect of exercise, or rather lack of confinement. One group of rats was kept in our standard size box, while another group was kept in a much larger box having four and a half times the floor and nine times the capacity of the small box. Rickets developed in all the rats in each box, so that confinement *per se* was not responsible for the development of the rickets.

Similar experiments were tried in which one group of animals were kept in the large box as before; but the box was kept out of doors for two hours daily, freely exposed to any winds and to a north sky in March, but shaded from direct sun. Rickets again developed. We are forced to the conclusion that exercise and open air but absence of direct sunlight have no specific antirachitic effect on young rats. It is possible that exposure to cold was disadvantageous. The influence of direct sunlight was next investigated. The rats were kept in the standard box, but at 12 noon each day they were transferred to an open-mesh wire cage and exposed on a high balcony facing south for two hours each day to whatever sun was available. The experiments were done in the spring and summer, but in this country the daily amount of sunlight is very variable. Our results varied, but we came to the conclusion that a minimum exposure of two hours to bright sun- or sky-shine five days a week was necessary to protect rats from rickets under the severe experimental conditions we have adopted in this research.

The rays emitted from two different known sources of ultra-violet light—the quartz mercury vapour and the open carbon arc—were next investigated. The rats were kept in their usual standard boxes; when it was necessary to expose them they were transferred to a small large-mesh wire cage and exposed for varying times to either the carbon arc or the mercury vapour lamp. The exposure varied from two hours daily to five minutes daily, and the distance from the lamps two to three feet. The quartz mercury lamp was a vacuum lamp taking 3.5 amperes at 200 volts. The carbon arc was a hand-fed lamp taking 5 amperes. The results are very striking provided the exposure is sufficient and not through glass, which filters out the active ultra-violet rays; radiations from this lamp will always prevent rickets from developing in rats on the standard diet we have used. The minimum exposure that will prevent rickets we found to be five minutes daily two feet from the mercury vapour lamp, and about thirty minutes

for the carbon arc at the same distance. We came to the conclusion that ultra-violet light is specific in its antirachitic effect. This will be emphasized in the experiments we are now going to describe.

This specific action of ultra-violet light seemed to us to conflict with the evidence of the incidence of rickets in tropical climates. Rickets is by no means unknown in the tropics, although it has been shown by chemical tests that the tropical sun is rich in ultra-violet rays. It is well known that the average mean temperature in the tropics is very high, and there is often present also a high degree of humidity. It seemed possible to us that this might influence in an adverse way the specific antirachitic effect of ultra-violet light, so we proceeded to investigate the question.

We first tried the effect of dry heat on young rats fed on a normal diet. A group of young rats was kept in standard boxes, the food consisting of the Institute stock diet—that is, whole cereals with a little greenstuff daily when available. From 5 p.m. to 9 a.m. the rats in their boxes were kept on the floor of the hot room, where the mean temperature was about 33° C. They spent the rest of the time in the outer hot room, where the mean temperature was about 23° C. This was continued for a period of twenty-eight days, when the rats were killed and examined for signs of rickets. No evidence of rickets was seen in any of the rats. Rickets, then, is not produced in rats fed on a normal diet and subjected to a high temperature for twenty-eight days. Another group of rats was fed on the same normal diet and kept in wire cages. These cages were suspended in large tanks with hot water just below but not touching the bottom of the cages. The water was regulated with a thermostat to keep a temperature of about 37° C. The rats thus lived in a very hot humid atmosphere. We found it very difficult to keep rats under these conditions, several dying of acute congestion of the lungs. A couple of rats lived under these conditions for forty days, and when killed they showed no signs of rickets. We came to the conclusion that, providing the diet is adequate, conditions simulating the tropics at their worst, but without any ultra-violet light, will not give rise to rickets in young rats.

We then subjected rats fed on our rickets-producing diet to conditions of dry heat described above, giving half of them thirty minutes' exposure to the carbon arc daily while the other half acted as controls. All the controls developed rickets, while none of the rats that had the light treatment showed any signs of rickets. Even under these adverse environmental conditions ultra-violet light prevents the development of rickets.

Other experiments have been carried out rather different from those described above, but with the same object in view. The usual groups of experimental and control rats were kept in standard boxes on the standard rachitic diet, but the actual light treatment was given under adverse conditions. The light from the carbon arc was by means of an aluminium reflector so focused on the rats as to expose them to tropical heat; other rats were chilled by keeping them for thirty minutes in the cold room and radiating them with the mercury vapour lamp actually in the cold room; yet others were radiated in the hot room with the mercury vapour lamp; further groups were radiated while they were kept cool by a powerful air blast or oppressed by moist heat. The results were always the same: the radiated rats, however adverse the conditions of radiation, were all free from rickets.

We consider these results in general highly significant, and feel justified in making the broad generalization that, provided an animal is supplied with food just sufficient to maintain life and a little growth and a bare minimum of the bone-forming elements calcium and phosphorus, then if ultra-violet light be supplied in adequate amount rickets will not develop however unfavourable the animal's environment be.

We carried out some other experiments on rather different lines.

A favourite remedy with animal dealers and keepers is flowers of sulphur; they say that it tones up animals out of condition and generally helps to keep their coats glossy. Its use combined with treacle as a spring tonic for children is traditional. We therefore tried this as an antirachitic substance. The usual group of four rats were given the standard rachitic diet to which was added 25 per cent. of flowers of sulphur (arsenic-free); at the end of twenty-eight days the rats were killed and examined—they showed no signs of rickets. This suggested an important addition to our scanty list of antirachitic agents, so the experiment was repeated. In the second experiment the result was negative; all the rats developed rickets. We have tried sulphur many times, but conclude that it fails to prevent rickets as often as it succeeds. We are convinced, then, that it can in about half the animals prevent rickets, but its action is uncertain.

In view of the partly favourable action of sulphur we thought

it of interest to see if a purgative or an intestinal antiseptic had any antirachitic effects. We used magnesium sulphate as being a typical neutral purge, and thymol as a typical intestinal antiseptic. We also tried arsenic, this substance being a well known tonic and mentioned also in the literature as being beneficial in cases of rickets in children. Magnesium sulphate and thymol proved to be useless as antirachitic agents, all the experimental rats showing severe rickets. The arsenic group of rats all showed rickets, but it seemed to be of a much milder type than that in the controls.

In view of statements made by others we thought it advisable to try the effect of the gases given off by the carbon arc and also of air that had been acted on by the mercury vapour lamp. There was, we found, no protection from rickets, even when the rats breathed the fumes of the irradiated air for a couple of hours a day.

It was suggested to us that the skin was a depot of antirachitic substance, and that ultra-violet light acted on the skin and stimulated it to pour this into the circulation. We therefore tried feeding animals on the antirachitic diet with portions of skin from freshly killed normal rats. The normal rats were killed and then skinned, as much hair as possible was removed, and weighed portions of the skin were administered daily to the experimental rats. The rats consumed the skin avidly. We gave amounts varying from 0.5 to 2 grams of fresh moist skin daily per rat. The results were negative; in fact, the rats that had the 2-gram ration of skin had grosser rickets than the controls.

We carried out an experiment with results that now seem highly significant in view of recent work. A group of rats were taken, and instead of radiating them daily they were given one hour's exposure to the mercury vapour lamp weekly, four exposures being given in all. This sufficed to protect them completely from rickets, and it seemed to us at the time that the light had actually synthesized something in the rat's organism which it was able to store and use subsequently.

In an attempt to gain further insight into the mechanism of the action of antirachitic agents, one of us (A. W.) studied the calcium and phosphorus metabolism of these groups of rats in special metabolism cages. Group (1) was fed on the standard rickets-producing diet only. Group (2) had the same diet with the addition of 0.2 c.c.m. of cod-liver oil per rat per day. Group (3) had no cod-liver oil, but the rats were radiated daily for ten minutes two feet from the mercury vapour lamp. The experiments lasted the usual period of four weeks. During this period the weekly intake of calcium and phosphorus was determined, also the calcium and phosphorus excreted in the urine and faeces. The difference between the intake and combined urinary faecal excretion gives the amount retained.

	Calcium.	Phosphorus.
The controls retained ...	0.37 gram	0.15 gram
The cod-liver oil group retained ...	0.58 "	0.26 "
The mercury vapour lamp group retained ...	0.51 "	0.20 "

These figures are the total retentions for each group of rats over the full experimental period of twenty-eight days. It will be observed that both cod-liver oil and ultra-violet light increase markedly the retention of calcium and phosphorus. In no case, however, was there any excretion of phosphorus in the urine. This means that in the rat under these conditions the inorganic phosphorus content of the blood is below the threshold level of the kidney both in the rachitic and non-rachitic animal. Calcification occurs when the inorganic phosphorus in the blood is below the threshold level of the kidney but higher than that of the blood of the rachitic rat as shown by direct blood phosphorus determinations. It will be remembered that the diet used is rickets-producing in virtue of its poverty in phosphorus. Let us now consider the calcium excretion: this being in considerable excess is excreted partly in the urine and partly in the faeces. The proportion of the total calcium excreted found in the urine was as follows:

In the controls ...	31.2 per cent.
In the cod-liver oil group ...	73.8 "
In the ultra-violet light group ...	65.7 "

While in the controls or rachitic rats only one-third of the total calcium excreted finds its way into the urine, two-thirds being excreted in the faeces, in the cod-liver oil and ultra-violet light-treated rats which are free from rickets, the figures are reversed—two-thirds of the calcium is excreted in the urine and one-third in the faeces. These figures strongly support the view that the antirachitic body in cod-liver oil and radiant energy in the form of ultra-violet light both act in the same way in preventing rickets, and that this mode of action is a facilitation of absorption of calcium and phosphorus from the intestine into the blood stream.

It is interesting to note that it is not necessary to have a negative balance—that is, a greater excretion than intake—of calcium or phosphorus before rickets develops. So long as there is enough calcium and phosphorus absorbed to satisfy the minimal demand for ossification, rickets will not develop. When absorption falls below this level rickets develops.

Since these pages were written Steenbock and Black, and also Hess, have published papers claiming that rickets can be prevented in rats by radiating the diet with ultra-violet light. Steenbock and Black radiate the whole diet, and claim that feeding this to the animal prevents the development of rickets. Hess radiates an inactive oil—cottonseed oil—and claims that feeding a little of this with the daily ration prevents rickets.

Independent confirmation of this important work seems necessary, so we have carried out some experiments with that object in view. We adopted the technique we have used throughout this work. Four groups of rats were taken, each rat weighing about 40 grams. Group 1 were fed on Sherman and Pappenheimer's diet 84 previously described. The diet, after being made up into a stiff paste with distilled water, was spread on a clock glass in a thin layer and placed under a mercury vapour lamp twelve inches from the burner and radiated for half an hour. It was then given to the rats daily for twenty-eight days, when the rats were killed and x-rayed. They showed no signs of rickets.

Group 2 were fed on the standard diet, and in addition received 0.5 gram daily of an inactive linseed oil that had been radiated half an hour twelve inches from the mercury vapour lamp. Fresh oil was radiated for each day's ration. The rats were killed after twenty-eight days and x-rayed. They also showed no signs of rickets.

In Group 3 the patent flour portion of the diet only was radiated as described above; after mixing with the other constituents it was given to the rats. At the end of twenty-eight days these rats proved to be free from rickets.

Group 4 were fed on the standard diet, and in addition they received a daily dose of radiated hardened cottonseed oil. This oil, which is really a solid fat, is a commercial product that we have used for other experiments on account of its complete freedom from fat-soluble vitamin A. It is the liquid cottonseed oil of commerce that has been hardened by the technical process of hydrogenation. It was radiated in the following way: the oil was melted into a transparent quartz flask; this flask was attached to a slow-running motor and slowly rotated between two mercury vapour lamps, six inches from each lamp, and radiated for a period of eight hours. It was then given to rats of Group 4 in daily doses of 0.5 gram per rat. On killing the rats at the end of the twenty-eight days they all showed on x-ray examination severe rickets. This was surprising in view of the previous result with linseed oil. Two explanations are possible: (1) the prolonged period of radiation at a temperature of 40° to 50° C. had destroyed any active substance formed earlier; (2) the process of hydrogenation had destroyed in cottonseed oil a precursor or substance which, when aided by ultra-violet light, becomes active.

In Group 5 the calcium lactate, ferric citrate portion of the diet only was radiated for half an hour. The calcium lactate was radiated in the powder form, the ferric citrate and sodium chloride were dissolved in water so as to give a large surface for radiation. The radiated salts were then mixed with the patent flour and given to the rats in the usual way. The salts were radiated fresh daily. The rats were not protected from rickets. These results confirm the work of Steenbock and Black and Hess—that certain rickets-producing foodstuffs can be made antirachitic by radiation with ultra-violet light. Further investigations show that cholesterol, or a vegetable sterol, after radiation has very great antirachitic power.

Two other American investigators, McQuarrie and Kugelmass, have published a preliminary account of an investigation in which they claim to have got startling results. Briefly, their work consists in making antirachitic substances like cod-liver oil or egg yolk undergo a process of oxidation, and during this process they claim that radiant energy is given off that will darken a sensitive photographic plate through a quartz screen but not through a glass screen. In other words, antirachitic substances undergoing a process of oxidation give off ultra-violet light. We have repeated their experiments but are unable to confirm their results or substantiate their claims. We have made many experiments in many different ways with different antirachitic substances, but have been unable to act on the most sensitive photographic plates either through quartz or glass screens when these were so arranged as completely to protect the photographic film from vapour arising from the substances in question. We found that certain samples of fused quartz, after being irradiated by ultra-violet rays, were able to act on a photographic plate. The quartz was rendered phosphorescent, and we think this may possibly explain why

McQuarrie and Kugelmass obtained positive results through a quartz screen and not through glass.

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## TWO DISEASES DUE TO FASHION IN CLOTHING:

### CHLOROSIS AND CHRONIC ERYTHEMA OF THE LEGS.

BY

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#### I.—CHLOROSIS.

THOSE of us who were house-physicians at hospitals in London about 1890 saw much of chlorosis in girls and young women. Making blood counts in such cases and prescribing Bland's pills and other chalybeate preparations constituted a not inconsiderable part of the daily routine work on the medical side. Where are similar patients to be seen now? Did anyone suspect that the familiar features of chlorosis would ever almost completely vanish from the doctor's surroundings as they have? It is true that formerly in general practice countless troubles in women of all ages were attributed to "anaemia" without any blood count being made, and to doubt the correctness of the diagnosis was often to offend the patient. It is therefore quite natural that some modern physicians of a younger generation, experts in blood examination, especially those practising on the Continent, should question the alleged former frequency of chlorosis, suggesting that it was due to want of knowledge and insufficient or careless examination of the blood. But no one who was a house-physician in London about 1890 can admit the justness of such an accusation. Blood counts were made and the ordinary features of chlorosis were well known. Indeed, one could make the diagnosis with practical certainty when one passed girls and young women in the London streets, or even at the seaside, with the typical appearance of "green-sickness."

One remembers the characteristic pale, puffy face, the shortness of breath on climbing the stairs or other slight exertion, and, in the severer cases, obvious physical signs of cardiac dilatation. There were the out-patients who gave up their treatment at the hospital to take advantage of some charitable person's kind offer of a gratuitous holiday at the seaside. There they often tried to vie with their companions in "healthy" exercise and "enjoyment" of the open air, but with most unfortunate results. Chlorosis was certainly not due merely to insufficient food or want of open-air exercise. They soon returned to London and the hospital out-patient room, but in a condition far worse than when they left. They had lost during their holiday all that they had previously gained from the out-patient chalybeate treatment.

Some patients sought employment as cooks or helps in basement kitchens, so that they could avoid the frequent stair-climbing ordinarily required of domestic servants. In this way they escaped much of the dyspnoea on exertion, the "panting" on the stairs, and the "tea and bun" midday meal of many of the shop-girls of that period. They got plenty of meat, but often took very little green vegetables and fruit so as to save themselves from gastric flatulence—with the result that they increased their tendency to constipation, and often added to their other troubles recurring so-called "bilious attacks" and the kind of headaches largely due to intestinal autointoxication.

Psychasthenic and functional nervous symptoms in the more mentally active and (financially) "better-off" subjects

so often accompanied chlorosis that in private practice they came to be regarded as an essential feature of the disease, and such symptoms were frequently attributed to "anaemia" when there was no anaemia.

That chlorosis (the "chlorotic anaemia" of girls and young women) has greatly diminished or almost disappeared during recent times seems to be generally admitted by medical observers in England, the United States, and the European continent; but what was the cause of the disease, and why has it been passing away? Though various factors may have played a part, it seems now almost certain that the main exciting cause of the disease was the wearing of corsets, and that the gradual abandonment of tight-lacing has ultimately led to its almost complete disappearance. The anaemia of young women connected with mitral stenosis and hypoplasia of the heart and large blood vessels, to which Virchow<sup>1</sup> drew attention in 1872, was probably mostly not true chlorosis, and has not disappeared, but the patients have not the typical "puffy" appearance. It was perhaps O. Rosenbach<sup>2</sup> who, in 1895, first claimed that corsets were responsible for (true) chlorosis, and this opinion has been recently supported by Roch and G. Bickel<sup>3</sup> of Geneva, and T. Deneke<sup>4</sup> in Germany.

This explanation accounts for the following facts: (1) Typical chlorosis never occurred in boys. (2) Rather fat girls were more affected than thin girls; the former probably "squeezed themselves" more than the latter. (3) Prolonged rest in bed, where corsets were not worn, always made the patients better; it was, in fact, a chief method of treatment for bad cases. (4) Holidays at the seaside, with plenty of open air, often made the patients worse, probably because they overfired themselves and tried to look their best and thought that tight-lacing helped to make them more attractive. (5) Married life often had a good effect, probably in part because, at any rate in the poorer classes, it indirectly led to less tight-lacing. The male once captured, it was no longer so necessary to charm his eye with the slender waist which he had been trained to admire. (6) Chlorosis was absent (according to Deneke) amongst Persian and Japanese women, who did not use corsets. It was doubtless due to natural individual powers of resistance and compensation that chlorosis was not still more prevalent in the days when tight-lacing was customary.

## II.—CHRONIC ERYTHEMA OF THE LEGS.

A kind of chronic (indurative) erythema of the legs in girls and young women seems now to be becoming by no means very uncommon. It is usually admitted that true "erythema induratum" of Bazin is of tuberculous origin,<sup>5</sup> though perhaps the tubercle bacilli which give rise to it are not very virulent and the patients affected are fairly resistant to the graver forms of tuberculosis. Be this as it may, the form of erythema to which I am now referring is apparently not directly related to tuberculosis, and though it is a chronic indurative erythema of the legs in girls and young women—sometimes leading to diffuse thickening and scleroderma-like hardening of the skin and subcutaneous tissue—it does not, like true "erythema induratum" of Bazin, lead to the formation of nodules and ulcers, unless as the result of local injuries.<sup>6</sup> The patches of erythema, which, at least at first, are temporary, disappear or diminish during warm weather and rest in bed; they may, however, progress to a stage of red or cyanotic hard ("brawny") thickening of the skin and subcutaneous tissue, and may occasionally diffusely and symmetrically encircle the lower part of both legs. The condition may become so serious and threatening as to necessitate repeated rest in bed for a few days, and may prevent the patient from carrying on her work.

Cases which I believe belong to this class have been demonstrated at the Royal Society of Medicine quite recently by S. E. Dore and A. W. Stott<sup>7</sup> (I have myself had the opportunity of noting the progress in their case) and by H. MacCormac.<sup>8</sup> Amongst slightly earlier accounts is that by G. N. Meachen,<sup>9</sup> who described it as one of "persistent erythema of an erythromalgic type," apparently because the erythema and pain in the legs were relieved by assuming the horizontal posture.

That the condition is not yet recognized as a definite

syndrome with a special name of its own is testified by a recent paper by S. N. Vendel,<sup>10</sup> headed "Erythema," with a note of interrogation, to signify the uncertain nature and etiology of the erythema. He and his colleagues in Denmark have observed about 75 cases during the past five or six years. The thickening may be marked, extending from a little below the external malleolus upwards, and the anterior and exterior aspects of the legs are chiefly involved. The affected skin is red or cyanosed, as if it had been subjected to Bier's artificial passive hyperaemia. The thickened tissues do not pit on pressure with a finger; the local pallor induced by the pressure disappears at once when the finger is withdrawn. The limbs feel cold, and the patients may complain of pain, tenderness, paraesthesia, or a sensation of heaviness in them. The condition is bilateral and more or less symmetrical, and affects females whose ages are mostly between 14 and 20 years. According to Vendel the condition, though it exists throughout the year, is most troublesome in the cold season. In about one-third of his cases flat-foot was present. In one case superficial varicose veins were present, and in one varicose veins in the popliteal spaces. No treatment proved satisfactory in his series of cases.

It seems to me that in these cases there must be a condition of persistent local atony of the blood capillaries, such as has been observed by Otfried Müller, Parrisins, and others, by the help of the skin microscope, in certain conditions of the skin and mucous membranes. Indeed, some (not all) cases are associated with a "chilblain" or "weak" circulation; the defective circulation in the extremities may even amount to a condition of acrocyanosis. The patients are mostly fairly plump and there may be a kind of puffy fusiform swelling, not of the interphalangeal joints (as in some infective rheumatoid conditions), but of the phalangeal segments between the joints. In some cases menstruation has been delayed or scanty, with functional ovarian insufficiency or definite ovarian hypoplasia. Other cases have been associated with colonic stasis or intestinal autointoxication. H. MacCormac has suggested that the scanty covering of the legs now customary, by thin silk stockings only, from the upper edge of the boots or shoes to the lower border of the dress, is responsible for the erythema. S. E. Dore and some others support this view, and the condition did not attract medical attention before short dresses and thin silk stockings became generally popular.

If it be admitted that in certain persons a constitutional defect in the capillary circulation—a tendency to atony of the blood capillaries of the skin and subcutaneous tissues—may constitute a soil or basis favourable to the development of the true tuberculous "erythema induratum" of Bazin, one may suppose that in girls and young women with a similar constitutional capillary defect the local action of cold on the poorly clothed portions of the legs may give rise to more or less permanent atony of the superficial blood capillaries, leading in some cases to a red or cyanotic thickening of the affected skin and subcutaneous tissue. This would account for the temporary beneficial effect of warm weather and of a few days of rest in the recumbent position in a warm bed. An occasional relationship of intestinal autointoxication and sexual hypoplasia to defective capillary circulation in the extremities may likewise be admitted, but it is the action of cold as a local exciting cause that has mainly to be considered.

The reason why most girls and young women do not suffer from the local erythematous condition in question is doubtless that the cold is sufficient as an exciting cause only when it acts on the basis of a constitutional defect in the capillary circulation of the skin and subcutaneous tissue. Such a constitutional defect, first showing itself after puberty, might be allied to the constitutional basis which sometimes leads to true Bazin's erythema induratum. Similarly, as I have pointed out in the first part of this paper, it was probably only in girls and young women having another special kind of constitutional tendency (predisposition) that tight-lacing produced typical chlorosis. It would be interesting to ascertain whether the young subjects of chronic erythema in the legs ever develop true tuberculous erythema induratum of Bazin, and whether in later life they will tend more than others to develop hypostatic dystrophic

changes in the lower extremities, of the type of so-called "varicose ulcers," "varicose eczema," and "varicose pigmentation," associated or not with pronounced varicose veins.

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## THE TREATMENT OF HAY FEVER.

BY

FRANK COKE, F.R.C.S.

In popular parlance the term "hay fever" is used very loosely to include all forms of paroxysmal sneezing. In this article hay fever refers solely to the affection due specifically to sensitization to the pollens. The majority of cases are due to the grass pollens, and recur with great regularity from the end of May to the middle of July. A few cases, due to sensitization to the tree pollens, commence in April or the beginning of May. The identity of these should be discovered by means of the dermal tests before the season commences.

Sweet-smelling flowers and those which are highly coloured have heavy sticky pollens and are fertilized by insects; their pollens are not air-borne, and so have little effect in causing hay fever. The scent of these flowers will often provoke paroxysms in hay fever patients, but this can be disregarded in planning the treatment, as when desensitized to the grass pollens the patient's sensitiveness to the smell of flowers will disappear.

## PREVENTIVE TREATMENT.

Sea voyages are effective, but sending patients to the seaside is of no use unless a guarantee can be given that the wind there will be from the sea. Avoidance of the pollen being, then, impossible, one of the following methods must be used to desensitize the patient.

(a) *Desensitization of the Patient by Small Doses of the Pollen.*—Judging by experience in desensitizing horse asthmatics, far greater trouble should be taken in using this method than is commonly observed. It would seem that we have to use up the patient's specific adzyme, as I have called it, by means of minute doses of the protein spread over a period of many months without at any time giving a large enough dose to excite the formation of more specific adzyme. The patient is tested with dilutions of the protein, and a dilution ten times weaker than that which gives an appreciable reaction on the skin is used. Starting with a dose of 2 minims of this, weekly or bi-weekly doses are given, increasing each dose by 1 minim until the next dilution containing ten times more pollen is reached. We do the same with this, gradually increasing the dose until a higher dilution is required. All this must be done very slowly, making frequent dermal reactions to see how the course of treatment is progressing. When the stronger solutions are used the doses should be increased very slowly indeed. It is essential that the dilutions used to treat the patient are actually those with which he has been tested; otherwise they are bound to vary in strength—first, because the grass flowers from which the dilutions are made, though duly weighed, may be wind-blown and so carry varying amounts of pollens; and secondly, because the strength may deteriorate considerably after it is made. The method of giving a few doses shortly before the hay fever season, and especially daily doses, may appreciably lessen the patient's hay fever, but for another reason: anti-anaphylaxis takes place. However successful this may be it fails, because it gives no protection for the next

season. Before we can say that the patient is cured we must not only obtain freedom from hay fever but from treatment as well.

(b) *Desensitization by Non-specific Methods.*—Probably any protein would effect this purpose, but the danger of the patient being sensitive to them is so great, especially in the case of horse serum, as to preclude their routine use. In my experience the "mixed coliform vaccine" originally suggested by Danysz is the most effective. Though an autogenous vaccine is undoubtedly preferable, heterogeneous mixtures may be used. These should contain some 40 per cent. of *Bacillus coli*, 40 per cent. of coliform variants, and 20 per cent. of intestinal streptococci. Doses varying from and rising from 20 to 1,000 million of these organisms are injected hypodermically, once or twice a week according to the nearness of the hay fever season. I have had several patients who have had a course of this treatment four years ago and who have passed through subsequent seasons without hay fever and also without the inconvenience of the yearly course of treatment. Treatment with this vaccine should be commenced in April and continued well into the hay fever season. But it is almost equally effective when given later in the season. It will often stop hay fever even when violently active, though the permanent desensitizing power is best conferred by the early course.

These two methods should not be used together, for the pollen injections will defeat the objects of the mixed coliform vaccine.

(c) *Medicines* are of very little use in controlling hay fever. The calcium salts are those most favoured. I find great value in the use of colloidal calcium, which should be given when the hay fever season is due to commence in 1/2 to 1 c.c.m. doses intravenously.

(d) *Cauterization* of the nose is very useful for two purposes. If on examination of the nose before the hay fever season commences we find that the turbinates are covered with boggy swollen mucous membrane, cauterization should be undertaken to reduce them by scarring. The other use of the cautery is to touch the mucous membrane lightly and destroy some of the nerve endings and so lessen the extreme sensitiveness present. This should be done over the turbinates on either side, and particularly on the septum anterior to the bony outlet of the nose. With a blunt probe other tender spots can be searched throughout the whole area. I am in the habit of doing this cauterization about the middle of May, thus allowing just sufficient time for healing before the season commences.

## SYMPTOMATIC TREATMENT.

(a) The patient should be placed in a cool dark room. The admittance of fresh air from the outside should be limited to the minimum, for the whole air is heavily laden with pollen. For the same reason the windows should be kept closed at night unless the warmth of the weather makes this impossible.

(b) The effect of the direct sunlight is so provocative of sneezing that dark glasses should be worn if the patient does not stay indoors. These should fit closely round the eyes, after the manner of motor goggles. Broad-rimmed hats and caps are often helpful.

(c) The patient is greatly assisted by taking steps to prevent the pollen passing on to the mucous membrane of the nose. Unfortunately, the worse the patient's hay fever is the more difficult it is to touch the nose without causing a paroxysm of sneezing. Simplest, perhaps, is a tube of vaseline with a long nozzle out of which sufficient can be squeezed just inside the nose. This can be pushed further up the nose by pinching that organ with the finger and thumb, assisted by sniffing it up. Liquid paraffin or olive oil may be used very frequently in a coarse spray.

(d) Various medicaments may be added to the paints and sprays to meet the symptoms. Adrenaline and menthol will constrict the blood vessels and so lessen the swelling of the mucous membrane, allowing the orifices of the various sinuses to regain their patency. Cocaine and its substitutes reduce the intense irritation of the nerve endings in the nose, and constrict the blood vessels, especially cocaine. Oily and greasy vehicles for these drugs soothe the mucous membrane and prevent fresh pollen getting to it.



(c) Similar drugs may be used for the eye symptoms. In educated people, who can be trusted not to use the drugs to excess, the instillation of a few drops of cocaine (4 grains) and adrenaline (3 drachms to the ounce) will not only help the eyes, but, by passing down the lacrimal duct, will also allay the trouble in the nose. Used in an atomizer these may be sprayed up the nose and also into the eyes. In prescribing these drugs some estimate must be made of how often the patient will use them and, more particularly still, the kind of spray he will use them in, likewise the viscosity of the ingredients of the solution used.

(f) A search should be made for any microbio invaders which are adding to the patient's discomfort.

(g) Considerable comfort is experienced by dipping the whole face into a basin of cool water at bedtime. If sufficient salt is added the eyes may be opened and washed in this. Keeping the lips and glottis closed some patients manage, by expanding the buccal cavity, to draw the solution into the nose and wash that at the same time. Such a washing often allows the patient to fall asleep with ease and comfort.

By these various methods much more can be done for the unfortunate sufferer from lay fever than was possible formerly.

## RECTAL INJECTION OF ETHER IN WHOOPING-COUGH.

BY

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MANY methods are used in the treatment of whooping-cough; among the many drugs belladonna, opium, and quinine seem to be the favourites. Recently x-ray treatment has been suggested in America<sup>1</sup> and in England.<sup>2</sup> Vaccine treatment has also been tried on many cases.<sup>3</sup> Ether was first suggested in 1914 by Audrain, whose results were published in 1920.<sup>4</sup> He used 1 to 2 c.cm. injected intramuscularly three times a day. Since then several other workers have published their results; Pannoyatou stated that the duration of the disease could be reduced to twelve days after starting treatment by a dose of 1.5 to 3 c.cm. of ether given intragluteally on alternate days.<sup>5</sup> Mason in America, who treated 26 cases in the same way,<sup>6</sup> had 60 per cent. cured and 24 per cent. definitely improved. He also tried ether by the rectum on four cases, using 6 c.cm. of a 40 per cent. solution of ether in olive oil. Half of these were successful and half failures.

Smith<sup>7</sup> has recently reviewed all the literature published since the war on the treatment of whooping-cough, but does not mention the rectal method of administering ether. It would seem that this is the first time that a large number of cases so treated has been put on record.

### MODE OF ADMINISTRATION OF ETHER.

It has been the custom to administer the ether by subcutaneous or intramuscular injection. This is undoubtedly the most rapid method, but it is very unsatisfactory for children between the ages of 2 and 12. An enema by the rectum is much more suitable. The enema is painless—only two cases in this series complained of abdominal pain, rapidly passing off, and the majority of children raise no objection to the repetition of the treatment. The only difficulty lies in getting a certain number of cases to retain it.

When ether was given by injection I always used the intragluteal route. The dose was 5 to 10 minims of the ordinary anaesthetic ether. For the administration of an enema I used a full-sized male rubber catheter, attached by a small glass tube to a larger-bored rubber tube with a funnel at the other end. The ether was mixed with an equal amount of olive oil, the dose given being 1 drachm of the mixture for every year of age. If anything an excess was given, and if the symptoms were severe and the enema well retained 1 or even 2 extra drachms were given. Before

administering the enema the skin round the anus was well smeared with vaseline and the catheter then passed up 3 to 6 inches. The ether mixture was passed into the funnel and allowed to flow into the rectum by its own weight. The rate of flow can be watched through the glass tube connecting the catheter to the tube. This also serves as a gauge to see whether there is anything left in the tube. When all the enema has been run in, the catheter is rapidly withdrawn and usually none leaks out. Ether appears in the breath about five minutes after the enema has been given and can be detected during the next twenty-four hours. It has never in this series caused any digestive upset or pulmonary trouble. In many cases it did not begin to have any beneficial effect till after the second administration, and in severe cases actually aggravated the symptoms at first.

I treated the first 25 cases with ether alone without drugs and the next 25 with ether and drugs; the latter improved so much more rapidly than those treated with ether alone that the remainder of the cases were always treated with both. Of drugs I tried phenazone, bromides, belladonna, iodine, and opium in various combinations. I met with successful results with all these drugs, but belladonna was the most generally successful. In the cases summarized in this article only four enemata or injections were given—in some cases one each day and in others on alternate days. There would seem to be no advantage in resting for forty-eight hours nor any need to limit the treatment to four doses.

### RESULTS.

After December 1st, 1924, all cases of whooping-cough coming to the casualty department were treated by ether. In this way the results of 86 consecutive cases can be recorded. Of these, 28 were treated by injection and 58 by enema. Of the former, 11 gave up the treatment before the course was completed, but, with the exception of 3, the results as far as they went were satisfactory. Three cases must be classed as failures, and the remaining 14 were successful.

Of those treated by enema 14 gave up the treatment owing to the parents' objections or because the child would not allow the administration of the enema. Of the remainder, 13 were failures and 31 successful. Of the children successfully treated, the earliest had been coughing for four days and the longest for more than four weeks. This case was a girl of 6 who had been coughing for about a month when first seen. She was having about forty attacks during the twenty-four hours, and vomited in nearly half of them. The appetite was very poor, and there were frequent attacks of epistaxis. The first two enemata contained 3 drachms of ether each, and the second two 3½ drachms. The breathing improved after the second, and the whooping completely stopped after the fourth. One week later the vomiting also stopped and the appetite improved. The child was putting on weight at the rate of an ounce a week, and reported satisfactory progress at every subsequent visit. No more epistaxis occurred after treatment was started.

In addition to these cases of pertussis treated in the casualty department, an outbreak among the in-patients enabled me to try the ether treatment on a number of cases under constant observation. Of these, 12 were treated by enemata and 5 by injections. Nine of the former were successful; the paroxysms were at once considerably diminished in number and violence, and ceased within a few days. Three were failures. Two of these patients were already under treatment for bronchopneumonia and the third for anterior poliomyelitis. The observations of the nursing staff bear out what the mothers reported to me in the out-patient department. Of those treated by injection 4 were successful and 1 a failure, though benefited.

I have had no success with ether as a prophylactic, though probably, if given when a suspicious cough commences, the disease will be aborted or rendered very mild. It is perhaps worth noting that the only cases in the ward which remained unaffected and were not given any prophylactic treatment were two cases of colic disease. They were in the ward when the original case was admitted, and at the time of writing, three months after the first "whoop" was heard, have no signs of the disease.

The total number of cases treated by mo with ether may be tabulated thus:

Method.	No. of Cases.	No Result.	Successful.		Failures.	
			No.	Per Cent.	No.	Per Cent.
Intramuscular ...	33	11	18	55.5	4	12.1
By the rectum ...	70	14	40	55.5	16	22.8
Total ...	103	25	58	55.5	20	19.4

In holding a case to be successful I have laid stress on the following points: (1) the number of attacks of paroxysmal coughing; (2) the violence of the coughing; (3) the number of times that vomiting is caused; (4) absence of complications, or, if any, with only mild symptoms.

I have to thank Dr. Beatty, physician to out-patients, for permission to publish these notes.

#### SUMMARY.

1. Drugs still hold their place in the treatment of whooping-cough. Of these belladonna seems to be the most useful.

2. Ether will check the disease completely in 25 per cent., fail completely in 25 per cent., and be followed by considerable improvement in 50 per cent.

3. Ether neither causes nor prevents complicating bronchitis; bronchitis already present is not a contraindication to its use.

4. The method of administration seems to be of no importance provided the dose is large enough.

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<sup>1</sup> BRITISH MEDICAL JOURNAL, November 29th, 1924, *Epitome*, para. 424. <sup>2</sup> *Ibid.*, December 20th, 1924, *Epitome*, para. 491. <sup>3</sup> *Ibid.*, para. 492. <sup>4</sup> *Bull. et Mém. Soc. Méd. des Hôp. de Paris*, June 11th, 1920. <sup>5</sup> *Brit. Journ. Child. Dis.*, vol. x, 1923. <sup>6</sup> *Journ. Amer. Med. Assoc.*, December 22nd, 1923. <sup>7</sup> *Amer. Journ. Dis. Child.*, November, 1924.

## HAEMOGLOBINURIA FOLLOWING MALARIAL TREATMENT OF QUATERNARY SYPHILIS.

BY

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SCHILLING and Jossman<sup>1</sup> have reported an instance in which haemoglobinuria occurred following malarial treatment with *Plasmodium vivax*. The temperature rose seven days after it had returned to normal; quinine (8 grains) was given, and almost immediately red, followed by black, urine was passed. The following day the urine was clear, but the patient was jaundiced. The temperature then fell gradually to normal during a period of about ten days. The authors were not able definitely to exclude paroxysmal haemoglobinuria, but believed that the case was one of blackwater fever. The following case is described as another example of haemoglobinuria following malarial treatment.

A man, aged 56, was given a subcutaneous injection of defibrinated blood infected with *P. vivax* on October 25th, 1923. Twelve days later febrile paroxysms occurred and the patient was allowed to undergo nine. The last rigor took place on November 22nd. A course of quinine bisulphate was commenced the following day. Two doses of 10 grains were given on each of the first three days and one dose of the same quantity on each of the following four days, making a total of 200 grains. In addition, the following course of neokarsivan was given: one dose of 0.3 gram, one of 0.45 gram, and four of 0.6 gram. The last injection was given on December 30th, 1923. The temperature was recorded every four hours for fifty-eight days after the cessation of the malarial paroxysms. On only seven days was it above normal; the highest temperature recorded (100.4° F.) followed an injection of neokarsivan. The temperature was then observed twice daily for twenty-eight days and no record above normal was noted. On the twenty-ninth day (February 18th, 1924), eighty-eight days after the last malarial paroxysm and seventy-one days after the last dose of quinine, the morning temperature was 98.8° F.; it was then recorded every hour. At 2 p.m. it had risen to 101.8° F., and at 3 p.m. to 103.6° F.; it then began to drop in a staircase manner, reaching 99° F. at 2 a.m. on February 19th, and normal at 10 a.m.

on that date. A rise to 99° F. occurred at 2 p.m. on the same day, but thereafter the temperature was normal or subnormal, the records being made every four hours for twenty-one days, and then twice a day for forty-seven days.

On the morning of February 18th, the day upon which the highest fever occurred, the patient was cyanosed and complained of feeling cold, but no definite rigor occurred. At 3 p.m. profuse perspiration appeared. The pulse rose to 100, and the respirations to 20. On this day dark, very aclear black, urine was passed; the urine passed on the following day was red, and the colour gradually became normal. Red cells were present in the urine on February 22nd. There was bacilluria on this date, but no tubercle bacilli were found. There was no vomiting, hiccup, or jaundice, but abdominal pain was marked.

A blood film taken on February 18th showed a large number of anæmic or pale red cells but no shadow cells. Spherocytes were never observed, nor was punctate basophilia or polychromasia detected in daily films from February 18th to 26th. Malarial parasites were not found.

The attack from which this patient suffered might have been due to blackwater fever or to paroxysmal haemoglobinuria. Both diseases can be brought on by cold. The daily minimum temperatures of the outside air showed a marked fall shortly before the onset of the attack. From the fifteenth to the sixth day before the attack the minimum temperature averaged 35.6° F., the lowest record being 31° F., and the highest 37° F. From the fifth to the day previous to the attack the minimum temperature averaged 22.6° F., the lowest being 19° F., and the highest 26° F. There was a pronounced fall of the indoor temperature on the night of February 16th-17th, the temperature of the ward in which the patient slept being 48° F. at midnight and at 2 a.m. on February 17th. The ward temperatures are recorded at 2 a.m., 7 a.m., noon, 7 p.m., and midnight, and 48° F. was the lowest temperature that occurred during the days immediately previous to the attack, 52° F. being the next lowest. The fall of the temperature to 48° F. was very sudden, there being a drop of eleven degrees in five hours. The rise after was gradual. The low temperature occurred about thirty hours before the onset of the attack of haemoglobinuria.

The fact that no quinine had been given for several weeks before the onset of the haemoglobinuria is of no assistance in diagnosis, for, although large numbers of attacks of blackwater fever are precipitated by this drug, many are not. Thomson<sup>2</sup> describes cases which had no quinine for several months before the onset of blackwater fever.

Turning now to the facts in favour of the diagnosis of blackwater fever, the number of attacks which occurred is important. If the patient suffered from paroxysmal haemoglobinuria it was possible that several attacks might occur over a prolonged period. The attack was, however, the only one during a total observation period of 679 days in Claybury and West Park Mental Hospitals. The patient was under observation for 317 days before the attack.

The presence of red cells is against the diagnosis of paroxysmal haemoglobinuria but not of blackwater fever. J. G. Thomson<sup>2</sup> has reported its occurrence in ten cases, and states that other writers have also observed it.

By the courtesy of Dr. N. Roberts, medical superintendent of West Park Mental Hospital, I have been enabled to perform the Eason-Donath-Landsteiner test for the autolysis of paroxysmal haemoglobinuria in the blood of this patient. In this disease haemolysis of the red cells occurs if a mixture of red cells and serum is cooled to 0° C. for five minutes and then placed at 37° C. for one hour. In this case haemolysis did not take place. This is against the diagnosis of paroxysmal haemoglobinuria, although it should be added that the test was not performed until March 4th, 1925.

The following facts suggest the diagnosis of paroxysmal haemoglobinuria. Jaundice is a very prominent symptom of blackwater fever, but it was absent in this case. J. G. Thomson<sup>3</sup> believes, from the study of the disease in Rhodesia and from the literature, that blackwater fever is due to a previous infection with *P. falciparum*. He states, however, that the disease may occur in persons after a relapse of benign tertian malaria, but he believes that in those cases there has been a previous infection with *P. falciparum*. This species is exterminated by quinine, and *P. vivax* causes the relapse. In the patient whose case is here recorded there was no history of previous malaria or

blackwater fever. The blood inoculated could not have carried a double infection of *P. vivax* and *P. falciparum*, for the strain had been passed through four persons before the case under review was inoculated. Since then sixty-eight inoculations have been performed with the same strain of parasite at Claybury Mental Hospital, and it has been used by other mental hospitals. Colonel S. P. James has also used the strain for mosquito inoculations. No malignant parasites have been found. The strain must therefore be a pure strain of *P. vivax*.

Yamakami<sup>3</sup> has found that about 25 per cent. of tertiary and congenital syphilites have the cold haemolysin in their blood. It is therefore probable that it might be present in a case of quaternary syphilis. Although the Eason-Donath-Landsteiner test was negative, it must be remembered that the test was performed a long time after the attack of haemoglobinuria.

The diagnosis of this case is therefore difficult, but on consideration of the detailed report of J. G. Thomson on blackwater fever it would appear that it is probably a case of paroxysmal haemoglobinuria.

In conclusion, I wish to thank Dr. J. S. Harris of West Park Mental Hospital for his assistance. For permission to publish records from Claybury Mental Hospital my thanks are due to Dr. G. F. Barham, medical superintendent.

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## X RAYS IN THE DIAGNOSIS OF ORGANIC DISEASES OF THE COLON.\*

BY

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In estimating the value of radiology in the diagnosis of organic diseases of the colon, it is necessary to compare it with the other available methods of confirming, or otherwise, suspicions aroused by a consideration of the patient's history. Apart from the ordinary physical examination of the abdomen and digital examination of the rectum, the only direct means of investigating intestinal diseases are the x rays, investigation of the stools, and sigmoidoscopy.

For the purpose of this communication my colleague, Dr. J. F. Venables, has analysed all the cases of the kind which have come under our observation at New Lodge Clinic during the last four years. In each an x-ray examination has been carried out by Dr. P. J. Briggs, the stools have been investigated by Dr. J. H. Ryffel and Dr. J. F. Venables, and I have inspected the rectum and pelvic colon with the aid of the sigmoidoscope. The relative value of these different methods can thus be estimated, but it is at once clear that all are valuable and should be systematically used, as it is generally impossible to tell beforehand which will give the most important information in a given case, whilst in many the final diagnosis is only reached by a consideration of the symptoms and the results of the physical examination in the light of the information obtained—whether of a positive or negative character—with the x rays, the investigation of the stools, and sigmoidoscopy.

The series of cases includes 13 of carcinoma of the colon, excluding growths of the rectum which could be felt on digital examination, 5 localized adhesions of the colon, 5 cases of diverticulitis, 3 strictures following ulcerative colitis, 1 case of tuberculosis of the caecum, and 1 of tuberculosis of the last three inches of the ileum.

### 1. The X Rays.

(a) An x-ray examination after an opaque meal never reveals an obstruction of the colon which cannot be recognized with an opaque enema, but it is useful in the diagnosis of obstruction of the small intestines, especially near the end

of the ileum. In only 2 out of 12 cases of cancer of the colon was anything abnormal seen after an opaque meal.

(b) As I first demonstrated in April, 1908, an opaque enema shows the presence of obstruction at a comparatively early stage, often long before localizing symptoms develop. But a negative result does not exclude a growth of the colon; in 1 of the 9 cases in which an opaque enema was given and in 3 earlier cases a growth was found, though an opaque enema had failed to show the slightest abnormality.

An opaque enema is the only certain clinical means of recognizing diverticula of the colon. This is of great importance, as it may be impossible, even during an exploratory operation, to distinguish between a growth and an inflammatory mass secondary to diverticulitis. In one case in which we had found that symptoms of obstruction were due to diverticulitis, a recurrence of symptoms two years after the mass had been removed was shown by an opaque enema to be due to carcinoma developing in connexion with a diverticulum of the iliac colon, which had apparently escaped notice at the original operation.

Until recently I believed that ulcerative colitis never led to stricture on healing. I have, however, now seen 4 cases out of a series of 17, in which delayed recovery was due to narrowing of the colon, which was discovered with the x rays; in two of these the whole pelvic colon was shortened and narrowed, but complete recovery ultimately occurred without surgery. In the third case a long stricture was found in the transverse colon and a short one in the descending colon, and in the fourth a long stricture of the transverse colon and a kink of the pelvic colon; in neither were any symptoms pointing to obstruction present, but the x rays showed the necessity of short-circuiting operations, without which recovery would have been impossible. Delayed recovery in cases of ulcerative colitis, whether an appendicostomy has been performed or not, is thus an additional indication for x-ray examination.

### 2. The Stools.

Microscopical examination may show the presence of blood corpuscles and pus in stools which look normal to the naked eye. Much more frequently blood can only be recognized by chemical means and by the discovery of haematoporphyrin or acid haematin with the spectroscope. In 4 out of 12 cases of growth of the colon the blood was obvious; in all of the others occult blood was found in every stool. For some unknown reason it appears to be present with equal constancy when obstruction is caused by adhesions; thus obvious blood was present in 1 and occult blood in the remaining 4 of our cases of this kind; occult blood was also found in the cases of ileal and caecal tuberculosis. In 3 cases suspicious symptoms and the presence of occult blood induced us to advise operation, though the x rays had shown nothing abnormal; in 2 of these the symptoms were referred to the stomach and achlorhydria was present, and we diagnosed carcinoma of the stomach, so that an opaque enema, which might have led to a correct diagnosis before operation, was not given.

### 3. The Sigmoidoscope.

The sigmoidoscope is so invaluable in diagnosis that every practitioner and physician should learn to use it himself in cases of supposed colitis or unexplained disturbance in the functions of the bowels. With its aid a growth of the upper part of the rectum or lower part of the pelvic colon can be recognized before it can be felt—often before a barium enema shows any definite abnormality. By means of the sigmoidoscope I have twice been able to diagnose early malignant degeneration of a polypus before the wall of the bowel itself had become involved.

I hope that one result of this discussion may be to induce surgeons to avail themselves more frequently of the assistance given by a thorough investigation before embarking on an exploratory laparotomy. I have had the disappointment of learning that a patient, in whom we had diagnosed a growth of the splenic flexure, had had his appendix removed by a distinguished surgeon, whom he consulted without telling his own doctor, to whom we had sent our report; eighteen months later he was operated upon a second time for acute obstruction caused by an inoperable growth of the splenic flexure.

\* Contributed to a discussion in the Subsection of Proctology of the Royal Society of Medicine, May 13th, 1925.

## PARKINSONISM TOGETHER WITH THE "APACHE TYPE" IN ENCEPHALITIS LETHARGICA.

BY

ALLEN HANCOCK, M.C., M.R.C.S., D.P.M.

Among the many late manifestations of encephalitis lethargica those met with in children and young adults are most striking and varied, and victims of this disease are found attending the out-patient department of most hospitals in increasing numbers. Whether such late manifestations are sequelae of the disease is doubtful; it seems more probable that they are rather the effects of a still active virus living in the nervous system, like that of syphilis—a view held by Netter, Mott, Wimmer, and others. A classification by Hall has put such juvenile cases under one of the following classes: (1) idiot type; (2) Parkinsonism; (3) apache type; (4) naughty child type. Of these Nos. 2 and 4 are especially common, and there are many of type 4 which nearly approach the true apache type, although not really bad enough in their moral defect. Such cases, however, cause great anxiety in their homes, and institutional care is usually called for. It is agreed by observers in this country, and on the Continent, that a combination of the apache type with Parkinsonism is of rare occurrence, and it is for this reason that it is felt that the following case, in which certification was necessary, may be of interest.

A labourer, aged 19, had a history of "influenza" in November, 1922, was "ill in bed for ten weeks"; "would sleep all day," and "has been sleepy ever since." After this illness he showed great moral deterioration. His report from school was an excellent one, and in it he was described as "diligent, attentive, regular, punctual, and respectful." After leaving school he was described as "of steady habits, hard-working, and a pleasant lad." In June, 1924—that is, nineteen months after his acute attack—he began to change in his attitude towards his relatives, who say that he "became had-natured, excitable, punched and kicked his mother and his small sister, threw knives about." In October, 1924, he was admitted to a mental hospital, his certificate stating that he had been charged at a police court with making a murderous attack on his mother. Inquiry showed that this was the third time he had been before the court on a similar charge. On the first occasion he was "remanded for medical examination"; on the second he was given "fourteen days' hard labour"; while on the third he was again remanded and sent to hospital, where he was certified.

On admission he was dull, retarded, sullen, and suspicious, and fabricated freely when his past was discussed. He was irritable in manner and abrupt in speech, and usually answered questions shortly and in an explosive manner. He was well nourished, pale of face, and had a greasy skin. His face was fixed and expressionless, his head bent forward towards the ground. Heart, lungs, and kidneys appeared normal. The knee-jerks were brisk, equal; plantars, flexor response; abdominal reflexes, present and equal. Pupils: react to light and accommodation, equal, regular outline, and not eccentric; no diplopia; movements of eyes complete. Ophthalmoscopic examination revealed no abnormal findings.

His gait was slow and stiff, and, when walking, he showed an absence of the normal swing of the left arm, which was held rigidly at the side. Myoclonic movements of the right shoulder were present, as were rapid blinking of both eyes. When agitated he showed frequent and regular sucking of the teeth, quite different from that observed in certain people when "on the defensive." His mother states that all these movements were not present prior to his illness. No abnormal sensory changes were detected. As is generally found in this disease, examination of the cerebro-spinal fluid showed no marked changes. It was clear; there was slight increase of pressure; Pandy's test was negative; protein not above 40 per cent.; the Wassermann test was negative; there was no excess of cells; Lange's test 0001110000; sugar 0.05 per cent.; chlorides 0.71 per cent.

Since admission he has shown some improvement at times, but remains bradyphrenic, rather slow and explosive in speech, and markedly bradykinetic. The Parkinsonian facies persists, but he has shown no violent tendencies and his behaviour has been satisfactory, although he has always been irritable and abrupt when addressed or examined.

The history of this case goes to show that this distressing disease is one that may raise difficult questions from a medico-legal point of view.

## Memoranda:

## MEDICAL, SURGICAL, OBSTETRICAL.

## HYDATIDIFORM MOLE.

HYDATIDIFORM mole is sufficiently uncommon to make the following case appear worthy of record.

The patient, aged 22, was admitted to a nursing home on October 26th, 1924; she gave a history of first pregnancy dating from about the middle of June. She had been losing blood for rather more than two weeks, and had been kept in bed under medical supervision, the case apparently being one of threatened miscarriage. On admission, after an uncomfortable journey of about forty miles by train and car, the pulse was 80 and the temperature 97.6° F. There was a slight brownish discharge not accompanied by pain. The uterus was enlarged to an extent corresponding with the history. The cervix, which was high up and quite soft, was only slightly dilated. The ovaries appeared normal. On October 28th an anaesthetic was administered and the cervix dilated. Pituitrin and quinine were given and the uterus massaged, but expulsion did not result. On October 30th the cervix was further dilated under an anaesthetic and the uterus carefully emptied of its contents—a vesicular mole. The patient made an uninterrupted recovery.

With regard to the frequency of this complication of gestation the figures of different observers vary from 5 in 4,000 pregnancies (=1 in 800) given by Engel, to 1 in 20,000 recorded by Madame Boivin. At the Rotunda Hospital, Dublin, in a series of 46,700 pregnancies the condition was found 22 times (=1 in 2,122.72); Fairbairn considers the average incidence to be 1 in 5,000. The condition is found most often in multiparous women towards the close of the child-bearing period.

NORMAN WILSON, M.D., B.Ch. Cantab.

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## CONGENITAL FAMILIAL JAUNDICE:

The note by Dr. T. R. Thomson on congenital familial jaundice, in the *JOURNAL* of January 10th (p. 72), prompts me to record a similar family history from my own practice.

The father and mother both belong to families of two only. Neither knows of any family tendency to jaundice of the newborn, haemolytic jaundice, or haemophilia. Their ages are now 38 and 34 respectively. The history of their children is as follows:

1. Girl, born August, 1911. No jaundice; healthy.
2. Boy, born April, 1913. No jaundice; healthy.
3. Girl, born March, 1916. No jaundice; healthy.
4. Boy, born March, 1920. Jaundice from second day. Haemorrhages (of blood that did not clot) from umbilicus and bowels, beginning on eighth day. Died on tenth day.
5. Girl, born June, 1921. Jaundice from birth. Similar haemorrhages, beginning on eighth day. Died on tenth day.
6. Girl, born June, 1922. Slight jaundice for a few days. Survived; healthy. For four months prior to the birth of this child I got the mother to take calcium (syrup. calcii lactophos. 3ss daily).
7. Girl, born December, 1924. Jaundice from second day. Haemorrhages from axilla and bowel beginning on eighth day. Subcutaneous ecchymoses over the whole body. Died on the fourteenth day.

The last baby was given 1 grain of calcium chlorido every three hours from the second day, and an injection of 2 c.cm. of haemoplastin (P. D. and Co.) on the thirteenth day. The latter had not a fair trial. I had to get it from London after trying Glasgow unsuccessfully, and so lost a few days after making up my mind to use it. The mother had no ante-natal treatment, for a double reason. Owing to a housing difficulty and the possibility of having to leave the district, she did not engage me till five or six weeks before her confinement was due. I had—and still have—doubt as to whether the fact that the sixth child survived was really due to the prolonged treatment of the mother with calcium, and for the few weeks remaining it did not seem worth while to commence it again.

The age of the mother makes it probable that there will yet be opportunity of testing the effect of the calcium treatment. I have advised her that if she becomes pregnant again she should take it throughout the whole period of gestation.

JAMES K. DUNLOP, M.A., M.B., Ch.B.  
Sanguhar, Dumfriesshire.

### MELAENA NEONATORUM TREATED BY INJECTION OF PATERNAL BLOOD: RECOVERY.

THE reports which have appeared recently in the *BRITISH MEDICAL JOURNAL* of the successful treatment of melaena neonatorum by injection of paternal blood made me think it worth while to record the following case.

On March 27th a multipara was delivered of an apparently healthy female child after a normal labour. I was called in on March 28th, at 1.45 p.m., to see the baby, who had been losing blood by the rectum almost continuously since 3 a.m. The child was blanched and cold. There had been no vomiting of blood. I withdrew 10 c.cm. of the father's blood and injected it deeply into the gluteal region of the child. While making the injection I noticed the free discharge of dark blood from the bowel, due to the child's straining because of the prick of the needle. Next morning there had been no more haemorrhage, and no further injection was necessary—a point to be noted, as one case reported required as much as 40 c.cm. of paternal blood.

The child's weight at birth was 8 lb. 4 oz. On March 31st it weighed 7 lb. The weight on April 19th was 8 lb., and the child is doing well.

There is nothing to note in the family history; there are seven other children, all healthy. The mother, however, tells me that prior to and during her pregnancy she had been living on a staple diet of bread, tea, and margarine, because of the unemployment of her husband.

JANEET C. MORRISON, M.B., Ch.B. Edin.

Campbelltown, Argyll.

### MITRAL STENOSIS IN PREGNANCY: CAESAREAN SECTION.

Dr. GUY BELLINGHAM SMITH's article, "The Ante-natal Clinic" (*JOURNAL*, March 7th, p. 440), induces me to publish a case of mitral stenosis in a pregnant woman on whom I performed Caesarean section some three years ago.

I attended the patient as a child for acute rheumatism, and during her teens I frequently gave her digitalis on account of attacks of auricular fibrillation. She married in the early twenties and became pregnant. During her pregnancy she frequently required digitalization for attacks of auricular fibrillation with orthopnoea. I had a consultation with a colleague, Dr. Frank Hiehens, and we decided that the best treatment, for both mother and child, was Caesarean section at term. We agreed that, if pregnancy went to term, a prolonged etherization with more or less accouchement forcé would be more dangerous than the short etherization necessary for a rapid Caesarean section.

Neither mother nor child caused any subsequent anxiety, and both are alive and well to-day. This method was adopted only after seeing many painful cases of decompensation (cardiac) in pregnancy and labour.

Camborne, Cornwall.

JOHN H. TONKING, M.B. Lond.

### RETROPHARYNGEAL ABSCESS: SECONDARY HAEMORRHAGE:

#### LIGATION OF COMMON CAROTID: RECOVERY.

A MALE, aged 24, was admitted into the hospital with a history of dysphagia for fourteen days and fever. A tender mass was felt on the left side of the neck, which bulged visibly. The temperature was 103° F. and the pulse 115. Chloroform was administered, and, as the incision was being made, he suddenly ceased breathing; judging from his colour he was suffering from respiratory embarrassment. Meanwhile he had regained consciousness and his respiratory distress was such that a high tracheotomy was instantly performed. This gave him immediate relief; the anaesthesia was resumed and the abscess evacuated. A drainage tube was inserted but replaced next day by gauze drainage. No pus was formed after the fourth day, and the temperature and pulse fell to normal. All went well till the seventh day, when blood was found pouring through the dressing. A thorough search was made for the bleeding vessel without success. As the bleeding continued the left common carotid artery was ligated. In a week he was sufficiently well to return home.

P. K. LIANG.

C. H. LEE.

P. T. LIANG.

London Mission Hospital, Tientsin.

## Reports of Societies.

### RADIATION THERAPY.

THE discussion on radiation therapy in the Section of Electro-Therapeutics and Radiology of the Royal Society of Medicine was resumed on May 15th, Dr. STANLEY MEVILL presiding. The opening of the discussion on March 20th was entirely occupied by the introductory papers of Dr. Gilbert Scott and Dr. J. H. Douglas Webster (see *BRITISH MEDICAL JOURNAL*, March 28th, pp. 596 and 601), who on this second occasion briefly recapitulated their points.

Dr. N. S. FINZI said that x-ray treatment was in a state of some uncertainty, but until recently he was not aware that there was any doubt as to the natural history of new growths. Dr. Gilbert Scott had expressed the view that all new growths were general in origin, with local manifestations. He had heard only one other radiologist express that view, and he had imagined that nobody took him seriously. All surgeons and the majority of radiologists would certainly be of opinion that neoplasms were originally local and only subsequently became generalized. He wished that Dr. Scott would tell those present whether his general treatment of a case of carcinoma had ever proved successful in the sense that the patient had lived two, three, or more years afterwards. All radiologists were able to point to cases which had remained well for five or ten years. All his (the speaker's) own cases which had remained well for a long period after x-ray treatment were cases of sarcoma; he had also cases of carcinoma which had remained well for a long period, but these had been treated by radium or by a mixed method (radium and x rays). It looked, therefore, as if the softer radiations would answer the purpose in sarcomas, but that in carcinomas, and especially in epitheliomas, a harder radiation was necessary. Lately in Paris he had seen a series of cases, proved by sections to be cases of epithelioma, in which, following radiation treatment, the growth had disappeared for from two to five years. These had been treated at the Radium Institute in Paris by the use of filtered radium and filtered x rays. The filtration in the case of the x rays was on a scale never attempted in this country—2 mm. copper—and a current of 200 kilovolts was used. In the speaker's own experience, local treatment, provided an area of sufficiently wide extent were taken, was successful in a certain number of cases—not in all, because the methods had not yet been absolutely mastered. The local treatment of metastases was also successful. Lymphosarcoma in particular was one of the growths which responded readily to any type of radiation; the less penetrating radiations were often sufficiently effective in this condition. But the hard or more penetrating radiations had given the radiologist the power of getting effective radiant action at the seat of the disease without damaging the intermediate tissues to any extent, although, of course, it was always possible that those tissues might be damaged by wrong technique or careless work. It was also necessary to remember that with these very penetrating radiations there was a late effect, appearing, in some cases, three or four months after treatment, even though nothing had been done in the interval, and this fact had to be brought into the reckoning when it was proposed to use other treatment later on. With intensive doses radiation sickness was likely to occur; the upper abdomen could not be irradiated without getting radiation sickness. But, apart from that area, he found radiation sickness occurring but seldom now in his own practice; he had avoided it by thorough ventilation of the room, and by getting rid of corona discharges in the neighbourhood of the tube, and of ozone and nitrous oxide as far as possible. In cases likely to have sickness the administration of chloroform was helpful. Another precaution was to refrain from giving too much radiation at one time. He had spread treatments over several days, and even weeks, and yet had got an intensive dose. His tendency was still to push the radiation higher and higher. He treated certain cases with rays of low penetration, but the results he obtained with the higher penetrations seemed to him infinitely better.



Professor SIDNEY RUSS said that the differentiation which Dr. Gilbert Scott had made between direct and indirect action needed to be borne in mind. It was not difficult to get proof of indirect action. He wondered whether the rather large doses which it was customary to give in deep x-ray therapy were really necessary. The dose which was necessary to prevent the growth of the cell was perhaps not the most useful criterion for clinicians to take; it was also necessary to take into account the resistance which the individual might put up to the growth. Radiologists should endeavour to settle amongst themselves, not the maximum dose which they dare apply, but the minimum dose consistent with beneficial effect. He could not help feeling that the use of the more penetrating rays had gone ahead without sufficient experimental warrant. The use of these penetrating rays required just as much experiment beforehand as x-ray treatment on what might be called moderate lines had received.

Dr. ROBERT KNOX spoke of the nature of tissue response to radiation. He said that the chief point to grasp at the outset was that the problem was not a strictly physical one. It was useless to pursue a chase after higher and higher voltage as a solution of the problem. The apparatus which radiologists now had at command was sufficiently powerful to give radiations of such quality and quantity as would act upon and kill any tissue in the human body. Radium, which gave the most penetrating radiations at present known, had been used in sufficient quantities to test that point. But the fundamental considerations in tissue changes were the type of cells and their responses, the phase of activity at the time of exposure, and the fact that in treatment of disease the response and action of the normal tissues was of vital importance. The biological unit, which at the same time was a unit of structure and a unit of function, must dominate the consideration. After describing some cases, Dr. Knox expressed the view that the radiation technique of the future would change very considerably, and that some development on the lines suggested by Dr. Scott in his paper would follow. He did not suppose that direct and local treatment would ever be discarded, but he did look to a much wider distribution of the area of treatment in a case of carcinoma. He also urged the value of the information derived from blood counts. If observations were made carefully enough, information could be obtained from the blood which was available in no other way. All cases submitted to any kind of radiation treatment should have very careful blood counts made. He also recounted a case which bore out the point that it was possible to sensitize a patient to a course of radiations to such an extent that if a dose of another quality, representing a drop in the penetration value, were given, a very different response was immediately manifested.

Dr. W. MITCHELL rather quarrelled with the term "prophylactic treatment," because, strictly speaking, none of the cases exhibited to the Section were cases of true prophylaxis. He described one case of a woman sent to him two years ago with carcinoma affecting both mammary regions. In one region there had been operative interference, and the results of radiation treatment following operation were so encouraging on that side that he asked the surgeon to remove the other breast. This woman was comparatively well to-day, although not cured; she was given an occasional dose still, with 0.5 mm. zinc filter, and she had no internal recurrences. In sarcoma cases he had had some excellent results, including sarcoma of the ericoid process with secondaries in the neck. Under deep radiation treatment, using 0.5 mm. filter, the condition cleared up in a remarkable way.

Dr. F. HERNIMAN-JOHNSON found himself in general agreement with Dr. Scott. He wanted to consider the duty of the radiologist, not in regard to those cases in which the surgeon had admitted failure, but those in which the surgeon thought the operation most favourable, and, indeed, believed that by surgery alone the disease had been eradicated. Here was a patient who, after operation alone, might expect to have good health for at least two or three years, and might live for an indefinite number of years. Anything that the radiologist did should be with the object of improving the health of that patient from the

very start. The radiologist might be justified in taking various risks when he was treating a case which the surgeon had abandoned in despair, but when the disease appeared to have cleared up after operation, and he did not know that any vestige of disease remained, he must be very careful to do nothing which was likely to injure. His own advice would be that the same course should be followed as was customary in the general treatment of tuberculous patients—that is to say, everything possible should be done to raise the patient's resistance. In breast cases there was a certain area under suspicion—namely, the breast itself, the axilla, and the supraclavicular region. That seemed to be "fair game" for fairly wide x-ray treatment. He would suspend the tube with a wide open diaphragm two feet above the patient, shielding the face. The dose should be small, the time short—ten to fifteen minutes—and a 3 mm. filter should be used. He thought it would be found that after such treatment the patient would declare from the start that she felt better and stronger. But an attempt ought to be made to do something more than that. Whether what might be called the x-ray bath or generalized x-ray treatment, as advocated by Dr. Scott, was the best for that purpose was a little open to question. But there was available in sunlight and ultra-violet rays a method of raising the patient's general resistance, and the speaker advocated a plan whereby the treatment of the local area widely by x rays was alternated with a course of general sunlight treatment as in tuberculosis.

Dr. J. E. A. LYNHAM said that the improvement following a change in voltage to which Dr. Knox had referred was of great interest. A similar plan had been followed in the treatment of a number of cases of carcinoma which had come under his observation, with good results. Recently one of the surgeons at the Cancer Hospital had been going through the statistics relating to carcinoma of the uterus, and had found that the cases which had shown the best results were those in which radium had been used, followed by x rays of penetrating quality, the exposures lasting half an hour twice a week and then spacing out to quarter-hour exposures once in ten days; after an interval in which no exposures were given this spaced-out treatment was resumed for a further period. With regard to generalized radiation, he thought it should be borne in mind that the size of the aperture was of very great importance. If one was going to give radiation on the principle put forward by Dr. Scott the time of dosage should be extremely limited. Recently he had been irradiating inert chemical solutions for the research department. In the first series of radiations the Coolidge tube was kept in the usual lined box, and a small aperture was used; very little change was seen in the solution even when it was placed more or less directly under the tube. Then it was suggested that similar solutions should be irradiated without the tube box so that the whole fan or cone of rays might bear upon the solution, and in that case the changes were profound, although the time of irradiation was the same. If such a change could take place in solutions so irradiated, it seemed that the changes induced in the human body by rays from a relatively wide aperture must be very great indeed.

Dr. DOUGLAS WEBSTER, in replying on the discussion, agreed with Dr. Lynham that if the x-ray "bath" over a very large area was given it must be given only for a limited time. He thought that the best results obtained by general treatment with x rays were in leukaemia and Hodgkin's disease, but there the conditions were quite different from those obtaining in breast cancer. He failed to see that Dr. Scott had established his case. Professor Russ had stated that a generalized small dose improved the resistance of animals to the implantation of tumours. But the fact remained that generalized small doses did not, so far as the speaker was aware, have any effect upon spontaneous tumours. He suggested that it would assist the position if surgeons would record their breast cases in certain definite groups, according to the condition obtaining at the time of operation. On the general question in debate he was in agreement with Dr. Scott that at present medium-voltage therapy was best for prophylaxis, but he thought Dr. Scott's dual method deficient in several respects, and that in formulating it the pathology of breast cancer had not been fully considered. If one accepted the

view that cancer spread along the lymphatics one must work ahead of clinical signs of the disease, and try to stop it from going any further. The supraclavicular triangle was one great danger zone in breast cancer, and he thought this liable to be neglected under Dr. Scott's method.

Dr. GILBERT SCOTT, also in reply, claimed that by his general or open method he was getting results in cases where he had had no results before—results, for instance, in secondary deposits in the spine. The value of varying the dosage had been mentioned. He wanted to have at his command radiations from the lowest to the highest in quality, and to be able to use filters of different types. On the question of whether a malignant disease was general or local, the practical point for radiologists was that every case, by the time it reached their department, was a general disease. It never reached the radiological department as a localized manifestation.

### X-RAY DIAGNOSIS OF DISEASES OF THE COLON.

In the Subsection of Proctology of the Royal Society of Medicine on May 13th, Mr. F. SWINSON EDWARDS presiding, a discussion was held on the value of x rays in the diagnosis of diseases of the colon.

Dr. GILBERT SCOTT said that this subject was of equal importance to the surgeon and the radiologist. The radiology of the colon had not been developed to anything like the same extent as had the radiology of the stomach, and hence the full diagnostic value of the method had not been recognized. The value depended on correct technique and correct interpretation of what was seen. He regarded the opaque enema as being of as much value in colon cases as the test meal for stomach disorders. In the case of the colon, by the time an opaque meal had reached the lower gut it was so much broken up, and the illustration was so marked, that examination was tedious, and at the end one could not be certain whether or not an organic lesion was present. For colon cases, therefore, he had for some time past discarded the meal and substituted the opaque enema. The gut could be easily manipulated under the screen, and the examination was soon completed without discomfort to the patient. The patient should be carefully prepared, as the presence of faeces might lead to errors in diagnosis. With regard to the interpretation, there were two classes of error: (1) that the lesion might be passed undetected, (2) that inspection of the plate might lead to the diagnosis of a lesion which was not confirmed at operation. The pitfalls included faeces in the colon, air-bucks, pressure from without, spasms, and partially filled gut. Most difficulty was caused by small and atypical lesions. To differentiate between tubercle and new growth by the rays was, he considered, practically impossible. He related a number of cases to show the value of the enema method, and showed skiagrams by the epidiascopic.

Mr. HAMILTON DUNNISON said that he had long believed in this method as an aid to diagnosis, but his sanguine views of years ago had been somewhat modified by experience. To estimate the value of x-ray findings considerable experience of the pitfalls was necessary. The method should always be combined with abdominal palpation. During the last five years he had been his own radiologist for colon cases. If the surgeon was to derive the full benefit of this means of diagnosis he should either furnish the radiologist with a full history of the case, or, better still, meet him in consultation. Sometimes patients were sent to the radiological department without an ordinary clinical examination being made. This clinical examination should include the use of the sigmoidoscope. X-ray examination of the colon by the barium meal or enema was seldom the primo factor in diagnosis; histories often furnished information of the greatest diagnostic value. Flexures of the colon were particularly difficult points at which to locate a growth, as here the shadows overlapped.

Dr. BERTHA SHIRES was in agreement with Dr. Scott

as to technique, and also with his statement that no examination could be regarded as complete if only one method was used. In the majority of colon cases he felt that an opaque enema was of the greatest value, but there were many traps into which one might fall unless there was close co-operation between surgeon and radiologist. On giving a barium enema there was a filling defect in the pelvic colon in the early stages in 30 per cent. of the cases. The x rays often enabled spastic colon to be diagnosed when it could not be recognized by any other means. In one case a great deal of gas in the pelvic colon caused an irregular filling, and this irregularity, on a further filling, completely disappeared. In one case the skiagrams after an enema and the clinical findings also pointed to carcinoma, but abdominal section revealed nothing but slight spasm at the lower end of the descending colon.

Dr. ARTHUR F. HURST's communication is printed in full at page 965.

Dr. ULYSSES WILLIAMS agreed with Dr. Scott about the practical unimportance of the barium meal in these cases. It was quite valueless, he thought, in diseases of the colon, except to show position. The barium enema was useful. It was necessary to be very careful on finding an apparent stricture before determining that it was actually a stricture, for a stricture could readily be simulated. With regard to showing the appendix, it was quite useless to give the ordinary barium meal made with milk or arrowroot. The only satisfactory vehicle was buttermilk, which would fill the appendix in 70 or 80 per cent. of cases. The drawback was that the buttermilk was so very disagreeable that it was difficult to get patients to take it. He started on an investigation on 100 normal people with buttermilk, and after a first experience the volunteers were reduced to 12. His investigation, the results of which he showed in a diagram, proved that, on the basis of the findings in these 100 normal persons, the level of the hepatic flexure in 75 per cent. of cases was just at the crest of the ileum, two or three inches below the position given in the anatomy textbooks, and where the people who believed in coloproxy thought it ought to be. His results suggested that variation in the level of the colon alone, without anything else, was of no importance.

Mr. J. P. LOCKHART-MUMMERY said that the fact had to be borne in mind that a great improvement had taken place in the diagnosis of conditions of the colon during the last twelve years. Formerly tumours were diagnosed only when they were large and palpable, or when there was acute obstruction. Surgeons had recognized that unless some marked improvement on that state of affairs was forthcoming there were not likely to be satisfactory results in colon carcinoma. The real problem was to diagnose carcinoma when there was no obstruction and no palpable tumour. A big step had been taken in this direction. Of the various methods available in diagnosis he personally attached more significance to the sigmoidoscope than Dr. Hurst appeared to do. If a patient with growth in the colon were examined with the sigmoidoscope when he had not been prepared in any way, there would be found, in the majority of cases, slight traces of blood up in the sigmoid, and one might be pretty certain that one had to deal with a growth high up in the colon (it was taken for granted, of course, that such a condition as ulcerative colitis was excluded). He thought that x rays had helped most markedly in regard to the position of the growth, and that great improvements had still to take place in the diagnosis of position by x rays. The radiographic experts at first were rather too enthusiastic about their method, and they made much too elaborate diagnoses from the x-ray findings. A more reasonable view was now taken. He thought that negative x-ray evidence was useless. It was not possible to declare that there was a normal colon simply because the x rays showed nothing abnormal. X-ray evidence could only be taken as confirmatory evidence. One method of avoiding error in x-ray diagnosis of the colon was by repeated examinations. At least two or three examinations with the barium meal should be made. Perhaps the greatest value of x rays was found in diverticulitis; x rays furnished a method of distinguishing this from other conditions of the colon, and a proper x-ray examination would confirm or exclude diverticulitis.

\* For Dr. Scott's technique see BRITISH MEDICAL JOURNAL, January 24th, 1925, page 151 ("Radiological examination in organic diseases of the colon: the opaque enema method," by S. Gilbert Scott).

Dr. W. H. COLDWELL said that there were not many who doubted the value of x rays, but it was necessary to remind themselves persistently of the failures. One of the reasons why the x-ray examination had not yet been made more use of was because it had not been worked out fully. Surgeons and radiologists were both to blame for that—the surgeons for not supplying the material and the radiologists for not making more use of it. Most of the previous speakers had rather condemned the barium meal. Dr. Coldwell thought that there was a great deal to be said for the use of the meal in conjunction with the enema. He described a case which had rather caused him to doubt the efficiency of “wash-outs” previous to the administration of an enema. As illustrating how very careful one must be before coming to definite conclusions from the first x-ray appearances, he said that he had often seen apparent filling defects on the screen when the patient was lying on his back, but on turning the patient over into the prone position the defect was obliterated.

Dr. S. C. SHANKS spoke of two “silent areas,” one in the sigmoid, where the sigmoid loop might be superimposed upon another loop and so obscure symptoms, the other in the splenic flexure; the barium enema fell to the more dependent portions, and the portion of gut which looped over the ridge formed by the spinal column was not filled by the meal.

Mr. ASLETT BALDWIN related the case of a patient who complained of inconvenience in the left abdomen, with defaecation trouble. Examination with the sigmoidoscope did not reveal blood or mucus. An x-ray examination was made, and the report was that there was no filling defect or obstruction. The patient was put upon paraffin. Six weeks later, however, the patient said he felt certain there was something present. The speaker thought he could now feel a lump and distension of the large intestine. Operation disclosed a carcinoma in that position.

## Reviews.

### THE ANTIQUITY OF MAN.

REMEMBERING the special nature of its subject and the mass of detail only to be understood by minute attention to the text and careful study of the numerous drawings and diagrams and maps it contained, the first edition of *The Antiquity of Man* had a remarkable measure of success. It was published, inopportunistly as it might have seemed, in October, 1915, but it had to be reprinted in December, again in February, 1916, and for a third time in March, 1920. Sir ARTHUR KEITH had therefore every encouragement to prepare a second revised edition, and if revised then enlarged, for many new discoveries had been made in the ten years. The new edition,<sup>1</sup> though pagged consecutively, has been bound in two volumes, and is therefore easy to read in an armchair—the proper place for the general reader, among whom will be found many members of the medical profession who, though not anthropologists, will find their anatomical knowledge a great help to the understanding of one of the most fascinating stories in the world. Here and there it may be well to skip, but the actual finds are so graphically related, and the conclusions therefrom drawn with so much insidious art, that the book is not easy to put down.

The excellent summaries printed in our columns last week (p. 941) and this week (p. 980) of the course of Munro lectures Sir ARTHUR KEITH has been delivering to the University of Edinburgh give a very good preliminary idea of the material in the book. As in the first edition, the story is unfolded in reverse chronological order. The discoveries of fossil man in South Africa have affected many of the problems the solution of which was, ten years ago, being sought from a study of European specimens; and the descriptions of Boskop man (1913) and Rhodesian man (1921) naturally occupy a great deal of space, and are largely responsible for the increase in the number of pages in the book.

The dictionary maker may define anthropology as the “physiological and psychological science of man,” but the complete anthropologist must have knowledge of a good many collateral sciences. First and foremost, he must be well acquainted with anatomy, human and comparative, including odontology; with geography, physical, geological, and human; with geology; and with archaeology, including folklore. Sir ARTHUR KEITH does not fall short in any of these respects, and shows once again how competent he is to handle an immense mass of details and to make them plain, achieving his end, not only through a very clear and well written text, but by the liberal use of diagrams and drawings, which it must have been a very laborious task to produce.

As we read the book its main thesis is now, as in the previous edition, the great and, until recently, unsuspected antiquity of modern man. The geologist and astro-physicist will give all the time the anthropologist wants, but Sir ARTHUR KEITH is now prepared to reduce his demands. Here, however, we come to see more clearly that a great deal depends upon the definition of man. What is meant by man? Logically this ought to have been the first question. But great as may have been the faith of early writers in the doctrine of evolution, it was impossible to foresee the full significance of the need for such a definition until the recent discoveries had been made. Granted that the ancestors of man branched off at some period, remote even in the geological sense, from the main stock which was to yield not only man but the anthropoids; the question is, When in the upward course did the creature develop the qualities which entitle him to be called man? When, as the author says, we speak of the antiquity of man, “most of us have in mind not the date at which the human lineage separated from that of the great anthropoids, but the period at which the brain of man had reached a human level or standard.”

Another consideration to which in the new edition more importance is attached is the occurrence of “collateral evolution,” a phenomenon known to geologists as the “law of uniform evolution.” No one, the author tells us, has had better opportunities of studying this law than Dr. HENRY F. OSBORNE, and this is his statement of it:

“Some of the most universal laws as to the modes of evolution emerge from the comparative study of the horses, the proboscideans, and the rhinoceroses, from areas so widely separated geographically that there was no possibility of hybridizing or of mingling the strains. For example, during a period, estimated at no less than five hundred thousand years, the horses of France, Switzerland, and North America evolve in these widely separated regions in a closely similar manner and develop closely similar characteristics in approximately a similar length of time. The same is true of the widely separated lines of descendants from the mastodons, elephants, and rhinoceroses.”

This again has led to a shifting of opinion and a consequent change in the time table. The idea with which anthropology set out to investigate the genealogy of modern man was that the various types of primitive man succeeded each other in a single-stemmed ancestral tree running up something after the manner of a bamboo to flower in the chief races of modern man. It is now seen, or at any rate the progress of investigation has now made it highly probable, that the process of evolution should be compared with, say, the elm, and that of many branches some have lost their vitality and dropped off. This fate, it is thought, befell Neanderthal (Mousterian) man and also Rhodesian man. The process of extinction may have taken many thousand years, probably hundreds if not thousands of generations, for there is reason to think that for a very long period Neanderthal man dominated, if he did not overrun, Europe. The long struggle between the two types or varieties makes an appeal to the imagination. Mr. Kipling has touched the fringe of it. The victory must have gone to the better but not, it would seem, to the larger brain.

### A CLINICAL HANDBOOK ON DISEASES OF CHILDREN.

Dr. R. HUTCHISON's *Lectures on Diseases of Children* has now reached its fifth edition.<sup>2</sup> With successive revisions and additions it has become a larger volume, and now, indeed,

<sup>1</sup> *The Antiquity of Man*. By Sir ARTHUR KEITH, M.D., D.Sc., LL.D., F.R.S.E., F.R.S. In two volumes. New and enlarged edition, completely revised and rectified. London: Williams and Norgate, Ltd., 1925. (Med. Bro. Vol. I, pp. xxvii + 376, 133 figures; Vol. II, pp. xiv + 377, 266 figures. See the two volumes.)

<sup>2</sup> *Lectures on Diseases of Children*. By Robert HUTCHISON, M.D., F.R.C.P. Fifth edition, revised and enlarged. London: E. Arnold and Co. 1925. (Demy Bro. pp. xii + 459; 87 figures. 25s. net.)

gives a fairly complete presentation of the subject; but it retains its original character and presents the subject, not in the form of a systematic treatise, but as a set of classroom lectures. It was, indeed, as a course of lectures that the book came into being; and not only is its title genuine, but the text also bears unmistakable evidence of the language and atmosphere of the classroom. In the present edition six lectures have been added; among the subjects discussed in them are acute rheumatic carditis, convulsions in childhood, "the solitary child," and the diagnostic significance of abdominal pain in childhood. The book now consists of thirty-six lectures, and their subjects include all the important and common conditions of illness in children met with in practice. But the author never loses sight of his original aim of giving to students, already oppressed by a heavy curriculum of study, a clear, practical, and adequate account of the important diseases of early life. Indeed, the word "author" is a misnomer; for it is as a teacher, with his students gathered round him, that he appears in the book: emphasizing what is salient or significant, constructing a diagnosis, and specifying remedies. While he is always clear both in thought and language, and dogmatic also, as every good teacher should be, he is not afraid to say that here the matter is doubtful, or, again, that he does not know. This last is indeed one of the high and uncommon merits of a teacher that in drawing out the map of knowledge for his pupils he scrupulously traces the boundaries where knowledge ends and the unknown begins. When that is done by a teacher with undoubted claims to knowledge and experience, the student not only gets a surer grasp of ascertained facts, but his critical faculty is trained and he may also receive an impulse to himself explore and investigate the territory of the unknown.

These discourses of a teacher are beyond doubt adapted to the needs of students of the subject; but they will also appeal to the practitioner, for their material is drawn directly from the bedside, and points of special importance are illustrated by the citation of case-records and by photographs and diagrams.

Further, the book is of interest to those who, like the author, are engaged in teaching this subject. For it is an actual model of a course of teaching in diseases of children. That subject has only in recent years obtained a separate place in the medical curriculum; and it has not yet gained the status of an examination subject. Until this last step is taken the programme and scope of its teaching can hardly be standardized. But in the meantime Dr. Hutchison has furnished in his admirable book a syllabus of contents, and a plan of teaching, which will assist in the determination of how much of diseases of children should be taught to the student of medicine, and in what way the subject should be presented.

#### THE MICROSCOPY OF THE LIVING EYE.

ALTHOUGH the microscopy of the living eye has been practised in this country by a few ophthalmologists for some years, and although it has been the subject of a number of papers, some of which, including several by Mr. Harrison Butler and Mr. Basil Graves, were published in our columns during the last year, the only textbooks hitherto available have been in German, and Vogt's atlas, though excellent, is a large work written in a rather difficult style. We welcome, therefore, Konx's *Microscopie de l'Oeil vivant*,<sup>2</sup> written by a pupil of Vogt for the beginner, which is smaller, more simple, and (may we confess it?) less concerned with forbidding mathematics.

The book begins with three chapters of an introductory nature. In the first, the corneal microscope and slit-lamp are described, and the exposition of their principles certainly does not err in being too technical. In the second, the methods of examination are given in detail, and so clearly that the novice may understand. In the third, we consider the phenomena of the reflection of light from the ocular surfaces and media—a frequent source of error on which the author lays special stress. The remainder of the book deals seriatim with the various structures to which the

slit-lamp affords access; separate chapters are devoted to the conjunctiva, the cornea, the anterior chamber, the iris, the lens, and the vitreous: of special interest are the remarks on corneal pigmentation and thermal currents in the aqueous. Each section is arranged systematically under six heads: the special technique appropriate to the organ under consideration, the normal aspect, congenital abnormalities, senile characteristics, traumatic, and pathological lesions—an arrangement which has the advantage of simplicity and ease, but which, like all schemata, on occasion leads the author into difficulties. Throughout especial stress is rightly laid upon those physiological variations from normal which may be mistaken for pathological lesions, and upon the early departures from normal rather than on the appearances of advanced disease. The monograph ends with a very complete bibliography.

The author has maintained throughout a nice balance between enthusiasm and restraint, and points wherean as yet opinions differ are treated with commendable sanity. The method is still in its infancy, and the interpretation of the appearances seen is not always easy and is to a large extent a personal factor; Kohy will be found a careful and unprejudiced observer. The book is the best, in fact the only one of its kind, and to those who can read French, and have access to one of Gullstrand's instruments, will be found a safe and pleasant guide in a fascinating voyage of discovery.

#### A FRENCH SYSTEM OF MEDICINE.

THE twenty-two volumes of the French encyclopaedia entitled *Nouveau Traité de Médecine* are appearing at fairly regular intervals. The system is planned to cover the whole field of medical science, though practical medicine and pathology come in for most attention.

We have drawn attention to earlier volumes as they have appeared, and we now have to deal with three others that have appeared recently.<sup>4</sup> Volume XI is on the pathology of the respiratory system, and seven authors have contributed to it. It opens with an introductory essay on the symptoms of respiratory disease, and this is followed by essays on the pathology of the nose and larynx, diseases of the trachea and bronchi, asthma, bronchopneumonia, congestion, oedema, abscess, and gangrene of the lung, pneumonia, pulmonary embolism, emphysema, syphilis, fibrosis, pneumokoniosis, atelectasis, cancer, and hydatid cysts of the lung.

Volume XIV is devoted to the digestive system, and to it also seven authors have contributed. The subject of intestinal diseases is not handled very systematically, but each particular theme, about which an expert writes, is dealt with exhaustively. These are the successive sections of the book: intestinal pathology, gastro-intestinal diseases of infants, intestinal worms, ankylostomiasis, analysis of faeces, and pathology of the rectum and colon.

Volume XXII deals with diseases of muscles, bones, and joints. It contains eight chapters on the following subjects: diseases of muscles, acquired diseases of bones, congenital lesions of bones, rickets, osteomalacia, achondroplasia, infectious and toxic pseudo-rheumatism, and finally chronic rheumatism.

This series of well illustrated books has been published under the direction of Professors G. H. ROGER, F. WIDAL, and P. J. TEISSIER.

#### "BRAIN."

THE new number of *Brain*<sup>3</sup> (the first part of the forty-eighth volume) follows close on the heels of the last part of the forty-seventh volume. The first paper in the new number is on the lipoids in neuronic degeneration and in amaurotic family idiocy, by Dr. E. Weston Hurst. It comes from the pathological laboratory of the National Hospital for the Paralysed and Epileptic, and is the result

<sup>2</sup> *Microscopie de l'Oeil vivant*. Par F. Ed. Kohy, Bile. Paris: Masson et Cie. 1924. (Med. 8vo, pp 240; 43 figures. Fr. 25.)

<sup>4</sup> *Nouveau Traité de Médecine*. Publié sous la direction de MM. les Profs. G. H. Roger, F. Vidal, P. J. Teissier. Paris: Masson et Cie. Fascicule XI: Pathologie de l'Appareil respiratoire (Ror. 8vo, pp. 636; illustrated. Fr. 45). Fascicule XIV: Appareil Digestif (Fr. 578; 166 figures, 7 plates. Fr. 45). Fascicule XXII: Muscles, Os et Articulations (Fr. 550; 209 figures, 2 plates. Fr. 45).

<sup>3</sup> Published in London by Macmillan and Co., and in New York by the Macmillan Company. Yearly subscription in this country 21s., to be sent to Messrs. Macmillan, St. Martin's Street, London, W.C.2.

of work conducted during the tenure of the Walter Olyer's travelling studentship of the University of Birmingham. Dr. Hurst has investigated the fatty substances found in the nervous tissues in disease by a series of staining methods, and concludes that the duration of the disease is a main factor in determining the type of lipid present. He noted that, in the breakdown of myelin, phosphatides, cerebrosides, fatty acid, and neutral fat are found successively according to the duration of the degeneration. He then studied the lipoids in amaurotic idiocy, cerebro-macular degeneration, and in the senile nerve cell. He considers that the degeneration is essentially of the same nature in all these conditions, and that the differences that exist depend on the acuteness or chronicity of the process. The next paper, by Mr. Howard Florey, John Lucas Walker student, is founded on microscopical observations on the circulation of the blood in the cerebral cortex, made in the Physiological Laboratory, Oxford, and the Pathological Laboratory, Cambridge. By means of a Spencer dissecting microscope with illumination from a 100-candle power Pointolite lamp, direct observations with an average magnification of 50 diameters were made on the cerebral cortex in cats and rabbits; in other experiments the anterior surface of the medulla and the floor of the fourth ventricle were similarly observed. The cerebral arteries were found to react by contraction or dilatation to mechanical, thermal, electrical, and chemical stimuli, but no contraction was obtained by the local application of adrenaline, thus confirming the suspected absence of vaso-motor control of the cerebral vessels. The early stages of inflammation of the meninges were observed, and showed no essential difference from inflammation in other parts of the body.

In an interesting article on astereognosis Professor G. Campora of Geneva discusses the nature of this symptom in central and peripheral lesions of the nervous system. He finds that true astereognosis is invariably associated with deficiency of tactile discrimination as revealed by Weber's compass, and considers that such deficiency is the essential factor. Defect in the sense of position is also always present, but he believes that it is not an essential element, since this sense may be markedly defective without astereognosis occurring.

The many respiratory disturbances seen in the early, and especially the late, stages of epidemic encephalitis are classified by Dr. W. Aldren Turner and Dr. Macdonald Critchley into disorders of rate, disorders of rhythm, and respiratory ties. They put forward the view that a disturbance of cortical centres concerned in the control of respiration is a more probable explanation than the presence of lesions of respiratory centres in the medulla or basal ganglia.

Dr. W. Russell Brain contributes a clinical study of increased intracranial pressure in sixty cases of cerebral tumour, with special reference to the time of onset of the three principal symptoms—headache, vomiting, and papilloedema. Vomiting, he considers, is always a symptom of hydrocephalus, and is therefore earliest in tumours which cause obstruction of the aqueduct of Sylvius—that is, in most subtentorial tumours. In such tumours papilloedema is also the result of hydrocephalus, but is found to occur later than vomiting; in supratentorial tumours papilloedema is more likely to be due to a local rise of pressure without hydrocephalus, and therefore precedes vomiting.

### NOTES ON BOOKS.

A much felt want has recently been met by the Association of Infant Welfare and Maternity Centres, which has published a *Mothers' Cookery Book*.<sup>1</sup> It is a pamphlet of 48 pages with an index, informing mothers how to prepare simple, cheap, and tasty meals. Most cookery books present an embarrassing array of expensive recipes and are prone to consider that a milk pudding added to the daily menu sufficiently provides for the needs of growing children. This pamphlet gives recipes of dishes which can be enjoyed by the entire family

and consumed by the toddler with safety and advantage. The 150 recipes are grouped under the headings: soups, fish, meat dishes, vegetables and egg dishes, puddings, cakes, drinks, and each group is an explanatory note indicating the recipes suitable for children under 18 months and emphasizing the foods which contain vitamins. The simple recipes for cooking vegetables are especially good. The book is specially designed for the use of mothers attending welfare centres, but all mothers who take an interest in the most suitable diet for their children could not do better than expend fourpence on it. The Association of Infant Welfare and Maternity Centres has made an effort to translate the scientific findings of modern research in dietetics into language which can be understood and recipes which can be carried out by all. The association may be congratulated upon having achieved such a result.

The 1925 edition of the *Yearbook of the Universities of the Empire*<sup>2</sup> has been increased by some fifty pages; it presents the same arrangement which has made it so valuable a book of reference since its first publication in 1914. Numerous details about the universities of the world are set out so systematically and indexed so carefully that any point of practical importance can be ascertained without difficulty. In the 1924 edition the appendices devoted to universities outside the Empire included twenty-one different countries; to the 1925 edition eight new countries have been added—namely, Greece, with its University at Athens and a projected one at Salonika; Egypt, Esthonia, Portugal, Japan, Lithuania, Turkey, and Latin America. This is good evidence that the disabilities inflicted on educational studies during the war are now being removed rapidly in an increasing number of countries. The volume comprises a directory of the staffs of the universities of the Empire, an account of the equipment in libraries, museums, and laboratories, under the heading of "general information," and annual reports of the last academic year. The help given by the official registrars and other university correspondents ensures that the information is accurate and recent.

*The Constituents of Coal Tar*,<sup>3</sup> by P. E. SPIELMANN, is one of the series of monographs on industrial chemistry produced under the editorial direction of the late Sir Edward Thorpe; several volumes of this series have already been noticed in our pages, and that now before us is intended to show what kind of things are found in coal tar and what they are like. Any chemist could have named the substances and summarized their properties, but what the author has done is something better. With excellent discrimination he has omitted what was not needed to give his substances individuality; what was needed he has used so well that the materials take character under his description. It is always pleasing to a reader to be made to feel that the author has estimated exactly what he knows already and what other information would interest him most. Speaking for ourselves we find this done with great nicety. We were astonished to find that there was so much of interest to be learnt, and so constituents of coal tar. As inable series, there are ample a good index.

*The Transactions of the American Proctologic Society, 1923*,<sup>4</sup> contains eleven articles on diseases of the rectum and anus; it is a report of the papers presented to this society at the twenty-fourth annual session held at Los Angeles, California. It will be remembered that a large number of the members of this society travelled last year to this country and held their annual gathering in London. They were welcomed by the Proctological Section of the Royal Society of Medicine, and London surgeons had the opportunity of making the acquaintance of some of the proctologists who had contributed to the volume we have before us. The discussions which took place at these united gatherings revealed that in many rectal conditions American practice differs from our own. To those London surgeons who were present at these meetings an added interest will be given to the contents of this volume because of recent friendship with some of the authors.

<sup>1</sup> *The Yearbook of the Universities of the Empire, 1925*. Edited by W. H. Dawson, and published for the Universities Bureau of the British Empire. London: G. Bell and Sons, Ltd. 1925. (Crown 8vo, pp. xii + 838. 7s. 6d. net.)

<sup>2</sup> *The Constituents of Coal Tar*. By Percy Edwin Spielmann, Ph.D. (Hale, B.Sc. Lond., F.I.C., A.Inst.P., A.R.C.S.C. Monographs on Industrial Chemistry. London and New York: Longmans, Green and Co. 1924. (Demy 8vo, pp. xii + 219. 12s. 6d. net.)

<sup>3</sup> *Transactions of the American Proctologic Society, Twenty-fourth Annual Session, 1923*. New York: P. B. Hoeber, Inc. 1924. (Mild. 8vo, pp. xii + 69; illustrated, 3 dollars net.)

<sup>4</sup> *The Mothers' Cookery Book*. Compiled by the Association of Infant Welfare and Maternity Centres. London: The National League for Health, Maternity, and Child Welfare. 1925. (Demy 8vo, pp. 48. 4d. post free.)



## THE LISTER INSTITUTE.

The annual general meeting of the members of the Lister Institute was held at the Institute on the afternoon of Wednesday, May 20th. It was preceded by a meeting of the council, at which the resignation of Sir Frederick Andrewes as the representative of the council upon the Governing Body, owing to increasing demands upon his time and energy, was accepted with regret, and Dr. A. E. Boycott, professor of pathology at University College, was elected in his place. At the general meeting the chairman, Sir David Bruce, made an appropriate reference to the loss the Institute had suffered by the death of Professor E. Klein, who had been a member since the amalgamation of the Institute with the College of State Medicine in 1893; of Dr. Horace T. Brown, who had been for a time a member of the council; and of the Marquess Curzon of Kedleston. The council recorded its sorrow at the death of Sir Rickman Godlee, who formerly represented the Royal College of Surgeons of England, and latterly members of the Institute, upon the council; his relationship to Lord Lister gave to his connexion with it a more intimate character than that implied merely by membership of the council. To the vacancy thus caused Professor Starling, who, though a member of the Governing Body, had not previously been a member of the council, was unanimously elected.

### ANNUAL REPORT.

This report of the Governing Body, which is signed by Professor E. H. Starling, acting chairman, gives a good general idea of the multifarious activities of the several departments of the Institute, which, under the general direction of Professor C. J. Martin, have accomplished an enormous amount of work during the year under review.

### Vitamins.

At the present time special interest attaches to the Department of Biochemistry, of which Professor A. Harden is the director, because it is concerned, among other things, with the investigation of vitamins and matters relating thereto. In this department Miss E. H. Hume and Miss H. H. Smith have continued their researches on the influence of ultra-violet radiations on the growth and calcification of bone in rats maintained on deficient diets. Miss Hume has confirmed Steenbock's observation at the Wisconsin Agricultural Station, that lard and olive oil, which are usually devoid of fat-soluble vitamins, acquire the property of promoting growth and calcification after exposure, in a thin layer, to ultra-violet light. The report points out that the discovery permits a rational interpretation of the hitherto mysterious power of light to complement a qualitative deficiency in food supply. This subject is dealt with at some length in the paper by Webster and Hill published elsewhere in this issue (p. 956), and the general conclusion of the Lister report is that "as light of high refrangibility activates, by photodynamic action, some constituent of a crude fat which is otherwise inert, it is not unreasonable to suppose that activation can take place, either before the fat is eaten, or whilst it is circulating in the superficial capillaries of skin which are exposed to sunlight." Miss Harriette Chick, D.Sc., the principal assistant in the Department of Experimental Pathology, over which the Director of the Institute, Professor C. J. Martin, presides, has been studying the amount of vitamin A and antirachitic vitamin in green leaves. She is seeking to ascertain to what extent plants are at for the manufacture of these two. Dr. Zilva and Miss Soames are studying the relative growth-promoting antirachitic potency of butter from pasture-fed and from stall-fed cows when their diet is supplemented with green food, ensilage, and cod-liver oil respectively. This inquiry is being carried out at the National Institute for Research in Dairying at Reading. The active principle of cod-liver oil resides in the non-saponifiable fraction. Professor Drummond at University College has endeavoured to effect a further purification of the antirachitic vitamin. After removal of the soaps, the bulk of the cholesterol is separated and the residue fractionated by distillation *in vacuo*. Miss Soames has conducted the biological assay of the different fractions.

### Tissue Culture in the Investigation of Cancer.

Dr. T. Lumsden has been occupied in investigations concerning the growth of tissues *in vitro*. The use of serum considerably simplifies the method of tissue culture and renders it more readily available for the study of various morphological and bacteriological problems. The experience of previous workers that serum has an inhibitory effect on the growth of tissues *in vitro* has been shown by Dr. Lumsden to be due to allowing the serum to become too alkaline owing to the loss of carbon dioxide by exposure to the air. If this loss be prevented, or compensated by exposing the serum to expired air, both normal tissues and tumour cells can be cultivated in pure serum. By the use of this method he has found that by repeatedly inoculating the cancer of mice or rats into animals of another species, antibodies more or less specific to the cancer cells can be produced. An antiserum prepared in this way has been used as a medium for the cultivation of normal tissues and the homologous cancer cells. In it the normal tissue cells survive and grow for many days, while fragments of the cancer with which the antiserum was produced, placed alongside them in the same culture cell, are rapidly killed. This discovery is being utilized to ascertain whether an antiserum prepared in this way will modify the growth of its homologous tumour in the living animal.

### Inflammation and Nutrition.

In the Department of Bacteriology, directed by Professor J. C. G. Ledingham, Dr. Arkwright, in continuance of his work with Dr. Zilva, has demonstrated the great difference between the inflammatory reaction produced by irritants, according to whether the animal is well or ill nourished. This difference is most obvious in the case of young growing animals.

### Foot-and-Mouth Disease.

Dr. Arkwright has also given a good deal of time to supervising the investigation of foot-and-mouth disease which is being carried out at the Institute for the committee appointed by the Ministry of Agriculture. The chairman of this committee is Sir William Leishman, and among its members are Professor Bullock (a member of the Governing Body of the Institute), Professor C. J. Martin, and Dr. Arkwright. One of the laboratories, together with a suitable isolation and self-contained animal house, has been placed at the disposal of the committee. The work is under the immediate direction of Dr. Bedson, who has the help of Dr. Maitland, formerly acting professor of pathology in the University of Toronto, and Mrs. Burbury.

### Scarlet Fever.

In the Department for the Study and Preparation of Antitoxic Sera attention has been given to recent work in America, suggesting that streptococci present in the throats of scarlet fever patients may be primarily responsible for the disease. Our readers have been kept acquainted with the course of these investigations, conducted largely by G. F. and G. H. Dick. At the Field Department of the Institute, at Elstree, scarlet fever toxin has been prepared, from American strains supplied by Dr. Dochez, for the immunization of horses. The serum of these horses is now being tested therapeutically. That it contains specific neutralizing substances is shown by the fact that it causes blanching of the rash in a certain proportion of scarlet fever cases; also, when introduced in small doses prophylactically in contacts incubating the disease, the rash, when it appears, avoids the skin areas under which the serum has been inoculated. The quantity of serum injected in these experiments was only 2 c.cm., an amount evidently insufficient to produce general prophylaxis. The subject is being further investigated as opportunity offers, and the Biological Standards Committee of the Medical Research Council is arranging for tests with a view to establishing some reliable method of standardizing the serum and toxin. Material for this purpose is being provided by the Serum Department.

We have mentioned only a few of the inquiries in progress, but have said enough to show the great activity displayed by the workers in all departments of the Institute.

# British Medical Journal.

SATURDAY, MAY 23RD, 1925.

## LESSONS OF THE HARNETT CASE.

WE publish verbatim, at page 990 of this issue, the judgements delivered in the House of Lords on May 15th in the appeal of Mr. William Smart Harnett. The fact that the unanimous decision of the Lord Justices in the Court of Appeal in favour of Dr. Adam and Dr. Bond has been unanimously upheld by the Law Lords, and that the grave reflections cast upon both Dr. Adam and Dr. Bond by the answers of the jury to questions put to them by Mr. Justice Lush have been shown by the members of both appeal courts to be entirely lacking of foundation in fact, are matters that afford complete satisfaction to the medical profession, since the characters of two of its members, one of whom holds a highly responsible position in the administration of our lunacy laws, are now vindicated beyond cavil.

The facts of the case are set forth in detail in the judgement of the Lord Chancellor. Here we merely wish to refer to certain main issues arising out of the tortuous maze of evidence given in the course of the fifteen days over which the hearing in the King's Bench Division dragged, bearing in mind that all this evidence was given eleven years after the facts occurred, and, human memory being what it is, was somewhat hazy in character.

It was not disputed that on November 10th, 1912, when the original reception order was made, Mr. Harnett was of unsound mind; but Mr. Harnett's condition improved to the extent that, on December 12th, 1912, he was allowed to go home for twenty-eight days on a leave of absence on trial order, made under Section 55 (3) of the Lunacy Act, 1890—in a form settled by the law officers of the Crown—which stipulated that the medical officer should at any time before the expiration of twenty-eight days have power to take back the said patient into the licensed house "if his mental condition requires it." Mr. Harnett left the mental home at Malling Place with his brother, but on the morning of December 14th he called at the offices of the Commissioners in Lunacy in Victoria Street, London, apparently for the purpose of asking that he be put in the care of the police and not of his brother. What happened at the offices is not quite clear from the evidence, but the Law Lords accepted the facts that both the secretary, Mr. Dickinson, and Dr. Bond thought Mr. Harnett was in an excited state and unfit to be at large, and that, after identifying Mr. Harnett's case in the files, they telephoned to Dr. Adam their opinion. Upon this, Dr. Adam sent a car and fetched Mr. Harnett back to Malling Place, where he examined him, and, finding him worse mentally than when he was released on trial, detained him under the original reception order. Mr. Harnett stayed at Malling Place until February 22nd, 1913, and thereafter he was confined at different asylums until October 15th, 1921, when he escaped. (Owing to the anomalous Section 85 of the Lunacy Act, 1890, which says that an escaped lunatic can only be retaken within fourteen days of escape without a fresh order or certificate, Mr. Harnett, by eluding recapture for that period, regained his liberty and was declared sane by eminent alienists whom he consulted.

The action against the two doctors was not founded

in negligence, as was the case in *Everett v. Griffiths and Anklesaria* (1920, 3 K.B. 163; 1921, 1 A.C. 631), but in conspiracy and false imprisonment. The allegation of conspiracy was dropped early in the course of the proceedings, and was clearly negatived by the jury by their answers to questions 13 and 14. There remained the allegation of false imprisonment, and the jury, by their answer to question 17, found that Dr. Adam was not responsible for the false imprisonment. It was admitted all along by counsel for Dr. Bond that Dr. Bond was responsible for the detention in the Commissioners' offices on December 14th, 1912, and his liability in damages for this act followed from the jury's finding that Mr. Harnett was sane on that date. It was not open to Dr. Bond *qua* Commissioner to plead the protection afforded by Section 330. This is now the only point left open: a new trial has been ordered for a jury to determine these damages for a period of detention which, the Lord Chancellor said, in a just view could not extend beyond 7 o'clock of December 14th.

The Lord Chancellor characterized it as a remarkable fact that no direct question was put to the jury either as to the alleged conspiracy or as to the alleged false imprisonment. Dr. Adam not being found liable for false imprisonment, there was no further ground of action against him on the statement of claim, and the question of negligence arose out of his defensive plea of Section 330—open to those who act *bona fide* and with reasonable care in pursuance of the Lunacy Acts. The *bona fides* of Dr. Adam was clearly established by the jury's answer to question 13, but in their answer to question 15 they said that he did not take reasonable care in exercising his power to retake Mr. Harnett (under the leave of absence order). Mr. Harnett's counsel throughout advanced the amazing contention that the medical officer had no power of recapture outside the mental home, and that a recertification was needed before Mr. Harnett could be brought back unless "his mental condition requires it." As the jury had found that Mr. Harnett was sane on December 12th, it followed from this argument that Dr. Adam had not, in fact, exercised that reasonable care which afforded him the protection of Section 330. The Lord Chancellor scotched this argument. Such a provision as "if his mental condition requires it" could not, in his view, mean that the medical officer was to take back the patient at the risk of having it found by inquiry many years after that the patient's mental condition was consistent with his remaining at large. The medical officer was the judge of the patient's mental condition, and in him the power to retake the patient rested, and that power was capable of being exercised wherever the patient might be found. The argument that the onus was upon Dr. Adam to prove that he had exercised reasonable care was also described by the Lord Chancellor as fallacious. If such a power was exercised negligently the remedy (if any) would, of course, be by an action for negligence and not for false imprisonment, but the Law Lords agreed with the Court of Appeal that there was no evidence to substantiate the jury's answer to question 15 that Dr. Adam had not taken reasonable care. The case against Dr. Adam was thus shown to be built on the flimsiest of foundations—inferences of fact and law which three Lord Justices and five Law Lords have unanimously agreed ought never to have been drawn. Further, the Law Lords disapproved of the form of some of the questions put to the jury, particularly questions 7, 8, and 9, to which the jury answered that Dr. Bond did not honestly believe that the plaintiff was of unsound

mind, or that he was fit to be at large, or was dangerous to himself or others. The Lord Chancellor pointed out that it was common ground that the effect of the jury's answer to question 10 was that Dr. Bond's belief that the plaintiff had escaped from his brother's charge was the reason for his having Mr. Harnett sent back. But we agree with Lord Buckmaster that this explanation of the earlier answers of the jury is inadequate. Even assuming that Dr. Bond may have made a mistake—and from certain observations which Lord Buckmaster made in the course of the hearing in the House of Lords we infer that he, at any rate, did not think Dr. Bond had made any mistake at all—he could find nothing in the evidence that on any interpretation of the word could cast the least reflection on his honesty: "I think it is to be regretted that a question should have been left to the jury in such a form that the verdict taken upon it must, in the plain meaning of the words, cast a reflection upon Dr. Bond's character which no sophistry can explain away."

The most disturbing aspect of the Harnett case to the medical profession was that of the doctrine enunciated by Mr. Justice Lush—the doctrine of continuing responsibility. Heavy damages were the fruits of the direction of Mr. Justice Lush to the jury: "taking into consideration the whole purpose for which he was so detained." The Lord Chancellor said the findings on damages were "obviously coloured" by such and similar directions. We have, in discussing the case a year ago, described as amazing the dictum of Mr. Justice Lush that once a man is certified insane each subsequent certification by a doctor and each adverse report by a visitor is a mere formality, a mere act of omission to find the patient sane, and not a new act intervening to break the chain of causation. The Lord Justices, fortunately for the medical profession, took a different view of the law, and held that this chain had been broken at "innumerable points." It appeared to the Lord Chancellor to be impossible to hold that the detention of the appellant at the offices for a few hours was the direct cause, not only of Mr. Harnett's being retaken and conveyed to Malling Place, but also of his being confined in that and other mental homes until October, 1921. Dr. Bond could not, he said, on any intelligible principle, be held to be responsible for the consequences of those events; Lord Dunedin looked upon such a suggestion as preposterous.

Medical men are now free from the fear they quite legitimately entertained after the judgement of Mr. Justice Lush: that when they certify a patient it is possible that a jury, sitting some years hence, may find that selfsame patient to have been sane on the date of the original certification, and that the doctor responsible for such certification may be made liable in damages for the whole period of detention, in spite of the many subsequent independent certifications by other medical men during that period.

But we do realize, with the Lord Chancellor, that the verdict of the jury and the heavy damages they gave against Dr. Adam and Dr. Bond were the outcome of a belief that Mr. Harnett was quite sane during the whole period from 1912 to 1921, though there was no actual finding that Mr. Harnett was sane after December 12th, 1912. This fact, as the Lord Chancellor said, gives rise to anxiety, though we agree with him that even if Mr. Harnett was sane during his confinement it was no reason for visiting vindictive penalties upon persons who acted in good faith and who were not responsible for any defect in the law.

The Lord Chancellor enumerated the existing safeguards, and said it might be—"I do not say that it is"—the fact that all these precautions are insufficient, and that the lunacy laws require to be further strengthened in the interests of the persons whom they may affect. The proceedings in the Harnett case in the King's Bench Division were the direct cause of the holding by a Royal Commission of the inquiry into the administration of our lunacy laws, and we look forward with interest to the publication of its findings. While we have always insisted that the public at large must be protected against the dangers to which it would be exposed if lunatics were allowed to move about unrestrained, we have always placed as much, if not more, emphasis upon the protection of the individual against improper confinement. We have on several occasions urged that the hard-and-fast legal procedure in England should, in the interest of the patient, be approximated more nearly to the Scottish methods, as in their early stages many forms of mental disorder are curable by suitable treatment, for which statutory provision should be made.

Whatever new legislation may be the outcome of the Royal Commission, the members of the medical profession will continue loyally to administer the lunacy laws, and to discharge those large responsibilities which have been placed upon them on the theory that they can be trusted; and, now that the final decision in the Harnett case has shown that Section 330 is a sure shield to all medical men who act *bona fide* and with reasonable care in pursuance of the lunacy laws, they will feel, while performing their tasks, a sense of security which would have been grievously lacking if the judgement of Mr. Justice Lush had been allowed to stand.

### THE SPREAD OF SMALL-POX.

AN incidental effect of the renewed prevalence of small-pox since its minimum in 1917 is the resumption of the outpouring of letters to the press by opponents of vaccination whose knowledge of the subject is in inverse ratio to the assurance they display in dealing with it. So long as variola retains the mild form which is now presented in most countries—a form which Jenner described as occurring epidemically in 1789—it may be thought hardly worth while to pay any attention to the influence of such commentators. Fortunately the children who are being attacked by small-pox, owing to their parents' neglect to have them vaccinated, are being vicariously punished much more lightly than they would have been in the nineteenth century, and while that remains the case there is temptation to treat the silly dialectics of the letter-writers with silent contempt. But there is probably some risk of sober-minded people misunderstanding the silence, and from that point of view we shall call attention to some statistics which Dr. C. G. Pearce, senior surgeon to the United States Public Health Service, Chicago, has published in a recent issue of the *Boston Medical and Surgical Journal* (April 9th, 1925).

Dr. Pearce's data are based on the records of the United States Public Health Service relating to all quarters of the globe. Small-pox, he observes, remains the most widely distributed plague in the world, there being practically no country permanently free from it. During the year ending June 30th, 1924, 149,550 cases of small-pox with 22,346 deaths were reported by health officers throughout the world to the United States Public Health Service. One-fifth of all these cases occurred in the United States, forty-

five States reporting a total of 30,771 cases. Apart from China and India, during 1923 only three countries in the world where vital statistics are kept and are available exceeded the United States in their small-pox rate. These countries were Switzerland, Russia, and Greece, which had rates respectively of 55, 43, and 33, as compared with 27.1 per 100,000 in the United States. On the other hand, in South Africa, Egypt, Algeria, Finland, Hungary, and the Baltic republics the small-pox rate ranged from 3.9 to 0.35 per 100,000, while the Scandinavian countries, Australia, and New Zealand reported no cases at all. During 1924 3,073 cases occurred in Minnesota with 306 deaths—a mortality of 9.9 per cent. Of the 306 fatal cases none had been successfully vaccinated within seven years, and 243 had never been vaccinated. Forty-seven had been vaccinated, but the successful vaccinations ranged from eight to seventy-five years before the fatal attack, and in 16 there was no definite history of vaccination. In an outbreak at Windsor, Ontario,<sup>1</sup> there were 67 cases and 32 deaths between December 12th, 1923, and March 17th, 1924. Within two weeks over 50,000 persons were vaccinated, and the epidemic promptly subsided. The outstanding features of the epidemic were that all the deaths occurred in unvaccinated persons; that seven out of every ten unvaccinated persons who contracted the disease died, the fatality among the unvaccinated being 71 per cent.; one man, aged 80, who had been vaccinated sixty years before, and who lived in the same house as a man with malignant small-pox, developed a mild attack from which he quickly recovered. The rapid increase that may occur in the virulence of a small-pox epidemic is shown by the experience of Detroit. Between September 1st, 1923, and March 15th, 1924, 710 cases occurred with only 4 deaths. On the other hand, during the period March 16th to June 1st, Detroit had 795 cases with 105 deaths. Exclusive of the cost of the patient's treatment in hospital, which amounted to \$2.39 a day for each patient, the epidemic cost the Health Department of Detroit \$127,854, and it was calculated that the time lost on account of 784 persons who had small-pox between April 13th and August 31st, 1924, was 163 years, 8 months, and 17 days.

A telegram from the *Times* correspondent in New York, dated May 17th, states that that city has voted \$80,000 (£16,000) for a special campaign by the Health Department to prevent the spread of small-pox. There were, he said, "only six cases in the city at that time, but the prevalence of the disease in Philadelphia, Camden, and some neighbouring suburbs has led the health commissioner of New York to emphasize the need for precaution, especially as most of the cases reported throughout the country in recent weeks have been of a virulent type, with a large percentage of deaths."

While this is the position in America the infection continues to spread in England. In the first four months of this year the total number of cases reported has been 2,393. According to the record in the Registrar-General's reports, the weekly numbers, from January 3rd to May 2nd, which began with 91, have mounted gradually to 176 in the seventeenth week, the highest figure so far reached. In the eighteenth week 162 cases were notified. The North of England and the Midlands have been mainly affected, Northumberland, Yorkshire, Derbyshire, Nottingham, and Northampton all being involved.

The health officers of the great cities of the industrial

region cannot but be in continual anxiety, especially if the disease prevails in rural or urban districts near them. The fact that they have hitherto been largely successful in keeping the disease at bay is most creditable, and their continued success will be watched with keen interest. The cost to the public funds is mentioned by Dr. Pearce in respect of America, and is receiving attention in places affected in this country. There have even been mutterings of abandonment of hospital isolation, and resort to such segregation as might be possible at home. That is a counsel of despair to which the public health service of this country is unlikely to listen. It is quite true, however, that the task of the medical officer of health is now made extraordinarily difficult. He has to contend with concealments of recognized cases, with failures to recognize the disease, and with much neglect of vaccination even in some localities where small-pox has been prevalent. He struggles to discover contacts, but in the circumstances there is great risk of lists being incomplete, and he may well feel the task almost hopeless. Where the infection has already taken firm hold of a community the only course is to continue trying to wear down the enemy by steady perseverance in vaccination, isolation, and search for contacts. In some places control has been accomplished by such means and the disease gradually extirpated. Where the invasion is only beginning, vigilance from the very onset is the only policy. The officer should waste no time in academic discussion of what he ought to call the malady, whether alastrim or small-pox or parsmall-pox, or what else. His duty is to try to stamp it out and leave such topics for elaboration after he has done so. A complete list of contacts, with surveillance of them from the very beginning, is of infinitely more value than the devising of appropriate names for purposes of registration. Also, it seems to us that in the present circumstances of this country, and with the present type of small-pox, local health authorities may as well cry for the moon as for absolute compulsion of vaccination. If Parliament is wise it will exercise all reasonable pressure, and will at least reverse Mr. Wheatley's withdrawal of the order issued by Mr. Neville Chamberlain when previously at the head of the Ministry of Health, regarding the form of vaccination notice to parents; the altered form is as much an invitation to omit vaccination as a request for its performance. In the meanwhile the basic fact remains that every parent who chooses to do so can by vaccination and revaccination of himself and his family obtain complete protection against small-pox, whether mild or severe, diagnosed or undiagnosed, isolated in hospital or left uncontrolled. And for the instruction of such part of the public as is willing to accept instruction the data collated by Dr. Pearce from the United States Government's reports are to be added to the great store already available.

#### SLEEPING SICKNESS CONFERENCE.

An international conference on sleeping sickness is being held in London this week under the chairmanship of Mr. Ormsby-Gore, Under Secretary of State for the Colonies; the other British representatives are Dr. Andrew Balfour, C.M.G., director of the London School of Hygiene and Tropical Medicine, and Dr. A. G. Bagshawe, C.M.G., director of the London Bureau of Tropical Diseases. The conference is being attended by representatives of France, Italy, Belgium, Portugal, and Spain. A committee of experts nominated by the League of Nations in 1922 to obtain information as to the prevalence of sleeping sickness and to

! Africa made a series

<sup>1</sup> See the *British Medical Journal*, March 23rd (p. 534) and July 19th, 1924 (p. 123).

of recommendations, which were approved by the Council of the League of Nations at its session in Rome last December. One of the recommendations was that such a conference as is now meeting should be held. In opening the proceedings on Tuesday last, Mr. Ormsby-Gore said that one of the outstanding problems encountered during his recent tour in Central Africa was that of the human and animal diseases the infection of which was carried by tsetse flies. The tsetse fly, he said, occurred in belts of varying sizes practically throughout the whole of tropical Africa from Senegal on the north-west to Zululand on the south-east. The great outbreak of sleeping sickness in Uganda about twenty years ago, when roughly one-tenth of the total population of the protectorate died, had attracted much public attention in this country. The disease, though less severe, was still prevalent in Uganda, and a report from Northern Rhodesia had been received stating that an epidemic outbreak of a severe form occurred in 1923 in an area where its presence had not previously been recorded. The position was serious also in the Belgian and French colonies, including those in West Africa; one of the most important pieces of work in connexion with the problem had been carried out in the Portuguese island of Principe, and at the present time the disease caused grave anxiety in the Spanish island of Fernando Po. In 1900, shortly after the great outbreak in Uganda, an international conference was held in London; it met again in the following year; a general agreement was not reached, but Great Britain founded the Sleeping Sickness Bureau. During the outbreak in Uganda and Nyasaland in 1908 it was discovered that the infection was carried there, not by the tsetse, *Glossina palpalis*, which was the vector in Uganda, but by *Glossina morsitans*, which conveyed trypanosome diseases to domestic stock. The investigations of Dr. Kinghorn and Dr. Yorke in Northern Rhodesia, and of the Royal Society Commission under Sir David Bruce in Nyasaland, led to the appointment by the then Secretary of State for the Colonies of a committee; its report was presented to Parliament in May, 1914, but the outbreak of war a few months later prevented any immediate action. Other nations had taken the matter up, and Dr. Kleins had ascertained that a developmental cycle of the trypanosome occurred in the tsetse fly. Investigations into the treatment and prevention of the disease by the use of drugs were instituted by French, German, Belgian, and American scientists, but though questions of this nature have not yet been answered the most important problems at the moment were administrative. In Central Africa, where native social life and custom was so intimately bound up with the keeping of cattle and other domestic stock, the problems of sleeping sickness could not be dissociated from those of animal trypanosomiasis (nagana), and Mr. Hornby of the Tanganyika Veterinary Institute had made some valuable observations on the treatment of nagana, but the inquirers were everywhere brought back to the physical and administrative problem of the control and eventual extermination of the tsetse fly itself. The task was tremendous, but there was hope, and if the problem could be solved something very notable would be done for the African native and for the advance of civilization and development in Africa. Mr. Ormsby-Gore then referred to what he described as the very remarkable achievements of Mr. Swynnerton in the Shinyanga district of the Tanganyika Territory (of which that investigator gave some account in our columns not very long ago), and to what had been done by Father Cirvenga in another part of the same territory. During a visit to Shinyanga Mr. Ormsby-Gore had been able to satisfy himself that the experiments, which were on a considerable scale, were being attended by a large measure of success. The conference had been summoned to discuss the possibility of carrying out the recommendation of the League of Nations Council that a special international epidemiological

commission should be sent to equatorial Africa. The terms of reference to the conference suggested that attention should be concentrated on the purely medical aspects of the problem as it affects sleeping sickness in man, but it was hoped that all sides of the question would be considered. The object of the commission, therefore, would be to survey the fly areas of tropical Africa, noting any extension or decrease, to make further researches into the bionomics of the tsetse fly, to make experiments on a field scale for the extermination of the fly, and to investigate the prevention and treatment of both human and animal trypanosomiasis. For such a task there would be required the services of entomologists, protozoologists, veterinary and medical scientists, and men of administrative and zoological experience such as Mr. Swynnerton.

#### THE PROJECTION OF THE RETINA IN THE BRAIN.

There appear to be two main schools of thought with regard to the projection of the retina in the brain. The one, led by Henschen, holds that every spot on the retina has a definite localization in the external geniculate bodies, in the optic radiations, and in the cerebral cortex of the occipital lobes. According to this view the macula is represented by a circumscribed area in the brain, and the dorsal or uppermost part of the retina is represented in the upper part of the geniculate body, radiation, and cortex. The other school, led by von Monakow, denies that each part of the retina has a definite localization, and holds that the macula is represented over a wide area. Dr. B. Brouwer, professor of neurology in the University of Amsterdam, in a lecture delivered at Charing Cross Hospital Medical School on May 15th, described the views of these two schools, and showed how recent work carried out by him had led him to take an intermediate position. He referred to the work reported by Holmes and Lister during the war, which went to support Henschen's theory. These workers found that bullet wounds of the occipital lobe caused localized patches of blindness in the fields of vision. His own method of investigation has been to enlist the aid of an ophthalmological colleague to make localized lesions in the retinae of experimental animals; these were killed some time later, and the areas of degeneration in the brain were then examined histologically after being treated by the Marchi method. In this way Professor Brouwer has been able to study the brains of some sixty animals. In rabbits, where a very high proportion of the optic tract crosses, the principle of an exact localization of each part of the retina in the external geniculate bodies was completely upheld. In cats, where more fibres appear to be uncrossed, this localization was still found to be fairly exact. Further experiments were then carried out on monkeys in which the arrangement of the optic tracts and the existence of maculae rendered the conditions very similar to those existing in man. The results in these cases were somewhat more difficult to interpret on account of the fact that there is only a small portion of the field of vision which can be seen by one eye alone, but the inner part of the retina, which is the part concerned with monocular vision, had been destroyed in certain monkeys, and areas of degeneration were found to exist in a localized portion of the lower part of the external geniculate body of the opposite side. The areas of degeneration corresponding to lesions of the macula were not small, but were spread out over a great deal of the external geniculate bodies of both sides. The parts of the retina nearest to the macula were represented in areas of the geniculate bodies nearest to the areas of macula projection, and the periphery of the retina was represented around the periphery of the geniculate bodies. Professor Brouwer thus agrees with Henschen as far as localization of retinal projection is concerned, and with



von Monakow in the matter of a large area of projection for the macula. He is at present engaged on further work in which he hopes to trace the projection of the retina in the cerebral cortex. He has also given a lecture on this subject at the University of Sheffield during the present week.

#### AMERICAN POST-GRADUATES IN LONDON.

THE programme of the visit to London of the Inter-State Post-Graduate Assembly of America from June 2nd to 4th is now complete. Arrangements have been made for lectures (at Wigmore Hall) in the mornings, beginning at 9.30, and hospital visits in the afternoons, continuing until 5 o'clock or later. In order that no time may be lost after lunch a fleet of motor buses has been chartered to convey the visitors to the hospitals. Following the inaugural ceremony by H.R.H. the Duke of York on the first morning there will be four consecutive lectures, each lasting half an hour, and on each of the next two mornings six such lectures. The chairmen at the three morning sessions will be Sir Humphry Rolleston, Sir John Bland-Sutton, and Sir StClair Thomson respectively. Sir Humphry Rolleston is to open the lecture list with a discourse on gall-bladder disease, and he will be followed by Sir W. Arbuthnot Lane on "The first and last link," Sir Thomas Horder on "Changes in the incidence and course of common diseases," and Dr. A. F. Hurst on "The pathogenesis and treatment of Addison's anaemia and subacute combined degeneration of the spinal cord." On the second morning Professor H. Maclean lectures on renal disease, Mr. A. J. Walton on gastro-jejunal ulcer, Colonel L. W. Harrison on the combating of venereal disease by free treatment centres, Mr. W. E. Miles on cancer of the rectum, Mr. T. P. Dunnhill on auricular fibrillation in exophthalmic goitre from the point of view of surgical treatment, and Dr. Strickland Goodall on the heart in influenza. On the final morning Dr. Gordon Holmes takes for his subject suprarenal disease, Sir Walter Fletcher medical research in Great Britain, Mr. James Sherren the choice of operations in gastric and duodenal ulcer, Sir StClair Thomson cancer of the larynx, Dr. H. C. Cameron functional nervous disturbances in children, and the last lecture is by Lord Dawson of Penn, whose subject is "The speed of life and disease." Post-graduate programmes for the afternoons have been offered by thirty-four general and special hospitals, the number of visitors to each institution being limited usually to twenty or thirty. The programmes generally include a round of the medical wards, surgical operations, clinical and pathological demonstrations, visits to special departments, the exhibition of historical and other specimens, and in some cases brief lectures. Practically the whole of each hospital staff will be at the service of the visitors. The institutions offering this hospitality include the Radium Institute and the London School of Hygiene and Tropical Medicine. On June 3rd the Royal Society of Medicine will give an evening party, when Mr. W. G. Spencer, honorary librarian of the Royal Society of Medicine, will exhibit over fifty examples of American medical literature before 1861. The executive committee, which is responsible for the arrangements as a whole, including a number of social functions in the late afternoons and evenings, consists of Sir Humphry Rolleston, Sir W. Arbuthnot Lane, Sir StClair Thomson, Sir William Hale-White, Sir Holburt Waring, Mr. W. Girdling Ball, and Mr. Philip Franklin (honorary organizer). The medical programme committee consists of more than forty members, under the chairmanship of Sir Holburt Waring, and there are four honorary secretaries—namely, Professor Arthur Ellis (medical), Mr. W. Girdling Ball and Mr. H. W. Carson (surgical), and Dr. Eric Pittchard (special departments). The bureau and headquarters will be at the house of the Medical Society of

London, in Chandos Street, Cavendish Square, where also an exhibition of surgical instruments and medical products has been arranged. The Inter-State Post-Graduate Assembly of America, which is directed by the Tri-State District Medical Association, comprises, it is stated, 55,000 members. The number accompanying the President, Dr. Charles Mayo, to Europe on this occasion is expected to be about 300. The London visit will be followed by visits to Ireland, Scotland, and the English provinces, and later in the month the party will proceed to Paris, where Professor Tuffier has charge of the arrangements.

#### WELSH CRIPPLES.

As readers are aware, a movement for the better treatment of cripples and for their education during treatment has been making steady progress in England. An account of the position then reached was given in our columns on August 2nd, 1924 (p. 204), and since then meetings have been held in many counties, with the result that much public interest has in every instance been aroused. It is primarily a matter for the education authorities, but they require support and stimulation, and those concerned in the movement are in need of funds to carry on the crusade. The movement, although it originated in the marches of Wales—in Shropshire, at Baschurch, in the institution established by Miss Hunt—has not yet made much progress in the Principality. We are glad to learn, however, that attention is now to be given to the matter. The Welsh National Memorial Association, established for the treatment of tuberculosis, has already done a good deal by setting up hospitals at which non-pulmonary tuberculosis is treated. There is the North Wales Sanatorium at Llangwylfan, near Denbigh, the St. Bride's Hospital, recently opened in Pembrokeshire, and the Glan Ely Hospital, Cardiff, to mention only some of the largest. In this connexion the Prince of Wales's Hospital established in Cardiff during the war for the treatment of soldiers and sailors who had lost a limb should be mentioned. In its foundation Sir John Lynn-Thomas took the initiative, Lord Tredegar gave the site, and Mr. Percy Miles and some other wealthy men in Cardiff made large contributions for its equipment and endowment. The number of war cases has now largely diminished, and the hospital has been able to undertake the treatment of civilian cases from all parts of Wales and Monmouthshire. In addition to residential ward accommodation, which is already being largely utilized for children, it possesses workshops and exercising grounds, where the cripple can receive his earliest instruction. Sir John Lynn-Thomas, who is at present himself, we regret to learn, physically crippled by a fracture into the knee, sustained early in March while on a visit to Florida, is not allowing this handicap to interfere with the planning of a national scheme for Wales. A gift of £50,000 from an anonymous donor, to meet preliminary expenses, has just been announced. This gift and other contributions which may be received will be vested in trustees, whose first duty it will be to take a census of cripples; it is estimated that there must be at least 20,000 cases in Wales and Monmouthshire who need orthopaedic treatment. The English scheme, which owes its present advanced position largely to the leadership of Sir Robert Jones, is to be extended, with suitable modifications, to Wales, and the Prince of Wales's Hospital at Cardiff will, it is thought, offer suitable headquarters. It is intended to hold a conference in the autumn to which every health and education authority in Wales and Monmouthshire will be asked to send representatives. The scheme will then be fully explained by Sir Robert Jones and others, and, it is hoped, very shortly thereafter brought into action. It has the support, we understand, of the Welsh Board of Health and the Welsh Board of Education.

## INTERNATIONAL CONGRESS OF RADIOLOGY.

THE International Congress of Radiology, which is to be held in London from July 1st to 4th, will consist of three sections—radiology, physics, and electrotherapy and physiotherapy. As the number of papers in the section of radiology is very large it will probably meet in two divisions sitting simultaneously, the one hearing and discussing papers relating to diagnosis, and the other those bearing on therapy. The section of electrotherapy and physiotherapy will hold three sessions; the first dealing with actinotherapy, and the second with diathermy. In the physics section Professor Hopwood will open a discussion on the organization of a hospital radium service. On the opening day that section will meet with the section of radiology for a discussion on the standardization of dosage, which will be opened by Sir William Bragg from the physical standpoint, and by Dr. Bédère of Paris from the medical. On the evening of that day the Duc de Broglie will give the Sylvanus Thompson memorial lecture, and has chosen for his subject the absorption of  $\alpha$  and gamma radiations and the secondary radiations which accompany them. On July 3rd Sir Berkeley Moynihan will deliver the Mackenzie Davidson memorial lecture on the relation of radiology and surgery. The congress dinner will be held on the evening of the second day.

## SPOKEN AND WRITTEN ENGLISH.

PROBABLY few people realize that the distinction implied in the above title exists. Dr. Henry Bradley, the senior editor of the *Oxford English Dictionary*, read a paper on the subject at the International Historical Congress as long ago as 1913. It has lately been reprinted by the Society for Pure English. It is a thoughtful pamphlet, and will well repay perusal. Dr. Bradley began by laying it down that, little as the fact may be realized, "speech and writing are two organs for the expression of meaning, originally co-ordinate and mutually independent." He thought it probable that written language was primarily ideographic, conveying ideas by means of a series of pictures, and that only secondarily did it become representative of the sounds of speech. Many educated persons do not appreciate to what an extent they read the written word, not as a combination of sound symbols, but as an ideograph or single symbol, the sight of which calls up in the mind the memory of a thing or an idea; we all know that when in doubt as to the spelling of a word we can often come to a right decision by "the look of it," on comparing the two spellings when written. Ideographical language still preserves traces of its twofold origin, and among modern tongues English more than most shows differences between the written language of the educated and the spoken language of the multitude. This "undemocratic" character of the literary language is exaggerated by the classical tradition and by the number of words which have been borrowed and adapted from the dead languages, and of late years especially by the host of words coined mainly from the Greek to represent technical and scientific ideas and discoveries. Dr. Bradley expressed the opinion that many of these are scarcely used in the spoken language. The German method of Teutonizing every term does not recommend itself, for if the speakers of all languages followed it a scientific tower of Babel would be erected with dire results. He suggested that by international agreement all new scientific technical terms might be expressed in Esperanto or in some better universal language yet to be invented and adopted. While he looked upon radical spelling reform as impracticable, he admitted that the adoption of phonetic spelling would have some distinct advantages, among which not the least would be the greater ease of learning to spell and read and write. In a note on spelling reform he confessed that his ideas were ex-

ceedingly vague as to the extent to which reform is possible and desirable, but he thought that reformers should for the present confine the attack to those points for which there is no defence but custom. The number of homophones or words sounding alike but spelt differently and with different meanings constitutes a difficulty. If the "p" in "psychosis" and suchlike words were habitually sounded we should abolish the anomaly under which a mental derangement and a skin disease are represented by the same sounds. As regards the teaching of correct pronunciation, it must be remembered that a phonetic notation which represents correctly all the sounds in the language is something quite distinct from the more debatable phonetic spelling, which might correctly represent the speech of the educated Londoner but not that of the Aberdonian scholar, and which also might be gradually rendered inaccurate by changes of customary pronunciation, as has happened with many words in use to-day. In Chinese an ideographic character may represent all the widely differing sounds given to the same word in many dialects the speakers of which are mutually incomprehensible; consequently the written language is not subject to the same changes as are found in the alphabetical languages that attempt to convey the sounds of speech by written words.

## WAR MEMORIAL TO WOMEN.

THE famous Five Sisters Window of York Minster, which has been restored by women of the Empire in memory of women who gave their lives in the war, will be unveiled by the Duchess of York on June 24th at 3 p.m. An oak screen has been placed in the Minster with the names of the women to be commemorated. There are several women doctors on this roll of honour, and it is hoped that as many of their colleagues as possible will be present on this occasion to pay tribute to their memory, whether they did war work or not. As all representatives will be wearing uniform, it is requested that all medical women present shall wear academic dress. All who have decorations are asked to wear them. During the time of the ceremony at the Minster memorial services will be held throughout the Empire—in Australia, Canada, and New Zealand. The railway companies will give special terms—return tickets will be issued at one and a third single fare, or, for parties of twelve and over, at the price of the usual single fare. Dr. Louise Fraser has organized the medical deputation, and it is asked that applications should be made to the honorary secretaries, Women's War Memorial, Assembly Rooms, York, as early as possible.

THE "BRITISH MEDICAL JOURNAL":  
NEW ADDRESS.

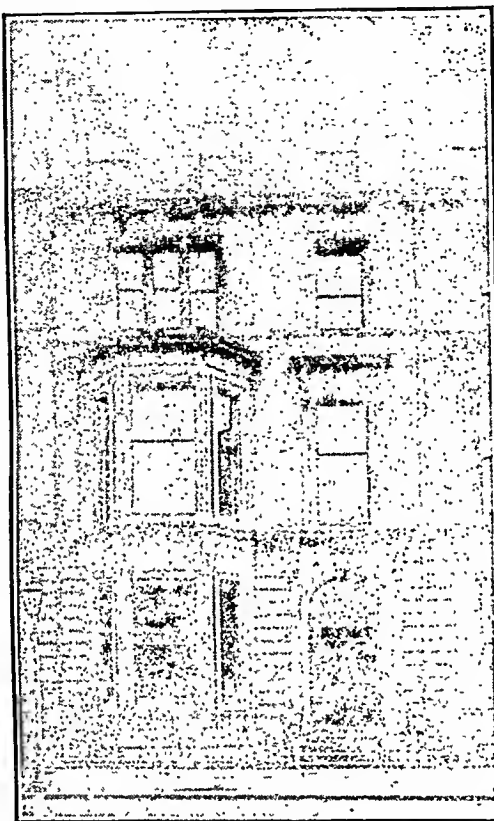
DURING the Whitsun holidays the Editorial and Printing Departments of the *BRITISH MEDICAL JOURNAL* will be removed from 429, Strand, to the new headquarters building of the British Medical Association in Bloomsbury. After Thursday, May 28th, the postal address for all communications intended for the Editor will be "*BRITISH MEDICAL JOURNAL*, British Medical Association House, Tavistock Square, W.C.1," the telephone number of the Editorial Department will be Museum 9864, and the telegraphic address "Aitiology, Westcent, London." Until further notice is given in these columns, all communications with reference to advertisements, as well as orders for copies of the *JOURNAL*, should continue to be addressed to the Financial Secretary and Business Manager, 429, Strand, W.C.2. It is expected that the Medical Department and the Library of the Association will be removed about June 17th, and the Finance Department about June 19th.

## THE ASSOCIATION'S NEW SCOTTISH HOUSE.

RESULTS have amply justified the policy of the Council of the British Medical Association in granting a measure of devolution to Scotland: first by the establishment in 1903 of a Scottish Committee with a remit to "report to the Council on any matters specially concerning Scotland"; and, secondly, by the appointment in 1919 of a whole-time Scottish Medical Secretary (Dr. J. R. Drevor), and an enlarged remit to the Scottish Committee to "consider all matters specially concerning Scotland, and, in conformity with the decision of the Representative Body, deal with all such matters." Premises in Rutland Square, Edinburgh, were secured for the Scottish Office. A quickening and deepening of interest in the affairs of the Association among the members in Scotland and a notable increase in membership have ensued from these changes.

With the membership of the British Medical Association touching 3,000 in Scotland, and still increasing, and with the Scottish Committee bearing its share of the growing activities of the Association, the Council, in December last, cordially approved a recommendation of that Committee that "it is desirable that the Association should own its own house in Scotland." Suitable premises were found in the property occupied by the late Dr. Brewis, at 6, Drumshough Gardens, Edinburgh, and were acquired by the Council. The Scottish Office is now in occupation there, and a ceremonial opening has been fixed for Thursday, June 4th.

No. 6, Drumshough Gardens, Edinburgh.  
Sited in one of the noblest of Edinburgh's many noble



streets, in the heart of the west end, and convenient of access from all parts of the city, the building in Drumshough Gardens is in every way suited to its purposes. Its four floors offer more accommodation than is required for the immediate needs of the Scottish Committee of the Association, and the upper two floors have been let on lease to the Meteorological Office of the Air Ministry. On the ground floor the Scottish Medical Secretary and his staff have been housed in a handsome suite of offices, and on the first floor there is a hall with seating accommodation for 150, with ante-room and cloak rooms. The hall will serve as a Committee and Conference Room, as well as for Divisional and other meetings. It is hoped that kindred professional societies may find in it a convenient meeting place, and already the Edinburgh Medico-Chirurgical Society and the Edinburgh Obstetrical Society have arranged to hold their June and July meetings there.

The opening ceremony on June 4th is to take the form of a luncheon in the new house, to which a number of distinguished guests have been invited. The Secretary for Scotland, the Right Hon. Sir John Gilmour, Bt., D.S.O., has accepted an invitation to be present. The chair will be taken by Dr. C. E. Douglas (Cupar, Fife), Chairman of the Scottish Committee of the Association.

## Scotland.

## MAN'S EVOLUTION.

A REPORT of the first three of the course of Munro Lectures on the evolution of man, delivered by Sir Arthur Keith at the University of Edinburgh, was published last week (p. 941). In the next lecture he dealt first with the remarkable race of mankind which inhabited Europe throughout the long period of Mousterian culture from 40,000 to 20,000 years ago, and ended abruptly with the advent of the Caucasian. The existence of Mousterian Europe had been first disclosed by a gang of German navvies who were clearing out the Neanderthal cave north of Düsseldorf in 1857, and had found in the strata a fossilized human skeleton. This was fourteen years before the appearance of Darwin's *Descent of Man*, and the anatomists of the time had concluded that they were dealing with a descendant of Noah who had strayed into Europe after the flood had abated. By good fortune Sir Charles Lyell obtained a cast of the skull, and he and Huxley had recognized that it was both ancient and primitive, and moulded on ape-like lines. More recently a score of men and women of this ancient Neanderthal type had been discovered, and much had been elucidated by taking casts of the interior of their skulls in regard to the size, shape, and pattern of the brains. Stone implements of this period had been discovered showing high skill, resource, and a power of invention. It had also become known that the men of that time knew the uses of fire, were expert

hunters, and buried their dead with ceremony, laying with them implements, ornaments, and apparently joints of meat. All these facts had come to light in the course of explorations during the present century. This civilization had disappeared 20,000 years ago when our ancestors, the Caucasian pioneers, made their way into Europe. There did not appear to have been any interbreeding between the two races, although the Caucasians had apparently existed in Europe during the period of Mousterian culture, for both in the valley of the Thames and the valley of the Seine the bones of Neanthropic or Caucasian man had been found embedded in strata of a pre-Mousterian date, and this led to the supposition that men of our type had broken into Europe and obtained a temporary foothold before their final settlement at the end of the Mousterian period. In the fifth lecture the most ancient English person, probably a woman, whose skull had been discovered at Piltdown in the county of Sussex, was discussed. This went back some 10,000 years to the point where the present period of the earth's history began and where the Pleistocene period ended. The Piltdown fragments were found in a bed of gravel laid down by the Ouse of Sussex, before that river had eroded its valley, which is now over 80 feet in depth. From subsequent discoveries it appeared that this Piltdown race had mastered such arts as the capturing of elephants and the hewing of implements from their thigh-bones, although their skulls presented a mosaic of characters in which anthropoid and human features were blended. In the sixth lecture Sir Arthur Keith, dealing with South Africa in prehistoric

times, said that Africa south of the equator had recently begun to rival Europe as the scene of prehistoric discovery. Along the coast of Cape Colony were many kitchen middens of large size, made by the Strandloppers, an extinct race allied to the Hottentots. Near these were ancient graves and caves which had been inhabited by man in early times; only a few had yet been explored, but it was now certain that the valley and banks of the Zambesi and of the Orange River had been inhabited by man in remote times. A sequence of forms could be recognized in the stone implements which broadly corresponded to those of Europe. It was possible that the inhabitants of both continents had borrowed a common inspiration from an earlier source. South Africa had been one of the most prolific of the gardens of Eden, producing such strange types as Bushmen and Hottentots, ancient peoples now rapidly approaching extinction. These were, however, special negroid developments, and they were no more and no less akin to the ape than were the Caucasians. Indeed, many of the extinct Strandloppers had large skulls and big brains. Two fossil skulls of large size had been found—one at Boskop in 1913 and one in a cave of Cape Colony in 1921, in strata which placed them about 15,000 years ago. The Sahara had been a very ancient barrier. As the ice sheet had spread southwards in Europe, the fertile belt spread southwards in the Sahara and narrowed the barrier, but never obliterated it. There had always been a clash of races in South Africa, and when the Dutch landed at the Cape three centuries ago the Zulu and Matbele types were extending southwards and exterminating the pastoral Hottentots, as these in turn had exterminated their cousins, the Strandloppers. In the seventh lecture, on recent discoveries of fossil ape and man in Africa, the lecturer dealt specially with the Taungs skull, discovered last year near Kimberley. Rhodesian man was clearly, he said, a cousin of Neanderthal man. Taking all the evidence into account, the African type was older and in every respect more primitive, more like the ape, than the Neanderthal. Whatever his geological age might prove to be, he represented a stage which we expected our ancestry to have reached at the opening stage of the Pleistocene period, at least 100,000 years ago. In facial feature the Rhodesian man was more like the gorilla than any other known species of man. Indeed in the width, prominence, and strength of his supraorbital ridges he outdid the male gorilla, but his canine teeth were not prominent as in the anthropoid, and his jaws were human in shape though ultra-human in dimensions. The fact that his teeth had suffered from caries led to the supposition that Rhodesian man had already discovered the uses of fire and the art of cooking. The characters of the Taungs skull discovered at the end of last year in a block of limestone corresponded to the stage reached by a child in the sixth year and by a chimpanzee at the beginning of the fourth; and the lecturer agreed with the opinion expressed by Professor Arthur Robinson that the skull was that of a young anthropoid ape, although of an extinct kind. In the size of the brain the Taungs animal was altogether anthropoid, while the jaws and face were essentially those of a young chimpanzee.

#### INDUSTRIAL EFFICIENCY.

A letter has been sent to the Scottish newspapers by the Lord Provosts of Edinburgh, Glasgow, Dundee, and Aberdeen, by the medical officers of health of these cities, and by the officials of the Industrial Educational Council, upon the subject of sickness and diseases of an occupational nature which lead to inefficiency. The communication deals with the work of the Industrial Educational Council, which is intended to give intensive and effective information in regard to the conditions of healthy living and the methods by which these may be obtained under varying conditions. Workers are to be approached through their own organizations, and this has been made possible by a recommendation of the Scottish Trades Union Congress Council to its branches to avail themselves of the health talks which are open to members of trade unions, and to all engaged in particular industries. A large number of meetings have been attended by workers and their wives. It is reckoned that at least 2,000,000 weeks' work is lost annually in Scotland through

sickness and disablement among insured workers, and that 50 per cent. of this would have been avoided if the workers had had the necessary knowledge. These health talks have been given to miners, bakers, printers, foundry workers, railway men, clerks, administrative workers, granite workers, steel workers, building trade workers, textile workers, etc., and in each case the workers' organizations have paid part of the expenses. During the period from October, 1925, to March, 1926, it is hoped to organize 200 health talks in Scotland. The council is composed chiefly of medical men, who have readily responded by giving their services without remuneration. To cover a five years' programme, however, £10,000 is needed, towards which about £700 has been received and spent on work already being carried out. If funds permit, it is desired to issue to the workers printed information on the subjects dealt with, and an appeal is made for subscriptions, which may be sent to the Secretary, Mr. J. Mackenzie, 21, Waterloo Place, Edinburgh, to whom also applications may be made for the health talks.

## Ireland.

### HEALTH INSURANCE AND MEDICAL SERVICES.

#### *Interim Report of the Committee.*

THE Committee of Inquiry into Health Insurance and Medical Services has submitted an interim report embodying the results of the investigations it has made up to the present time.

The Committee sets out under seven heads the main defects alleged against the case made in respect of each of them by the witnesses examined, of whom the Committee states there were forty-nine, representatives of the different interests concerned:

"(1) Owing to its association with Poor Law administration a persistent prejudice exists against the dispensary system.

"(2) The absence of a statutory right to pension occasioned the abuse of medical officers clinging to office after their professional usefulness had ceased.

"(3) Grave abuses exist in some districts affecting injuriously the election of medical officers; bribery, direct and indirect; political pressure; undue influence of relatives.

"(4) Some of the dispensaries, especially the branch dispensaries, are unsuitable for the purposes they are intended to serve, and in some cases insufficiently equipped.

"(5) The salaries of dispensary medical officers, first fixed in the middle of the last century, remained almost unchanged up to the beginning of the present century in spite of greatly increased cost of living and of the longer course of education required in order to become a medical practitioner. In 1904 the average salary of a medical officer in Ireland was £109. There was a slight gradual increase during the following ten years, and in 1914 the average had become £130. The average salary in the Saorstát is now £251, a sum which does not show much, if any, advance as regards purchasing power on the salary paid in 1904. In many cases the salary cannot pay the necessary out-of-pocket expenses of travelling through a dispensary district. Candidates have in the main been induced to join the Dispensary Service, not by the remuneration offered as salary, but by the prospect of earning a livelihood in private practice in the district.

"(6) There have always been great inequalities in the amount of salaries paid to medical officers in different areas. Moreover, the lower salaries prevail in those areas where the prospects of private practice are least. Although the Dispensary Service has always contained many medical officers of skill and devotion, it has never been attractive to the more ambitious of young Irish doctors; as a consequence not a few have been compelled to go abroad.

"(7) There is no arrangement in the Dispensary Service to provide medical officers with the opportunity of refreshing and increasing their knowledge by attendance on courses of study at recognized centres. As medical and surgical knowledge are advancing rapidly, it becomes increasingly necessary to give medical officers opportunity for such further study.

"The Committee gave serious consideration to these alleged defects in the medical services comprised in the Medical Charities Act. In our view the evidence in support of (1) was given by persons lacking knowledge of the working of the Dispensary Medical Service in counties where the development of the administration has proceeded according to the policy of the Department of Local Government and Public Health. The witnesses for the most part relied on their experience in the city of Dublin or in places where county administration is too recent to be yet effective or on experience of the system prior to the amalgamation of unions. We consider that the unification of the dispensary and hospital service under special county

committees will, when such schemes have had time to develop, remove the former prejudice. This system of committees, distinct from county homes and home assistance committees, should be extended to every county in the Saorstát. As regards (2) a fixed retiring age is not necessary. The right to pension under Section 8 of the Local Government Act, 1919, has enabled medical officers to retire before their functions are impaired by old age, and has, it would appear, practically put a stop to the abuse complained of. The Local Government Bill (1924) now awaiting the decision of the Seanad is framed to regulate further the pensioning of medical officers. In respect of (3) many witnesses stated that they would prefer to transfer the power of selecting medical men for public appointments to a central authority; the witness representing the County Councils General Council advocated this as a necessary reform while awaiting the setting up of a State medical service. With a view to eliminating the taint of corruption and inefficient modes of appointment, selection committees, consisting of independent professional experts and selected public representatives, have been tried as an expedient, with so far not unsatisfactory results. In our opinion such medical appointments for the present should be made by special tribunals under the aegis of the Civil Service Commission; thus, as the circumstances of particular appointments may require, the test to be applied might be (a) examination alone, (b) examination supplemented by consideration of experience and general fitness, and (c) in some cases selection without the formal test of an examination. In (4) there is much substance. Undoubtedly many dispensary buildings are unsuitable. The practice of granting advances out of the Local Loans Fund for the provision of new buildings under the Dispensary Houses (Ireland) Act was, unfortunately, discontinued under the restriction of borrowing during the world war. Where unsuitable accommodation is now provided the local authorities should be required to remedy the defects. As regards (5) and (6) we accept the case made in the first paragraph of (5). The Department of Local Government and Public Health, particularly in the last few years, has used its influence to improve the remuneration of the dispensary medical officers. In twenty county areas scales of salaries are now regulated and revised so as to be on a uniform basis within each county area. The problem has yet to be dealt with in ten county areas. The adjustment of the medical officers' salaries in Roscommon, Longford, Leitrim, Cavan, and Mayo was deferred owing to economic and other reasons. In Cork the amalgamation of unions is of too recent date to permit the actual operation of a scheme. The increase of salary shown by the average figure for the year ended March 31st, 1924, upon the figure admitted to have been grossly inadequate in 1904 is, however, more apparent than real owing to the increased cost of living. We hope to deal more fully with the matter in our final report. The Committee approves the suggestion in (7), and recommends that 'study leave' for a period not less than three months should be granted at least as often as once in every five years, and that evidence of having taken advantage of such opportunities should receive consideration where promotion is in question. During 'study leave' the medical officer should, subject to regulations, receive full salary without deduction for payment of a locum tenens; a grant might be provided to cover fees for study. The Department of Local Government and Public Health has already, within the limits of its powers, granted facilities of the kind to medical officers. There is, however, no legal authorization for paying a locum tenens during the period of absence."

#### ULSTER MEDICAL SOCIETY.

The annual meeting of the Ulster Medical Society was held in the Medical Institute, Belfast, on May 14th, when the President, Dr. Singleton Darling of Lurgan, was in the chair. The reports of the council, of the librarian, and of the treasurer, which showed a credit balance of £170, were read and passed. On the proposal of Professor Thomson, seconded by Dr. McKisack, a hearty vote of thanks was passed to Dr. Marshall on relinquishing office as honorary secretary. The following office-bearers were elected:—*President*: James A. Craig, M.B., F.R.C.S.Eng. (Belfast). *Ex-President*: J. Singleton Darling, B.A., M.D. (Lurgan). *Vice-Presidents*: W. Burns, L.R.C.P.S. Ed., D.P.H.; Thomas Killen, M.B., F.R.C.S.Eng. (Larne). *Council*: A. Dempsey, M.B., B.Ch.; G. G. Lyttle, M.B., B.S., M.R.C.S., L.R.C.P.; Professor R. J. Johnstone, M.B., F.R.C.S.Eng., M.P.; H. P. Malcolm, M.C., M.Ch.; R. Marshall, M.D., F.R.C.P.I.; P. O'Flaherty, M.B., B.Ch. *Honorary Treasurer*: T. T. Lewis, M.D., B.Sc. *Honorary Librarian*: W. L. Storey, B.A., M.D. *Honorary Secretary*: R. Maitland Beath, M.B., B.S. *Editing Secretary*: J. A. Smyth, M.D., B.Sc.

## England and Wales.

### ULTRA-VIOLET LIGHT INSTALLATION AT BATH.

THE new ultra-violet rays department at the Royal Baths, Bath, was formally opened on the afternoon of Saturday, May 16th, by the Mayor of Bath, Alderman Cedric Chivers. The company included the Chairman (Councillor C. H. Haeker) and other members of the Baths Committee; Mr. John Hatton, director of the Baths; Alderman Preston King, M.D.; Dr. F. G. Thomson, President-elect of the British Medical Association; Dr. J. F. Blackett, medical officer of health for the city; and many other members of the local medical profession. The principal guest was Dr. Leonard Hill, F.R.S., director of the Department of Applied Physiology and Hygiene at the National Institute for Medical Research at Hampstead, who gave an address on ultra-violet rays and their application. After a brief reference to the knowledge of the curative effect of sunshine in ancient and mediæval times, he spoke of the injurious effects upon health of the sedentary indoor lives led by the overclothed inhabitants of modern cities. He then explained briefly the difference between the active invisible rays beyond the violet end of the spectrum and the dark heat rays beyond the red end. The action of the former on the skin depended, he said, first, on penetration, and secondly, on absorption, and he indicated the effects of ultra-violet rays of different wave-lengths. The intensity of any source of ultra-violet radiation could be measured by means of a solution of 30 per cent. acetone coloured with methylene blue. Discussing the therapeutics of artificial sunlight, Dr. Hill spoke of the remarkable benefit, especially in children, of arc-light lamps in chronic infections of obscure origin. He was sure the bathing establishment at Bath would find the new installation a most valuable adjunct to its treatment of many cases, particularly in winter. At the conclusion of the address questions were asked by medical members of the audience, mainly regarding the details of treatment. Dr. F. G. Thomson, in seconding a vote of thanks to Dr. Leonard Hill, said he had been extremely impressed by two things: one was the value of ultra-violet light therapy, and the other was that this was a form of treatment which must not be used lightly, but needed very careful, serious study by those proposing to use it. Obviously, a new form of treatment such as this was open to very serious abuse unless great care were exercised. After the opening ceremony many of the visitors inspected the new department, where a demonstration of the treatment had been arranged.

### CRIPPLING DUE TO FRACTURES.

The delivery of the lecture on "Crippling due to fractures: its prevention and remedy," given before the University of Liverpool by Sir Robert Jones on the afternoon of Tuesday, May 12th, and printed as the opening paper of our last issue (p. 909), was not attended by much formality. The vice-chancellor, Dr. Adam, briefly stated the circumstances attending the foundation of the Lady Jones Lectureship. Mr. J. Rankin gave £2,500 in memory of Sir Robert Jones's wife in 1918. By the addition of annual interest the sum had been increased, and it was decided to devote the proceeds to the institution of a research scholarship in orthopaedics and of a biennial lecture on the subject. Sir Robert Jones's plea for better organized teaching and for the more systematic treatment of fractures was followed with great attention by a large audience, which seemed to agree with his thesis—that as insufficient treatment and neglect might transform a simple fracture into a chronic deformity, it was not open to the teaching hospitals and other large hospitals to shirk the responsibility of establishing a system for the adequate treatment from the first of fractures of the limbs. There can be no doubt that great numbers of adult cripples are manufactured by want of continuous efficient treatment from the time of the injury, and that the medical student has not, as a rule, sufficient opportunity for learning what are the best modern methods available.



## France.

[FROM OUR OWN CORRESPONDENT.]

### The Working of the Insurance Act.

PROFESSOR SERGENT has recently pointed out to the Academy of Medicine that the provision of the law relating to medical insurance which gives all sick persons the free choice of doctor will have some curious effects on the administration of Paris hospitals. There is nothing, he said, to prevent an in-patient from enlisting in any doctor he may select out of the 5,000 practising in Paris. It might even happen that forty patients in one ward would be separately treated by different doctors, each one employing his own pet method. In this way anarchy would be produced, hospital administration would pass out of the hands of the Assistance Publique into those of the insurance societies, and there would be no guarantee of medical efficiency. The beautiful theory of democracy which maintains that any man is as good as any other would be applied to the medical profession; doctors would all be assumed to be equally competent, and obviously the instruction of students would lose much. In fact, we should return to a system of classes devoted entirely to didactic lectures, and the old system of beginning the clinical teaching of the student at the bedside would come to an end. This would mean that clinical demonstrations in the theatre would replace that study of teacher and taught in common which has been the charm of our system and the secret of the strength of the French medical school. *Dii talem arctite casum!*

### Public Health and the Budget.

Before the same learned body Professor Bernard attacked the recent decision of Parliament to withdraw on the score of economy a sum of 132 million francs from the public health estimates. Since the war great efforts have been made to deal with preventable diseases, and the results are already striking. The economic value of public health, however, is not obvious to the public eye: statistics make no appeal to the imagination. To grudge money for the fight against disease would have a ruinous effect on the country in two ways—by loss of men and loss of money, for the result on the expenditure on institutional treatment for incurables, the loss of working capacity, and waste of all kinds, would be terrible. It is calculated that if the State would devote 20 million francs a year to the fight against syphilis alone it would save thousands of millions. While England was spending 567 francs per thousand people in this branch of prophylaxis France only spent 77 francs. The Department of the Seine alone treated in hospital 1,890 general paralytics at an annual cost of 9 million francs. To this is to be added the cost of the treatment of the insane and of those suffering from diseases of the spinal cord. Reductions in the public health estimates reveal themselves in heavy charges on the State later on. Alas! the opinion of the Academy of Medicine weighs very little in the parliamentary scales.

### British Surgeons in Paris.

Last month a party of British surgeons, some twenty in number, visited the chief surgical clinics of Paris. The party, members of the Chirurgical Club, consisting of surgeons from the extra-metropolitan medical schools of England and Scotland, was led by Professor Marnoch of Aberdeen. The party witnessed operations performed at different hospitals each morning. They were particularly interested in a demonstration of the radiographic diagnosis of gall stones in the clinic of Professor Duval at the Hôpital de Vaugirard, and in the skiagrams of the gall bladder obtained after an intravenous injection of an iodine salt, in the clinic of Professor Gussot at the Salpêtrière Hospital. Visits were also paid to the Radium Institute founded by Madame Curie, and to the Pasteur Institute, where the tomb of Pasteur was specially opened for their inspection.

### International Society of Medical Hydrology.

At the International Society of Medical Hydrology, which held its first meeting in Paris on April 20th, no fewer than

eight countries were represented. The society was founded in London in 1922, and is now flourishing. The meeting discussed the question of the treatment of diabetes by insulin from the hydrological point of view, and also the treatment of rheumatic exudations following trauma. A dinner, presided over by Professor Carnot, was attended by representatives of the Institut d'Hydrologie, the Collège de France, and the French Government. On the following days demonstrations were given at the Sorbonne by Professor Urbain; at the Faculté de Médecine by Professor Desgrez; and at the Collège de France by Professor Lepape. Hydrology is at last being recognized in France as a specialized science and an important part of therapeutics. It is curious to reflect that the first kind of treatment used in the history of mankind should be the last to be taught in our modern medical schools.

G. MONOD.

## Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

THE House of Commons has this week read the Widows', Orphans', and Old Age Pensions Bill a second time by 401 to 125, and has sent it to a Committee of the whole House. Other business has included a debate on the Ministry of Transport Vote, and an effort was made to get the Poor Law Emergency Continuation (Scotland) Bill through its remaining stages. Debate on the Finance Bill will commence next week.

The Medical Committee met on May 18th, when Mr. W. G. Spencer addressed it on the supply of cadavers for anatomy and operative surgery, remarking incidentally that boards of guardians were more willing to supply subjects for the second purpose. He did not suggest special legislation, but that the Committee should see whether it could help to reduce present difficulties in ensuring a supply of subjects for dissection. The Committee next discussed small-pox and vaccination, exploring the present position and the possibilities of further action, including introduction of a private bill to focus public opinion.

In view of the unsatisfactory reply given by the India Office to Sir Richard Luce's question, the Committee discussed the unsatisfactory conditions at present existing, and agreed to continue to press the Government for an early change in them. The Committee considered also the amendment, in regard to the supply of insulin, which Dr. Shiels had moved to the Public Health (Scotland) Bill; it was suggested some compromise should be effected between the terms of the bill which did not enjoin any method of supply and Dr. Shiels's proposal that insulin should be supplied only by chemists. The general feeling of the Committee was that insulin should be supplied either through a chemist or a doctor.

The Committee decided that it could not support a proposed petition to the Prime Minister in favour of allowing former mental patients to give evidence in public before the Lunacy Commission.

An invitation was received from M. Spahlinger for the Medical Committee to visit his research station in Switzerland. The Committee decided that it would be well if some of its members could go to Switzerland for the purpose, but that it could not, as a body, accept the invitation unless and until it had received a report from any such members.

### The Pensions Bill.

The second reading of the Widows', Orphans', and Old Age Contributory Pensions Bill was moved by the Minister of Health on May 18th. He explained that the scheme was linked up with health insurance, chiefly for the reason that the latter covered so much wider a field than unemployment insurance, including something like 15,000,000 workers against 12,000,000. The Government proposed to invite the assistance of the approved societies in providing certificates of the insured by virtue of which a man would become entitled to benefits under the bill, but the pensions would be paid through the Post Office. Under the National Health Insurance Act an insured person at 70 was entitled to free medical benefit for the rest of his life. But, if he had only reached 65, and ceased to be employable and passed out of insurance, then he lost the right to medical benefit. That had been a considerable grievance, which the provisions of the bill amended. The third schedule of the bill provided that in future insured persons who reached 65 would have this boon of medical benefit for the rest of their lives.

The grounds of the opposition to the bill by the Labour party were stated by Mr. Wheatley, the ex-Minister of Health,

who moved its rejection on the ground that it was a contributory system and provided allowances which were inadequate.

Mr. Lloyd George asked whether it was not possible to have another benefit. The bill did not cover all accidents against which the industrial population had to insure. Before the Health Insurance Act there were two capital charges of which the working classes had always been frightened, one of which was the doctor's bill after a prolonged illness. In the past that took years to wipe out, and the only contributor very often was the doctor himself. ("Hear, hear.") The doctors lost three-quarters of these bills in that respect, not because the workmen would not, but could not, pay. That difficulty had been disposed of by the Health Insurance Act. The other trouble was funeral expenses. There were 50,000,000 voluntary insurances to-day against payment of funeral expenses, and if there were a compulsory insurance for £10 per person it would be a great boon. He urged that the pension should not be awarded at 65, but on a disability basis.

The debate was resumed on May 19th, when Dr. Fremantle said that while in the meantime he supported this magnificent measure of social reform, he felt that money was being wasted by giving pensions rigidly to those who were 65 years of age. The Government actuary's tables were based on the life tables, but the mortality rates were diminishing, and were likely to go on diminishing for some time. In the course of the next forty years the number of people between 65 and 70 years of age would have nearly doubled. Not only had the expectation of life increased, but the length of working life had also been increased. The present pension scheme permanently threw people out of work at 65, but he was sure that in future the pension scheme ought to be on a disability basis. The decision, as in the case of war disabilities, would be by a medical board, diluted by such other elements as might be required.

#### *Proposed Coroners Bill.*

In the House of Lords, on May 19th, Lord Darling called attention to the not infrequent practice of coroners' courts holding inquests simultaneously with the hearing by justices of charges against persons arrested and accused of murder or manslaughter of the deceased person. He suggested that if at any inquest the coroner was informed, before the jury had given their verdict, that some persons had been so charged, then it should be the duty of the coroner, in the absence of good reason to the contrary, to adjourn the inquest. The Lord Chancellor, in reply, agreed that a certain amount of mischief resulted at present in these cases, and as a witness of the tragedy might have to give evidence four times great expense was involved, while the case of the deceased man was sometimes prejudicial. The Government proposed to introduce a bill dealing with the whole law of coroners and a number of other matters which had arisen in connexion with inquests. The bill would contain a clause much to the effect suggested by Lord Darling. The bill was ready, and was only awaiting the approval of some local authorities to some financial matters. He hoped that within a short time it would be introduced and passed into law.

#### *The Distribution of Insulin.*

During the debate on the Public Health (Scotland) Bill in the Standing Committee on Scottish Bills, an amendment was moved by Dr. Shields to provide that medicines for the treatment of diabetes under the bill should be supplied (a) by chemists and druggists, and dispensed either by or under the direct supervision of a registered pharmacist; or (b) through a registered pharmacist in the employment of the local authority, except that, where circumstances made it necessary, the supply might be obtained from a medical practitioner. Dr. Shields said there was a suggestion that because it was made up in a form already complete and standardized and did not require compounding, it was unnecessary for a specially qualified person to be concerned in its distribution. That struck at the root of the Pharmacy Acts. Insulin was already supplied under the National Health Insurance Acts, which provided that it must be supplied under the supervision of a qualified pharmacist. Insulin was also supplied by Poor Law authorities, and there again its distribution was supervised by qualified persons. Under the present bill the public health committees of county and borough councils would probably have the distribution of insulin. Large authorities already had properly qualified pharmacists in their employment, and in other cases the patients were treated by their own doctors, who would supply insulin paid for by the local authorities. With these cases the amendment did not propose to interfere. Insulin was injected hypodermically, and a practice had necessarily grown up whereby patients were instructed in the hospitals before they left as to the method of injecting insulin for themselves. That was now quite a general practice, and it was one which such patients used specially to deal with. The insulin person. The bill was only a beginning of a much wider application of the same principle of the supply of drugs to the public. The executive of the Pharmaceutical Society urged that the amendment should be adopted.

The Secretary for Scotland (Sir John Gilmour) said that it would be dangerous to admit that the issue of insulin should be confined in present circumstances to chemists. The actual preparation should be conducted by those qualified to do it, but the

Scottish Board of Health, working with the Ministry of Health in England, had been able to obtain insulin in bulk more cheaply than the ordinary chemist could retail it. This was a fresh departure and undoubtedly one of the greatest importance. The department had been able to obtain insulin at something like 2s., as against 2s. 8d. by the other method. The treatment must originate either in a hospital, or in a clinic, or under direct medical supervision. There had crept into Dr. Shields's speech some idea that chemists were going to advise and to supervise the use of the drug. That would not be the province of the chemist. The Government must resist the amendment.

The amendment was then negatived without a division and the bill was reported to the House.

*Medical Services in India: Pay and Allowances.*—Sir Richard Luce asked Earl Winterton, Under Secretary for India, on May 18th, if the married officers of the Royal Army Medical Corps, the Royal Army Veterinary Corps, and the Army Dental Corps, serving in India, were still excluded from the increased pay and allowances, including quarters, recently granted to other branches of the British Army, by which exclusion a major of the Royal Army Medical Corps received 75 rupees a month less than a senior captain of the Royal Engineers, and 5 rupees less than a captain of the Royal Army Service Corps; and if he would assure the House that members of these three services would not eventually suffer by reason of the delay involved in the consideration of their case. Earl Winterton replied that the case of the services mentioned had been reserved for separate consideration in view of the possibility of changes affecting them in the near future. If the examination of the cases revealed sufficient grounds, increases would be given from the date which might be appropriate. Dr. Fremantle asked if His Majesty's Government would take steps to accelerate this matter in order to get some officers for the examination to be held in July. Lord Winterton was understood to reply that that matter did not depend on the India Office or on the Secretary for India, but on the Government of India. The considerations he had mentioned had reference to the possibility of a change affecting the home services, and until that was settled it would be difficult to come to a decision in the other case.

*The Medical Acts.*—In reply to Mr. Basil Peto, the Minister of Health said his attention had been called "to the action of the General Medical Council under the powers conferred on them by Section 29 of the Medical Act, 1858, in causing to be struck off the Register the name of a doctor on the ground that he was guilty of infamous conduct in administering anaesthetics to a patient of a manipulative surgeon not possessing a degree qualifying him to practise in medicine or surgery." Mr. Peto further asked whether Mr. Chamberlain would consider the need of amending the Medical Act in order to give the same right of appeal against decisions under Section 29 of the Medical Act to the Privy Council which is given in the Act under Sections 23 and 24. Mr. Chamberlain replied that the sections of the Medical Act, 1858, which Mr. Peto mentioned gave no right of appeal by individuals to the Privy Council. Mr. Peto then asked the Minister of Health whether he was aware that the subject of manipulative surgery, with one or two exceptions, was not taught in British medical schools; whether he would take steps to point out the advisability of rectifying this omission to the General Medical Council and other responsible bodies; and whether, in the event of a refusal by those bodies to recognize the value of these therapeutic measures, he would take action to insist upon this subject being given adequate prominence in the medical curriculum. Mr. Chamberlain replied that the revised medical curriculum adopted by the General Medical Council in 1922, which came into force on January 1st, 1923, included practical instruction in surgical methods such as massage and manipulation, and in electro-therapeutics and in the other action suggested in the representation. Mr. Peto asked whether persons skilled in manipulative surgery had not to be qualified surgeons under the Medical Act before they were allowed to give the instruction under the revised curriculum. Mr. Chamberlain asked for notice of this. Dr. Watts asked whether Mr. Chamberlain was aware that manipulative surgery was pure humbug. No answer was returned.

*X Rays for Insurance Patients.*—In reply to questions as to the provision of facilities for x-ray examination as one of the benefits under the National Health Insurance Act, the Minister of Health said that payment for an x-ray examination could at present be made under the National Health Insurance Act only where the examination was incidental to a service, such as dental or hospital treatment, made available under an approved society's scheme of additional benefits. The Royal Commission on Health Insurance was now considering the extension or development of benefits under the Health Insurance Act, and the suggestion made by Mr. Peto would be forwarded to the Commission. Mr. Neville Chamberlain also announced that he was referring to the Royal Commission on Health Insurance, for consideration, the question of granting exemption from health insurance payments of those workers already covered by payment to superannuation and provident funds at a condition of their employment.

*Vaccination of Workhouse Inmates.*—In reply to a question as to the vaccination of inmates of Chesterfield Workhouse, as to several deaths reported to have been accelerated if not so caused, and as to an inquiry to be held by the guardians, Sir Kingsley Wood said the Minister of Health was informed that, on the occurrence of a case of small-pox in a ward occupied by elderly females, 379 of the inmates of the institution, including elderly

persons, were offered and accepted vaccination. Forty-eight of the inmates were not vaccinated, either because this was thought to be undesirable on account of their state of health or because they declined. Since the vaccination was carried out there had been no death in the institution which could be attributed to, or was accelerated by, vaccination. The vaccinations were carried out on the advice of the medical officer of health of the borough, acting within his routine and prescribed duties. The Minister did not think it was necessary for an inspector of the Ministry to attend the guardians' inquiry, but he had asked for a report of it.

**Magistrates and Objectors to Vaccination.**—On May 18th Mr. Groves asked the Home Secretary if his attention had been called to the refusal of certain magistrates to witness statutory declarations under the Vaccination Acts; and if he would follow the precedent of one of his predecessors and circularize all magistrates, calling their attention to their legal obligations to witness statutory declarations when sitting in open court, expressly pointing out to them that they were neither required nor authorized to cross-examine applicants as to the reasons for their objections, but that their conscientious objections were sufficient. Mr. G. Locker-Lampson, Under Secretary to the Home Office, in reply, said that on March 17th Mr. Chamberlain had received a deputation from the National Anti-Vaccination League, which made representations to him on the subject. After carefully considering the particulars submitted by the league, he came to the conclusion that no case had been made out for the issue of a circular to justices.

**Cancer.**—The Parliamentary Secretary to the Ministry of Health (Sir Kingsley Wood) informed Mr. Groves that the inquiries with regard to cancer which certain local authorities were carrying out on the advice of the Departmental Committee on Cancer had not reached a stage when a definite statement on progress could usefully be made. The Departmental Committee was continuing its investigations, and circulars were issued by the Ministry of Health to local authorities giving information on cancer which might be helpful.

**A Lumbar Abscess.**—On May 18th Mr. Hardie asked the Minister of Pensions to grant a special medical inquiry into the case of an ex-service man who was suffering from the presence of shrapnel in his body, although at his final appeal in April he was disallowed on the ground of his disability being non-attributable to service. Lieut.-Colonel G. F. Stanley, Parliamentary Secretary to the Ministry of Pensions, replied that the man's claim was in respect of a lumbar abscess, and the decision both of the Ministry and of the appeal tribunal was reached after full consideration of medical evidence obtained from hospitals and otherwise as to the causation of the condition. There was no ground for granting a special medical inquiry. Mr. Hardie asked whether the x-ray plate taken at Stobhill Hospital, Springburn, Glasgow, would be produced as evidence whether there were parts of shrapnel in the man's body. Colonel Stanley said that the claim was not in respect of parts of shrapnel in the man's body. An x-ray plate was produced before the tribunal, and it was clear from it that the shrapnel had nothing to do with the abscess. All the man had been claiming for was the abscess. The medical board decided that this was not due to the wound he had received. He went to the appeal tribunal, which decided to have a report from the hospital and an x-ray photograph in order to make sure that this was not the result of the wound, and they confirmed the decision of the medical board. Mr. Hardie announced that he proposed to raise the subject in the House.

**Secret Remedies.**—On May 19th Colonel Day asked the Minister of Health whether his attention had been drawn to the dangers arising from the unrestricted sales of certain patent medicines, where the manufacturers were not compelled to state the composition of the products bearing their labels; whether he proposed to take any action in the matter to protect the public further; and if he would introduce legislation to compel all manufacturers of patent medicines to state plainly on the labels of medicines sold the ingredients contained in them. Sir Kingsley Wood replied that the Minister appreciated the importance, in the interest of public health, of securing some statutory regulation of the conditions under which patent medicines were advertised and sold, but in the present state of business he did not anticipate that it would be possible to introduce legislation on this subject during the present session. Colonel Day asked whether Sir Kingsley Wood was aware that many of these patent medicines contained injurious ingredients, and that the public took them a little too freely, not knowing what they contained. Sir Kingsley Wood said that might be so, but the difficulty was to find time for legislation. Mr. W. Thorne asked if Sir Kingsley Wood had ever been in the market places on a Saturday night and listened to the persons who sold these medicines, and seen how easily people could be "chloroformed" in this direction. Sir Kingsley Wood: And in other directions, too.

**Opium in Assam.**—Earl Winterton, replying, on May 18th, to Mr. Lansbury, said that in 1923-24 the proportion of Assam revenues derived from opium (licence fees and profit on sale proceeds) was about 18 per cent. (gross). The provincial Government had taken steps to reduce consumption; a system of registration had been introduced, and an experiment was being made with rationing. The amount of opium issued had fallen by nearly 50 per cent. in the five years from 1919-20 to 1923-24. The Government of India had recently addressed inquiries to local Governments regarding the high rates of consumption of opium in some areas. The Secretary of State proposed to await the result of these inquiries.

**Schools for Physically Defective Children.**—In reply to a question by Sir Henry Craik, the Minister of Education said that forty-eight local education authorities had provided schools for physically defective children. Of these schools, 113 were day and 37 resi-

dential schools. One day school and 71 residential schools of this type were provided by voluntary bodies. Out of 318 local education authorities only 7 had not provided school clinics for treatment of physically defective children, and 5 of the 7 had submitted proposals. In reply to another question the Minister said that last year 567 blind children, including 287 partially blind, and 4,301 crippled children, other than those suffering from active non-pulmonary tuberculosis, were attending no recognized school or institution. Many of the crippled children did not need to attend special schools, but rather required orthopaedic treatment to enable them to continue in attendance at ordinary public elementary schools, and he was encouraging the development of such treatment. He had already asked all education authorities to give careful attention to special school accommodation for blind and crippled children.

**Butter and Margarine.**—In answer to a question as to the discontinuance of the supply of butter by the Metropolitan Asylums Board, the Minister of Health said that he was advised that the use of margarine was quite compatible with a good diet, provided that the other constituents of the diet were satisfactory. The dietary adopted by the Metropolitan Asylums Board fulfilled this condition and, further, made adequate provision for adjusting the diet to suit any particular case. He was not prepared to recommend that the allowance of butter be continued irrespective of season. The provision for adjusting the diet to the needs of children was adequate.

**"Headache Powders."**—In reply to Colonel Day, the Minister of Health said he was informed that antipyrin was an ingredient in certain proprietary headache powders, but he had no information that its use was increasing. As in the case of acetanilide (see JOURNAL, May 16th, p. 944), he doubted whether, pending legislation for the control of secret remedies, the sale of headache powders containing this drug could be effectively restricted.

**Infants' Foods.**—Mr. Groves, on May 19th, asked the Minister of Health whether he would consider the possible danger to infant life arising from the sale of proprietary infant foods consisting largely of starch, and introduce regulations governing the sale of such foods, in view of the fact that he had issued instructions controlling the sale of dried milks. Sir Kingsley Wood replied that the Minister of Health was sure that misleading claims were sometimes made as to the value of infants' foods, consisting largely of starch, but he was not satisfied, on the information at present before him, that there was sufficient evidence of danger arising to public health to justify the issue of regulations at the present time. Mr. B. Smith asked whether the Minister would circulate through the medical side of the Ministry the names of the firms who largely embodied starch in so-called foods. Sir Kingsley Wood said he did not see the necessity for that. The consumption of these proprietary foods was decreasing. If sufficient evidence of danger was obtained the Minister would take immediate action.

**Infectious Hospitals: Poor Law Medical Relief.**—The Minister of Health informed Mr. Webb that there are about 1,100 hospitals, with 44,000 beds, in England and Wales for treatment of infectious diseases, including tuberculosis. No information is available as to the total medical and nursing staffs of these hospitals, nor as to the number of patients treated. In 1922-23 the cost to the rates of this service was £3,631,000. In January, 1921, there were 1,123 indoor posts for Poor Law medical officers and 3,558 outdoor posts. Information as to salaries paid was not available. In March, 1921, 17,405 persons were receiving outdoor medical relief.

**Public Libraries and Infection.**—Answering Mr. Groves, on May 6th, Sir Kingsley Wood said the Minister of Health was advised that medical officers of health were fully alive to whatever danger of infection there might be to frequenters of public libraries through the use of books previously handled by persons suffering from infectious ailments. Section 59 of the Public Health Acts Amendment Act, 1907, made special provision for precautions to prevent the spread of infection through the use of library books, and that section could be put into force in any district on the application of the local authority. The Minister of Health did not consider it necessary to undertake any special investigation or to issue periodical instructions to local authorities on the matter.

#### Notes in Brief.

No State has yet ratified the agreement concluded by the first Opium Conference at Geneva. The British Government hopes to do so soon, but has first to consult certain Protectorates. The Convention concluded by the second Opium Conference remains open for signature till September 30th, and cannot be ratified before then.

The British Government is unable at present to ratify the International Convention on night haking.

Since December 31st 21 outbreaks of foot-and-mouth disease have occurred in Great Britain.

In 1924-25 health insurance benefits equal to 12s. a head were distributed in England and Wales, in addition to 6s. 8½d. a head for domiciliary Poor Law relief and 11s. 5½d. a head for old age pensions.

Attendances of children at school clinics or for other medical treatment rank as school attendances if made under approved arrangements.

Last year 528 children in the West Riding of Yorkshire were ascertained to be mentally defective within the meaning of the Education Act, 1921.

It is estimated that 421,000 boys and 416,000 girls reached the age of 16 during the year 1924.

The Minister of Education has refused to send out a recommendation that every medically fit child should be taught swimming.

The second reading of the Nursing Homes (Registration) Bill has been set down for June 19th, and the second reading of the Therapeutic Substances Bill for May 25th.

The India Office has received a report from the Government of India to the effect that no cruelty attaches to the export of monkeys from Bombay for medical or surgical purposes, and that no religious offence has as yet been given by the capture of the animals.

The Board of Education has made no conditions or regulations for the supply of ambulances serving the needs of schools for physically or mentally defective children.

## Correspondence.

### VOMITING IN INFANCY.

SIR,—I have read with very great pleasure and profit Dr. Cameron's Lumslean Lectures on some forms of vomiting in infancy, but I would venture to suggest that some of his remarks on hypertrophic pyloric stenosis are open to criticism. Dr. Cameron's thesis is that the cause of hypertrophic pyloric stenosis and pyloric spasm is an achalasia of the pyloric ring sphincter. He points out that in pyloric stenosis the hypertrophy involves a great deal more than the true pylorus—that is, the pyloric ring sphincter; indeed, he produces considerable evidence that the latter is not hypertrophied at all, and draws the deduction that the hypertrophy is the result of an endeavour to pass the contents of the stomach past the obstruction caused by the failure of the pyloric ring muscle to dilate.

The fact that hypertrophy is not limited to the ring sphincter is obvious and generally accepted. Thus Cunningham, in the paper quoted by Dr. Cameron, says: "In this disorder the whole length of the canal is involved." The word "pylorus" is used in these cases as a synonym for pyloric canal, which is unfortunate, because it only adds to the confusion that already surrounds the terminology of the pyloric portion of the stomach. The pyloric canal was labelled by His the "pyloric antrum," whereas, according to the B.N.A. nomenclature, the pyloric antrum includes the pyloric canal and the vestibule. Discussion would be simplified if, as suggested by Cunningham, the term "antrum" were discarded and Jonnesco's terms of "pyloric canal" and "pyloric vestibule" were used, and this terminology I use in this letter.

The circular musculature of the pyloric canal in infants is relatively thicker than in adults and the lumen always approximates to a canal in shape. In the foetus the pyloric canal is even more a canal than in the infant; the pyloric ring sphincter does not function as a valve, but closure occurs by the contraction of the circular musculature of the pyloric canal. In hypertrophic pyloric stenosis the whole circular musculature of the pyloric canal is hypertrophied and acts as a sphincter in a manner similar to that of the pyloric canal of the foetus; so similar, indeed, is it that Dent may well be forgiven if, in Dr. Cameron's words, "he may have mistaken the rigid and tightly contracted pyloric cylinder . . . normal in the foetus for the pathological condition with which he was familiar." The essential factor in pyloric stenosis is the condition of the circular coat of the pyloric canal, and not the condition of the ring sphincter, whereas in pylorospasm the converse is the case.

Dr. Cameron also maintains that "there is no true stenosis present." If by "no true stenosis" he means that there is not complete stenosis, I agree; but I submit there is clinical evidence in favour of the existence of a relative stenosis, which is converted into a complete one by spasm or abnormal growth of the circular musculature of the pyloric canal imprisoning the mucous membrane, or by swelling of the mucous membrane, or by a combination of these factors. Sauer has recently produced anatomical evidence of this relative stenosis. He made, by the reconstruction method, wax models of the pylori of two infants of the same sex, approximately the same birth weight, and

practically the same age at the time of death, and found that the lumen of the pyloric canal in the stenosis case was the same at the stomach end, was larger at the duodenal end, but narrower in the middle, than the canal in the normal child.

Whether the state of the pyloric ring sphincter in pyloric stenosis be that of achalasia or spasm is not, I think, of great importance if it be remembered that the essential thing is the condition of the circular musculature of the pyloric canal. For myself, I believe that it is spasm and not achalasia, for if the condition were one of achalasia I cannot understand the beneficial effects of stomach wash-outs, the relaxation of the pylorus shortly before death in some cases, as evidenced by the occurrence of terminal diarrhoea and by x-ray examination, and the inability of pressure over the stomach or sodium bicarbonate to force the passage of the pylorus.

In Dr. Cameron's view it is a mistake to regard pyloric stenosis as congenital in origin, and he cites as evidence against the congenital origin the fact that many cases do not show symptoms until from two to four weeks after birth. I have already suggested an explanation of the late onset of the symptoms, but I think that sometimes too much is made of this point; thus, out of 448 cases collected by Sauer, in 103 and 125 cases respectively the onset of vomiting occurred in the second and third weeks, but in 105 cases the onset of vomiting occurred in the first week; and instances in which a history of vomiting since birth is obtained are surely not unknown in the experience of those physicians who see a large number of these cases. Now any theory which explains the disease must explain all cases, even those which show symptoms directly after birth. I would like to ask Dr. Cameron how, on his thesis, he explains the great degree of hypertrophy which he must have met with in cases which were operated on when three weeks old. I cannot imagine such a degree of hypertrophy developing in so short a space of time if the condition be a post-natal one, and I would also submit that additional evidence in favour of a congenital origin is found in the similarity of the hypertrophic pylorus to the foetal pylorus which I have already mentioned, and also in Professor J. C. Brush's investigations into the development of the musculature of the pylorus, which are recorded in my Goulstonian Lectures (1923).

Of one of the x-ray photographs illustrating the lecture, the lecturer says: "I believe that in this photograph, which has caught the contractile cylinder in a phase of relaxation, we have outlined the enormous lumen which, after death, is completely obliterated." Surely there is some mistake here, since the only part of the stomach the lumen of which is completely obliterated after death is the hypertrophied pylorus (pyloric canal), and I cannot think that Dr. Cameron would suggest that the pyloric canal can ever dilate to this degree. If such dilatation did in fact ever occur it surely would have been observed at operation. Earlier in this lecture the contractile cylinder is defined as consisting of "pyloric antrum" and "vestibule"; if in the above quotation by "contractile cylinder" is meant the pyloric vestibule only, then I maintain that after death the lumen is not obliterated. The explanation of the photograph is, I submit, a perfectly simple one—the radiograph has just caught a peristaltic wave, and if a later photograph had been taken the wave of contraction would have been seen to have moved nearer to the pylorus. My colleague Dr. Teall, in his radiographic examination of these cases, has repeatedly observed this sequence of events. I may also remark that peristalsis in pyloric stenosis is not limited to the contractile cylinder, but waves appear well up on the cardia; if it were not so, how otherwise would the appearance of obvious peristaltic waves commencing at the left subcostal margin and ending in the right flank be explained?

If this letter were not already far too long, I would like to have challenged the view that there is no fundamental distinction between pyloric stenosis and pyloric spasm. I cannot, however, finish without once more expressing my thanks to Dr. Cameron for his lectures and my high appreciation of them.—I am, etc.,

Birmingham, May 13th.

LEONARD G. PARSONS.



## SLOW AND IRREGULAR HEART.

SIR,—It may reassure sufferers from slow heart, arrhythmia, extra-systoles, and other cardiac irregularities to hear of my personal experience of these during a long life.

I had an irregular pulse from childhood, and first noticed it at the age of 10. My pulse has always been slow—50 to 60 during rest. At the age of 14 extra-systoles began, and these have gradually increased in frequency until, in latter years, they have often caused great annoyance. At 40 I began to be troubled with paroxysms of auricular fibrillation, usually lasting eight hours or more. After enduring this condition for twenty-eight years I discovered incidentally that calcium lactate in small doses (15 grains daily at bedtime) was a successful remedy. This has kept me free from paroxysms for three years, though it has little effect, if any, on the extra-systoles. I have led an active life in body and mind, avoiding athletics and other artificial exercise, which I have always found to be a painful substitute for work; and now at the age of 71 I am still active, and am usually taken to be ten years younger.

My father suffered in a similar way, but died from other causes in his 76th year. Three relatives were affected with what seems to have been the same trouble; they were treated with digitalis and strychnine, and died before reaching my age. Digitalis, strophanthus, and strychnine have increased my trouble when tried. I found the best palliative for paroxysms of auricular fibrillation to be a large dose of chloral and potassium bromide.

I shall be glad to answer privately any letter forwarded to me; but in these columns I prefer to take cover behind the pseudonym of—

May 17th.

ARRHYTHMIA.

## RELAPSE IN MEASLES.

SIR,—I was greatly interested in the letter on relapse in measles, by Sir J. W. Moore, in the *BRITISH MEDICAL JOURNAL* of May 16th (p. 946). I recently saw a case of this kind whilst acting as locum tenent in a general practice in Yorkshire.

A girl, 9 years of age, had an attack of measles which ran its usual course, the rash completely fading away, the temperature dropping to normal, and the other symptoms subsiding; I had told the parents that she might get up in two or three days. On the day she was to get up I was called to the house again, and found that the temperature had again risen, the symptoms were returning, and the rash was again making its appearance. The rash developed in the usual way, the other symptoms subsided, and the child made a rapid recovery.

The attacks seemed to be exactly similar, the only difference I noticed being the fact that during the second attack the spots were more profuse on the body and limbs, whereas during the first attack they predominated on the face. —I am, etc.,

Manchester, May 27th.

FRANK E. EDWARDS.

SIR,—Might there not be the same fundamental cause for relapse in measles as for relapse in vaccination? I vaccinated W. A. B. on April 17th, 1925, in four places on the arm, all of which reacted satisfactorily. After apparently complete recovery, recurrence of the pox occurred in one place on May 15th, a very rare event, as stated by the late Sir William Osler. The relapse in measles generally occurs about the end of the second week, and this case of relapse in vaccination occurred at a similar time, which is suggestive of a common underlying cause in the two conditions.—I am, etc.,

JOHN N. BEADLES, M.B., B.S. Lond.

London, S.W.16, May 16th.

## BACTERIAL VACCINES.

SIR,—I have now had the opportunity of consulting the two publications referred to by Professor Mackie in his letter (written on behalf of Dr. S. Davidson) which appeared in your issue of April 18th (p. 762).

As a result I have to confess that I by no means share

his view in the general interpretation of the very limited experiment referred to, which deals entirely with pneumococcus Type I. In the abstract of the earlier paper (*BRITISH MEDICAL JOURNAL*, December 27th, 1924, p. 1209) it is stated that of the animals prepared by various types of vaccine treatment those remaining in relatively good health showed the least resistance, and those with toxic symptoms were proved to have a serum of high protective immunity.

We are thus brought back in general terms to the conception which all novitiates in bacteriology were taught to imbibe some twenty-five years since, to the effect that active specific immunity was only to be acquired as the result of physical suffering.

Disregard is paid to modern conceptions—the outcome of extensive research—that physical suffering may be entirely eliminated in the process of active immunization either with bacterial substances or with their products, as with scarlet fever and diphtheria. Ramon, Glenny, and others have shown the great antigenic value of diphtheria toxin deliberately rendered inert according to animal tests for toxicity. In connexion with tetanus and the ordinary gas-gangrene-producing organisms there is the significant work of Glenny, Buxton, and others, who, in a recent publication, arrive at the terse conclusion, “Both specific toxin and toxoid are antigenic.”

Recent statistics show that in France—an important animal-industry country—from one-third to one-half of the total of veterinary practitioners are employing various forms of detoxicated vaccines in the treatment of bacterial infection, so that Ramon's work on anatoxins is having a wide repercussion.

Dr. Davidson's account of his experiments with the pneumococcus upon mice and rabbits displays certain technical errors.

1. The weights of the animals employed have been disregarded and the minimal lethal dose for mice of the broth culture employed is higher than that stated; far too few animals have been used for each test.

2. It is difficult to make comparison of the quantities of the several vaccines employed in the attempts at immunization, some of these vaccines being measured gravimetrically and others volumetrically, whilst the detoxicated vaccine is measured by the number of organisms.

3. With regard to the immunization of rabbits with the detoxicated vaccine it is stated that a total of 38,000 thousand millions was given intravenously to each animal, whilst those treated subcutaneously each received 88,000 thousand millions. (Sic.) Figures of such astronomical dimensions are somewhat beyond my comprehension, but a simple arithmetical calculation shows that if this statement be correct, each of these rabbits received a total of 770 c.c.m. intravenously—the last dose being 400 c.c.m.; also each rabbit treated subcutaneously received a total of 1,760 c.c.m.—the final dose in these cases being 1,000 c.c.m.! (Such heroic dosage seems to be rather within the limits of physical endurance of a horse of 17 hands.)

Table V (p. 77) epitomizes the results of the attempts to immunize six rabbits with the several vaccines, there being administered subsequently to each animal and also to one untreated control animal 1 c.c.m. of a broth culture of pneumococcus Type I. There are, in effect, seven different experiments with only one animal per experiment. Only two animals survived the test—namely, the rabbit previously prepared with a heat-killed broth culture and also the rabbit prepared with defatted vaccine. Yet the author formulates a “general conclusion,” and states:

“As judged by I. Production of antibodies, II. Protection to lethal doses of micro-organisms, detoxicated and defatted vaccines have no immunological value comparable to that of ordinary heat-killed vaccines.”

Such evidence as is adduced by the author is not only of the scantiest nature possible; it is incredible in material places and is opposed to the author's own finding.

I find that at the discussion which ensued subsequent to the reading of Dr. Davidson's paper, Professor Mackie makes the statement, “The results have been exceedingly decisive and do not admit of any serious criticism,” and I therefore feel impelled to submit this analysis.—I am, etc.,

Hendon, N.W.4, May 16th.

MYER COPLAND.



## CLEAN MILK.

SIR,—I notice that Dr. Chalmers Watson has been drawing attention to the fact that very few hospitals or local authorities go in for Grade A milk, and that none of the leading general hospitals or children's hospitals in Scotland have yet given this subject serious consideration.

The City of Leicester Isolation Hospital and Sanatorium have been using Grade A tuberculin-tested milk for all patients and resident staff since May, 1923, a period of two years. As we have 340 beds for patients, including infectious diseases and cases of tuberculosis (both pulmonary and non-pulmonary, adults and children in all stages), and a resident staff of 88, our average milk consumption is 50 gallons a day.

Our milk supply is tested both bacteriologically and qualitatively by us after delivery here, once a week in summer and twice a month in winter on an average, in order to ascertain if it is up to standard. We have been quite satisfied with the milk since we commenced taking it two years ago.—I am, etc.,

F. A. E. SILCOCK, M.B., D.P.H.,

Medical Superintendent, Leicester Isolation Hospital  
and Sanatorium.

May 18th.

SIR,—In a letter just received from Dr. McMichael, M.O.H. Paisley, I am informed that, following on a recent decision of the town council, only certified milk is now supplied to all the patients in the three municipal hospitals in Paisley—the Fever Hospital, the Tuberculosis Hospital, and the Maternity and Child Welfare Hospital. So far as I am aware, Paisley has therefore the distinction of taking the lead in establishing a much needed reform. Reference may also appropriately be made to the model dairy established by Sir R. Philip some years ago for the supply of clean milk to the Tuberculosis Hospital, as part of the general Edinburgh scheme for combating the disease, to the individual pioneer work (in Scotland) of Dr. Calder of Stow as a producer of certified milk on a commercial scale, and to the recent action of the county council of East Lothian in securing clean milk for its sanatorium.

For many years past a considerable amount of valuable work has been done on the subject of milk, notably at the National Institute for Research in Dairying, Reading, under the direction of Dr. Williams. This work, however, has largely remained outside the field of interest of the medical profession as a whole. It would appear that the time is now ripe for medical men to interest themselves in the question in a more intensive way than has so far prevailed. It is probably no exaggeration to say that, viewed from the necessary broad standpoint, there is no more pressing or vitally important question at the present time than the adequate provision throughout the country of a clean milk supply.—I am, etc.,

Edinburgh, May 17th.

CHALMERS WATSON, M.D.

## SEVERE DERMATITIS FOLLOWING ULTRA-VIOLET LIGHT.

SIR,—It would be useful if Drs. MacCormac and McCrea would state the type of lamp used in the case of severe dermatitis following ultra-violet light recorded by them in the JOURNAL of April 11th (p. 693), and would mention the voltage, the distance of the patient from the lamp, and whether it was possible for him to turn over in his sleep. I have seen several cases of severe dermatitis due to ultra-violet irradiation, but the lesion has always been limited to the part exposed. Moreover, none of these "bad sunburns," although often producing large blisters, have become septic. After blistering the serum exuded from the blister, which then collapsed, and the dead cuticle peeled off. A raw surface was left which quickly healed without pus formation. I have used the rays to treat ordinary heat burns, and these almost invariably healed much quicker than is usual with any other method of treatment.

I think that a patient exposed to any modern source of ultra-violet rays for seventy minutes would suffer from a severe dermatitis unless his skin had been well pigmented

by previous treatment. Undoubtedly all ultra-violet treatment should be supervised by a medical man.

As to the comparative merits of the carbon arc lamp and the newer sources of ultra-violet rays, it is too big a subject to touch on in this letter.—I am, etc.,

Smethwick, May 4th.

Clyde McKENZIE, M.B.

## X-RAY DIAGNOSIS.

SIR,—The above term is creeping into medical language, and since it is bound to convey a wrong impression its use is unfortunate. The function of the radiologist is to report findings, and the report is one piece of evidence in a case upon which the clinician pronounces final judgement. In a court of law the judge sums up on the evidence given. Certain evidence may stand out above all else in importance, and so it is with radiological evidence. It is often the most convincing of the observations made, but this does not justify the term "x-ray diagnosis." A radiologist, if he be wise, does not attempt to make a diagnosis. He may on occasion suggest a pathological condition consistent with the x-ray appearances.

The correct diagnosis of a case rests upon the history, symptoms, and signs, and the last word is more often given by the latter. One was taught as a student that the first of the senses to be made use of in approaching a case is that of sight. Our sense of sight is limited in a very definite degree to the surface, but it can be extended to observations below the surface by bringing to our aid light of a different wave-length—namely, x rays—and translating the effect by photographic and other means into pictures possible of comprehension by means of human vision. Surely, then, one has not properly exhausted the first step in an examination until radiological evidence has been taken.

It cannot be said that diagnosis is easy, or that correct diagnosis is as common as we should like. Yet correct diagnosis is the very first step towards correct treatment! It is astonishing, then, to hear clinicians attempting to belittle the value of radiological examination. Assistance in any form towards the end in view—namely, the correct interpretation of a case—ought to be welcomed. The practice of underestimating and mistrusting x-ray evidence, at one time so common, is not so now, yet it is too prevalent. The cause of this is no doubt largely due to the fact that the clinician has been let down on occasions by reports based on wrong deductions. One so commonly hears the remark made that radiograms are deceptive, whereas it is the interpretation that is at fault. So long as the profession imagines that an x-ray examination merely consists in taking a photograph, misinterpretation is bound to occur.—I am, etc.,

Hove, May 7th.

C. GUY WHORLOW.

## Obituary.

HOWARD H. TOOTH, C.B., C.M.G., M.D., F.R.C.P.,

Consulting Physician to St. Bartholomew's Hospital and the  
National Hospital for the Paralysed and Epileptic.

VERY many readers will have seen with deep regret the brief announcement in our last issue of the death of Dr. Howard Tooth, the distinguished neurological physician, which occurred on May 13th after a long illness.

Howard Henry Tooth was a son of the late Frederick Tooth of Hove, Sussex. He was born on April 22nd, 1856, and was educated at Rugby and St. John's College, Cambridge, where he took the B.A. degree in 1877 and the M.A. in 1881. From Cambridge he went to St. Bartholomew's Hospital, obtained the M.R.C.S. and L.R.C.P. diplomas in 1880, and the M.R.C.P. in 1881, and graduated M.B. in the following year. He proceeded M.D. in 1883, choosing as the subject of his thesis the peroneal type of muscular atrophy. He was elected F.R.C.P. in 1888, and again chose a neurological topic—secondary degeneration of the spinal cord—for his Goulstonian Lectures delivered before the College in 1889; they were published in successive issues of the BRITISH MEDICAL JOURNAL during April of that year. He was elected assistant physician to the

Metropolitan Hospital in 1881; to the Hospital for the Paralyzed and Epileptic, Queen Square, at the end of 1887; and to St. Bartholomew's Hospital in 1895. On retiring from the active staff of each institution he was elected consulting physician.

During the South African war Dr. Tooth served as physician to the Portland Hospital, and was created C.M.G. in 1901. Later, under Lord Haldane's scheme for the Territorial Force, he was given the command of the Medical Unit, Officers' Training Corps, University of London Contingent, and this experience led to his appointment during the early part of the great war as officer commanding the 1st London Territorial General Hospital, which was staffed by his colleagues of St. Bartholomew's. In 1916 he became consulting physician to the troops in Malta, with the temporary rank of colonel A.M.S., and during the last year of the war he was consultant to the British Forces in Italy. He was twice mentioned in dispatches, and was created C.B. in 1918. Like his friend and colleague Sir Archibald Garrod, he received from the University of Malta the honorary degree of M.D.

Dr. Tooth was for many years examiner in medicine to the Universities of Cambridge and Durham. He was censor of the Royal College of Physicians in 1913-14, and had held office as President of the Neurological Section and Vice-President of the Medical Section of the Royal Society of Medicine. His presidential address to the former section on the "Growth and survival period of intracranial tumours" was published in *Brain* in 1912, and in the following year he contributed a paper on the treatment of cerebral tumours to the International Medical Congress held in London.

Old St. Bartholomew's men in every part of the world, and students from other schools who knew him at Queen Square, have affectionate memories of Dr. Howard Tooth in the wards and out-patient rooms. His teaching was practical, and given usually in the form of a quiet talk between colleagues of equal standing. Handsome, courteous, and upright in bearing, with kindly smile and sympathetic voice, Dr. Tooth won the hearts of all about him.

Dr. Tooth was twice married. His first wife, a daughter of Edward Price, died in 1905; his second wife is a daughter of the Rev. C. S. Chilver. He leaves one son and two daughters.

We are indebted to Dr. H. MORLEY FLETCHER, senior physician to St. Bartholomew's Hospital, for the following tribute:

By the death of Howard Tooth his former colleagues have lost one who had a high place in their affection and esteem. He had to an unusual degree a bright and sunny temperament which endeared him to all, and this was combined with a most transparent honesty of character to which the faintest touch of chicanery was abhorrent. During the many years I had the privilege of knowing him I do not think I ever heard him make a disparaging remark about anyone.

As a neurologist his advice was sought for by his colleagues, and he would spare neither time nor trouble to help in a difficult case. His name is particularly associated with the peroneal type of muscular atrophy, but in more recent years—1912 and 1913—he did valuable work with regard to cerebral tumours.

He had many interests outside his profession: he was devoted to music, and during his residence in London played regularly in orchestra. He was a first-class musician, and many of his happiest hours were spent in his well equipped workshop. Later in life he became an ardent gardener, and up to his last illness work in his garden absorbed much of his leisure.

During the war he was one of the staff of No. 1 London General Hospital, and became the officer commanding until he was sent out as consulting physician to the forces at Malta. All who served under him at No. 1 Hospital can recall the pleasant way he had of dealing with the difficulties, both small and great, which are constantly liable to occur during war service, and how much we missed him when he was seconded for foreign service. His sunny presence will be missed by all who knew him. We offer our most sincere sympathy to his widow and children.

## Medico-Legal.

### LUNACY LAW AND ADMINISTRATION.

HARNETT v. BOND AND ADAM.

THE House of Lords, consisting of the Lord Chancellor and Lords Dunedin, Atkinson, Sumner, and Buckmaster, delivered judgement in the case Harnett v. Bond and Adam in the House of Lords on May 15th.

Previous proceedings have been reported in the *BRITISH MEDICAL JOURNAL*—in the King's Bench Division, March 8th, 1924, at pp. 449 et seq.; and in the Court of Appeal, April 12th, 1924, at pp. 692 et seq.

The plaintiff, Mr. William Smart Harnett, a farmer of Sittingbourne, Kent, having been detained as a lunatic at Malling Place, Kent, a home for the reception of lunatics of which Dr. Adam was the manager, under a reception order dated November 10th, 1912, made in accordance with Section 4 of the Lunacy Act, 1890, left the home on December 12th, 1912, on a leave of absence on trial order for twenty-eight days. This order, the form of which was settled by the Law Officers of the Crown, pursuant to Section 55 of the Lunacy Act, 1890, purported to empower the medical officer to take back the plaintiff at any time during the twenty-eight days if his mental condition required it. The plaintiff left the home with his brother, and on December 14th, 1912, he went alone to the offices of the Board of Control in Victoria Street, London, to ask if he could be put under the control of the police rather than his brother. Dr. Bond, a Commissioner in Lunacy, saw him, and, after referring to the file of the plaintiff's case, telephoned to Dr. Adam that the plaintiff was in an excited state and in his opinion unfit to be at large, and detained the plaintiff for three hours until the arrival of two attendants, who took the plaintiff back to Malling Place in a motor car. Upon arrival there Dr. Adam examined the plaintiff and detained him under the reception order. Thereafter, the plaintiff was detained in various mental homes until his escape on October 15th, 1921, when prominent alienists whom he consulted certified him sane. The plaintiff then brought an action against Dr. Bond and Dr. Adam, alleging conspiracy, assault, and false imprisonment, jointly and severally.

The case was tried before Mr. Justice Lush and a special jury, who found that the plaintiff was sane on December 14th, 1912; that Dr. Bond caused his detention at Victoria Street until the attendants arrived; that he did so for the purpose of his being detained at Malling Place; that Dr. Bond did not honestly believe that the plaintiff was of unsound mind, or was unfit to be at large, or was dangerous to himself or others, but that he did believe that the plaintiff had escaped from his brother's charge, and that was the reason he sent him back; that Dr. Adam honestly believed the plaintiff was of unsound mind and unfit to be at large on December 14th, but that he did not take reasonable care in taking the plaintiff back. Mr. Justice Lush directed the jury that in assessing damages they might take into consideration the whole period of the plaintiff's detention up to October 15th, 1921, if they thought it was the direct consequence of the acts of defendants on December 14th, 1912.

The jury awarded £20,000 damages against Dr. Bond and Dr. Adam jointly, and £5,000 against Dr. Bond for the detention at the offices for which he was alone responsible.

In the Court of Appeal (1924, 2 K.B. 517), Bankes, Warrington, and Scrutton, L.Js., held that this was a misdirection, for, even if the original detention was unlawful, it was not the direct cause of the plaintiff's subsequent detention, the act of retaking, his recertification on reception at Croydon Mental Hospital on February 25th, 1913, and other certificates of doctors and reports of visitors, each constituting a *novus actus interveniens* breaking the chain of causation. They held, further, that the form of the leave of absence order was warranted by Section 55, Subsection 3 (b) of the Lunacy Act, 1890, and that this order and the original reception order justified the manager in taking back the plaintiff and detaining him; also that the manager was protected by Section 330 of the Act of 1890, as he acted in good faith and there was no evidence upon which the jury could have arrived at their answer that he did not exercise reasonable care. A new trial was ordered against Dr. Bond for the detention at the offices, and judgement was entered for Dr. Adam.

This decision of the Court of Appeal was affirmed by the House of Lords, who further held that the manager was empowered by the leave of absence order to retake a patient on leave wherever he might be found; that the onus was on the plaintiff to prove that the manager had not used reasonable care in exercising this power; that if such power were exercised negligently then the remedy (if any) would be by an action for negligence and not by an action for false imprisonment.

#### The Lord Chancellor's Judgement.

The following is the text of the judgement delivered in the House of Lords, on May 15th, by the Lord Chancellor (Viscount Cave):

This is an appeal by the plaintiff in the action against orders of the Court of Appeal in England reversing a judgement of Mr. Justice Lush in his favour for £5,000 against the defendant Bond, and for £20,000 against the defendants Bond and Adam jointly, and ordering a new trial of the action as against the defendant

Bond and judgement to be entered in favour of the defendant Adam.

The appellant, Mr. William Smart Harnett, was, on November 10th, 1912, received by the defendant, Dr. George Henry Adam, as a private patient in a house licensed for the reception of lunatics and known as Malling Place, West Malling, in the county of Kent. The reception order was made on the petition of the appellant's brother, and it was not disputed on this appeal that at the date when the reception order was made the appellant was of unsound mind. After the reception of the appellant at Malling Place his mental health improved, and on December 12th, 1912, Dr. Adam thought it safe to permit him to be absent upon trial for a period under Section 55 (3) of the Lunacy Act, 1890. The consent required by the section was signed by two of the Visiting Justices for Kent, and was in the following form, which is said to have been approved by the Law Officers of the Crown:

"We, the undersigned, being two of the Visiting Justices of Private Asylums for Kent, hereby sanction leave of absence from Malling Place of William Smart Harnett on probation for the period of twenty-eight days, but this sanction is revocable by us at any time during that period; "Provided that the medical officer shall at any time before the expiration of the said period have power to take back the said patient into the licensed house, if his mental condition requires it."

The appellant accordingly left Malling Place on December 12th with his brother, who had been asked by Dr. Adam to take care of him, but shortly afterwards separated from his brother and went to his home at Sittingbourne. On December 13th he was seen by several persons, who formed varying opinions as to his sanity, and on that afternoon he went on to London and stayed at an hotel near Moorgate Street. On the morning of December 14th he called at the offices of the Commissioners in Lunacy in Victoria Street, taking with him £30 in a bag, and asked to see a Commissioner. The purpose of the appellant in making this call is not very clear; but it would appear from his evidence, and from a letter which he had written to the Commissioners on the preceding day, that he wished the Commissioners to hand him over to the care of the police, and took with him the £30 as payment or security for that purpose. The appellant had interviews with Mr. Dickinson, Secretary of the Board of Control, and with the respondent, Dr. Bond, who was the Commissioner in attendance at the offices on that day; and they both formed an unfavourable opinion as to his mental state, and, after consulting the file relating to his case, communicated with Dr. Adam on the telephone. Whether this telephone message was actually given by Dr. Bond or by Mr. Dickinson at his request, and what were the precise terms of the message, is left in some doubt; and this is by no means surprising, as the evidence relating to this conversation was given more than eleven years after it took place. But it appears clearly from the evidence given by Dr. Bond and Mr. Dickinson, as well as from that of Dr. Adam, that Dr. Adam was informed that the appellant was at the offices of the Commissioners, and was in a very excited state and unfit to be about by himself, and that Dr. Adam replied that he would send a car and two attendants for him. It was suggested on behalf of the appellant that the message was sent before Dr. Bond had personally interviewed the appellant, but I do not think that this was established; and in any case it is proved that Dr. Bond had a long conversation with the appellant before the car arrived and formed a clear opinion that he was unfit to be at large. Pending the arrival of the car, Dr. Bond caused the appellant to be detained (without the use of any violence) in a room at the offices; and on the arrival of the car the two attendants were taken to the room where the appellant was and took him back with them to Malling Place, where he arrived at about 5 o'clock in the afternoon. On the same evening, at about 7 o'clock, he was seen by Dr. Adam, who formed the opinion that he was much worse mentally than when he had been released on trial, and accordingly detained him under the reception order of November.

The appellant was confined at Malling Place until February 22nd, 1913, when he was removed to the Croydon Mental Hospital; and on February 25th, 1913, he was examined by the medical superintendent of that asylum and certified to be suffering from mania. Similar examinations and reports were made by the medical superintendent on March 25th, 1913, October 12th, 1913, and subsequent dates. On August 24th, 1917, the appellant was removed to the Holloway Sanatorium at Virginia Water, and he was again removed on April 30th, 1918, to St. Ann's, Canford Cliffs, and on April 29th, 1920, to Aylsham as a single patient, and at each of these places the reports and certificates required by statute for his continued detention were duly made and given. He was also, as the Act required, frequently seen by the Commissioners and the Visiting Justices, as well as by a Chancery Visitor; and to all these persons he appeared to be still of unsound mind and a proper person to be detained under care and treatment. On October 15th, 1921, the appellant escaped from the house at Aylsham; and, having remained at large for upwards of fourteen days, he could not be retaken under Section 85 of the Act, and remained at liberty. Shortly afterwards he was examined by two eminent medical practitioners having experience in mental cases, and they declared him to be of sound mind.

On May 31st, 1922, the appellant commenced these proceedings against Dr. Bond and Dr. Adam, and by his statement of claim charged them with conspiring together to cause him to be detained wards at Malling Place, and also with assault and false imprisonment, and claimed damages against both and each of them. No statement of claim, but Dr. Adam in his defence pleaded that he had acted in good faith and with reasonable care, and relied on Section 330 of the Lunacy Act.

The action was heard by Lush J. and a special jury; and after

a long hearing the learned judge summed up the case and put to the jury seventeen questions, which were answered as follows:

1. Did Dr. Bond cause the plaintiff to be detained at the office until the attendants came for him?—Yes.
2. Did he cause him to be sent back for the purpose only of his being examined by Dr. Adam, or for the purpose of his being detained at Malling Place?—Being detained at Malling Place.
3. Did Dr. Bond cause the plaintiff to be taken back?—Yes.
4. Was the plaintiff of unsound mind on December 14th, 1912?—No.
5. Was he fit to be at large?—Yes.
6. Was he dangerous to himself or others?—No.
7. Did Dr. Bond honestly believe that the plaintiff was of unsound mind?—No.
8. Or that he was not fit to be at large?—No.
9. Or that he was dangerous to himself or others?—No.
10. Did he believe that the plaintiff had escaped from his brother's charge? If so, was that his reason for having him sent back?—Yes.
11. Did he take reasonable care to ascertain the true facts?—No.
12. Did he honestly believe that Dr. Adam had retained a power of taking the plaintiff back during the twenty-eight days in the leave of absence order?—Yes.
13. Did Dr. Adam, when he received the telephone message and sent the car, honestly believe that the plaintiff on December 14th, was of unsound mind and unfit to be at large?—Yes.
14. That it was in his interest that he should be taken back to Malling Place?—Yes.
15. Did he take reasonable care in acting as he did?—No.
16. Did he make it known to the plaintiff that he was liable to be retaken if his mental condition required it?—No.
17. Was the detention of the plaintiff at the Commissioners' offices the act of Dr. Bond alone or was it really the act of both the defendants?—Dr. Bond.

It is common ground that the answer to question 10 was explanatory of the answers to questions 7, 8, and 9, the effect of the four answers being that Dr. Bond acted for the reason given in question 10 and not because of any belief, honest or otherwise, concerning the appellant's frame of mind. These answers having been given, the learned judge proceeded to address the jury upon the question of damages upon the footing that the confinement of the appellant during the whole period from his return to Malling Place until his escape from Aylsham was a direct consequence of the acts done by the defendants on December 14th, 1912; but being apparently uncertain on this point, and as to the joint liability of the defendants, he requested the jury to make alternative assessments in manner appearing in the following further questions and answers:

18. Damages against the defendants?—£25,000.
- (a) Apportion the sum of £25,000.—Bond £17,500; Adam £7,500.
- (b) Assess the damages on the footing that the defendants were only responsible for the detention up to February 22nd, 1913, and apportion it, the special damages being £82.—On this footing the total sum is £10,000; Bond £7,500; Adam £2,500.
- (c) Assess damages against Dr. Bond merely for detention at the offices, taking into consideration the whole purpose for which he was so detained.—£5,000.
- (d) Assess damages against Dr. Bond and Dr. Adam jointly on the footing that they knew the plaintiff would be deprived of the remainder of his twenty-eight days' liberty, and apportion that.—Total sum £9,800; Bond £7,400; Adam £2,400.

Upon these complicated findings, the learned judge was called upon to pronounce judgement, and, after hearing further arguments, he held that the chain of causation set up by the detention of the appellant at the Commissioners' offices on December 14th, 1912, was not broken, either when Dr. Adam, on examining the patient after his return to Malling Place, formed the opinion that he was then of unsound mind and detained him, or when the appellant was removed to Croydon in 1913, or in November, 1913, when there was a recertification, or at any subsequent removal or certification, and that it was quite open to the jury to treat the long detention as the direct consequence of the wrongful acts of the defendants, and on that footing he gave judgement against Dr. Bond for £5,000 and against both defendants for £20,000 with costs.

The defendants having applied to the Court of Appeal for a new trial, or judgement, that Court (consisting of Bankes, Warrington, and Scrutton, L.J.J.) unanimously set aside the judgement of Lush J., and ordered a new trial as against Dr. Bond and that judgement should be entered for Dr. Adam. As to Dr. Bond, the learned Lord Justices held that the chain of causation had been broken, not only when Dr. Adam decided to detain the appellant after his return to Malling Place, but at "innumerable points" after that date, and that it was plainly not permissible for the jury in assessing damages to treat the whole period of the appellant's captivity as directly caused by the events of December 14th, 1912. As to Dr. Adam, they held that under the terms of the leave of absence order he was entitled to retake the appellant at any time before the end of the twenty-eight days if, in his opinion, honestly formed, it became necessary to do so, and that there was no evidence upon which the jury could find want of reasonable care on his part. From this decision the plaintiff has appealed to this House.

As regards Dr. Bond, I feel no doubt whatever that the Court of Appeal was right in ordering a new trial. It is not disputed that, on the assumption that the findings of the jury as to the appellant's mental condition on December 14th, 1912, were correct, Dr. Bond had no right to cause the appellant to be detained at the offices pending the arrival of Dr. Adam's car, and is liable for damages for that illegal detention. But those damages must, in the authorities, be confined to such as were the direct consequences of the wrong committed, and to hold that the detention of the appellant at the offices for a few hours was the direct cause, not only of his being retaken and conveyed to Malling Place, but also of his being confined in that and other houses until October, 1921, appears to me to be impossible. Dr. Bond could not and did not direct and authorize Dr. Adam to retake the appellant or to confine him at Malling Place; the retaking and confinement were the in-

dependent acts of Dr. Adam, and each of them was a *nexus actus interveniens* sufficient to break the chain of causation. Further, the confinement of the appellant could not have continued during nine years without repeated examinations and recertifications by the proper authorities, and for the consequences of those events Dr. Bond cannot on any intelligible principle be held responsible. Whether the direct consequences of Dr. Bond's action in detaining the appellant at the offices ceased when the appellant was handed over to the two attendants and entered the car, or on his arrival at Malling Place, or later on his being examined by Dr. Adam, it is not now necessary to say. That may be a question to be determined at the new trial. But in any case it appears to me that those consequences cannot on any just view of the matter be deemed to have extended beyond 7 o'clock on the evening of December 14th, 1912. It was argued that even on this view of the matter the appellant was entitled to judgement against Dr. Bond for £5,000 as the damages assessed by the jury for detention at the offices, but this finding was obviously coloured by the directions given by the learned trial judge on the question of damages, and by the addition to the question of the words "taking into consideration the whole purpose for which he was so detained," and it appears to me that the whole matter ought to receive fresh consideration at the hands of a jury.

With regard to Dr. Adam, it is remarkable that, whereas he was charged in the pleadings with conspiracy and false imprisonment, no direct question was put to the jury as to either of these charges. The charge of conspiracy was apparently abandoned during the trial, and in any case it was plainly negatived by the findings of the jury in answer to the 13th and 14th questions. The charge of complicity in the false imprisonment at the Commissioners' offices was negatived by the answer to the 17th question, and there was no finding of false imprisonment by Dr. Adam at Malling Place. Why, then, was Dr. Adam held liable in damages at all? It must have been on the ground of the answer of the jury to the 15th question—namely, that Dr. Adam, in acting as he did (that is to say, in sending a car and taking the appellant back to Malling Place), did not act with reasonable care; and yet want of reasonable care was not charged against Dr. Adam in the pleadings, and the issue only arose on his defensive plea, founded on Section 330 of the Act. It appears to me that on this ground alone—namely, the total failure of the plaintiff to establish either of the charges made by him against Dr. Adam—the latter would be entitled to judgement. But in a case of this kind it is undesirable to base a decision on any narrow ground; and I propose to consider shortly whether either on the findings of the jury, or on the evidence, there is any ground for the judgement entered against Dr. Adam.

First, then, was there any ground for charging Dr. Adam with conspiring with Dr. Bond to cause the plaintiff to be detained and removed to Malling Place? Plainly not. There was no evidence to support such a charge, and it is negatived by the findings of the jury. I therefore dismiss this charge as wholly untenable.

Secondly, was there ground for charging Dr. Adam with false imprisonment—that is to say, with retaking or detaining the plaintiff without lawful authority? As to this, it was argued that under the terms of the leave of absence order set out above, Dr. Adam could only take back the appellant if the mental condition of the latter required it, and that, as the jury have found the appellant to have been sane on December 14th, 1912, this condition was not fulfilled. In my opinion there is no foundation for this argument. The provision in the leave of absence order empowering the medical officer to take back the patient "if his mental condition requires it" cannot mean that the medical officer is to take back the patient (if at all) at the risk of having it found by a jury many years afterwards that the patient's mental condition was consistent with his remaining at large. Some person must be the judge of the patient's mental condition at the time when the question arises, and this person can only be the medical officer in whom the power to retake him is vested. Nor is there any substance in the suggestion made by counsel for the appellant that the power to retake the patient reserved by the order could not be exercised by retaking him outside the licensed house. I think it clear that it was capable of being exercised wherever the patient might be found. When once the patient is retaken, the leave of absence order comes to an end, and he can be detained under the existing reception order.

But, thirdly, stress was laid on the finding of the jury as to want of reasonable care, and it was said that a medical officer could not retake a patient out on trial unless he acted with reasonable care in so doing, and that the onus was on him to prove reasonable care, and that if he failed to do so the retaking was void. This argument appears to me to be fallacious. The leave of absence order authorizes the medical officer to retake the patient if the patient's mental condition requires it. If this power is exercised negligently it may be that there is a remedy; but negligence does not make the retaking unlawful, and the remedy (if any) is by action for negligence and not by action for false imprisonment. But apart from this observation, I agree with the Court of Appeal in holding that in the present case there was no evidence on which the jury could properly find Dr. Adam to have failed to exercise reasonable care. It is suggested that he should have gone up to London himself or should have sent his assistant. But it was proved that the assistant was entitled to be absent from Malling Place on that afternoon, and that Dr. Adam could not leave the house without a medical officer; and in those circumstances he was entitled to rely on the information given him by Dr. Bond on the telephone, coupled with his own previous knowledge of the case, as sufficient ground for bringing the patient back, subject, of course, to the duty (which he performed) of personally examining him on his return. I agree that there was no evidence of negligence, and that Dr. Adam is entitled to judgement.

I desire to make one further observation. The fact that the appellant, whom the jury found to be sane in December, 1912, and whom they doubtless considered to be quite sane at the time when the action was heard, had been confined as a lunatic during the greater part of the interval between those dates has naturally given rise to anxiety. It was not proved at the trial or found by the jury that during that interval the appellant was of sound mind; but it is not impossible that the jury took that view and desired to compensate the appellant for his long detention by giving a verdict for heavy damages against the two defendants. If the defendants had been really responsible for an unjustifiable detention of the appellant during all those years the sum awarded might not have been excessive; but the full investigation of the case, both by the Court of Appeal and by this House, has led to the conclusion that no such responsibility can be justly laid on Dr. Bond or on Dr. Adam. The Lunacy Acts provide for the protection of the public against the risk of unjustified detention by forbidding the detention of any person as insane except on a proper certificate and in a place duly certified for that purpose, and by requiring that every patient so confined shall be personally seen and examined at regular intervals, both by the Commissioners in Lunacy and by the Visiting Justices, and shall be free to make complaint (in letters which must be forwarded unopened) to the Lord Chancellor or the Judge in Lunacy, to the Secretary of State, or to the Commissioners, or to the persons (generally his relations) on whose petition he has been confined. It may be—I do not say that it is—the fact that all these precautions are insufficient and that the Lunacy laws require to be further strengthened in the interests of the persons whom they may affect. But even if that be so, that is no reason for visiting with vindictive penalties persons who have acted in good faith, and who are not responsible for any defect in the law.

In my opinion (the Lord Chancellor concluded) the Court of Appeal came to the right decision, and I move your lordships that this appeal be dismissed with costs.

#### Lord Dundedin's Judgement.

The following is the text of the judgement delivered by Lord DUNDÉDIN:

I have never had a shadow of hesitation in thinking that the judgement of the Court of Appeal was right. Mr. Harnett was detained in a private asylum under a reception order against which nothing has been said. He was then liberated for a period of twenty-eight days on trial under a leave of absence order signed by two Visiting Justices, but with a proviso authorizing the medical officer at any time during the twenty-eight days to take back the patient if his mental condition required it. Being out of the asylum in virtue of the leave of absence order, he, of his own accord, presented himself at the office of Dr. Bond. He saw Dr. Bond, who, having identified his case on the file, knew that he had come from Malling Place. He considered him to be in a very excited state, and thought it would be well that Dr. Adam should see him. He telephoned to that effect and a motor car with two attendants was sent to take him to Malling Place. Pending the arrival of the car Harnett was forcibly detained. For that detention it is admitted Bond had no legal justification. But what was the direct result of it? Only that Harnett was examined by Adam. It is true that a question was put to the jury: Did Dr. Bond cause Harnett to be sent back for the purpose only of his being examined by Dr. Adam or for the purpose of his being detained at Malling Place? To which they answered: Being detained at Malling Place. But the question, in my opinion, was illegitimate and misleading. Bond had no power to say that Harnett should be detained at Malling Place, and nothing that Bond thought or intended could make any difference as to Dr. Adam's power to put an end to his liberty on probation or his responsibility for taking that step. To ask the jury whether Bond's purpose in sending him back to Adam was that he should be detained at Malling Place was, if they were to answer as they did, simply to ask them to affirm a *non sequitur*. Conceivably, though I doubt it, such a question might have been founded on averments as to a malicious motive on Bond's part with an intent to injure, but there was nothing of that in the case. Following on their answer to this question, the jury were instructed that they could give damages for the whole period of Harnett's detention, though that detention began, as already stated, by Adam's determination to end the period of probation, and was continued through all the years Harnett was in different places of confinement under renewed orders of different medical men. Such a suggestion has only, in my judgement, to be stated to be rejected. I look on it as preposterous.

As to Dr. Adam, I think he is clearly, in the circumstances, protected by Section 330 of the Lunacy Act.

I feel bound to add that the question of whether a person so admitted can under existing safeguards be kept for an unduly long period in a lunatic asylum is not the question in this case. Indeed, the learned judge expressly told the jury they would not be called on to say what was the plaintiff's mental condition during the nine years of detention. The course of inquiry permitted in the case eluded strongly, in my judgement, with that pronouncement.

Lord ATKINSON: I concur.

Lord SUMNER: I concur.

#### Lord Buckmaster's Judgement.

The following judgement was delivered by Lord BUCKMASTER: According to the verdict of the jury in this case, the plaintiff while a sane man has been imprisoned in a private lunatic asylum, and it follows that he has suffered a grievous wrong, for which no money payment can provide an adequate compensation. The jury have obviously been impressed with the gravity of the position, and have given a verdict in favour of the plaintiff, which has resulted in a judgement for £5,000 as damages against Dr. Bond



and £20,000 against Dr. Adam and Dr. Bond jointly, who, they say, were in their several degrees held responsible for the injuries that he sustained. The only question is whether Dr. Bond and Dr. Adam, together or separately, are legally liable for these sums. Dr. Bond is one of the Commissioners in Lunacy, whose offices are in 66, Victoria Street. Dr. Adam is the licensed proprietor of a home for the reception of persons of unsound mind at West Malling, in the county of Kent. On November 10th, 1912, Dr. Adam received the plaintiff in this establishment under a reception order which has not been challenged in these proceedings. On December 12th, thinking the plaintiff sufficiently restored to justify his release upon a probation order, the plaintiff was permitted to leave the establishment in company with his brother. The brother, however, was not responsible for his safe keeping, nor was the plaintiff placed under his control. On the morning of December 14th, at about 10.15, the plaintiff appeared at the offices of the Commissioners in Lunacy with £30 in a handbag, and asked to see a Commissioner. He said that he desired that the money should be deposited with the Commissioners to pay for a man to be sent to his house to prevent his being returned to the asylum. The statement as to what actually occurred and the true sequence of events is far from plain. The plaintiff's own account is not consistent, nor does Dr. Bond's memory agree exactly with the memorandum taken at the time. Dr. Bond appears to have thought that the plaintiff had eluded his brother's custody, and this may be explained by one of the plaintiff's statements in evidence when he said he told Dr. Bond, "I am to be under my brother for twenty-eight days." Influenced, it may be, by this, Dr. Bond communicated with Dr. Adam on the telephone, informing him that the plaintiff was there, and stating that he did not think he ought to be at large. The plaintiff stayed at the offices from 10.15 to 1.30; at 1.30, when he proposed to go for lunch, he was informed that he was not at liberty to go, and two efforts that he made to leave were prevented, but it is not suggested that any actual force or violence was exercised. He was, however, detained until about 2.30, when two attendants, sent by Dr. Adam from West Malling, arrived in a motor car, when he was given into their custody and by them taken back to Dr. Adam, and he remained under restraint at one institution or another from that time until his escape in 1923. The detention by Dr. Bond was an unlawful act for which he is responsible in damages. And it was decided by the learned judge that the measure of these damages might be taken in terms of the whole period of the plaintiff's confinement. I am unable to see how this can be supported. Dr. Bond had no power and no authority over Dr. Adam, and when once the plaintiff was returned to West Malling the duties with regard to his custody devolved upon and were discharged by Dr. Adam alone. If Dr. Adam had thought that, whatever appearance the plaintiff had presented at Victoria Street, he was none the less fit to be at liberty, it was his plain duty to have acted accordingly, nor can I think that any statement made by Dr. Bond upon the telephone as to what he thought can have caused Dr. Bond to share in or be party to the judgement that Dr. Adam formed. From the time when Dr. Adam reassumed control Dr. Bond's responsibility ceased. The Court of Appeal had held that this was the time when the plaintiff actually returned to West Malling; there has been no appeal from this judgement, and it is, therefore, unnecessary to consider whether it did not cease at the earlier moment, when the plaintiff was placed in the charge of Dr. Adam's assistants at Victoria Street. The jury have, however, found that Dr. Bond did not honestly believe that the plaintiff was of unsound mind, and an attempt is made to explain this verdict by saying Dr. Bond acted on the belief that the plaintiff had escaped from his brother's custody. The explanation appears to me inadequate; whatever mistake Dr. Bond may have made, I can find nothing whatever in the evidence that on any interpretation of the word can cast the least question on his honesty, and I think it is to be regretted that a question should have been left to the jury in such a form that the verdict taken upon it must, in the plain meaning of the words, cast a reflection upon Dr. Bond's character which no sophistry can explain away. One injustice cannot be remedied in committing another.

Returning now to the case against Dr. Adam, the first thing to decide is what were his powers after the plaintiff had been liberated under the probation order. I have no desire to repeat what has already been said upon this point; when once it be accepted that such an order is in the nature of an experiment to try whether a man is fit to be restored to complete liberty, it appears to me to follow that the powers conferred by the reception order, including complete control of the person named in the order, are merely in abeyance, and at any time if the custodian honestly thinks it is in the interest of the patient the control can be resumed and the patient taken back. Any other contention would result in this: that if the patient completely broke down during the period of probation, it would require a new reception order before he could be taken back, and of this I can find no trace in the provisions of the statute. Dr. Adam was, therefore, at liberty to retake the plaintiff, and however deplorable may have been the mistakes which the verdict of the jury has decided were made, they have completely acquitted Dr. Adam in taking him back of doing any act except in what he honestly believed to be the interests of the plaintiff.

I am not impressed with the criticism about the entry in Dr. Adam's book as to the plaintiff's delusion with regard to drugs. It has never been suggested that the book was fabricated, nor is it entertained after the apprehension which the plaintiff admits he might have been both felt and expressed at an earlier date. However this may be, I can find no evidence that Dr. Adam so failed in the discharge of his duties as to render him liable in damages, and I agree with the judgement of the Court of Appeal that as against him the proceedings fail.

## Universities and Colleges.

### UNIVERSITY OF CAMBRIDGE.

THE Vice-Chancellor announces that applications for the E. G. Fearnside scholarship for clinical research into organic disease of the nervous system must be sent to the Registry of the University before June 20th. The scholarship is open to graduates in Medicine or to graduates in Arts who have passed Part II of the Natural Sciences Tripos.

At a congregation held on May 15th the following medical degrees were conferred:

M.D.—H. J. Paterson, G. A. Harrison, T. L. Hardy.  
M.B.—E. G. Holmes.  
B.Chem.—W. Brockbank.

### UNIVERSITY OF LONDON.

#### Senatorial Election.

THE result of the election for a representative of medical graduates on the Senate was the re-election of Dr. E. Graham Little, M.P. for the University; he received 827 votes, against 231 for the other candidate, Mr. T. B. Layton, D.S.O., M.S.

### ROYAL COLLEGE OF PHYSICIANS OF LONDON.

AN extraordinary comitia of the Royal College of Physicians was held on May 14th, when the President, Sir Humphry Rolleston, was in the chair.

The minutes of the Censors' Board were read.

#### Lectureships.

The following appointments were made to lectureships: Dr. Bernard Hart to deliver the Goulstonian lectures, Dr. A. Shadwell the FitzPatrick lectures, and Sir Thomas Horder the Lushington lectures in 1926.

#### Fellowship.

The twelve Members elected to be Fellows, at the comitia on April 30th (BRITISH MEDICAL JOURNAL, May 9th, p. 935), were admitted.

#### Licence.

The following supplementary list of 96 candidates to whom licences had been granted was submitted:

\*Agnes L. Adam, D. Aernman, E. L. Anguste, C. W. Bamford, P. S. Bell, R. H. Bestawros, A. T. Bettinson, Margaret Bowstead, P. D. Braddo, \*Gwendolyn J. Brooke, \*Stella M. Brown, \*Dora M. Cadman, \*Mary E. Campbell, W. L. Chiesman, \*Lilceia M. Clarke, \*Glady's M. Clarke, \*Walfred M. Clement, D. R. T. Clendon, J. Cohen, R. W. Cunningham, S. H. Daniel, Gwynon Davies, H. J. Davies, D. S. Dixon, J. V. Dockray, D. C. Drake, W. Egan, V. H. Ellis, A. J. K. Fiach, \*Barbara Fiach, \*Walfred M. Fish, V. L. Fisher, M. Footerman, G. V. Gollerkeri, A. S. Gough, R. Green, C. J. Groseli, R. F. Guymer, L. B. Haye, J. B. Hayes, \*Barbara J. Hick, \*Nancy M. Hill, A. B. Hill, A. T. Howell, J. U. Humm, \*Dorothea A. C. Hunt, J. N. Jacobson, H. Kessel, A. M. Lazarus, S. Lerner, S. Levi, C. J. Lovering, D. A. Lubbock, J. W. McGuire, A. C. MacLeod, D. H. MacLeod, D. R. Martin, A. Mead, G. C. Michael, \*Ruth L. Milne, E. F. Molony, J. P. Monkhouse, H. Moore, A. H. Morley, V. M. Morris, I. S. Moscow, G. W. Murray, G. H. Pringle, P. E. Pryor, \*F. Morris, I. S. Moscow, G. W. Murray, G. H. Pringle, P. E. Pryor, A. T. Rees, \*Nellie H. Reynolds, Ross, \*Edith M. Ross-Johnson, \*Ell. H. E. Schulz, H. J. Selby, \*Ethel, K. A. Soutar, J. MacN. ora, J. D. Swyer, K. H. Tan, A. A. van Bauren, T. E. Walsh, H. G. Wimbush.

\* Under the Medical Act, 1875.

#### Membership.

Dr. Hugh Roger Smith, who relinquished his membership in 1919, was granted permission to resume it.

#### Appointments.

Dr. Raymond Crawford was appointed a member of the Committee of Management, to fill the vacancy caused by the death of Dr. Ormerod.

The President announced the appointment of Sir Percival Horton-Smith Hartley as representative of the College at the Conference of the National Association for the Prevention of Tuberculosis.

#### By-laws.

It was decided to appoint a small subcommittee to codify the by-laws, in view of recent alterations in them.

The President then dissolved the comitia.

### ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AN ordinary Council meeting was held on May 14th, when the President, Sir John Bland-Sutton, was in the chair.

#### The late Sir Rickman Godlee.

The death of Sir Rickman John Godlee, Bt., K.C.V.O., F.R.C.S., past president and past member of the Council and of the Court of Examiners, was reported, and the following vote of condolence was passed:

That the Council hereby express their regret at the death of Sir Rickman Godlee and their very sincere sympathy with Lady Godlee in the great loss which she has sustained. The Council also express their grateful sense of the many services to the College by Sir Rickman Godlee, and especially his long and able service as President, and his many achievements which will cause his name always to be held in honoured remembrance.



*Diplomas.*

Diplomas of Membership were granted to 234 candidates. Jointly with the Royal College of Physicians, diplomas in public health were granted to 15 candidates and in tropical hygiene and medicine to 22 candidates. (The list of names appeared in part in the report of the meeting of the Royal College of Physicians published in our issue of May 9th, p. 905; the remainder are printed in the present issue.)

*Court of Examiners.*

The vacancy on the Court of Examiners caused by the resignation of Mr. G. Percy Dodds-Parker will be filled at the ordinary Council in June.

*Honorary Fellowship.*

Professor Antonin Gosset of Paris, who was elected an Honorary Fellow of the College on June 12th, 1919, was introduced and signed the Roll of Honorary Fellows and was presented with the Diploma of Honorary Fellowship.

## Medical News.

THE next session of the General Medical Council will begin on Tuesday, May 26th, when the President, Sir Donald MacAllister, Bt., K.C.B., M.D., will take the chair at 2 p.m. and give an address. The Council will continue to sit from day to day until the business is finished.

THE KING has approved the reappointment of Sir David J. Galloway, M.D., as an unofficial member of the Executive Council of the Straits Settlements.

A COURSE of four lectures on physics will be delivered by Sir Robert Armstrong-Jones, M.D., at Gresham College, on Tuesday, May 26th, and three following days, at 6 p.m. on each day. Admission is free. The subject is the history of medicine from the earliest times to the mediæval period (about A.D. 1400).

THE annual dinner of the West London Medico-Chirurgical Society will be held at the Trocadero Restaurant, Piccadilly, to-day (Friday, May 22nd), at 7.30 for 8 p.m.

THE annual meeting of the supporters of the Lebanon Hospital for Mental Diseases, Asfuriyeh, near Beyrout, Syria, will be held in the rooms of the Medical Society of London, 11, Chandos Street, W., on Wednesday, May 27th, at 3.30 p.m. The chair will be taken by Dr. E. W. G. Masterman, who has recently visited the hospital, and the speakers will include Sir Wyndham Deedes and Pastor Hoffmann de Visme. Tea will be served at 4.30.

THE Fellowship of Medicine announces a lecture by Mr. G. Gordon-Taylor on May 25th on the prevention and treatment of shock in the surgery of the abdomen. The following courses have been arranged: A course in venereal disease, at the London Lock Hospital, Dean Street, and in dermatology, at St. John's Hospital, each beginning on June 2nd and lasting four weeks; clinical demonstrations at the London School of Hygiene and Tropical Medicine, from June 3rd to 25th; a course in gynaecology at the Chelsea Hospital for Women, June 8th to 27th; lectures and demonstrations on sunlight treatment, artificial pneumothorax, the electrocardiograph, etc., at the Victoria Park Hospital, from June 8th to 20th; a course in urology at St. Peter's Hospital, from June 15th to July 11th; an intensive course in medicine, surgery, and the specialties, at the London Temperance Hospital, from June 22nd to July 4th. The syllabus of each of these courses, and the programme of the Fellowship of Medicine, may be obtained from the Secretary at 1, Wimpole Street, W.1.

THE International Conference for the Use of Esperanto in Pure and Applied Science, which was held in Paris from May 14th to 16th, was attended by delegates of 112 societies, the representative of the British Medical Association being Dr. A. A. Martin of Eastbourne. M. Agourtine of Paris reported on the progress made since the first meeting of Esperanto doctors held in Cambridge, and the formation of a medical association (known as "Teka") in 1908. The activity of this association, suspended during the war, was revived in 1922, and considerable interest had been shown by many medical practitioners, especially in Japan. Another report on Esperanto and pharmacy related the progress of the International Pharmacopœia proposed in 1910, the associated federation being established in 1912. It was reported that the difficulties in establishing an international nomenclature were being gradually overcome.

DR. OSCAR M. HOLDEN, on relinquishing the medical officership of health for Dowsbury to take up a similar post in Blackburn, has been presented by the staffs of the public and school medical departments of the Dowsbury Corporation with a silver flower vase.

THE house and library of the Royal Society of Medicine will be closed on Whit-Monday, June 1st.

A FESTIVAL dinner in aid of King's College Hospital was held at the Savoy Hotel on Wednesday, May 20th, with H.R.H. the Duke of Connaught in the chair.

THE British Social Hygiene Council is the name by which the National Council for Combating Venereal Diseases will be known in future. This change, we are informed, does not mean that any less attention will be given to direct propaganda and public enlightenment on the medical aspects of venereal disease, but that it is recognized that the medical field is not the only one in which efforts can be made towards building up conditions calculated to lead to a permanent diminution of disease.

THE annual report for 1924 of the Society for Relief of Widows and Orphans of Medical Men shows that the invested income has increased by £1,000, and now amounts to £148,650. By the by-laws only the income of this investment may be used for the payment of grants and expenses. The total income during the year was increased slightly, reaching the figure of £5,136 0s. 10d., the working expenses being £359 19s. 1d. Of this income, £349 15s. was received from subscriptions and donations, £68 5s. from life subscriptions, and £600 from legacies. The sum of £4,961 18s. was distributed in grants of different kinds, and on December 31st there were fifty-one widows and seven orphans in receipt of them. During the year five widows had died, including one who had been in receipt of assistance since 1847; her late husband paid in subscriptions £37 16s., and she received £3,250 in grants. Another widow, whose husband had paid £12 12s., received in grants £1,885. Such examples illustrate the great advantages gained by medical men becoming members of the society, which was founded in 1788. Membership is open to any registered medical practitioner who at the time of his election resides within twenty miles of Charing Cross. Should a member remove outside this radius, even beyond the British Isles, he nevertheless remains a member of this society if he conforms to the by-laws. Relief is granted to the necessitous widows and orphans of deceased members of three years' standing and to life members. Further information may be obtained from the secretary of the society, 11, Chandos Street, Cavendish Square, W.1.

THE third congress of the Italian Association of Hygiene will be held at Cagliari and Sassari in Sardinia from June 5th to 14th under the presidency of Professor Achille Sclavo. Further information can be obtained from the general secretary, Dr. Giovanni Palomba, via Vittorio Veneto 96, Rome.

THE seventeenth Russian Congress of Surgery will be held at Leningrad from May 26th to 31st, at the same time as the Congress of Therapeutics. The principal subject for discussion is the treatment of acute infective osteomyelitis and its sequelae, which will be introduced by Dr. F. N. Krasnobayev. The clinical aspects and surgery of the vegetative nervous system will be discussed at a conjoint meeting of the two congresses by Drs. S. D. Pietuev, S. P. Fedorov, and E. R. Hessé. The subject of transplantation of endocrine glands will be opened by Professor V. A. Oppel.

THE fifth International Congress for the Protection of Childhood, which was to have been held in Madrid from April 12th to 19th, was postponed. Further information can be obtained from Dr. A. Bandelae de Pariente, 10, Square Monecy, Paris.

THE German Society for Combating Venereal Disease has arranged for the production of Briex's play *Les Avariés* in several Berlin theatres.

THE medical faculty of Montpellier has celebrated the fourteenth anniversary of the nomination of Professor Forgeat to the chair of clinical surgery by presenting him with a volume containing sixty papers by his students and friends.

THE monthly magazine, *The Temps*, which was originally the publication of the patients and ex-patients of Wooley Sanatorium, near Hexham, has now been extended to include propaganda and the general health activities of Northumberland. All profits from its sale are devoted to the Wooley Settlement Scheme, whereby employment under ideal hygienic conditions is provided for the patients at the sanatorium. The April number contains a summary of the health services of the county of Northumberland, articles on general health topics, tuberculosis, and the Wooley Sanatorium and Settlement.

THE value of the Zambaco prize awarded by the Société Française de Dermatologie et de Syphiligraphie has been raised from 800 to 1,500 francs. Candidates should send in their essays to the General Secretary, Hôpital St-Louis, Paris, not later than November 30th.

A RUSSIAN Society of Endocrinology has been founded at Moscow. It is proposed to start a journal and a library. Medical men and biologists are invited to send copies of their publications of the last ten years to the secretary, Dr. N. A. Schereschewsky, Arbat 26, Moscow.

## Letters, Notes, and Answers.

Up to and including Thursday, May 28th, all communications in regard to editorial business should be addressed to **THE EDITOR, British Medical Journal, 429, Strand, W.C.2.** After May 28th the postal address of the Editorial Department will be "British Medical Journal, British Medical Association House, Tavistock Square, W.C.1" (see p. 979).

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the **BRITISH MEDICAL JOURNAL** alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring REPRINTS of their articles published in the **BRITISH MEDICAL JOURNAL** must communicate with the Financial Secretary and Business Manager, 429, Strand, W.C.2, on receipt of proofs.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the **JOURNAL**, should be addressed to the Financial Secretary and Business Manager, 429, Strand, W.C.2.

The TELEPHONE NUMBER of the **BRITISH MEDICAL ASSOCIATION** and **BRITISH MEDICAL JOURNAL** is **GERRARD 2630** (Internal Exchange).

The TELEGRAPHIC ADDRESSES are:

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FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate Westrand, London.*

MEDICAL SECRETARY, *Mediscera Westrand, London.*

The address of the Irish Office of the **British Medical Association** is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 4737 Dublin), and of the Scottish Office, 6, Drumshugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone: 4361 Central).

### QUERIES AND ANSWERS.

#### TREATMENT OF ONYCHIA.

DR. J. FRASER MACKIE (Halkirk, Caithness) asks for suggestions for the treatment of a case of very chronic onychia. The patient finds it impossible to get a situation owing to the unsightly condition of her hands.

#### INFANT THERAPEUTICS.

"AN ELDERLY PRACTITIONER" writes from Australia: (1) Under what conditions is tea used in infantile therapeutics? Still mentions it incidentally in his book without giving particulars. (2) What is the objection to giving fruit juice, such as orange juice, before the age of 3 months?

\* \* \* We are indebted to Dr. Eric Fritchard for the following replies to these questions:

(1) Tea, in the form of a weak infusion, can be usefully employed in the treatment of febrile conditions in infancy, when the temporary suspension of food is indicated. It is specially useful in influenza with looseness of the bowels, also in the troubles connected with dentition. It has a soothing influence on the nervous system, and often induces sleep. The alkaloid caffeine, to which the therapeutic effect of tea is doubtless due, may be substituted for the infusion if accurate dosage is required: 1 grain of caffeine citrate may safely be given a baby 3 months of age.

(2) There is no objection to the giving of fruit juice to young babies. It has become a habit or tradition to delay its administration until they are about 3 months of age. Reliance is placed on the fact that infants are usually born with some reserve of the antiscorbutic vitamin, but it is not safe to trust to this supposition; the infant has the same need for this vitamin at 1 month as it has at 6 months, and some paediatricians order grape juice or orange juice from the 2nd week of life onwards without intermission, not only in cases of artificial feeding, but in breast-feeding also.

### LETTERS, NOTES, ETC.

#### "CENTRAL FIXATION."

AN assistant medical officer of health has sent us a cutting from a local newspaper containing a report of some remarks made by a town councillor on the annual report of the school medical officer. The councillor commented on the number of children fitted with spectacles, which, he said, would be a handicap to them later on when situations were sought. "As the Education Committee myopia, etc., now to the fore, called 'central fixation,' and it had done excellent work, not only here, but very widely in America. Not only were the young treated successfully, but old people than adding it meant six months' rest for a child, it was better proved that spectacles were not by any means always needed."

Our correspondent is confused by this statement and asks for an explanation.

We have referred the matter to Mr. Bishop Harman, who has been good enough to send the following instructive reply:

"Central fixation" is a perfectly well known and established term in ophthalmic work. It denotes the power of the normal eye to look directly and fixedly at a given object—that is, to bring the macula into line with the object to be viewed. Unless this be done there is no clear vision, for detailed vision is only obtained at the restricted area, or rather point, of the macula. Every normal eye has central fixation, whatever the error of refraction may be. The myope fixes centrally, so does the hypermetrope, but by reason of the error of focus images are not seen distinctly, even though there is central fixation. With proper correcting lenses the badly focused eyes obtain with central fixation clear and defined vision. An eye which has become amblyopic from disuse, as in children with squint, loses central fixation; when the good eye is covered the squinting eye is unable to fix a given object, for the macula has lost its sensitiveness. Many conditions of defect of the eye from congenital and infantile disease are associated with loss or absence in whole or part of central fixation—for example, the infant who has suffered from ophthalmia neonatorum, even though it has escaped obvious damage to the tissues of the eye, may be found a year or so afterwards to have nystagmus. The closure of the eyes by disease during the first three weeks of life prevented the appropriate stimuli reaching the maculae, so that there is poor development and central fixation is imperfect; the nystagmus is due to this. So also with miner's nystagmus: there is a diminution of good central fixation. A whole host of cases with congenital nystagmus show the same poor central fixation. Failure of central fixation can scarcely be remedied. The suggestion that "central fixation" is a substitute for glasses has no meaning. I do not know whether some quack has attempted to pervert the term for ulterior purposes, as have the osteopaths and such other brigands of other medical terms. Anything is possible in these days. But on the face of it the statement in this cutting would not appear to imply this. It seems that the worthy councillor has become entangled in the statements which he has had from a young doctor. The need for spectacles for the correction of considerable errors of refraction in school children is not a matter for debate. The facts have been established for many years. Numberless school medical officers have published carefully documented records of the examination of large blocks of children, showing the refraction of the eyes and the vision obtained. These have been collected on more than one occasion and included in the annual report of the Medical Officer of the Board of Education. The children are born with these defects. Proof of that may be found in a paper I read at the Ophthalmological Society in 1919 (*Transactions*, p. 79). That paper gave a full record of the examination of the refraction of the eyes of all the infants in a good class London school; the examinations were made under mydriasis; 358 infants were examined. Taking all those who had less than 2D. of hypermetropia and 0.5D. of hypermetropic astigmatism as fair average eyes which need no assistance, it was found that 65.1 per cent. had average eyes and 34.9 per cent. had eyes with such errors of refraction as would or were likely to need the help of glasses. For at least 10 per cent. glasses would be imperative if any school work needing serious study were to be undertaken; otherwise, the child would be put to injurious strain, or the educational provision would be wasted on the child.

#### BUYING A CAR.

The *Autocar* of May 15th is issued as a special number devoted mainly to the interests of new motorists. It contains advice on selecting a car; a reference table, which gives a summary of the horse-power, tax, weight, price, and other details of each car; and an article in which the mechanism of a motor car and the functions of its various parts are explained. Useful hints are given about the need for care and consideration for others in the early stages of motor driving, and attention is drawn to a problem of motor insurance which is frequently forgotten by motorists. Policies are so framed that the companies are only responsible for the replacement value of any portion of a car that is damaged in an accident. Consequently, if a car is kept for a sufficient number of years, its replacement value may become practically nil, although the insured continues, as a rule, to pay the same premium. It is true that the Medical Insurance Agency (429, Strand) has a special "doctor's policy" (underwritten at Lloyd's), under which reduced values determine the premium payable as the car grows older. But this does not meet the difficulty completely, and there seems to be no method by which the insured owner can avoid considerable expense in replacing an old car accidentally destroyed by fire. The *Autocar* is of opinion that "a very drastic revision of automobile insurance is overdue." An article on "Housing the car at home" is useful, and is illustrated with many types of garage. An extract from an account of the 1,000 miles run to Edinburgh in 1900 gives the novice some idea of his indebtedness to his forefathers, whose trials have led to the production of that perfect instrument, the modern motor car.

#### VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 38, 39, 42, and 43 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 40 and 41.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 231.

## An Address

ON

## FASHIONS AND FADS IN MEDICINE.\*

BY

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I REMEMBER being present many years ago in a provincial town, at the annual gathering of the British Medical Association, and at the general meeting of representatives happened to occupy a front seat in the gallery next to an old friend, a distinguished gynaecologist, since dead. After gazing down in silence for some time at the assemblage below he turned round to me and exclaimed in a tragical whisper, "The medical profession in bulk is indeed a saddening spectacle!"

Well, gentlemen, I do not know that in our exterior habit we present a more "saddening spectacle" than any other collection of human beings, but undoubtedly there are some of our intellectual habits which are calculated to make the judicious grieve, and chief amongst these is our subservience to fashions. For let there be no mistake about it, there is a fashion in the cut of the robe of Aesculapius just as much as in that of more mundane garments, and few of us altogether escape its influence.

This, of course, is no new observation. A certain Dr. Harris,† for example, writing as long ago as the middle of the eighteenth century, delivered himself upon the subject as follows: "For some different modes and customs, sometimes perhaps better, sometimes worse, come into Fashion and go out again in Physick as well as Dress; and the common Herd of Physicians too easily give credit to the Promises of new Leaders, till that faithful Mistress Experience at last shows them safer ways to Truth."

So apparently we are no worse than our predecessors after all. I thought, however, that it might be worth our while to consider together the origin of fashions and fads in medicine, and their influence for good and evil on our work, and that will be the subject of this address.

*The Nature of Fashions.*

At the outset of our inquiry we are met by the difficulty, What is meant by a "fashion"? It is not always easy to say, but I think one may regard transience as being fashion's essential characteristic. Take, for instance, the matter of hats and hearts. It would not be correct to say that it is the fashion for women to wear hats in England, for I suppose women have worn hats here ever since the Stone Age. On the other hand, it would be quite exact to speak of its being now the fashion to wear what I believe are called cloche hats. So in the case of hearts. It would not be accurate to say that it is the fashion to treat heart disease with digitalis, for that remedy has now been in use for close upon a century and a half; but it would be true, or perhaps it would have been true before the war, to say that it is the fashion to send cases of heart disease to Nauheim. Time, therefore, is the essence of the matter, and it may take time to determine whether a theory or a treatment is merely a fashion or whether it has come to stay. None the less I think there is an intuitive faculty—a sort of flair for truth—stronger in some of us, it is true, than in others, but capable to some degree of cultivation in all, which may serve as a touchstone in the matter, and which will often save us from following a will-o'-the-wisp.

Fashion may affect either our beliefs as to the nature and origin of diseases or our practice in their treatment. Fashions in belief may lead to fashions in treatment, but we also find fashionable treatments which are based on no intelligible belief. In the eighteenth century, it will be remembered, Dr. John Brown propounded his doctrine of "excitability," and divided all diseases into the "sthenic," in which excitability is in excess, and the "asthenic," in

which it is in defect. This theory became fashionable, and seeing that according to the Brunonian teaching 87 per cent. of disease is asthenic and needs stimulation, it also led to an abandonment of the then prevailing fashion of exsiccative bleeding. On the other hand, in the same century Bishop Berkeley introduced his panacea of "tar water" which also quickly became the fashion, though no pretence was made that its supposed virtues were based on any reasonable theory at all. To turn to a modern example, neurasthenia has in recent times been attributed to such different causes, amongst others, as mobility of the kidney, eye-strain, displacements of the uterus, intestinal auto-intoxication, disturbance of the "endocrine balance," and focal infection. Each of these beliefs has in its time been fashionable, and there have been corresponding fashions in treatment which have ranged from such trivial procedures as the ordering of spectacles or of fantastic diets, to more formidable measures, such as removal of all the teeth, or of the whole lower bowel. On the other hand, the use of the high-frequency current in the treatment of all manner of diseases, which was so much the fashion at the end of last century though now rather *démodé*, arose independently of any pathogenic theory.

Such, then, being the nature of fashions in medicine, we have next to ask, How do they arise? It is really very difficult to say. How do fashions arise in dress, or in art, or in games? We do not know. We can, however, recognize some modes of origin of medical fashions, and these have now to be considered.

*Origin of Fashions from Fads.*

First, fashions may arise out of fads. But this at once raises the question, What is a fad, and how does it differ from a fashion? Well, I suppose a fad is essentially an individual thing, a crochet or favourite idea held, often independently of evidence, by a single person or by a small group of persons. But sometimes the bees in the individual bonnet swarm, and then we get a fashion. A fashion, then, may be regarded as an epidemic fad. But in order that a faddist may infect others and make his fad epidemic he must be a person of some importance. You or I might wear any bizarre kind of waistcoat we pleased and no one would take any notice, but if the Prince of Wales, for instance, appears in America in an unusual garment the fashion spreads like wildfire throughout the States. It is very probable, I think, that Bishop Berkeley's tar water caught on as it did largely because he was a bishop; had he been a mere curate he would have been left to drink it alone.

It would be easy, though indiscreet, to mention contemporary examples of eminent fad-carriers who have infected large sections of the profession and so produced fashions, but everyone will be able to think of such instances for himself. Again, the faddist who is to succeed in making his fad a fashion must not only be a person of prominence; he must also be instant, both in season and especially out of season, in preaching his doctrine—as, indeed, most faddists by nature are. Reiteration is essential; he must proceed on the principle that "What I say three times is true," and he will infallibly obtain many disciples.

*The Origin of Fads.*

But all this only shifts the difficulty, for how does an individual become a faddist? As to this it may be remarked that the disease of faddery may be either congenital or acquired. To parody a familiar quotation, some are born faddy, some achieve faddery, whilst some have it thrust upon them. The congenital faddist, to take his case first, is met with in every walk of life. He is born with a kink in the brain, a natural worshipper of the idols of the cave, an optimist rather than a pessimist, credulous rather than sceptical, lacking in humour, judgement, and common sense. To quote the late Dr. Mercier, "the faddist is constitutionally incapable of weighing evidence, of suspending his judgement, or of entertaining doubts," and, as Macaulay said, he is "utterly lacking in the faculty by which a demonstrated truth is distinguished from a plausible supposition."

Others achieve faddery, and there are several ways in

\* First delivered before the Medical Society, and published in the Treatise of the Society, by John Martin, F.R.S. London, 1742.

† Counties Society.



variability in our views and practice from year to year; that we should at one time attribute most human ills to uric acid, at another to auto-intoxication, to oral sepsis, to "disturbance of the endocrine balance," or to avitaminosis; that our pathological beliefs should be dominated now by "toxins," now by "reflex action," or by "vicious circles"; that to-day we should seek to cure all manner of disease by excising the ovaries, to-morrow by removing the appendix or the teeth; one year by the injection of sea-water, another by the administration of sour milk, or by the application of violet rays; that we should pin our faith for collective salvation sometimes to "team work," and at others to "early diagnosis" or "preventive medicine"; in short, that we should be as much at the mercy of "stunts" as the yellow press, as much the slaves of catch-words as politicians, and as intellectually unstable as a popular electorate.

#### *How to Restrain the Influence of Fashion.*

Let us, then, consider how we can moderate and restrain the excessive sway of fashion in our practice and beliefs. And first it is to be noted that fortunately many of us have a natural immunity to fashions and fads. These are men with a mental make-up the very opposite of that of the congenital faddist of whom I have already spoken. They are individualists, lacking in the herd instinct; sceptical rather than dogmatic; pessimists rather than optimists, with a sense of humour and a natural instinct for truth. And the same is true of nationalities. The Scots, for instance, are, on the whole, being a humorous nation, singularly free from fads—except in the sphere of religion, though a Scottish faddist, when you meet him, is, like Barrie's Scotsman "on the make," "a fearsome spectacle." America, on the other hand, is, I suppose, the most fad-and-fashion-ridden country on the civilized globe. This is probably the combined result of defective general culture, a love of novelty as such, and too much money. It is interesting in this connexion to speculate upon the possible effect on our liability to suffer from fashions of the admission of women in large numbers to our profession. Will the woman who has not the courage to wear last year's hat have the courage to prescribe last year's drug? I do not know. We can only wait and see; perhaps I should say we can only watch—and pray.

Of course, the antifad temperament has its own drawbacks. It is possible, as was said of a very distinguished physician of the last generation, "to carry common sense to the point of a vice." The acquired scepticism of age also is not without danger. As Mark Rutherford warns us in *Deliverance*:

"A man must for ever keep himself open to the reception of new light. As he gets older, he will find that the tendency grows to admit nothing into his mind which does not corroborate something he has already believed, and that the new truth acquired is very limited. If he wishes to keep himself young he must use his utmost efforts to maintain his susceptibility. He must not converse solely with himself and turn over and over again the thoughts of the past. He must not in reading a book dwell upon those passages only which are a reflection of his own mind."

On the other hand, it is possible to have too open a mind. There are some propositions ("E.R.A." for example) of which one should be able to say, "This is certainly not true, or, if it is, it has no right to be." We are here confronted with the old difficulty of finding the *via media* and of practising that "animated moderation" which Bagehot used to praise. On the whole, perhaps, we cannot do better than follow the advice of Pope:

"Be not the first by whom the new is tried,  
Nor yet the last to lay the old aside."

#### *Effects of Education.*

It is commonly said that education is a great safeguard against quackery and faddery. I profoundly disbelieve it. So far as I can see, the higher one goes in the social scale the more does fashion in health matters prevail, and the so-called intelligentsia are the most gullible of all. It would almost seem, indeed, as if everyone has a certain stock of credulity, and the more sceptical he is in everything else the more credulous is he in matters medical.

It may be replied that this is the result of the wrong kind of education and that what is needed is more teaching of science. Again I disbelieve. If this were so the saying of Matthews Duncan would not be true—as I, for one, believe it to be—that "There are more quacks inside the profession than outside it." No; if education is to help us it must be a more humanistic education, by which I do not necessarily mean a classical training—though there is much to be said for that—but an instruction in the philosophy of a subject as opposed to its practical applications. In medicine it means especially the teaching of medical history and pathology. Sanity, humour, breadth of view, and a power of criticism are, it has been said, the marks of humanism, and the result of a humanistic education is a critical, humorous spirit with a sense of proportion, not given to extremes and with some sense of historical perspective and some logical faculty. It is that type of mind that we have to aim at shaping in our students, and that is why I profoundly regret the premature scientific specialism to which the intending doctor of to-day is perforce driven. We want, in short, more of the Hellenistic spirit, the spirit of common sense, sanity, and moderation. To quote Professor Gilbert Murray:

"If you look at a Greek statue or bas-relief, or if you read an average piece of Aristotle, you will very likely at first feel bored. Why? Because it is all so normal and truthful; so singularly free from exaggeration, paradox, violent emphasis; so destitute of those fascinating by-forms of insanity which appeal to some similar faint element of insanity in ourselves. . . . What is at the back of this sort of feeling? It is the same psychological cause that brings about the changes of fashion in art and dress; which loves 'stunts' and makes the fortunes of yellow newspapers. It is boredom or ennui. . . ."

It was this spirit of sanity which informed Greek medicine, so that, as Dr. Singer says of the physicians of the Hippocratic school—

"they remain for the most part, patient observers of fact, sceptical of the marvellous and the unverifiable, hesitating to theorize beyond the data, yet eager always to generalize from actual experience; calm, faithful, effective servants of the sick."

#### *Effects of Ridicule.*

Apart from such an education as this, a sense of humour is the best defence against fads and fashions, and ridicule is the weapon most adapted to their destruction. It has been remarked that there is no use in arguing with a prophet; you can only refuse to believe him. And so there is no use in arguing about a fad or a fashion; you can only laugh at it. If someone tells you, for example, that he is able to cure most diseases, from a common cold to cancer, by putting his patients on the diet of King Nebuchadnezzar, you can only smile. It is idle to point out to him that others—the late Dr. Salisbury, for example—cured, or claimed to cure, the like diseases by adopting the diet of Giant Pee-faw-fum. The one is fanatical about raw herbs and the other about raw meat, and reason has nothing to do with the matter. Further, I think that we tend to deal too tenderly with the crank, and that he is allowed too much rope in our medical societies, journals, and newspapers. I know that life is short, and that the same are busy men while the cranks are only busybodies, and that there are better and more amusing things to do than to waste time in confuting them; but all the same, judgement is too often allowed to go by default, with the result that faddists have to-day far more influence with the public and far more say in shaping health legislation than their importance merits. The general practitioner also should make a better stand against these things. He should be less the slave of the advertising chemist, less afraid to use his own judgement and common sense, and should not allow himself to be bluffed by faddists, however eminent. For, after all, the test of truth is in its practical results, and it is by the experience of the general practitioner that in the last resort all fads and fashions must be judged. Perhaps in the final analysis, however, the conclusion of the whole matter may be that both faddists and antifaddists are required for progress; that we must always zigzag towards our goal like a ship tacking against the wind—now going too far to the right, now to the left; that, in a word, both the "crank" and the brake are necessary for the machine.



*Fashions in Doctors.*

Finally, just as there are fashions in pathological theories and in treatments, so there are fashions in doctors. I confess, gentlemen, that I have always been puzzled to explain what makes for success in our profession. It certainly does not seem to be a question of knowledge, nor yet of manners, nor even of character or morals. But if it is difficult to account for ordinary success, it is still more difficult to explain what makes a doctor the "fashion" in his town or district—what makes him, to use an expressive Americanism—"it." We meet the same problem, of course, in other spheres. Why, for instance, of a thousand novels all alike jejune, does one become a "best seller"? Or why does such a song as (let us say) "Yes, we have no bananas" sweep a continent, when a hundred others with equally foolish words and no less catchy an air drop still-born from the lips of the music-hall comedian? "Sir," said Dr. Johnson, "it is in vain to try to explain the inscrutable."

In some cases, of course, a doctor becomes the fashion by skilful self-advertisement, "by toying," as Sir William Osler said, "with the Deilah of the press," but many a man has become the fashion *malgré lui*, and it would be a profound mistake to suppose that all fashionable practitioners are charlatans. On the contrary, many of them have been and are men of whom any profession might be proud; it will suffice, perhaps, to mention Asclepiades in Roman times and Tronchin in eighteenth century France, without referring to more modern examples. Still, one should not envy the fashionable doctor; rather should one wonder at him. He leads a life of slavery, even although, as a wag said, it is slavery on the guinea coast; and, circumstanced as he is, good and thorough work becomes impossible. His position, too, on a pinnacle is always precarious. He has, it is true, his little day, but he is apt to wake up one morning to find that his worshippers have stampeded en masse overnight to some newer shrine of the fickle goddess Fashion.

## THE EFFECT OF PITUITRIN AND INSULIN ON BLOOD SUGAR:

### THEIR ANTAGONISM AND THE MODE OF ITS ACTION.\*

BY

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RECENT work by Burn<sup>1</sup> on rabbits has clearly shown the antagonism of infundibular extracts to insulin. If given in sufficiently large doses the administration of posterior lobe extracts prevented the fall of blood sugar caused by insulin. He states that this effect is not produced by extracts of the anterior lobe or of any other tissue (except adrenaline). Nor did he find that pituitrin given alone produced such a rise in blood sugar as to account for its almost complete inhibition of insulin action. Some of the doses he used on rabbits were so large, corresponding to about 150 c.cm. for an average human adult, that it was felt that their effect might be partly toxic and at any rate did not permit of the same conclusions being drawn regarding the effect of therapeutic doses in man. Again, these results were obtained in normal rabbits and would not necessarily apply to diabetics. Accordingly the scope of this investigation has been to examine the effect of therapeutic doses of infundibular extract on the blood sugar content of normal and diabetic man, particularly as regards an insulin antagonism. Other points of interest have arisen, especially regarding the site of this antagonism, and are also included in this paper. Parke Davis 10 per cent. infundibular extract (pituitrin) has been used, and care has been taken to use the same batch of insulin. The blood sugar was estimated in duplicate by Maclean's method on blood drawn from the ear, and the

\* This investigation was carried out with the aid of a grant from the Medical Research Council.

normal persons were all students and residents at King's College Hospital, to whom our thanks are due for some rather trying experiments. Unfortunately we were not able to follow the blood sugar for as long as we wished, but this has not vitiated the results.

### Effect of Pituitrin on Blood Sugars in Normal and Diabetic Persons.

The literature is full of contradictions regarding the effect of pituitrin on blood sugar: Borchardt, Cushing, and others state that it causes a rise in blood sugar, and Franchini, Stenstrom, and others deny this. Burn found in rabbits with large doses that sometimes there was a slight rise and sometimes a slight fall. We have investigated this by giving 1 c.cm. subcutaneously to normal and diabetic persons (Tables I and II). The normal persons received their pituitrin three to four hours after breakfast when their blood sugars had returned to a fasting level, and the blood sugars were followed every half-hour for two hours. Of the six cases investigated, three showed no appreciable change—

TABLE I.—Effect of Pituitrin on Blood Sugar of Normal Fasting Individuals.

	Fasting Level.	Pituitrin Injected.	Time (Hours) after Pituitrin.			
			1/2.	1.	1 1/2.	2.
Case A ...	91	2 c.cm.	87	85	77	—
Case B ...	125	1 c.cm.	150	141	—	173
Case C ...	93	1 c.cm.	93	85	93	—
Case D ...	99	1 c.cm.	99	100	93	—
Case E ...	96	1 c.cm.	121	—	120	—

less than 10 mg. per cent.; one showed a drop of 17 mg., and two others a rise of about 20 mg. (Details of five of the six cases are given in Table I.) Consequently we can conclude that pituitrin has no appreciable effect on blood sugar, small changes probably being due to variations in the water content of the blood, as Partos and Katz-Klein<sup>2</sup> have shown. The three diabetics similarly showed no variation in blood sugar (Table II).

TABLE II.—Effect of Pituitrin on Blood Sugar of Fasting Diabetics.

	Fasting Level.	Pituitrin Injected.	Time (Hours) after Pituitrin.			
			1/2.	1.	2.	2 1/2.
Case A ...	96	1 c.cm.	92	96	97	—
Case B ...	143	1.5 c.cm.	148	156	151	155

### Antagonism of Pituitrin to Insulin in Normal and Diabetic Persons.

Having determined the separate effect of a given dose of pituitrin and of insulin in various individuals, we next gave them simultaneously in different parts of the arm. The results (Table III) show the almost completely antagonizing

TABLE III.—Antagonism of Pituitrin to Insulin in Normal Persons.\*

	Before Insulin Pituitrin.	Insulin or Pituitrin Injected.	Time (Hours) after Injection.			
			1/2.	1.	1 1/2.	2.
Case I ...	100	Ins. 15 units	81	66*	75*	Glucose given 87
"	92	Ins. 15 units, Pit. 0.8 c.cm.	90	83	91	
Case II ...	101	Ins. 15 units	85	—	72*	—
"	104	Ins. 15 units, Pit. 1 c.cm.	90	—	91	—

\* Symptoms of hypoglycaemia.

effect of pituitrin on insulin. The antagonism is most marked in the first hour, for in some of the cases the insulin seemed to gain the upper hand in the second hour, and lowered the blood sugar considerably, though never so low as when insulin was given alone.

The same antagonism was clearly demonstrated in diabetics. Insulin alone was given one day to certain cases on standard conditions of diet, and on the following day 1 c.cm. of pituitrin was injected at the same time as the insulin. The blood sugar was estimated for five hours, and the results are shown in Table IV. The first entry is the

TABLE IV.—Antagonism of Pituitrin to Insulin in Diabetics.

	Fasting Level.	Breakfast and Insulin.	Time (Hours) after Insulin given.				
			1.	2.	3.	4.	5.
Case A ...	109	Ins. 18 units	125	118	82	—	63
"	109	Ins. +1 c.cm. Pit.	152	193	158	—	133
Case B ...	222	Ins. 14 units	253	223	201	185	
"	189	Ins. +1 c.cm. Pit.	276	264	211	213	
Case C ...	139	Ins. 10 units	179	149	133	102	
"	130	Ins. +1 c.cm. Pit.	168	196	164	130	
Case D ...	121	Ins. 15 units	114	90	—	56*	
"	63	Ins. +1 c.cm. Pit.	95	103	73*	58	

\* Symptoms of hypoglycaemia.

In Case B the difference before and after pituitrin is more marked if the initial levels are regarded.

fasting level; the injections were then given and breakfast followed half an hour later. Three of the cases showed the antagonism very clearly. The fourth (D) was less definite; he also had the lowest blood sugar level and was on the lowest diet. Presumably he had the least carbohydrate or glycogen store in his body, and it is likely that this is why pituitrin antagonized insulin less than in the other cases; for we will produce evidence to prove that pituitrin mobilizes glycogen and thus counteracts the action of insulin.

#### Tolerance of Normal Persons for Insulin.

Insulin had its usual effect in lowering the blood sugar of all the normal individuals investigated, and it may be interesting to record the effects of different doses. In every case the insulin was administered three hours after breakfast, when the blood was at a normal fasting level, and the fall of blood sugar was watched for two hours unless the onset of hypoglycaemia supervened before that time. Lilly insulin was used throughout the experiments, as it seemed to be more rapid in action than British.\* Doses of 10 units lowered the blood sugar slightly from 10 to 15 mg. per cent., but not sufficiently to cause symptoms of hypoglycaemia. Doses of 15 units lowered the blood sugar by from 15 to 35 mg. in different cases, but caused symptoms only once at a blood sugar level of 65 mg. at the end of one and a half hours. Half an hour later this case had recovered spontaneously without the administration of glucose and the blood sugar had risen to 75 mg. Such a recovery is a well known fact, and would indicate that the discharge of glycogen from the liver is not really inhibited by insulin, as has been stated, and that the store of glycogen is not exhausted when hypoglycaemia does occur, but merely that glycogenolysis is not able to keep pace with the rapid disappearance of sugar from the blood caused by large doses of insulin in normal individuals. Doses of 20 units caused symptoms of hypoglycaemia in both the normal cases to which it was given, but one of them recovered spontaneously and showed higher blood sugars at the end of two than of one hour. Other cases had to be given glucose by mouth, and the time required for recovery was from three to ten minutes. It was thus fairly clear that 15 to 20 units is about the limit of tolerance for normal individuals in the fasting condition.

Another point of interest was to determine the tolerance for insulin of a normal individual on a normal diet. A brave volunteer having been obtained, he was given increasing doses of insulin before breakfast on successive days until symptoms appeared. Blood sugar tests were not

carried out, for it had already been determined that symptoms appeared in his case at about 75 mg. per cent. Two doses a day were not given, both on account of the inconvenience of such a procedure and to avoid depleting his glycogen store. It is assumed that the latter is not likely to be much exhausted by one dose a day, whereas two large doses a day might very well deplete it, so that he would tolerate less insulin as the experiment went on. On each day his breakfast consisted of about 60 grams of carbohydrate, 20 to 30 of protein and fat, and the dose of insulin was increased by 10 units every day. A dose of 40 units was tolerated without any effects, but 45 units of A.B. insulin produced quite severe symptoms about three hours after breakfast. Unfortunately the subject had grown careless about insulin, forgotten all about his injection, and was just setting out on a walk unarmed with sugar when symptoms of weakness, dizziness, and faintness came on suddenly. He managed to reach a coffee shop, and without unnecessary explanations ate a quarter of a pound of toffee and was restored in a quarter of an hour. It seems likely that if he had had some carbohydrate two hours after his insulin the symptoms would never have occurred, and that the normal individual could tolerate over 100 units a day, perhaps far more, if supplied frequently with a large amount of carbohydrate to cover it. While insulin is actually balanced by the active absorption of carbohydrate, no hypoglycaemia occurs.

This experiment tells us little or nothing definite about the effect of an injection of insulin on the production of endogenous insulin, but it is probable that the latter was produced as usual under the stimulus of carbohydrate food. For if no, or little, endogenous insulin had been produced, as in diabetes, we imagine that the carbohydrate of his breakfast and of his glycogen store would have been sufficient to balance 45 units of insulin. This individual tolerated 20 units in the fasting condition with the appearance of only slight symptoms which did not require the administration of glucose to effect recovery.

#### Certain Symptoms due to Pituitrin.

All the normal individuals who received a therapeutic dose of 1 c.cm. of pituitrin developed unusual and alarming symptoms which we have not found described elsewhere.\* From ten to thirty minutes after the hypodermic injection they became a ghastly pale grey colour, and some of them became dizzy, faint, and shaky. This appeared to be due to marked vaso-constriction of the cutaneous and probably of the cerebral vessels. The pulse was not quickened nor was the blood pressure raised. This latter point was confirmed in two cases by the sphygmomanometer, but in the others was merely a clinical impression of the pulse. Fortunately their appearance was more terrifying than their feelings, and the pallor and other symptoms usually passed off by the end of an hour. Now, widely as pituitrin is used in obstetrics, etc., it does not seem to have the above effect, and a few cases which we have recently observed closely (and personally) have not shown even pallor. Both normal men and women have shown these symptoms, but they have been absent in the five diabetics tested. Accordingly, it is not likely to be due to some unusual toxic product, such as histamine, of the special batch of pituitrin used. Moreover, one of our cases of diabetes insipidus who is constantly on the drug nearly always notices this effect if he takes more than 0.5 c.cm. This apparent difference in action of pituitrin on normal persons, diabetics, and women in labour offers an interesting field for confirmation and further investigation. We have no explanatory hypothesis to offer.

#### Blood Sugar Curves in a Case of Diabetes Insipidus.

Before we attempt to discuss the relation of the pituitrin-insulin antagonism to the wider questions of glycolytic function and carbohydrate metabolism in general some other experiments bearing on the subject will be recorded. It is well known that a lowered carbohydrate tolerance is associated with hyperpituitarism (acromegaly) and a raised tolerance with hypopituitarism (Fröhlich's syndrome, etc.). These diseases are commonly supposed to be associated with disturbance of the anterior lobe of the pituitary

\* British insulin has recently become quicker in its action.

\* Since this was written similar effects have been described by B. Sacks (*Heart*, vol. xi, No. 4, December, 1924.)

gland which affects carbohydrate metabolism. But it is the posterior lobe, or at least extracts from it, that affect insulin action. Also the carbohydrate metabolism is affected in the following case of diabetes insipidus, although the condition is commonly held to be due to deficiency of the posterior lobe alone. Therefore it would appear that the posterior lobe as well as the anterior is concerned with carbohydrate metabolism.

A young man developed intense diuresis at the end of the war as the result of cerebral malaria contracted in East Africa. It is controlled by pituitrin injections. He also shows evidence of involvement of the anterior lobe in having lost his pubic hair and becoming impotent. His blood sugar curves after 50 grams of glucose given fasting are shown in Table V. In one he had

TABLE V.—Effect of Glucose Meal on Case of Diabetes Insipidus with and without Pituitrin.

	Before Glucose Meal.		Time (Hours) after Glucose Meal.		
			1/2.	1.	2.
0.75 c.cm. pituitrin 15 minutes previously.					
Arterial blood ... ..	94	Glucose 50 grams	109	130	100
Venous blood .. ...	94		102	120	81
Arterio-venous difference ...	0		-7	-10	-19
No pituitrin for 24 hours.					
Arterial blood ... ..	116	Glucose 50 grams	91	101	68
Venous blood ... ..	91		88	70	64
Arterio-venous difference ...	-25		-6	-31	-4

had no pituitrin for twenty-four hours, and in the other was given 0.75 c.cm. of pituitrin a quarter of an hour before the test. Without pituitrin he shows an abnormally high tolerance for glucose. Indeed, his curve descends from the fasting level instead of rising. With pituitrin, although the tolerance is still high, there is a very definite difference and the curve is an ascending one. This is seen both in the arterial and venous blood sugar, and in the difference between the two, which is greater without pituitrin.

This arterio-venous difference is absent or very slight in diabetes, and we lay considerable stress on it as an indication of the powers of the muscles to store sugar and abstract it from the blood.<sup>3</sup> We presume that it is an index of glycogen synthesis in general, and that the glycogenic function of the liver runs parallel with that of the muscles. We look upon these curves as further evidence that pituitrin lowers the assimilation power for carbohydrate, interferes with the glycogenic function, and perhaps actually causes glycogenolysis.

#### Mode of Action of the Pituitrin-Insulin Antagonism.

The action of insulin on blood sugar and glycogen stores is little enough understood, but the effect of pituitrin is still more obscure. It is known that pituitrin inhibits the glycogenolysis of adrenaline and anaesthetics, and therefore, when it antagonizes insulin, it hardly seemed likely that it does so by stimulating glycogenolysis. To determine the latter point more definitely, we have taken advantage of the well known action of ergotamine in paralysing the sympathetic and preventing glycogenolysis. Ergotamine prevents adrenaline hyperglycaemia and also enhances the action of insulin in lowering blood sugar by inhibiting the mobilization of sugar from the glycogen of the liver. Therefore we have investigated the pituitrin-insulin antagonism on rabbits under the influence of ergotamine tartrate. In the first group of experiments blood was obtained from the ear veins, but this was found so difficult in ergotaminized rabbits that blood was obtained by heart puncture in all the latter experiments. The same rabbit was used for all the experiments.

The results of the first group of experiments is given in Table VI and Fig. 1. In Experiment A, 5 mg. of ergotamine was given intravenously to a normal rabbit who had received no food for eighteen hours. Two hours later 3 units of insulin (Lilly) were given subcutaneously and the blood sugars followed until they had fallen from 112 to

TABLE VI.—Effect of Ergotamine on Pituitrin-Insulin Antagonism in a Rabbit.

(For description see text.)

Time in Minutes.	Experiment A.	Experiment B.	Experiment C.
—	5 mg. ergotamine 1 hr. 40 mins. before zero	No ergotamine	No ergotamine
0	112	138	153
0	3 units insulin	3 units insulin	3 units insulin
25	90	—	109
45	67	—	—
65	58	77	77
—	1 c.cm. pituitrin	1 c.cm. pituitrin	—
85	49*	91	—
95	25	—	69
110	37	83	—
120	32	—	63
135	Glucose given	77	—

\* Symptoms of hypoglycaemia.

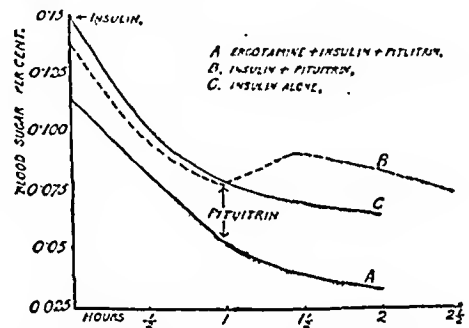


FIG. 1.—For description see text and Table VI.

58 mg. per cent. at the end of one hour. Then 1 c.cm. of pituitrin was administered and found to have no antagonizing effect on insulin, as the blood sugar steadily dropped during the next hour. Macleod, Banting, and Burn have shown that, without ergotamine, pituitrin always causes a rise of blood sugar at this stage.<sup>1</sup> Symptoms of hypoglycaemia appeared, requiring the administration of glucose, and the animal did not fully recover for another hour.

The same experiment was repeated fourteen days later with identical doses of pituitrin and insulin, but without ergotamine (Experiment B). The antagonism of pituitrin was clear but did not last long and was not complete, as the dose of insulin was too great to be entirely balanced by 1 c.cm. of pituitrin. No symptoms of hypoglycaemia appeared. On a subsequent day the same dose of insulin was given alone (Experiment C). The blood sugar fell steadily, but not to such a low level as when ergotamine was given, a well known phenomenon.

These experiments seemed to show that ergotamine abolished the antagonism of pituitrin for insulin. This was confirmed in another way with smaller doses of insulin (Table VII, Fig. 2). In Experiment A, 1 1/2 units were given alone, and this proved to be a dose which caused a moderate fall of blood sugar which was followed later by a spontaneous rise. In a second day's experiment (B) 1 c.cm. of pituitrin was given along with insulin. The antagonism of pituitrin was clear and a slight rise of blood sugar occurred, to be followed by a fall when the pituitrin action became enfeebled, as it usually is after one hour. On a third day's experiment (C) 5 mg. of ergotamine was given, and two hours later the same dose of pituitrin and insulin. At first the pituitrin antagonized the insulin, but later the blood sugar fell to a lower level than in B, as always happens when ergotamine has been given to inhibit glycogenolysis. Experiment C was contrary to what was expected, and contradictory to the results obtained in Table VI. But it was felt that the preliminary rise in blood sugar might simply have been caused by the pituitrin

TABLE VII.—Effect of Ergotamine on Pituitrin-Insulin Antagonism in a Rabbit.

(For description see text.)

Time in Minutes.	Experiment A.	Experiment B.	Experiment C.	Experiment D.
—	Insulin alone	Insulin + pituitrin	Ergot 2 hours previously	Ergot 2 hours previously
0	125	136	125	125
0	1½ units insulin	1½ units ins. + 1 c.cm. pit.	1½ units ins. + 1 c.cm. pit.	1½ units ins. + 1 c.cm. pit.
30	93	145	134	158
60	85	130	118	105
90	84	121	92	93
120	84	116	89	71
—	—	—	—	1 c.cm. pit.
150	—	—	81	60
180	—	105	62	59
210	117	—	—	—

\* Symptoms of hypoglycaemia.

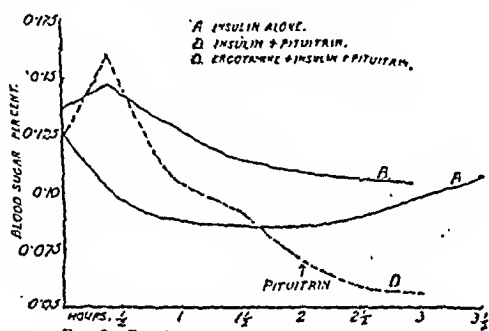


FIG. 2.—For description see text and Table VII.

coming into action more rapidly than insulin and producing the initial rise in blood sugar which is the common effect on most rabbits; or, more likely still, that the ergotamine had not yet fully paralysed the sympathetic. Accordingly in Experiment D a second dose of pituitrin was given two hours after the first, when the blood sugar had fallen to a much lower level and there was no doubt that the action of ergotamine was fully established. This second dose of pituitrin had no effect in antagonizing insulin, and the blood sugar continued to fall in the third hour and slight symptoms of hypoglycaemia appeared. Without ergotamine Banting, Macleod, and Burn have shown that an injection of pituitrin invariably abolishes the insulin hypoglycaemia and raises the blood sugar as quickly as an injection of glucose itself.

It seems quite clear from these experiments that ergotamine abolishes the antagonism of pituitrin to insulin.

#### Evidence that Pituitrin can Cause Glycogenolysis and Reduced Carbohydrate Tolerance.

The above experiments with ergotamine show that this drug abolishes the usual antagonism of pituitrin to insulin. Since ergotamine acts by paralysing the sympathetic and preventing glycogenolysis, we can conclude that pituitrin counteracts insulin by mobilizing sugar from the glycogen of the liver or muscles or both. We look upon the experiment on the diabetic (Case D, Table IV) as affording confirmatory evidence of this. His carbohydrate diet, his blood sugars, and hence his glycogen and carbohydrate stores, were lower than in the other diabetics, and pituitrin antagonized insulin only very slightly. We look upon him as being in much the same condition as an ergotaminized rabbit—that is, unable to mobilize glycogen because he had none in store. The experiment on the case of diabetes insipidus points to the same thing. When he was deficient in pituitrin his carbohydrate tolerance and his power of storing glycogen were very high. After a dose of pituitrin his carbohydrate tolerance, though still very high, was definitely less. It was not possible to try the effect of a large dose of pituitrin on his blood sugar curve because he

developed these curious symptoms already described even with a small dose of 0.75 c.cm.

The clinical evidence of disease due to an enlarged and overactive pituitary gland is of the same nature. In acromegaly the blood sugars are commonly raised, the carbohydrate tolerance reduced, and we may presume that glycogenolysis is excessive. At first the fasting blood sugar is normal, but later all the features of a true diabetes mellitus may develop, presumably by prolonged overstrain of the pancreas. Certainly, it is the anterior lobe which is supposed to be especially affected in acromegaly, and which has been looked upon as influencing carbohydrate metabolism. But it seems clear from our experiments that posterior lobe extracts (pituitrin) do affect carbohydrate metabolism. No clear separation of the functions of the two parts of the gland can be made with our present knowledge.

#### Evidence that Lack of Pituitrin Causes Excessive Glycogen Synthesis.

The only evidence we have been able to produce of this is the very high carbohydrate tolerance of the above case of diabetes insipidus. But in addition it is generally accepted that deficiency disease of the pituitary, Fröhlich's syndrome, etc., is accompanied by a markedly increased carbohydrate tolerance.

#### Evidence that Pituitrin can Prevent Glycogenolysis.

Although this is directly contrary to the action of pituitrin already described, there is clear evidence that it can act in this way. Stenstrom<sup>1</sup> was the first to show that large doses of pituitrin inhibit the hyperglycaemia and glycogenolysis caused by adrenaline and anaesthetics. This has been confirmed by Burn and others. Similar evidence is afforded by some observations of Falta<sup>4</sup> on the effect of adrenalin on the glycosuria of acromegaly. He records two cases in which the patients showed abundant glycosuria after carbohydrate food, but an injection of adrenalin failed to produce any glycosuria.

There is evidence to suggest that when insulin hypoglycaemia is proceeding too far, recovery is aided by an increased production and liberation of adrenaline in the body, which causes a mobilization of glycogen and a rise in blood sugar concentration. In view of Stenstrom's experiments it does not seem likely that when pituitrin antagonizes insulin it does so by calling this protective adrenalin into play.

From all the above evidence it seems that pituitrin plays a complicated part in the regulation of blood sugar and carbohydrate metabolism. It seems to have a balancing action on carbohydrate metabolism and inhibits the action of drugs which tend to change the blood sugar concentration away from normal in either direction. It controls both the hypoglycaemia of insulin and the hyperglycaemia of adrenaline, but it effects no appreciable change on a normal blood sugar concentration.

#### The Similar Effects of Thyroid and Pituitary on Carbohydrate Metabolism.

It is interesting to note the great similarity of action of these two glands and their extracts, both experimentally and in the clinical evidence of disease. Both have marked effects on total metabolism as judged by the basal metabolic rate, which is increased or diminished respectively by excess or deficiency of both glands. Thyroid feeding in animals empties the glycogen store, raises the blood sugar, and inhibits insulin action to a marked extent.<sup>5</sup> In hyperthyroidism (Graves's disease) we commonly find raised blood sugars and diminished carbohydrate tolerance, as shown by the response to a glucose meal. As already pointed out by one of us in another publication,<sup>6</sup> it is very common to find a very low fasting respiratory quotient, which is taken as evidence that the carbohydrate stores of the body are deficient and the body is drawing on protein and fat. The power to oxidize carbohydrate is not defective, for the respiratory quotient rises very high after a carbohydrate meal in these hyperthyroid cases. The clinical picture of hypothyroidism and hypopituitarism is also very similar. Indeed, all the metabolic features of excess and deficiency disease of the two glands are almost the same, and we are

inclined to attribute them primarily to the disturbance of carbohydrate metabolism, and especially to the upset of normal glycogenic function. Many investigators have pointed out effects that disease and extirpation of the thyroid have on the morphology of the pituitary gland, and vice versa, but no constant changes have so far been established.

#### *Does Insulin Antagonize Pituitrin?*

There is no clear evidence on this point. We have been struck with the tendency common in diabetics on insulin treatment to become obese on very low diets, sometimes less than 20 calories per kilogram of body weight, but it is rather drawing a bow at a venture to attribute this to inhibition of normal pituitary function. We have heard, however, of a male insulin case who is developing more definite symptoms of hypopituitarism—deposition of excessive fat round the abdomen and buttocks and the loss of pubic hair. We have unfortunately not been able to get in close touch with the case up to the present. The similarity of the appearance of many insulin cases to that of hypopituitarism was noted early by several clinicians in America.

One of us has produced evidence that insulin has a remarkable effect in controlling and ameliorating certain cases of Graves's disease,<sup>6</sup> and other investigators have observed the same effect. In the same way we believe that insulin might affect acromegaly favourably and prove useful in its treatment, but so far we have not had a suitable case of active acromegaly on which to try it.

#### *Conclusions as to the Effect of the Pituitary on Carbohydrate Metabolism.*

Any conclusions we draw are put forward very tentatively. It would seem that the pituitary has a powerful stabilizing influence on blood sugar and carbohydrate metabolism. There are two well recognized mechanisms which control and affect blood sugar concentration. The first is the mechanism which produces varying amounts of endogenous insulin to keep the blood sugar normal by balancing the carbohydrate of the food. It is clearly anabolic in function. The second is the immediate action of adrenaline in raising the blood sugar by mobilizing glycogen to meet any extraordinary needs of the individual for sugar. This mechanism is clearly katabolic. Pituitrin has no definite immediate action on blood sugar, but it controls and compensates the excessive action of the other two substances, tending to keep the blood sugar normal and at an optimum for the individual. These are the facts. But the explanation of how pituitrin can at one time stimulate glycogenolysis and at another inhibit it, as it appears to do, remains a complete mystery. It may be dangerous to deduce the normal action of an internal gland from the effects produced by its extracts, but where the pituitary is concerned the evidence of disease points to the same conclusions. We would suggest that in normal metabolism the pituitary gland, like the thyroid, maintains a balance between anabolism and katabolism. When the gland is upset in either direction an unbalanced condition of metabolism follows, and the first manifestation of this, perhaps the primary cause of all the other metabolic changes, is the upset of the glycogenic regulation of carbohydrate stores and blood sugar concentration.

#### SUMMARY.

1. Subcutaneous injection of therapeutic doses of 1 c.cm. of posterior lobe extract (pituitrin) have no appreciable or constant effect on blood sugar concentration in normal and diabetic individuals.
2. These doses markedly antagonize the effect of insulin on blood sugar, both in normal persons and diabetics. Experiments with ergotamine show that this antagonism is produced by the mobilization of glucose by pituitrin.
3. The insulin tolerance of normal individuals in the fasting condition is about 15 to 20 units. Much more can be tolerated when insulin is balanced with food.
4. Curious symptoms caused by therapeutic doses of pituitrin in normal individuals are described.

5. Blood sugar experiments on a case of diabetes insipidus are described and their significance is discussed.

6. It is suggested that the pituitary gland, like the thyroid, is one of the most important factors in producing a normal balance between anabolism and katabolism and does so primarily by its effect on glycogenic function and carbohydrate metabolism.

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## ON THE TREATMENT OF CONVERGENT CONCOMITANT SQUINT.

BY

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SINCE the meeting of the International Ophthalmic Congress in Edinburgh in 1883 I have always adopted, as a general plan of operative procedure, advancement instead of tenotomy, and on more than one occasion I have ventured to say that tenotomy in ordinary circumstances amounts to malpraxis. It is certainly to Dr. E. Landolt that we owe this changed point of view. Forty years ago he pointed out, in numerous writings and later in a small monograph on the muscles of the eyeballs, the unreasonableness of tenotomy. Strabismus does not depend on overaction of the convergence, but on a defect in the action of the external recti muscles, due no doubt to a fault in the innervation. Landolt has conclusively shown that there is no overaction of the internal recti—that the error is one of impaired latent divergence.

The definition I always gave to the students who attended my instruction was: When the axes of vision do not intersect at the point of fixation, then there is squint. This definition includes all possible cases of squint, and, when properly interpreted, includes also the various forms of heterophoria.

In concomitant convergent squint the axes intersect, if they are in the same horizontal plane, at some point nearer than the point of fixation. If they are not in the same horizontal plane they cross each other somewhere nearer than the point of fixation. One of the characteristics of the variety of squint under consideration is that for almost any point of distant fixation within the field of vision the angle between the two axes is a constant; thereby differing materially from the forms of squint due to muscular paralysis and from those other cases in which the movement of one of the eyes is impaired by the presence of an orbital growth.

Treatment of convergent concomitant strabismus as it occurs in young children has a twofold object—namely, (a) the functional development of the squinting eye both as regards visual acuteness and as regards binocular vision; (b) the removal of an obvious disfigurement.

To a considerable extent treatment should be determined by the age of the patient and the time which has been allowed to pass from the first appearance of the squint. When the condition supervenes in early childhood, say before the patient attains 3 years of age, immediate treatment is urgently required, for if the eye be allowed to squint for a considerable time amblyopia is definitely and permanently established. The delay of a few months inevitably means that the eye is rendered permanently amblyopic. Such patients form an important group which should receive very special attention.

If the onset of true strabismus does not take place till the fifth year or later, it is generally found, if the eyes be otherwise healthy, that each eye is possessed of good visual acuteness. The cases forming this group are few; they border very closely on esophoria, and treatment has



for its object the establishment or restoration of binocular vision, and sometimes, although infrequently, the removal of a disfigurement.

In addition to these two well defined groups, a third must be mentioned. Sometimes, even in cases in which the defect has begun in the first years of life, each eye is found to have excellent visual acuteness. I have always found that from its onset the strabismus has in such cases been alternating. At times the young patient was seen to be using the right eye for fixation and at other times the left. When that has been the case the function of each eye has been developed, and in each the vision is satisfactory. The treatment applicable here is precisely the same as for the second of the above mentioned groups (alternating convergent strabismus).

The first class of cases is of extreme importance, for, if there be any carelessness in treatment, permanent amblyopia will be established and the value of the eye will be very much reduced. In my opinion the first essential is to cause the young patient to use the squinting eye for general fixation. If this be done its function will become developed, and it will become and remain a good eye. The best method of accomplishing this is to throw the non-squinting eye out of action by mydriasis, so that the small child is compelled to use the squinting eye for fixation. As a rule it suffices to place a few drops of a 1 per cent. solution of atropine sulphate in the conjunctival sac of the non-squinting eye once every second day. When this treatment is followed for some time it is found that the little patient now uses the eye which originally was the squinting eye for purposes of fixation, and that the other eye, which at first was straight, is apparently affected with strabismus.

When the fixation changes from one eye to the other I always feel satisfied, for then I am sure that the function of the eye is developing and that ultimately both eyes will be possessed of good visual acuteness. After the change has taken place I continue the same treatment for a month or even six weeks so as to establish the function of fixation in the eye which at first appeared to be the one affected. Sometimes, although rarely, this treatment suffices to remove the squint, so that both eyes appear to be used for fixation. In the majority of cases, however, at the end of the time indicated, the eye which originally deviated, and which will henceforth be called the eye A, is used for fixation; whilst the other, which hereafter will be called the eye B, deviates inwards, and that to the same extent that A did when the patient was first seen. There is now the fear that the functional development of the eye B will be arrested and that it may become permanently amblyopic. The treatment is therefore reversed and the mydriatic is applied to the eye A and is so applied till the eye B again becomes straight. When this takes place the eye A may remain straight; if it does the mydriatic should be used to A very sparingly, perhaps only once in ten days, and should be stopped altogether if the eyes remain apparently without convergence for distant fixation.

So long as there is any convergence I use the mydriatic alternately in the manner described, and thus ultimately secure the functional development of each eye, and get in each good visual acuteness. The use of mydriatics is much to be preferred to the covering of one eye with a pad or a bandage, for if the child be not under the care of a trustworthy nurse it will remove the covering altogether. A bandage is too insecure unless it be carefully attended to by a competent nurse. The primary essential in the treatment of a young child afflicted with squint is to secure the development of good visual acuteness in each eye. If that be not accomplished then unilateral amblyopia becomes established and the affected eye is permanently impaired as an organ of vision.

After the originally squinting eye, A, becomes the eye used for fixation I allow it to be used for that purpose for at least a month or even for two months, although B is convergent for distant fixation. At the end of that time I begin to use the mydriatic to A till B becomes the fixing eye, and thus alternate the use of the mydriatic for a year or a year and a half unless in the meantime the strabismus has disappeared. Again, I say that at this stage

the primary object is the development of visual acuteness in each eye.

Spectacles should be prescribed as soon as possible. In very young children errors of refraction cannot be measured with any degree of accuracy, and in addition glasses cannot be worn. This is not so serious a matter as might be thought. Clinical experience daily shows that children or even young adults who have never suffered from strabismus may have a very considerable amount of uncorrected hypermetropia and at the same time have excellent visual acuteness. The uncorrected defect has not in such circumstances prevented the development of good acuity. It is not uncommon to find children with 3 or 4 diopters of hypermetropia who nevertheless have standard vision when tested either by the types of Snellen or of Landolt. I have known a lad 16 years of age with 5 diopters of hypermetropia and full acuteness of vision in each eye. So long as an individual has a range of accommodation sufficient to correct the hypermetropic error such a result need cause no surprise.

For these reasons I delay ordering correcting glasses till measurements can be made with some approximation to accuracy and till the patient is sufficiently advanced as to be able to wear glasses. So long as I know that each eye is possessed of good visual acuteness—a function which is never lost—I am in no hurry to prescribe glasses till it can be done in a satisfactory manner.

Similar considerations determine for me the question of operation. If each eye has by the treatment here described obtained good vision, there is no particular hurry. Such vision is permanent unless some other untoward event occur. If permanent amblyopia is established in one eye, or is in the process of making, it is not likely that any operation will be a remedy. My own experience may be unfortunate, but I have not found that operation for convergent strabismus is successful in such circumstances. Within a few weeks of the operation the deviation will be found to have returned. It is quite different, however, when each eye is possessed of good visual acuteness and the patient has attained such an age as to be capable of receiving benefit from orthoptic treatment.

Probably the best apparatus for orthoptic treatment is the very ingenious amblyoscope devised by Mr. Claud Worth. There are numerous pictures suitable for stereoscopic combination, all well arranged and suitable for the purpose; but of these, two sets are of special interest. The first consists of a parrot in front of one eye and a cage in front of the other. The young patient is first of all exercised in seeing the parrot and the cage simultaneously. As soon as that is accomplished the patient is directed to adjust the instrument so as to bring the parrot into the cage. This simple exercise must be continued for some days till the result is obtained without any difficulty. To ease the monotony of the process, some of the other designs sent with the instrument can be substituted. These exercises do not to any extent promote the awakening of the function of perspective, at least not so well as the two which I consider of special value for this purpose. In these there is placed before each eye two circles which are not, as seen singly, concentric nor of the same size. On each side the larger circle contains the smaller eccentric circle. When seen with the amblyoscope the original four circles (two before each eye) become blended into two—namely, a larger outer circle and a smaller inner circle. In addition they are now found to be quite concentric and the smaller to appear either nearer to or farther away from the observer than the larger.

When the patient has reached such an age as to be capable of this training, then, if it be necessary, operation should be performed, preferably by double advancement as recommended by Landolt. As soon as possible after the operation the patient, wearing his correction for any existing ametropia, should resume the exercises with the amblyoscope.

If the concomitant convergent squint does not set in till the age of 5 or 6, or if in earlier life the affection has been alternating, then each eye is found to be possessed of good visual acuteness. Here all that is necessary is to advance each external rectus and to begin training with Mr. Worth's amblyoscope or other reliable form of stereoscope.

## HYPOGLYCAEMIA: WITH NOTES ON TWO CASES.

BY

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THE sinking of the blood sugar level to a point at which symptoms appear may contribute to the clinical features of disease more largely than has perhaps been recognized. Whether hypoglycaemia denotes merely a fall below the normal fasting level or a fall associated with characteristic symptoms, it certainly occurs in many morbid or experimental conditions, some of which are set out below. It is of interest to speculate upon what part such a state plays in the symptomatology of the clinical counterparts to some of these conditions—for example, in Addison's disease or choleraemia. An examination of the literature makes it clear that hypoglycaemia may be associated with many diverse conditions, which I have attempted to classify as follows:

1. Hypoglycaemia follows the hyperglycaemia induced by glucose, fructose, galactose, starch, and adrenalin (Liefman and Stern,<sup>1</sup> Maclean and de Vesselow,<sup>2</sup> Frank,<sup>3</sup> Foster<sup>4</sup>), but not after the hyperglycaemia of ether, which appears to be maintained (Pemberton and Cunningham<sup>5</sup>).
2. It also occurs in many lesions of the liver: such as removal in dogs (Mann and Magath<sup>6</sup>); parenchymatous changes caused by chloroform, salvarsan, and the fungus *Agaricus bulbosus* (Steinbrink<sup>7</sup>), by phosphorus (Frank and Isaac<sup>8</sup>), and by hydrazine (Underhill<sup>9</sup>), and in the presumed circulatory changes which follow the intravenous injection of albumos and peptone in dogs (McGuigan and Ross<sup>10</sup>). In comment upon the statements of Steinbrink, it may be pointed out that in the toxic jaundice of isophilitic treatment (arsenobenzol) Bailey<sup>11</sup> found a normal fasting blood sugar; further, anaesthetic use of chloroform is accompanied by hyperglycaemia.

3. It may follow high section of the cord or sections of the nervous connexions of the adrenals (Falta<sup>12</sup>).

4. Various adrenal lesions are associated with hypoglycaemia: complete removal (Biery and Malloizel<sup>13</sup>); adrenal insufficiency (Mayer<sup>14</sup>); Addison's disease (Forges<sup>15</sup>).

5. It may occur in various states: such as alkalosis (Cambridge and Howard<sup>16</sup>); hypocalcaemia (Underhill,<sup>18</sup> Cambridge and Howard<sup>19</sup>); following the intravenous injection of sodium bicarbonate, which also decreases adrenalin<sup>20</sup> hyperglycaemia (Underhill<sup>20</sup>).

6. Lastly, there are insulin and the insulin-like substances, all of which can produce hypoglycaemia. The insulin-like substances have been derived from clams, the cortical layer of oats, potatoes, rice, wheat, beet, and celery<sup>21</sup>; and recently Rubin and Corbett<sup>22</sup> have succeeded in separating the hypoglycaemia-producing principles from the hyperglycaemia-producing principles in cabbage, lettuce, celery, and spinach.

The symptoms of hypoglycaemia occur at varying levels of the blood sugar, so that the same level in different animals and individuals may be associated with different features. In dogs, Mann and Magath<sup>6</sup> produced hypoglycaemic symptoms when the blood sugar had fallen to 45 mg. per cent. as a result of removal of the liver; in man, Banting, Campbell, and Fletcher<sup>23</sup> record a blood sugar of 52 mg. per cent., which was followed by uncontrollable hunger; Sevringhaus, Kirk, and Heath<sup>24</sup> state that symptoms appear at concentrations of 40 to 65 mg. per cent.; according to Macleod,<sup>25</sup> when the blood sugar reaches 75 mg. per cent. the patient experiences extreme hunger and a sense of fatigue; whilst in the case recorded below the venous blood sugar reached 48 mg. per cent. (and may possibly have fallen lower) without any marked symptoms being produced.

The fall in blood sugar, in causing symptoms which vary from slight vasomotor effects to convulsions comparable to those of toxic states, would appear to operate primarily upon pontine or medullary centres. Olmsted and Logan<sup>26</sup> found no symptoms in spinal cats even when the blood sugar had fallen below the convulsive level; whereas in decerebrate animals typical symptoms developed provided that the pituitary body had been removed. Dickson and others<sup>27</sup> suggest that, in insulin hypoglycaemia, abnormal metabolites appear; these bodies require oxidation, and thereby the respiratory centre is stimulated; they ascribe the muscular twitchings to cerebellar or mid-brain stimulation.

The symptoms of hypoglycaemia quickly disappear when

the blood sugar again rises. Among substances which cause this rise Noblo and Macleod<sup>28</sup> regard glucose as pre-eminent; other sugars, such as mannose, galactose, and laevulose, have a certain value, whilst the pentoses, cane-sugar, and lactose appear to be inert. Adrenalin would appear to act as a physiological antagonist in cases of insulin hypoglycaemia, whilst in other cases its antidoting action is probably due directly to glycogenolysis; so that its effect will vary according to the amount of glycogen present in the liver and muscles. In hypoglycaemic states, with mild symptoms the polysaccharides themselves appear to be efficient, whilst in severe cases with convulsions all known antidoting agents seem to lose some of their usual potency. This statement may perhaps be illustrated by a description of two cases, one mild and one severe.

The first case was experimentally induced in a normal man by fasting for five hours, feeding with glucose, and then, just as the normal

hyperglycaemic curve was beginning to fall, exhibiting insulin. The lowest recorded level of blood sugar was 48 mg. per cent. (see chart), but as the preliminary vasomotor symptoms began before this, the level may have sunk lower still. Among the symptoms and signs infra-orbital oedema was of interest; it is perhaps comparable to similar oedema observed in anaphylactic states and in one case of presumed adrenal insufficiency. The hunger, which all observers record, may be similar to that of hyperglycaemia, inasmuch as in both states the tissues would appear to be starved of glucose. Shortly after the last estimation of blood sugar a meal of bread and jam was taken; all the symptoms quickly disappeared, only to reappear an hour later in a milder form. This latter observation has also been made by Sevringhaus, Kirk, and Heath,<sup>24</sup> and would appear to be due to a secondary hypoglycaemia following a hyperglycaemia of the type recorded above. The second case, which was fatal, occurred in a man, aged 30, suffering from diabetes mellitus, who had been under my observation for two years; he also had pulmonary tuberculosis.

He was readmitted to hospital on March 29th, 1924, in a very poor condition—16 per cent. of glucose in his urine, a blood sugar of 0.357 mg. per cent., marked acidosis, and weighing 91 lb. As the table given below shows, a very definite improvement was obtained by April 4th, and on April 5th his diet and insulin dosage were both increased. On the night of April 6th, however, he became rigid with a marked opisthotonos, which lasted five minutes, after which he vomited; his temperature rose to 101° F. He was given 2 oz. of glucose by the mouth, after which he went to sleep. No more insulin was given, but his carbohydrate intake was again increased. On April 7th he was quiet, but early on the morning of April 8th he again became excited and threw his pillows about; 10 c.c.m. of 5 per cent. glucose were given intravenously and glucose feeding by mouth was attempted; adrenalin was given hypodermically in 0.5 c.c.m. doses every hour. By 8.45 a.m. he was in a flaccid, semi-comatose condition, temperature 100.6°, pulse 72, respirations 20; his skin was clammy, the eyeballs showed a pendular movement, and the corneal and abdominal reflexes were absent; the knee-jerks were present, and he exhibited double ankle clonus and plantar reflexes of the extensor type. Blood taken at 11.30 a.m. contained 27 mg. per cent. of glucose. At 1.15 p.m. the pulse was 108, and although the pendular movements of the eyeballs had ceased, ankle clonus and extensor toe were still present. He died a few minutes later.

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Day.	Diet.	Blood Sugar.	CO <sub>2</sub> (vols. per cent.).	Insulin.
April 2	Protein ... 60 grams Fat ... 30 .. Carbohydrate 15 ..	0.143 mg. per cent.	57	0.5 c.cm.
April 4	—	0.093 mg. per cent.	51	0.5 c.cm.
April 5	Protein ... 90 grams Fat ... 60 .. Carbohydrate 30 ..	—	—	1 c.cm.
April 7	—	—	—	None.
April 8	—	0.027 mg. per cent.	54	None.

No post-mortem examination was possible until the next day, when the following changes were found.

**Lungs.**—The right lung was studded with caseous tuberculous masses, some an inch in diameter. There were pleural adhesions at both apices.

**Heart.**—Weight 7 oz. No microscopic changes were seen.

**Liver and Pancreas.**—No naked-eye changes were seen, but subsequent microscopic examination of the pancreas showed extensive fibrosis in which no islet tissue was visible. Other ductless glands showed no changes.

**Glycogen Contents.**—The amount of glycogen was determined in the heart, liver, and muscles by Pflüger's method rather more than twelve hours after death had taken place. Considering the glycogenolysis that must have taken place in this time and the fact that he was a severe diabetic, the figures of 0.014 per cent. for muscle, of 0.028 per cent. for myocardium, and of 0.04 per cent. for liver are perhaps suggestive of what happens to circulating glucose in insulin hypoglycaemia.

**Brain.**—This was definitely "wet"; the pia mater showed areas of milkiness, but there was no evidence of basal meningitis.

In making this record of the two cases I am greatly indebted to my colleague, Dr. L. Cunningham, with whom all the biochemical work was done; also to my late house-physician, Dr. A. J. Hurre, who made many of the observations in the fatal case.

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## CONGENITAL CYSTIC DISEASE OF THE LUNGS.

BY

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A NEWLY born child was found dead in circumstances which suggested infanticide, and was submitted to me for examination.

The body was that of a child of about eight months' intrauterine age. It was free from marks of violence. Both lungs were in an apparently foetal condition and sank on being placed in water; both were in a state of advanced cystic degeneration (Fig. 1).

Cysts varying in size from a pea to the head of a pin were distributed throughout the whole of the lung tissue. The larger cysts were found towards the free surface. A number of cysts abutted on the pleura, but there were no pleural adhesions.

On microscopic examination no air cells or vesicles could be made out, the lungs being composed of unexpanded tissue and cysts. The cysts were smooth-walled and lined in certain cases with flattened cells. There was no trace of cubical epithelium lining the cavities nor of muscular or elastic fibres in the walls. Here and there the cavities were filled with a mucoid or colloid-looking material. Numbers of microscopic cysts could be observed immediately under the pleural surface. Numerous bronchi were seen filled with cast-off cubical and cylindrical epithelium and other debris. A certain amount of cellular infiltration could be observed around the bronchi and there were numerous small haemorrhagic foci in the lung tissue.

Cystic degeneration in both lungs of a newly born child is very rare, and the reason for its occurrence is rather obscure. Bronchiectasis occurring after birth is usually

attributed to weakening of the walls of the bronchi by disease, whereby they are unable to resist the air pressure in fits of coughing. Barty King considers that pleural adhesions also play an important part in producing the initial dilatation.

In this case air pressure cannot be considered, for the child had never breathed, nor were there any pleural adhesions, and the cause of the condition must be sought elsewhere.

In the developing lung the bronchioles terminate in a bulbous extremity into which groups of atria open. Groups of air cells or alveoli which form the air sacs open into these atria. The alveoli are not formed until about the sixth month of intruterine life, and before respiration commences they are lined with cubical epithelium which gradually becomes flattened when respiration occurs.

In our specimen the microscopical state of the tissues indicates that the cysts have not been recently formed, and their origin from the alveoli cannot be admitted in view of the late development of the alveoli. They must therefore be due to dilatation of the atria, infundibula, or bronchioles.

The absence of columnar or cubical epithelium in even the smallest cysts and of any trace of muscular or elastic tissue in their walls tends to exclude an origin from bronchi or bronchioles. Such a condition is, however, found in ordinary bronchiectasis, where the pressure of the retained secretion causes flattening of the cubical or cylindrical epithelium, while the stretching causes atrophy and disappearance of the muscular fibres. It would be difficult, therefore, to be certain from the histological disposition of the tissues whether we are dealing with a dilated bronchus or a dilated infundibulum, but the appearance of the smaller cysts particularly does not resemble bronchial dilatation. The cysts are found immediately under the pleura; and as the terminations of the bronchioles do not abut on the pleural surface this tends to exclude an infundibular origin. The condition is therefore a congenital cystic degeneration of both lungs caused by the dilatation of the atria.

The presence of mucoid or colloid matter in many of the cysts indicates that secretion from their walls is fairly active, and if, as is suggested by the microscopical sections, there was some inflammation of the bronchioles which caused blocking of their lumen, this would account for the retention of the secretion and dilatation from the consequent pressure.

## PNEUMOCOCCAL WOUND INFECTION:

NOTES ON TWO CASES.

BY

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CASES of suppuration due to the pneumococcus in regions other than the upper and lower respiratory tracts and adjacent sinuses, the pericardium and peritoneum, the meninges, and the middle ear, are sufficiently rare to merit publication, especially when the infection is apparently primary and not blood-borne. Even the subcutaneous injection of a virulent pneumococcal culture in guinea-pigs causes death by septicaemia, with comparatively little local reaction, although a local abscess, with a characteristic fibrinous exudate, sometimes forms. The two cases here described were both "traversing" bullet wounds, and in both the primary infection appeared to be pneumococcal.

## CASE I.—Pneumococcal Infection of Diffuse Traumatic Aneurysm of the Axilla.

A Chinese soldier, aged 35, was shot through the right sub-clavicular region in November, 1924. The bullet entered anteriorly and traversed the pectoralis major, injured the third part of the axillary artery, and passed out through the teres major muscle. A tense pulsating swelling immediately formed in the right axilla, and he lost the use of the right hand. Turbance was noticed, and very little either wound. After a few weeks, the swelling became very painful, and the arm was abducted.

Six weeks later the swelling became very painful, and the



FIG. Left Lung.

overlying skin brawny-red and hot, and for the first time he felt ill and presented himself for treatment. When admitted the temperature was  $103^{\circ}$  and the right radial pulse was practically absent; from the clinical signs of the axillary swelling a diagnosis of diffuse aneurysm of the axillary artery was made. As it was obviously infected and seemed liable to rupture at any moment, surgical treatment was urgent.

#### Operation.

On January 18th I ligatured the third part of the right subclavian as a preliminary step, and then explored the axillary swelling. A longitudinal incision was made along the course of the artery, the pectoral tendons were incised, and a thick fibrous sac revealed, formed by the incorporated axillary fascia and costo-chondroid membrane anteriorly. This was incised, and yellow purulent fibrinous clot turned out. Brisk haemorrhage occurred from a hole in the third part of the artery, on the inner and lower aspect, which appeared to be the result of the original injury. The axillary vein and nerves were matted together in the outer wall of the sac, but eventually I succeeded in ligaturing the vessel above and below the openings, and the haemorrhage ceased. The remaining purulent clot was turned out, the pectoral tendons sutured, and drainage tubes inserted. A culture of the pus showed a pure pneumococcal growth.

Two days later it became evident that infection had spread along the course of the brachial artery to the antecubital fossa and along the ulnar nerve to the olecranon process. The abscesses were incised at these points and drained; culture again yielded pneumococci. The patient made a slow but uneventful convalescence.

#### CASE II.—Pneumococcal Infection of Left Supraclavicular Region.

A Chinaman received a revolver bullet in the left supraclavicular region on February 21st and was admitted to hospital three days later. A small round wound through the clavicular head of the left sterno-mastoid, just above the clavicle, was discharging pus. A skiagram showed the bullet to be lodged in front of the neck of the first rib.

#### Operation.

On February 28th I turned back an angular supraclavicular flap and explored the left subclavian triangle. The bullet was found lying on the neck of the first rib, between the fibres of the scalenus medius and longus colli muscles, beneath the lower fibres of the brachial plexus. The pleural dome and lung apex were uninjured. The bullet was removed without difficulty and drainage established. Three days later the temperature rose to  $103^{\circ}$ , and a reddened fluctuating swelling was observed in the delto-pectoral region. On incision this was found to extend deeply to the axillary sheath, and a quantity of yellow fibrinous pus was evacuated, which on culture yielded pneumococci. The patient made an uneventful convalescence.

These cases are only of scientific interest from the infection standpoint, as pneumococcal infection of wounds is very rare; indeed, I can find no recorded cases in a fairly extensive perusal of current medical literature. Both lesions were in the vicinity of the thorax, but even in Case II there was no lesion of the lung or pleura. Possibly the infection was from the patient's clothing, which in each case had been traversed by the bullet and was filthy. Another interesting fact was that infection spread along the vascular sheath in each case, without any marked local reaction after operation. In each case drainage and enol irrigation proved a satisfactory method of treatment for the secondary abscesses.

## Memoranda:

### MEDICAL, SURGICAL, OBSTETRICAL.

#### PERFORATION OF THE JEJUNUM DURING AN ATTACK OF LOBAR PNEUMONIA:

##### LAPAROTOMY: RECOVERY.

PERFORATION of the jejunum (apart from injury) is an exceedingly rare condition; I can find no record of a case similar to that about to be described.

Mr. B. B., aged 24, had a "chronic appendix" removed through a gridiron incision in April, 1923. He made a rapid convalescence, and remained in perfect health until November, 1924, when he was seized with acute pains in the chest. The condition was diagnosed and treated as lobar pneumonia. The right lung was consolidated, and his temperature, after remaining consistently high for six days, gradually crept down towards normal. On the seventh day after the onset of his illness he had severe abdominal pains, the abdomen became distended, and vomiting was a troublesome feature. He had intractable diarrhoea, although previously he was constipated. I examined the patient three days after the beginning of the abdominal symptoms. He was acutely ill, semi-pulse 120, respirations 52. There were signs of consolidation of the right lower lobe of his lung. The abdomen was ballooned, immobile, rigid, tender, and tympanitic. The area of liver dullness

was not appreciably diminished, and shifting dullness could be detected in the flanks. As the abdominal muscles were on guard, no mass or viscous could be palpated. Apart from some tenderness of the pelvic peritoneum no other abnormality could be detected on rectal examination.

#### Operation.

Although the patient seemed moribund immediate coeliotomy was decided upon. He was anaesthetized with gas and ether, and 6 c.cm. of stovaine (light solution) was injected into the lumbar spinal theca. The abdomen was explored through a right paramedian incision which displaced the rectus muscle outwards. On opening the peritoneal cavity a large quantity of gas and dark-brown fluid escaped through the wound. As the abdominal contents were bathed in fluid, and the intestines grossly distended and glued together in places, the exploration was conducted under the greatest difficulties. The stomach, duodenum, and gall bladder were normal, but about 12 inches from the duodeno-jejunal flexure a circular perforation, a quarter of an inch in diameter and surrounded by a narrow strip of yellow necrotic tissue, was found on the ante-mesenteric border of the distended jejunum. There was no evidence of any induration or scarring around the perforated zone which would be suggestive of a previous chronic ulcerated condition of the gut. The breach in the jejunum was invaginated by two purse-string sutures of fine catgut and a protective omental pad applied to the site. About 6 inches further down the gut there was a circular gangrenous patch which was similarly invaginated and guarded with an omental pad. After this procedure no further examinations of the intestine were possible owing to the patient's critical condition; and, after providing for drainage of the pelvis and right iliac fossa, the abdominal wound was closed in three layers.

The patient rallied splendidly after the operation. He was able to return home and resume light work five weeks after the exploration. When seen some three months after the operation he reported himself as being quite fit and sound.

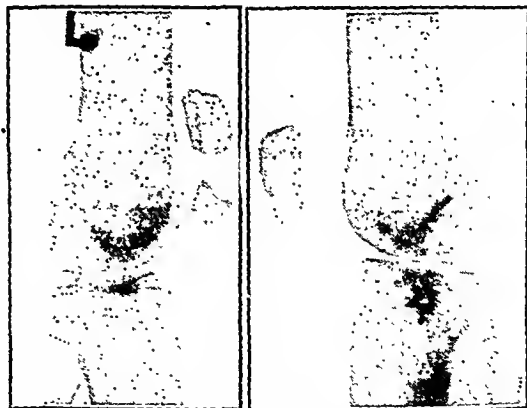
It is to be presumed that the gangrenous patch in the jejunum and the perforation were due to septic infarcts; yet it is interesting to note that there was no evidence of infarction elsewhere.

RODNEY MANGOT, F.R.C.S.,  
Surgeon, Royal Waterloo Hospital, London.

### FRACTURE OF BOTH PATELLAE BY MUSCULAR ACTION.

THE following case is thought worthy of record. The patient was under the care of Dr. R. S. Dickson of Palmer's Green, at whose request I operated, and to whom I am indebted for the following notes.

R. C., male, aged 20, was admitted to the Passmore Edwards Hospital, Wood Green, on September 8th, 1923, with the history that while playing tennis on that date "he had jumped upwards, suddenly between 2 and 3 feet to take a high ball at the net," when something snapped in both knees and he fell to the ground.



Skiagram, L. knee.

Skiagram, R. knee.

On examination he was found to have fractured both patellae transversely. On the left side there was considerable separation of the fragments. On the right side the lower fragment was small, and there was less separation. On September 18th both knees were subjected to operation and the fragments secured in apposition with silver wire.

Convalescence was uneventful, and he resumed business on November 15th, 1923.

That both patellae should give way, as in this case, must be unusual. We were unable to find any evidence of abnormality in the osseous system. The patient was an exceedingly athletic and well developed young man, with a sound family and medical history. Moreover, the bones at operation were quite normal in texture.

London, W.

T. TWISTINGTON HIGGINS, F.R.C.S.

## British Medical Association.

## CLINICAL AND SCIENTIFIC PROCEEDINGS.

## KENSINGTON DIVISION.

## MEDICAL APHORISMS.

At a meeting of the Kensington Division held on April 23rd, with Dr. WALTER E. FRY in the chair, an address was given by Dr. SEYMOUR TAYLOR, consulting physician to the West London Hospital, entitled "Some medical aphorisms."

*The Abdomen.*

(1) A tuberculous abdominal cavity in a child is best left alone so far as surgery is concerned. Nature often effects a cure under the influence of good food and sunshine. Most of you will agree with this; but it is only seniors like myself who have actual experience of such patients surviving, not only to maturity, but even to the verge of old age (60 to 65).

(2) The abdominal cavity is more susceptible to shock than is any other part of the body. Therefore in all abdominal operations there should be as little handling and exposure of the viscera and intestines as possible. This, again, will meet with recognized approval by all. But I do find, in this age of anaesthesia, when quickness of manipulation is not so valuable a factor as it was in former days, that some younger surgeons appear to dally somewhat when performing a laparotomy. Short of want of due care and precautions, the operation should be completed as quickly as possible. A distinguished soldier noticed that many of his men were put out of action by fragments of shell which had struck, but not perforated, the abdominal walls, whilst other men advanced to the attack for considerable distances, although they had sustained perforating bullet wounds of the thorax. The explanation which I afforded him was on the above lines.

(3) Bladder syncope is not so freely known or recognized as it should be. I have notes of seven patients, all males, who have suddenly fainted at the termination of the act of micturition on rising. The explanation which I advance for this alarming event is that the venous tension in the inferior vena and abdominal veins in general is suddenly relaxed by removal of the pressure of a hollow, but fluid-containing, viscus.

(4) In prostatic enlargement there is always a large amount of residual urine left over even after the bladder catheter has been passed. This residual urine decomposes, and may become the starting point of bacilluria. In many cases this residual urine may to a large extent be evacuated by making the patient micturate when lying in a prone position on a couch in which a utensil is fitted under an aperture on the under surface. If the legs and buttocks are raised above the level the relief is still more complete.

(5) An appendix abscess which has escaped diagnosis may rupture into any neighbouring cavity or hollow viscus, or by numerous sinuses in the loin or the front abdominal wall. I have recently seen a case in which laparotomy was about to be performed, and in which the abscess tumour suddenly disappeared, having discharged itself into the ascending colon. Microscopical examination of the faeces proved this diagnosis to be correct. Therefore the existence of a sinus in the abdominal wall should always suggest the possibility of its being connected with an appendix abscess.

(6) In nearly all cases of diseases of the anus and rectum there is marked anxiety and distress, compelling the patient to pay large fees in order to obtain the best surgical advice. I have not noticed this mental distress so well marked in any other form of disease.

(7) It is well known that in malignant disease, whether of the abdominal cavity or of any organ, the downward curve of the patient's vitality is steady, regular, and uninterrupted. But it is not sufficiently recognized that the final stage comes very often with startling suddenness. The patient is, or was, to all appearances no worse to-day than he (or she) was a week ago, when we are surprised next morning to have a message that death had occurred during the night. I have not infrequently noted this.

*Heart and Circulatory System.*

(1) As a rule, all diastolic murmurs are more serious than systolic murmurs. This is, I believe, accepted by most clinicians. Aortic regurgitation is a dangerous condition by itself, and, as is well known, it may terminate suddenly without any apparent increase of symptoms. But, in my experience, now obtained from noting many cases, the patient is more comfortable, and even able to perform fairly arduous muscular exertion, if in addition to the aortic insufficiency he has also mitral regurgitation, thus affording a safety-valve overflow from a labouring left ventricle. The tricuspid safety-valve action on

the right side of the heart is one of the first lessons we learn in our physiological textbooks.

(2) In aneurysm of the aorta it is the saccular form which ruptures and destroys life. The fusiform aneurysm is more responsible for death by prolonged pressure on nerves, veins, and other neighbouring structures. I formed this opinion after many years' experience in the *post-mortem* room.

(3) Given a valvular lesion of the heart, it is better that the murmur should be a loud one, as it is well to bear in mind that the patient dies not so much from a roughened or incompetent valve as from failure of the muscular driving power of the auricle or the ventricle. A loud murmur, therefore, is indicative that the heart muscle is still vigorous, and is not in itself a cause for undue alarm.

*Drugs.*

(1) As a rule the indications for the administration of opium outweigh those against it. I have known patients who have swallowed fairly large doses of laudanum with good effects, even when it was deemed unwise to allow a small dose.

(2) Small doses of morphine will cure whooping-cough in children much more speedily than any other remedy. It is only a matter of dosage, even when treating infants. Osler is reported to have said that if he had any drug to prescribe for a child with whooping-cough he should select paregoric.

*General.*

(1) The skin and muscles in chronic alcoholics, especially women, are hypersensitive to cold and pressure. A cold hand or the pressure of a stethoscope is immediately resented, and thus often confirms one's diagnosis. We should bear in mind that peripheral neuritis is fairly common in alcoholic women.

(2) I have never satisfied myself that I have ever seen a case of vicarious menstruation. I doubt if such a phenomenon ever occurs.

(3) *Arcus senilis* is by no means an indication of premature old age. I have observed it in young men and women between 30 and 40 years of age who yet lived to be septuagenarians. A dripping nose, shedding a clear fluid, is in my experience a much surer sign of senility.

## Reports of Societies.

## FIBROCYSTIC DISEASE OF THE HUMERUS.

At a meeting of the Bristol Medico-Chirurgical Society held on May 13th, the President, Dr. J. O. SYMES, in the chair, Mr. A. W. ADAMS read a paper on a case of fibro-cystic disease of the humerus. Mr. Adams introduced the subject by slides showing the process of ossification at the epiphyseal line of long bones, a region particularly liable to disorders affecting growth as well as to infections. Diseases of the osseous skeleton were then classified by age periods, and also by etiological factors. Twenty-eight slides were shown to illustrate achondroplasia, rickets, multiple exostoses, septic infection of bone, syphilis, tuberculosis, osteitis deformans, multiple enchondromata, and primary and secondary neoplasms. Mr. Adams pointed out that quite good union might occur in a bone which had suffered a spontaneous fracture from neoplastic metastasis, and advised treatment of such fractures on the usual lines. In the diagnosis of primary neoplasm of bone neither skiagraphic nor pathological evidence was so satisfactory as clinical experience. An illustration of one case of osteogenesis imperfecta and a skiagram of another were shown. A case of osteitis deformans observed over a period of five years was shown in which the tibia only was affected; the softening and bending were noted, and also the tendency for arrest of the process after a time. Attention was called to the frequency of sarcoma in such bones as a late phenomenon. The literature of fibro-cystic disease of bones was reviewed; this disease often affected one bone only. The comparative frequency of the affection being localized in certain positions was observed, such positions being the upper end of the humerus, either end of the femur, and the upper end of the tibia. Mr. Adams described his case, first seen sixteen months previously; the disease had occurred in a boy at the upper end of the humerus; spontaneous resolution had occurred after three fractures. No treatment beyond splinting had been attempted. Mr. Adams thought such a course in this disease had not previously been described. He put forward the view that



the disease tended to occur at joints allowing of rotatory movement, and suggested that repeated rotatory stresses might be an element in its etiology. An endocrine factor had also been suggested.

Dr. T. C. BRETNALL doubted whether rotatory strains were greater at ball and socket than at hinge joints. He thought that such joints as the shoulder, where rotation was a normal movement, suffered less trauma from rotatory stresses than hinge joints.

Mr. A. R. SHORT mentioned another case of fibrocystic disease in which both the tibia and the femur were affected.

Mr. C. A. MOORE referred to a case under his own care in which pathological reports from different sources on the same piece of tissue had varied considerably. He agreed that spontaneous fractures due to neoplastic metastasis might be successfully treated on ordinary lines, and mentioned a case of simultaneous fracture of both femora treated in this way.

### VITAMIN VALUE OF MILK.

At a meeting of the Section of Anatomy and Physiology of the Royal Academy of Medicine in Ireland, held in the Royal College of Physicians on April 24th, the President, Dr. C. M. WEST, in the chair, Professor H. PRINGLE reported the results of an investigation into the vitamin values of Dublin cow's milk and of human milk, and summarized the present position regarding the occurrence of vitamins in natural foodstuffs and their importance as shown by recent work on the subject.

Professor Pringle pointed out the clinical importance of the subject. Although typical deficiency diseases were of rare occurrence in a population on a mixed dietary, yet there was growing evidence that many atrophic conditions with malnutrition and deficient growth, especially in children, were due to lack of vitamins, particularly B. The evidences of B deficiency were lack of appetite, less absorption, increased nitrogen loss, and atrophy of lymph tissues. Lack of A gave rise to increased liability to infections, eye inflammations, rheumatism, and enteritis; lack of C gave rise to modified scurvy condition; lack of X (antirachitic) caused deficient ossification and rickets. It was quite possible for a mixed diet to be deficient in vitamins though ample in other respects. A diet made up of the following foodstuffs would be deficient unless enormous quantities were eaten: sugar, rice, jam, white bread, potatoes, lard, margarine, the coarser kinds of fish, cod, haddock, lean meat, bacon. Even if butter and cheese were added there would still be a very low value of B and C. The danger of deficiency had to be guarded against particularly during lactation and infancy; the amount of vitamins in the milk varied with the diet of the mother. The results of the investigation showed the vitamin value of Dublin cow's milk to be very low, a daily minimum of 10 c.e.m. being necessary to maintain growth in a rat on a vitamin-free diet; this compared with Cambridge milk 2 c.e.m., Liverpool 6 c.e.m., Norwegian 2 c.e.m., Sydney 10 c.e.m. The low vitamin value of Dublin milk was chiefly due to lack of B. The addition of butter to the diet of a rat on vitamin-free diet plus 10 c.e.m. of milk did not produce any improvement, but the addition of 0.5 gram of yeast a day had a marked effect at once, bringing about normal growth. The value of human milk, as tested on rats, was very low, a minimum of approximately 17 c.e.m. a day being necessary to maintain growth. The minimum figure for Jersey cow's milk from an animal on the grass and receiving grain in addition was 7 c.e.m.; this milk had a very high cream content. Professor Pringle then showed the growth curves obtained as a result of feeding rats on a vitamin-free diet plus (a) Dublin cow's milk obtained from a local dairy, (b) Jersey cow's milk, and (c) human milk.

### Determination of Cyanates in Blood.

Mr. E. G. MONTGOMERY, introduced by Dr. W. Fearon, then read a paper on the determination of cyanates in blood. He said that the occurrence of cyanic acid during the oxidative deamination of glycine, alanine, and sarcosine had been cited in support of the hypothesis that this acid was an important intermediate product in the forma-

tion of urea in the animal body. In his experiments fresh blood from the rabbit and the cat was examined for the presence of cyanate, and in each case a positive result was obtained. For the rabbit the cyanate value was found to be 0.7 mg. per 100 c.e.m., and for the cat 1 mg. per 1,000 c.e.m. expressed as free cyanic acid. The plasma obtained was divided into two equal portions, A and B. To B was added 0.2 gram ammonium sulphate, and both tubes were incubated for twenty-four hours; an equal volume of concentrated Turrel's reagent was then added to each, and the contents filtered. The filtrates were treated with equal volumes of glacial acetic acid and 1 c.e.m. of a 10 per cent. solution of xanthidrol in methyl alcohol. After twelve hours the precipitates of dioxanthyl urea were filtered off, washed, dried, and weighed, and the increase in the urea content of B gave the value of the cyanate present. A confirmatory test for cyanate was carried out on plasma after acidification by addition of decinormal sulphuric acid, which would destroy any cyanate present. No appreciable increase in urea was observed after incubation with the ammonium salt as before. By means of control experiments the limits of error were found to lie within 0.2 mg. per 100 c.e.m. The occurrence of cyanic acid in plasma suggested that it was either a precursor or a product of urea formed in the organism; the available evidence pointed strongly to the former view. Its presence would explain the varying values of blood ammonia obtained by different observers, and furthermore it might play an important part in the formation of the nitrogenous substances whose origin was still obscure.

## Reviews.

### THE ST. ANDREWS INSTITUTE FOR CLINICAL RESEARCH.

THE distinctive aim of the St. Andrews Institute for Clinical Research, founded by the late Sir James Mackenzie, has been the study of the common diseases of the people of this country. The circumstances in which the Institute was founded, the zeal and originality of its distinguished director, and the novel methods of study which he introduced, are well known, and the progress made has been watched with keen interest, particularly by members of the profession most familiar with the difficulties of the task—namely, the general practitioners. In the introduction to the first volume of the *Reports of the St. Andrews Institute for Clinical Research*,<sup>1</sup> published in 1922, Sir James Mackenzie described the principles on which the work of the Institute was based, and indicated the direction in which exploration was proceeding. The contents of this volume were a part of the outcome of the first year's work at the Institute, and included two notable papers, one by Sir James Mackenzie, entitled "An address on clinical research," and the other by Dr. Andrew Rowand, recording a census of the complaints from which the sick population of St. Andrews and the surrounding districts suffered, was published under the title "The present state of medical knowledge regarding the diseases common among the people." The systematic study of the symptoms of these diseases led to the enunciation of a law governing the production of a large number of symptoms which was described in an article in this JOURNAL (1921, i, p. 147). Two of the later articles in this volume were also published in this JOURNAL, that by Professor P. T. Herring, entitled "The sensations as reflex manifestations of disease (1921, ii, p. 469), and an article by Sir James Mackenzie on "Prognosis" (1921, i, 797). In the second volume recently published the first two articles are reprints from papers published by Sir James Mackenzie in this JOURNAL, the first on "The application of the principle of the reflex arc to the interpretation of cardiac signs," and the second on "Some general principles of cellular and organic activity in relation to symptoms." The new ideas which these articles express have been studied from the

Professor D. Winterston, and other members of the staff of the Institute who have contributed to this volume. We must mention also "A clinical study of influenza" written by Dr. J. H. P. Paton.

The regular publication of these reports is a convenience which many practitioners who are following the work of the Institute with interest will appreciate. They are valuable also because, taking them in sequence, the reader catches a glimpse of the wide outlook of this distinguished physician on the problem of human disease, and can notice how field upon field opened up before his penetrating eye.

### PLASTIC AND REPARATIVE SURGERY.

THE records of cases treated by Dr. CARL BECK and published in his book on *The Crippled Hand and Arm*<sup>2</sup> show that he is a surgeon of resource and ingenuity, possessed of the patience necessary for the cure of contractions and defects. The conditions considered are due to abnormal development, injuries, and disease, and in most of them the chief difficulties were caused by the presence of scars, which necessitated many plastic procedures described in this book.

After two chapters on the anatomy and physiology of the parts concerned, which should scarcely be necessary for the surgeon, congenital defects and deformities are dealt with. Except in the case of webbed fingers the outlook on this class of cases is not very cheerful, although what has been called by French writers "phalangization of the metacarpals" may possibly be of value in cases of defect of phalanges only. The account of the treatment of the hand crippled by injuries involves a great many plastic procedures, including ingenious methods of reforming distorted and replacing lost finger-nails.

Dr. Beck admits that a tendency to keloid of scars is common, and a great drawback to treatment, especially after burns, but he does not offer much advice as to how it is to be prevented. Tenoplasty and nerve suture receive some notice, and the author seems to have been fortunate in his experience of the results of the latter operation.

Throughout this book it is that side of surgery concerned with cutting operations which receives nearly all the consideration. No apparatus is described, and little if any mention made of massage, manipulation, and gradual methods, although no doubt it is intended to be understood that these play their parts as adjuncts. A few pages on artificial hands and arms call for no comment. A short chapter on technique ends the book.

Anyone who is about to undertake one of these long and difficult cases will be well advised to consult this book, because it consists so largely of records of actual cases and because Dr. Beck is not afraid to record his unsatisfactory as well as his triumphant results.

### SURGERY OF CHILDREN'S DISEASES.

A BOOK by Professor L. OMBRÉDANNE has appeared in the well known French collection entitled *Précis Clinique et Opératoire de Chirurgie Infantile*.<sup>3</sup> The volume before us is written in a simple and straightforward style; it is addressed both to students and graduates, and gives a clear account of French opinion on surgical branches of pediatrics. It is divided into two parts: the first and shorter is concerned with general pathology, and the second with diseases of different regions of the body. Operative treatment is discussed in detail, and a good deal of space is given to orthopaedic work. One feature of this useful book to which we wish to call attention is that, in discussing congenital malformations, the author departs from the customary anatomical scheme and relies on the much more suitable and instructive embryological classification.

The surgery of children's diseases is recognized to be a special branch of surgery, and this book is a very useful introduction to it.

### A PRECIPITATION TEST FOR SYPHILIS.

A NEW modification of the precipitation test for syphilis is described by Dr. R. L. KAHN in his book *Serum Diagnosis of Syphilis by Precipitation*.<sup>4</sup> The procedure for carrying it out is a simplification of the ordinary Sachs-Georgi test which has been reached after a long period of study. In the earlier chapters of the book Dr. Kahn describes the experimental work which led him step by step to the perfection of what is now spoken of as the Kahn precipitation test.

The details of this experimental work are interesting from the theoretical point of view, but we must pass these by in order to give a short account of the distinctive features of Dr. Kahn's modification of the precipitin test. The ingredients of his test are serum, free from all visible particles, and antigen composed from an alcoholic extract of an ox's heart. The preparation of this antigen requires the extraction of definite amounts of powdered ox's heart in measured amounts of ether, after which the powder is extracted in alcohol and cholesterol added. The first step in the test is the titration of antigen to determine the minimum amount of salt solution which, when mixed with antigen, will produce a precipitate capable of readily dissolving on further addition of salt solution. In carrying out the routine test 1 c.cm. of antigen is added to a standard dilution tube and the amount of salt solution indicated by previous titration is added to a similar tube. This salt solution is poured into the antigen as rapidly as possible and thoroughly mixed, after which it is allowed to stand for ten minutes. Graded quantities of this diluted antigen are measured into three tubes, to each of which 0.15 c.cm. of clear inactivated serum is added. The serum and antigen must be well mixed and shaken vigorously for two minutes. Then 0.5 c.cm. of salt solution is added to each tube. The addition of the salt solution clears the negatives and disperses the precipitates in the positives, rendering the reading of results easier. After addition of salt solution to each the tubes are shaken for several seconds to permit thorough mixing and allowed to stand five minutes at room temperature before making the final reading of the results. Dr. Kahn says that fifteen minutes' incubation in the water-bath at 37° C. produces sufficient clumping of the precipitates to make the reading of the results easier, particularly in the case of weak reactions. Of course, antigen controls, serum controls, and positive and negative controls must be carried out at the same time.

These are the distinctive features of Dr. Kahn's technique. From the figures reported in this book it would seem that this modification agrees well with the orthodox Wassermann reaction, but judgement on such a proposition as this can only be given by further experimental work. The test sounds so simple that it certainly deserves a trial.

### MELLOR'S "CHEMISTRY."

WE are now in possession of Volume V of Mellor's *Chemistry*.<sup>5</sup> It deals with boron, aluminium, gallium, indium, thallium, scandium, the rare earths, and carbon (part 1). Notices of the preceding volumes which have appeared in this JOURNAL have expressed approbation of the completeness of the author's treatment, the clearness of his expression, and the comprehensive and connected form of his presentation. Those qualities are well maintained in the volume before us. There is not a great deal in the way of new discovery to be recorded in the chemistry of the elements dealt with, but the more modern methods of physical chemistry are used to enlarge the explanation of their chemical behaviour. Both these and the subject of their application have acquired enhanced clearness in the author's hands; instances of their association chosen for reciprocal illustration are well selected. An example of this appears in a discussion of the acid properties of boric acid where a diagram is given showing a comparison of the curve of the electrometric titration of boric acid, with, and without, mannitol, by the side of the

<sup>2</sup> *The Crippled Hand and Arm*. By Carl Beck, M.D. London: J. B. Lippincott Company. 1925. (Med. 8vo, pp. xi + 233; 362 figures, 30s. net.)  
<sup>3</sup> *Précis Clinique et Opératoire de Chirurgie Infantile*. Par L. Ombredanne. Paris: Masson et Cie. 1923. (Cr. 8vo, pp. xvi + 1133; 581 figures. Paper cover, 1r. 40; bound, fr. 45.)

<sup>4</sup> *Serum Diagnosis of Syphilis by Precipitation*. By R. L. Kahn, M.S., D.Sc. Baltimore: Williams and Wilkins Company; London: Baillière, Tindall and Cox. 1923. (Demy 8vo, pp. xii + 237; 5 plates, 15s. net.)  
<sup>5</sup> *A Comprehensive Treatise on Inorganic and Theoretical Chemistry*. Vol. V. By J. W. Mellor, D.Sc. London and New York: Longmans, Green and Co. 1923. (Roy. 8vo, pp. x + 1004; illustrated, 65s. net.)

corresponding curve for hydrochloric acid. On the same page is given a list of many indicators with the hydrogen ion concentrations shown by their respective changes of colour.

The article on boron contains a section of interest dealing with perborates, which are comparatively new articles of commerce. Sodium perborate is important as a compound containing a surplus of oxygen which it liberates in the same way as hydrogen peroxide under the action of the same chemical agents. The historical parts of the author's work are always entertaining. It appears that during a certain period of the Middle Ages the manufacture of alum was a jealously guarded monopoly of the Pope, to whom it was a rich source of revenue, alum being an important requisite of dyers. The claim in favour of cerium, a term proposed for the element discovered by Coster and Hevesy and named by them hafnium, is discussed. With a ready grasp of the evidence and with judicial fairness the author exposes the weakness of this claim.

The history of carbon monoxide as here related furnishes the speculative student with an excellent lesson in analytical logic and the constructive use of evidence. Priestley held it to be phlogisticated water, adducing in favour of his argument the fact that inflammable air is produced when steam is passed over red-hot charcoal. The opponents of the phlogiston theory were perplexed by the fact that they were confronted with a compound of carbon and oxygen which had not the incombustible property of the already known oxide of carbon, which later became distinguished as the dioxide. Even after Cruickshank had shown that it contained nothing but carbon and oxygen, Berthollet held to the objection that if it were true that it contained more carbon than there was in carbon dioxide it ought to be specifically heavier. Carbon monoxide has certain properties which may be called hypnotic. On this fact is founded an interesting discussion on the mode of action of chloral hydrate. It is known that chloral hydrate may disengage carbon monoxide under oxidizing agencies such as those existing in the circulation, and it is suggested that the effect of such disengagement affords a more acceptable explanation of its hypnotic action than the view that it is decomposed with generation of chloroform. This is an instance of the many items of curious interest which are scattered through the pages of the book in their proper context with regard to chemical phenomena, but are yet remote from where they would be expressly sought. For this reason we suggest that the finished work should be supplemented with a general index containing sufficient references to enable all such matters to be easily found.

### NAUTICAL COMPARATIVE ANATOMY.

SIR ALAN MOORE'S delightful book *Last Days of Mast and Sail*\* bears only two reminders that its author is a medical man. But for the confession in the preface a reader unfamiliar with the author's name would certainly guess him to be a professional sailor, and fail to notice the clue to his calling betrayed by the alternative title "An Essay in Nautical Comparative Anatomy." This is an intriguing book. It roams from square sails to lateen sails, spirit sails, gaff sails, and every type of rig. Sir Alan Moore says that as long as he can remember he has been fascinated by ships and boats, which throw on him a spell "like that which is cast on many by birds." Four years in the R.N.V.R. as midshipman and sublieutenant gave him a greater insight into naval ways, and during the war he served as a temporary surgeon in the navy. All his life, it seems, he has taken every opportunity to learn the ways of seafaring people, to study their craft, and to familiarize himself with every detail in the handling of a ship.

His motive for writing this unusual book had best be given in his own words: "The use of sails is so rapidly passing away that it behoves us, the last of the ancients, the last generation perhaps, to know and to use the sail, the oar, the beast-drawn cart, and wind-driven mill, to

record what we saw of a dying age, lest in the blaze of the new era which blinds the majority to the interest, nay the existence of so many beautiful and ingenious contrivances of immemorial use, they be utterly forgotten, and lest when, sated with inventions or because they have ceased to invent, men turn again to a time recent but remote, they find no record of vanished but familiar things that furnished much of the setting of their grandfathers' lives."

No one would dispute the likelihood of Sir Alan Moore's prophecy, for certainly the sailing ship is passing away, to be replaced by steam- and petrol-driven boats. But the beautiful ships and ingenious contrivances of seafaring life in bygone days will not vanish without record, for in this charmingly written and elegantly illustrated book an accurate record has been preserved. Its pages will be fingered affectionately by sailors who understand every familiar nautical phrase, and it will be a textbook of romance to all children who feel the irresistible call of the sea.

### NOTES ON BOOKS.

PROFESSOR ALEXANDER FINDLAY'S *Physical Chemistry for Students of Medicine*<sup>1</sup> is a pioneer piece of work. As the study of medicine rests on physiology, so is physiology raised on foundations furnished by physics, chemistry, and other academic divisions of learning. Chemistry in its modern development has become more and more identified with the physics of the molecule. For physiology this fact is of momentous consequence, since the functions of organic life are regulated by dynamic properties. Professor Findlay's treatment of the subject is suitable for any student of physical chemistry, but it is particularly adapted for students of medicine in that the facts dealt with are referred to their physiological bearings. How directly significant these facts are may be illustrated by the following passage: "In febrile conditions reduced viscosity is usually found owing to the rise of temperature, and since the temperature coefficient of viscosity of blood is high (in some cases as high as 3 per cent. per degree centigrade), the reduction in viscosity may be considerable, and the strain placed on the heart will be correspondingly reduced." The book is characterized by aptly chosen references to matters of medical interest touching on bacteriology, enzymes, antitoxins, and other subjects. It should have a foremost place in every student's scheme of work; its contents are the bed-rock of what he is to learn in the future.

The work on *Infection, Immunity, and Inflammation*,<sup>2</sup> by Dr. FRASER B. GURD, lecturer in applied immunology and in surgery at McGill University, Montreal, is, as its subtitle states, "a study of the phenomena of hypersensitiveness and tolerance, and their relations to the clinical study, prophylaxis, and treatment of diseases." After an introductory chapter dealing with the defensive and offensive reaction of the body against irritation, the author discusses the nature of infection and infective agents, immunity and immunization, and the reactions of animals and man. Special chapters deal with the application of immunity principles to the prevention and treatment of diseases, such as diphtheria, tetanus, pneumonia, dysentery, and hay fever. The laboratory worker and the clinician will find the volume a useful handbook.

The *Catalogue of Pathological Preparations in the Museum of the Royal Samaritan Hospital, Glasgow*,<sup>3</sup> has been arranged for publication by D. MCINTYRE and JOANNA T. RAE on the basis of a catalogue compiled by Dr. Mary Hannay. The 286 specimens in the museum are arranged in twenty-three series, classified on a basis that is partly anatomical, partly pathological. The various diseases of the female generative organs appear to be well represented; brief descriptions of the specimens are given and notes of the cases when available. Much care has evidently been bestowed on the microscopical preparations; a list of slides of special interest or of instructional value, available for the use of students, is given. A useful addition, which we do not remember to have seen in other museum catalogues, are the cross-references appended to each section. The authors are to be congratulated on the way in which they have accomplished their task.

<sup>1</sup> *Physical Chemistry for Students of Medicine*. By Alexander Findlay, M.A., D.Sc., F.I.C. London and New York: Longmans, Green and Co. 1924. (Demy 8vo, pp. ix + 227; 39 figures. 8s. 6d. net.)

<sup>2</sup> *Infection, Immunity, and Inflammation*. By Fraser B. Gurd, B.A., M.D., Ch.B., F.A.C.S. London: Henry Kimpton. 1924. (Med. 8vo, pp. 329. 2s. net.)

<sup>3</sup> *Catalogue of Pathological Preparations in the Museum of the Royal Samaritan Hospital, Glasgow*. Arranged by Donald McIntyre, M.B., F.R.C.S.E., F.R.T.P.S.C., and Joanna T. Rae, M.B., Ch.B. Glasgow: MacLachlan, Jackson and Co. 1924. (Demy 8vo, pp. 50. Printed for private circulation.)

\* *Last Days of Mast and Sail*. By Sir Alan Moore, Bt. Oxford: The Clarendon Press. 1925. (Roy. 8vo, pp. 260; 222 figures. 21s. net.)

# British Medical Journal.

SATURDAY, MAY 30TH, 1925.

## ARTIFICIAL PRODUCTION OF THE ANTIRACHITIC VITAMIN.

THE discovery that irradiation with ultra-violet light causes the antirachitic factor to appear in substances which previously were inert represents a very important advance in medical science. In the first place, this discovery solves the mystery of rickets being cured by two such divergent specifics as sunlight and cod-liver oil; secondly, it promises to throw much light on the origin and nature of vitamins; and thirdly, it renders possible the artificial production of at least one vitamin.

As long ago as 1919 Huldseinsky proved that ultra-violet light could cure rickets, but for some years attention was diverted from this fact by another discovery—namely, that substances rich in fat-soluble vitamins acted as specifics in rickets. At first the antirachitic vitamin was believed to be identical with the growth-promoting vitamin A, but it is now believed that these two factors are distinct, although they are both fat-soluble and are usually associated. The prolonged controversy concerning the relative influence of bad housing conditions and faulty diet in the production of rickets was finally set at rest in a general agreement that rickets could be cured either by exposure to ultra-violet light or by administration of the antirachitic factor. The connexion between these two specifics was, however, at first a complete mystery; but the problem has now been solved by work which has been conducted almost simultaneously in several laboratories both in this country and in the United States of America.

Steenbock<sup>1</sup> and Hess<sup>2</sup> both showed in 1924 that rats fed on a rachitic diet were benefited if their diet was exposed to ultra-violet light, and this explained previous work, which had suggested that rachitic rats gained, not only by direct exposure to ultra-violet light, but also if their environment alone was irradiated. Steenbock has since shown that a large number of foodstuffs, but not all, can be activated by exposure to ultra-violet light. Drummond and other workers<sup>3</sup> in this country had meanwhile brought forward evidence indicating that the active antirachitic substance in cod-liver oil was closely associated with cholesterol. Steenbock, Drummond, and Hess have all since shown that solutions of chemically pure cholesterol, which have no antirachitic action, acquire this property after exposure to ultra-violet light. The antirachitic factor can therefore be produced from a pure chemical substance by the action of ultra-violet light. This effect is remarkable and unexpected, for Zilva in 1920 had shown that prolonged exposure to ultra-violet light actually destroyed the vitamins in cod-liver oil. The nature of the change produced by the ultra-violet light is unknown, but it would appear that it is of a chemical nature, that only a minute fraction of the cholesterol acted upon is activated, and that this fraction is destroyed by prolonged exposure. It is

certain that other substances besides cholesterol can be activated, and these substances are probably sterols related to cholesterol.

This discovery should have immediate and important practical results, since it makes it possible to confer antirachitic properties on a large number of foodstuffs. In particular it appears to be possible to render vegetable oils antirachitic. Further, it is to be noted that experiments<sup>4</sup> have already shown that rickets can be treated successfully with irradiated milk. The antirachitic factor is relatively stable, and it seems probable that means will be discovered for producing the factor in a concentrated form. The discovery should therefore render the prevention of rickets a comparatively cheap and simple matter.

Steenbock suggests that the antirachitic factor may also prove beneficial in other diseases where the calcium metabolism is deranged, and in diseases such as infantile tuberculosis, where sunlight and ultra-violet light have already been proved to have beneficial effects. The discovery that the antirachitic factor can be produced from the sterols gives us reasonable grounds for hoping that before long its chemical nature will be elucidated, and that means of isolation and concentration will be found. The other fat-soluble vitamins which promote growth and reproduction appear not to be produced by irradiation; but the discovery of a means for the production of one vitamin naturally encourages the hope that before long similar discoveries will be made in the case of the other vitamins.

## SUBURBANIZATION.

URBANIZATION is an ugly word. Suburbanization is an uglier, and the manner in which the process is developing around London suggests that the thing itself may be as objectionable as the term. Even within the last three or four years a dweller in an extending suburb finds that tree-shaded roads which afforded pleasant walks are being disfigured by great stretches of wooden hoardings plastered over with staring advertisements, and that the hoardings are in their turn displaced by long rows of shops and dwelling-houses which effectually conceal the country itself from the wayfarer. Greater London must be allowed to grow: that is for the present inevitable, whether we desire it or not. Queen Elizabeth thought the town was quite large enough in her time, but she little knew what was to follow. The growth, however, ought to be controlled, not only to ensure that the new houses may be judiciously and hygienically distributed, but also in such manner as to save whatever may be saved of the beauty of the country when invaded by the town. During the first two-thirds of the nineteenth century the extension of London was rapid to the south, but very slow in the north. Forty years or so ago there were few houses beyond Hampstead Heath; Hendon, for instance, was a village with a pond, which still remains. Edgware also was a village, and even Cricklewood was only a handful of houses. Now all that is changed, and penetration northward proceeds apace. The Town Planning Act provides the means of regulation and control. Hitherto, so far as we have observed, the power to form advisory committees for regional schemes of planning has been used mainly or wholly in industrial areas. The outstanding case is that of Manchester and the places of which it is the centre. Over seventy authorities have combined in this part of Lancashire to constitute a committee to consider the lines which should be followed in the

<sup>1</sup> Harry Steenbock and Amy L. Daniels: Irradiated Foods and Irradiated Organic Compounds, *Journ. Amer. Med. Assoc.*, 1925, 84, 1095.

<sup>2</sup> Alfred F. Hess and Mildred Weinstock: Antirachitic Properties Imparted to Inert Fluids and to Green Vegetables by Ultra-Violet Irradiation, *Journ. Biol. Chem.*, 1924, 62, 301.

<sup>3</sup> J. C. Drummond, O. Rosenheim, and K. H. Coward: The Relation of Sterols to Vitamin A, *Journ. Soc. Chem. Industry*, 1925, 44, 1.

<sup>4</sup> S. J. Cowell: Irradiation of Milk and the Healing of Rickets, *BRITISH MEDICAL JOURNAL*, 1925, 1, 594.

further development of that already thickly populated region. Other places where similar action is being taken include North and South Tyneside, Tees-side, Rotherham, Doncaster, Deeside and the Wirral Peninsula. Nearer London, and less notably industrial, are North-east Surrey, West Middlesex, and the Thames Valley. The powers of such committees are advisory only, not executive, but on that very account local authorities need have less hesitation in appointing them; their work is, in fact, of the greatest value.

It is well, then, that the county authorities of Hertfordshire should be taking counsel together as to how to direct the distribution of new dwelling-houses in their pleasant land. At a meeting in London the other day they were addressed by Mr. Neville Chamberlain, the Minister of Health, who urged the adoption of a regional scheme of town planning. He pointed out that the proposals would not involve expenditure, but would, on the contrary, save the outlay in which many big cities had become involved in order to undo the mistakes of the past. There is risk of a new kind of mistake being committed on a huge scale, for, as he truly said, the development of motor traffic has rapidly altered the whole problem, and unless proper lines are preserved the authorities may have later on to buy out at enormous cost buildings at present being erected on new roads. In preparing a scheme, Mr. Chamberlain held, not merely the economic but the aesthetic had to be kept in view. Any scheme for Hertfordshire should cover the whole county, and should include extension of the garden cities already in existence. It might also be necessary to go outside the county boundaries, and the Town Planning Act places no limit on co-operation. The meeting, which was presided over by the chairman of the county council, adopted a motion, proposed by the Mayor of Hertford and seconded by the Mayor of St. Albans, for the appointment of a joint town planning committee. This particular proposal, therefore, has been launched under most favourable auspices, and it is to be desired that other of the home counties—Buckinghamshire, for instance—should follow the example of Hertfordshire. An arresting letter on the subject from Mr. Patrick Abercrombie, professor of civic design in the University of Liverpool, has been published (in the *Times*) since the meeting. His point is that the most important and difficult task of the joint committee will not be the provision and control or even the amenity of arterial roads, nor the spacing of industries, nor the preservation of open spaces; the vital problem is the regulation of normal residential development, as between two methods of growth—"the ribbon unrolled along the roadside, and the radiation emanating from a central nucleus." The former not only inflicts the maximum destruction of rural beauty and social life, but is the most extravagant in respect of sewers, water, light, and police. The garden cities illustrate the advantages of the other method, which is, indeed, unconsciously followed in the ordinary growth of existing towns. The principles enunciated by Professor Abercrombie should receive most careful consideration by all who are engaged in such work as that of the Hertfordshire joint committee.

But there are wider aspects. Would not a scheme of populations based on long arterial roads bordered mile after mile by villas and bungalows bordered by munity life? Even though some inexperienced individuals may think that they can be self-sufficing, and will never want to go to church or cinemas or lectures or concerts, or may not have children needing to be sent to a local day school, other people have these

desires and obligations, which need to be brought within their reach. Every village has its shopping centre, suitable for its own inhabitants, but on this crazy plan of house-edging "arterial" roads such centres would be few and far between. The similar should have prevented anyone possessed of an ordinary amount of common sense from falling into an error so egregious.

England is more alive to-day than ever before to the blunders committed in the uncontrolled growth of towns since the industrial revolution which owed its origin to Watt's invention of the steam engine and resulted in the substitution of mass production in factories in towns for the domestic and village industries of the eighteenth century. But this generation should be particularly careful that in remedying, so far as may be, the evil results of urban overcrowding, a new offence by so distributing the dwellings which will be erected throughout the country that they not only blot out from the view of travellers along the main roads the pleasant picturesque scenery which has always been so notable a feature of rural England, but substitute for villages, small or large, long straggling "ribbons" of population which would be alike impracticable for local government and destructive of communal life.

#### MISSING LINKS.

In the course of a lecture delivered at University College on May 22nd in aid of St. Christopher's Working Boys' Club (Guild of University College, London) Professor Elliot Smith sketched the history of the various claims made in the past for the discovery of links that were missing in the chain of man's connexion with the apes, and discussed the significance of the Taungs skull recently recovered by Professor Dart in Bechuanaland. Professor Elliot Smith observed that, as Professor Bolk has emphasized, profound changes occur in the structure of the anthropoid apes in their development from birth to maturity; and the newborn gorilla and chimpanzee exhibit many traits, not found in the adult, that closely resemble those of the human baby. Professor Dart was handicapped in not having access to collections of anthropoid skulls such as are available in London. Hence he fell into the not unnatural error of claiming certain of these infantile characters in his fossilized baby ape that are shared equally by four-year-old gorillas and chimpanzees as evidence of a nearer kinship to man. The peculiarities of posture and poise of the head, and several of the features of the jaw and face, upon which he relied in substantiation of these claims, are expressions, not of human affinities, but of characteristically simian infaney. The size of the brain and the sum of the characters of the skull and face reveal the fact that *Australopithecus* is most nearly akin to the known African anthropoids, the gorilla and chimpanzee. But it differs profoundly from both of these apes in several respects, and certainly belongs to a hitherto unknown genus. In the absence of salient eyebrow ridges it resembles the orang, from which, however, it differs in most other respects. The shape of the cranium is so much longer and narrower (that is, more man-like) than those of the other apes that the question arises whether there has not been a *post-mortem* distortion to explain the length and the peculiar lateral flattening. But the evidence at present available—especially the lack of any exceptional asymmetry in the face and the fact that the jaws are definitely less prominent than those of young gorillas and chimpanzees—suggests that no such distortion has occurred, or, at any rate, nothing in any way adequate to explain the profound contrast between the Taungs ape and all the



other known anthropoids. These cranial characters, as well as the form and proportions of the nasal bones, the jaws, and teeth, afford definite evidence of a closer affinity to man than any living ape reveals. None of them individually is sufficiently great to raise the Taungs ape above the level of the gorilla; but collectively they do constitute impressive evidence in substantiation of the close kinship of *Australopithecus* to man's ancestors, and even the possibility that an ape of this genus may have been in the direct line of human descent. If, as has been claimed, the geological conditions in Bechuanaland were essentially the same when the Taungs skull was deposited in the limestone cave where it was found as they are now, the problem arises, How did this anthropoid ape wander thousands of miles from the present habitat of its relatives? Had it already, like primitive men, emancipated itself from the necessity of forest life? Or, alternatively, had it become specialized, like the baboons, to live under such conditions as prevail on the edge of the Kalahari desert? The answers to these questions have a direct bearing upon the claims that *Australopithecus* had already attained, not only the first stage in the process of refinement of its features, but also in its adaptability to more complex conditions of life, such as primitive man displayed when he freed himself from an arboreal or semi-arboreal existence. In attempting to arrive at a just appreciation of Professor Dart's achievement it has been necessary to call attention to the fact that some of the criteria upon which he based his inferences are evidence of infancy rather than of close human kinship. But this (Professor Elliot Smith concluded) should not blind us to the considerations (a) that he has rescued the only face and endocranial cast of a fossil anthropoid so far recovered, and (b) that it represents a hitherto unknown genus with interesting suggestions of affinity to man's Miocene ancestors.

#### YEASTS.

Dr. CHASTON CHAPMAN's presidential address to the Royal Microscopical Society contained some interesting references to the classification, structure, and physiological behaviour of yeast cells. It is customary to include within the group of yeasts all the unicellular fungi which reproduce by budding, but more strictly the term would be limited to such budding cells as are capable of forming ascospores, and the remainder, which do not form spores, relegated to the group of torulae. Present systems of classification of the yeasts are based on that suggested by Hansen in 1904, but Dr. Chapman follows certain recent French systematists and distinguishes five main groups. The first group, the schizosaccharomycetes, reproduces by transverse division. Hansen excluded them from his original system, but it is convenient to include them though their method of reproduction has a close affinity to that of bacteria. The second group, the zygosaccharomycetes, consists of yeasts in which some sexual conjugation precedes or accompanies the formation or germination of the ascus. This interesting group tempts speculation as to whether the great experiment of sex conferred benefit or otherwise on the yeasts. The third group, the true saccharomycetes, includes all those yeasts which reproduce mainly by budding and in which the formation of the ascus is not, so far as is known, preceded by any form of conjugation. Here belong the familiar yeasts of the bakery and brewery. The fourth group of non-alcohol producers includes the genera *Pichia* and *Willia*, yeasts which do not betray any trace of sexuality, and which usually develop in the form of a film on the surface of the liquids in which they are growing. The fifth group, including two or three genera, consists of yeast-like cells whose connexion with the saccharomycetes is somewhat doubtful. Dr. Chapman does not concur with the views of Wager and Peniston, who

look upon the main vacuole as the nucleus, and speak of the deeply staining structure (generally regarded as the nucleus) as the nucleolus. About the other structures visible within the yeast cell he has nothing fresh to say, but he gives a brief account of the different forms which fermentation takes according to the conditions under which the yeast cell is compelled to carry out its activities. Thus, whilst the ordinary *Saccharomyces cerevisiae* normally decomposes sugar with the production of alcohol and carbon dioxide and only about 3 per cent. of glycerin, when the fermentation is conducted in the presence of a considerable quantity of sodium sulphite the main products are acetaldehyde and glycerin in roughly equal molecular proportions, and instead of the normal 3 per cent. as much as 36 per cent. of glycerin can be produced. This was made use of by the Germans during the war in order to obtain glycerin for making munitions. The reading of this stimulating paper by Dr. Chaston Chapman calls to mind the closing sentence of that masterly treatise by Dr. Arthur Harden on *Alcoholic Fermentation*: "In every direction," he said, "fresh problems present themselves, and it cannot be doubted that as in the past the investigation of the action of the yeast cell will still prove to be of fundamental importance for our knowledge of the mode in which chemical change is brought about by living organisms."

#### PATHOLOGICAL RESEARCH AND ROUTINE EXAMINATIONS.

THE department of pathology and bacteriology in Leeds University has made gratifying progress during 1924. In February of that year the Senate and Council of the University approved a new scheme for undertaking the pathological work of the Leeds Union Infirmary, and Professor M. J. Stewart was appointed consulting pathologist. Since 1918, when the original agreement was made with the Infirmary Board, there has been a steady increase in the amount of this work, resulting in some interference with research. In the annual report of the department for 1924 attention is drawn to the Medical Research Council's recent criticism of routine work in university laboratories, to which reference was made in the *JOURNAL* of February 14th, 1925 (p. 319). Professor Stewart does not agree with the suggested separation of routine work from research recommended by the Medical Research Council; he considers that the routine work only requires more adequate staffing and accommodation for it to provide good training for junior members of the university and prevent research work from becoming divorced from clinical practice. Professor J. W. McCleod, Brotherton professor of bacteriology and city bacteriologist, also commenting on the Medical Research Council's strictures, insists on the importance of providing an adequate stream of material through the department for research and teaching purposes. He agrees that the treatment of members of pathological and bacteriological departments of universities generally has not been altogether fair, and considers that the remuneration of the younger members of the staff should be higher. He believes that with a sufficiently large and well paid staff the system of combining routine work with research does not call for immediate change, and that so long as the financial position of the country is difficult this handicap of the university is not unreasonable. Research work undertaken during the year includes the study by Professor Stewart of the morbid anatomy of gastric and duodenal ulcer, with special reference to the question of the relation, if any, between simple chronic ulcer and cancer. A new method of estimating urea in blood, devised by the late Dr. Wyon, lecturer in pathology in Leeds University, has now been perfected and is in regular use. Dr. Forweather and Mr. G. A. Collinson are working on a new clinical method for the estimation of iodine in blood, in connexion

with the physiological distribution of thyroid secretion. The value of the Wassermann test as performed in Leeds has been compared with methods in use elsewhere, and the conclusion reached is that only slight modifications of technique are required to bring the Leeds Wassermann results to the highest possible degree of sensitiveness and accuracy. Dr. H. Ross and Dr. Gordon, who have been investigating respectively the bactericidal action of oils and fats on bacteria and the inhibition of bacterial growth of amino-acids, have received grants from the Medical Research Council and the British Medical Association; and grants have been made also to Professor Stewart and Mr. P. J. Moir. During the year a collection of x-ray apparatus has been installed, and valuable results have been obtained by radiological examination of pathological specimens. Many of the photographs have been used for teaching purposes.

#### SLEEPING SICKNESS CONFERENCE.

THE International Conference on Sleeping Sickness, the opening of which by the Under Secretary of State for the Colonies was recorded last week (p. 976), has made a series of recommendations. The most important of these is that an international commission should be set up to continue and promote in equatorial Africa the investigation of certain problems which at present await solution. Among these are the existence of any human immunity against trypanosomiasis and the comparative value both from the curative and prophylactic point of view of trypanocidal agents; the part played by wild and domestic animals as breeding places for the virus; the relations between trypanosomiasis due to *T. gambiense* and *T. rhodesiense* respectively; and the effect of precipitins applied to the blood in the alimentary canal of the tsetse fly. These subjects are already being investigated in various national institutes, and it is suggested that great advantages would flow from co-operation between them and the co-ordination of work now in progress. Uganda and the regions in the neighbourhood of Lake Victoria are thought to be the territory most suited for the study of the problems enumerated. The Conference has recommended that the local international commission should be presided over by Dr. H. L. Duke, bacteriologist to the Uganda Government, under whose guidance valuable researches have been carried out in the laboratories at Entebbe. Extensive field work has already been done by the medical services of Uganda and by the administrative officers of the adjoining territory of Tanganyika. The Conference has recommended that, in addition to a few workers from the institutes of African Powers, the commission should include a biochemist and entomologist with local knowledge, and that the collaboration of Dr. Kleine should be invited. It has suggested also that the commission should meet at Entebbe at the end of this year or in January, 1926, and twelve months later present a special report to the League of Nations expert committee. After studying the research methods at the Entebbe institute and its field laboratories, as well as the field work and measures taken against sickness in Uganda and Tanganyika, the commission would examine the methods for the control of the tsetse fly Mr. Swynnerton has instituted in the Tanganyika Territory. Other recommendations of the Conference laid stress on the need for periodic official conferences between the administrative and medical officers engaged in the campaign against sleeping sickness on both sides of the boundaries between infected countries. It advises also the institution of a system of sanitary passports for the native population in the infected areas, and wherever practicable the plan of establishing areas freed from population on both sides of the frontier in order to facilitate the control of native traffic. Special agreements, it considers, should be made

between local administrations to allow of rapid and regular interchange of all epidemiological intelligence and information, that the recommendations of the chief of the medical service in sleeping sickness areas should be binding on the local administrations, and that in such areas the medical officers should have magisterial powers regarding the application of measures in connexion with the campaign. The need is emphasized of providing a medical and health service, including medical officers and auxiliary staff proportionate to the number of the population infected and the extent of the district to be inspected, and of adequate administrative staffs, particularly in the neighbourhood of frontiers. Attention was drawn also to the necessity of uniform methods for recording statistics relating to the morbidity and mortality of sleeping sickness, and of preparing maps showing the prevalence of the disease, the sites of the sleeping sickness camps, the sectors of prophylaxis, and the distribution of the various species of glossinae. These subjects are to be studied and recommendations, including one for a uniform system of laboratory diagnosis, made to the Health Committee of the League of Nations for submission to the Governments concerned. It is estimated that £10,000 will be required, but this would include the salaries of local scientific personnel, the foreign members and laboratory assistants, as well as travelling and other general expenses. The delegates of the various Governments present at the Conference were asked to move their Governments to contribute to a common pool, but it is anticipated that the Governments will continue to pay the salaries of the medical officers and other workers who take part in the work of the commission. The Conference also strongly recommended that the Governments should obtain for 1926 a credit balance of at least £5,000 from the Health Organization of the League of Nations, and it is hoped that funds may also be provided by the scientific research organizations of certain countries.

#### BRITISH ASSOCIATION, SOUTHAMPTON, 1925.

THE preliminary programme for the annual meeting of the British Association, to be held at Southampton from August 26th to September 2nd inclusive, has been issued. The inaugural general meeting will take place in the Central Hall on Wednesday evening, August 26th, when Professor Horace Lamb, F.R.S., will assume the presidency of the association in succession to Sir David Bruce, and give the presidential address. The sections and their presidents this year are as follows: A, Mathematics and Physics, Dr. G. C. Simpson; B, Chemistry, Professor C. H. Desch; C, Geology, Professor W. Parks; D, Zoology, Mr. C. T. Regan; E, Geography, Mr. A. R. Hinks; F, Economic Science and Statistics, Miss Lynda Grier; G, Engineering, Sir Archibald Denny; H, Anthropology, Dr. T. Ashby; I, Physiology, Professor A. V. Hill; J, Psychology, Professor C. Spearman; K, Botany, Professor J. Lloyd Williams; L, Educational Science, Dr. W. W. Vaughan; M, Agriculture, Dr. J. B. Orr. Among the items in the provisional programme of addresses, discussions, etc., we may note the following: August 27th, discussion in the Educational Science Section on "Health in schools, epidemics and dietary"; conference of delegates of corresponding societies presided over by Sir Daniel Hall. August 28th, presidential address by Dr. Vaughan, headmaster of Rugby, on the warp and woof in education; lecture by Mr. J. E. Barnard on the observation of the infinitesimally small. August 31st, presidential address by Professor Desch on the chemistry of solids, Professor Hill on the physiological basis of athletic records, and Dr. J. B. Orr on the inorganic elements in animal nutrition; joint discussion by Educational and Zoological Sections on the teaching of biology in schools. September 1st, joint discussion by the Sections of Physiology and Psychology on

the acquisition of muscular skill. During the meeting a series of public lectures to citizens and their children will be given by members of the association. The annual meeting of 1926 will be held in Oxford under the presidency of H.R.H. the Prince of Wales.

#### THE "BRITISH MEDICAL JOURNAL": NEW ADDRESS.

Our present issue is the last to be printed at 429, Strand. During the Whitsun holidays the Editorial and Printing Departments of the *BRITISH MEDICAL JOURNAL* will be removed to the new headquarters building of the British Medical Association in Bloomsbury. Henceforward the postal address for all communications intended for the Editor will be "*BRITISH MEDICAL JOURNAL, British Medical Association House, Tavistock Square, W.C.1.*" the telephone number of the Editorial Department will be *Museum 9864*, and the telegraphic address "*Aitiology, Westcent, London.*" Until further notice is given in these columns, all communications with reference to advertisements, as well as orders for copies of the *JOURNAL*, should continue to be addressed to the Financial Secretary and Business Manager, 429, Strand, W.C.2. It is expected that the Medical Department and the Library of the Association will be removed about June 17th, and the Finance Department about June 19th.

#### LONDON AND COUNTIES MEDICAL PROTECTION SOCIETY.

THE annual general meeting of the London and Counties Medical Protection Society, Ltd., was held on May 20th, under the chairmanship of Sir JOHN ROSE BRADFORD.

The report of the council stated that the number of applications from members asking for advice and assistance in 1924 was 785; in the large majority of cases satisfactory results were obtained without litigation. The case of outstanding importance in which the society had been concerned was that of *Harnett v. Bond and Adam*, in which the society bore the whole of the expenses of the defence of its member, Dr. Adam. Hitherto provision by the society of an amount not exceeding £3,000 for defraying any damages awarded against a member, together with costs allowed to the other side, had been more than adequate; but it became evident that any such limit might be exceeded in exceptional cases such as this one, and the council therefore at once made provision by insurance for an unlimited amount, so that members could be completely indemnified in all circumstances. During the year the society was required to spend £8,244 on legal proceedings; of this amount, £6,331 represented the cost of actual defence of members, and £1,913 went in payment either of adverse costs and damages awarded in cases which were unsuccessful or in settlement of claims when this was thought advisable. Of the £6,331 spent in defence of members only £31 was actually recovered from the other side in cases in which the society, having been successful, was awarded costs, but in addition to this small sum an amount of £2,434, representing the costs recovered in the *Harnett* case on the favourable decision by the Court of Appeal, was held in suspense pending the result of the appeal to the House of Lords, and now about £1,867 of that amount would be brought into the society's account for the present year. A report by the society's solicitors (Messrs. Lo Brasseur and Oakley) was appended to the report of the council, and contained particulars of many interesting cases, including what has become known as the "*£1,000 fine*" case under the National Insurance Act.

Sir JOHN ROSE BRADFORD, in moving the adoption of the report, said that much of the work of the society was undertaken, over and above the defence of individuals, for the benefit of the profession as a whole. He had heard it objected against the society that it possessed a large amount of accumulated funds, and therefore could not have been so liberal in its expenditure on defence as it might have been.

But if it had not been for the fact that the society had these large accumulations an action such as the *Harnett* case could not have been successfully undertaken and carried through from the lowest court to the highest. He thought the society was to be congratulated on being able to meet this very large call out of its own hard cash; the expenses were not met in any indirect way by insurance, but were actually paid out of the society's assets. The society had had a larger accession of members than in previous years; the number who joined last year was 1,142, and of these 436 were men in the first year of their qualification. The number of medical practitioners in London, the provinces, and Wales was 28,400, and of these the society included in its membership slightly under one-third, and, of course, had many members of the dental profession in addition.

There was a scheme on foot, Sir John Rose Bradford continued, for starting another defence society. It would be premature for him to discuss that matter, but he did wish to say that it could not be seriously urged that there was any reason for the institution of a third society, connected directly or indirectly with the British Medical Association, on the ground that the existing societies did not perform their work efficiently. Every society had some members who were dissatisfied, but in the "*London and Counties*" there was extremely little evidence of such dissatisfaction. It was the exceptional thing to have any complaint, or even any criticism, of the way in which the affairs were conducted; and the same thing, he knew, applied to the other great defence society.

The report was unanimously adopted, and with many expressions of appreciation Sir John Rose Bradford was re-elected to the presidency, and Dr. C. M. Fegen to the treasurer'ship. Dr. Fegen said that it was worth while to recall the fact that the members of the society had never been compelled to appeal to the profession as a whole for contributions to pay for costs or damages in cases which had been won against them. They had never had to go to the larger circle of the medical profession or to the general public, cap in hand, for help in an unfortunate dilemma.

The vice-presidents, retiring members of council, and other officers were all re-elected.

#### ROYAL COMMISSION ON LUNACY AND MENTAL DISORDER.

##### *Evidence of National Council for Mental Hygiene.*

At the sitting of the Royal Commission on Lunacy and Mental Disorder on May 22nd evidence was tendered by Dr. E. Farquhar Buzzard, Dr. H. Crichton Miller, and Dr. R. Worth, on behalf of the National Council for Mental Hygiene.

Dr. FARQUHAR BUZZARD explained that the council was of recent institution, and its purpose was the co-ordination of the various associations interested in mental hygiene, and the furtherance of the education of the public in this respect. The council, in a memorandum prepared for the Commission, urged that the treatment of mental disorder should be brought within the fold of general medicine. The segregation of mental cases in institutions divorced from general hospitals created an impression that mental illness was something quite different from bodily, and, on the other hand, owing to the conduct of some patients general hospitals were not suitable for the treatment of certain forms of mental disorder. Facilities for early treatment should in those cases be provided at local clinics separate from either mental or general hospitals. The council had attempted to arrive at some idea of the number of persons in the early stages of mental disease. From the report of the Prison Commissioners it appeared that in a recent year 1,842 prisoners were remanded for report on their mental condition, and, in addition to these, 134 were certified insane during sentence, 227 were found insane on remand, and 55 were found insane at the time of trial. These 416 persons who were definitely found insane had broken the law while in the incipient or early period of insanity, and they were people for whose treatment at present there was entirely inadequate provision. Suicides, again, in a recent year, numbered close upon 4,000, and mental instability entered to an unknown extent into the problems of illegitimacy, dependency, vagrancy, and alcoholism. Still another class of early mental sufferers had now to be reckoned with—the increasing number of those who had encephalitis lethargica. The council had recently sent out a questionnaire to 237 of the more important hospitals and

infirmaries in Great Britain asking what facilities were available for the treatment of mental disorder, and of the 159 institutions which replied 135 stated that they had no provision of any description, and of the 24 who had some form of provision only 5 afforded in-patient treatment. The recommendation of the council was that skilled treatment for mental disorders in general hospitals, or when the general hospital was unable or unwilling to undertake the work, in special institutions. The work, in association with a hospital, should be carried on in a completely separate building, but the organization should approximate as closely as possible to the voluntary hospital principle, and there should be no compulsory detention. Voluntary boarders should be allowed in all county and borough mental hospitals, and the council was in agreement with the British Medical Association as to the desirability of extending the voluntary boarder system to rate-aided institutions. With regard to the provision of early treatment for those who could pay, it was of opinion that medical practitioners should be allowed to treat willing and non-volitional patients without certificates in registered nursing homes or kindred institutions, but wherever non-volitional cases were received some form of notification to or supervision by the central authority was desirable. To protect patients and to maintain the principle of bringing this treatment into line with general medicine, the registration of all nursing homes was urged. The council deprecated any special registration of homes on the ground simply that the condition of the patients was thought to have a mental rather than a physical basis. If nursing homes of every type were registered abuses could be dealt with by the ordinary processes of law, and patients suffering from mental disorder could have the freest choice as to where they wished to be treated.

The suggestion that all nursing homes should be registered was questioned by members of the Commission. Lord Russell thought that any necessary supervision of nursing homes could be better undertaken by a medical body than by the State.

The CHAIRMAN (Mr. H. P. Macmillan, K.C.) asked for the views of the council on the medical superintendent and his duties. Dr. WORTH urged that a mental hospital must be under one head, and that head a medical man. He had known a case in which a medical superintendent had his responsibility shared by a director of administration, but there was inevitable collision. The one medical head was necessary because the whole régime of the institution was part of the treatment. Dr. WORTH also favoured a system whereby the patient's medical practitioner could follow the patient after he had entered the institution; this would furnish another of the desirable points of contact between the institutional patient and the outside world.

Dr. CRICHTON MILLER urged that the Board of Control should be empowered to act in a consultative capacity in doubtful cases. At present the members of the Board were personally helpful in such cases, but this did not come within the terms of the legal constitution of the Board. If the Board were allowed to advise, it would free the practitioner's mind from certain doubts as to legality, and enable him better to concentrate on treatment.

#### *Mental Hospital Chaplains.*

The Bishop of CHELMSFORD and the Rev. W. E. BARNES (chaplain at Hanwell and Cane Hill) gave evidence as to the functions and status of the mental hospital chaplain. Mr. Barnes said that at Hanwell there were about 100 communicants. He felt that his ministrations were specially helpful to sufferers from religious mania. In his experience he had never seen any instance of punitive or vicious ill usage, though he had seen patients suddenly become violent and require prompt restraint.

#### *Offences against the Act.*

Sir ARCHIBALD BODKIN, K.C., indicated certain desirable amendments of Section 315 of the Lunacy Act, which deals with the offence of receiving or retaining a lunatic or alleged lunatic otherwise than in accordance with the Act, and with taking charge of such persons for payment in an unlicensed house. He indicated how the distinct offences and the appropriate penalties might be more clearly set out, and said that a more precise wording of the clause relating to detention would be, "Any person who permits, or is party to, the continued residence of a lunatic or alleged lunatic," etc. The present legal provisions did not cover the voluntary patient, who did not go as a lunatic or an alleged lunatic.

#### *London County Council's Evidence.*

The London County Council is proposing to give evidence to the Royal Commission to the effect that if power is given on the lines of the Mental Treatment Bill for temporary treatment in approved institutions to uncertified persons suffering from mental disorder, it is desirable that the provision of this accommodation should be the work of the same branch of the local authority's

administration as that which has to do with the administration of the mental hospitals. To remove from the Mental Hospitals Committee the making of the necessary arrangements for the care and treatment of incipient cases would tend, in the Council's opinion, to lower the status of the mental hospitals, and would result in much inconvenience in administration. It is also to be urged that in every case in which an order for compulsory detention of a person of unsound mind is made it should be necessary for two medical certificates to be presented to the judicial authority for the order, one of these certificates to be given by a practitioner who has been approved specially for that purpose. It was reported to the last meeting of the London County Council that the total number of insane patients for whose accommodation in ordinary mental hospitals the Council was responsible on January 1st was 19,060 (7,779 males, 11,281 females), as compared with 18,918 a year previously. In addition there were 213 insane persons in Poor Law institutions, 81 boarded out with relatives or friends, and 4,976 of the chronic, harmless kind, in the institutions of the Metropolitan Asylums Board. In these last categories there was a total decrease of 190 as compared with the previous year.

## Scotland.

### LORD HIGH COMMISSIONER AND EDINBURGH HOSPITALS.

THE High Commissioner, Lord Elgin, who was accompanied by Lady Elgin, paid a series of visits last week, as representative of the King, to Edinburgh hospitals. On May 21st the Deaconess Hospital of the Church of Scotland was visited. Lord Sands, Chairman of the Board, in receiving their Graces, said that the hospital, which had now existed more than thirty years, had been supported by the whole Church of Scotland, and in a special degree by the Women's Guild of the Church, and during this period it had been continuously successful. On the same day their Graces visited the Royal Blind Asylum, where they were received by the chairman, the Rev. Dr. Burns. They visited the workshops, where, in particular, the operations of basket making, knitting with modern knitting machines, and piano tuning are carried out by the blind. In this connexion it was mentioned by the chairman that they were received by the chairman, the Rev. Dr. Burns. In the preceding year seven pupils of the Blind Asylum had passed the examination of the Incorporated Society of Musicians with honours, and two with distinction. Several of the pupils had taken degrees in different Scottish universities. Lord Elgin impressed on those present the necessity for making the very best possible use of the gifts they had, since so many blind workers were doing splendid work despite loss of sight. On May 20th their Graces visited the Royal Infirmary and distributed prizes to the nurses. Lord Elgin, in expressing the pleasure it gave him to visit the Infirmary and to see the useful work which was being done by the aid of the nurses, remarked that the profession of nursing was probably one of the highest ideals that a woman could have. His Grace announced that out of a trust founded by the late Sir James Affleck, an annual scholarship of £30 was to be offered for a course of training in midwifery to be awarded to a nurse by competitive examination.

### AFTER-CARE OF MENTAL DEFECTIVES.

The first annual conference of the Scottish Association for Mental Welfare was held in Glasgow on May 8th. Lord Murray, president of the association, who was in the chair, congratulated the members of the association on having established an institution which had already obtained the approval of the statutory bodies and authorities with whom it co-operated. The Board of Control and the Secretary for Scotland had recently given an assurance that the extension of institutional accommodation for mental defectives in Scotland would receive early consideration, and that the expenditure of further capital by local authorities would be favourably considered. A paper was read by Dr. Hamilton C. Marr, one of the Commissioners of the General Board of Control for Scotland, on how continuity of care for the mental defective could best be secured. The association would be greatly helped by an enactment which would enable it to prepare a list of mentally defective persons who were no longer attending special classes and schools under the education authorities, and for whom, on account of financial circumstances or objections by parents and relatives, parish councils undertook no further respon-

sibility. The problem of the mentally defective child presented the greatest difficulties at the age of 16 and when the defective person was approaching the age of 21; for, apart from a few cases requiring temporary or permanent hospital care, the system of education must be continued, and this could only be done in industrial colonies of the closed or open type. Dr. Robert Hughes, school medical officer, Stoke-on-Trent, said that the most difficult cases for adequate supervision were the feeble-minded of higher grades of intelligence but of pronounced temperamental instability. It was an extraordinary paradox that the type of defective who tended to become an intolerable nuisance to society was the one whose training had been least neglected. He did not think that the stabilizing of unstable characters could be carried out with success in any type of day school; some form of residential institution was essential. Dr. Cruickshank, medical officer of the Scottish Board of Health, said that the fundamental requisite in any scheme for continuity of care of mental defectives was first of all completeness of ascertainment followed by accuracy of classification. It might be worth while to consider whether school medical officers could not be induced to take up these questions of ascertainment of mental deficiency and its classification. Sir H. Arthur Rose, D.S.O., chairman of the General Board of Control for Scotland, who presided at the afternoon session of the conference, said that a short time ago, in giving evidence before the Royal Commission on Lunacy and Mental Disorder, which was considering English lunacy administration, he was asked what steps had been taken in Scotland to develop an association on the same lines as the English Association for Mental Welfare, and he had been very glad to be able to reply that this association had been started. Lord Ashmore, president of the Scottish Justices' and Magistrates' Association, said that the feeble-minded were contributing in an ever-increasing degree to the social deterioration of the community. The Legislature had made an effort to minimize the evils by the Mental Deficiency Act of 1913 and by certain education Acts, but, unfortunately, owing to financial considerations legislation had not been carried into operation. Legislation, however, had fallen far short of meeting the demand, because it had not yet recognized the fact that feeble-mindedness endured through life, that it could never be cured, and that from birth till death the feeble-minded required to be looked after and protected. It was urgently necessary in the interests of the feeble-minded and of the public that there should be industrial colonies in which the feeble-minded would be segregated except those cases which were suitable for boarding out.

#### VOLUNTARY ADMISSION OF THE INSANE TO ASYLUMS.

At a meeting of the Edinburgh Women Citizens' Association in Edinburgh on May 15th, an address was given by Dr. W. M. McAlister, deputy physician-superintendent of the Royal Asylum, Morningside. Sir John R. Findlay, K.B.E., presided, and said that not very long ago insanity was generally regarded as a sort of affliction arising no one knew how and to be treated only by restraint in some form or other. As long as that was the only method of dealing with insanity it was necessary to safeguard the rights of the subject, and he was afraid that at the present time the legal position was distinctly behind the medical position. Dr. McAlister referred first to the treatment of mental defectives. Life-long care of the mental defective was necessary, not only for his own sake but for the sake of society as a whole; it was a great mistake to turn defectives loose on the community at the very time when their capacity for injuring the social fabric was about to reach its zenith. Public opinion, he said, must be shaken out of this short-sighted policy, and he commended the Women Citizens' scheme for establishing a colony for the permanent care of the feeble-minded. Apart from mental defectives, a large percentage of mentally diseased people were amenable to treatment, and it was a fallacy to presume that mental disorder must necessarily be permanent or must recur. In Scotland practically all the asylums were under disinterested management, and no individual secured any financial advantage by the detention of a patient. Due care was now taken to see

that a patient was really desirous of being admitted to an asylum; and the physician-superintendent regarded his relations with the voluntary patient as being in the nature of a contract between two parties, and satisfied himself that the patient accepted the conditions imposed upon him in his capacity as a voluntary patient. At the Royal Asylum, Morningside, the voluntary admissions had in recent years always been over 50 per cent. of the total admissions. Unfortunately, at present this privilege of voluntary admission was denied to patients supported by the rates; there ought to be one arrangement only, whether the patient were rich or poor. In conclusion, he said that all who were engaged in this type of work welcomed the spirit of public interest which had been so obvious of late.

#### POST-GRADUATE TEACHING IN GLASGOW.

The Glasgow Post-Graduate Medical Association has arranged a general medical and surgical course to be held during the last two weeks of August and the first two weeks of September. In the mornings general medicine, surgical diagnosis, and minor surgery will be taught in the Royal Infirmary and in the Victoria Infirmary, and in the afternoons special subjects will be dealt with in the various special hospitals, or in the special departments of the general hospitals, two subjects being treated each afternoon. On the four Saturday mornings there will be classes in tuberculosis and infectious diseases at Ruthill Fever Hospital. The inclusive fee for this course is £10 10s., or alternatively £6 6s. for either the first or second fortnight. Besides this course certain special classes have been arranged in several hospitals to suit the requirements of general practitioners who have but little time to spare for hospital work. In June morning classes in clinical surgery and dermatology will be held, in June and July classes in clinical gynaecology and dermatology, and from the middle of September to the middle of October classes in diseases of the throat and nose, radiology, and venereal diseases have been arranged. Intensive courses are also announced at the Royal Hospital for Sick Children, the Glasgow Eye Infirmary, the Glasgow Royal Maternity and Women's Hospital, the Royal Samaritan Hospital for Women, and the Ear, Nose, and Throat Hospital. Clinical assistantships will be available at various hospitals during the summer months; candidates for these are expected to enrol for a period of three months, and be prepared to devote to the work either the whole or part of the day, according to the terms of the particular assistantship. Further information may be obtained from the Secretary, Glasgow Post-Graduate Medical Association, the University, Glasgow.

#### DUNDEE INFIRMARY EXTENSION.

An extension of the Caird Pavilion of Dundee Royal Infirmary was formally opened on May 15th by Mrs. Marryat, who gave £25,000 for its cost. The extension consists of two operating theatres and a medico-electrical and radiological department of the most modern kind. Mr. Drummond Taylor, chairman of directors, presided. Sir John W. Thomson-Walker, F.R.C.S., said that it was now thirty years since he had been a resident in Dundee Infirmary, and at that time there was only one operating theatre, which had been constructed by walling off the end of a corridor. That theatre had served 176 beds, and he did not think anyone who had not gone through such an experience could tell how exhausting it was to stand four or five hours operating in an inadequate theatre. The extension provided for the surgeons all the means by which they could produce the best work for the patient. Within the past thirty years surgery had become greatly specialized, and in some ways this had been of enormous advantage, for the surgeon could observe the same kind of cases time after time, and could learn more about one special type than before. There was, however, a disadvantage in specialization in that the surgeon was a little apt to go along one narrow line and to forget that the whole body was an interchanging mass. No specialist in surgery could, therefore, do without the general surgeon, just as the medical specialist could not do without the general physician.



## Ireland.

### HEALTH INSURANCE AND THE MEDICAL SERVICES.

#### *Proposed Amalgamation of Approved Societies.*

THE Committee on Health Insurance and Medical Services in its interim report, to which reference was made last week (p. 981), recommends that county insurance committees be abolished and that the approved societies should be amalgamated. From this view, Dr. Rowlette, the representative on the Committee of the Irish profession, dissents, and puts forward a counter-proposal that the whole system of insurance should be nationalized, and should be administered by a State department. He sees in the proposal for a unified society certain dangers:

(1) A society comprising in its membership all the insured persons in the Saorstát would be a formidable commercial combine, so large and so powerful that it would be beyond the control of either the official supervising authority or of the Oireachtas. It would be to the interest of such a combine to gain a power over each of the parties of the State, and to attempt to pervert Government at its source. So far from the diversity of elements in the society tending to prevent its exercising a political power, the fact that it contained very diverse elements would give it all the greater power in the underworld of politics.

(2) The farming out of health insurance to a society created for the purpose appears to be a mere shelving of the responsibility belonging to the State itself. In the words of one of the most experienced witnesses who appeared before us, "Unification would be nationalization without responsibility."

(3) All the evidence put before us by, or on behalf of, insured persons was definitely against the scheme of a unified society, though some witnesses were willing to accept it as a step towards nationalization. The opposition to the latter was much less than to unification, even on the part of those who opposed any change in the present system.

Among some minor reforms as regards national health insurance, a majority of the Committee recommends the abolition of insurance committees and the transference of the care of the tuberculous insured to the local authority.

In regard to the second term of reference, the question of the provision of a system of medical treatment for the insured, the Committee (Mr. McElligott dissenting) accepts the views expressed by the Committee on Medical Benefit (1913) and by the Irish Public Health Council, that medical treatment on a contributory basis should form part of national health insurance. No scheme is put forward, but the Committee goes on to say:

"The provision of medical benefit is mainly a problem of finance. The Committee, in the absence of fuller information as to the funds that may become available from insurance sources (in addition to those at present devoted from various sources to purposes of medical treatment), and as to the position which such arrangements would occupy in relation to the medical charities system, is unable in this interim report to formulate a scheme for the provision of medical treatment. It is hoped, however, that the valuation of the approved societies, the preliminary operations of which are at present proceeding, will be sufficiently advanced by the autumn of this year to enable us to make definite recommendations on the second—as well as on the third—of our terms of reference. Meanwhile we have appointed five of our members as a subcommittee to pursue investigations as to the lines on which schemes for medical treatment might be appropriately laid, due regard being had to the system obtaining at present for the medical relief of the poor. With the outcome of these inquiries before us, the consideration of the financing of it in the light of the valuation results will, it is hoped, be expedited. Under the third term of reference the Committee reviews the present condition of the public services, preventive and curative."

In regard to the salaries paid to dispensary medical officers, the Committee (Mr. McElligott dissenting) states that it accepts the following criticism:

"The salaries of dispensary medical officers, first fixed in the middle of the last century, remained almost unchanged up to the beginning of the present century, in spite of greatly increased cost of living and of the longer course of education required in order to become a medical practitioner. In 1904 the average salary of a medical officer in Ireland was £109. There was a slight gradual increase during the following ten years, and in 1914 the average had become £130. The average salary in the Saorstát is now £251, a sum which does not show much, if any, advance as regards purchasing power on the salary paid in 1904."

The Committee also recommends that "study leave" for a period not less than three months should be granted at least as often as once in every five years, and that evidence of having taken advantage of such opportunities should receive consideration where promotion is in question. During "study leave" the medical officer should, subject

to regulations, receive full salary without deduction for payment of a locum-tenent: a grant might be provided to cover fees for study. The Committee quotes with approval the recommendations of the Majority and Minority of the 1913 Committee regarding a national medical service, and also the similar recommendations of the Irish Public Health Council. It defers any definite recommendation on this point pending the result of the valuation of the approved societies now in progress. It however expresses the hope that the subcommittee will consider the entire matter in the light of both past reports and of existing conditions, and thus, it is hoped, will enable the Committee to frame a comprehensive scheme which, under some form of national medical service, will combine the medical treatment of the insured with the medical treatment of the poor.

### MENTAL HOSPITALS IN NORTHERN IRELAND.

The second report of the inspectors of lunatics (Northern Ireland) covers the year 1923, and contains several statistical appendices. No marked change in the numbers of patients under treatment occurred during the year; the total number at the end of the year was 4,291, as compared with 4,277 in the previous year; the males increased by 42, but the females decreased by 28. The general arrangements for treatment of mental disorders in Northern Ireland were described in our issue of May 24th, 1924 (p. 931), and no change has been made in them since. The number of insane inmates of workhouses in Northern Ireland has decreased from 222 in 1922 to 204 in the year under review: in a few instances patients were found for whom asylum treatment was required.

## England and Wales.

### LEICESTER PRIVATE HOSPITAL.

THE new Leicester private hospital, which has been presented by Mr. T. Fielding Johnson, J.P., late chairman of the Royal Infirmary, was opened on May 20th. The hospital at present contains fifty beds, and when more accommodation is needed it will be possible to increase the number to sixty, or even sixty-five. In addition to beds reserved for medical and surgical cases, eight beds on the top floor are provided for maternity cases. A few rooms contain two beds, the majority one only. The general equipment is of the most modern kind: a large electric lift serves each floor; hot and cold water is laid on in every bedroom, and alternative heating by hot water radiators and electric heaters is available. Certain rooms, such as the operating theatre, are specially equipped in order to obtain higher temperatures than the average when required, and heated racks have been installed on each floor for keeping various utensils warm. Special departments, including a good x-ray room and a pathological laboratory, are provided. A nurses' duty room is placed on each floor, and contains an electric stove to enable hot food to be prepared at any hour. The patients will be attended by their own medical practitioners, and full telephone facilities have been established. There are two operating theatres, one equipped for eye work. The institution was originally three separate residences, which have been combined. Leicester has thus obtained a private paying hospital quite independent of the Infirmary. It will be administered on hospital lines by a representative committee, affording as far as possible the advantages of a voluntary hospital, and enabling any medical practitioner to treat his own patients under the most modern hospital conditions, with the aid of any consultant whom he may desire. After the opening ceremony a reception was held by Dr. T. V. Crosby, president of the Leicester Medical Society.

### INFECTIOUS DISEASES IN SWINDON.

During the twelve months ending March 31st, 1925, the incidence of scarlet fever in the Swindon district was extremely low, only seventeen cases of this disease, together with three cases of scarlet fever complicated with

diphtheria, requiring treatment. This represents the lowest number of patients with scarlet fever ever treated in one year at the Swindon and District Isolation Hospital, being less than a quarter of the next lowest figure, and less than one-tenth of the average; the type of disease was, however, severe. The number of diphtheria patients treated was considerably higher than usual, but the disease was mild. The proportion of patients received from the borough of Swindon was unusually low. The new administrative arrangements at the hospital enabled a large number of diseases to be treated other than those previously considered suitable for accommodation in an infectious hospital, and in this way considerable economies were possible. These diseases included pneumonia, puerperal fever, erysipelas, and nerve diseases. No case of cross-infection of any kind occurred during the year among the patients, and no return case had to be investigated. In his annual report the medical superintendent, Dr. Dunstan Brewer, suggests that it may be advisable in future to deal with other diseases, such as rheumatic fever, influenza, or with infantile diarrhoea. The old idea of reserving wards for a single infection, and leaving them empty when not required for this particular infection, has now been abandoned.

### Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

In the House of Lords on May 21st, in the course of a debate on land and labour in Kenya, the Earl of Balfour, Lord President of the Council, said that the Government proposed to set up a body resembling the Committee of Imperial Defence to investigate civilian problems, which were becoming more and more insistent in connexion with imperial development. The problems which were arising must be dealt with in a wider spirit and with a greater command of scientific methods than were now at disposal. Such a body would have an immense use as a clearing house of the nation as well as an instrument for acquiring new knowledge.

The House of Commons adjourned on May 28th till June 9th, having read the Finance Bill a second time by 331 to 139 and having discussed the Ministry of Pensions Vote and the claims of ex-ranker officers. Members of Parliament who favour the claim of the osteopaths to statutory registration met on May 26th to arrange for a deputation to the Minister of Health, who will probably see them on June 9th. On May 25th the Minister of Health conferred with the Unionist Health and Housing Group at the House of Commons. Dr. Fremantle presiding.

The Government is understood to desire that Mr. H. A. L. Fisher should become chairman of the promised Committee on Nurses' Registration, and in view of his other engagements the appointment of this Committee may be postponed. On May 25th, on the motion of Sir Leslie Scott, the House of Commons passed the Mental Deficiency (Amendment) Bill through committee and third reading without debate. It now goes to the Lords, and has a good prospect of becoming law this session.

**The Powers of the General Medical Council.**—Mr. Basil Peto asked the Minister of Health whether he would consider amendment of the Medical Act, 1858, to give a right of appeal to medical practitioners struck off the Register by decisions of the General Medical Council holding them guilty of infamous conduct. Mr. Chamberlain replied that he was not aware there was any general demand among the medical profession for the amendment of the Medical Acts in the direction suggested, and in the absence of general agreement he was not prepared to introduce legislation. In a supplementary question Mr. Peto asked whether the Minister thought that the absolutely autocratic power over the lives and careers of the whole of the medical profession given to the General Medical Council by the Medical Act of 1858 required some revision. Sir Henry Craik intervened to ask whether it was not the experience of the Ministry of Health that the action of the General Medical Council had been highly expedient in the interests of health and of the community generally. Answering Mr. Peto, Mr. Chamberlain said that if there were any general feeling among the members of the profession that the powers of the General Medical Council were excessive, he would have no difficulty in ascertaining it. Medical men had not generally been backward in putting forward any grievance they might have.

**"Manipulative Surgery."**—Mr. Basil Peto asked Mr. Neville Chamberlain whether, in the interest of public health, he would consider legislative action to ensure that persons qualified to give practical instruction in manipulative surgery should have the opportunity of giving it and also of obtaining degrees in this

branch of surgery. Mr. Chamberlain said that under the revised medical curriculum adopted by the General Medical Council in 1922 practical instruction in manipulative surgery could be and was given by persons holding registrable medical qualifications. As at present advised, he was not prepared to recommend legislation for the purpose of establishing degrees or diplomas for persons who had not satisfied the statutory requirements of the General Medical Council.

**Small-pox and Vaccination.**—In reply to Mr. Broad, Mr. Neville Chamberlain gave the ages of the thirteen persons registered in 1924 as dying from small-pox, with the other diseases, if any, mentioned on the death certificates. These deaths were: 10 months, small-pox, marasmus; 15 months, whooping-cough, broncho-pneumonia, small-pox; 9 months, small-pox, convulsions; 15 years, small-pox; 2 months, variola; 24 days, small-pox; 22 months, small-pox, measles, convulsions during convalescence; 14 years, eretism from birth, valvular heart disease, dropsy, small-pox; 28 days, congenital debility, variola; 36 years, haemorrhagic small-pox; 7 years, haemorrhagic small-pox, cardiac failure; 39 years, the same; 52 years, pelvic abscess, small-pox. Mr. Whiteley asked the Minister of Health whether modern methods of vaccination tended to produce faint marks which sometimes disappeared. Mr. Chamberlain said he was advised that the marks produced by modern methods of successful primary vaccination seldom disappeared. Mr. Whiteley asked whether the medical officers of the Ministry based their classification of the vaccinal condition of small-pox cases on the presence or absence of the vaccination marks. Mr. Chamberlain, in reply, gave the five headings under which the chief medical officer of the Ministry classified small-pox cases. One heading was "stated to have been successfully vaccinated, but no vaccination cicatrix present." In reply to Mr. Lee, Mr. Neville Chamberlain said that there were approximately 3,514 public vaccinators in England and Wales; 15 were paid by salary and the rest by fees. Separate information was not available on the number or cost of vaccinations performed by them. Medical officers of Poor Law institutions who were also public vaccinators for such institutions numbered 692, of whom 11 received salaries for this work.

**Deaths from Infectious Diseases.**—In reply to Mr. Rhys Davies, Mr. Neville Chamberlain supplied the following table:

Year.	Influenza.	Scarlet Fever.	Measles.	Whooping-cough.	Cholera-pox.	Epidemic typhus.	Small-pox.
1915	10,481	2,406	16,445	8,143	92	—	13
1916	8,791	1,381	5,413	6,075	65	—	18
1917	7,229	758	10,538	4,502	49	—	3
1918	112,339	1,020	9,787	9,858	54	15	2
1919	44,801	1,221	3,534	2,105	55	291	23
1920	10,665	1,430	7,190	4,401	71	480	20
1921	8,995	1,305	2,241	4,576	57	129	5
1922	21,493	1,382	5,691	6,370	40	339	27
1923	8,461	993	5,316	4,162	52	531	7
1924	18,935	838	4,834	3,933	59	1,407	13

**Tuberculosis.**—In answer to Colonel Day, Mr. Neville Chamberlain said the gross expenditure on tuberculosis treatment by local authorities of England and Wales in 1922-23 was £348,718 capital expenditure and £2,749,073 other expenditure. For 1923-24 the capital expenditure was not known, but the other expenditure was £2,766,131. Answering Colonel Heneage, Mr. Chamberlain regretted that the number of persons in Great Britain suffering from tuberculosis in 1924 was not available. He had issued special regulations which would provide reliable data next year of the number of tuberculous persons whose cases had at any time been notified and who were still suffering from the disease at the end of 1925. In England and Wales in 1924, 41,103 persons died from tuberculosis. In England and Wales 72 persons under 15 years of age died from tuberculosis of the glands and bones. He could not say in how many of these cases milk infection was traced. The Medical Research Council's investigations indicated that in 20 per cent. of cases of bone and joint tuberculosis in children which were investigated the infection was of bovine origin. In cases of gland tuberculosis the percentage was considerably higher.

**Pensions.**—Captain Gee asked the Minister of Pensions whether awards made by medical boards were subject to revision by officials of the Pensions Department. Major Tryon said every award made under the Royal Warrant was in accordance with an assessment by a medical board which had seen and examined the man. The assessment could be referred to a board, but in every case a board which had seen the man made the final assessment. The officials had no power to alter assessments, but the assessors could point out that in their opinion the medical board had assessed a man too high or too low. In reply to a further question by Captain Gee, Major Tryon said that for years there had been arrangements with local institutions whereby the Ministry obtained electro-cardiograms when they were considered medically necessary. As medical examination was carried out at centres throughout the kingdom it was impracticable to provide an instrument at the Ministry. Captain Gee asked whether, through the absence of an electro-cardiograph at the Pensions Department, many ex-service men failed to establish their claim for cardiac disability, though, in private hospitals which possessed an electro-cardiograph, they were found to suffer from heart trouble. Major Tryon repeated that the Ministry found it best to use instruments which were locally

available. In reply to questions by other members, the Minister of Pensions said: (1) That he saw no ground for setting up a special committee of medical and other advisers on hardships occurring through the time limit on appeals against final awards where a man's condition had become materially worse or a second or third disability had arisen. (2) That so long as the clinic at Broad Street, Holborn, was in operation, and the Ministry of Pensions had cases which could usefully be sent to it, the department would continue to use it. The clinic belonged to the British Red Cross Society, and the question of closing it was not a matter for the Ministry. (3) That the records of the Ministry of Pensions did not show how many widows, children, or dependants of dead ex-service men were receiving pensions when the cause of death was general paralysis of the insane.

**Maternity.**—Mr. Groves asked the Minister of Health to urge local authorities to arrange, where the prospective mother was too poor to engage the services of a qualified medical man, that this service should be provided freely. Mr. Chamberlain said that under the Midwives Acts the services of a doctor were available in emergencies without cost to the patient if she was unable by reason of poverty to pay the doctor's fee. The circular of June 30th, 1924, also urged the provision of maternity beds, and in individual cases local authorities were recommended to make good any deficiencies in this respect discovered on inspections by the medical officers of the Ministry of Health. Sir Kingsley Wood said that on May 1st the number of maternity and child welfare centres in operation in England and Wales was 2,368.

**Poisoning by Hydrochloric Acid.**—Colonel Day asked the Minister of Health the number of deaths caused by drinking spirits of salts during 1924. Mr. Chamberlain said the figure for 1924 was not available. In 1923 the deaths from hydrochloric acid poisoning were 73 suicidal and 7 accidental. These figures did not differ appreciably from those of the two previous years. On the information available there did not seem any ground for increasing the restrictions on the sale of hydrochloric acid, which were already imposed by the Poisons and Pharmacy Act, 1908.

**Hospitals.**—The Minister of Health hopes to receive the report of the Voluntary Hospitals Commission before the end of June; 963 approved societies with a membership of about 5,000,000 persons include payments to hospitals or convalescent homes in their existing schemes of additional benefit. About £210,000 was spent on this additional benefit during 1924, the greater part being paid in respect of the treatment of members in hospitals.

**Silicosis.**—The Home Secretary informed Mr. J. Hudson that the Home Office was investigating the incidence of silicosis in the potteries industry. An inquiry into silicosis in the stone industry would be taken in hand next. These inquiries were necessary before a scheme could be framed under the Workmen's Compensation (Silicosis) Acts, 1916 and 1924. Silicosis could not suitably be scheduled under the Workmen's Compensation Act. He was aware of the occurrence of silicosis among men working certain kinds of stone.

#### Notes in Brief.

The number of accidents resulting in death or personal injury caused by vehicles in Great Britain during 1924 was: Fatal, 3,631; non-fatal, 94,584; total, 98,215. Of the fatal accidents, 3,019, and of the non-fatal, 64,318 were due to mechanically propelled vehicles other than trams and trackless trolley vehicles. In London, during 1924, there were 59,122 street accidents in which motor vehicles were concerned.

The Home Secretary hopes to introduce the Coroners Bill very shortly.

Government expenditure for scientific research in 1925-26 is estimated to exceed £4,000,000.

The Minister of Health is not aware that chrysamine is used by hawkers to colour unripe oranges, but his attention has been called to a case where chrysoidine was used. There is no evidence of toxicity which would justify prohibition of the use of these colouring matters.

## Correspondence.

### WIDAL'S HAEMOCLASIC CRISIS TEST FOR LIVER FUNCTION.

SIR,—As I was working in Professor Widal's clinic in Paris during the winter of 1923-24, and had, therefore, opportunities for seeing the French technique of this test at its source and for discussing the results with the originators of the method, I may perhaps be excused for making a few comments on Dr. A. F. Bernard Shaw's article in the BRITISH MEDICAL JOURNAL of May 16th (p. 914).

The haemoclastic crisis was discovered many years before any attempt was made to apply it as a test for liver function. In investigating anaphylaxis in its various clinical manifestations it was established that certain phenomena occurred with, or just preceded, the onset of the anaphylactic symptoms. The most important of these phenomena were: a fall in the leucocyte count and in the arterial blood

pressure, an increase of the clotting time of the blood, and a lowering of the refractive index of the blood serum. The presence of this haemoclastic "shock", or "crisis" was demonstrated in such varying conditions as oedema, asthma, and paroxysmal

has propounded an hypothesis, which is admittedly purely speculative, to explain the phenomena of haemoclastic. He suggests that the colloidal constituents of the body fluids are normally in a condition of equilibrium. In a sensitized individual minute quantities of an incompatible colloid (or even, it is claimed, of a crystalloid) may disturb this equilibrium to a more or less profound degree. This "colloidal crisis" is accompanied by those changes in the blood described as the haemoclastic crisis. Haemoclastic, therefore, is, according to this hypothesis, an indication of some disturbance of "colloidal equilibrium" in the body fluids—a disturbance which becomes clinically evident by the appearance of the symptoms of the various diseases and conditions which are generally recognized as being due to anaphylaxis or "protein shock."

The test for liver function arose out of the foregoing theory. It was argued that an impaired liver would be likely to let imperfectly metabolized protein products pass into the systemic circulation, that these would be likely to produce a mild colloidal crisis, and that this latter could be recognized by the appearance of a haemoclastic crisis. This argument was confirmed by animal experiments. In animals with an Eck's fistula a protein meal produced a haemoclastic crisis, and a similar result was obtained by injecting portal blood from an animal digesting a protein meal into a healthy animal. For the purposes of a clinical test it was therefore proposed to give a fasting subject a protein meal and to watch for the occurrence of a haemoclastic crisis. Furthermore, Widal suggested that for clinical purposes the leucocyte count and arterial blood pressure, being the simplest investigations to perform, would be sufficient to reveal the presence or absence of a haemoclastic crisis.

Dr. Bernard Shaw's main criticism of the test is that there is a normal and physiological variation in the leucocyte count which vitiates the results however careful the technique. In this he is supported by other recent writers, and I think there can be little doubt that the criticism is sound. But this does not necessarily mean that the test is useless. It is peculiarly unfortunate that Widal should have selected as the criteria of a haemoclastic crisis two things which appear to be profoundly influenced by outside factors. Both the leucocyte count and the blood pressure seem to vary from moment to moment in healthy subjects, and there is evidence to show that both may be affected by psychic and emotional disturbances. But we are not, I think, justified in denying that a haemoclastic crisis follows a protein meal in a subject with an impaired liver until the refractive index and the coagulability of the blood have been investigated. Neither of these investigations is very complicated to perform, and it would seem, on the face of it, that they might provide a more reliable indication of the occurrence of a haemoclastic crisis. At any rate, I do not think that Dr. Bernard Shaw is justified in stating that the test "lacks a theoretical basis." Its basis, if anything, suffers from being too theoretical.—I am, etc.,

London, S.W.1, May 24th.

MAURICE E. SHAW.

### SLEEP AND SLEEPLESSNESS.

SIR,—In Dr. C. P. Symonds's interesting paper on this subject in the JOURNAL of May 9th (p. 869), I note that there is no reference to the use of high-frequency currents as an important method of combating sleeplessness. So far back as 1905 I read a paper in London, before the Electro-Therapeutic Society on the benefit obtained in cases of pure insomnia, when pain was not the cause, through the use of high-frequency currents. At the same time I gave notes of the results of this form of treatment.

Drugs, of course, can produce sleep, but they are all more or less poisonous, and the sleep produced by them is not as a rule refreshing. On the other hand, the sleep which follows the application of high-frequency currents is dreamless and childlike; on waking the patient has none of the unpleasant sensations so often caused by the use of drugs, but is refreshed both in mind and body. I have employed

these currents for almost a quarter of a century, and can therefore speak of their value with the utmost confidence. Never have I seen any deleterious results, and the failures have been scarcely worth mentioning.

The method employed has been the condenser couch, 250-800 milliamperes being passed through the patient daily. Sometimes high-frequency massage, principally over the skin of the back, was employed, the patient holding an electrode connected with one of the poles, whilst the operator, in direct connexion with the other terminal, completed the circuit by laying his hand on the patient's skin.

It is a common occurrence for patients undergoing high-frequency treatment for some other complaint—for example, neuritis—to offer the unsolicited remark that they are now sleeping much better, and that as a consequence the lethargy and listlessness previously complained of have disappeared.

To the May number (1906) of *Medical Electricity and Radiology* I contributed a paper, illustrated by charts, showing how the surface temperature of the body was raised, even as much as  $17^{\circ}$  F., by passage of high-frequency currents. With this rise on the surface of the body it is reasonable to conclude that a certain amount of cerebral anaemia occurs, and this may well account for the sleep produced. As a rule also pulse rate and the blood pressure are reduced. Whatever be the explanation, the fact remains that insomnia may be safely, confidently, and successfully treated by the use of high-frequency currents, and this is true of severe as well as of slight cases.—I am, etc.,

Glasgow, May 19th.

W. F. SOMERVILLE, M.D.

#### RELAPSE IN MEASLES.

SIR,—Sir John W. Moore's interesting and informative letter in the *Journal* of May 16th (p. 946), in reply to the question, Is there such a thing as relapse in measles? prompts me to relate the following: On April 8th last I was called to see a little girl of 5 with all the signs of measles; temperature  $103^{\circ}$ . The next day the rash was unmistakable and the conjunctivitis severe. There was also much cough and bronchitic signs in the chest. At the end of eight days the child was apparently quite well, except that there was still some swelling of the eyelids.

On the twelfth day I was summoned again, the mother stating that the child's eyes were much worse. The temperature was now  $102^{\circ}$  and the eye symptoms much more severe. There was also sneezing, recrudescence of the cough, and, to my surprise, a copious rash, which the next day was again absolutely typical of measles. The second attack ran almost as severe a course as the first, but the child is now recovering, although much debilitated.

At no time was there any resemblance to either German measles or scarlet fever.

As a matter of interest, I might add that I have seen two or three cases of measles in children under 3 months during this last epidemic.—I am, etc.,

Llanelli, May 19th.

OSCAR WILLIAMS, M.B., B.S.Lond.

#### CLEAN MILK.

SIR,—I think that Dr. Chalmers Watson is mistaken in imagining that Scottish local authorities are unaware of the value of graded milk, or that Paisley is a pioneer in the matter.

The Anderson Sanatorium for Tuberculosis at Hawick has been supplied with Grade A tuberculin-tested milk since last August, and the South-Eastern Counties Joint Sanatorium at East Fortune, under my friend Dr. Cameron, has been similarly supplied for a considerable time. The East Fortune institution serves the counties of Midlothian, Peebles, West Lothian, East Lothian, Roxburgh, Selkirk, and Berwickshire. It may be worth stating that the Burgh of Hawick (about 16,000 inhabitants) has two sources of supply, and that there are four in this county, with a fifth about to start. One dairy company draws its supply from without the county—namely, from Cumberland. The tuberculosis authority of the county of Roxburgh is keenly interested in the matter of clean milk, and draws attention to milk dangers in its domiciliary pamphlet.

While writing of milk, I would like to add that milk is not necessarily clean because it is distributed in bottles. The

public should know that graded milk and milk in bottles are not always the same thing. Experience has led me to believe that this point is not appreciated by everyone.—I am, etc.,

Newtown St. Boswells, May 23rd.

G. B. PAGE, M.D.

#### INDIVIDUAL MEDICAL DEFENCE.

SIR,—Dr. Henry Robinson states (May 9th, p. 804) that in my letter (May 2nd, p. 861) I glozed over the issue of "the overwhelming importance of a large reserve fund to a medical defence society," and then reiterates that the present societies have large reserves, while the proposed British Medical Association society will have none. Why does he harp so much on one string? The chorus in which he is joined by Dr. Tracy Lydall will get rather monotonous.

It is obvious that a reserve fund is important to an insurance society, especially if it is to carry the whole of its liabilities. But in these days of re-insurance reserve funds are of less importance, especially to a medical defence society, than a sure steady premium adequate to meet the risks. Dr. Robinson's society insures with the Yorkshire Insurance Company: a wise course, and I cannot understand why he wishes me to "withdraw unreservedly" the paragraph in my letter of May 2nd dealing with this relationship. I am willing to do so if he will point out where I am in error. I have no wish to create a wrong impression, and, to avoid this, perhaps I should explain that some years ago the Medical Defence Union issued separate policies of the Yorkshire Insurance Company to its members. For each of these policies a premium of 7s. 6d. was charged, and the insured was covered, subject to the conditions of the Union, up to £2,000. Now these separate policies have been discarded and the Union pays a lump sum to the company. In 1922 it paid £1,280 3s. 9d. for 9,375 members, which works out at 2s. 9d. a member. These figures are taken from the balance sheet of the Union. Since the Harnett case the Medical Defence Union and the London and Counties Medical Protection Society have given unlimited cover without increase of subscription. This does not mean that their reserve funds have increased to an unlimited extent; it means that the premium for re-insurance has been increased proportionately to meet the increased liability; or it may even mean that, owing to increased membership, the premium per capita is not increased, although there is increase in the total sum. As regards the new company, I have every confidence that the Council of the Association will be able to work out a sound scheme of finance, and if it should require a guarantee fund for a short period to allow the company to get established, an appeal from it would not go unanswered.

I come now to the much more difficult question of the relationship of a defence society to serious professional misconduct involving the honour of the profession, and only indirectly affecting the public. I must thank Dr. Robinson for so promptly answering my question whether his society would prosecute one of its own members before the General Medical Council for a grave professional offence. Dr. Gillbard thinks this a naive query, but why should he assert that it settles the case against the Association taking up medical defence, when an experienced manager like Dr. Robinson states that such action would be *ultra vires*? In illustration of the difficulty, allow me to quote an instance.

In 1923 a defence society, at the instance of Dr. X, one of its members, prosecuted Dr. Y, a member of another society, before the General Medical Council for alleged advertising and canvassing. This was quite a legitimate case of one defence society against another. But what would the position have been had Dr. X and Dr. Y both been members of the same society? (I suppose it was merely a matter of chance that they were not). In such a case, according to Dr. Robinson, Dr. X could not have gone forward with his charge through the defence society against Dr. Y. He would have had to do it privately at his own expense, and Dr. Y would have been defended by the society of which Dr. X was also a member. It seems a curious position.

When the question of indirect advertising came into prominence the General Medical Council was very loth to issue a Warning Notice (which it eventually did) without a case being brought before it. Of course, no one would



undertake, nor was there any organization willing to undertake, the heavy expense and worry of bringing a case to the seat of judgement.

All this goes to show that the organization of the profession is very incomplete, and those who think that the proposed Association company would be at a disadvantage with regard to G.M.C. cases as compared with the existing defence societies should realize that these societies are equally tied in respect of their own members. The proposed society will have one advantage that the other societies lack, and that is the help of the ethical machinery of the Association for adjudication of professional differences. Those interested in this topic will find in Section V of the Association's *Handbook* a lucid and comprehensive statement on medical ethics, and they will appreciate how naturally and logically the objects and rules of the proposed society will fit in and follow para. 128 in future issues of the *Handbook*. Dr. Bolam has done much to improve medical organization by co-operation with the Society of Medical Officers of Health, and I trust that with the capable assistance of Dr. Morton Mackenzie (whom I must thank for the information in his letter published on May 9th), he will be able to make another advance after the Representative Meeting at Bath.—I am, etc.,

Warrington, May 10th.

J. S. MANSON.

### Medico-Legal.

#### REX v. BATEMAN.

##### CONSIDERED JUDGEMENT OF COURT OF CRIMINAL APPEAL.

In the Court of Criminal Appeal, on May 25th, the Lord Chief Justice of England (Lord Hewart) delivered the considered judgement in the appeal of Dr. Percy Bateman of New Cross Road, London, against his conviction and sentence at the Central Criminal Court for manslaughter. The appeal was heard on February 9th, and the proceedings on the previous application for leave to appeal and on the appeal itself were fully reported in the *BRITISH MEDICAL JOURNAL*, February 7th (p. 285) and February 14th (p. 334). It will be remembered that the appeal was allowed and the conviction quashed, but the Lord Chief Justice, in announcing this decision, stated that in view of the importance of some, at any rate, of the questions raised the court proposed to consider its judgement and deliver it on a later date.

At the delivery of the considered judgement the Lord Chief Justice was accompanied by Mr. Justice Salter; Mr. Justice Fraser, who also heard the appeal, was absent.

##### The Facts of the Case.

The Lord Chief Justice began by summarizing the facts of the case. The appellant, Percy Bateman, was convicted at the Central Criminal Court, before Mr. Justice Shearman, for manslaughter, and was sentenced to six months' imprisonment in the second division. He appealed, by leave, against that conviction and sentence. The court, after hearing arguments of counsel, quashed the conviction and intimated that a considered judgement would be delivered at a later date.

The appellant, who was a qualified medical practitioner, was indicted for having, on July 30th, 1924, unlawfully killed one Mary Ann Harding, whom he had attended in childbirth. He was called in by the midwife to attend the woman on July 23rd, and found an unusual and difficult presentation. He administered chloroform and attempted, unsuccessfully, to effect delivery by instruments. No blame was imputed to him on that account. He then proceeded, by using his hands, to perform the operation known as version, employing, of necessity, considerable force. He worked at this operation for an hour, and then delivered the child dead. By mistake he removed, along with the placenta, a portion of the uterus. The patient was much exhausted, and the appellant did not expect her to live. He visited her twice daily until the 28th. Although requested by her husband and the midwife to have her removed to the infirmary, he did not have her so removed until the 28th. On admission to the infirmary she was found unfit to undergo an operation, and she grew gradually weaker and died on the 30th. At the *post-mortem* examination the bladder was found ruptured, the colon was crushed against the sacral promontory, there was a small rupture of the rectum, and the uterus was almost entirely gone.

The charges of negligence made against the appellant were in substance three: (1) causing the internal ruptures on performing the operation of version; (2) removing part of the uterus along with the placenta; (3) delay in sending the patient to the infirmary. For the defence it was contended that (1) and (2), in the difficult circumstances of the case, were not inconsistent with a fair degree of care and competence, and as regards (3), that he had removed the patient at an earlier date would have accelerated her death. At the hearing of the appeal counsel for the appellant urged misdirection on law, misdirection and non-direction on the facts, and that the verdict was against the weight

##### The State of the Law.

Before dealing with the directions of the learned judge to the jury it was desirable to consider generally the state of the law on this subject. In expounding the law to juries, judges had often referred to the distinction between civil and criminal liability. The law of criminal liability was conveniently explained in that way. If A had caused the death of B by alleged negligence, then, in order to establish civil liability, the plaintiff must prove, in addition to the pecuniary loss, that A owed a duty to B to take care, that that duty was not discharged, and that such default caused the death of B. To convict A of manslaughter it was necessary, in addition to these three things, to satisfy the jury that A's negligence amounted to a crime. In a civil action, if it was proved that A fell short of the standard of reasonable care, the extent of the liability depended, not on the degree of negligence, but on the amount of the damage done. In the criminal court, on the contrary, the amount and degree of negligence were material questions. The difference between "negligence" and "gross negligence" was illustrated by the case of *Cashill v. Wright* (as reported in *Ellis and Blackburn*, vol. 6). This was an action against an innkeeper by a traveller for the loss of certain goods stolen from him while putting up at the inn. The defendant contended that the loss had been occasioned or contributed to by the negligence of the plaintiff. At the trial the jury were directed that the defence failed unless they thought the plaintiff had been guilty of gross negligence, and the verdict was for the plaintiff. The case was carried to appeal before Lord Chief Justice Campbell, Mr. Justice Woodman, Mr. Justice Erle, and Mr. Justice Crompton, and Mr. Justice Erle (as he then was), in delivering the judgement of the Court, said:

"The other question was as to the alleged misdirection in the direction to the jury that there must be gross negligence, to maintain the defence. It does not appear that there was any information given to the jury as to what they were to understand by gross negligence. If they were told to understand by gross negligence the absence of that ordinary care which, under the circumstances, the prudent man ought to have taken, as seems to have been the meaning given to gross negligence in some of the modern cases cited before us, the direction as to the degree of negligence might not have been objectionable; but the legal meaning of gross negligence is greater negligence than the absence of such ordinary care. It is such a degree of negligence as excludes the lowest degree of care and is said to amount to *dolus*."

The rule was made absolute.<sup>2</sup>

The Lord Chief Justice continued:

In the directions to juries on the test to apply in order to determine whether or not negligence amounted to a crime judges have used many epithets, such as "culpable," "criminal," "gross," "wicked," "clear," "complete." But whatever epithet is used, and whether an epithet is used or not, to establish criminal liability the facts must be such that, in the opinion of the jury, the negligence of the prisoner goes beyond a mere matter of compensation between subjects, and shows such disregard for the life and safety of others as to amount to a crime against the State and conduct deserving of punishment. It remains to consider the application of this principle to cases like the present in which there is alleged negligence on the part of a person possessing special knowledge and skill against whom a charge of manslaughter is preferred.

##### The Possession of Special Knowledge and Skill.

The Lord Chief Justice here mentioned the titles and references in the legal case-books of some eighteen cases which, he said, illustrated this point. They included several of the cases mentioned in the arguments during the hearing of the appeal. He continued:

The law as laid down in these cases may be thus summarized. If a person holds himself out as possessing special skill and knowledge, and he is consulted as possessing such skill and knowledge by or on behalf of a patient, he owes a duty to his patient to use due caution in undertaking the treatment. If he accepts the responsibility and undertakes the treatment, the patient submits to his direction and owes a duty to the patient to use skill, and caution in administering the treatment. The relationship is necessary, nor is it necessary that the service shall be rendered for reward. It is for the judge to direct the jury what standard to apply, and for the jury to say whether that standard has been reached. The jury should not exact the highest or a very high standard, nor should they be content with a very low standard. The law requires a fair and reasonable standard of care and competence. This standard must be reached in all the matters above mentioned. If the patient's death occurs it will not avail for the defendant to show that he had sufficient knowledge, nor that he was diligent in attendance, if the patient was killed by his unskillfulness and carelessness. As regards cases where incompetence is alleged, it is only necessary to say that there an unqualified practitioner cannot claim to be measured by any lower standard than that which is applied to the qualified man. As regards cases of recklessness juries are likely to distinguish between the qualified and the unqualified man. There may be recklessness in undertaking the treatment and recklessness in the conduct of it. It is conceivable that a qualified man may be held liable for undertaking a case which he knew or should have known was beyond his powers. In the case of a quack, where the treatment has been proved to have been incompetent, and to have caused the patient's death, juries are not likely to hesitate in finding liability on the ground that the defendant undertook and continued to treat his case involving the gravest

<sup>1</sup> "Dolus" in civil law means malicious or criminal intent.

<sup>2</sup> This case of *Cashill v. Wright* was decided in 1856.



risk to his patient when he knew he was not competent to deal with it.

The foregoing observations deal with civil liability. To support an indictment for manslaughter the prosecution must prove all the matters necessary to establish civil liability (except pecuniary loss) and, in addition, must satisfy the jury that the negligence and incompetence went beyond a mere matter of compensation between subjects, and showed such disregard for the life and safety of the patient as to amount to a crime against the State and conduct deserving of punishment.

#### *The Summing up of Mr. Justice Shearman.*

The Lord Chief Justice next addressed himself to the summing up of Mr. Justice Shearman at the Central Criminal Court, and read several lengthy passages. At the outset of the summing up the learned judge had said:

"The law is that anybody who causes the death of anybody else—it does not only apply to a doctor, it applies to motor drivers, railwaymen, or signalmen, it applies to a number of people—anybody causing the death of anybody else is criminally responsible. It is equally clear law that no one is criminally responsible for what I call making a mere mistake, and it is really for the jury to draw the line between what is called making a mere mistake, an error of judgement, and doing something which is grossly and palpably wrong. I have only one objection to make to the law as put before you by the counsel for the defence: that a man is bound to do [?] act to the best of such skill as he has. That is not quite accurate. A medical man who practises for profit the medical profession professes skill: he does not come and say, 'I am an unskilled person'—he is engaged and professes skill. Of course, you will understand it is not for every humble man of the profession to have all that great skill of the great men in Harley Street; but on the other hand, they are not allowed to practise medicine in this country unless they have acquired a certain amount of skill: they are bound to show a reasonable amount of skill according to the circumstances of the case, and you have to judge them on the basis that they are skilled men, but not necessarily so skilled as more skillful men in the profession, and you can only convict them criminally if in your judgement they fall below the standard of skill which is the least qualification which any doctor should have. You should only convict a doctor of causing a death by negligence if you think he did something which no reasonably skilled doctor should have done."

The learned judge had continued:

"You have got to consider if this man in anything he did fell below the level which you expect of a doctor—below that degree of skill which you think you have a right to expect of a doctor—by no means the extreme skill which everybody knows of, but that degree of skill which you expect from a doctor who attends an accouchement and who is taken to know his business."

In the course of his review of the evidence the learned judge referred to the law in the following passages:

"It is said that this man so treated her that by his treatment he committed all these injuries: he ruptured the womb, he ruptured her bladder in pushing about, and he caused the injuries to her intestines; and in the same way it is said that when he came to pull out the placenta, instead of pulling the placenta out of the womb he caught hold, not of the placenta, but of some tear or slit in the torn womb, and with a tug—the expression was a 'sharp pull'—he pulled it away. It is said by the Crown that that shows that in doing this, and in pulling out the womb, he was guilty of gross negligence. It is said on behalf of the defence—and they called eminent surgeons—'Well, the nurse saw nothing wrong with the way he treated her, although the force was used, and was necessary, and it was unfortunate.' It is said that there was no gross negligence, and it is for you, if you feel any doubt, to see that the prisoner gets the benefit of the doubt, but are you satisfied on that that there was gross negligence? The doctors called for the defence say this: they say, 'Oh, it is quite reasonable to mistake a tear in the womb for the placenta.' That is entirely a matter for you, and it is a view not entirely accepted by the doctors called for the prosecution, although they agree in cross-examination that after all this working a portion of the womb might be torn, but a reasonably skilful man might note the difference between pulling the womb and something that might be adherent to the inside, and the prosecution call attention to the fact of the steady outflow of the blood, and say that in pulling out the womb he was guilty of gross negligence, and the defence was, a very natural mistake, in the circumstances of the case."

Again, to continue the quotation:

"The Crown first of all say there was gross negligence, and you will not find it unless you are quite satisfied of it, in pulling away the womb at all—in what he did before and in pulling it away. It is suggested by the defence, nothing of the sort; at most and at worst it was a mistake, and we say it was not negligence; it was the sort of thing that might happen in this remarkable case."

And again:

"Passing away from that and summing up the first case, if you think and are satisfied that it was his treatment in tearing away the womb—previous to and up to tearing away the womb—you will convict him; if you are not satisfied and think there was no negligence at all, or if you have a reasonable doubt whether there was gross and culpable negligence, up to that point you will acquit him."

Again:

"That, substantially, is the case for the Crown on the second part of the case, and they say substantially he was guilty of grave, wicked negligence and culpable neglect of duty in not taking some steps to remedy what had been done by his own fault; or if you do not think it was gross negligence they say he ought to have done something to try and save this woman's life, but he did not do anything because he wished to save his own reputation."

Again:

"Those are the historical facts. Do you think, assuming you are satisfied by the prosecution that in pulling away the womb at all and the acts preceding, that he was guilty of gross negligence and culpable negligence in causing her death?"

"Then you come to the second head. Was he guilty of gross or culpable negligence in accelerating this woman's death by so neglecting her from the time that he knew her uterus had been removed? If you are quite satisfied that the woman wanted treat-

ment and, from the history of the case, that if she had had some treatment her life would have been prolonged, you will find him guilty; if you have any doubt about it you will find him not guilty. I would remind you of what I said to you at the outset that you have to be satisfied, not only that he was guilty of gross and culpable negligence, but that he caused or accelerated her death. . . . That is the whole case. If you are satisfied that either in the way he delivered the child or in the way he acted afterwards he acted with gross negligence and thereby caused her death, you will find him guilty; if you are not satisfied you must acquit him on that part of the case. If you think that after the womb had come away his conduct and neglect of her substantially accelerated the date of her death—if you are satisfied of that, you will convict him on that part of the case. If you feel any reasonable doubt on either theory you will give him the benefit of the doubt and acquit him."

The Lord Chief Justice went on:

"So far the passages from the summing up. If the words 'gross,' 'wicked,' and 'culpable' are put aside, this summing up amounts to a direction to the jury that they must draw the line between mistake or error of judgement on the one hand and carelessness and incompetence on the other. If there was only mistake or error of judgement there was no liability, but if there was anything short of the average degree of care and competence then there was liability. Such a direction would be complete and adequate on a trial of an action for damages; it was not adequate for trial for manslaughter. There is a frequent use of the adjectives which have always been used in these cases, and for this reason this court as a whole is of opinion that there was no misdirection. It is, nevertheless, most desirable that in trials for manslaughter by negligence it should be pressed on the jury that the issue is, not negligence or no negligence, but felony or no felony. It is desirable that as far as possible the explanation of criminal negligence to a jury should not be a mere question of epithets. It is in a sense a question of degree, and it is for the jury to consider the degree; there is a difference in amount between the negligence which gives a right to compensation and the negligence which constitutes a crime."

The learned judge was invited to withdraw the first and second charges from the jury. He declined to do so. The learned judge left all three charges to the jury. The jury returned a general verdict of "Guilty." In the opinion of this court there was no evidence to support the first charge (that based on the manner in which the accused performed the operation of version). A strong defence was presented on the third charge, and it might well be that the jury relied largely on the first and second charges. If the first charge had been withdrawn from them it is impossible to say they would certainly have convicted. For this reason the conviction could not stand.

#### THE "E.R.A." CULT.

##### NEW ZEALAND PRACTITIONER STRUCK OFF THE REGISTER.

On the motion of the New Zealand Medical Board, the name of Henry Dundas Mackenzie, medical practitioner of Auckland, was ordered by Mr. Justice Herdman, sitting in the Supreme Court of New Zealand, on March 30th, 1925, to be removed from the *Medical Register of New Zealand*, two years being fixed as the time after which he may apply for re-registration. The hearing of the action lasted nine days.

Dr. Mackenzie is a graduate of the Homeopathic Medical College, Missouri, U.S.A.—not now existing—and commenced practice in New Zealand in 1896. In 1920 he spent a few months in the clinic of Abrams at San Francisco, studying electronic reactions alleged to be obtained by the use of the Abrams box, and upon his return to Auckland with a diagnostic outfit, and an oscilloclast, or treatment machine, set up as a specialist in cancer, the words "Cancer and chronic diseases" being inscribed upon his door-plate. On August 16th, 1924, Mrs. Lawrence, of Hamilton, New Zealand, was awarded £2,000 damages against Dr. Mackenzie for negligence in the diagnosis and treatment of a cancerous growth of the breast.

On the motion for the removal of Dr. Mackenzie's name from the *Medical Register*, the New Zealand Medical Board alleged that he had been guilty of infamous conduct in a professional respect in practising the Abrams method of diagnosis and treatment in such a manner as to show that he could not honestly have believed it was a reliable or useful method in the cases in which he employed it.

#### *Judgement of the Supreme Court.*

Mr. Justice Herdman, in his judgment, admitted that he held himself out as a medical practitioner in this title. It was well justified this title. It was well there was a substantial percentage of error with the Abrams machine might be from 50 to 60 per cent. Evidence called went to prove that in certain instances, at any rate, Dr. Mackenzie relied for his diagnosis upon the Abrams machine alone, and never attempted to get corroboration of his finding by employing common clinical diagnosis methods. The contention of the Medical Board was that his actions and his methods proved that he had no honest belief in the Abrams system or the apparatus, and that he used it not so much for the purpose of discovering and treating disease as for the purpose of enriching himself. It was difficult to understand why in one case Dr. Mackenzie, possessing as he did expert knowledge which

enabled him to find the ulcer, and knowing that two other practitioners had diagnosed cancer, should not have attempted to consult the other men, or get some independent opinion, before accepting the final responsibility of finding a verdict against cancer. Time was of supreme importance in such a case as this. Every day that passed lessened the patient's chances of living. Unfortunately, in this instance (the judge continued) the Abrams machine in the hands of Dr. Mackenzie failed to detect a cancer which, in the opinion of other practitioners, was discoverable with ease.

In another case Dr. Mackenzie had announced after a machine test that the patient had cancer, whereas upon the evidence it seemed plain that the lady had not, and never had, cancer, and that there was no shadow of justification for suddenly making the startling announcement that she was the victim of a deadly disease. There was no evidence of any kind that Dr. Mackenzie endeavoured to fortify the opinion that he had formed from the machine by any clinical examination or by suggesting that any other opinion should be obtained. If he (the judge) accepted the patient's statement, then Dr. Mackenzie deliberately terrified the woman and strove to keep her out of the hands of legitimate practitioners. In the judge's opinion the inference that Dr. Mackenzie's conduct throughout that case indicated that he had any honest belief in the merits of the Abrams machine could not reasonably be drawn. The boggy of cancer had been raised in so many of the cases investigated during the hearing of that motion, and raised without any justification, and the advantages of Dr. Mackenzie's special treatment were so consistently stated, that one was forced to conclude that it was all done deliberately, and with a purpose, the purpose being to keep patients away from the practitioner who practised the sciences of medicine and surgery in accordance with principles that were generally recognized as being sound, and to force them into accepting treatment which brought substantial remuneration to the practitioner who raised the cry "cancer." Dr. Mackenzie's definitions of the disease he described as "carcinosis" were a medley of contradictory and unsatisfactory statements, altered as the circumstances of the case changed, whilst his rough announcement to a woman who was afterwards successfully operated upon for fibroid tumour, that she had cancer, was conduct which could not be described in language of moderation. It was with regret that he found himself driven to infer from the facts proved that with Dr. Mackenzie the Abrams system was only a means to an end. It was a means used primarily, not for the purpose of discovering disease and treating disease, but it was a means by which credulous people were attracted to the surgery where false hopes were raised and money easily gained. The judge referred to the refusal of Dr. Mackenzie to allow an impartial test of the system of diagnosis from blood, or from handwriting. If Dr. Mackenzie wished the truth told, why did he burke an investigation? The personnel of the proposed committee could not be objected to. It was ridiculous to suggest that any one of the gentlemen proposed to make the test would be guilty of dishonesty and fraud. As to the witnesses produced by the defence, to his mind there was no conclusive and convincing proof that cure or improvement spoken to by them was traceable to the Abrams method. The trial of the system was refused, and he could only conclude that those who refused such trial had no confidence in it. If there existed this lack of confidence—and it did exist—then this fact went a long way to prove that Dr. Mackenzie in his own mind must have doubted the soundness of the system. It seemed to him that one inference only could possibly be drawn from the accumulation of fact and circumstance before him—that Dr. Mackenzie had no honest belief in the usefulness and reliability of the system that he practised.

If a practitioner, in the practice of his profession, adopted and used a system in which he had no belief, then he accepted reward for services rendered by him which he must believe to be of no value. If he led the public to believe that the system in which he had no faith could detect disease and could be used to check or cure disease, then he was not acting honestly and in good faith, and he brought himself within the words of the statute and was guilty of "infamous conduct in a professional respect." It was not enough for Dr. Mackenzie to say that he believed in the system. That bare statement standing alone would not justify him when the facts were against him, when those upon whom the onus rested had shown that his acts and conduct had set at defiance the principles of professional honour and credit. In these proceedings that onus had been discharged, and Mr. Justice Herdman found himself obliged to come to the conclusion that the charge against Dr. Mackenzie had been proved.

Notice of appeal has been lodged.

## Universities and Colleges.

### UNIVERSITY OF OXFORD.

At a congregation held on May 23rd the degree of doctor of medicine (D.M.) was conferred on H. E. A. Boldero.

### UNIVERSITY OF LONDON.

Dr. E. C. Dodds has been appointed to the University Chair of Biochemistry tenable at Middlesex Hospital Medical School. The title of Emeritus Professor of Bacteriology in the University has been conferred upon Professor R. T. Hewlett as from August 1st, 1925, on his retirement from the University Chair of Bacteriology, and public health in the closing of the department of bacteriology. The degree of D.Sc. in Physiology has been conferred upon Mr. B. Babkin, an internal student of University College.

Dr. R. A. Young has been appointed to represent the University at the annual conference of the National Association for the Prevention of Tuberculosis to be held in London in July next.

Sir Holburt Waring will represent the University at the Imperial Social Hygiene Congress to be held at the British Empire Exhibition at Wembley in October next.

The semi-general election of members of the Senate for 1925-29 has resulted in the appointment of the following representatives by the bodies indicated:

Dr. B. Graham Little, M.P.; Royal London, Sir Wilmot Herringham, K.C.; City and Guilds of London Institute, Dr. G. Newton Pitt; Faculty of Medicine, Sir Holburt Waring.

### LONDON HOSPITAL MEDICAL COLLEGE.

The prize distribution at the London Hospital Medical College will take place on Tuesday next, June 2nd, at 3 p.m., when Dr. Charles H. Mayo of Rochester, U.S.A., will present the certificates.

### ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

At a meeting of the College held on May 20th, Sir Harold J. Stiles (President) in the chair, the following twenty-four successful candidates, out of fifty-five entered, who had passed the requisite examinations, were admitted Fellows:

Robert Findlay Allan, Captain Billeddra Dasa, I.M.S., Edward Jocelyn Billeffe, James Wares Brobauer, Russell Exon Butchart, Edwin Clark, Harold Keith Corkill, Daniel de Bruyn, John Alexander Docton, Francis Henry Edward

Dr. Sidney Scott Sumner, Theobald, John Maurice

The Bathgate Memorial Prize, consisting of bronze medal, set of books, and instruments, was, after a competitive examination in materia medica, awarded to Sydney Whyte Cruickshank, and the Ivison Macadam Memorial Prize in chemistry, consisting of bronze medal and set of books, was awarded, after competitive examination, to Frank Kerr Fenton.

### SOCIETY OF APOTHECARIES OF LONDON.

The following candidates have passed in the subjects indicated:

SENORARY.—F. T. Birkinshaw, M. R. Burke, T. G. L. Davies, N. H. Ibrahim, J. H. Clapp, J. Herbert, J. H. Rutherford, B. Temple-Raston, I. Waynik, M. E. G. Wilkinson, F. T. Birkinshaw, F. T. Birkinshaw, J. H. Clapp, D. T. Jenkins, I. H. Mackay, J. Maingard, C. J. Rozario, J. Shutt, B. Temple-Raston, M. R. Burke, F. T. Birkinshaw, A. F. Brigmea, D. T. Jenkins, E. W. D. Long, M. E. G. Wilkinson.

The diploma of the Society has been granted to Messrs. M. R. Burke, T. G. L. Davies, D. T. Jenkins, J. Maingard, O. W. Percival, R. J. Rutherford, and B. Temple-Raston.

## Obituary.

### THE MALARIA COMMISSION IN PALESTINE.

A TERRIBLE accident befell the members of the League of Nations Malaria Commission in Palestine. A party of five were returning from Beit Meri, a summer resort ten miles from Beyrout, when their car overturned and three members were killed—Major N. V. C. Lothian, R.A.M.C.(ret.), Dr. Samuel Darling, a representative of the Pan-American Health Committee of Washington, and Mlle Besson. Mme Delmas, wife of the chief medical officer of the French Army of the Levant, was seriously injured. Dr. Schwellegrebel, a Dutch representative, and the driver, a Frenchman, were slightly injured.

Major Lothian was nearly 38 years of age, having been born on July 31st, 1887. He was educated at Glasgow University, where he graduated M.A. and B.Sc. in 1909 and M.B. and Ch.B. in 1912. He took the D.P.H. and D.T.M. at Cambridge in 1919, and also held the certificate of the Medico-Psychological Association. After graduation he filled the posts of house-physician of the Glasgow Western Infirmary, house-surgeon of the Glasgow Royal Infirmary, and medical officer of the Stirling District Asylum at Larbert. He took a commission as lieutenant in the Special Reserve of the R.A.M.C. on May 8th, 1913, and transferred to the regular army in the same rank in January, 1914. He became captain in the great war promotion list of March 30th, 1915, and was given a brevet majority in June, 1919; he retired in April, 1923. He served during the war in charge of a divisional sanitary section, and for three years as a D.A.D.M.S. in the Near East, mainly on epidemiological work. He was mentioned in dispatches in the *London Gazette* of January 1st, 1916, December 6th, 1916, and November 28th, 1917, received the Military Cross on January 1st, 1918, and was also awarded the French Croix de Guerre.

## Medical News.

ON May 25th, at the Royal Society of Medicine, Sir William Collins presented the Chadwick gold medal and prize to Wing-Commander Whittingham, R.A.F. Professor Emilio Brumpt, of the Paris Faculty of Medicine, delivered a Chadwick public lecture on the conduct of an antimalarial campaign, illustrating his remarks with more than a hundred epidiascopes illustrating to demonstrate the breeding places of mosquitos in all parts of the world, and various researches into the life-history of the parasite and preventive measures. Professor Brumpt's next lecture will be on May 29th, at 5.15 p.m., in the lecture hall of the Royal Society of Arts, on the prophylaxis of sleeping sickness. Further particulars of the Chadwick lectures may be obtained from the secretary at the offices of the Chadwick Trust, 13, Great George Street, Westminster.

THE next meeting of the Section for the Study of Disease in Children of the Royal Society of Medicine will be held at Cambridge on June 20th in the biochemical laboratory. At 2.30 p.m. a paper will be read by Dr. Kay and Dr. Vines on bone formation and experimental rickets. After tea Dr. J. F. Gaskell will contribute a paper on the relation of experimental pneumonia in rabbits to the pneumonias of childhood. The members will dine together at 7 p.m.

THE annual prize-giving at St. Thomas's Hospital Medical School will take place on Tuesday, June 23rd, at 3 p.m., in the Governors' Hall. The prizes will be distributed by H.R.H. the Duke of Connaught, and tea and music will be provided on the terrace.

THE Fellowship of Medicine announces that the first of the new series of lectures will be given on June 9th, when Sir Thomas Horder will speak on "Some cases of fever without physical signs." The lectures are to be delivered at No. 1, Wimpole Street, at 5.30 p.m. A four weeks' course (from June 2nd to 27th) in venereal diseases will be given at the London Lock Hospital (Dean Street), and a course in dermatology at St. John's Hospital for Diseases of the Skin. From June 3rd to 25th, eight clinical demonstrations on the more important diseases of tropical countries will be given at the London School of Hygiene and Tropical Medicine, by Dr. Low and Dr. Maunson-Bahr. The Chelsea Hospital for Women will hold a course from June 8th to 27th; the Victoria Park Hospital a two weeks' course in diseases of the heart and lungs, from June 8th to 20th; and St. Peter's Hospital a course in urology from June 15th to July 11th. An intensive course in medicine, surgery, and the special departments has been arranged by the London Temperance Hospital from June 22nd to July 4th. Copies of the syllabus for the above courses may be obtained from the Secretary to the Fellowship of Medicine, No. 1, Wimpole Street, W.1.

THE Council of Epsom College is about to select candidates for a Gerald Stanley Medical Scholarship, which is open to the necessitous son of a medical man. Candidates must be fully 12 years of age, and be intended for the medical profession. The scholarship is of the value of about £130 a year, and is payable in advance to the Bursar of Epsom College. It will not be continued beyond the scholar's 17th birthday, by which time he should have passed the matriculation examination of the University of London, or its equivalent. On joining a medical school the holder of the scholarship will be required to attach himself to that of St. Bartholomew's Hospital, where, under certain conditions, a further scholarship will await him. Full particulars and forms of application can be obtained from the secretary at the office of Epsom College, 49, Bedford Square, W.C.1.

AN International Industrial Welfare Congress will be held in Flushing from June 20th to 26th. By this means it is hoped that a permanent link will be established between the countries through the formation of an international association for the study and promotion of satisfactory human relations in industry. An interim committee has drawn up a draft constitution for presentation at the Congress. Those wishing to attend are requested to send their names to the Secretariat, c/o Miss M. L. Fledderus, Glassworks, Leerdam, Holland.

DURING the recent German elections six medical practitioners, including one woman, Dr. Moses of Berlin, were elected to the Reichstag.

A CHAIR of epidemiology is to be established at the Collège de France, with Professor H. Vincent as its first occupant.

INVITATIONS have been issued to visit the National Physical Laboratory at Teddington on the afternoon of Tuesday, June 23rd.

THE annual meeting of the French Association for the Advancement of Science will be held at Grenoble from July 17th to August 9th.

THE sixteenth Italian Congress of Hydrology, Climatology, and Physical Therapy will be held at Montecatini, under the presidency of Professor G. D. Quelrolo, from July 11th to 14th. The principal subject for discussion will be the hydrological treatment of cholera-biasis. Further information can be obtained from the general secretary, Professor Carreras, Clinica Medica, Pisa.

IT is proposed to erect a monument to the late Professor Guido Baati in the University of Florence. Subscriptions should be sent to the rector of the University, Professor G. Chiarugi.

THERE are 57 lepers in Finland, mostly suffering from the maculo-anæsthetic form of the disease. They are all natives of the south-western part of the country, and the majority are being treated in the State sanatorium for lepers at Orivesi. In Sweden there were 37 lepers in 1923.

THE Institute for the Study of Tuberculosis and the Effects of High Altitudes at Davos has arranged to hold a climatological congress there next August (17th to 22nd). Particulars can be obtained from the secretary, Dr. Vogel-Eysen, Davos-Dorf, Switzerland.

ACCORDING to the *Journal of the American Medical Association*, only five of the sixty-nine cities in the United States with a population of more than 100,000 had a diphtheria mortality rate greater than 20 in 1924, as contrasted with 17 in the preceding four years' average, and thirty-seven had rates less than 10, as contrasted with 16 in 1920-23. Fourteen cities had rates under 5, while none averaged so low in 1920-23.

## Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to **THE EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.**

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the **BRITISH MEDICAL JOURNAL** alone unless the contrary be stated. Those who wish notice to be taken of their communications should sign them with their names, not pseudonyms.

Authors desiring REPRINTS of their articles published in the **BRITISH MEDICAL JOURNAL** must communicate with the Financial Secretary and Business Manager, 429, Strand, W.C.2, on receipt of proofs.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the **JOURNAL**, should be addressed to the Financial Secretary and Business Manager, 429, Strand, W.C.2.

THE TELEPHONE NUMBER of the **BRITISH MEDICAL JOURNAL** is **MUSEUM 9864**. The telephone number of the **British Medical Association** remains, until further notice, **Gerrard 2630** (internal exchange).

THE TELEGRAPHIC ADDRESSES are:

EDITOR of the **BRITISH MEDICAL JOURNAL**, *Antiology Westcent, London*.

FINANCIAL, SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate Westrand, London*.

MEDICAL SECRETARY, *Mediscera Westrand, London*.

The address of the Irish Office of the **British Medical Association** is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 4737 Dublin); and of the Scottish Office, 6, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone: 4361 Central).

## QUERIES AND ANSWERS.

DR. R. M. RUSSELL (Forest Gate) writes in reply to "X" (May 9th, p. 908): With reference to the patient whose nerves are upset by thunderstorms, it would be well if he could live where thunderstorms are rare. I lived in the North of Ireland for four years and during that time there were no thunderstorms. Donaghadee is the place most free from rain there. I have read that St. Leonards-on-Sea is fairly free from thunderstorms.

## RELIEF OF PAIN IN BURNS AND SCALDS.

DR. E. E. LLEWELLYN (Ramsey, Hunts) writes to express a doubt whether a remedy for burns and scalds which must be a hundred years or more old has been superseded for common use. Some ordinary whitening is mixed with fresh milk and spread on lint. It gives immediate relief in superficial lesions, and children stop crying soon after its application.

## SLOW HEART.

DR. D. A. DIAS (Preston) writes: Dr. Rickard W. Lloyd may like to hear of another case of slow heart. The pulse rate of a woman, aged 75, at present under my care with uræmia, was for two days 24; on one occasion the pulse and apex beat were 24 and the respirations 26 a minute. The blood pressure was (systolic) 210 mm. She improved and was removed to more comfortable quarters; her pulse is now 33 a minute, counted at different intervals of the day.

**VACANCIES.**  
NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 37, 40, and 41 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 38 and 39.  
A short summary of vacant posts notified in the advertisement columns appears in the Supplement at page 24.



## An Address

ON

## INFUNDIBULIN:

THE INDICATIONS FOR ITS USE IN SURGICAL  
AND OBSTETRICAL PRACTICE.\*

BY

W. BLAIR BELL, B.S., M.D. LOND.,

PROFESSOR OF GYNAECOLOGY AND OBSTETRICS IN THE UNIVERSITY OF  
LIVERPOOL; GYNAECOLOGICAL AND OBSTETRICAL SURGEON,  
ROYAL INFIRMARY, LIVERPOOL.

I WAS much pleased to receive an invitation to address this society on the active principle of the posterior lobe of the pituitary body, for it is now sixteen years since I was responsible for the introduction into clinical practice of this preparation, to which I gave the name "infundibulin."<sup>1</sup> Almost immediately it came into general use throughout the civilized world. Watson, then professor of obstetrics in the University of Toronto, writing in 1913, said:

"It seldom happens that a new drug or remedy comes into universal use in such a short space of time as has been the case with pituitary extract in obstetrical practice. Since it was first used . . . in 1909 it has been employed in practically every obstetrical clinic throughout this continent and in Britain and Europe."<sup>2</sup>

In these circumstances we may assume that the interval of sixteen years which has elapsed since infundibulin was first employed has been long enough to enable us, not only correctly to appraise the value of this remedial agent in clinical practice, but also to establish the indications for, and contraindications to, its use. During this period the practical applications have been so considerably extended that I was not surprised to be asked to confirm or refute the prevalent belief that the potent properties of this extract are frequently, and quite unconsciously, abused in obstetrical difficulties. I shall deal with this important matter in due course, and shall endeavour to be as definite as possible in the opinions expressed, for it may be that some guidance on the matter is desired by the conscientious practitioner in view of the very general employment of infundibulin, and, possibly, the inaccessibility of the literature in which the chief indications and contraindications have been specifically stated.

## HISTORICAL.

The observation by Oliver and Schafer<sup>3</sup> in 1885 that an extract of the whole pituitary had a pressor effect upon the blood pressure for some time escaped further recognition and investigation, being overshadowed by the coincidental statement of these investigators that the extract made from the suprarenals was more powerful in this respect. In 1898 Howell<sup>4</sup> demonstrated the fact that it is the extract of the pars posterior (pars intermedia and pars nervosa) alone that has a pressor action; that prepared from the pars anterior has no such characteristic. Subsequently to 1898 occasional papers appeared in physiological journals dealing for the most part with the action of infundibulin on the cardio-vascular and renal systems.

During the years 1907 and 1908 Hick and I<sup>5</sup> conducted a series of experiments, an account of which was published early in 1909. Later in the same year the clinical paper, to which reference has already been made, was published. From 1910 onwards there was a deluge of Continental communications on the subject, but practically no new ground was broken. To-day infundibulin is an established agent for the relief of many serious conditions; but before we consider these a brief survey of our physiological knowledge concerning the substance itself may not be out of place.

## THE ORIGIN, NATURE, AND DESTINATION OF INFUNDIBULIN.

It will be remembered that all the epithelial elements of the pituitary arise from the ectodermal cells of that upward prolongation of the angle made by the roof of the stomodeum and the pharyngeal membrane, which has come

to be known as Rathke's pouch. The hollow neural process of the diencephalon—the infundibulum—descends to meet this pouch, and is closely applied to the epithelium without the intervention of connective tissue.

The original cavity of Rathke's pouch forms the cleft of the pituitary body, and from the anterior side gland-like diverticula are developed. In this way the pars anterior is formed. The cells on the posterior aspect of the pouch, adjacent and adherent to the pars nervosa, or infundibulum, constitute the pars intermedia. The cells of the pars intermedia have therefore the same origin as those of the pars anterior. This is important; and it is probable that the secretion of the cells of the pars intermedia, like that of the cells of the pars anterior, has no pressor action. The pars posterior, as we have seen, consists of the pars intermedia and pars nervosa; and since separation at the cleft is a simple matter the whole posterior lobe is used as the material from which infundibulin is extracted commercially.

Nevertheless, one of the most interesting problems connected with infundibulin is its origin and destination. Several observers<sup>6, 7</sup> have stated that it is possible in the laboratory more or less completely to separate the pars intermedia from the pars nervosa, and that an extract made from the nervous portion gives all the typical reactions of infundibulin, whereas one made from the cells of the pars intermedia is comparatively inert. Other observers<sup>8</sup> have obtained exactly contrary results; but most investigators have confirmed the work of Osborne and Vincent. This subject and the inherent difficulties surrounding the complete separation of the two parts are discussed in my work on the pituitary.<sup>9</sup>

It may, however, be accepted that although the pars intermedia has a definite secretion of its own, which is sometimes granular, sometimes colloid, and about which we know very little, yet, on the other hand, some of the adjacent cells of the pars intermedia and their secretion pass into the pars nervosa—which is structurally composed of neuroglial cells and fibres—and there undergo alteration: the nuclei disappear from the cells, the cytoplasm forms a mass of granular substance, resembling the aggregations of granular secretion formed from the cells in the pars intermedia, and infundibulin is produced.

According to Herring<sup>10</sup> and others, the pars intermedia cells and the granular secretion pass through the pars nervosa to the central cavity, if there be one,<sup>11</sup> but in any case reach the third ventricle. I have never been able, on the evidence adduced, to satisfy myself of this as an inevitable or even usual sequence. The fact that pressor substances have been found in the cerebro-spinal fluid is not conclusive. My own view is that the secretion from the pars intermedia which passes into the pars nervosa is altered there; and normally is taken up as fully formed infundibulin by the numerous thin-walled vessels present in the pars nervosa. The chemical nature of infundibulin has not been established.

## Pressor Action of Infundibulin.

Infundibulin has a most characteristic pressor action on all involuntary muscle, including the heart muscle; moreover, it affects the involuntary muscle fibres that may be scattered through such organs as the spleen and mammary glands. The effects with which we are immediately concerned are those produced on the cardio-vascular system, the alimentary tract, the uterus, and the bladder. A feature common to all is that the result obtained is more pronounced when there is atony of the muscle. Further, it is an interesting fact that the pressor action of infundibulin is maintained for a longer period of time than is the case with suprarenalin.

## METHODS OF ADMINISTRATION.

The mode of administration of any drug or extract is a matter of considerable moment, yet it is surprising how thoughtless many are in regard to this matter. The method of election is based on a knowledge of certain fundamental particulars; for example, it is useless to give suprarenalin by the mouth, for it is destroyed by the gastric juices; on

\* The central cavity of the infundibulum persists in some mammals—for example, the cat—but is completely obliterated in many, including the primates.

\* Delivered to the Northern Counties Medical Society, Newcastle-on-Tyne.



the other hand, we believe that those digestive secretions have no destructive action on infundibulin. Nevertheless, in surgical and obstetrical conditions in which an immediate pressor effect is required it would be absurd to administer pituitary extract by the mouth, although such a procedure may be useful in the treatment of metabolic disorders coming under the care of a physician.

Again, how frequently is the practice adopted of administering infundibulin hypodermically, in spite of the fact that it has been demonstrated repeatedly that the effect obtained by this method is much slower and much less pronounced than that which follows intramuscular and intravenous injections. It is probable that all the unsatisfactory results that have been reported in regard to the pressor action of infundibulin have been due to a wrong method of introduction, generally hypodermic, and to the use of badly prepared products. The former source of dissatisfaction is easily remedied in surgical and obstetrical work: the extract must always be given intramuscularly or intravenously. I find the triceps the most convenient muscle for the purpose.

#### *Standardization of Infundibulin.*

In respect of the efficiency of the preparations used therapeutically we are entirely in the hands of the manufacturing chemists, some of whom, no doubt, may shelter themselves behind the recognized difficulties of exact standardization of organic extracts of unknown composition. Still, it is certain that some preparations are comparatively inert, and others more active than the average. The liquid extract, as usually prepared, is stated to be of a strength of 20 per cent.—that is to say, 0.2 gram of fresh pars posterior is extracted with 1 c.cm. of saline solution. The albuminous matter is removed, and the preparation is sterilized by filtration through unglazed porcelain.

In the past the method usually adopted for standardization, if so it can be called, has been the reaction to the preparation of infundibulin of a strip of uterine muscle from one of the lower animals. As there are generic and seasonal variations in the reactivity of this muscle, the results obtained are not likely to be delicate or conclusive.

The chromatophore reaction in amphibia, described by Hogben and Winton in a series of papers, is hardly likely to prove more than an extremely sensitive qualitative indication of the presence of infundibulin, if, indeed, it prove to be a specific reaction. A quantitative method of standardization is required, and this cannot readily be obtained until we know the chemical formula of infundibulin. Accurate dosage will then be a simple matter.

It appears possible that some persons are more susceptible to the action of infundibulin than others; yet it is difficult to estimate such an idiosyncrasy, which may be nothing more than a local expression of the degree of the involuntary muscle paresis for which the preparation has been administered.

I propose here to confine my attention entirely to the use of infundibulin in surgical and obstetrical practice, and to say nothing of the many conditions in which its properties have been utilized by the gynaecologist and physician.

#### GENERAL CONTRAINDICATIONS TO THE USE OF INFUNDIBULIN.

Infundibulin should not be administered during an operation if there be respiratory failure, for the normal amplitude of respiratory movements is diminished by the extract.

When there is myocardial or valvular disease of the heart without complete compensation infundibulin is absolutely contraindicated. A fatal issue may follow the exhibition of a small dose. Even in the presence of compensation it is a dangerous drug to employ.

In renal disease associated with a high blood pressure the use of infundibulin is inadvisable.

The special contraindications which apply to the stimulation of intestinal and uterine muscle will be specified in the appropriate places.

#### INDICATIONS FOR AND CONTRAINDICATIONS TO THE USE OF INFUNDIBULIN IN SURGICAL PRACTICE.

##### *The Prevention and Treatment of Shock.*

Shock, as is well known, may be caused by trauma and loss of blood, alone or together; by toxæmias, bacterial and chemical; and by violent psychical disturbances. It is generally agreed that in this state the systolic blood pressure is reduced—that is, there is loss of tone in the unstriated muscle tissue. As indicated, the production of a low blood pressure by one of the causes mentioned, although insufficient, perhaps, to produce a definite degree of shock, may, when associated with another of the causes, also acting in a minor degree, lead to the establishment of this state by a summation of effects.

Now, in the prevention of shock much can be done by the use of infundibulin in debilitated patients with low blood pressure. The administration of this extract several times each day for several days before a serious operation, undertaken in septic or cachectic cases, often enables the patient to withstand the traumatic effects of operation and the toxæmic effects of the anaesthetic.

Many surgeons at the present time adopt the precaution during an operation of any magnitude of having the blood pressure recorded every few minutes. For a number of years my anaesthetist has made a routine practice of this procedure, and I am sure he would bear me out when I say that it has often given him warning that the patient's condition is deteriorating many minutes before any other evidence was available. In such circumstances an injection of infundibulin may save the situation.

In a city so near the Scottish border I am perhaps on dangerous ground when I say that chloroform is not only more hæmolytic, and more conducive to acidosis, than ether, but also has a more immediate and serious effect on the blood pressure. Infundibulin will do much to mitigate the last, but intelligent co-operation to simplify the work demanded of it is not to be despised. So, too, in regard to shock associated with loss of blood: it is clear that to raise the tone of muscle in empty vessels is a futile procedure, but that the maintenance of tone after the transfusion of blood or other colloid preparation is of the utmost importance. As stated, infundibulin raises the tone of hypotonic unstriated muscle to a far greater degree than is the case when the tone is normal.

Infundibulin, then, is of inestimable value in the treatment of shock, provided it is used with an intelligent appreciation of the nature of the condition, and of the factors concerned in the production of it.

##### *The Prevention and Treatment of Post-operative Gastric and Intestinal Atony.*

Few surgeons have not been faced with the problem of intestinal atony following abdominal operations. So common has been this complication that in some clinics the routine injection of infundibulin at stated intervals after operation is practised, in order to prevent ileus supervening. I do not think this should be necessary in "clean" cases; but much depends on the way in which the intestines and peritoneum are protected from injury and are treated during the operation. It will be generally agreed that to-day the technique of intra-abdominal interference in such patients has reduced the appearance of this distressing complication almost to vanishing point.

In septic cases, and in those in which there has been a certain amount of trauma in the separation of adhesions, which should be divided with sharp scissors or a knife whenever possible, paralytic distension is not infrequently encountered; and in them the preventive use of infundibulin, by means of intramuscular injections of 0.5 c.cm. every few hours, should form a regular part of the after-treatment of the patient. Should distension be already present when the matter is taken in hand, it is advisable that, ten minutes after an intramuscular injection of infundibulin, which sensitizes the intestinal musculature, a turpentine enema should be given slowly by means of a catheter and funnel.

In order to obtain a certain pressor effect on the intestinal muscle it is essential that a large dose be administered—namely, 1 c.cm. This dose followed by a turpentine enema

often gives a dramatic result. Similarly, in the rare condition of acute dilatation of the stomach, this organ should be washed out ten minutes after infundibulin has been injected.

The use of infundibulin in these complications is contra-indicated if an operation involving repair or anastomosis of the stomach or intestines has been performed, and, of course, if unrelieved obstruction be present.

#### Vesical Atony.

When there is atony of the musculature of the bladder with distension in pressor effect and evacuation may follow an injection of infundibulin, but this result is somewhat uncertain.

After some gynaecological operations, and after parturition, it is not unusual for a patient to be unable to evacuate the bladder unaided. With good nursing and a proper use of the catheter it is rare for any protracted disability to occur. If, however, the patient be not carefully watched, there is always the possibility of an "overflow bladder"—paralytic distension, with overflow.

The inability voluntarily to empty the bladder can generally be overcome by the judicious use of infundibulin and a catheter. The bladder is allowed to become full to the normal extent, an injection of 1 c.cm. of the liquid extract is then given, and ten minutes later a small catheter is passed. When the flow commences the catheter is withdrawn, and in many cases micturition will continue naturally. Although this by no means always happens, and it may be necessary to repeat the procedure a number of times, I think it should be tried, for the long-continued invalidism that may follow vesical paresis cannot be lightly regarded.

#### INDICATIONS FOR AND CONTRAINDICATIONS TO THE USE OF INFUNDIBULIN IN OBSTETRICAL PRACTICE.

I do not propose to discuss the stimulation of uterine contractions in relation to abortion beyond saying that pituitary extract is not an abortifacient in the presence of a live foetus. When that period of gestation at which the foetus is viable has been reached, this extract becomes a most potent agent which may be used to the advantage or disadvantage of the patient.

#### Induction of Labour.

So far as the use of infundibulin is concerned for the termination of pregnancy, the indications may be classified as follows:

- (a) For the expulsion of a dead child.
- (b) In order to obviate the possibility of disproportion between the maternal and foetal parts.
- (c) In the treatment of ante-partum haemorrhage.

In the first and second groups there is usually no urgency, and induction can be planned to suit the circumstances of the case. Infundibulin administered every four hours for several days in doses represented by 0.5 c.cm. of the liquid extract occasionally precipitates labour; but such an event is comparatively rare unless the patient be at term or the child is dead.

In those cases in which the dates and examination of the uterus and foetus reveal full-term pregnancy, and in which there is a strong probability of post-maturity, it is a very wise procedure to administer the extract as indicated. Labour in these circumstances often follows. If it does not, and in all ordinary cases in which induction at the thirty-sixth or thirty-seventh week is desired, the administration of infundibulin four or more times in each twenty-four hours for three days should be followed by the insertion of bougies, and after this the injections should be continued if labour does not supervene before the next dose is due. The uterus has been rendered so sensitive by the extract that the mechanical irritation of the bougies is greatly enhanced, and labour usually supervenes within a few hours.<sup>11</sup>

In the treatment of ante-partum haemorrhage infundibulin plays an important role. It is recognized by all obstetricians that the first method of treatment in cases of accidental haemorrhage in which the bleeding is not entirely

concealed, and in which there are indications for interference, consists of rupture of the membranes and an intramuscular injection of infundibulin. Whether the foetus be at full term or premature does not matter, provided there are no general contra-indications to the use of infundibulin. With regard to accidental haemorrhage which is entirely concealed, infundibulin should not be employed until the uterus has been emptied. Even then the response will depend on the state of the uterine musculature.

In placenta praevia, especially when the implantation is not central, infundibulin may form a valuable adjunct to other methods of treatment, such as rupture of the membranes. There is no specific danger whatsoever in the judicious use of infundibulin before labour has started, for, although subsequently labour pains may be strong, in my experience there has never been any evidence of excessive expulsive force.

#### Caesarean Section.

The question now naturally arises as to the use of infundibulin after Caesarean section. In ordinary cases an injection of 0.5 c.cm. of the liquid extract should be made into the triceps of the patient *after the uterine wound has been sutured*, if retraction appears then to be incomplete. When an injection is given before the uterus has been sutured, especially if it be given into the uterine muscle, it may be almost impossible properly to approximate the incised muscle wall of the uterus.

When, however, Caesarean section has been performed for concealed accidental haemorrhage and the uterus has been preserved, infundibulin should be injected directly into that organ. In these circumstances numerous injections of a few cubic millimetres should be made in various parts of the uterine wall. As already indicated, the result will, however, depend in a great measure on the damage sustained by the muscle bundles, among which scattered effusions of blood are often found.

#### Uterine Inertia.

A glance through standard textbooks is sufficient to indicate how limited has been the study, and consequently how incomplete is our knowledge, of uterine inertia. Some authors show an inclination to consider "primary" and "secondary" inertia as dissimilar phenomena, and not, as they really are, similar phenomena relative to time and space.

Until such time as the whole question has been made clear by the closer consideration of the chemical stimuli and reflex inhibitions involved, and in order to avoid complicating matters, it may be advisable to adhere to the classification universally adopted and to consider uterine inertia under the usual headings.

#### "Primary" Uterine Inertia.

"Primary uterine inertia" is the term applied to uterine inertia occurring before the second stage of labour. In order properly to explain the most useful role played by infundibulin in primary uterine inertia of a pathological type, it is important that I should make a few remarks on primary inertia in general.

Primary uterine inertia is of two kinds—physiological and pathological.

*Physiological primary uterine inertia* is a merciful and advantageous natural phenomenon. I believe it to be of a reflex and inhibitional character—that is to say, owing to some unusual and generally more or less obstructive condition, such as occipito-posterior presentation in a primigravida, for a long time the uterine contractions are feeble. I would, indeed, go further, and say that the inherent factor responsible for the weak pains of the normal first stage, especially in the primigravida, is the relatively obstructive condition of the incompletely dilated cervix. It is not, in fact, the weak contractions that are responsible for the slow dilatation of the os, but rather it is that the undilated os reflexly inhibits the uterine contractions. This may, by those who do not follow my reasoning closely, be regarded as splitting straws, but it is not so in reality, as that which follows will demonstrate.

In the first place, the blood pressure may be high. Secondly, if an injection of infundibulin be given in such

circumstances, this is not always followed by an increase in the expulsive contractions, although the tone of the uterine muscle is raised; but once the cervix is fully dilated, or almost fully dilated, the contractions may become in these circumstances dangerously violent. Nevertheless, in primary uterine inertia of the physiological type, although Nature will do her best to thwart our evil designs, we should never administer infundibulin, for it is not required, and, unless the diagnosis be accurate, serious trouble may follow.

*Pathological primary uterine inertia*, as is well known, may be due to inherent pathological conditions of the uterine musculature caused by multiparity, overdistension of the uterus from various causes, fibromyomata, and the rest; but with these I am not at the moment concerned. I refer rather to that form of primary uterine inertia which is associated with a normal uterine musculature; I mean the inertia that is due to an insufficiency of pressor substances in the blood. It is commonly believed that in these circumstances the output of infundibulin is insufficient.

This is a subject in which I have been much interested since I first drew attention to the importance of the diagnosis and treatment.<sup>1</sup> A bad obstetrical history of patients, who have quite evidently suffered with primary uterine inertia in previous labours, is frequently forthcoming, and I have seen more than one patient on whom Caesarean section has been performed for this condition. It is, however, most important that it should be recognized, if present, as it often is, during the first pregnancy, for not infrequently primary uterine inertia due to the cause under consideration dogs a woman throughout her obstetrical career.

*Pathological primary uterine inertia* of this type is diagnosed before labour commences, and should therefore be excluded, or its presence proved, in every pregnant woman during the last two weeks of gestation. When the patient is examined at this period, in normal circumstances palpation of the uterus through the abdominal wall and traction on the nipples excite painless but very definite contractions; during the period of relaxation the tone of the uterus is found to be good. If now the systolic blood pressure be recorded, it will be found to be above the average for non-pregnant normal women of the same age as that of the patient. When labour is due the blood pressure is often considerably raised.

On the other hand, in women in whom there is impending uterine inertia, it will be observed either that it is impossible to elicit uterine contractions at all, or that, when aroused, they are feeble and fleeting. Moreover, in quiescence the uterus feels flabby and atonic on abdominal palpation. The systolic blood pressure in these circumstances is found to be reduced to the equivalent of 110 mm. of mercury, or even less. I have therefore treated cases of primary pathological inertia of this type with infundibulin whenever the condition has been recognized and checked by a blood pressure reading—a method of corroboration that is always essential. The success of this treatment has been most encouraging. I regret that time will not allow me to record in detail some of the cases I have had under my care.

In such circumstances 0.5 c.cm. of the liquid extract is administered intramuscularly two or three times every day, according to the interval before labour is due. When a patient has been treated in this way before the onset of labour, it is usually quite unnecessary to administer any more of the extract during subsequent parturition, for the pains are then strong and forcible. If, however, the uterine contractions should become weak, there is no reason why infundibulin should not again be employed, provided the patient is multiparous and there are no contraindications, general or local.

In those other, not uncommon, instances to which reference has been made, of pathological primary inertia due to local anomalies, rather than to insufficiency of pressor substances in the blood, we are concerned with an abnormal condition of the muscular tissue due to various causes. I do not propose to consider the rarer of these; it will be enough to refer only to the effects produced by multiparity, and by overstretching of the muscle fibres by hydramnios

and multiple pregnancy. In such circumstances the muscle does not respond to stimuli so forcibly as the normal tissue; consequently stimulation must be greater. In the absence of contraindications, and although the blood pressure be normal, the fluid extract may therefore be administered in small doses under careful observation, after labour has started.

#### "Secondary" Uterine Inertia.

"Secondary uterine inertia" is the term employed to denote an absence, or diminution in the efficiency, during labour of the uterine contractions, which previously had been normal. Secondary inertia may be due to the same causes as those responsible for primary inertia.

It is clear that in those cases in which the musculature is abnormal owing to multiparity, and other causes the inertia is primary in origin, although possibly the contractions may have been strong enough to carry labour unaided through the first stage. It is unnecessary further to consider the treatment in such cases.

Strictly speaking, as I have indicated in my definition, the term "secondary inertia" implies a temporary failure of the uterine muscle to continue contracting normally. Now, it is usually stated that this is due to exhaustion of the uterine muscle. Can we be satisfied with this explanation, which, after all, had its origin in the distant past? I do not think there are inherent structural quantitative differences in the musculature of the uterus in different women of the same age, such as may be seen, for instance, in the skeletal muscles. Any differences that obtain are the result of local lesions, to which I have referred, or to constitutional conditions, which no doubt also influence the availability of pressor substances.

I believe that the usual form of secondary inertia is that which supervenes during a protracted labour: gradually the uterine contractions diminish in frequency and force as the result of exhaustion of the pressor substance in the blood. The condition is probably not due to exhaustion of muscle fibres in the uterus, for with muscle fatigue further stimulation creates no response, whereas in these cases a response is always obtainable by means of infundibulin. Confirmatory evidence of this view is found in the lowered blood pressure associated with secondary uterine inertia. In the presence of a sufficiency of pressor substances, if the labour be obstructed, an irritable condition of the muscle supervenes, and this may terminate in tonic contraction, especially when mechanical stimulation, in the form of operative interference, is superadded.

I have gone at some length into this matter because it is the realization of these points that makes it possible for us to state definitely the indication for the use of infundibulin during labour, and to emphasize the serious contraindications the neglect of which has led to many grave disasters. Before infundibulin is given during labour the accoucheur must have informed himself quite clearly that the contraindications to the use of this preparation are absent, and that the indication for it is beyond reasonable doubt.

#### Indication for the Use of Infundibulin during Labour.

The only scientific indication for the use of infundibulin during labour is the evidence, readily obtainable, of insufficiency of this substance in the blood. This evidence consists of a history of protracted labour, during which the previously normal contractions gradually diminished in force and frequency, and the state of the blood pressure. I have nothing to say against the practice of administering soporifics and of allowing the patient to recuperate. In many cases this is advisable. During the period of rest the pressor substances reaccumulate in the blood, and labour may terminate naturally. When, however, the head is low in the pelvis, and the pains cease for a long period of time, then, all else being equal, the best interests of the patient and child are served by the administration of infundibulin. So, too, when there has been inertia throughout the whole course of labour, this disability may be successfully treated by occasional injections of infundibular extract.

The question of dosage is of some moment. It is advisable during labour never to administer as an initial dose a greater quantity than 0.25 c.cm. intramuscularly. In a majority of

cases it will be found that this dose is quite effectual. It may, however, safely be repeated after an interval of two hours. If this small dose appears to have but little effect, then 0.5 c.cm. may be injected on the next occasion, but this quantity should not be exceeded.

#### Contraindications to the Use of Infundibulin during Labour.

The contraindications to the use of infundibulin extract during labour are very clearly defined. In the first place, any disproportion between the foetal and maternal parts absolutely prohibits the exhibition of this preparation. Even though there be inertia due to prolonged labour, and a low blood pressure, indicating the exhaustion of pressor substances from the blood, infundibulin should not be given. To do so in the presence of recognizable disproportion is to run the grave risk of rupture of the uterus.

With respect to the statement made concerning arrest of the head when low in the pelvis, the frequency of such an occurrence due to contraction of the pelvic outlet must be remembered, otherwise a disaster may follow the use of infundibulin. The fact, too, that there is always relative disproportion in primigravidae, owing to the rigidity of the soft parts, must be borne in mind, and grave consideration must always be given to the question of employing infundibulin, which may lead to precipitate delivery with extensive lacerations of the maternal tissues, if not to rupture of the uterus.

Secondly, the presence of efficient uterine contractions is an absolute contraindication to the employment of infundibulin, for if in these circumstances no progress is made, obstruction, relative or absolute, exists.

It will be evident, then, that infundibulin must be used with extreme caution during labour. The scientific indication must be established, and the contraindications excluded with certainty. Moreover, it is a very sound rule that when forceps are indicated infundibulin is contraindicated, and this in spite of the invitation to us, published in press advertisements, to leave forceps at home and try somebody's specially potent brand of extract.

I have heard of so many cases in which the uterus has been ruptured as the result of the injudicious use of infundibulin—cases of this kind are rarely published—that sometimes I feel inclined to revert to the declaration made in my first paper, that infundibulin should not be used during labour. Yet to do so would be wrong; properly used, infundibulin, with its power of producing regular, rhythmic, and forcible uterine contractions in the absence of a sufficiency of pressor substances, and when the uterine musculature is deficient, may be a most valuable and beneficent agent in the hands of a careful accoucheur.

There is no one, I take it, who seriously doubts that the general use of infundibulin to terminate labour is as culpable as the indiscriminate application of forceps for the same time-saving purpose.

#### Third Stage of Labour.

The routine use of infundibulin as soon as the second stage of labour is over, to promote expulsion of the placenta, and to hasten the third stage, has been advocated.<sup>12</sup> I do not, however, regard such a procedure as either scientific or expedient when the labour up to this point has been normal, especially when there has been no inertia. If the placenta has been retained in these circumstances it is generally adherent, and the administration of infundibulin may cause the uterus to contract down upon it, rendering subsequent removal difficult. I have seen such cases myself, and I believe that this is what has happened in those instances that have been recorded of so-called hour-glass contraction of the uterus after delivery of the child. If, however, there has been inertia, or a long anaesthesia with the abolition of efficient contractions of the uterus, it is often wise to give infundibulin after the birth of the child, if it has not been given as an aid to delivery.

Infundibulin may be most advantageously employed after expulsion of the placenta, when uterine inertia has permitted post-partum haemorrhage. In these circumstances it is advisable to follow the intramuscular injection of 0.5 c.cm., or the intravenous injection of 0.25 c.cm. of the liquid extract in a little saline, by an intramuscular injection

of ergotin, the efficacy of which is increased by the previous administration of infundibulin.

#### Subinvolution of the Uterus.

During the puerperium and in the subsequent weeks subinvolution of the uterus may be effectually treated by the administration of infundibulin. It is obvious that the sooner intramuscular injections are given, once the condition has been recognized, the better will be the result.

In conclusion, I would urge that infundibulin must always be employed with care, and with a due regard to the scientific indications in every case. The greatest harm and the gravest disasters have occurred in obstetrical practice from the injudicious use of this potent substance during labour.

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## THE TREATMENT OF CONGENITAL CLUB-FOOT.

BY

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The treatment of congenital club-foot must commence from the moment of birth, when the structures in the foot are soft and pliable, and little pain or shock is experienced by the infant.

There are four principal varieties of congenital club-foot: talipes equino-varus, equino-valgus, calcaneo-valgus, and calcaneo-varus; a less common deformity which sometimes requires treatment is mid-tarsal varus.

The principles of treatment are to stretch the contracted structures causing the deformity, and to relax and then educate those muscles which will restore the muscle balance of the foot. The usual methods are by splinting with malleable iron, by adhesive strapping, by plaster-of-Paris, by club-foot tin shoe, and by operation (Thomas wrench, etc.).

To simplify description it will be assumed that the deformity is talipes equino-varus. The objective is to untwist each part of the deformity in turn—first the varus and then the equinus deformity. The correction of the deformity is not, however, sufficient. The overstretched muscles, which probably have never functioned correctly, must be stimulated and trained to contract along their proper lines of action—for example, the peronei must be made (by tickling the sole) to evert the foot. Later, as the child grows, it can be taught to evert and dorsiflex the foot voluntarily. From this moment it is allowed to walk.

The exact method of splinting employed is immaterial. The important thing is attention to the detail of its application by the same operator throughout the treatment.

#### 1. Malleable Iron.

This material is five-eighths of an inch wide and No. 18 gauge. Each splint should extend from above the knee to below the toes, be well padded on one side, and covered with jaconet.

The varus deformity is manipulated with the fingers until, if possible, only the equinus deformity is left. The limb is then covered with cotton-wool from above the knee to well below the toes, and the upper part of this secured in position with a few turns of special linen bandage. The foot is then held plantar-flexed and everted as much as possible, the malleable iron splint shaped to this deformity, and then placed along the outside of the leg and foot, and banded on with the same linen bandage from above downwards and from within outwards. The circulation is watched, and after twenty minutes the infant may be sent home, provided the colour of the toes is pink. This treatment is repeated daily until full eversion, voluntary and sustained, is produced.

Treatment of the equinus deformity then commences. A malleable splint consisting of a sole-plate and calf-piece, made out of one sheet of metal, with no twist at the junction of the two parts, is then applied. It is padded in the usual way, and is adjusted first to the sole in the equinus position, and then to the calf—that is, the splint is moulded to the equinus deformity. Each time the splint is removed the sole of the foot is tickled, in order to increase the power of eversion and dorsiflexion of the foot. Day by day the sole-plate is gradually dorsiflexed, thereby stretching the tendo Achillis, until full, sustained, active dorsiflexion is obtained. From this moment the child, if old enough, is encouraged to walk, adhesive strapping being applied occasionally to help in the eversion of the foot. When old enough to wear boots, these are wedged on the outer side of the sole and heel to maintain the correction of the deformity and encourage active eversion of the foot.

It is, however, seldom possible to carry out this ideal line of treatment without tenotomy of the tendo Achillis, which is performed under a general anaesthetic at the ninth month; the foot is kept dorsiflexed in plaster-of-Paris for at least six weeks. The knee is generally flexed and incorporated in the plaster to prevent the infant kicking it off. When the plaster is removed the usual muscle education follows.

### 2. Correction by Adhesive Strapping.

Only the very best strapping should be employed, as the infant's skin is exceptionally delicate;\* it should be about one inch wide. The foot is manipulated and held everted. A strip of adhesive plaster is then applied to the *centro* of the sole, well in front of the mid-tarsal joint, passing round the outer side of the dorsum of the foot, under the sole, and then up along the fibular side of the leg to above the knee, which is held flexed. This strip is kept in position by a band of strapping passed twice round the leg just below the knee, and another above it. Should further eversion be desired, a linen bandage applied from above downwards will suffice. As its action is cumulative, the circulation should be watched with great care.

This line of treatment is continued daily (with tenotomy of the tendo Achillis later if necessary) until full over-correction of the deformity is produced, and can be maintained by strong muscular action. The rest of the procedure is as already described under treatment with the malleable iron splint.

### 3. Correction by Plaster-of-Paris.

The foot is manipulated as before, and special cotton-wool applied from below the toes to above the knee. Plaster-of-Paris is then put on, to above the knee, the foot being held in a position just short of the maximum correction obtained. The knee-joint is of course flexed to prevent the plaster slipping off the limb in the course of the next few days. This method of attack is repeated at frequent intervals until the foot is completely corrected, or division of the tendo Achillis becomes necessary.

There are certain distinct disadvantages about this method—it is exceedingly difficult to apply to small children, so that it really acts as a corrective plaster. Moreover, it is apt to get soiled, and comes off the limb very easily. Further, minute attention has to be paid to the circulation, as the plaster may easily compress the limb, and even retard its growth. In older children the following modification gives excellent results:

The foot is corrected, and held everted; the knee is flexed to 90 degrees and cotton-wool applied. A plaster-of-Paris bandage is placed round the knee. Whilst this is setting another bandage is applied from within outwards across the sole at the level of the transverse arch so as to evert the foot; when this band is several layers thick the bandage is then passed from the sole along the outside of the foot and leg to above the knee, where it is held taut, everting and dorsiflexing the foot, and is then incorporated in the knee-piece. Another plaster bandage is then applied from above downwards so as to include the leg and remainder of the foot, and at the same time increase the eversion.

This is an excellent method, but difficult, and accused of causing knock-knee, a complication which the writer has never seen.

\*The "Zo" brand, manufactured by Johnson and Johnson, is very good.

### 4. Treatment by the Club-foot Tin Shoe.

As a rule this is used as a retentive, rather than a corrective, splint. It consists of a sole-piece and a calf-piece, united by a stem which projects slightly backwards to avoid pressure on the heel.

The foot is manipulated and everted, the sole-piece of the splint being moulded to just less than the amount of eversion obtained. A strip of adhesive strapping is then passed from the sole round the outside of the foot, across the dorsum and then underneath the sole again to the outside of the foot, which is then placed firmly on the sole-plate of the splint, and secured there by the free end of adhesive plaster. The rest of the limb is then bandaged or strapped in position.

At each manipulation the sole-plate is everted farther, and even dorsiflexed, though it is unwise to attempt the correction of more than one deformity at a time. When overcorrection has been obtained the child is allowed to walk. Should it be too young, then the splint is kept on until it can start to walk. In the former case the club-foot shoe may be used as a retentive splint for night wear.

### 5. Operations.

Operations should seldom be necessary, and then only in older children in whom the ordinary treatment by simple manipulation and splintage has failed; or in cases of neglect, or so-called "relapse." It may, however, be necessary to employ one of the following operations: (a) manipulation with the Thomas wrench, (b) tenotomies, etc., (c) bone operations.

(a) *Manipulation with the Thomas Wrench.*—In infants and small children the hands and fingers are sufficient to correct a club-foot. In older children the Thomas wrench must be employed—first the adduction, then the varus, and finally the equinus deformity being thoroughly overcome. A retentive splint, or better, plaster-of-Paris, with plenty of cotton-wool, is then applied.

(b) *Tenotomies, etc.*—The tendons of the tibiales muscels (antieni and postieni) need never be divided; the tendo Achillis, however, generally needs division or elongation. The plantar fascia may require division in moderate degrees of pes cavus; in advanced cases Steindler's operation is the best—unless, of course, the deformity is so great as to require a cuneiform tarsectomy. An x-ray film will decide if the latter be necessary. Open division of soft structures should be advocated before operations on bone are undertaken—for example, division of the deltoid and posterior ligaments of the ankle, and the scaphoid ligaments.

(c) *Bone Operations.*—These should only be undertaken in children over 8 to 10 years of age, in whom the ordinary routine measures have failed and x-ray films prove the presence of a bony block or blocks. In such cases cuneiform resection should be performed, with the base of the wedge upwards and outwards, the various joints being as far as possible left intact. Retention in plaster-of-Paris for several months is essential, and the after-treatment even more important than the operation. Astraglectomy is seldom necessary, and then only in the adult, due care being taken to ensure backward displacement of the foot. Internal rotation of the tibia is generally corrected *pari passu* with the manual correction of the foot, but in cases of neglect or relapse simple manual osteoclasis of the tibia will cure this deformity. Open operation is unnecessary, and to be avoided, as cases of non-union have been recorded.

Throughout this article talipes equino-varus has been taken as the type. The other deformities are treated along similar lines, the various methods of splintage being adapted accordingly.

The prognosis is excellent in those cases seen early, and fair in neglected and "relapsed" cases, and in those children who have already been operated upon. Treatment is more difficult, and the results not so satisfactory, in children with "stubby" heels, talipes calcaneo-valgus, or simple mid-tarsal varus.

The keynote of success in the treatment of congenital club-foot is immediate splintage by simple means by the same operator throughout.



## DIABETIC TREATMENT SIMPLIFIED.

BY

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Few will deny, least of all general practitioners, that the treatment of diabetes has now become very complicated, and, in my opinion, there is a real danger of the main issues becoming fogged in a cloud of bewildering details. The main issues are: (1) the quantity of sugar excreted day by day; (2) the presence or absence of ketones; (3) treatment by regulating the quantity and quality of the diet, or by giving insulin if dietetics prove inadequate; (4) the blood sugar (in special cases).

The ground can be cleared by distinguishing clinically between cases of simple glycosuria, which are common and usually unimportant, and stubborn diabetes, which is uncommon and serious. This paper deals with genuine diabetics who are living at home.

*Measurement of the Daily Excretion of Sugar.*

Obviously it is a cardinal necessity that both doctor and patient should have daily knowledge of this over prolonged periods. Without this knowledge treatment cannot be either intelligent or effective. Yet, in private practice, even at the present day, this indispensable minimum of knowledge is

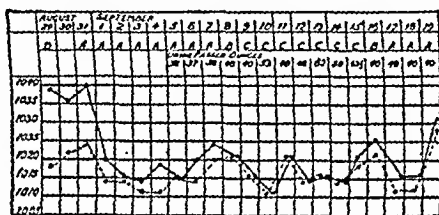


CHART 1.—Diabetes and acute phthisis in a woman, aged 21. Showing the effect of insulin in plotting the curves together when diet was powerless to do so. A, 20 units of insulin injected; B, 15 units of insulin injected; C, 10 units of insulin injected; D, strict diabetic diet. The patient's appetite was poor from August 22nd till September 14th, after which it improved, needing more insulin.

lacking, or rather is available to doctor and patient only at rare or occasional intervals. The daily variations in sugar excretion—which I know to be very wide—are hidden: only the occasional testing days are illuminated.

This deficiency, during the last four years, I have remedied by a very simple method whereby the patient himself is able to measure and record on a chart the daily variations in the excretion of his sugar. I have yet to meet the private patient who was not able and willing to do this, usually with enthusiasm. The method is described at the end of this paper.

Now what does this daily chart of sugar excretion enable us to do?

1. The doctor can see at a glance whether in his absence the patient has been going on well and has been obeying instructions. In the green-pea season a patient who was too fond of them was detected by his chart. A paint manufacturer's sugar was seen to increase owing to worry when the price of oil jumped. A small boy in hospital crept from his cot at 3 a.m. and devoured a box of chocolates. Chart 3 reveals this and his other falls from grace. Further, the patient himself can see when he makes mistakes. He takes pride in producing a chart without such blemishes, and hence is more careful in his diet. Also he is rewarded visibly for his starvation days if they are imposed (Chart 4).

2. If insulin is being given in private practice one has to leave a little sugar (1 or 2 grains per ounce) in the urine as a safeguard against hypoglycaemia. By the help of the daily chart (see Chart 1) this can easily be done by adjusting the amount of insulin or bread. Without a daily chart the steering must be very wild—and dangerous, I would think.

3. The daily chart enables the practitioner to send calories to the devil, where they belong. Calories are well enough in a research laboratory, but human patients are not engineering propositions. Each man varies in his efficiency,

both digestive and metabolic; he varies in respect of the calories he has to spend in exercise or in keeping up his body heat in variance with his house, his clothes, and the weather. Then there are the varying hosts of bacilli which we feed in our intestinal canal and which form so large a proportion of our faeces.

For reasons of this kind it is, I fancy, a pseudo-scientific presumptuousness to pretend to be able to work out by arithmetic a cast-iron table of a man's food requirements. On the other hand, Nature does give a man an appetite varying roughly with his daily needs (bulimia is quite exceptional in diabetes and at any rate laughs at calories). And if restrictions of the quality of his diet are shown by the sugar chart to be inadequate, the patient's quantity of food must be restricted, especially if he weighs too much.

What I do is to put the diabetic gradually on to a diet free from carbohydrate. If sugar persists and no ketones appear, diminish the quantity. If ketones appear, 1 to 3 ounces of bread (weighed) is added, and enough insulin injected to bring the sugar almost to zero. Or weekly "starvation days" on greens, bouillon, and coffee may obviate the necessity for insulin.

I do not claim that the daily chart of sugar excretion is a perfect method, but I have found it reliable, adequate, and most helpful. A daily chart of the blood sugar would in some ways be more perfect. But this fluctuates violently from hour to hour; it yields no summative measurement as the urine does; and, at any rate, daily blood sugar tests are impracticable in private practice.

4. Another point of interest (and perhaps of novelty)

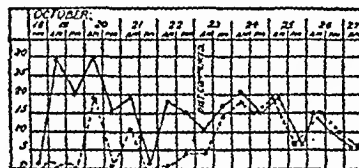


CHART 2.—Simple glycosuria easily cured by diet; no ketones. Diet makes the two curves coincide.

shown by the daily charts is that occasionally the urine, when fermented, has the same specific gravity as water. At the beginning of the little boy's chart (3) this occurred for two consecutive days, and also in Chart 4. Weak sugar and water does the same when fermented. If this be verified by more accurate methods it would mean that the kidneys secrete no other solids than sugar on those brief occasions, although the patient's health does not seem affected.

*Insulin.*

The main practical points are:

1. Insulin is something which somehow enables a diabetic to burn up sugar like a normal person, but does not enable him to store it as glycogen.

2. Insulin can in this way cause the blood sugar to sink to a dangerously low level (hypoglycaemia). This danger can be guarded against if the patient always carries about with him eight large lumps of sugar (1 or 2 ounces of barley sugar—Macleans) and promptly eats them all if he feels queer after an injection of insulin. Two grams of glucose are supposed to keep busy one unit of insulin; from which I reckon that eight average lumps of sugar would act as antidote to 15 units of insulin.

3. Insulin is given two or three times a day, just before a chief meal, which if possible should contain 1 ounce of bread; 10 to 50 units daily is the usual range of dose; more is seldom useful.

4. The patient can be taught to inject it into the pinched-up skin of the thigh, under weekly supervision. A trained nurse is better, but a doctor cannot be at hand three times a day before meals.

5. Insulin has to be acid; in a few subjects this causes painful lumps. It is said that neutralization in the syringe by sterile sodium bicarbonate solution of proper strength prevents this irritation and does not impair the action of the insulin.

6. As to blood tests with insulin, I have rarely found them helpful (see "Coma in diabetes"), for it is unattainable

in private practice to keep the blood sugar normal. You dare not even keep the urine quite free of sugar in insulin cases.

7. The risk of giving insulin in unsuitable cases will be practically eliminated without blood tests (a) if you first try to cure all cases by diet alone; (b) if ketones are present, and abundant sugar, insulin is surely needed; (c) leaky kidneys (renal glycosuria) are a real but uncommon danger. These cases may be recognized by their uncanny failure to improve with diet, by their good health, by the absence of ketones, and by the absence of glycosuria three hours after a good starchy meal. A blood sugar will decide the matter by showing a low renal threshold for sugar. So also, I imagine, would the absence of rhythmic oscillation in a weekly starvation chart (as Chart 4); but

venously nowadays). We must certainly give insulin freely; but the terrible question is, how much? Either timidity or rashness may kill. If you can have a blood sugar test every hour or so, then you are on sure ground. But this must not entail delay. Failing this, it seems to me you must guard your big doses of insulin with glucose. This will ensure against hypoglycaemia, and by its combustion it should destroy the poisonous ketones. However, some authorities are opposed strongly to injecting sugar, though their reasons seem weak to me. Agreement is not yet reached, but if you can inject sugar you do not require blood tests.

There is no time in coma to trifle with half-measures. Hence intravenous injections are needed, starting with 20 to 40 units of insulin, 40 to 80 grams of glucose in



Chart 3.—Diabetic boy aged 8. The shaded area between the curves is the quantity of sugar in the urine day by day. Sugar reappears after Christmas indiscretions.

I have seen no such case in the last four years. To insist that we should test the blood of every glycosuric patient before giving insulin so as to avoid this fairly obvious bugbear seems to me absurd.

8. I do not recollect seeing a single ill effect attributable to insulin, while the benefits are notorious. But if in an emergency you are nervous of causing hypoglycaemia you can guard the insulin with sugar, as above.

#### Ketones.

Ketones, such as acetone and diacetic acid, are half-oxidized fats. Their presence in the urine is revealed by the nitro-prusside test or the ferric chloride test; I prefer the latter, as the former is too sensitive and becomes a scaremonger.

If the addition of two drops of liq. ferri perchlor. fort. to the urine produces a dark-brown colour then ketones are present in dangerous amount, and must be got rid of, lest coma supervene. Ketones are far more pregnant with danger than sugar, and are often produced by too strict a dietary. They indicate that the fats in the system are not being properly burnt up. Now how can these poisonous half-oxidized ketones be thoroughly and harmlessly burnt up? By giving more carbohydrate food, for the fats are combusted in the furnace of brightly burning carbohydrates. But the special weakness of the diabetic is that he cannot burn up his carbohydrates properly. Hence, to get rid of ketones, it is often useful not only to give extra carbohydrate, but also to give insulin, which has the mysterious property of enabling the diabetic to burn up sugar like an ordinary person. So that if ketones appear, watch for coma, ignore the sugar in the urine, and treat the much greater danger by giving alkalis freely and more bread. And if you find that large doses of alkali fail to make the urine alkaline, then the peril of coma is menacing indeed. Ten grains of sodium bicarbonate should alkalize a normal urine; so try your ketosis patient with 20 grains. An hour afterwards boil and cool the urine in a test tube and test with blue litmus paper.

#### Coma in Diabetics.

Here I can only touch upon the main principles. Since the coma is probably due to poisoning by the "acid" bodies formed by the imperfect combustion of fats, we are told to give alkalis freely by mouth or rectum (not intra-

800 to 1,600 c.cm. of water. Then you must feel your way by results, but 80 to 100 units or even more may be needed in the first day. Croton oil, strychnine, and camphor will also probably be indicated. I have seen nothing in medicine more dramatic than the swift escape from the very jaws of death into the enjoyment of apparent health which usually follows this treatment.

Persistent vomiting, with coma, is a very fatal complication. Although albuminuria may be slight, I have wondered if the real poison was uraemic in nature; but I have not yet had a chance of measuring the blood urea. Certainly, after long periods of diabetic overwork and irritation, the kidneys frequently show signs of wear and injury. Thus, numerous casts, albumin, and diminished sugar are often found in the urine in coma.

#### Exercise.

Exercise in moderation is important in diabetes to help the combustion of sugar to carbonic acid which takes place in the muscles. Gardening is an excellent hobby for diabetic patients, and often makes them look the picture of bronzed and ruddy health. Bed should be prescribed only during starvation or illness.

#### Method of Domestic Estimation of Urinary Sugar.

The apparatus required is: (1) A urinometer with a long stem indicating clearly specific gravities 1000 to 1050. This, and its glass cylinder, should have a case for travelling. (2) An engineering student's exercise book of squared paper. Its left-hand margin is also graduated 1000 to 1050.

(3) A thermos flask, pint size. (4) A pennyworth of yeast, fresh twice a week.

#### Method.

Every night the specific gravity of the urine is taken when warm. The thermos flask, which has been warmed and cleansed with hot water, is filled with the warm urine; a piece of yeast the size of a small walnut is added and shaken up. The flask is corked loosely (or with cotton-wool) and wrapped in blanket. Next morning the specific gravity is again taken. It will be less, because all the sugar has been converted by the yeast into carbonic acid gas (mainly). Let us suppose the gravities before and after fermentation were 1040 and 1020. A red dot and a black dot will be placed at their proper heights in the first column of the squared page. Next day another pair of dots will appear in the next column. Thus will be spun out an upper and a lower curve, one red and the other black. The space between these curves represents the excretion of sugar in grains per ounce. The object of treatment is to pinch these two curves together. When they coincide there is no sugar,

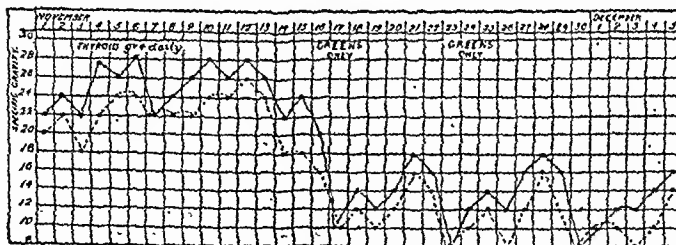


Chart 4.—Showing effect on sugar excretion of Sundays on greens only. The two curves approximate at the week-ends (no sugar). From a case of diabetes with myxoedema.

and it is well to mark these days by a red dot within a circle.

If the morning urine alone is recorded the results will be more constant, more flattering, and less useful. The night specimen is best for a patient who does not always urinate at once. A twenty-four hours specimen is not much better; it is a nuisance to warm, and is only available for the home-keeping patient.

**Ketone Test.**—Every morning the patient watches two drops of liquor ferri perchlor. trickle down the near side of the urine glass. If it changes from yellow to dark brown the doctor must be informed that day.

## THE SCHICK TEST AND ACTIVE IMMUNIZATION AGAINST DIPHTHERIA.

BY

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THE burgh of Fraserburgh has, according to the Registrar-General's estimate for 1923, a population of 10,367. The births in that year numbered 257, and the average for the preceding five years was 287.

### *Incidence of Diphtheria in the Burgh.*

Since 1900 there has been in Fraserburgh, as in other towns in the kingdom, an increasing incidence of diphtheria, as the following total notifications indicate:

1900-04	...	...	...	...	48
1905-09	...	...	...	...	127
1910-14	...	...	...	...	164
1915-19	...	...	...	...	61
1920-23	...	...	...	...	401

In view of this increased incidence and the cost of hospital isolation, the Public Health Committee, on my recommendation, decided to try the newer measures of prevention by toxin-antitoxin inoculation, and accordingly, on March 25th, 1924, decided to open a series of clinics, free of charge, for the inoculation of children under 5. The clinics were to be held once a week in the Town House, and to be conducted by the local medical practitioners in rotation, who had cordially agreed to give their assistance.

In recommending that children under 5 should be dealt with first, I was influenced by the fact that at this age reactions either do not occur or, as Dr. Park says, are "slight or negligible." The susceptibility at this age to diphtheria (70 to 80 per cent.), and the fact that half of the diphtheria deaths are among children under 5, were also reasons for trying to get as many of them as possible inoculated. It seemed likely also that the absence or slight nature of the reactions in young children would lead parents more readily to give their consent for the inoculation of the older children when the schools were dealt with, and this proved to be the case.

The first step in the way of propaganda was the distribution through the schools of a leaflet to all parents or guardians having children attending school, explaining the purpose of the clinic and the value of toxin-antitoxin inoculation, while the same leaflet was shown in large posters in shop windows and other places throughout the town.

The following is a copy of the leaflet.

### DIPHTHERIA PREVENTION.

#### To Parents or Guardians:

Diphtheria is a most dangerous disease, and is particularly fatal to young children. Of a hundred deaths from diphtheria, 80 are under 10 years of age, the larger proportion being under 5.

Your children need not have diphtheria. It can be prevented.

Some people are able to resist the germs of diphtheria, others are not.

A simple method—painless and harmless—has been discovered to find this out. It is called the Schick test.

If this shows that your child does not resist diphtheria germs, it can be inoculated and protected against diphtheria.

As almost all children over 6 months and under 5 years of age are liable to contract the disease, it is not necessary to apply the Schick test to them. They should all be inoculated and protected. The inoculations are followed by no constitutional reactions and very little local irritation.

This method has been used for several years, and so far almost no one who has been so protected has got diphtheria.

Diphtheria can be stamped out and many lives saved every year if mothers will have this done and protect their children.

The Town Council of Fraserburgh have resolved as a first step to give parents an opportunity of having all children under 5 years of age and over 6 months protected free of charge. They have accordingly arranged to open a clinic in the Town House to which children under 5 may be brought. The clinic will commence on Wednesday, the 11th June, and will continue for six weeks, a meeting being held each Wednesday at 2.30 in the Town House. This clinic will be conducted by Dr. Beddie.

Subsequent clinics will be conducted by the other doctors in rotation.

To obtain complete protection each child will have to be brought to the clinic three times, at a week apart.

Articles giving a more complete explanation of the Schick test and toxin-antitoxin inoculation were published in the Aberdeen and Fraserburgh newspapers, and we were greatly indebted to the press for the strong support they gave us in the work. I carried out also, as far as time permitted, a personal visitation of the homes, more especially in the poorer parts of the town where diphtheria had been most prevalent.

**Clinics.**—The first clinic was opened on June 11th, but there was no attendance on the first three occasions. To the fourth clinic, however (July 2nd), 5 children were brought, and to the fifth 10. To the next three clinics 4, 3, and 0 came forward—the total attendances being 19, 17, and 6. To the eight clinics, therefore (June 11th to July 30th), only 22 children had been brought. This was largely due to the fact that, owing to absence on holiday in July, I was unable to continue the visitation of the homes which I had begun in June. On my return this visitation was energetically resumed, and the numbers coming to the clinics began to increase. On August 6th, 15 fresh children, and on August 13th 41, came, making the total at this latter clinic 57. With the consent of the Public Health Committee a second weekly clinic was opened on August 18th, and as the numbers continued to grow a third clinic was commenced on September 5th. These three clinics were carried on throughout September, October, and November, while one of them was continued into December. Apart from school children, there was a total attendance of 596 children under 5, 92 per cent. of whom were inoculated thrice, while of the remaining 47, 25 had two inoculations and 22 had one; 780 children from the schools were also inoculated at these clinics.

**Schools.**—On September 4th, by which date 183 children had attended the clinic, the town council resolved unanimously to take measures to deal with the schools, and authorized me, with the assent of the education authority, to ask for the consent of parents to inoculate those under 7 without Schick testing, to use the Schick test for those over 7 and inoculate those found Schick-positive, and to obtain such assistance as might be necessary. I did not think it desirable to apply the Schick test to children under 7, and the experience of applying the Schick test in the schools has confirmed me in this view. The head masters and mistresses of the schools were approached, and they most kindly promised their hearty co-operation. With their assistance consent forms were distributed to all parents and guardians; the forms were of two kinds, according as the children were under or over 7. Class sheets were provided, and these were very kindly filled in by the teachers of each class from the consent forms returned. No propaganda was employed further in connexion with the schools, other than had already been carried out for the children under 5. There are five schools in Fraserburgh, of which three are attended by children under 7—namely, the Infant, the North, and St. Peter's Episcopal. St. Peter's and the North School have children also up to 14, and the Infant School to 11. The Central is attended by children from 8½ to 14 years; the Academy pupils are over 12 years.

*Children under 7.*—For children under 7 consent was obtained for the inoculation of 324—namely:

St. Peter's Episcopal ...	29=93% of children under 7
Infant ...	222=87% " "
North ...	73=61% " "
	324=80%

*Children over 7.*—For children from 7 to 14 consent was obtained for 1,239. These belonged to the following schools:

Central ...	608=90% of children over 7
Academy ...	202=88% " "
St. Peter's ...	100=86% " "
Infant ...	143=85% " "
North ...	184=61.5% " "
	1,237=82.2%

The percentages of consents are very high. Dr. Park, speaking of the New York schools, says that these varied "from one-fourth to three-fourths, depending upon whether the teachers were enthusiastic or not in their co-operation," while the average for sixteen Edinburgh schools, as given by Dr. Benson,<sup>1</sup> was 42.3 per cent.

#### Schick Testing and Results.

The testing was carried out by a medical staff of seven, under the able supervision of Dr. Anderson, superintendent of the City Hospital, Aberdeen, who had been kindly allowed to assist in the work. In all cases a control test was carried out on the right arm. The Schick testing occupied two and a half days (October 13th to 15th), and the results were read on October 17th and 24th.

Of the 1,239 children, 456 were found to be Schick-positive and 783 Schick-negative. The following table gives the results:

Total Schick-positive (including 43 pseudo-positive) ...	456=36.8%
Total Schick-negative (including 130 pseudo-negative) ...	783=63.2%

The percentage of Schick-positives for each school was as follows: Infant, 49.6; Central, 48; Academy, 43; North, 39; and St. Peter's, 24. It is interesting to note that the average of Schick-positives among 83,000 children in the New York schools, as given by Dr. Park in 1922, was 35.7.

The inoculation of the school children was carried out at the clinics in the Town House along with the children under 5; the total number of inoculations done at these from June 11th to December 24th was 4,039. The highest numbers attending a clinic were 198, 188, 186, and 175.

The total number of children from 6 months to 14 years of age inoculated was 1,376. Of these, 1,290 (94 per cent.) completed the three inoculations. In addition, 12 teachers were inoculated (2 male and 10 female).

The numbers inoculated at the age of 7 and under were: from 6 months to 1 year, 61; second year, 142; third year, 141; fourth year, 150; fifth year, 166; sixth year, 153; and seventh year, 123.

One of the most gratifying features of the work was the entire absence or the comparatively slight character of the reactions following the inoculations of the children under 5. In the case of children over 5 also we were fortunate in having no reactions of a serious character.

#### Effect on School Attendance.

That the reactions in those over 5 were either absent or not serious is shown by the reports as to the amount of absenteeism in the schools following upon the inoculations, with which the headmasters and headmistresses very kindly supplied me, and which show that the inoculations had no noticeable effect on the school attendance. One may be given as an example:

In the Central School the percentage attendances from October 17th, the week of the Schick test, to December 5th, a week after the third inoculation, were as follows: 93.4; 91.3; 88.1; 92.1; 90.3; 90.4; 90; and 90.5. The inoculations were done in the three weeks from November 14th to November 28th. "The change

in percentage attendance," the headmaster points out, "is not noticeable."

The reports for the other schools were in similar terms.

#### Incidence of Diphtheria amongst those Inoculated.

Amongst the children who were inoculated, three cases of diphtheria occurred down to February 14th. The first was a boy, aged 6, inoculated on October 12th, 20th, and 29th, who developed diphtheria on November 30th. His attack was so slight that he recovered without the administration of antitoxin. The second was a girl, aged 4½ years, who developed diphtheria on December 13th, forty-five days after the date of the third inoculation, which was on October 28th. There was hardly time, therefore, for her to have developed protection. The third case was a child, aged 2½ years, who was notified on January 21st, 1925. She had been inoculated on August 13th, 20th, and 27th, 1924, so that there was time for protection to have developed. Two points, however, have to be kept in view: first, that protection may not be complete for a year; and secondly, that a certain percentage of cases are not protected by the first series of inoculations. All three cases made a good recovery. I may add that during 1924, 43 cases of diphtheria were notified in Fraserburgh, 19 being under 14 years of age. This year (1925) 5 cases in all have been notified, all under 14. One of these was the third case referred to above as occurring amongst those who had been inoculated. The other 4 cases had not been inoculated. One of them had had diphtheria four years ago. Last year two girls, 9 and 12 years of age respectively, who had been tested and found Schick-positive, developed diphtheria before the inoculations could be carried out.

#### Suggestions.

As the result of my experience in Fraserburgh, I have formed the opinion:

1. That, for the reasons mentioned in the earlier part of the paper, it is better to commence the work with children under 5, and that even in an area where antivaccinators are numerous (and in Fraserburgh the percentage of unvaccinated children is from 30 to 40) the work may be successful if carried out with energy and perseverance.

2. That the most successful form of propaganda is the visitation of the homes, and in this latter work the fathers, as well as the mothers must be approached and persuaded. I frequently found that the rather sharp reactions which had sometimes followed inoculations, such as those against typhoid, paratyphoid A, and paratyphoid B, in the late war, had made many of the men who had experienced them averse to inoculations generally, and they had to be convinced that the inoculations of the children with toxin-antitoxin would not be followed by similar reactions.

3. That if prejudice against it amongst the working class is to be avoided, the work should be carried out simultaneously among the better class.

4. That it is very important that medical practitioners be asked to co-operate to the utmost extent. In the support I received from the medical men in Fraserburgh I was singularly fortunate, and to their help the success of the work was largely due. I should like to add also that the district nurse rendered me the greatest assistance, and that she was present at all the clinics and helped most effectively in the propaganda work.

I think there can be no doubt that if toxin-antitoxin inoculation against diphtheria were adopted generally, it would lead to a great diminution in the incidence of the disease and to a still greater diminution in the case-mortality. Sir George Newman admits that diphtheria remains "one of the most baffling diseases from the point of view of the public health administrator, and that the mortality from it has not shown any decline during the past ten years." It was the failure of the usual administrative measures accompanied by a high case mortality that led Dr. Park and his coadjutors to introduce these measures in New York. They found that the number of "carriers" in times of epidemic made the control of diphtheria by the ordinary methods of little or no avail.

The Town Council of Fraserburgh and its Public Health Committee have supported wholeheartedly the various measures recommended, and faced the rather heavy expenditure involved without hesitation and in a highly public-spirited manner, seeing that they were about the first authority in this country to adopt these new measures on a large scale.

REFERENCE.  
*Lancet*, November 8th, 1924.

## JEJUNO-COLOSTOMY IN THE TREATMENT OF ACUTE SPREADING PERITONITIS.

BY

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THE prognosis of acute spreading peritonitis has improved very greatly since the universal recognition of the importance of removal of the focus of the infection (commonly the appendix), drainage, rectal salines, and Fowler's position. Unfortunately cases occasionally occur in which the application of these methods fails, and hitherto the outlook in such circumstances has been almost hopeless.

Mr. Sampson Handley's work on this subject cannot be too widely known. It is of great value, and his line of treatment offers a hope in truly desperate cases. He embodied his views in a Hunterian Lecture, which is published in a finely illustrated article in the *British Journal of Surgery* (January, 1925). The chief points in this lecture may be summarized as follows:

1. The importance of intestinal paralysis in severe forms of peritonitis.
2. In some cases the infection itself, and the toxæmia resulting, are so intense that no treatment is of avail.
3. In others, less severe, but progressing more slowly to a fatal issue (in spite of removal of the septic focus, drainage, Fowler's position, etc.), the main feature is failure to produce an action of the bowels. Death in these cases is due not so much to absorption from the peritoneum as to paralysis of the bowel wall.
4. This paralysis does not usually affect the whole of the bowel, as is often thought to be the case.
5. The paralysis affects, at first, the pelvic coils of the ileum and the pelvic colon (hence the name of "ileus duplex" given some years ago to this condition by Mr. Handley). Later, the peritonitis spreads upwards to the hypogastric region, and a large amount of small intestine becomes involved, but the inflammation does not often reach the upper abdomen. "General" peritonitis is rare.
6. The signs of spreading "hypogastric peritonitis" are tenderness, rigidity, distension, and immobility of the abdomen below the umbilicus; rising pulse and falling temperature; anxiety and extreme discomfort; vomiting which is vigorous and in considerable amount at not frequent intervals (and not yet effortless, frequent, and in small quantities—which is a final hopeless stage), and failure of turpentine enemata, combined with hypodermic injections of pituitrin and eserine, to emit flatus.
7. Treatment is designed to overcome the obstruction which exists in the small bowel and also in the pelvic colon. If the obstruction is relieved, the peritonitis tends to subside. Jejunostomy has obvious disadvantages. The procedure advocated is short-circuiting combined with a temporary caecostomy; in the pelvic stage an ileo-caecostomy with caecostomy; in the hypogastric stage a jejuno-colostomy with caecostomy.

Mr. Handley reports four cases with spreading hypogastric peritonitis, in which he performed jejuno-colostomy and caecostomy. Three of these completely recovered. He informs me that none of these patients have suffered any disability from the short-circuiting, such as diarrhoea or loss of weight. Presumably the anastomotic opening tends to close—or ceases to function—when the peritonitis sub-

sides and the obstruction disappears. In the fourth case, although the infection was so severe as to cause pyæmic abscesses, from which the patient died on the twenty-seventh day, yet the peritonitis entirely subsided.

A similar case that I have treated recently furnishes another proof of the correctness of Mr. Handley's views and the hopefulness of the treatment that he recommends.

In my case the patient had acute spreading peritonitis, and was very obviously going downhill. A jejuno-colostomy was performed with immediate beneficial result, and the peritonitis completely subsided in two weeks' time. A sloughing ischio-rectal abscess unfortunately developed, and the patient died from its effects on the twenty-sixth day after the operation.

It will be noticed that enecostomy was not done in this case. The pelvic colon is not necessarily involved in the inflammatory paralysis, though this would presumably be so when it has a long loop which lies in the pelvis. Three days before the short-circuiting was performed a large collection of pus had been drained from the pelvis, and an enema administered soon after had given a good result. This convinced me that the pelvic colon itself was not paralysed, but only the small intestine, as was subsequently verified.

As a rule, however, it would, I presume, be wiser to combine enecostomy with the anastomosis.

A married woman, aged 47, had mild pain in the abdomen on January 21st, 1925, and vomited once. The next day she called in Dr. Poole of Norwich. The temperature was 99° F. and the pulse below 80. She had slight abdominal pain, but there were no local signs, either abdominally or on pelvic examination, sufficient to enable a diagnosis to be made. The symptoms remained about the same until January 26th, when the abdomen became distended, and the patient vomited two or three times. An enema gave a good result.

### First Operation.

I saw the patient in consultation with Dr. Poole on January 27th. The symptoms were increasing. There was marked distension of the abdomen, but no rigidity. The temperature was 101.5° F. and the pulse 80. A tender tense swelling could be felt in Douglas's pouch. Under general anaesthesia an incision was made in the posterior fornix of the vagina, and a large collection of thin, stinking pus and a loose faecal concretion were evacuated. A drainage tube was inserted. The presence of the concretion in the pus confirmed a diagnosis of appendicitis.

The next day (January 28th) the temperature was normal and the bowels were opened well after a soap enema. On January 29th the distension recurred; there was some forcible vomiting. A small amount of flatus was passed after giving eserine and pituitrin. The next day the distension was very great. Vomiting continued, forcible and in moderately large quantities. No flatus resulted after repeated injections of eserine and pituitrin and turpentine enemata. The pulse had risen to 96, and the patient was obviously very ill.

### Second Operation.

Right paramedial laparotomy was performed. Very distended and intensely congested coils of small bowel were found, with patches of lymph gluing them together in places, up to the level of the umbilicus. The transverse colon was empty and not inflamed. The small intestine was incised at two places, and gas and liquid contents evacuated. The incisions in the bowel were closed. A loop of the middle or lower part of the jejunum, which was distended and somewhat inflamed, was anastomosed (side-to-side) with the middle of the transverse colon. A cigarette drain was inserted down to the pelvis and the laparotomy wound closed. Two pints of glucose in saline solution were given intravenously.

On February 1st flatus passed in quantities; there was less distension. The following day there was a good liquid result from enemata, and on February 3rd good natural relief; there was still less distension.

On February 6th there had been no operation a week before. There was still some pyrexia, and the tongue was dry and raw, but the patient was taking nourishment well. She was obviously suffering from septic absorption, and antistreptococcal serum was given. On February 12th there was still some pyrexia; the tongue was still dry and raw. Antistreptococcal serum was given. Two days later a stinking left ischio-rectal abscess was opened.

By February 18th the general condition had improved; the abdomen was quite soft, and there was no distension. The next day the tongue was moist, and she was taking food well. The bowels acted two or three times daily.

On February 22nd the patient had sudden acute diarrhoea, and she was very ill. The tongue was dry and raw. Two pints of glucose in saline were given intravenously. A large slough was discharged from the ischio-rectal abscess. The next day she was semi-conscious. Three pints of glucose in saline were given intravenously.

The patient died on February 24th.

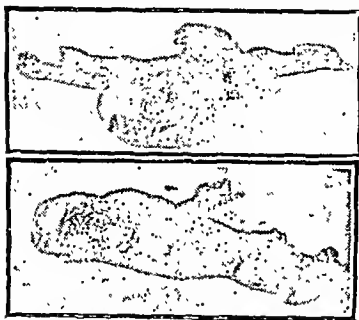


## Memoranda:

## MEDICAL, SURGICAL, OBSTETRICAL.

## ANENCEPHALIC FOETUS.

THE following outline of a somewhat unusual occurrence is perhaps of general interest. I was recently called by a midwife to the confinement of a multipara, aged 29, and on examination I found a hand presentation. I administered an anaesthetic, and, on inserting my hand into the vagina, a small foetus was suddenly expelled. Its length was 8½ in., and it presented a most curious, and at first glance an ape-like, appearance, with long arms extending to the lower third of the legs, long fingers, narrow heels, and broad toes. It was anencephalic, and the skin over the dorsal region was transparent, showing a cuirass-like appearance of the vertebrae and rudimentary ribs. The mouth was open, with the tongue protruding; the penis and scrotum were only slightly developed. A pale-coloured small



placenta followed. On further examination another hand was felt, and in a short time a well formed seven months male child was born alive, followed by a normal healthy placenta; this child, however, lived only one hour. The woman had had three confinements, all of which were normal, with living healthy children. Her mother had borne twins, and the husband's first wife died after giving birth to twins—all the children being healthy. The accompanying illustrations are reproduced from photographs of the abnormal child taken shortly after its birth.

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## A CASE OF ACUTE GENERAL TETANUS.

THE following record of a boy who recovered from severe general tetanus seems of sufficient interest to merit publication. A similar case, in which recovery from tetanus took place after treatment with antitetanic serum and chloretone, was reported from the Royal Surrey County Hospital, Guildford, in this JOURNAL in 1910 (vol. ii, p. 1402) by Mr. R. A. Hobbs and Mr. E. W. Sheaf.

A boy, aged 14, injured his hand with a toy pistol on January 8th. Eight days afterwards spasms of the jaws were observed. When admitted to hospital, on January 19th, trismus, risus sardonicus, and opisthotonus were marked. Spasms occurred every few minutes. There was a small punctured wound in the left hypotenar eminence.

Before admission 15,000 units of antitetanic serum had been injected into the theca and 3,000 subcutaneously. A further dose of 3,000 units was given subcutaneously on admission, and the boy was placed in a dark room away from all external stimuli. The wound was excised and oxygen bubbled into the surrounding tissue.

Morphine, chloral, paraldehyde, and bromides were tried during the following two days, but failed to relieve the spasms, and chloroform anaesthesia had to be produced on three occasions. On the third day large doses of chloretone were given by the rectum, and the spasms ceased almost entirely. This treatment was kept up for nine days—sometimes as much as 90 grains of chloretone being given by the mouth in twenty-four hours. If discontinued the spasms recurred, but on repetition of the drug calm sleep supervened. No toxic symptoms were noticed.

During the first nine days antitetanic serum was given daily (5,000 units subcutaneously and intramuscularly). On the tenth day both the chloretone and the antitetanic serum were discontinued, and no further spasms ensued.

I am indebted to Dr. Arthur Saunders for his permission to publish this case.

The chief points of interest were the remarkable manner in which the spasms were controlled by chloretone, and the rarity of recovery after such a short incubation period.

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London, W.6

## Reports of Societies.

## THE PLEA OF INSANITY.

At a meeting of the Medico-Legal Society held in London on May 19th, with the President, Lord Justice ATKIN, in the chair, Dr. LIONEL A. WEATHERLY read a paper entitled "The medical aspect of some murder cases in which insanity was the defence."

Dr. Weatherly said it was well known that ever since 1843, when the four judges made the rule which was still the law regarding criminal responsibility of the insane, the medical experts in mental diseases had unanimously objected to this rule as being unscientific and unjust to many an insane criminal. They must, however, recognize that criminal responsibility was a purely legal question, and that the law, which was the formal expression of the will of the community, was the sole authority in defining this responsibility. But while the law had more or less stood still for generations, medicine was a science which was ever advancing; it was now able to show how disease could affect the intelligence, the imagination, the reasoning power, and also the affective side of what was called mind—namely, the emotion and the will—affecting it in such a way as to make the ruling by which criminals were judged at the present time, when insanity was the defence, unsound and unfair. Personally, he deprecated heated arguments regarding the M'Naghten rulings between law and medicine. What both lawyers and doctors desired could only be justice to the prisoner and the safety of the community. Alienists should study carefully the interesting evolution of the legal rulings, and lawyers should do their best to gain a knowledge of the diseased mind in the fullest application of that term. Had the four judges who laid down the M'Naghten rulings lived for a few days in the wards of any of our mental institutions they would have given very different answers to the questions submitted to them. Excluding idiots, imbeciles, and many chronic demented, they would have found very few of the inmates of whom they could confidently state they had no proper knowledge of right and wrong. Those judges would have seen cases of general weakening and deficiency of the intellectual powers, of the will, and of the control of emotions, where the subjects were yet capable of distinguishing right from wrong. They would have conversed with patients with delusions, hallucinations, and illusions of one or more of the senses, and yet with a clear knowledge of right and wrong. They would have had pointed out to them patients who at times were subject to transitory fury, or who reasoned insanely on sane premisses, or vice versa, and yet all these patients would have that knowledge which made them in the eyes of the law of the land responsible beings.

Medical experts were often accused of showing distinct bias in their evidence in these cases, and it might be that some were too emphatic in their statements; but it must not be forgotten that if a medical expert, with years of experience of mental diseases, was satisfied in his own mind from his examination of the prisoner and of his whole history that he was insane, he had that feeling so well expressed by the American counsel Mr. W. H. Seward: "I should be guilty of murder if in my present relation I saw the executioner waiting for an insane man and failed to say and failed to do what in my belief the law allowed." The task of the mental expert was more difficult than that of the pathological expert. The mental expert was not able to produce microscopic slides showing the abnormality in the prisoner's brain cells, nor could he give any arithmetical data as to the underweight and the will power of the prisoner; he could not demonstrate the prisoner's emotion in a glass bowl and prove to the jury that, while healthy emotion should be pure white, the prisoner's was of a dirty yellow colour. It had often been said that the mere fact that doctors would go into the witness-box and give evidence diametrically opposite minimized the value of the evidence given by the alienists in these trials, but surely this was not true reasoning. Judges even differed in their opinion of law, and judgements were often upset in the Appeal Court, and again by the House of Lords.

They had recently heard the Lord Chief Justice's emphatic statement that the Appeal Court would hesitate long before it transferred to medical experts the determination of questions upon which the jury, after listening to conflicting views, had arrived at a unanimous conclusion. They must all heartily endorse that statement, which, to his mind, showed the necessity of some alteration in the existing law regarding insanity as a defence. Did it not often happen that the evidence given in a court of justice by an alienist that the prisoner was suffering from a mental disease was ridiculed, or his opinion very much discounted, and yet that same alienist was able to record an opinion in the condemned cell upon which the Home Secretary was able to override the unanimous verdict of the jury, and to save the condemned prisoner?

Dr. Weatherly detailed a number of cases in which he had been personally concerned where the plea of insanity was raised by the accused; he believed that it would be better to do away with any distinct and rigid definition of what constituted responsibility in these cases. No fresh shibboleths were needed, each case should be tried on its merits, and the defence should prove to the satisfaction of the jury (a) that the prisoner was suffering from a mental disease, and (b) that the crime was the outcome of such disease. There was no doubt that alienists recognized that there were degrees of responsibility, and he for one had long urged that English law should copy that of other lands and recognize degrees of the crime of murder. Some judges had made statements to the jury to the effect that the occupants of the jury box were quite as capable of gauging the prisoner's mentality as were the alienists who had given evidence. This implied that the man in the street knew quite as much about mental disease and all its ramifications as did those medical men who had devoted their lives to the study of the insane mind, who had lived with the insane, summered and wintered them. This Dr. Weatherly described as unfair, untrue, and illogical.

The PRESIDENT said that medical men were not always at one on the initial question whether there was or was not mental disease, but he strongly adhered to the recommendation of the committee over which he himself had presided that if the accused committed crime under an uncontrollable impulse by reason of mental disease, he ought not to be held legally responsible.

Other speakers were Messrs. BARRY O'BRIEN, T. SIMPSON PEDLER, and C. PILLEY, and Drs. T. B. HYSLOP, CRESWELL, and FINUCANE.

#### *Proposed Central Medico-Legal Institute.*

Lord JUSTICE ATKIN announced that the council of the society was considering the establishment in London of a central medico-legal institute for England and Wales, and a committee had been formed with Sir Bernard Spilbury as secretary, and Sir William Wilcock, and Messrs. Danford Thomas, Roland Burrows, and Webster, as members. The general idea was to establish a central institute where research work could be carried on, pathological inquiries made, and medico-legal experts brought together for the purpose of assisting in the solution of problems, especially in relation to crime. It was possible, with the help of the hospitals who thought it desirable to enter into the scheme, that medico-legal teaching would be available under highly trained teachers. A meeting for discussion of the whole subject would be held on Tuesday, June 23rd.

A MEETING of the London Association of the Medical Women's Federation was held on May 8th at the London School of Medicine to entertain the council members of the federation; demonstrations were given by various members of the staff of the school. Professor WINIFRED CULLIS demonstrated the action of certain drugs on the isolated mammalian heart, and the production of arrhythmia by section of the *a-v* bundle. Miss M. BOND, M.Sc., communicated the results of her investigations into the content of vitamin A in bacon fat, which is largely used in the dietary of children. Miss D. WOODMAN showed slides indicating that feeding rats with parathyroid inhibits thyroid action. Dr. PHILMAN WILLIAMS demonstrated the methods of blood group determinations. Microscopic preparations of foetal tissues were exhibited by Professor M. F. LUCAS KEENE and Dr. E. E. HEWER to illustrate some points regarding the correlation between the structural changes in the

organs of the foetus with physiological activity. Miss M. WALLER demonstrated emotive response to stimulation. A demonstration was given by the National Institute of Industrial Psychology of various psychological tests. Examples of the best known varieties of linguistic and performance intelligence tests were given, and general tests for "manual dexterity" and "mechanical ability" in connexion with vocational guidance. Some tests which are being used for vocational guidance and selection were illustrated, and also tests employed in the selection of engineers, weavers, clerks, and packers; these tests had been devised by the institute at the request of industrial firms.

## Reviews.

### TWO HANDBOOKS OF OBSTETRICS.

THE sixth edition of Dr. EDELL's well known and standard *Manual of Midwifery* has been brought out by Dr. EDDLE HOLLAND, who is responsible for the changes made in it. These are conveniently summarized by him in the preface. Perhaps the most important are the rewriting of the section on the toxæmias of pregnancy, the addition of a new section on diseases, injuries, and death of the foetus, and of another short new section dealing with the statistics of the maternal mortality of childbirth.

The section on toxæmias shows a thoroughly judicial weighing of the present views upon this complex subject. Dr. Holland, not unnaturally, leans to the placental theory of causation, but perhaps he discards too completely—on laboratory evidence—the possibility of a metabolic auto-intoxication as at any rate a possible predisposing factor.

The space given to the time-honoured teaching of the mechanism of labour is comparatively scant. It is rather the fashion of the moment to make less of this than was done in the teaching of a previous generation, and from the point of view of the instruction of the student we are disposed to think the change is not for the better. The anterior and posterior rotation of the occiput in occipito-posterior positions is dealt with in a way that is scientifically quite logical, but the result is calculated to be confusing to the student, as it lacks unity or continuity. We cannot agree with the editor's advocacy of version in preference to manual rotation in persistent occipito-posterior cases in multiparæ with the head above the brim; no reference is made to rotation by forceps, which, although admittedly more risky to the foetus than manual rotation, is yet in careful hands a most valuable method of delivery, and one which deserves serious discussion in any textbook of this standing. The section on breech cases is good, and we are glad to find emphasis laid on the value of preliminary perineotomy in primiparous breech cases. Of scopolamine-morphine narcosis the editor is apparently but a tepid advocate, and he makes no reference to quinine (and a fortiori none to glucose) as a uterine stimulant in labour.

Placenta prævia and accidental hæmorrhage are discussed in a way which brings out their common factors clearly. This is in keeping with modern research, even if it does not make their study easier for the student. The section dealing with the infant and its injuries and diseases is admirable, as might be expected from one who has devoted so much study to the subject. The pleas for the recognition of pulmonary respiration as the sign of "livebirth"; for the use of the term "deadbirth" where the foetus dies without breathing, even although its heart is beating at birth; and the use of the term "stillbirth" as synonymous with "asphyxia neonatorum," are sound, and it is to be hoped that medical writers, and especially medical jurists, will adopt these definitions. In the operative section we are glad to see that the methods of accouchement forcé are dismissed in a paragraph as operations "of great gravity, in comparison to which Cæsarean section is simpler, safer, equally expeditious, and applicable to all conditions." The description of the operation of Cæsarean section is very clear, but it seems out of place to devote five pages to

<sup>1</sup> *A Manual of Midwifery*. By Thomas Watts Edell, M.D., C.M. Edin., F.R.C.P. Lond., F.R.C.S. Edin., and Eardley Holland, M.D., B.S. Lond., F.R.C.P. Lond., F.R.C.S. Eng. Sixth edition. London: J. and A. Churchill 1925. (Demy 8vo, pp. xii + 704; 393 figures, 7 plates, 21s. net.)

pubiotomy and symphysiotomy, which for the second time in their history are nearly obsolete procedures.

We congratulate the authors most cordially on a very excellent volume, which gives an admirable representation of the present position of obstetric science in this country. In our view Dr. Holland has made the book rather more of a practitioner's and rather less of a student's textbook, but, that criticism apart, he has distinctly enriched an already valued and tried guide to midwifery.

Dr. HASTINGS TWEEDIE'S *Practical Obstetrics* has for some years had a definite place in the obstetrical literature of this country, and the call for a fifth edition<sup>2</sup> since 1908 is evidence of this. It is regrettable to learn from the preface that a serious defect in Dr. Tweedie's sight has considerably handicapped him, but he is to be congratulated on having secured the collaboration, not only of Dr. G. T. WRENCH, who was jointly responsible with him for one or two of the previous editions, but also of Dr. BERNEL SOLOMONS, who, as a teacher and consultant, is thoroughly familiar with the latest changes in the views upon matters obstetrical. With regard to the subject-matter of the volume, nothing need be said except that this edition fully maintains the high standard previously set. The appendix again contains a valuable series of statistics based upon the experience of the Rotunda Hospital. There is also an appendix expounding Stroganoff's treatment of eclampsia, and a short article giving Dr. Tweedie's personal and rather uncommon views as to the origin of the lower uterine segment. So far as our recollection serves, these were all in the last edition, and the two latter articles might, one would think, have been incorporated in the body of the book—always provided the author thinks them suitable.

The last appendix is entitled "Haemorrhagic shock," and deals with the exceedingly interesting subject of the profound shock associated with comparatively small internal haemorrhages in concealed accidental haemorrhage and ruptured tubal pregnancy, etc. Dr. Hastings Tweedie's views have always been strongly individualistic, and as such both welcome and refreshing. But in this article his reasoning seems to be questionable and to require support from much more in the way of carefully observed facts than are provided, before it can be accepted. For its acceptance would, as the author cheerfully points out, involve the scrapping of the universally accepted teaching as to the danger of extracting a child from an inert uterus. Revolutionary and subversive teaching of this sort requires to be justified up to the hilt before it can be accepted, and it is interesting to notice that Dr. Tweedie or his collaborators very wisely adhere to the traditional teaching on this matter in the chapter on uterine inertia. Dr. Tweedie attempts to forestall criticism on his views in the form of "unsupported expressions of opinion," while welcoming further "facts and logical deductions." Certainly these latter are needed, but the author cannot in this way and by his own statement place himself beyond the range of legitimate criticism; and we must respectfully express considerable scepticism.

#### DIAGNOSIS AND TREATMENT OF SYPHILIS.

THE discovery of the causal organism of syphilis, the development of a satisfactory laboratory method for the diagnosis of the disease, and the elaboration of a chemical preparation for its treatment, together formed an enormous contribution to scientific and practical medicine. None of these three great advances was sudden: the way was prepared for each. All of them in turn formed the starting point of further research.

The monograph by BROWNING and MACKENZIE entitled *Recent Methods in the Diagnosis and Treatment of Syphilis*, which has now reached a second edition<sup>3</sup> and has

<sup>1</sup> *Practical Obstetrics*. By E. Hastings Tweedie, M.D. (Honoris Causa), F.R.C.P.I., and G. T. Wrench, M.D., in collaboration with Bernel Solomons, M.D., F.R.C.P.I. Fifth edition. Oxford Medical Publications, London: Humphrey Milford, Oxford University Press, 1925. (Demy Bro, pp. xvi + 617; 124 figures, 21s. net.)

<sup>2</sup> *Recent Methods in the Diagnosis and Treatment of Syphilis*. By Carl H. Browning, M.D., D.P.H., and Ivy Mackenzie, M.A., B.Sc., M.D. With an Introduction by Robert Muir, M.A., M.D., F.R.S. Second edition. London: Constable and Co., Ltd. 1924. (Demy Bro, pp. xxii + 537; 5 plates, 42s. net.)

been so extensively rewritten as to constitute a new work, is the only book we have that leads the student through all these varied researches. So voluminous is the literature on the mechanism of the Wassermann reaction alone that few can claim to be conversant with the major part of it. Useful as this reaction has proved in clinical practice, its underlying principles are not wholly understood, and if reliance is to be placed upon it we must have an appreciation of the extent to which each factor in the reaction varies and the methods by which the variations can be controlled. Professor Browning has omitted no contribution of any consequence, and this alone, quite apart from his own researches and the critical judgement he has brought to bear on the numerous problems, makes the book invaluable to other laboratory workers in all that pertains to serology. His association, too, with Ehrlich in the investigations that led to the development of salvarsan makes him an able guide in the exposition of the chemotherapeutic researches.

The first four chapters are devoted to a consideration of the *Spirochaeta pallida*, its characteristics, its pathogenic properties and biology, and the tissue changes it produces. In eight chapters each separate constituent of the Wassermann reaction is extensively studied. The immense amount of work and experiment that this has entailed will be appreciated by everybody, and fellow workers will find these chapters a mine of information. The flocculation reactions, the examination of the cerebro-spinal fluid (ably written by Dr. J. Cruickshank), and the clinical application of the investigations, form other chapters which for thoroughness, critical judgement, original observation, and intelligible presentation, could not well be surpassed. Dr. Mackenzie is responsible for the clinical section, and gives a general survey of the results of treatment.

Mainly intended for pathologists, the book will not be unwelcome to the practitioner who desires to be conversant with the scientific basis on which modern diagnosis and treatment are built.

#### ATLAS OF URINARY CALCULI.

PROFESSOR NAKANO of the University of Tokyo has produced a fine atlas of urinary calculi.<sup>4</sup> The figures, based on nearly four hundred in number, have been selected from more than six hundred specimens, and are comprised in thirty plates, most of which are executed in colour photography. The process lends itself admirably to the representation of calculi, their external form, colouring, and detail in section being depicted with very close approximation to the natural appearance. The main incentive to the production of the atlas appears to have been a desire on Professor Nakano's part to ascertain the process of formation of urinary calculi, and for six years he devoted himself to this study, partly by experiment, and partly by the examination of microscopic sections of calculi. Of the latter he has studied no fewer than a hundred and forty, varying in thickness from 5 to 20 microns. In this way he has investigated the action of polarized light, the crystalline form and mode of deposit of the crystals; further, the nature of the radial and concentric striations, and the origin of fissures, or spontaneous fractures so called. He has also undertaken a quantitative and qualitative chemical analysis of nearly six hundred calculi and estimated their organic constituent. Details of these investigations are given in the text. The author has made a special point of comparing the process of formation of urinary calculi with that occurring in ordinary mineral deposits; he finds many analogies between the two and is inclined to regard them as practically identical. His conclusions as to the origin of calculi are that the organic constituent is not essential to their formation but is a secondary product arising from contamination with albuminous matter, thus opposing the view of Ebslein, who held that no urinary stone could be produced without some organic substance; further, that a calculus may form in perfectly normal urine; and that there must be a definite nucleus possessing irregularities of surface or other qualities which would allow of a deposit occurring around it. With

<sup>4</sup> *Atlas der Harnsteine*. Von Dr. H. Nakano. Mit einem Geleitwort von Professor Dr. V. Blum. Leipzig und Wien: Franz Deuticke, 1925. (Med. 4to, pp. xvi + 25; Atlas pp. 45; 364 figures, 30 plates, Grundzahl 307)

regard to the albuminous matter, it is admitted that its presence favours the formation of a calculus by promoting adhesion between the inorganic particles. As an example of the formation of a calculus in normal urino, the author mentions the case of vesico-vaginal fistula in which a stone formed round a partly separated suture, the urino being perfectly normal. To show that some foreign bodies may not serve as nuclei, a case under Professor V. Blum is quoted, in which a metallic fragment had remained in the bladder for three months without becoming encrusted and without producing any ill effect beyond slight catarrhal cystitis.

### NOTES ON BOOKS.

In our issue of July 19th, 1924, Professor R. T. Lelper drew attention to the unsatisfactory treatment of parasitology in the various standard public health textbooks. It is unfortunate that the author of the latest publication on *Parasitology for Medical Students* should not have thoroughly digested that article before he wrote his book. Its scope is wide, for the arthropods, helminths, protozoa, and fungi are considered in some 140 pages, but the treatment is inadequate; many of the statements are misleading, some are inaccurate, and others are confusing. Thus, for example, the term "bug" is used in a loose manner; and the reader might be led to suppose that the bed-bug is the normal carrier of South American trypanosomiasis. In the helminth section, the author might lead the reader to believe that "brood capsules" and "daughter cysts" in hydatids are the same thing; and that the diagnosis of alveolar hydatid infection is normally made by finding segments in the stool. There is a lack of proportion in the selection of the various parasites for discussion. For example, the proface states that the work will deal with parasites of practical importance from the point of view of the physician; yet two pages are devoted to the consideration of *Trichostrongylus axei*, which is a very rare human parasite, only infecting man by accident, while much more important human flukes are ignored. The illustrations in half-tone are poor and of little or no value to the student. Those of the helminth eggs are especially unsatisfactory; and surely the male *Ancylostoma duodenale* depicted on page 83 is a neater? The terminology is mixed. In some cases the correct name is given; in others, it quoted at all, it is given as a synonym. We fear it must be said that the book falls below the standard attained by others in the series of the Oxford Medical Publications.

The twenty-seventh edition (the thirteenth for publication) of *Rules for Compositors and Readers* has appeared. The rules laid down in this little book were originally intended for the use and guidance of compositors and readers at the Clarendon Press, Oxford. After a while copies found their way into the hands of authors and editors of books and periodicals, and readers and compositors in other printing offices began to ask for copies. These were supplied free of charge. By and by applications were made by persons other than those for whom the book was intended, but as many of these held positions under Government (either at home or abroad) the practice of presentation was continued. Then it became known that copies were on sale in London, and it was felt that there was no alternative but to publish the book. The fact that it has run through so many editions is proof of its usefulness, not only to those for whom it was originally compiled, but to all engaged in literary work. From time to time additions and slight alterations have been made in the *Rules*. Those in the twenty-seventh edition include a large number of medical terms and the recommendations of the Society for Pure English as to the printing of foreign words in common use in this country. We are more particularly interested in the list of spellings for use in medical works (pp. 25-32), and, though perhaps not altogether content with the arrangement of the "Words with Hyphens" and "Words without Hyphens," believe that this list will be of value to those engaged in preparing medical books for publication, and hope that its circulation may tend to eliminate the atrocities too often met with in the lay press. It is not altogether easy to follow the lines laid down for the use or omission of the hyphen. Why (to take only an example or two among many) should "cardio-gastric" and "cervico-dorsal" be printed with a hyphen, and "glossopharyngeal"

and "sternooclavicular" without? Many of the terms would be better expressed as two words—an "heart sound," "bile passages," "blood content," "blood volume," to mention only a few. The list seems to be remarkably free from actual errors; there are, however, a few terms we do not remember having seen before—an, for example, "hydrogenotransportases," "naphthylamine," and "mobillinogenuria"; it is to be hoped that the too conscientious compositor or reader will not substitute this last term for "urobilinuria," which is not in the list. We suspect that the last word on page 31—"sensorimotor"—should be "sensorimotor"; vitamin appears with a final e. The list, though not very comprehensive, is likely to be of value to those printers who have only an occasional medical work to produce, and whose readers would be lost without a guide to terms rarely met with in general work. The new edition of the *Rules* has apparently been revised under the direction of "F. J. H."—the initials, we assume, of the present printer to the University of Oxford—who is to be congratulated on its appearance.

The volume on *Pediatrics*, edited by Dr. ISAAC A. AIT with the collaboration of Dr. JOHANNES HEUMANN, forms part of the "Practical Medicine Series," which consists of eight books issued at various intervals during each year under the general editorship of Dr. CHARLES L. MIX. The present volume, which, as we learn from the introduction, has for more than twenty years shared its pages with orthopaedics, now appears for the first time as a separate volume devoted exclusively to pediatrics. The book contains an excellent summary of the world's work in the medical diseases of children, accompanied by judicious editorial comments; it should prove a useful guide.

The second instalment (Caja-Gestügel) of the lexicon of nutrition, edited by Professors E. MAYERHOFFER and CLEMENS PIQUET, of which the first part was noticed by us last year (JOURNAL, February 9th, 1924, p. 242), has recently been published. The subjects discussed include among others Carême (the celebrated Parisian gastronomist), Chinese nutrition, diabetic diet, eggs, fever diet, Finkelstein's scheme of nutritional disorders in the infant, fish, meat (Fleisch), and fowl. The work will appeal to all who take a scientific interest in food problems.

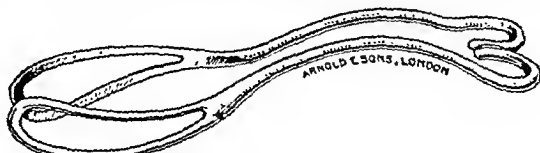
<sup>1</sup> The Practical Medical Series, under the general editorial charge of Charles L. Mix, A.M., M.D. Vol. IV, *Pediatrics*. Edited by Isaac A. Ait, M.D., with the collaboration of Johannes Heumann, M.D. Series 1924. Chicago: The Year Book Publishers. 1925. (Cr. 8vo, pp. 331; 27 plates. 2 dollars.)

<sup>2</sup> *Lexikon der Ernährungskunde*. Herausgegeben von Dr. E. Mayerhofer und Dr. C. Piquet. 2. Lieferung. Wien: Julius Springer. 1925. (Sup. roy. 8vo, pp. 191. G.M.7.)

### MEDICAL AND SURGICAL APPLIANCES.

Dr. R. J. ASSALINI, of New York, has designed a modification of the Assalini instrument, and claims that it retains the good points possessed by the original Assalini instrument, one of which is its adaptability to the modification proposed, and possesses the additional advantage presented by the backward curve of the handles, by which the forceps are given an axis-traction effect in the simplest possible manner, and without any additional apparatus in the form of traction rods, etc. As traction is applied to the extreme end of the handles the full value of the backward curve is obtained.

The good points already possessed by the original Assalini instrument appeal chiefly to the general practitioner, who conducts his confinements with his patient in bed, and not on an operating table. Difficulty is encountered in passing the upper



blade with the lower one already in place, until by experience a better method than is taught to students has been learnt. With Assalini forceps there need be no difficulty with the upper blade, which is passed first horizontally in front of the sacrum and then rotated carefully into its proper position. The nurse can then hold it well back while the lower blade is passed into place. This manoeuvre is not impossible with ordinary forceps, but to make it easy the lock should be reversed.

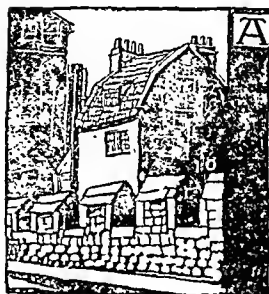
There is one more advantage which is quite important. The ordinary pattern of forceps can have, in the hands of a vigorous obstetrician, some of the qualities of a cephalotribe. This is undesirable and is avoided by the Assalini instrument.

Messrs. Arnold and Sons (John Bell and Croymond, Ltd.), 50-52, Wigmore Street, London, W.1, are the makers.

<sup>3</sup> *Parasitology for Medical Students*. By Alex. Mills Kennedy, M.D. Glas. Oxford Medical Publications. London: Humphrey Milford, Oxford University Press, 1925. (Demy 8vo, pp. x + 142; one coloured plate; 61 figures. 10s. 6d. net.)

<sup>4</sup> *Rules for Compositors and Readers at the University Press, Oxford*. By Horace Hart, M.A. The English spelling revised by Sir James A. H. Murray, M.A., D.C.L., D.Litt., and Henry Bradley, M.A., Ph.D. Twenty-seventh edition (the thirteenth for publication). London: Humphrey Milford. 1925. (32 x 54, pp. 133. 2s. net.)

# NINETY-THIRD ANNUAL MEETING of the British Medical Association, BATH, 1925.



City wall opposite Mineral Water Hospital. (From a wood engraving by Horace Gerrard.)

Most of our readers are by now aware, the ninety-third Annual Meeting of the British Medical Association will be held at Bath at the close of July, under the presidency of Dr. F. G. Thomson, physician to the Royal United Hospital, Bath, and consulting physician to the Royal Mineral Water Hospital. The Annual Representative Meeting, for transaction of medico-political business and discussion of the internal affairs of the Association, will open at Bath on Friday, July 17th. The statutory Annual General Meeting will be held on the afternoon of Tuesday, July 21st, and on the evening of the same day the new President will deliver his Address to the Association. The twelve Sections, among which the scientific and clinical work of the meeting is being divided this year, will meet on the three following days. The full list of Sections and sectional officers, together with the provisional programme for the Bath Meeting, were published in the SUPPLEMENT to the BRITISH MEDICAL JOURNAL of April 11th, 1925. Further details of the arrangements will appear in later issues. On the last day of the meeting, Saturday, July 25th, there will be excursions to places of interest in the neighbouring West Country. We publish below the second of a series of descriptive and historical articles on Bath.

## THE MEDICAL INSTITUTIONS OF BATH.

NOTES BY

JOHN HATTON,

DIRECTOR OF THE HOT MINERAL BATHS.

In this article are given some brief notes on the Medical Institutions of Bath. Although Bath will not be able to show her guests the vast hospitals, with all their elaborate equipment, which they may have seen in some of the great cities visited by the Association in previous years, Bath possesses medical institutions of unusual character which, it is hoped, will not be without their special interest.

### THE ROYAL MINERAL WATER HOSPITAL.

The Royal Mineral Water Hospital will no doubt, by reason of its special character, be the most interesting of the hospitals of Bath. It is in no way a local institution, in the sense of providing for the needs of local patients, but a national hospital for the treatment of rheumatic diseases, established for the purpose of bringing the benefits of the Bath mineral waters within the reach of those who, without some such help, would never be able to obtain the specialized treatment a spa affords.

In the words of the Act of Parliament under which the hospital was incorporated in 1739,

"Any person resident in and belonging to Great Britain or Ireland, whose circumstances are such that they are not able to have the benefit of the Bath Waters without charitable relief, are entitled, and have a right, to the relief of the Hospital."

So strongly was it held that the hospital was provided for the relief of sufferers from rheumatic diseases throughout the country that four years later it was actually decided that the inhabitants of the city of Bath were not eligible for admission, and for nearly a hundred years the local poor were excluded from the benefits of the charity. The hospital draws its patients from every part of Britain, and even now it is the exception to find amongst them any Bath residents. Patients are admitted without any subscriber's recommendation, and it is only necessary to satisfy the Governors that the person desiring admission is unable to afford the expense of obtaining the treatment otherwise and that the case is one in which the use of the mineral waters is applicable. Patients whose means allow are now, of course, expected to contribute something towards their maintenance.

It is, as one would expect, during that long period when the springs were under the control of the Church, that we find the earliest records of the charitable use of the waters. Bishop Robert, in 1138, founded a hospital for lepers, attaching to it a bath called the Lepers', or Lazours', Bath, which actually existed until the eighteenth century.

But the present hospital may rather be looked upon as the successor of an Act of Queen Elizabeth, dated 1597, which gave to the diseased and impotent poor of England a right to the free use of the baths of Bath, and empowered the justices of the peace in any county to license such persons to travel to Bath, there to be cured of their ailments. The natural result followed, and as Fuller records in his *Worthices*,

"Many were in that place; some natives there; others repairing thither from all parts of the land, the poor for alms, the pained for ease. Where should fowl flock, in a hard frost, but to the barn door?—here, all the two seasons, being the general confluence of the gentry. Indeed laws are daily made to restrain beggars and daily broken by the connivance of those who make them, it being impossible when the hungry belly barks and howls around to keep the tongue silent. And although oil of whip be the proper plaster for the cramp of laziness, yet some pity is due to impotent persons."

Among the impostors were many genuine sufferers, and in 1716 a movement was started to establish a hospital for their relief. For some time progress was slow, but in 1738 the foundation stone of the new hospital was laid by the Hon. William Pulteney, afterwards Earl of Bath.

Beau Nash threw himself with all his energy into the effort of raising funds, collecting personally more than £2,000 (no small sum in a period which knew neither Lord Knutsford nor Lord Mildmay of Mele). Forty guineas were wiled out of the Duchess of Queensberry at the card table, Nash assuring the reluctant old lady that "Charity hides a multitude of sins." Dr. Oliver was assiduous in his support, Ralph Allen gave the stone from his famous Bath stone quarries, John Wood, the architect, then at the height of his fame, presented the plaques, and other notable people of the day gave freely of their time and talents to the promotion of the scheme.

The hospital is proud to have H.M. the King as its Patron, and as its Vice-Patron H.R.H. the Prince of Wales, who visited the hospital in 1923, and last year held the office of President, the third Prince of Wales to occupy that chair.

Originally the hospital contained only night wards, and accommodated, by overcrowding, rather more than a hundred patients at a time. Subsequent extensions provided spacious day wards, and increased the capacity to its present figure of 136.



The hospital has its own suite of baths supplied by the Corporation with mineral water from the hot springs, the hydrological treatments provided including Aix and Vichy douches, Scottish and needle douches, whirlpool baths, reclining and vapour baths, and the deep pool bath. Radiant heat and various forms of electrotherapy, massage, and remedial movements, by machines of the Zander type, are also employed.

Since its foundation the hospital has treated 104,600 patients. During each year about a thousand cases pass through the wards. The number for the quinquennial period 1920 to 1924 was 5,904, of whom 93 per cent. were discharged as "cured or relieved."

The Mineral Water Hospital has always shown a warm interest in wounded and invalided soldiers. Early in 1747 the Governors made special arrangements for the admission of those who had been maimed or wounded "in the recent rebellion in Scotland." During the Crimean war several soldiers were admitted at the request of the Director-General of the Army Medical Department, who wished to try the efficacy of the mineral waters in the treatment of diseases brought about by active service, and the hospital records show that 75 per cent. were discharged as "recovered or benefited." During the South African war twenty beds were placed at the disposal of the War Office, and 112 men were treated, Lloyd's Patriotic Fund making a grant of £50 to the hospital in recognition of the benefits these men derived.

At the outset of the great war the Governors offered the whole accommodation to the War Office for the use of soldiers, but in acknowledging the offer the Secretary of State considered that the regular work of the hospital should, as far as possible, be maintained. The army medical authorities were, however, glad to make use of the special facilities the hospital provided, and during the war, and in the period immediately following, 4,968 sailors and soldiers were admitted. Most of them were benefited, and many were enabled to resume active service. A limited number of Belgian soldiers were received. On arrival many of these could hardly move hand or foot, but they improved rapidly, and many returned to duty.

In 1914 a new Pathological Laboratory was opened by Sir William Osler, who drew particular attention to the large field provided for research in the cases passing through a specialized hospital such as this. On his recommendation a medical library was established in connexion with the laboratory.

Generous supporters, notably the present Mayor, Alderman Cedric Chivers, have enabled important investigations to be carried out, and work has been done, especially in connexion with the various classes of fibrositic and arthritic (including gouty) patients, who form the majority of admissions. These include some hundreds of blood counts, a systematic investigation of the behaviour of blood serum towards streptococcal antigens in complement fixation tests; basal metabolism, vital capacity, blood contents of glucose, creatinin, uric acid and calcium, glucose tolerance and urea concentration, and other biochemical features. Work has also been done on calcium metabolism in cases of osteo-arthritis and spondylitis.

Thus, in the research work of to-day the hospital is very definitely fulfilling one of the objects of its promoters. For in the original advertisement of the hospital in 1737 it is pointed out that by collecting these rheumatic cases in a hospital—

"It would give the Physician a sufficient opportunity either of doing them all the service their case would admit of or of making observations for the future benefit of others. A few years will furnish more Histories of Cases, which may be depended on, than any Man's private practice would have done in an Age."

### THE ROYAL UNITED HOSPITAL.

In its present form the general hospital of Bath—the Royal United Hospital—dates from 1826, when the central block was opened, but, as its name indicates, the hospital represents the union of two old charities, the Bath Pauper Charity, founded in 1747, and the Casualty Hospital, which was opened at 38, King's Mend Street, on January 1st, 1788. At one period of its history the older institution, under the title of the Bath City Infirmary and Asylum, was located in the residence formerly occupied by Dr. Samuel Bave, a native of Cologne, who practised in Bath for thirty years and died in 1668.

In 1864 the Albert Wing was built in memory of H.R.H. Prince Albert, another story, called the Prince of Wales Ward, being added to this wing in 1891 to provide accommodation for children. In 1914 the hospital was further improved by the reconstruction of the out-patient department and the provision of

x-ray and other modern departments. At the present time the old x-ray apparatus is being replaced by an entirely new installation.

The hospital, which has 140 beds and averages over 8,000 cases a year, draws its patients not only from Bath, but from an extensive area comprised within a radius of some twenty miles of the city, embracing the mining district around Radstock, the Bath stone quarries of Box and Corsham, the woollen factories of Trowbridge, and the rubberworks of Bradford-on-Avon. Last year (1924) 2,224 in-patients were admitted, 83 patients were visited at their own homes, and 5,849 out-patients were treated—a total of 8,156. During the year there were 1,594 operations.

The hospital occupies a position in the centre of the city which does not allow of any further extension, and the only practicable solution of the problem of meeting increasing demands will be removal to a less congested site.

Like all similar institutions, the Royal United Hospital has had its financial embarrassments, and a couple of years ago the situation was very serious. The friendly societies of the city then devised a scheme of collecting boxes combined with a pledge of a weekly contribution of not less than twopence. Taken up readily in the city and the surrounding districts, exceptionally well organized and worked with enthusiasm by the energetic members of the friendly societies, the scheme is yielding an annual income of £5,000 which shows every sign of being maintained.

The hospital has ever been fortunate in its honorary medical staff, but there will be no disparagement of other good men in saying that the name of Caleb Hillier Parry, physician to the Casualty Hospital from 1800 to 1817, stands pre-eminent. Best known to the profession at large for his work in connexion with exophthalmic goitre—which is Parry's just as much as it is Graves's disease—he has left in his published writings and in the notebooks, which are carefully preserved in the library of this hospital, the record of a scientific mind, assiduous in seeking knowledge from personal observation, sound in judgement and gifted with unusual powers of deduction. That these gifts were combined with, or rather found



ROYAL MINERAL WATER HOSPITAL.  
(From a wood engraving by Horace Gerrard.)

their fullest expression in, sound therapeutics is shown by his extensive practice and the wide fame enjoyed by this distinguished Bath physician.

#### THE FORBES FRASER HOSPITAL.

This, together with the Children's Orthopaedic Hospital described below, is the latest addition to the medical institutions of Bath. It was opened by H.R.H. the Duke of Connaught on May 16th, 1924, while that great surgeon and lovable man after whom it was afterwards named was still lying ill.

The Forbes Fraser Hospital forms the beginning of a big scheme formulated by the late Mr. Forbes Fraser, F.R.C.S., in 1920, for the eventual removal of the whole of the Royal United Hospital to the outskirts of the city, where extensions could be carried out on an open site, leaving a casualty station only in the central area, with possibly an out-patient department. In particular, paying wards were to be provided for persons of limited means. This scheme was adopted by the Managing Board and a site of twenty-one acres was purchased at Combe Park, upon which, in 1915, the Bath War Hospital had been built. A portion of the land was leased to the Ministry of Pensions, which had taken over the existing War Hospital, still maintained as a pensions hospital for the South-Western area.

The Forbes Fraser Hospital for paying patients enjoys to the full the advantages of beautiful surroundings and an open airy situation. It is a one-story building of the bungalow type, designed by Mr. Alfred J. Taylor, F.R.I.B.A., and planned in two wings, containing twenty-four private rooms and four wards of twelve beds each, curtained off into cubicles—a total of seventy-two beds in all. There are sun balconies in front of the private rooms and at the end of the wards.

In the central administration block are the medical officer's and matron's quarters, two operating-theatres, kitchen, and store-rooms. A separate building contains the power block, the boiler-house for the hot-water supply, and electric light plant and the laundry.

The fees are £5 5s. a week for a private room and £3 3s. for a bed in one of the wards. In maternity cases the present charge for a private room is £6 6s. weekly. These fees do not include surgeon's or medical practitioner's fees, but entitle a patient to board, nursing, ordinary medicine, and surgical dressings. Additional charges are made for special nurses, massage, special diets, expensive remedies, x-ray or other special investigations. In operation cases a theatre fee of 1 guinea is charged for minor operations and 2 guineas for major operations.

The treatment of patients is not confined to the staff of the Royal United Hospital, but is open to all registered practitioners, the only restriction being that no major operation may be performed in the hospital except by a present or past member of the surgical staff of a recognized general or special hospital.

It is believed that this is the first hospital in the country built solely for the accommodation of patients of moderate means, and it is already proving its value. The committee, under the chairmanship of Sir Percy Stothert, K.B.E., has been fortunate in securing several handsome donations, including one of £5,000 from Mr. Stanley Wills, which have enabled a start to be made on the useful addition of a nurses' home on a piece of ground of four acres presented by the Mayor of Bath.

#### CHILDREN'S ORTHOPAEDIC HOSPITAL.

It is to the late Mr. Forbes Fraser, Alderman Cedric Chivers (who, as Mayor of Bath, will welcome the British Medical Association to the city next July), and Mr. Walter E. Mallett, the chairman of the Children's Orthopaedic Hospital, that Bath owes this valuable institution. The hospital is intended to serve Bath and the counties of Somerset and Wiltshire.

On a portion of the Combe Park site, providing the essential conditions of sunshine and space, an open-air hospital has been planned containing at present thirty-seven beds and capable of extension. Children up to the age of 16 are eligible for admission, and the organization provides all essentials for treatment, such as the supply of appliances, equipment for surgical operations, massage and other forms of physiotherapy, and investigations by x-ray and laboratory methods. In accordance with the requirements of the Board of Education, a qualified schoolmistress has been engaged to carry on the education of the children while in the hospital.

An important part of the scheme is the after-care of the patients. With this object local orthopaedic clinics are being established at suitable subcentres throughout the area to

secure the periodical inspection of old cases, provide out-patient treatment, and afford facilities for examination and diagnosis of new cases. Each clinic will be controlled by a local committee in co-operation with local doctors, and a specially trained after-care sister from the central hospital will visit regularly.

#### BATH EYE INFIRMARY.

Founded in 1811, the Bath Eye Infirmary is one of the oldest provincial institutions of its kind. From small beginnings the hospital gradually grew, moving several times to fresh premises as the work expanded, until it settled in the present building in Belvedere in 1899. The accommodation again proved to be insufficient, and the adjoining house was purchased in 1905 and added to the institution.

The hospital now contains twenty-one beds and one cot. Patients are drawn from a large area—Somerset, Wiltshire, and part of Gloucestershire. Out-patients are treated gratuitously; in-patients are admitted on subscriber's recommendation. The infirmary also treats children attending the schools of the education authority who are sent to the institution through the school clinic.

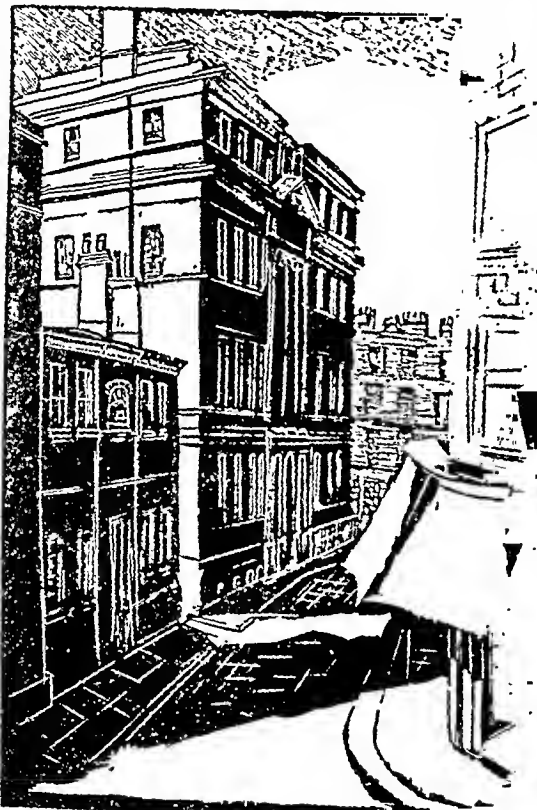
During 1923, 214 in-patients were admitted, and 2,203 new out-patients. The number of old out-patient attendances was 3,074, an increase in numbers over the previous year. Financial support has always been forthcoming, and although low been experienced the hospital is having been in debt since its foundation over 113 years ago.

#### BATH EAR, NOSE, AND THROAT HOSPITAL.

The Bath Ear, Nose, and Throat Hospital, the only one in a very large area of the South-West, was founded in the year 1837 in the Walcot district of Bath, under the title of the Bath Ear and Eye Infirmary. The work of the hospital was, however, largely confined to laryngology, otology, and rhinology, from the first, and the eye work was handed over to the Bath Eye Infirmary at an early date.

In the year 1914 the hospital was transferred to larger premises in Charles Street, where the work was carried on during the period of the war. At this time the hospital was used for the training of personnel of the 2nd and 3rd Bath Units of the R.A.M.C., known as the South-Western Mounted Brigade Field Ambulance, in hospital duties and the special work connected with ear, nose, and throat.

In 1920 it was found that the Charles Street building was inadequate to cope with the work amongst the civil population, to which was added a large number of soldiers and pensioners



ROYAL UNITED HOSPITAL.  
(From a wood engraving by Horace Gerrard.)

JUNE 6, 1925]

# MEDICAL INSTITUTIONS OF BATH

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who, till the establishment of the special department at the Bath Pensions Hospital, came to the institution for treatment. The hospital was accordingly moved to its present position in Marlborough Buildings, the Board of Management acquiring the war-time officers' hospital, commanding an extensive and delightful view over the Royal Victoria Park. Fifty beds and cots were equipped in these premises, the hospital thus constituting one of the largest, as well as almost the oldest, ear, nose, and throat hospital in the country. Patients are drawn not only from Bath, but from a large area including many surrounding counties. The number of operations performed during the past year was over 500. In-patients numbered 427, and the attendance in the out-patient department was over 4,500.

## BELLOTT'S HOSPITAL.

Founded in 1610 by that Thomas Bellott, Lord Burleigh's steward, a munificent benefactor alike of the Abbey and the city of Bath, of whom it was written—

"Hospitals, baths, streets and highways  
Sound out the noble Bellott's praise,"

this small hospital for poor patients who resort to Bath for the benefit of the waters is now administered by the Municipal Charity Trustees in conjunction with the annuity left by Lady Elizabeth Seadmore for a physician to advise poor strangers as to the use of the Bath waters. There is accommodation for ten patients, who are provided with separate bedrooms, with light and heating, medical attendance, and medicine, the use of the mineral waters, and an allowance of 2s. 4d. a week. Any extra cost of maintenance must be paid by the patients, who must also provide themselves with towels, change of linen, and proper apparel. The cost of maintenance generally amounts to from 15s. to 18s. a week, in addition to the said sum of 2s. 4d.

## CENTRAL LABORATORY.

By the joint efforts of the Corporation and the Royal United Hospital a central laboratory has recently been opened under the direction of an experienced pathologist. Here are carried out pathological investigations of all kinds—bacteriological, histological, chemical, etc. The service of the laboratory is available for all local practitioners.

## OTHER INSTITUTIONS.

**Bailbrook House.**—This typical Georgian mansion, dating back to 1791, with the comfort and quiet dignity of its period, is an old-established home for the care and treatment of ladies and gentlemen suffering from nervous and mental disorders, standing on one of the hills overlooking Bath, about two miles distant from the centre of the city, in twenty acres of well laid out and wooded private grounds. There is a special annexe for ladies, Brook Villa, with a separate garden. Attention is particularly given to the curative treatment of early cases.

**Kingsdown House at Box, near Bath,** is another private mental hospital, for the treatment of mental and nervous disorders.

**Lansdown Hospital.**—At this hospital, founded under the Jennings Trust to provide skilled nursing and accommodation for all classes, special treatment is given for rheumatic and allied diseases as well as for other cases. The institution is self-supporting, but there is a benevolent fund which is applied to the service of poor patients seeking admission.

**Combe Down Convalescent Home.**—Accommodation for ten men and ten women is provided by the convalescent home which stands on the high tableland of Combe Down, 520 feet above sea-level. The home is about four miles from the centre of the city, but easily accessible by the electric trams which pass the gates.

**Dispensaries.**—Three dispensaries, established in the early part of the nineteenth century, are still in use and provide much appreciated facilities for poor people. There is also a Medical Institution under the auspices of a joint committee of the members, which provides out-patient facilities for their members.

**Bath Homoeopathic Hospital.**—There is a small homoeopathic hospital for the treatment of the sick poor and for the training of nurses on homoeopathic principles.

## MUNICIPAL HEALTH SERVICE.

The annual reports of the medical officer of health indicate the varied activities of the Health Committee of the Bath City Council.

The estimated population of the city is 69,270. During 1924 the number of births was 931, being equivalent to an annual rate of 13.2, compared with 18.8 for England and Wales. The corrected death rate was 11.7 and the infantile mortality was 65 and the corresponding rates for England and Wales were 12.2 and 75 respectively.

## Maternity and Child Welfare.

The council's scheme for maternity and child welfare includes an ante-natal clinic, the supervision of midwives, a district midwifery service, a maternity home, a health visiting department, infant welfare centres, and the provision of milk to mothers and children. The work is carried on in conjunction with certain voluntary societies on a plan so devised as to

allow freedom of action on the part of the societies, with adequate control by the council of expenditure of money from the rates. The voluntary bodies concerned are the Bath Infant Welfare Association, with three branches in different districts, and the Bath District Nursing Institute.

**Ante-natal Clinic.**—An ante-natal clinic for giving advice to expectant mothers is held weekly at the Rivers Street Maternity Home. During 1924 there were fifty-one sessions, at which 184 new cases were seen by the medical officer. The four city midwives paid 1,229 visits to these mothers at their homes before the confinements, and attended in all 342 births.

**Maternity Home.**—This home was opened in 1917 with five beds. The nursing arrangements are carried out under the supervision of the matron of the Bath District Nursing Institute, subject to the control of a committee of the council and the general supervision of the medical officer of health. By a suitable financial adjustment with the Nursing Institute the whole of the deficit in the working expenses is borne by the city. During 1924, 100 cases were admitted to the home, and the average stay in days was 15.7.

**Infant Welfare Centres.**—Three centres have been established: one at Roswell House, where two consultation clinics are held every week, and one in each of the Walcot and Oldfield Park districts, at which one consultation clinic is held weekly. This work is carried out by the Bath Infant Welfare Association in conjunction with the staff of the Health Department.

**School Clinic.**—The school clinic is conducted at Roswell House by the Education Authority, and here all the usual facilities are provided, including an orthopaedic clinic.

**Tuberculosis.**—The administration of this is under the medical officer of health, but the actual clinical work is carried out by the Tuberculosis Dispensary at 26, Charles Street.

**The Statutory Fever Hospital.**—This hospital consists of three wooden blocks for patients, an administration block, a discharge block, and a laundry. It is situated on Claverton Down and stands in eight acres of ground.

## WINSLEY SANATORIUM.

This institution, on the breezy high land at Winsley, 400 feet above sea-level, overlooking the beautiful Limply Stoke Valley some miles from Bath, has been established for tuberculosis patients from Wiltshire, Bath, and Bristol. The hospital is administered by a joint committee representing the three authorities, the Bath Corporation maintaining fourteen beds.

The sanatorium was opened in 1904 for sixty patients, and the original cost, including land, was £32,700. In 1912-13 the institution was enlarged at a cost of £12,000, and accommodation is now provided for 119 patients. During 1924, 371 patients were admitted (219 males and 152 females), the average period each patient remained in the institution being 114.4 days. A tendency has been noted recently for patients to remain in the sanatorium for longer periods, with consequent increased benefit. Since the opening of the sanatorium 6,896 patients have been admitted.

## MINISTRY OF PENSIONS HOSPITAL.

The Ministry of Pensions Hospital, easily reached by the Weston train, which stops at the gate, is a hatted hospital, situated at some height above the city, to the north of the Lansdown cricket ground. It is built of uraltite on brick foundations; the building plan is based on a long corridor running east to west, the operating room, physiotherapy department, kitchen, stores, etc., projecting to the north and wards projecting to the south.

Originally the hospital was the Bath War Hospital, but was taken over by the Ministry of Pensions in 1920. The hospital formerly held 530 beds, but has now been reduced to 369 beds, and part has been handed over to the Orthopaedic Hospital for Children. It treats all classes of male patients who are Navy, Air Force, or Army pensioners, except mental cases and patients with pulmonary tuberculosis, diabetes, and paralysis, for which cases the Ministry has special arrangements. There is an officers' ward, and also a separate ward for dysentery cases. There is a very good x-ray department and a modern pathological laboratory, and there is an excellent artificial limb centre for legs, where the most modern artificial limbs are supplied. Artificial arms are supplied from Southampton.

During the last five years the admissions have averaged annually 100 officers and 2,245 other ranks, and the discharges have averaged 112 officers and 2,255 other ranks; 4,277 operations have been carried out, but the number is rapidly diminishing; nevertheless a considerable number of foreign bodies are still removed.

The medical and surgical staff consists of part-time and whole-time medical officers, the part-time medical officers being some of the leading physicians and surgeons from Bristol and Bath. The hospital draws its cases from the counties of Devon, Cornwall, Somerset, Wilts, Gloucester, and Dorset, and, in

addition, its cases of tropical diseases from South Wales. There are also occupational workshops where basket-making, carpentry, painting, and sign-writing are taught.

#### THE HOT MINERAL BATHS.

From the point of view of the visitor to a spa the medical institution of greatest interest is the bathing establishment, and we propose to give a short description of the baths of Bath in a later issue.

In its oldest portion the establishment dates from the first century, and the next article will give some notes about the history of the baths in the early days, as well as a brief account of the hydrological methods now employed in administering the hot springs.

### DAZZLING BY MOTOR-CAR LAMPS.

#### PROTECTIVE DEVICES.

A MEMBER has sent us a pair of spectacles which his motor driver has had made to his order and finds of much assistance in driving.<sup>1</sup> The spectacles are fitted with chloros tinted plane lenses of kidney shape set with the hilum downwards. The effect of these lenses is to give protected vision when looking directly forwards and upwards, but clear unprotected vision below the horizontal level over which the lenses do not extend.

We have referred the device to Mr. N. Bishop Harman, F.R.C.S., who sends us the following note on the general question of dazzling lights on motor cars. There are, in fact, two classes of users of the road to be considered—the drivers of the cars and the pedestrian—to whom may be added, as a subclass, the rider of an ordinary "pushbike." Speaking first of the device submitted to us Mr. Bishop Harman writes:

The idea is very similar to that of some other fittings on the market—for example, bifocal lenses with an upper tinted section, or with a tinted lateral section, and somewhat of the same order as the tinted flaps of glass or celluloid which may be affixed to the wind screen of the car or to the cap of the driver. Of all these protective appliances we have found the last mentioned—the tinted flap attached to the driver's cap—the most useful. This may be turned down over the eyes in a moment, and as rapidly turned back when not needed. Some sort of protection is needed when driving an open car with the hood down, but driving a closed car or one with the hood up is, in our experience, less difficult. When a car with bright, glaring headlights approaches, we have found that, by sitting up high on the seat instead of lolling back, it is possible to cut off the view of the approaching car and yet see the road for a distance sufficient to drive by the left-hand edge of the road with safety, both to oneself and to possible pedestrians. This device has removed the need for special glasses. Further, evening driving with the hood up is better for other reasons. At twilight the sky may be relatively bright, and so disturbing that the roadway is not easily seen; interposing the hood corrects this and the road is distinctly seen again. None of these measures protects the driver from a more serious and troublesome form of dazzle. The new motor roads are so brilliantly polished that when driving in the direction of the sun the reflection from the road surface is so intense that driving becomes painful in the extreme, as well as dangerous. Tinted glasses, provided the tint be deep enough, relieves this for a time, but not for long; soon the eyes become adapted to the new conditions, and the contrast between the brilliant road and the darkened surrounding parts is as great. Actually the glasses seem to deepen the darkness of the non-reflecting areas, and by contrast make the road reflection worse. Relief from this danger can be obtained by fixing a sheet of cardboard on the lower part of the windscreen so as to cut off the view of the road surface for some distance. Temporary relief can be obtained from transient blinding on a winding road by holding one hand below the eyes so as to reduce the view.

The motor driver is also subject to disturbance from the many reflecting parts of his car fittings upon the

dashboard, screen, and bonnet. If he prefers glittering show to comfort then he will put up with the inconvenience; but if, like the doctor, he is driving with a purpose, he will obscure the shining parts with some suitable flat, black preparation.

The pedestrian has not been considered in the foregoing notes, nor has the cyclist. The motor driver owes a duty to these, and so do these to him. Let us consider the duty of the latter first. Every doctor knows that driving at night in the country is made many times more difficult than it should be owing to the necessity for straining the eye to catch sight of almost invisible walkers and cyclists. If these would do but one simple thing motor drivers would be relieved of this strain, and without doubt the gratitude of the driver would redound to the advantage of the other road users. A white cloak, scarf, or armband, or anything white about the dress, will make the walker or cyclist so conspicuous as to be perfectly safe from the car driver. It has been noteworthy in recent months, during the vogue of the pink silk stockings for girls, how easily their wearers are seen in the light of only the side lamps, whereas their attendant swains in their duller clothing are invisible in the rays of the head lamps! If country people would wear something white at night when on the roads they would be quite safe.

There have been many devices for the protection of other road users from the glare of the car lights; so far none of these has been sufficiently successful and safe to warrant its general use. Many of them are costly, and the cost is not in proportion to their value. We recently read an account of an experimental fitting, which seemed on the face of it to promise a real measure of success, and to be at the same time simple and reasonably priced.

In the April number of the *Morris Owner* (p. 219) there is a letter from a Mr. Gossip of Inverness, with a photograph of a device for which he has taken out a provisional patent. There is affixed to each headlamp a cowl, very like the sometime popular "Dolly Varden" hat. The cowl is pivoted on each side of the rim of the lamp, and has attached to it a lever; this lever is controlled by a Bowden wire, so that the cowl can be dipped forwards over the lamp directing the rays on to the road, instead of allowing them to shine out horizontally. It is said that experiments proved that the device brought the lamp rays into such perfect control that other road users were entirely free from dazzle. A rough test we have made with such cowls confirms this view, and also the statement that there is no loss of necessary illumination to the driver such as arises when dimming is resorted to.

The discovery of simple practical devices will warrant some general regulation for the safety of all road users. We commend the use of the white scarf or armband to walkers and cyclists, and to drivers the necessity of care for those who use the road with as much warrant as themselves.

### ROYAL MEDICAL BENEVOLENT FUND.

At the last meeting of the Committee thirty-one cases were considered and £547 voted to twenty-eight applicants. The following is a summary of some of the new cases relieved.

M.R.C.S.Eng., 1894, aged 55, unmarried, was a major in the R.A.M.C. A mental breakdown has rendered him unfit for any further work. A brother and four sisters have contributed £130 towards his support, but no contribution of £50 per annum has ceased owing to the contributor's ill health. The Fund was asked to make a grant to cover this amount, and £30 was voted in twelve monthly instalments.

Widow, aged 57, of M.R.C.S.Eng. who died in 1922. Applicant has tried to support herself by taking boarders, but owing to ill health and lack of boarders has got into debt. Her debts amount to £23. Income from boarders £117. Voted £18 in twelve monthly instalments.

Widow, aged 31, of M.B.Aber., who died from tuberculosis in August, 1923. She and her daughter, aged 6, are left with £3 a week, which will last for another eighteen months. She pays her parents £2 10s. a week for herself and child for board and lodging. Applicant is training as a hairdresser; the Scottish Corporation found the sum of £30 for the course, and asked the Fund to help towards this amount. £15 was voted.

M.R.C.S.Lond., aged 68, who practised until ill health compelled him to give up. His daughter has supported herself and her father, but is now trying to get him into a home, as he requires constant attention. The boarding-house which the daughter has had is a failure, and she is now seeking a post so as to be self-supporting. She asks for a grant as the applicant has no income. Voted £40 in twelve instalments.

Subscriptions may be sent to the Honorary Treasurer, Sir Charters Symonds, K.B.E., C.B., M.S., at 11, Chandos Street, Cavendish Square, London, W.1.

<sup>1</sup> Made by James Woodcock and Sons, 259, Glossop Road, Sheffield.

## British Medical Journal.

SATURDAY, JUNE 6TH, 1925.

### ROYAL OPENING OF OUR NEW HOUSE.

THE new house of the British Medical Association, in Tavistock Square, London, is rapidly approaching completion. On Monday, July 13th, it will be formally opened, and the ceremony will form the first of a series of functions which will engage the activities of members of the Association until the close of the Annual Meeting in Bath on the 27th of that month.

The Patron of the Association, His Majesty King George, has graciously consented to open the New Building, and will be accompanied by Her Majesty Queen Mary. The occasion will be memorable in the history of the Association, and impressive as a demonstration of the essential solidarity of the medical profession in this country and throughout the British Empire.

A strong Reception Committee, comprising the distinguished Presidents of the Royal Colleges of Physicians and Surgeons and the officers and other prominent members of the British Medical Association, is presided over by the Chairman of Council. Invitations will shortly be issued to all the important professional bodies in the country, and it is anticipated that the representatives of Medicine throughout the land, and officers of bodies cognate with the Association, will be well represented at the opening function. It is hoped that every Division and every Branch in the country will be able to send a representative to participate. The presence of Dominion and Colonial delegates is already assured. Our brethren in the United States have intimated that the President-Elect of the American Medical Association, with probably at least one other eminent colleague, will be present, and it is also anticipated that medical men of distinction from allied countries, who will subsequently take part in the scientific proceedings at the Bath Meeting, will attend the function.

As a preliminary to the actual opening ceremony His Grace the Archbishop of Canterbury has consented to dedicate and open the magnificent memorial gates which the British Medical Association has provided as a tribute to those of its number who fell in the great war. These gates, of which some preliminary account appeared in the *BRITISH MEDICAL JOURNAL* of May 2nd (p. 853), are now in course of erection at the front of the main courtyard.

The opening ceremony will include the presentation of officers of the Association and prominent visitors, together with the representative delegates from the Dominions, Colonies, and foreign countries. The function itself will take place in the Great Hall of the

New House, which the artistry of Sir Edwin Lutyens, R.A., the architect of the building, has so fashioned as to make a fitting frame for such a ceremony. Following upon the ceremony the building will be open for inspection by the invited guests. On the evening of July 13th a reception and conversazione will be given, and it is hoped that the Metropolitan Counties Branch may be able to arrange a similar function for the night of Tuesday, July 14th, which will provide an opportunity for many others, unable to be present on the first day, to view the building.

### UTILIZATION OF VITAL STATISTICS.

"According to Herodotus, Xerxes wept at the sight of his army, which was too extensive for him to scan, at the thought that a hundred years hence not one of all these would be alive. Who would not weep at the thought in looking over a big catalogue that of all these books not one will be in existence in ten years' time?" This was the reflection of Schopenhauer, and a visitor to the library of the Royal Statistical Society, to that section of it which contains the endless volumes of official vital statistics of so many nations, will appreciate its force. Yet these dust-covered volumes, if we could but master their contents, would teach us many things. Comparison of the rates of morbidity and mortality of the same diseases under different economic, climatic, and sociological conditions, ought to bring a wider comprehension of the essential factors of mortality and a truer understanding of the relative importance of the measures to which the decline or increase of this or that disease has been attributed. But the collation of vital statistics is not an easy task. The reports of national statistical departments are primarily designed for the information of the public and officials of the country of origin. Before the tabular matter can be profitably used the inquirer may need knowledge which it may happen is not given at all, or given in a form a foreign reader cannot understand. Even our own vital statistics present difficulties, such as the varying connotation of the word "county," which make the way of the foreign student hard. The Englishman who approaches, without preparation, the official documents of another country will often need assistance. It is, of course, obvious that a good many difficulties must remain even when all the assistance that can be given has been given. The most sedulous study of a Baedeker, even combined with a three months' course on X. Y. Z.'s system of how to learn Dutch without a master, will not fit a Londoner to lecture in the University of Leyden; yet it will most certainly enable him to get more out of a visit to Holland than if he had depended solely on his native wit.

The Health Organization of the League of Nations has projected a series of statistical handbooks—Baedekers of the vital statistical publications of the nations. The first two volumes have now been issued.<sup>1</sup> These volumes describe the publications of the Netherlands and of Belgium. They explain what is in each of the publications and how the information has been obtained; they call attention to striking peculiarities, whether of method or result, and make brief comparisons with the data of a third country, England and Wales. The volumes are compiled on a uniform plan.

<sup>1</sup> League of Nations—Health Organization—Statistical Handbooks Series, No. 1, *The Official Vital Statistics of the Kingdom of the Netherlands*, pp. 77. No. 2, *The Official Vital Statistics of the Kingdom of Belgium*, pp. 84. Geneva, 1924.



Following a short general introduction, the method of taking the census is described, and then the contents of the most recent census reports are noted. Next follows an account of the system of birth registration, then a specification of the information respecting births and birth rates contained in the various publications of the central department. Registration of stillbirths and the published information regarding them are described. There follows an account of the registration of deaths and detailed contents of the published information. Morbidity statistics (nature of data and method of publication) are then treated. A summary of the information published by municipal offices is included, and, in a general conclusion, salient features are noted.

It may certainly be said that a few hours' study of this work would enable any intelligent person to consult the official publications of the country with a clear knowledge of what sort of information he will find in them, and—an important point—over how many years that information is available. The value of such guides as these to the epidemiologist and student or official concerned with public health problems should be very great. When this series is completed knowledge now possessed by a few—a very few—specialists will be open to all the world.

Already, at the beginning of the series, information is afforded which should interest the public health worker. We may illustrate the point by a few examples taken from the guide to the Dutch statistics. Probably few foreigners are aware of the minute accuracy with which data of infant mortality and stillbirths are tabulated in Holland; here is ample material for a comparative study, and therefore need of the warning: "Attention is called to the fact that, unless specially mentioned, 'stillborns' include a proportion of children born alive but dying before registration (that is, within three days of birth), such births being inscribed with the endorsement 'presented dead' and legally regarded as 'stillborn.'" The remarkable contrast between the ratio of female to male mortality from pulmonary tuberculosis is also worthy of attention. While in England and Wales the rate of mortality among males considerably exceeds that among females, in Holland the reverse is found. In 1921 the English rates per 100,000 living were 100.2 for males and only 77.7 for females; the corresponding rates in Holland were 87.0 and 103.0. This is an essentially recent change in Dutch experience (in 1901 the rates were: for males 140, for females 135), and its explanation might throw some light upon the general problem of etiology. In Belgium male mortality from pulmonary tuberculosis has exceeded female mortality during the last twenty years, but the rates in 1921 were the same for the two sexes, so that the position is intermediate between that of the Netherlands and England and Wales.

Very instructive comparisons of the rates of mortality and morbidity of the zymotic diseases are also possible. It is noted that, while formerly the rate of mortality from diphtheria and croup in the Netherlands used often to be higher than in England and Wales, since 1894 the position has changed, and in 1920 and 1921 the rate in Holland was not much more than 50 per cent. of the English rate. There appear also to be differences of incidence, but the caution is rightly given that comparisons of incidence are hazardous, because the adoption of a bacteriological instead of a clinical criterion may greatly change the recorded incidence of the disease.

The object of these handbooks is, not to summarize the actual contents of the official reports, but to

indicate what data are in fact to be found in them, so that such comparisons as we have mentioned only occupy a small part of the volumes and anything of the nature of criticism is—rightly, we think—excluded. Mere guides, however useful, are not, of course, suitable for continuous reading, but we hope the compilers will not refrain from the insertion of such notes as we have mentioned in future volumes, particularly in those which deal with populous countries. Students will be encouraged to consult the original publications if their attention is directed to peculiarities. In planning this series of handbooks the Section of Hygiene of the League of Nations has shown excellent judgement, and is making a very useful contribution to knowledge; we shall look forward with interest to future numbers in the series, which, when completed, will form a most valuable addition to the working library of the public health official or student of medical and vital statistics.

#### AFRICAN SLEEPING SICKNESS.

In the last two issues of the JOURNAL we have given an account of the International Conference on Sleeping Sickness recently held in London. According to the history of the disease given in the *Manual of Tropical Medicine* by Castellani and Chalmers, the disease was first observed by John Atkins in 1721, who published a description of it in a book entitled *The Navy Surgeon*, published in 1734. He called it "the sleeping distemper," and said that it was common among the negroes on the Guinea Coast. Winterbottom described it again in 1803, from observations made on the west coast of Africa, near Sierra Leone. The first case was brought to London in 1891, and was studied by the late Sir Stephen Mackenzie. In 1900 two more cases were under the care of Sir Patrick Manson in London; the morbid anatomy of these cases was studied by Sir Frederick Mott, who did much to clear up the pathology of the disorder. The disease was then generally known as "negro lethargy"—not, perhaps, a very good term, as human infection with trypanosomes does not always produce the sleepiness, and the trivial term "sleepy sickness" applied by the newspapers to epidemic encephalitis has now even found its way into the official proceedings of the House of Commons. The disease is characterized by an inflammatory condition of the lymphatic system, which may lead to meningo-encephalitis, to which the characteristic lethargy is due. It was not, however, until the discovery of the trypanosome and of the fact that it was spread by a fly (*Glossina palpalis*)—an observation made by Castellani and by Sir David Bruce and Dr. Nabarro—that any real progress could be made in the study of the mode of dissemination of the African disease. Reports recently submitted by the experts committee of the League of Nations<sup>1</sup> show that the situation is still serious. In its second report this committee made definite recommendations concerning the various subjects to which attention should specially be directed at the present time. These matters were considered at the recent conference in London, which made a series of recommendations; these were reported last week at page 1014. As was there noted, an expert International Commission is to assemble at Entebbe, Uganda, at the end of this year or the beginning of 1926, and it is to make a report after studying the methods in use in Uganda, which is a suitable area from several points of view; in addition to the possession of a well appointed laboratory in Entebbe, it is the district where sleeping sickness was apparently mastered by

<sup>1</sup> This Committee consisted of Dr. Andrew Balfour, C.B., C.M.G., Dr. E. Van Campenhout (Belgium), Professor Gustave Martin (France), and Dr. A. G. Bagshawe, director of the Tropical Diseases Bureau, London. Its report on tuberculosis and sleeping sickness in Equatorial Africa was submitted to the Health Committee of the League of Nations last April.

the removal on a large scale of the infected population from the endemic areas. Repopulation of the abandoned areas is now proceeding, and special investigations are being carried on among them. It also affords ample opportunity for the study of cattle, and the blood of situtunga antelopes, of varanus lizards, and other wild animals can be examined; while, not very far away—in Kavirondo—cases of human sleeping sickness are available. Again, it is easy to get from Entebbe to Mwanza on the southern shore of Lake Victoria, and some few days' journey from Mwanza lies the area where Mr. Swynnerton has been conducting his remarkable large-scale preventive measures, of which he has given an account in our columns. The demonstration of Mr. Swynnerton's methods and the opportunities afforded by this part of Tanganyika Territory for a further study of the big game problem cannot fail to be of value to the Commission. The chairman of the local International Commission is Dr. H. L. Duke, bacteriologist to the Uganda Protectorate, who eleven years ago contributed to this JOURNAL an article on wild game as a reservoir for human trypanosomes, and has since been engaged in a study of the problem in all its aspects in Uganda. France will be represented by Dr. Lavrier, and Belgium by Dr. Van Hoof. Dr. Kleine will also be a member of the Commission; he has been selected for his wide knowledge of some of the problems to be solved, and for his special experience in their investigation. The Commission will be completed by the appointment of a biochemist, an entomologist with local knowledge, and a European laboratory assistant. The appointment of such a commission is a new departure so far as tropical Africa is concerned, and is frankly of an experimental nature. It was therefore considered desirable that its mandate should be definitely limited to a period of one year.

#### MURDER AND INSANITY.

THE M'Naghten rules, which have governed the defence of insanity in murder trials since they were laid down in 1843, have once more been the subject of criticism—this time by the members of the Medico-Legal Society. A report of the debate appears at page 1038. The law of England assumes a man to be sane, and therefore responsible for any crime he may commit, until proved insane to the satisfaction of a jury. The onus is upon the defence to prove that at the time the accused committed the murder he was labouring under such a defect of reason resulting from mental disease as not to know what he was doing, or, if he did know this, yet he did not know that what he was doing was wrong. Dr. Weatherly, in his introductory paper before the society, said that excluding idiots, imbeciles, and many chronic dementals—who might presumably be included in the category of those who would not know what they were doing—the judges who laid down the rules of 1843 would have found very few inmates of modern asylums of whom it could confidently be stated that they had no proper knowledge of right and wrong. This view has long been held by very many members of the medical profession, and it is to be remembered that the Committee presided over by Lord Justice Atkin recommended that if a man commits a crime under an uncontrollable impulse due to mental disease, he ought not to be held responsible for it in law. This recommendation, however, does not find favour with all members of the legal profession. Lawyers who hold a different view say that though the M'Naghten rules may be open to criticism, yet until some satisfactory substitute can be found it is safer to rely upon the fairly definite statement of legal insanity contained in those rules than upon indefinite theorizing about what is an irresistible and uncontrollable impulse. As to Dr. Weatherly's statement that most lunatics can distinguish right from wrong, Lord Brougham's oft-told

tale is, perhaps, worth recalling. Patients in York Asylum, so it is said, discussed together the case of the incendiary Martin, when on his trial for attempting to burn York Cathedral, and came to the conclusion: "He will be all right; for he is one of us, so the law will take no notice of him." Dr. John Campbell, relating his experiences as a medical officer to H.M. Prisons, said that lunatic prisoners, after assaulting a prison warder, would sometimes say, "You can't touch me; I am a lunatic." The question arises: Ought insane persons, then, who seem to know right from wrong, to be immune from the penalties of our criminal law just because they are declared to be lunatics? The view of the legal profession is that the answer is to be found in the third M'Naghten rule—that if the accused was conscious that the act was one which he ought not to do, and if that act was at the same time contrary to the law of the land, he is punishable. The recommendation that the sufferer from irresistible impulse should be immune was criticized by some legal members of the Medico-Legal Society, but Lord Justice Atkin pointed out that such an impulse, to afford immunity, must arise from a disease of mind. He cited the most usual case before our criminal courts—of the mother of a young family, deserted by her husband, who several times resisted the impulse to put an end to her children's existence of semi-starvation; that impulse eventually became an obsession, and, there being no hope of future sustenance, she killed her children. Here, surely, it is argued, there is no disease of mind of such a character as would enable her to set up a plea of irresistible impulse arising therefrom. However, as Lord Justice Atkin said, in such cases the jury always takes the merciful view, and the woman is found "Guilty but insane," despite the M'Naghten rules. Dr. Weatherly adumbrated two questions for a jury in substitution of the M'Naghten rules: (a) that the prisoner was suffering from a disease of mind; (b) that the crime was the outcome of that disease. The objection of the legal profession to these, as we understand it, is that they wholly ignore the axiom laid down in Rule 3, or, alternatively, that (b) is satisfied by Rule 4; where a criminal act is committed by a man under some insane delusion as to the surrounding facts which conceals from him the true nature of what he is doing, he will be under the same degree of responsibility as if the facts with respect to which the delusion exists had been as he imagined them to be. The oldest illustration of this rule is what is called the Dresden china case, where the accused man was in the habit of dusting his servants every day under the delusion that they were pieces of Dresden china, and, being angered while engaged in this occupation, he aimed a fatal blow at one of the servants. What we conceive to be the view of the legal profession on this difficult matter is that to alter the present law is inexpedient because the medical profession is not unanimous about what constitutes insanity. Medicine has, of course, made great strides in the study of mental disease since 1843. But (so the legal argument runs) until the medical profession can put forward something to replace the M'Naghten rules—which harmonize with the oldest of criminal law maxims, *Actus non facit reum nisi mens sit rea* (that you cannot have a criminal act without a guilty mind), upon which the question, "Did he know that what he was doing was wrong?" is based—it is doubtful whether a solution will be found which proves acceptable to both the medical and legal professions and also to the general public.

#### CHEAP AND NASTY SPECTACLES.

A NUMBER of multiple shops are being opened throughout the country, where every article for sale is at a low and fixed price. We do not wish to comment upon the general run of the articles for sale: some of them may be of excep-

tional value and of real use; others are dangerous and dear at any price. A reader has given to us a pair of spectacles he purchased from one of these shops—a huge piece of shining wood, metal, and plate glass. Spectacles were on sale at sixpence a pair. The pair he bought purported to correct his presbyopia, the degree of which he knew. The spectacles seem to be of foreign make. The frames are of rather soft iron, coated with some mercury gilding which makes them look attractive. The bridge is a useful W-shape, the joints are well soldered, and the hinges of the bows undoubtedly ingenious. So far as the frames go no objection need be made at the price. But the lenses are otherwise. These are plano-convex of +3 diopters. The lenses appear to be cast and unpolished. The surfaces are pitted all over, so that they look like a coarse imitation of the pores of the human skin where the sweat glands are most numerous. But this is not the worst. One lens is centred correctly, but the other is decentred downwards, so that there is in effect a 2.5 degree prism, base down, set in that lens. Such a defect will produce in the wearer of these glasses all the discomfort and strain of hyperphoria or latent vertical squint, perhaps the most troublesome of all defects of muscle balance. It is to be hoped that vendors of these spectacles, in the interests of the community generally, will cease to sell them, unless they are sold with plane lenses for the amusement of children.

#### A SALE OF OLD MEDICAL BOOKS.

ANOTHER of the old family libraries of the English aristocracy is catalogued for sale by auction, and proves to be rich numerically in old medical works, though few of them are of sensational value from the collector's point of view. The library in question is that of the ninth Lord Middleton, which is being sold at Christie's on June 15th, 16th, 17th, and 18th; many of the books are attributed to his ancestor, the first peer, previously Sir I. A. Willoughby, who evidently took a strong interest in contemporary medicine and anatomy. Thus there are Bartholin's treatise on the latter subject, with his portrait, 1654; Glisson's "Anatomy of the Liver," 1665; Barbette's "Surgical Anatomy," 1672; Swammerdam on respiration, 1667; Mayow on the same topic, and on rickets, 1669; Thurston, also on respiration, 1670; Bartholin on the genital tract, 1664; Vesling on anatomy, 1661; Blasius on the anatomy of animals, 1681. More important than any of the foregoing is Thomas Gemini's translation into English of Vesalius's great textbook of anatomy (Basle, 1543), one of the first books in English illustrated by copperplate engravings, 1559; earlier still is Mundinus's "Anatomy" of 1513. Among many other books on medicine and surgery are those of Timothy Bright on the sufficiency of English medicines, 1580, and on melancholy, 1613; of Haworth, on the "New Spaw" (in Long Acre!), of Isaac Barrow on vision, 1699, and of Christopher Scheiner on the eye, 1652. There is a copy of Sir Thomas Elyot's "Castel of Helth," 1541, not the first edition, seemingly, bound up with Cary's herbal, "imprinted at London in fletestrete at the sygne of the George next to Seynt Dunstones church by me Wyllyam Myddylton in the yere of our Lorde DCCCCXLVI, the thyrde day of July," which is extremely rare. There is also a copy of Linaere's edition of Galen, 1541, in a binding of stamped pigskin, which is dated 1544 and gives additional value to the contents. With this may be mentioned Robert Sprackling's "just and plain vindication of Hippocrates and Galen," 1665. About nine medical tracts by Glauber, 1651-58, are bound together in one volume; Highmore and Willis and Sydenham are other seventeenth century worthies whose names occur in the catalogue. William Harvey is represented by two works, and his namesake Gideon by one. Another edition of Galen is that of

1561, bound in contemporary vellum with the arms of Cambridge University on the sides; while there is also a very interesting copy of the works of Hippocrates (the first Aldine edition, published at Venice in 1526). There are several pharmacopoeial volumes; perhaps the most interesting is the first edition of the "London Pharmacopoeia," drawn up in 1618 by the Royal College of Physicians. The "Hortus Sanitatis" of Joannes de Cuba, 1517, is bound up with John of Vigo's "Surgery" of 1514. The latter author is also represented in an English translation (by Bartholomew Traheron) of 1550. Even more ancient is John of Gaddesden's book on medicine, printed in 1492, but compiled about 1314. As early as 1628 it occurred to Castellus—and possibly to others—that blood-letting was being overdone, for in that year he published at Rome a treatise on the abuse of phlebotomy, a copy of which appears in this sale. Two more tracts on phlebotomy, for and against, dated 1671, are bound in with other medical and scientific pamphlets, one of which deals with the cure of adder bites. In 1634 appeared the third edition of Peter Lowe's "Whole Art of Chirurgie," of which also a copy is offered; two copies of the rare first edition of this work have been seen in London salerooms in the last year or two. Later in the catalogue is seen "Willis on the Brain and Nerves," bound with "Diemerbroeck on the Plague"; the last items of any medical importance are Wecker on remedies, 1588, and Bruel on the theory and practice of medicine, 1585. Altogether this is an assortment of medicaliana which shows the catholic taste of Thomas Willoughby, by whom most of the library appears to have been collected.

#### CANCER COMMISSION OF HARVARD UNIVERSITY.

WE have recently received the twelfth annual report of the Cancer Commission of Harvard University for the year ending June, 1924. The commission was founded in 1899 for the study of the cause of cancer. In 1912, further funds being available, a special hospital was built for the study and treatment of cancer patients. During the earlier years of the commission's work investigations were carried on in the laboratories of the Harvard medical school—investigations which had to do chiefly with the possible parasitic cause of cancer, a question much discussed at the time. In more recent years inquiries were extended to include a study of the pathology of the spontaneous and inoculable tumours of animals, and under Professor E. E. Tyzzer contributions of great value were made to the tumour problem. With the construction of the special cancer hospital and the advent of radium and x rays as agents for the treatment of cancer, a new department of investigation came into existence—that of bio-physics. Since 1922, when further laboratories were completed, it has been possible for all the work of the commission to be assembled under one roof, with facilities for the effective treatment of patients with x rays, radium, or surgery. Laboratories have been built for the investigation of various problems in chemistry, pathology, and bio-physics which are likely to contribute toward the solution of the cancer problem. The latest report shows that great activity is afoot in nearly all the departments of this well equipped hospital. This document consists of a general review of the policy of the year and a series of special reports by the surgeon, physician, research fellows in physics, bio-physics, and chemistry. Like all similar reports, this only refers in general terms to the work which is at present in hand, but the remarks that are made about some of the researches, particularly those connected with bio-physics, suggest that important developments are near at hand.

## CHARCOT BIBLIOGRAPHY.

On Monday, June 15th, at the social evening of the Royal Society of Medicine, Dr. Farquhar Buzzard, President of the Section of Neurology, is to give an address on Charcot, as a part of the ceremonies in celebration of his birth one hundred years ago, and Mr. W. G. Spence has prepared a bibliography of Charcot so far as is represented in the publications in the library of the society. The bibliography is a voluminous document arranged chronologically from the year 1851, when, as an interne of the Hôpital de la Charité, Charcot made eleven reports to the Société de Biologie, down to 1893, when he published simultaneously in English and French an essay on the Faith Cure. During the evening the Library will be open, and books and articles by Charcot and his pupils will be on view. Fellows and guests will be received by the President, Sir StClair Thomson, at 8.30 o'clock.

THE "BRITISH MEDICAL JOURNAL":  
NEW ADDRESS.

DURING the Whitsun holidays the Editorial and Printing Departments of the *BRITISH MEDICAL JOURNAL* were removed from 429, Strand, to the new headquarters building of the British Medical Association in Bloomsbury. The postal address for all communications intended for the Editor is now "*BRITISH MEDICAL JOURNAL*, British Medical Association House, Tavistock Square, W.C.1," the telephone number of the Editorial Department is Museum 2864, and the telegraphic address "Aitiology, Westcent, London." Until further notice is given in these columns, all communications with reference to advertisements, as well as orders for copies of the *JOURNAL*, should continue to be addressed to the Financial Secretary and Business Manager, 429, Strand, W.C.2. It is expected that the Medical Department and the Library of the Association will be removed about June 17th, and the Finance Department about June 19th.

The Registrar of the General Medical Council informs us that an official communication has been received from the Privy Council notifying that the agreement with Italy regarding medical reciprocity was signed on May 21st.

The Croonian Lectures before the Royal College of Physicians of London will be delivered on June 9th, 11th, 16th, and 18th, by Dr. S. A. Kinnier Wilson. The subject is "Disorders of motility and of muscle tone, with special reference to the corpus striatum." The lectures will be delivered at the College, Pall Mall East, at 5 o'clock.

The annual general meeting of the Research Defence Society will be held at the house of the Medical Society of London, 11, Chandos Street, Cavendish Square, W.1, on Tuesday, June 9th, at 3.30. The chair will be taken by the President, Lord Lamington, G.C.M.G., G.C.I.E. A short lantern lecture will be given by Dr. R. A. Lyster, M.O.H. for Hampshire, and lecturer on preventive and State medicine at St. Bartholomew's Hospital, on "Our defences against small-pox." Tea and coffee will be served after the meeting.

The annual dinner of the Harveian Society of London will be held in the Connaught Rooms, Great Queen Street, W.C.2, on Thursday, June 11th, at 8 p.m.

The annual conversazione of the West London Medical-Chirurgical Society will be held at the Kensington Town Hall on Friday, June 12th. The president of the society will hold a reception at 8.30 p.m., and at 9 o'clock the Cavendish Lecture will be delivered by Sir Humphry Rolleston, Bt., Regius Professor of Physic in the University of Cambridge.

INTER-STATE POST-GRADUATE ASSEMBLY  
OF AMERICA.

## INAUGURAL PROCEEDINGS.

The Inter-State Post-Graduate Assembly of America, which met in London from June 2nd to 4th, under the leadership of Dr. Charles H. Mayo, was attended by 550 medical men from the United States and Canada. The visitors represented every State in the Union and every Province in the Dominion, and Dr. Mayo announced that 60 per cent. of them were general practitioners. A very busy medical programme was completed, and there was also a full social programme, chiefly for the benefit of the ladies, who numbered 200, accompanying the party.

H.R.H. the DUKE OF YORK presided at the opening ceremony in Wigmore Hall. The hall was filled with the visitors for almost an hour before the proceedings were timed to begin, and the acclamations with which familiar figures were greeted had a gusto which was a little unusual for medical gatherings on this side. The Duke of York briefly welcomed the "fellow workers in the great army of skilled physicians and surgeons," and expressed his hope that when the visitors left these shores it would be not only with some additions to their professional knowledge, but with the happiest recollections of their stay. Dr. Mayo was to be congratulated upon the organization which in nine years had done so valuable a work and achieved so important a position. He also congratulated Mr. Philip Franklin, the honorary organizer of the meeting, on the result of his efforts.

The Right Hon. NEVILLE CHAMBERLAIN offered a welcome on behalf of the Government, and especially the Ministry of Health. To cross the Atlantic was no longer a serious or perilous adventure, but he supposed that many of those present must have travelled hundreds of miles on land before embarking, and all of them must have had to make special arrangements for the carrying on of their practices. It was a compliment of no mean order that they had found it worth while to come and see what Great Britain was doing. This small island felt the honour of opening its arms to embrace the profession of a continent, and it was an impressive thought that the visitors would carry back the results of their observations to so wide a territory. Not that they would all tell the same story, or they would be unlike their British confreres, who showed a healthy independence of mind. The benefit of the meeting would not be confined to the other side of the Atlantic; physicians and surgeons in this country would gain much from the contact.

Sir HUMPHRY ROLLESTON, Bt., P.R.C.P., said that although language and ideals were identical on both sides of the Atlantic, there was necessarily, owing to the respective environments, a certain amount of difference in views and methods. Post-graduate education was a very urgent problem in London, and the profession here had much to learn from America in this respect. Less than ten years ago there was a Tri-State Assembly out of which the present organization had expanded until it embraced every State of the Union and every Province of Canada. On this side they had reflected with what joy Sir William Osler would have welcomed that occasion, and this had inspired them to do everything in their power to ensure an instructive and useful visit.

Sir JOHN BLAND-SUTTON, Bt., P.R.C.S., after referring in a teasing way to some other forms of migration and pilgrimage, said that this was the greatest invasion of doctors from America into our island within living memory. At the back of this irruption was an intellectual hunger combined with a certain amount of curiosity. It was one thing to gather the opinions of physicians and surgeons from their effusions in medical journals or other legitimate forms of advertisement, and another thing to meet them face to face in their own wards and operating theatres, or, better still, over a meal or a pipe, where lasting friendships could be formed.

The American Ambassador (His Excellency the Hon. A. B. Houghton) expressed the thanks of the visitors to His Royal Highness. This occasion was one more evidence of the reality of those friendly ties which bound the countries and peoples together. The comradeship of the British and American medical professions, so manifest during the agony of the war, was to be furthered and perpetuated in the time of peace. He addressed to his compatriots a word of gentle admonition. It was going to demand from them all the talent and knowledge they had gained in the professional experience to weather the burst of British hospitality which awaited them; he spoke as an expert. Nowhere else would American doctors find a hospital so generous and gracious, though potentially so dangerous, as in the ancient home of their forefathers.

Dr. CHARLES H. MAYO said that this Royal welcome would add to the warmth of feeling for the Mother Country which existed in the States, even as the gathering itself would do something to promote the supremacy in scientific work of the English-speaking peoples. He added that the Assembly had one honorary member—Mr. Coolidge, President of the United States—and he now had authority to invest another distinguished person with the honorary membership—namely, the Duke of York.

George CRILE, expressing his regret that he was prevented from attending, and adding that the company who had come over were some of the finest and most earnest men in the profession in North America. Both they and the members of the profession who had remained behind keenly appreciated the arrangements which had been made for them.

#### FIRST SESSION.

##### Gall-bladder Disease.

At the first morning session four lectures were delivered, the first by Sir HUMPHRY ROLLESTON on the etiology and treatment of gall-bladder disease. The lecturer discussed the two etiological factors—in the formation of gall stones, and biochemical factors—the infective and the metabolic or said that sometimes one factor operated alone, more often both factors operated together, and both must be taken into account in prophylactic measures and in treatment. There had been some scepticism as to the real value of hexamino in gall-bladder infections, but he considered that the value was beyond doubt. He dealt with prophylactic measures, in particular the restriction of foods rich in cholesterol which would favour the formation of biliary calculi; these foods were yolk of eggs, brains, fats, butter, kidneys, beans, and peas. Stagnation of bile in the gall bladder should be counteracted by frequent small meals, and by exercise, especially such as entailed free excursions of the diaphragm and the liver. It must be admitted that medical treatment was not so radical, and therefore not so satisfactory, as surgical removal of the calculi, but there were many cases where surgical treatment was declined by the patient or was inadvisable. Attempts to dissolve gall stones could not be regarded as likely to succeed. Olive oil certainly dissolved them in test tubes, but that afforded little evidence of the action which took place in the gall bladder.

##### "The First and Last Kink."

Sir W. ARBUTHNOT LANE addressed the gathering on "The first and last kink." He had formulated a law that all those changes in the body which came about in consequence of the endeavour on the part of the organism to establish a mechanical relationship with its surroundings served at first a useful purpose, but later tended to shorten the life of the individual. In no instance was this law so clearly demonstrated as in the first and last kink, the first instance simply upon the gastro-intestinal tract was in the effect of which upon the body. His observations, which had extended by septate organisms, had impressed him with the connexion between cancer and gastro-intestinal stasis. There was a mechanical and a toxic factor in the causation of cancer, and he had observed cancer fol-

so commonly upon the mechanical and toxic results of intestinal stasis that he was convinced that the sequence was no mere accident. The principles governing the treatment he now adopted in such conditions differed in no detail from those which he formulated twenty-five years ago. In milder cases the lubrication of the canal and consequent softening of the intestinal contents by the free use of paraffin was sufficient to meet the disability resulting from a moderate degree of obstruction. Suitable diet, kaolin, and bismuth were most useful adjuncts in that they controlled the spasm of the inflamed bowel. In other cases the freeing of the anchored bowels by a simple operation restored the structure and mobility and permitted the free passage of material through the liberated loop. He would not discuss the treatment of ulceration of the gastrointestinal tract and other conditions which resulted from the presence of the first and last kink, but he would draw attention to the importance of recognizing the causal relationship of all these troubles of the proximal bowel; and of the need for instructing the public in proper dieting and in the habit of evacuating the large bowel three times a day, in order that this acquired state, which was almost to be regarded as normal in civilization, might be obviated.

##### "New Diseases for Old."

Sir THOMAS HORDER spoke on some changes in the incidence and course of common diseases. Diseases, he said, had their natural history, like men and animals. Old diseases disappeared or tended to lose their virulence, new ones took their place. Cholera and typhus had gone, smallpox was going, but influenza and encephalitis had appeared. Certain diseases during the last twenty-five years had become less common—diphtheria, erysipelas, typhoid fever, anthrax, glanders, hydrophobia—thanks largely to the activity of the Ministry of Health. The comparative rarity of lead poisoning and other industrial diseases might reasonably be attributed to the sound operation of the Factory Acts. The relative infrequency of certain other diseases might be attributed to the betterment of the general conditions of life; some forms of tuberculosis came in this category, possibly rickets also. Acute articular gout seemed to be less frequent than formerly; it was not clear whether this was due to the fact that people drank less alcohol or favoured different alcoholic beverages from those favoured by their fathers. On the other hand, a series of disease processes had arrived, lacking the precision of the conditions of functional disturbance—neurasthenia in all its forms, arterial hypertension, with arterio-sclerosis in close attendance, accompanied by sequels, with myocardial defects as accompaniments or sequels, hyperthyroidism, and perhaps diabetes. There was also a large increase in affections due to *B. coli* or lactose-fermenting members of the same group, and again in cases of bacterial endocarditis associated with feebly pathogenic strains of streptococci. Then there was the large group of periodontal diseases, chronic infections of the periodontal membrane, and respiratory and digestive tracts. Most of these were due to some saprophytic strains of streptococci, resulting from lowered tissue resistance. Was it possible that they were becoming more and more the prey of their own saprophytes, and if so why? The conditions of modern life had tended to eliminate disease or render it less harmful, with the one important exception that the nervous and emotional strain of living had increased in the last two decades. Lowered resistance to microbial infection was usually regarded as due to an ill defined change in the system have some more definite and direct bearing upon infection or immunity than had hitherto been thought probable? The influence of the nervous system upon the response to bacterial infection had been too little regarded. Therapeutic must concentrate upon the means of raising the general resistance, and especially the nerve tone. Patients must be induced to live the simpler life. In the sphere of the intellect, and especially of the emotions, moderation must be preached. The pace of modern life,



the nervous strain involved, the expenditure of the energy of the spirit, had become a large factor in the incidence of disease, and of disease of a different type from that with which the physicians of a past generation were acquainted.

#### *Addison's Anaemia and Subacute Combined Degeneration.*

Dr. ARTHUR F. HURST gave the concluding lecture, on the pathogenesis and treatment of Addison's anaemia and subacute combined degeneration of the spinal cord. Something like 85 per cent. of the cases of pernicious anaemia had sooner or later some nervous symptoms, shown quite definitely to be due to degeneration of the spinal cord. These two diseases were really due to the same cause; he believed it to be an infection which began in the mouth. Both conditions were marked by an absence of hydrochloric acid in the gastric juice, and there was a good deal of evidence that this achlorhydria was not a symptom of the disease but preceded the disease. This was a familial condition, and explained the familial occurrence of Addison's anaemia. To examine the gastric contents and the blood was advisable in cases in which this condition was at all suspected, and by vigorous early treatment it was possible to prevent the anaemia and the nervous disease from developing.

Dr. Hurst next described the treatment he followed, directed in the first place to the eradication of any oral infection, and afterwards to the stomach, and the preventive measures to be taken to ward off the recurrences so common in the past. It was impossible to compare the different forms of treatment; each had its use. What he urged was a combined treatment, directed in every possible way to overcoming the intestinal infection, which seemed to be the cause of both Addison's anaemia and subacute combined degeneration of the spinal cord, at the same time overcoming the results of the infection by transfusion and by arsenic. He hoped that with further development along these lines the word "pernicious" might lose its ordinary connotation. Towards the close of his lecture Dr. Hurst described a remarkable case in his experience in which a man who had been cured of Addison's anaemia became on two occasions a very successful donor of blood to patients in a like condition.

In the afternoon twenty hospitals offered post-graduate facilities to the visitors. Later proceedings will be reported in our next issue.

### BIRTHDAY HONOURS.

The list of honours conferred in connexion with the King's Birthday on June 3rd contains the names of the following members of the medical profession, to whom we offer warm congratulations.

#### *Baronet.*

Sir JOHN BLAND-SUTTON, LL.D., F.R.C.S.  
President of the Royal College of Surgeons of England;  
Consulting Surgeon to the Middlesex Hospital.

#### *K.C.B. (Military).*

Major-General SAMUEL GUISE MOORES, C.B., C.M.G., late R.A.M.C., retired pay.

#### *K.B.E. (Civil).*

JAMES CRAWFORD MAXWELL, M.D., C.M.G.  
Colonial Secretary, Gold Coast Colony.

#### *Knights.*

JAMES BERRY, B.S., F.R.C.S.  
Consulting Surgeon, Royal Free Hospital; Member of the Council of the Royal College of Surgeons of England.

HARRY EDWARD DIXEY, M.D., J.P., D.L.  
Chairman and Honorary Secretary of the Bewdley and West Worcestershire Unionist Association for twenty-five years. For political and public services.

JOHN ROBERTSON, C.M.G., O.B.E., M.D.  
Medical Officer of Health, Birmingham; Professor of Public Health in Birmingham University.

#### *C.B. (Military).*

Surgeon Rear-Admiral ALEXANDER MACLEAN, D.S.O., R.N.

#### *C.M.G.*

ARTHUR ANDREW MORRISON, M.D.  
British Delegate on the International Maritime Sanitary and Quarantine Board of Egypt.

#### *C.S.I.*

Major-General THOMAS HENRY SYMONS, O.B.E., I.M.S.  
Honorary Surgeon to H.M. the King; Surgeon General with the Government of Madras.

#### *C.I.E.*

Lieut.-Colonel ROGER PARKER WILSON, I.M.S.  
Officiating Surgeon-General to the Government of Bengal.  
Lieut.-Colonel CLAYTON ALEXANDER FRANCIS HINGSTON, O.B.E., I.M.S.  
Superintendent, Government Hospital for Women and Children, Madras.

#### *O.B.E. (Civil).*

EDOARD LUCIEN DE CHAZAL, M.D.  
Superintendent, Victoria Hospital, Mauritius.  
GEORGE DOUGLAS GRAY, M.D.  
Medical Officer, H.B.M. Legation, Peking.  
Dr. VICTOR RICHARD RATTEN.  
Surgeon Superintendent, Hobart Public Hospital, State of Tasmania.  
Major ALEXANDER JAMES HUTCHISON RUSSELL, I.M.S.  
Director of Public Health, Madras.  
GEORGE PADDOCK BATE, M.D., F.R.C.S.E., J.P.  
For services to the Home Office under the Factory Acts.  
DAVID MACKEY CASSIDY, M.D., D.Sc., F.R.C.S.  
Medical Superintendent, Lancaster Mental Hospital.

#### *O.B.E. (Military).*

Surgeon Commander JOHN SCARBROUGH DUDDING, R.N.  
Major JOHN SCOTT, D.S.O., I.M.S.

#### *M.B.E. (Military).*

Subadar Major BARKAT RAM, BANARUR, Indian Medical Department.

#### *M.B.E. (Civil).*

Lieutenant JAMES CHARLEMAGNE CHALKE, I.M.D.  
Assistant Surgeon to His Excellency the Governor of Bengal.

#### *Kaiser-i-Hind Medal.*

Miss ESTHER G. BARE, M.D.  
Clara Swain Methodist Episcopal Mission Hospital, Bareilly, United Provinces.  
Miss EDITH L. YOUNG, M.D.  
In charge Palwal Mission Dispensary, Gurgaon District, Punjab.

### MEDICO-PSYCHOLOGICAL ASSOCIATION.

#### *THE MAUDSLEY LECTURE.*

The quarterly meeting of the Medico-Psychological Association of Great Britain and Ireland was held at the rooms of the Medical Society of London on May 21st, with the President, Dr. M. J. NOLAN, in the chair. Professor G. M. ROBERTSON referred to the recent death of Dr. Gardiner Hill, and spoke in very appreciative terms of his work as medical superintendent of Middlesex County Asylum for twenty-eight years; Dr. Hill had formerly been at Lincoln and Cane Hill.

The sixth Maudsley Lecture was delivered by Dr. J. SHAW BOLTON, F.R.C.P., professor of mental diseases in the University of Leeds, and medical director, West Riding Mental Hospital, Wakefield.

Dr. SHAW BOLTON opened with a reference to the number of theories of mind which had been advanced since the war, often in ignorance of, or with scant reference to, the accumulated knowledge of the past. Incidentally, he spoke of the "Rasputin-like philosophy of Freud." The lecturer set out to give an account of the present knowledge on mind and brain as established by fact, as opposed to preconception and theory. Purposeful action was, he said, merely action for a purpose, and not action based on intent by the agent; he objected to the attempt to "anthropize" the actions of the lower animals. He entered into a long dissertation on the origin and behaviour of insects, birds, and mammals, showing that the two latter were comparatively late comers, mammals having only begun to rise in size and degree of evolution about two million years ago. Civilized man appeared to date from 6,000 years ago. Dr. Bolton proceeded to demonstrate, as the

*Address from the Chair.*  
his address from the  
now sitting

Annual Dinner  
of the 200

The annual dinner of the association, which was attended by more than 300 members, was held at the Hotel Cecil on Saturday evening, Mr. Badcock presiding. In responding to the toast of "The Imperial Forces," Surgeon Vice-Admiral J. Chambers, Medical Director-General R.N., remarked that the Navy had now only forty-eight dental surgeons, but he hoped to see both the number increased and the conditions of service bettered in the near future. Air Commodore D. Munro, Director of Medical Services, Royal Air Force, who also responded, said that at present the dental service of the Army was shared by the Air Force. He remarked that the effect of the school dental service was beginning to tell in the higher dental standard of the recruits now coming forward. The toast of "The British Dental Association" was proposed by Mr. L. G. Brock, principal secretary of the Ministry of Health, who said he had been struck by the increasing realization on the part of all those associated with National Health Insurance of the importance of securing adequate dental treatment for the insured population. The evidence before the Royal Commission, not only by dentists but by doctors and dental treatment societies, had shown the necessity of providing dental treatment as complementary to medical and surgical treatment. Sooner or later statutory dental benefit would come about. The toast was responded to by Mr. Norman Bennett, who commented upon the more critical frame of mind which had possessed the rank and file of the association in recent years. Mr. A. T. Pitts proposed the health of the guests, and there were replies by Professor William Wright, dean of the London Hospital Medical School, and Dr. A. L. Hipwell.

*Papers and Discussions.*

The papers read at the meeting included "The histology of enamel caries," by Mr. H. C. Mallison; "A sixteenth century account of the teeth and its influence on the growth of the temporomandibular joint and its influence on the growth of the mandible," by Mr. S. Wilson Charles; "The use of ultra-violet rays in dentistry," by Mr. A. E. Rowlett and Mr. Ivan S. Spain; and "The problem of orthodontic treatment for children in the elementary schools," by Mr. B. B. Samuel.

tion for possible future function. The actual results of sensory stimulation were recorded in a largely time-related manner in the various projection areas and zones, with varying degrees of definiteness. It was also recorded through words and verbal complexes, chiefly the visual. Also, and very importantly, the language mechanism was employed in the recording of what was known as "learning by heart." Dealing next with recollection, he said one of the agents of memory was the activity of the cerebrum generally, by which a series of sensory images were recalled owing to certain of the activity of another, or having formerly been stored in the activity of some time or place, or both.

[illegible]

Although cerebral day-dreaming at the considered it passive, and then it was replaced by instinctive or purposeful behaviour, and the instincts instead of being paramount, now served as modifiers of cerebral activity, inducing the best—or the worst—and preventing stereotypism and habit. The whole purpose of education and training was to evolve reasoned purposeful action in place of instinctive reaction to environment. The best example of man's racial immaturity was mental disease. On one side of the scale there were all grades of subevolution of the cerebrum, mental counterparts, ranging from the gross idiot, through feeble-mindedness, to the unstable and occasionally insane. On the other side were various grades of insanity, from the most durable and dissolved cerebrum, through the transiently durable and dissipated cerebrum, to the grossly degenerated and dissolved cerebrum, which might provide a gloomy outlook, but truth always lies in the way ahead. Even though they had to care for their failures because they could not cure them, much could be done to lessen their severity by the employment of suitable mental measures, and under a broader conception general measures, and under a more suitable to the race.

Bolton said that at the present time they were swayed by an exacerbation of world hysteria by the myth of Freud's theory of dream interpretation. He regarded as the unconscious the "unconscious," and he had not yet encountered the lecturer considering the work, was

Dr. Shaw Bolton might be established more suitable to the  
discovery of what he regarded as the myth of the unconscious  
mind, which was based on Freud's theory of dream interpreta-  
tion. No two dream analysts were likely to lut upon the  
same interpretation, and he had not yet encountered an attempt  
to define the "unconscious mind."  
In conclusion, the lecturer considered that the future, in the  
light of sincere work, was bright with hope, for, in the words  
of John Milton :

"Where there is much desire to learn, there  
be much arguing, much writing, many  
good men it but knowledge in the  
Sum, a cordial vote  
for his lecture.

“Where there is much desire to learn, there of necessity will be much arguing, much writing, many opinions; for opinion in good men is but knowledge in the making.”

On the proposition of the PRESIDENT, seconded by Dr. FERRY SMITH, a cordial vote of thanks was passed to Dr. Shaw Bolton for his lecture

There were also a number of table demonstrations at the Central Hall, and clinical demonstrations at the Royal Dental Hospital. The latter included two demonstrations of "block anaesthesia"—one by Mr. F. St. J. Steadman and the other by Mr. F. N. Doubleday.

## ROYAL COMMISSION ON LUNACY AND MENTAL DISORDER.

THE meeting of the Royal Commission on May 25th was occupied with the evidence of Lord Sandhurst, a Lord Chancellor's Visitor, and Mr. G. M. Hildyard, K.C., Master in Lunacy.

LORD SANDHURST, who said that he was appointed to the post in 1910, described the class of cases in which a visit was directed by the Master in Lunacy. The visits were made to such cases as gave the Lord Chancellor concern on account of their difficulty. Most of the cases were those of persons with some means, and usually were paid to private houses. The number of special visits he paid by request from April, 1924, to April, 1925, was 234. Many of the persons concerned were suffering from some form of senile decay, though the subsection of the Act under which he was empowered was often extended to include mental defectives. In institutions he found the food as good as one could reasonably expect in the circumstances, though there was necessarily a good deal of routine about the menu; complaints from the patients as to food supplied were fairly frequent. Complaints with regard to noisy and offensive fellow patients were sometimes justified, usually owing to the fact that there was not sufficient accommodation to allow of the cases being classified. As to ill treatment of patients, he did not think an assault had ever been reported to him which had been backed by credible evidence. He considered that licensed houses fulfilled a most useful function, and it was a misfortune that no new licences could be granted. The smaller institution afforded a degree of quiet and privacy of a home-like character, which would not be expected in the larger places.

MR. G. M. HILDYARD said that when a person was certified as a lunatic he could no longer protect his property, which was thus, to some extent, at the mercy of his relatives. He could not say that he had had to deal with a case of wrongful certification in which relatives had got a weak-minded, but not insane, person certified, in order to secure control of his property, but the possibility needed to be guarded against. He did not think administration by the court should be enforced until some time had elapsed, as the patient might recover from his mental disability. He also pointed out the hardship of ceasing to pay the old age pension in the case of patients resident in an asylum.

## Scotland.

### SCOTTISH SOUTH-EASTERN SANATORIUM.

A NEW sanatorium was opened on May 26th, by the Secretary for Scotland, Sir John Gilmour, at East Fortune, Haddingtonshire. This sanatorium is a combined enterprise by the seven south-eastern counties of Scotland in the attack upon tuberculosis, and the new sanatorium has been constructed by the conversion of an aerodrome used during the war. The scheme originated before the war, and part of the new sanatorium has been in use since December, 1922. The full capacity of the buildings is 199 beds, which are now all available for use. The beds are allotted to the seven counties in proportion to their participation in the scheme, as follows: Berwickshire 16, East Lothian 32, Midlothian 57, Peeblesshire 10, Roxburghshire 15, Selkirkshire 13, West Lothian 56. The sanatorium lies in an open stretch of country between Berwick Law and Traprain Law, and has cost approximately £160,000, to which the Government made a capital grant of £35,820, at the rate of £180 a bed. In the sanatorium the officers' mess has been converted into a block accommodating fifty children. The blocks for male and female patients are separated, and there are x-ray rooms with special electric power station and sewage works. The ground extends to some 515 acres.

### RETIREMENT OF GLASGOW MEDICAL OFFICER OF HEALTH.

The resignation of Dr. A. K. Chalmers, M.O.H. for Glasgow, was intimated on May 27th at a meeting of the Corporation Health Committee. His retirement takes place

under the superannuation scheme at the close of the present month, after a connexion with the administration of public health affairs in Glasgow during the past thirty-three years. The committee decided to recommend the corporation to appoint Dr. A. S. Macgregor, senior divisional medical officer, as interim M.O.H. for the city.

### PUBLIC HEALTH LECTURESHIP IN EDINBURGH.

A committee of Edinburgh Town Council has had under consideration a proposal made on behalf of Edinburgh University in regard to combining the lectureship in public health with the post of medical officer for the city. At present candidates for a diploma in public health receive practical instruction in the organization and working of departments connected with the public health services of the city, and the university desires to extend these facilities to the teaching of undergraduates. The most obvious method of securing this is that the instruction should be given by the M.O.H. for the city, and the arrangement suggested is that the M.O.H. for the city should become a regular member of the University teaching staff for a course of some twenty meetings. The proposal has divided opinion in the committee of the town council which has considered it. The unfavourable view in regard to this matter is partly based upon a belief that there would be difficulty in finding time for the medical officer to undertake new duties, in view of the large demands already made upon him under his whole-time appointment. There are many who consider that if the university is to have any voice in the appointment of the medical officer of health for the city this would be unfortunate, for the association of the university with the Royal Infirmary in making appointments to the staff of the latter has not in the past proved in every case satisfactory.

### DR. EDWARD CARMICHAEL.

On the occasion of his retirement from practice, Dr. Edward Carmichael, Edinburgh, was entertained at a complimentary dinner in the Caledonian Station Hotel, Edinburgh, on May 27th, by a gathering of about sixty persons, over whom Lord St. Vicens presided. The chairman, in proposing the toast of "The Guest," referred to Dr. Carmichael's long ministration in the medical profession, in which his unfailing sympathy, cheerfulness, gentleness, and knowledge of the practice and principles of his profession had been outstanding. They all hoped that not the least fruitful of the years of his long and laborious life still lay before him. Dr. Carmichael, in returning thanks for the honour which had been done him, said that he felt it a privilege to go out and in amongst his friends for forty years. He had always felt a dread of making false or wrong judgements, for, while in other professions and in business a wrong judgement might lead to trouble which was usually retrievable, in the medical profession an error of judgement might lead to troubles that were irremediable. He thought that such success as he had enjoyed was due to this anxiety, which had been constantly present with him. The toast of "The Medical Profession" was proposed by Mr. John Prosser, W.S., and acknowledged by Professor G. Lovell Gulland, C.M.G., President of the Royal College of Physicians, and by Sir Harold Stiles, K.B.E., President of the Royal College of Surgeons.

### GLASGOW DENTAL HOSPITAL.

The annual meeting of the Incorporated Glasgow Dental Hospital was held on May 27th in the Merchants' House, Glasgow. The annual report showed that during the year the number of attendances at the hospital was 40,337, with a total of 46,138 operations. Artificial teeth had been supplied to 121 patients, the teeth having been made in the mechanical laboratory of the hospital. At the close of the year there were 136 students on the roll. The chairman, Mr. Matthew Robbin, in moving the adoption of the report and financial statement, said that the work of the hospital was not sufficiently recognized by the public. The present hospital was made up from dwelling-houses and was quite inadequate for its work, but before arranging for a site for a new hospital it would be necessary to have the prospect of money to build it.

## England and Wales.

### ASSOCIATION OF PUBLIC VACCINATORS.

THE annual meeting of the Association of Public Vaccinators of England and Wales was held at the Grand Hotel, Manchester, on April 24th. Dr. Wells (London) presided. There was a good attendance. The Council's report and financial statement were adopted. On the motion of Dr. A. E. Cope (London), seconded by Dr. Bradshaw (Liverpool), Dr. James Bennett was unanimously elected president for the ensuing year. A hearty vote of thanks was accorded Dr. Wells for his services during the past year. Dr. Bennett then took the chair, and, after expressing his appreciation of the honour conferred upon him, gave very interesting details of small-pox in Warrington, his native town, near which, at Padgate, he is medical officer of health. Striking statistics were available, the records having been well kept. In 1773, during an epidemic of small-pox there, all the deaths were in persons under 9 years of age. In the epidemic of 1892 none of the deaths were in persons under 9 years of age. Something had happened to account for this, and undoubtedly it was vaccination. The officers of the association were re-elected and three vacancies on the council filled by the election of Drs. S. C. Jones, Howe, and Johnstone from the Manchester area. Dr. A. E. Cope (honorary secretary), Dr. Drury, and Mr. J. A. Briggs (organizing secretary) were thanked for their services.

### Dual Nature of Small-pox.

At the conclusion of the formal business Dr. R. P. Garrow (medical officer of health, Chesterfield) gave an address on the dual nature of small-pox and its bearing on the vaccination question. During the eighteen months to the end of March last there had been 604 cases of known small-pox in Chesterfield. This was part of a general endemic prevalence of the disease in the Midlands of England, extending over the past four or five years. The disease had been characterized by remarkable benignity, and so far as he was aware there had been no deaths. This had led to the belief, rightly or wrongly, that under the name "small-pox" there existed two definite diseases: (1) severe and highly fatal; (2) a mild, relatively harmless disease with no mortality. Those who take this view believe that the virus of para-small-pox has in some way unknown been deprived of its toxicity, resulting in an acute specific infectious disease easily distinguishable from the parent disease small-pox and which breeds true to type. That was known as the contention of the "dualists" in this controversy. On the other hand there were those who have been described as "univists" who recognize only one form of small-pox, believing that alastrim, amara, para-small-pox, or variola minor is clinically indistinguishable from classical small-pox, and that it has indeed on various occasions reverted to the severe type. At considerable length Dr. Garrow gave his reasons for holding the "dualist" view. He summarized the clinical differences between small-pox and para-small-pox as follows:

1. Severity.—Measured by constitutional disturbance the severity in small-pox was incomparably greater; prostration never seen in para-small-pox.
2. Onset.—Lumbo-sacral pains, vomiting, and rigor replaced by more gradual onset in para-small-pox.
3. Prodromal rashes—Not observed in Chesterfield cases.
4. Haemorrhages entirely absent.
5. Small of small-pox not observed.
6. Duration of prodromal illness longer in para-small-pox.
7. Pause.—Three or four days' interval in one-third of the cases of para-small-pox between initial illness and first appearance of eruption.
8. Focal lesion.—Smaller and more superficially situated. Vesicles unilocular; evolution more rapid; suppurative often incomplete.
9. Suppurative fever.—Most often absent.
10. Exercises much less influence over
11. Absent in para-small-pox. Two cases of *eruptio profunda* observed among the Chesterfield cases.
12. Disfigurement.—Extremely rare for para-small-pox to leave behind any permanent traces on the skin.
13. Fatality.—Para-small-pox fatality is nil.

In the concluding stages of his address Dr. Garrow dealt with the vaccination question. He was convinced about the

clinical differences between small-pox and para-small-pox in the mass, and regarded the vaccination statistics of para-small-pox as furnishing equally conclusive proof of the close biological relationship between the two diseases. In the Chesterfield epidemic there was not a single case of small-pox in a revaccinated person. Of those vaccinated in infancy the youngest patient was 17 years old. From this it would appear that the protection afforded by vaccination against the mild disease is of longer duration than against virulent small-pox. Among the unvaccinated children in Chesterfield up to 15 years of age there were 277 cases of small-pox; among the vaccinated in the same age group not a single case. Continuing, Dr. Garrow said that the number of cases occurring in a house was determined, not by the sanitary state of the dwelling or the overcrowding therein, but by the number of unprotected individuals. In many of these houses every unvaccinated member of the household was attacked and removed to hospital, while every member protected by vaccination escaped. He regarded para-small-pox as more difficult to control and stamp out than small-pox proper. Vaccination afforded protection as complete and more lasting than against the virulent disease. Reasons for the difficulty were to be found in the long prodromal period and the interval between the initial appearance of the rash, making it more difficult to trace contacts. A further difficulty was occasioned by the extreme mildness of the disease causing delay in diagnosis and consequent exposure of large numbers of people to infection. In Dr. Garrow's opinion the present situation emphasizes the importance of general vaccination of the entire community in order to put an end to the heavy expenditure of public money on the hospital isolation of the disease, which is not required for the nursing of the case and which plays such a small part in its control.

A discussion followed, and Dr. Garrow was heartily thanked for his very interesting address.

### SMALL-POX IN THE COUNTY OF DURHAM.

We have received from Dr. T. Eustace Hill, medical officer of health for the county of Durham, a letter stating that he has read the leading article on the spread of small-pox, published on May 23rd (p. 574), with great interest, and expressing the opinion that every medical officer of health will agree with the views therein contained. Dr. Hill also informs us that a conference of medical officers of health and medical officers of small-pox hospitals in the county was held in Durham on May 14th. The conference was largely attended, and it was officially stated that while during the first quarter of 1925 there had been 45 cases of small-pox (of which 25 were in West Hartlepool), in the county of Durham among six sanitary districts, during the five weeks of the second quarter, ended May 9th last, there had been 41 cases in the county among thirteen sanitary districts. The present available accommodation for small-pox patients was also considered by the conference, and there was a very strong feeling expressed that in many districts there was urgent need for further accommodation. The conference adopted a series of resolutions, which Dr. Hill has since sent to the sanitary authorities and small-pox hospital authorities in the county. They were to the following effect:

1. That in view of the serious danger which at present exists of small-pox becoming epidemic in the North of England, every small-pox hospital authority should at once, in consultation with its medical officer, review the adequacy of the accommodation provided in its hospital for cases of small-pox, and, where necessary, at once take steps to provide additional beds; and that each hospital authority should at once make such arrangements as will enable it to provide further temporary hospital accommodation for cases of small-pox at short notice.
2. That the small-pox hospital authorities of the county, which have provided accommodation for small-pox cases, should at once enter into a pooling arrangement by which small-pox patients from any district in which the small-pox hospital beds are fully occupied can be at once admitted into the hospital of another district where beds may at the time be available, the full cost incurred by the hospital authority receiving the patients to be refunded by the hospital authority of the district from which the patient was removed.
3. That the importance of every small-pox hospital being provided with an efficient steam disinfecting apparatus be urged upon the hospital authorities in the county.
4. That as a temporary measure, and with a view to assisting in the detection of unrecognized cases of small-pox, the notification of chicken-pox be made compulsory in every sanitary district.

## HUMANE SLAUGHTERING OF ANIMALS.

A report on the humane slaughtering of animals has recently been presented to the Corporation of the City of London by the Sanitary Committee. It embodies a report on the work of three municipal officers whose duties are related to the question. The three are Dr. W. J. Howarth, medical officer of health, Mr. James R. Hayhurst, chief veterinary inspector of the Metropolitan Cattle Market, and Mr. T. D. Young, the Corporation's veterinary surgeon. The subject has been under consideration for some time, but the immediate occasion for dealing with it was a petition from the Council of Justice to Animals signed by their chairman, Mr. C. Lionel Hanington. That society urged that Clause 9 (u) of the Ministry of Health's model by-laws for slaughterhouses be passed by the Corporation. In the petition it was pointed out that ninety boroughs had already passed the by-law and that 623 medical consultants in London had in 1923 urged the adoption of the clause. Its terms are as follows:

"A person shall not in a slaughterhouse proceed to slaughter any animal until the same shall have been effectually stunned, and such stunning shall, except as hereinafter provided, be effected with a mechanically operated instrument suitable and sufficient for the purpose. Provided that this by-law, so far as it would require the stunning of sheep and the use of a mechanically operated instrument, shall not apply until the expiration of three months from and after the date of the confirmation of these by-laws. Provided, further, that this by-law shall not be deemed to apply to any member of the Jewish faith, duly licensed by the Chief Rabbi as a slaughterer, when engaged in the slaughtering of cattle intended for the food of Jews according to the Jewish method of slaughtering, if no unnecessary suffering is inflicted."

The three reporters have been unanimous in recommending the by-law in respect of (a) cattle, including calves; (b) horses; and (c) pigs, the flesh of which is to be consumed as fresh pork. They differed, however, concerning sheep, Mr. Hayhurst and Mr. Young advising that these be excluded from the by-law, while Dr. Howarth was in favour of their inclusion. The Sanitary Committee adopted the view of the majority, and the Council itself has concurred. As embodying the conclusions reached on this and other points by the Sanitary Committee, after conference with the Cattle Markets Committee, Dr. Howarth drafted the following resolution:

"That this committee, having considered the report of its officers on the humane slaughtering of animals, and having heard the views of duly appointed representatives of the Council of Justice to Animals and of the Union of London Retail Meat Traders' Association Incorporated thereon, and having considered the effect which the adoption of Model By-law 9 (u) would have on the work at Islington Cattle Market, is of opinion that the time is now opportune for definite regulations to be framed to control and regulate the slaughtering of animals intended for human consumption, and, furthermore, is of opinion that any additional powers in this connexion should be of general application throughout the country, and that in order to secure uniformity it respectfully submits that such regulations should be issued as compulsory regulations framed by the Ministry of Health."

This was adopted by the Committee, and became in effect the finding of the Corporation. It will be observed that to secure uniformity it is urged that the by-law should be applied throughout the country and should be made compulsory by the Ministry. The three officers in their report consider the question in detail. The first essential in satisfactory slaughtering is that there shall be efficient bleeding, because blood rapidly putrefies, especially in hot countries. Unnecessary pain must not be inflicted, time should be saved, and there should be avoidance of damage to edible parts. Various methods have been used, bleeding being effected in all of them by cutting the throat. Preliminary stunning may be done by the hammer, mallet, or maul, or by the poleaxe. Alternatively, unconsciousness may be produced by mechanically operated instruments, the mechanism forcing either a bullet or a captive-bolt through the bony structures of the head. The bullet is actuated by an explosive cartridge; the bolt by a direct blow, a spring, compressed air, or a cartridge. The reporters made observations of the effect of two instruments of the bolt-propelling type, one known as the Cash pistol and the other the Temple Cox apparatus. The conclusion reached was that an efficient mechanically operated instrument is more to be depended on than the poleaxe, even when that is in the

hands of the most skilled slaughterman. No exception could be taken to the efficiency of bleeding after stunning, and there is neither waste of time nor damage to the carcass when such an instrument is used in substitution for the poleaxe. Objections, however, have been raised to the mechanical apparatus in the case of pigs, on the ground that though the fresh pork may be all right, the use of the mechanical apparatus affects prejudicially the preparation of bacon. The reporters therefore recommend that additional information be obtained on this particular question; it has been agreed to adopt their recommendation. The Jewish method of slaughtering, which is carried out according to a religious ritual and without preliminary stunning, is described and discussed in the course of the report.

## HEALTH OF LONDON IN THE EIGHTEENTH CENTURY.

At the last meeting of the Section of Epidemiology and State Medicine of the Royal Society of Medicine Dr. John Brownlee read a paper on the health of London in the eighteenth century. He first of all exhibited tables making it probable that there was a considerable influx into London towards the end of the seventeenth century, but that thereafter, down to the end of the eighteenth century, the population was almost stationary, and that the general rate of mortality (making allowance for the ageing of the immigrants at the end of the seventeenth century) also changed very little. In a general way there was not much difference between eighteenth century London and the most unhealthy urban area in the nineteenth century for which a life table had been constructed—namely, Manchester township. Dr. Brownlee called attention to the increased proportional mortality from phthisis which the London bills exhibited, and concluded that there was probably a real increase of phthisis in the last decades of the eighteenth century. He illustrated on the plague statistics of Bombay the movement in time of the maximum of an epidemic, and pointed out very remarkable changes in the seasonal incidence of mortality from convulsions and infantile diarrhoea in London. Mortality from measles was also illustrated. In opening the discussion, Dr. Major Greenwood referred to the writings of Woolcombe, Sir Gilbert Blane, Sir James Clark, and Farr on the alleged increase of phthisis at the beginning of the nineteenth century. Blane's remark (made in 1815) that "consumptions have been observed to be more frequent of late among young adults, probably from a greater number of sickly children being saved" was of interest. Dr. T. P. Beddoes thought the timing of an epidemic of plague was mainly dependent on the date of movement of stocks of grain. Sir George Buchanan wondered whether the nomenclature of diseases in the bills was sufficiently satisfactory for comparisons. The discussion was continued by Dr. A. K. Chalmers, Dr. John Carswell, and the President (Dr. John C. McVail), who all congratulated Dr. Brownlee on the great value of his contribution to the history of mortality in London.

## WESTMINSTER HOSPITAL.

The work of the department of pathology and bacteriology at the Westminster Hospital has considerably increased since its reopening last July. An offer of £20,000 has been received from Mr. A. J. H. Carlill towards the endowment of a Carlill chair of pathology. The House Committee, in consultation with the medical staff and representatives of the Senate of London University, have prepared a scheme for a unit of pathology, which is at present under consideration by the University and its Grants Committee. The new unit should prove to be of great practical value to the patients, medical staff, and the students. The hospital at present has an overdraft of £15,000 on the maintenance account, and as soon as this has been extinguished an effort will be made to obtain funds for research work, particularly in connexion with cancer. The hospital at present possesses no radium, and this handicap will be removed as soon as possible. The number of patients treated in the wards since the hospital reopened is 2,786, as compared with 2,173 for the corresponding period of 1922-23. The out-patient figures have increased by 35 per cent.



# Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

AMONG Acts to which Royal assent was given before the House adjourned for Whitsuntide were the Protection of Birds, Rent and Mortgage Interest (Restrictions Continuation), Imperial Institute, and Poor Law Emergency Provisions Continuance (Scotland) Acts.

The House of Commons will be occupied with the Committee stage of the Finance Bill for the whole of next week after reassembling on June 9th. The Public Health Bill and the Rating and Valuation Bill will be considered in Grand

## Ministry of Pensions Debate.

During the debate on the Ministry of Pensions vote for £66,026,000, the Minister, Major Tryon, estimated that in 1925-26 medical treatment and services would cost £2,847,000, compared with £3,559,000 in the previous year. It was a declining charge because, reaching a stability where normally no further treatment was likely to be wanted. The death rate among disabled men remained fairly stationary at about 13 per 1,000 annually, a rate about the same as that of the general population. The number of cases in which there was such an improvement in the disability as to warrant a reduction in the rate of compensation was necessarily diminishing. Last year in 17 per cent. of the cases examined there was a reduction in pension and in 26 per cent. an increase. On the pensions list at present there were 615,000 officers and men, of whom more than half had received final awards and were relieved from the trouble of medical re-examination. The majority of men on the pension list had been found to be steadily improving in health, thanks above all to medical treatment, and had been pursuing normal occupations at a normal wage, except so far as they were affected by industrial depression. The Minister defended the system of final awards, saying that they did not imply recovery or that there might not be some slight fluctuation up or down, but that they meant that a condition of normality had, in medical judgement, been reached. The Ministry took the highest professional medical advice in regard to each kind of disablement, and in accordance with that advice the final award of disablement, and 100,000 men who had received final awards, less than 20 per cent. had appealed, and in only 5 per cent. of those appeals did the Medical treatment become the medium through which error, if any, in a final award was disclosed. The mere fact that medical treatment was necessary after a final award did not mean that the award was wrong. But where treatment showed that the diagnosis of the case had been faulty or the prognosis had been wrong, and the error had involved a serious underestimate of the man's disablement as a permanent matter, the Minister was able to recommend the case for further compensation. Major Tryon announced that he and his predecessor, Mr. F. O. Roberts, had co-ordinated with that advice the seven-year limit on claims for pensions, and said that a claimant for pension was asked to do no more than get some account of his past medical history from his panel doctor or his approved society.

In moving the reduction of the vote by £100, Mr. F. O. Roberts referred to the treatment of men in training centres and thought that from the medical view it had been a mistake to take these centres away from the Ministry of Pensions. He urged closer co-ordination with the Ministry of Health and the Ministry of Labour, particularly as regards tuberculous cases. There was always a doubt after this long period of time about the association of this disease with war service, and all sorts of difficulties seemed to crop up in the case of these tuberculous men. He paid tribute to the work done at Papworth, Enham, Preston Hall, Blackpool, Rectall, and Epsom, and said there would have to be an extension of such centres.

Mr. Macpherson said that during three years £55,000,000 had been spent on medical treatment, and the taxpayer expected to see a reduction in the cost. In regard to the time limit on claims for pensions, Mr. Macpherson said that when he was Pensions Minister his medical boards had advised him that he was Pensions Minister for a good period, but he had fixed it at seven years.

After a long explanation by Commander Astbury about a statement he made in December last, and a long argument in which gave a general exposition of the Ministry of Pensions, which, he said, had been one of the most wonderful achievements of the war. To medical science the war was as revolutionary an experience as it was to the science of warfare, and the bare magnitude of the demands made on medical science created by the war was completely without precedent. Fresh problems arose on a scale that was absolutely unknown, and the medical profession had to mobilize all its resources and all its skill in order to grapple with the many problems arising out of that memorial. At one time the medical profession met that demand with a scale of memorial to its skill and science, and many men walking about now would bear willing testimony to that memorial. Treatment for the Ministry had 113 hospitals and 650 clinics, which, when established, were a new feature in public medicine, at operative or other wounds and injuries under the Ministry did not stop short, as it often did in the case of civil hospitals, at the process of immediate treatment. The medical branch of the Ministry decided to include the whole range of orthopaedic treatment—the process of restoring nerve and muscle to the injured part. That meant the

establishment of massage and electrical treatment and the provision of curative workshops. The Ministry had run fifteen orthopaedic hospitals of its own and sixty clinics in which supplementary orthopaedic treatment was given. This class of case, had on the whole yielded better results than almost any other. Naturally the numbers were diminishing, and at present the Ministry was maintaining eight hospitals for this purpose and forty-four clinics for treatment of cases of injury. Major Stanley had protested against men who had lost their reason by war service being described as pauper lunatics. But the State insisted on them being treated as private patients. The Ministry had not provided private hospitals for these men because their relatives objected to their being removed to any distance. In neurasthenia as distinct from mental disease no pains were spared to get a man back to normal, and the experts agreed that the best cure was to get a man back to normal life and occupation as soon as possible. The Ministry had had twenty neurological hospitals and forty-eight clinics for this purpose, and had to draw heavily on the members of the medical profession who had given special study to neurasthenia and had to train a large number of specialists and restored to their normal condition. On the other hand, there were the border-line cases. The Ministry went to extreme lengths so as not to certify them, and had several establishments, the largest at Ewell, to deal with such cases. On the whole they had been exceedingly successful. They had gone further and had two establishments for certified cases—one in the north and one in the south—where selected cases were sent by agreement with the medical officers of the Board of Control. Unfortunately, the relatives of some of the most suitable cases objected to their removal to these establishments, and up to date the experiment would not justify any considerable extension. The arrangement in conjunction with the Ministry of Health to provide training for the tuberculous ex-service man after his ordinary course of sanatorium treatment had not been quite a success. A man having finished his sanatorium treatment did not care to stay away from his family for an extra year to complete his training. Now when a man was going to be discharged from the sanatorium the medical officer of health and the employment exchange manager were notified so that every effort would be made to get him some work, and, if necessary, more suitable habitation. The Ministry was spending some £20,000 a year in allowances for the tuberculous.

Colonel Stanley added that there was a slight increase in the estimate for artificial limbs, as they were replacing the old heavy limb by a lighter one which cost more but would last longer and was a far greater comfort to the men. In conclusion, Colonel Stanley said that the Ministry had spent £60,000,000 in medical treatment alone, and he declared they owed a great debt of gratitude to the medical branch of the Ministry.

Mr. Merriman said that for five years he had been an additional president over a pensions appeal tribunal. He suggested that some awards confused termination of a disability with quiescence, and gave instances where a man who suffered in warm weather from a series of colds was held, by a board in January, to have had his negrivation terminated, and a similar verdict was passed in July on a man whose rheumatism flared up in winter. He reminded that there was sometimes an undue insistence on the absence of hospital records, which were asked as confirmatory evidence that there was a disability during service. This applied to the tuberculous cases, where it was insisted that there should be a continuous history suggestive of tuberculosis dating back to within a year of the date of demobilization. The man who was in the greatest difficulty was the man who had a series of ordinary colds, influenza, and things of that sort, in regard to which he had managed to contrive that he should never be sent down to hospital. They could always get hospital records for the man who wanted to make a case. It was the man who had stuck to duty in respect of whom there was no absence of hospital records.

Mr. Pielou said it was impossible that the employment exchanges could find a position for a man suffering from tuberculous disease. The only solution was the setting up of village settlements. If members who opposed this scheme could visit Papworth and see the work carried on under Dr. Varrier-Jones their views would be considerably altered. Of the 55,000 men suffering from tuberculosis for whom the Minister had accepted responsibility, 15,000 had already gone. An interdepartmental committee in 1919 recommended the expenditure of £1,000,000 on village settlements, but only £20,000 had been spent, whereas huge sums were wasted on sanatorium treatment. The man went back to housing conditions and work which did not suit him, and was soon as bad as before.

Dr. Drummond Shiels confirmed Mr. Merriman's remarks about the doubts expressed when a man was found to be suffering from tuberculosis and there were no records of influenza or anything of that sort on his medical history sheet. It was the same with other conditions. Gastric ulcer, cancer, and cerebral haemorrhage were practically ruled out as impossible to be connected with war service. Many cases of gastric ulcer had followed digestive trouble arising from irregular feeding or foully feeding during army service. But if the man had carried on despite his indigestion, he was now told that the gastric ulcer was entirely unconnected with war service. Although it was difficult from a medical point of view to connect cerebral haemorrhage with war service, the Dr. Shiels contended that the Ministry was much inclined to stand by a technical death certificate. He had a case of a man who died after a long-standing injury of the leg sustained in the war. There was an open sore. The man was in hospital in the weeks before death. He suddenly became very ill and died in a week. There had been a young locomotive engaged in the case, and he put down the cause of death as intestinal paralysis, which was the terminal condition. To anyone familiar with

medical matters at all, the whole case spoke of septicaemia (blood poisoning) as the result of the injury to his leg. But because this young doctor had put intestinal paralysis on the death certificate—the actual and immediate but not the primary cause of death—this man's widow could not get a pension. There were many of these cases. It was rather unfortunate that medical men were employees of the Ministry. It would have been much more satisfactory had they been independent of it, because there was a tendency, unconsciously, to feel that they were appearing for the Ministry of Pensions, and that it was the Ministry of Pensions *versus* the man. Anyone who had been to an appeal tribunal, and spoken for ex-service men, must have felt that sort of atmosphere on many occasions.

Sir Wilfrid Sugden said he had gone to the trouble of obtaining details of the *proceduro* regarding medical inspection, adjustment, and entitlement in the United States, France, Belgium, Germany, and Italy. None of these countries provided for even so thorough and equitable a judgement as obtained at present in this country, both as regards committees, medical boards, the very rightful provision for ex-service men sitting on adjustment committees and pension grant committees. Major Tryon replied to the debate, and the motion for the reduction of the estimate was defeated by 279 to 149.

**Small-pox and Vaccinia Mortality.**—Sir Kingsley Wood supplied Mr. Trevelyan Thomson with the average annual deaths in England and Wales from small-pox and from vaccination by decennial periods. In 1861-70 the average was: small-pox 3,421, cow-pox and other effects of vaccination 10; in 1871-80, 5,705 and 29; 1881-90, 1,228 and 52; 1891-1900, 406 and 43; 1901-10, 429 and 19; 1911-20, 14 and 9.

**Morphine Exports.**—Answering Mr. Campbell, the Home Secretary gave details of the amount of morphine exported from Great Britain during 1924, of which practically all was of British manufacture. The export to Europe was 60,080 oz., including 7,592 oz. to Austria, 4,462 oz. to Czechoslovakia, 13,763 oz. to France, 7,481 oz. to Germany, 4,661 oz. to Holland, and 3,340 oz. to Spain. To Asia the export was 12,505 oz., including 1,688 oz. to China, 2,126 oz. to India, and 7,411 oz. to Japan. To Africa the export was 1,401 oz. To America it was 9,128 oz., including 6,042 oz. to Canada, and to Australasia 5,757 oz., including 2,899 oz. to New South Wales. The grand total of morphine exported in 1924 was 88,871 oz., compared with 98,831 oz. in 1923, 131,658 oz. in 1922, 77,364 oz. in 1921, and 322,672 oz. in 1920. A condition that the morphine should not be re-exported had not been proposed by the League of Nations and was not insisted on when the British Government was satisfied that adequate control over exports was exercised by the importing country.

## Correspondence.

### DISEASES DUE TO FASHION IN CLOTHING.

SIR,—I have read with great interest Dr. Parkes Weber's article upon this subject in the *British Medical Journal* of May 23rd (p. 960), and I support the view that a serious form of persistent cyanosis of the feet and legs may, in some cases, be an outcome of insufficient clothing.

To Dr. Drybrough-Smith of Hastings I am indebted for such an example in an athletic young lady, who herself dated the cause of her trouble from getting daily chilled from insufficient clothing. Regardless of being at that time in residence in a colder climate than that of her home, she admitted that she had foolishly persisted with her scanty garments.

It is indeed remarkable how intractable these cases are in response to treatment, and it would seem, as Dr. Parkes Weber suggests, that there must be serious damage to the capillary circulation. As a mere man, and more particularly as one who has had the honour of teaching many lady doctors, I am too cautious to reason with young ladies, but try to give them what I believe to be facts. At the moment, about ladies' clothes, there are few facts, though as a doctor one is grateful for the remarkable swiftness with which they can be discarded for medical examination.

If, however, Dr. Weber's contention proves, as I believe it to be, essentially correct, I should like to add my testimony to warn against the serious condition that results from such chilling.

It is to be supposed that such cases are exceptional, and it may be that Dr. Weber, Dr. S. Dore, Dr. A. W. Scott, Dr. H. MacCormac, Dr. G. M. Meachen, and others, including myself, are wrong; but if we are right I hope all medical women will use their great influence and remind parents, and more especially their daughters, of the fact that in cold, changeable climates, age-long experience has proved the need, in cold weather, for warm clothing. They, doubtless, will be ready to counter the instant reply, "We are not going to be stuffy old Victorians."—I am, etc.,

London, W.1, June 1st. F. JOHN POYNTON, M.D., F.R.C.P.

SIR,—I was much interested in Dr. Parkes Weber's reference, in his article in your issue of May 23rd (p. 960), to a form of chronic erythema of the legs in young women, associated with the wearing of short skirts and silk stockings, as for some time I have been acquainted with a similar case in which I had, in ignorance of previous writings, assigned a causal part to the prevalent short skirts and thin stockings. This is a chronic painful erythema between knees and ankles in a woman aged 43 years, becoming aggravated in winter, but improving very much in summer, and improving also by a rest of several days in bed. Slight superficial varicose veins are present. I had, however, differed entirely in my explanation of the causation, as I had put it down to lack of protection, not from cold, but from heat rays furnished by the ordinary domestic fire, and was supported in this view in that an afternoon in a chair close up to a good fire was always followed by an exacerbation of symptoms, while there seemed no relation to exposure to cold out of doors. The sites of maximum intensity, on the outside of the right calf and the inside of the left one, were the parts most exposed to heat rays in a person sitting in the patient's usual chair, on the right hand of the fireplace. This patient has no tendency to chilblains.—I am, etc.,

Guilborough, May 25th.

C. R. GINSON.

### VOMITING IN INFANCY.

SIR,—It is not, I think, possible to debate all the points which Dr. Parsons raises in his letter (May 23rd, p. 986) without needlessly reiterating much which was said in the lectures. The difficulties raised are precisely those which I attempted to explain.

I do not myself find it difficult to suppose that in these disorders of peristalsis in the young infant hypertrophy develops with a rapidity unknown in other conditions and at a later age. I think that I have traced the development of hypertrophy with the same rapidity in achalasia, both of the ilco-caecal valve and at the anus.

For the rest it is a difficult matter to compare the boundaries set by anatomical terms with those of function. It is clear that the contractile cylinder includes those parts of the gastric tube which have been called the "pyloric canal" and the "vestibule." An x-ray examination will often show the contractile cylinder in a phase of relaxation with a wide lumen. After death or at operation the lumen of the pyloric canal is completely obliterated, that of the vestibule remains patent.

I think Dr. Parsons must be wrong in attributing a peristaltic function to the cardiac portion of the stomach. The term "contractile cylinder" has no meaning if the whole stomach has this function.—I am, etc.,

London, W.1, May 26th.

H. CHARLES CAMERON.

### CLEAN MILK.

SIR,—Dr. Chalmers Watson has recently stated that none of the leading general hospitals or children's hospitals in this country have yet given this subject serious consideration. Presumably he refers to the large voluntary hospitals; which are still the leading hospitals in most matters connected with the technique of surgery and of curative medicine. If, however, one looks to them for a lead in matters connected with preventive medicine, one will, as a rule, be disappointed.

It must now be evident to Dr. Chalmers Watson from the correspondence on this subject that he was not quite just to local authorities and their hospitals in his original article. Even in his letter of May 17th, in referring to the recent introduction of certified milk to the Paisley municipal hospitals, he states: "So far as I am aware, Paisley has therefore the distinction of taking the lead in establishing a much needed reform." Grade A milk (Food Controller's designation) from a tuberculin-tested herd has been in use in the *Burgh Infections Diseases Hospital*, Motherwell, and the *Wishaw Tuberculosis Hospital* since March, 1922, and in the *Carnegie Child Welfare Centre* and the *Maternity Home*, Motherwell, from the

date of opening in June, 1923. I well remember that first day of the use of Grado A (tuberculin tested) milk over three years ago, when so many of the convalescent children in the fever hospital asked for a second supply of porridge, because, as they said, "they were getting cream with it."

Further, I know that the Middle Ward District of the county of Lanark arranged for a supply of Grado A (tuberculin tested) milk to its hospitals fully a year ago, and I have no doubt that other local authorities have done so also.

That it is a reasonably economical proposition is, I think, proved by the fact that my town council has just recently contracted for a year's supply at an average price throughout the whole year of 1s. 6½d. a gallon, for a fluctuating daily supply of about 40 gallons delivered at the nearest railway stations.

As to the education of public opinion on this subject—a matter also mentioned by Dr. Watson—I may say that in June, 1923, at a largely attended public meeting, the National Clean Milk Society's film, "Production of certified milk on an English farm," was shown in the Carnegie Child Welfare Centre, Motherwell.—I am, etc.,

H. STANLEY BANKS,

May 25th. Medical Officer of Health, Motherwell and Wishaw.

SIR,—In view of Dr. Chalmers Watson's admirable propaganda in connexion with supplies of clean milk, and the correspondence appearing in your columns, it appears desirable to put on record the Aberdeen position.

In October, 1924, Aberdeen Town Council gave authority for the use of certified milk in all the public health institutions of the city. These include the City Fever Hospital and Tuberculosis Hospital, Burnside Home for Mothers and Babies, Loch Street Home for Mothers and Babies, and the Charlotte Street Day Nursery. At the same time the council authorized that certified milk only should be supplied to all mothers and children obtaining milk in their homes from the Health Department, and also to all tuberculous patients similarly receiving milk in their homes.

With a view to encouraging the production of certified milk, the Aberdeen dairymen have been informed that the town council contract will necessarily be divided among dairymen retailing it. At the same time, producers of milk in the Aberdeen area have been assured that the Health Department will do everything in its power to assist them should they be prepared to supply certified milk. Thus, whenever a dairyman is prepared to supply certified milk, the Public Health Department is prepared to analyse the milk samples twice weekly, free of charge, and to send the results of the analyses, both chemical and bacteriological, to the milk producer for his guidance. The milk producers have also been informed that they will be given a period of some six months in which to adjust their production of milk, so that it meets the certified standard, without any interference from the Health Department apart from helpful advice. The milk producer who at present holds the Aberdeen Town Council contract for certified milk is using the bacteriological counts, as supplied by the Health Department, to form the basis of the bonus system on which he pays his workers. Thus, the milk counts as sent to the milk producer are posted on a notice board every week at the two farms producing the milk, for the information of the workers, who receive a bonus to their wages, descending in amount according as the count of the milk ascends from under 5,000, under 10,000, under 15,000 organisms, and so on.

When certified milk was thus introduced into Aberdeen some seven months ago, all the medical practitioners of the city were circularized, urging them to do everything in their power to get their patients to use certified milk in their households.

The wide publicity given by your columns to the matter of a clean milk supply is of the most useful description, and will, I am confident, be productive of much good.—I am, etc.,

May 25th.

J. PARLANE KINLOCK,  
Medical Officer of Health, Aberdeen.

SIR,—The correspondence in the BRITISH MEDICAL JOURNAL on clean milk, following on the article on grading of milk by Dr. Chalmers Watson in the *Scotsman*, prompts me to point out that at this sanatorium we have used certified milk or its equivalent since 1915—"equivalent" because at that time there was no official grading, but the milk was of the same high standard, and from the same farm (Storms Farm Dairy, near Keswick). We were, in 1915, about to build a dairy modelled on that at Coombe Bank, near Sevenoaks, and had calculated it would then cost us about 5d. a quart, as against the local price of 3d. Mr. J. A. Spedding, J.P., of Storms, was at the same time interested in the problem, and through his energy we were enabled to obtain the highest quality at an intermediate figure. It is of great interest to note that the bacterial content of the Storms milk has been as low as 10 per cubic centimetre.—I am, etc.,

Blencathra Sanatorium, Threlkeld,  
Cumberland, May 25th.

W. GOODCHILD.

SIR,—I am glad to learn from the correspondence in your columns and other letters that I have underestimated the number of local authorities who are encouraging the production and consumption of clean milk. The statements in my original communications were made tentatively, and were the results of definite inquiry in quarters likely to be well informed on the subject. The correspondence has revealed that, in addition to those referred to in my communication, the public health authorities in Aberdeen, Motherwell, Wishaw, Lanark, and Hawick in Scotland, and Leicester in England, have gone in for clean milk, and it is probable that the list could be extended. The additional information learned merely emphasizes the point made in my communication as to the progressive action of the public health authorities in this direction. The attitude of the public health authorities on the subject was, however, a quite subordinate part of my communication. I raised the question whether any of the leading general hospitals, children's hospitals, or maternity hospitals in this county—apart from those officially under public health authorities—had yet given the subject serious consideration, and the question applies very specially to hospitals utilized for the purpose of medical education. On this point the correspondence has not added any information.—I am, etc.

Edinburgh, May 30th.

CHALMERS WATSON, M.D.

#### IMPORTANCE OF EXPLORATORY INCISION IN CANCER OF THE BREAST.

SIR,—With Mr. Duncan C. L. Fitzwilliams's lecture on "The importance of exploratory incision in cancer of the breast" (May 23rd, p. 953) most practitioners will agree. His logic illuminates a problem that faces all of us too often. Many must share his impatience with stereotyped methods of diagnosis and prognosis—notably, perhaps, with that delusive faith in flat-hand differentiation—and one at least of his readers would have received his message in mute admiration had he chosen a title less ambiguous and defined more strictly the limits to his surgery. But cases come to mind. Let me briefly recall one. A stout, well coloured woman of about 40, consulting me about another matter, mentioned her breast. She "thought there was something there." I felt a little tumour and sent her to hospital at once. Three days later she returned to say she had been told there was nothing in the breast. She consulted a surgeon, was admitted to hospital, and underwent operation eight days after I first saw her. Her case excited some interest, for certain of the staff maintained there was no tumour. Incision revealed a growth no larger than a big hazel-nut. Still doubtful as to its nature, the surgeon cut into it *in situ*, and then at once, as it seemed malignant, removed the whole breast with some glands from the axilla. A pathologist confirmed its malignancy. Recovery was uneventful. That was in mid-March, 1908. Eight months later I saw the patient again. She had clear evidence of cancer in the lung. To relieve pleural effusion I had to aspirate five times. She died on February 2nd, 1909. There is every likelihood (a) that incision into the growth had caused metastasis, and (b) that operation on the lines suggested by Mr. Fitzwilliams would have saved her life.

But in view of these facts, and of the fact that some surgeons still incise *in situ* with an erroneous notion of sparing their consciences, I would suggest that Mr. Fitzwilliams, before he republishes the lecture, change its title to "The importance of exploratory operation in tumour of the breast," and underlines the risks inherent in opening any tumour *in situ*.—I am, etc.,

Belfast, May 25th.

ROBERT WATSON, M.D.

#### ULTRA-VIOLET LIGHT.

SIR,—It is probably true that the high amperage carbon arc affords a spectrum which most nearly approaches that of the Swiss alpine sun. That fact alone, in my opinion, renders it unsuitable for the treatment of cases of definite disease, as the necessary technique will involve daily continuous exposures of three or more hours for a period of a year, or even longer, in such diseases as surgical tuberculosis and lupus. For patients to have to sit still at a distance of three feet from an arc light for such prolonged periods puts a strain upon human endurance. In addition to this drawback is the graver disadvantage that the treatment has to be carried out in enclosed rooms, the atmosphere of which is being poisoned by the carbon monoxide and dioxide gases given off by the burning carbons. No doubt such lamps have a distinct sphere of usefulness in giving prophylactic light baths.

The mercury vapour lamp has not these disadvantages. On the other hand, its fragility and varying output render it unreliable. It takes a variable time to "warm up" after starting the arc, and, until then, its output of ultra-violet rays is negligible. Also, there is a gradual deposition of metallic mercury on the inner wall of the quartz tube, which more and more, as its life proceeds, "filters" out the ultra-violet rays. Even with this lamp exposures, therefore, have to be unduly long and repeated.

The tungsten arc lamp has many advantages over other sources. Its output is far the richest in ultra-violet emanations, the spectrum showing an almost continuous band down to wave-length 180. In quantity the ultra-violet radiation emitted shows a still greater preponderance. The only variable factors—target skin distance, amperage, and exposure time—are under the control of the operator. If the shorter wave-lengths are not required all that is necessary is to increase the target skin distance, the intervening atmosphere absorbing them. The tungsten arc lamp is richer also in its luminous spectrum, and especially in the red and infra-red rays, so that there is no need, as in the case of the longer exposures required by the mercury vapour lamp, to supplement the light by the use of heat rays from some other source.

With the tungsten arc lamp I very rarely have to exceed an exposure of five minutes, and generally find that one exposure a week is all that is required. Indeed, I am quite certain that in many cases a wrong technique is adopted by giving too frequently repeated dosage. The tungsten arc can be modified also by using one electrode of carbon and one of tungsten. The tungsten arc lamp is as great an advance over the mercury vapour lamp as is the Coolidge tube over the old gas-filled tube in x-ray work—that is, for operators who desire to standardize their dosage and results.

Actino-therapy is as yet in its infancy and is but imperfectly understood. There are already too many tyros in the field, and their numbers are being added to daily. A scrutiny of an instrument maker's catalogue seems to assure some doctors that all they have to do is to purchase a lamp and turn on the switch and they are already fully competent actino-therapists. I am afraid that this belief is going to lead to disaster and bring this branch of therapy into unmerited disrepute. The skin reaction or erythema is nothing to go by. It does not indicate the constitutional reaction. I have given dozens of doses to infants and children without any skin reaction, and yet have achieved the results I desired. Similarly with pigmentation, which, more often than not, is what one wants to avoid. If pigmentation occurs too early further treatment is useless, as the pigment acts as an impervious screen to the ultra-violet rays.

The personal factor or idiosyncrasy of the patient is of the utmost importance. No two patients react alike, and

no patient reacts in the same manner to successive doses. Therefore it is of vast importance not to treat more than one patient at a time. The patient's physical and metabolic "poise" at the time of administration, the contents of the stomach and bowels, the time of day, the effect of any drugs which may be taken, are all factors of supreme importance. The effect of some drugs can be enormously enhanced or completely altered by a dose of ultra-violet light. The same applies to the collateral use of vaccines, serums, or endocrine preparations. If these things are borne in mind it is not difficult to realize why there seems to be differences of opinion as to the use and effects of ultra-violet rays between various authorities.

I would take this opportunity of warning the profession in the strongest possible terms of the danger of allowing patients to receive this treatment at the hands of any other than the most experienced operators. Never should nurses or other lay persons be allowed to give the treatment save under direct expert medical supervision and control—not even excepting such wonderfully skilled lay operators (as one is assured in the advertisements) whose services appear to be retained in the bath establishments of some of our spa resorts.—I am, etc.,

FRANK HALL, M.R.C.S., L.R.C.P.Lond.

London, W.1, May 16th.

#### HARVEY MEMORIAL AT HEMPSTEAD.

SIR,—In his letter in the JOURNAL of May 8th (p. 905), Mr. Hopo Grant points out that a subscription of 2s. 6d. from every British practitioner would be sufficient to finance the project of rebuilding the tower of Hempstead Church, in memory of William Harvey.

I doubt if it would be possible to extract 2s. 6d. from every practitioner for any object on earth—or elsewhere. On the other hand, it should be quite easy to obtain twice that sum for such an object from at least half of us.

In this little town I have had no difficulty whatever in obtaining a subscription of this amount from every one of my colleagues, and have had the pleasure of forwarding them to the treasurer of the fund. If one member in each area will undertake this simple task, the thing will be done.—I am, etc.,

Maldon, Essex, May 31st.

H. REYNOLDS BROWN.

#### MORPHINE IN PNEUMONIA.

SIR,—Many practitioners are guided more by principle than by theory in coming to the conclusion that hypodermic injections of morphine, whether modified or otherwise by atropine, should not be given in pneumonia.

Whilst in a large workhouse infirmary I had to deal with many cases of lobar pneumonia, and in the early acute pleuritic stages, where there was very severe pain, I rarely withheld this means of relief. Now if many refuse morphine in the early stages for the relief of pain, how many would give it at a later stage as a sedative, where other sedatives have failed?

As an illustration I take the case of a man of 48 with lobar pneumonia of the right base, who began to show some difficulty in sleeping about the third day, and was given 1 drachm of paraldehyde. I was away from home for three days, and was distressed on returning to find that the patient had been unable to sleep, though my deputy had given him gr. xxx of sulphonal on two successive nights. He was now restless, with a tendency to pick at the bedclothes, was semi-delirious, beads of sweat stood out on his forehead, and he had a slightly cyanotic tinge. The pulse was 120, the temperature 103.2, and the respirations 42. Still, there was no generalized bronchitis, and the extra muscles of respiration were not being called into action. The chief feature was the restlessness, and I felt that here was a case where immediate action was called for. Morphine was risky, but I made up my mind to take the risk, and gave him a hypodermic injection of 1/4 grain of morphine with atropine, which soon took effect. I called again in four to six hours, and was delighted with the decided change for the better in his appearance. He had slept well, the restlessness had gone, the pulse and respiration were better, and there was a very obvious all-round improvement. He had a morphine injection every evening till the restlessness disappeared, and he made an excellent recovery.

I quote this as one case, but in many instances I have given it at the fourth or fifth day when there was restlessness which I felt no other drug could control. I know that this is in accordance with the teaching of many eminent authorities, but I also know that many doctors have a

rooted objection to sedatives on principle; and it is very possible that more patients die from withholding than from administering sedatives.

I make no reference here to acute bronchopneumonia, or to lobar pneumonia with generalized bronchitis, where the extra muscles of respiration are being called into action, and I assure critics that I give morphine injections only after much searching of heart, and then to none but adults.

The actions of opium and morphine are in themselves uncertain. We know that some patients merely sleep under their influence, whilst to others they bring excitement and a definite stimulation.—I am, etc.,

Middlesbrough, April 20th.

JOHN M. MACPHAIL, M.D.

#### FRACTURE OF BOTH PATELLAE BY MUSCULAR ACTION.

SIR,—On seeing a case of simultaneous fracture of both patellae by muscular action reported in the *BRITISH MEDICAL JOURNAL* of May 30th (p. 1006), I thought it would be interesting to record a similar case which happened in my practice in the winter of 1903. A lady, aged 62, was walking quietly home from church on Sunday evening, when she stumbled and fell, not being able to rise. On getting her home I found transverse fracture of both patellae, which were wired by the late Mr. R. J. Pye-Smith of Sheffield. She went on quite well for a month, when she suddenly died of syncope.—I am, etc.,

Chesterfield, May 30th.

W. M. CUMMINS, L.R.C.S.I.

#### Obituary.

##### JAMES PATRICK ANDREW WILSON, F.R.C.S. Ed., D.P.H.,

Formerly Principal Medical Officer to the Government of Johore.

WITH the death of Dr. James Patrick Andrew Wilson, on May 8th in a York nursing home, there passed away one of the pioneers of Western medicine in the native States of the Malay Peninsula. Dr. Wilson was born in 1853 in Edinburgh, where he received his medical education; he obtained the diplomas L.R.C.P. and L.R.C.S. in 1882, the F.R.C.S. in 1892, and the D.P.H. in the latter year also. After some experience of general practice in Scotland, he went to the Far East as physician to the Sultan of Johore in 1885. He immediately set himself to organize a system of hospitals and dispensaries throughout that State, and his system became a model for the other native States in Malaya. He himself during many years was one of the best known and most highly respected members of the medical profession in the region having its centre in Singapore and the Straits. His holidays at home were spent in efforts to keep his knowledge up to date. In 1898 he retired from Johore, and commenced practice in Paisley, where he lived for seven years. In 1905, at the urgent request of the new Sultan of Johore, H.H. Ibrahim, he returned to that State as principal medical officer to the Government of Johore, and shortly afterwards the Sultan conferred on him the honour of knighthood ("Dato") of the Order of the Crown of Johore—D.P.M.J. After thirty years' service in Johore he returned finally to this country in 1920, and, hoping to continue his professional work, accepted the appointment of medical officer to Blackford Parish in Perthshire. Ill health, however, did not allow him to carry this on for more than a year or two, and he retired to his native city of Edinburgh. In his early pioneering days he suffered much from malaria, and in his later years he developed symptoms of sprue. Dr. Wilson was a very lovable man, and messages to his widow and family from the Sultan of Johore and from members of his family and council, as well as from many personal and professional friends in the Far East, testify to the honour and respect in which he was held in the region where he did so much to initiate and organize both the treatment of disease and a public health service.

##### THE LATE DR. C. B. KER.

PROFESSOR BERRY of the University of Melbourne writes as follows: Notwithstanding that the exigencies of geographical remoteness render my personal testimony to the memory

of the late Dr. C. B. Ker a somewhat tardy tribute, loyalty to a dear dead friend demands it. To have known Claude Ker at all is a privilege; to have known him as I knew him—intimately, personally, and associated in a friendship such as falls to the lot of few men—is a priceless gift beyond verbal expression. Ker was a loyal soul: loyal to the honourable profession to which he was so proud to belong; loyal to the venerable city which he loved so well; loyal to his Alma Mater, of whose reputation none was so fearlessly jealous; and loyal, as are few men, to his friends. Dr. Ker's professional reputation as a world-wide authority on his chosen subject, infectious diseases, is firmly established by his writings and vast clinical experience in every medical school in the British Empire and beyond it, and will long outlast the few fleeting years of his life. But it was Ker the man, the delightful companion in leisured idleness, the keen lover of literature, the student of history, the learned Napoleonic scholar and collector, the wise and witty counsellor and friend—these it was which so endeared Ker to his intimates. Some few there are who will remember with affection and a quiet sense of humour those "football lunches" of his younger struggling days, those ever memorable meetings of the "fever board" held at the most unorthodox hours, those strenuous nights of travail which gave birth to the Edinburgh Royal Infirmary Residents' Club. Still fewer are there who will remember, as long as life lasts, Ker's truly happy and inspired moments at the Octagon—those few who bore him, with a proud mien and a sorrowing heart, to his long last resting place. Distance alone prevented a full meeting of the brotherhood. By these, at least, will Claude Ker long be mourned as friend, brother, genius, and gentleman. Like his beloved hero of fiction, he too has answered—*Adsum*.

Mr. WILLIAM PERCY BLUMER, who died on April 12th in his 71st year, was the eldest son of the late Dr. Luke Blumer of Monkwearmouth. Mr. Percy Blumer received his medical education in Edinburgh, where he obtained the diplomas L.R.C.P. and S. and L.M. in 1876, and the F.R.C.S. Edin. in 1884. He was elected honorary surgeon to the Monkwearmouth Hospital in 1884, and in 1894 he joined the honorary surgical staff of the Royal Infirmary, Sunderland, where he remained until he retired in 1914 under the age limit. He was also honorary surgeon to the Durham County and Sunderland Infirmary. In 1914 he came to London and began practice at Muswell Hill; he retired about six months ago owing to ill health. He contributed numerous articles on surgical subjects to the *BRITISH MEDICAL JOURNAL* and other periodicals. G. B. M. writes: Percy Blumer was a most lovable man, who endeared himself to his patients and a large circle of friends. He was always ready to help a friend or colleague at any hour of the day or night. He was keenly interested in missionary and temperance work. He leaves a widow and two daughters, for whom much sympathy is felt; his only son was killed in the war.

#### Universities and Colleges.

##### UNIVERSITY OF CAMBRIDGE.

At a congregation held on May 29th the following medical degrees were conferred:

M.B., B.Chir.—F. M. Collins, R. E. Wilson.  
B.Chir.—N. R. Cunningham.

##### UNIVERSITY OF LONDON.

###### Lectures.

Four lectures on cardiology will be given at University College Hospital Medical School by Dr. John Hay, F.R.C.P., Professor of Medicine in the University of Liverpool, Friday, June 12th, Thursday, June 18th, at 5 p.m. on each day. Professor T. R. F.R.S., will take the chair at the first lecture. Admission is free without ticket.

Three lectures on blood and circulation from the standpoint of physiology will be given at University College, Gower Street, at 5 p.m. on each day. Professor T. R. F.R.S., will take the chair at the first lecture.



## The Services.

THE following honorary appointments to H.M. the King are announced:

### To be Honorary Physician.

Indian Military Forces: Colonel A. A. Gibbs, I.M.S., vice Major-General J. Jackson, I.M.S., retired.

### To be Honorary Surgeons.

Colonel E. C. Montgomery-Smith, C.M.G., D.S.O., T.D., vice Colonel F. Kelly, C.B.E., T.D., retired.

Indian Military Forces: Colonel E. L. Perry, I.M.S., vice Colonel F. Wall, I.M.S., retired.

## DEATHS IN THE SERVICES.

Lieut.-Colonel Charles Henry Bennett, Madras Medical Service (ret.), died on January 28th, aged 71. He was the son of the Rev. T. G. Bennett of Baltimore, Brandon, co. Cork; he was educated at Queen's College, Cork, and graduated M.D. and M.Ch. in 1876. He entered the Indian Medical Service as surgeon on October 1st, 1877, became surgeon lieutenant-colonel after twenty years' service, and retired on February 11th, 1903. He served in the Afghan war in 1879, receiving the medal.

## Medical News.

THE Fellowship of Medicine announces that Sir Thomas Horder will give a lecture on June 9th, at 5.30 p.m., at No. 1, Wimpole Street, on "Some cases of fever without physical signs." Three courses continue during the month—namely, in dermatology at the St. John's Hospital, in venereal diseases at the London Lock Hospital, and in tropical diseases at the London School of Hygiene and Tropical Medicine. From June 8th to 27th will be held a course in gynecology at the Chelsea Hospital for Women. The Victoria Park Hospital will hold a fortnight's course dealing with diseases of the heart and lungs, from June 8th to 20th. From June 22nd to July 4th an intensive course has been arranged by the London Temperance Hospital in general medicine, surgery, and the specialties. In July there will be courses in cardiology at the National Heart Hospital, in diseases of children at the Queen's Hospital; in neurology at the West End Hospital for Nervous Diseases, and in urology at St. Peter's Hospital for Stone. Further information about these courses may be obtained from the Secretary of the Fellowship of Medicine, No. 1, Wimpole Street, W.1.

A LECTURE on the sources of the fruit and vegetable supply of London will be given by Sir Daniel Hall, K.C.B., F.R.S., in the Chelsea Physic Garden, Swan Walk, Chelsea, on Thursday, June 11th. The gardens will be open to inspection at 4.30 p.m., and the lecture will be given at 5.15, with Sir William J. Collins, K.C.V.O., M.D., Chairman of the Chadwick Trustees, in the chair.

DR. W. E. THOMAS of Ystrad Rhondda is to be the guest of the County of Glamorgan Panel Committee, of which he is chairman, at a banquet at the Royal Hotel, Cardiff, when he will be presented by the medical practitioners of the county with his portrait in oils in recognition of his many services to the profession.

DR. G. F. BUCHAN, M.O.H. Wiltshire, has been elected President of the Society of Medical Officers of Health for the session 1925-26. He will take office in October next.

THE Board of Education has published a list of certified schools, recognized institutions for the training of blind, deaf, and physically defective students, and of the nursery schools in England and Wales. Particulars relating to the average attendance at each of the schools in the year 1923-24 are included, and the addresses of schools are shown in every case when not self-evident. The list may be obtained from H.M. Stationery Office, Adastral House, Kingsway, W.C.2, price 1s., postage 1d.

THE new buildings of the University of Bristol will be opened by H.M. the King, accompanied by the Queen, on Tuesday, June 9th.

HARROGATE Corporation has issued a new pamphlet, with many illustrations, dealing briefly with the advantages of the spa and the many interesting places in its neighbourhood. The handbook may be had free from the Director, Publicity Department, Royal Baths and Wells, Harrogate.

THE new maternity hospital of the Northumberland County Nursing Association's Training Centre for District Nurses at Willington Quay will be opened on Saturday, June 13th, at 2.30 p.m., by Lady Victoria Percy.

AN obituary notice of Sir Clifford Allbutt appears in the May issue of the *Norsk Magazin for Lægevidenskaben*, signed by the editor, Dr. F. G. Gade.

THE R.A.M.C. memorial scholarship and exhibition have been awarded by Cheltenham College as follows: scholarship, £50, W. Blackwood; exhibition, £40, J. Poë.

THE eleventh International Congress of Hydrology, Climatology, and Geology will be held at Brussels from October 1st to 15th.

AN executive committee for organizing medical congresses in Latin countries has recently been formed with Professor Charles Richet as president and Professors J. L. Faure, Gley, Hirtzmann, Roger, and Vidal as vice-presidents.

UNDER the name of *Journées médicales de Toulouse* a medical congress will be held at Toulouse from July 11th to 14th, when the following papers will be read: microbe lysis, by Professor Bordet of Brussels; biology of gynaecological endothermy, by Professor Recanens of Madrid; pathology of so-called intestinal infections, by Professor Sanarelli of Rome; the trend and destiny of surgery, by Dr. Dartigues of Paris; treatment of cancer of the cervix, by Professor Fanno of Paris; the sanitary service in occupied Germany, by Inspector-General Jacob; the bismuth treatment of syphilis, by Dr. Leyndt; the role of surgery, radium, and x-rays in the treatment of cancer of the uterus, by Dr. Regaud of Paris; the internal functions of the lung, by Professor Roger of Paris.

## Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to **THE EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.**

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring REPRINTS of their articles published in the *British Medical Journal* must communicate with the Financial Secretary and Business Manager, 429, Strand, W.C.2, on receipt of proofs.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the JOURNAL, should be addressed to the Financial Secretary and Business Manager, 429, Strand, W.C.2.

THE TELEPHONE NUMBER of the *British Medical Journal* is **MUSEUM 9861**. The telephone number of the *British Medical Association* remains, until further notice, **Gerrard 2630** (internal exchange).

THE TELEGRAPHIC ADDRESSES are:

EDITOR of the *British Medical Journal*, *Aitiology Westcent, London.*

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate Westrand, London.*

MEDICAL SECRETARY, *Mediscera Westrand, London.*

The address of the Irish Office of the *British Medical Association* is 16, South Frederick Street, Dublin (telegrams: *Daicillus, Dublin*); telephone: 4737 (Dublin), and of the Scottish Office, 6, Drumshugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*); telephone: 4361 (Central).

## QUERIES AND ANSWERS.

### THUNDERSTORMS.

"G" writes: In reply to "X" (May 9th, p. 903), I suggest that Mallock-Armstrong ear plugs (sound destroyers) be used and a handkerchief laid over the eyes. Thus sight and sound would be excluded. The plugs were much used during the war.

### INCOME TAX.

#### Partnership—Motor Expenses.

"C." and "E." are in partnership, on the basis that the profits are shared in the ratio of two-thirds to one-third, but each bears his own motor expenses. "E." apparently purchased his share in January, 1924, from C., who had previously not had a partner.

The division of the partnership assessment should be such as to leave each partner to bear the tax applicable to his share—two-thirds or one-third—of the average profits, less the motor expenses incurred in earning that share of the profits. The method adopted by the Inspector of taxes does not seem to us reasonable. He has deducted from the share of the average profits the average expenses actually incurred in the practice by each partner respectively. The effect as regards the junior partner is not fair, because he receives no allowance for the expenses which were incurred in the two earlier years of the three years' average by the senior partner, then acting as sole proprietor of the practice. In our opinion one-third of the expenses incurred in those years should, for the purpose of the division between the partners, be allocated to the calculation of the average expenses applicable to "E.'s" share. It may

perhaps be worth while pointing out that on the figures given the amount of the tax would be the same under either method, so that the point hardly seems to be one which particularly concerns the inspector of taxes.

#### Average for Assessment.

"FAIRPLAY," who has had a practice for many years, took a partner as from April, 1924, and the practice subsequently increased considerably. The inspector of taxes insists on discarding the three years' average, substituting for 1925-26 the basis of the 1924-25 receipts.

"We know of no legal justification for this attitude—assuming, as we do, that the partner brought in no local connexion. That, as a result of the new arrangement, increased profits were earned is not of itself a justification for departing from the three years' average. The amount of profits assessable is the average amount of the profits of the practice over the three previous years.

### LETTERS, NOTES, ETC.

#### PAPULAR RASH BEFORE ONSET OF MEASLES.

DR. DANIEL HUGHES (Bristol) states that during a severe outbreak of measles he noted in the majority of cases a papular rash on the face before the ordinary rash appeared. The papules were very small and whitish. There was no malaise and no eye symptoms, and the temperature was normal. From four to six days later the true measles rash appeared. The papular rash was so characteristic that when he saw it he could be confident that true measles would appear; he was therefore able to take all precautionary measures. The papules, which were always confined to the face, did not resemble any of the described prodromal symptoms.

#### SPUTUM EXAMINATION BY THE COLOUR BLIND.

DR. CONSTANCE S. STEELE (Ransom Sanatorium, Notts) writes to recommend a method of staining sputum (Schädel's modification of the Ziehl-Neelsen test), so as to render tubercle bacilli visible by the colour blind. A concentrated solution of methyl violet in alcohol is prepared, and 1 part of this filtered is added to 9 parts of a 2 per cent. solution of carbolic acid in water. The film is flooded with this solution and heated till steam comes off. The process is repeated three or four times, the stain being renewed if necessary; the film should be kept well flooded with stain. The film is then rinsed in a sharp stream of water, decolorized in a 3 per cent. solution of hydrochloric acid in alcohol until the preparation is light violet, and counterstained with Bismarck brown. The tubercle bacilli appear violet on a brown background.

#### TESTS FOR DRUNKENNESS.

DR. A. WITHERS GREEN (Hobart, Tasmania) writes: For many of my earlier years, perhaps twenty-five out of the forty-one, in the City of London I used to be called in by the police. In extreme cases, especially women, there is little difficulty in coming to a conclusion. In doubtful cases I used to ask the inspector in charge to let me be alone with the man in his private room. My object was to let the man's brain work uninterruptedly under the alcoholic stimulant. I then found that by sitting silently, almost unconsciously to him, at his side, not in front of his eyes, with no stimulus of sound, touch, or sight, he would begin to chatter nervously with confused ideas, and articulation; walking about, and then, after a few minutes, trials in the general room of the police station, he would be awake to be useless for diagnosis. Every minute the poison is evaporating by skin and mucous membrane—often by vomit and urine as well. I used to complain that I was frequently sent for quite an hour after arrest; meanwhile, quietness, draughts of water, and perhaps a little food, had to some extent sobered the man. The disease existed along with alcohol. The letter of Dr. Graham Grant (BRITISH MEDICAL JOURNAL, February 28th, p. 427) confirms my experience. The test which does not seem to be so reliable is the relaxation of the muscles—the relaxation of the excitant. The test of undisturbed solitude revealed the true position.

#### SMALL-POX AND VACCINATION ABOARD SHIP.

DR. A. A. RAIL (surgeon, s.s. *Sardinia*) writes: We sighted a Chinese junk in distress, two days out of Hong-Kong, on February 21st, 1925, at 11 a.m.; it had lost its rudder and become unmanageable; 144 Chinese were rescued. One Chinaman was crushed between the in the isolation hospital small-pox rash. The five Chinese with a temperature ranging from 100° to 104° F., furred tongue, shotty rash, especially thick on the face, umbilicated, present on the palate, and especially on the extremities, palms, and soles. There was not much constitutional disturbance. It was diagnosed by Dr. Barnes and myself as variola. The other 133 Chinese were placed on the poop deck and isolated. On February 22nd the number of variola patients in hospital was 144. The rash was more marked. Dr. Barnes and I vaccinated 14 new cases (one haemorrhagic), making a total of 21; all were isolated. On February 24th 23 small-pox patients and 115 contacts were removed at 3 p.m. to

quarantine station at Singapore and the ship proceeded alongside, after being fumigated fore and aft. The crew (160) were all vaccinated and 15 of the passengers. We escaped any small-pox infection and arrived at Bombay safely, all the crew and passengers in good health.

#### A CURIOSITY OF ETYMOLOGY.

TULARAEMIA, a disease so far, save for a few cases in laboratory workers, peculiar to certain parts of the west of North America, is due to *Bacterium tularensis*. This organism was discovered in 1912 by McCoy and Chapin, and shown to be the cause of a fatal epidemic among the ground squirrels in Tulare County, California; the county was so named because that region was once covered with extensive marshy beds of the reed tula, a large variety of bulrush. The disease might, therefore, by a stickler for English terminology, be termed the bulrush blood disease.

#### "WHAT CHIROPRACTIC REALLY IS."

*Tarrago from Fargo.*

THE *Journal of the American Medical Association* has unearthed the following specimen of chiropractic oratory from an advertisement published in Fargo, N. Dakota:

"We chiropractors work with the subtle substance of the soul. We release the prisoned impulse, the tiny rivulet of force, that emanates from the mind and flows over the nerves to the cells and stirs them into life. We deal with the magic power that transforms common food into living, loving, thinking clay; that robes the earth with beauty, and hues and scents the flowers with the glory of the air.

"In the dim, dark, distant long ago, when the sun first bowed to the morning star, this power spoke and there was life; it quickened the slime of the sea and the dust of the earth and drove the cell to union with its fellows in countless living forms. Through aeons of time it stilled the fish and winged the bird and tamed the beast. Endlessly it worked, evolving its forms until it produced the crowning glory of them all. With tireless energy it blows the bubble of each individual life and then silently, relentlessly dissolves the form, and absorbs the spirit into itself again.

"And yet you ask, 'Can Chiropractic cure appendicitis or the flu?' Have you more faith in a knife or a spoonful of medicine than in the power that animates the living world?"

#### SLEEPLESSNESS.

DR. A. S. DUTTON (London, N.I.) writes: In regard to "Scot's" remarks on sleeplessness in the *JOURNAL* of May 30th (p. 1026), it seems to be questionable whether he takes an entirely accurate view as to what may be called insomnia—at any rate, in his own case. A man between 40 and 50 who sleeps soundly from 10.30 p.m. to 4 a.m.—that is, five and a half hours—has had a fairly good spell of oblivion. What "Scot" appears to need is a somewhat later hour for retiring, say 11.30 p.m., and if he then sleeps until about 5 a.m. there can be little occasion for dissatisfaction, especially when this is followed by some peaceful dozing. While six hours' sleep has been said to be sufficient for a man, some of those concerning whom material has been writ large in lines of remembrances were apparently content to rise soon after 5 a.m. without experiencing harmful effects from the habit.

DR. W. L. DICKSON (Brighton) writes: The letter signed "Scot" on the subject of sleeplessness interests me greatly, as I was afflicted with a precisely similar condition four years ago. By a long course of treatment I think I may say I am completely cured, but only recently did I feel myself out of the wood, as, at intervals of a month or so, the trouble returned for one night at a time. I believe the condition to be due to pressure of the splenic colon on the solar plexus, due to flatus or collection of contents in that part of the gut. I imagined myself free from indigestion, but found that it was really the cause, though quite a different kind from the usual stomach indigestion. If "Scot" will communicate with me I will give him a full history of my case and my means of curing it.

#### COFFEE AND SLEEPLESSNESS.

LIEUT.-COLONEL C. H. REINHOLD, I.M.S., writes: From personal experience I am persuaded that insomnia attributed to black coffee only results when the cheaper brands of coffee are used, in which a large admixture of chicory or other impurity fortifies the flavour. I have found that the coffee offered at the houses of some of my friends and relations, if taken black leads to two or three hours' sleeplessness on going to bed, while the after-dinner coffee in the houses of the more epicurean, or at West End clubs and public dinners, has not had this effect. It may be suggested that, on the latter occasions, a sufficient dose of alcohol is taken to counteract this tendency, but I do not think this argument applies to the case in question. I should like to suggest that it is the impurities in post-prandial "black coffee" that produce insomnia, and that the berry *per se* has been unjustly blamed. Perhaps some of the pundits in dietetics have already settled this point, in literature that has not been available to me.

#### VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 33, 36, 37, and 38 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 34 and 35. A short summary of vacant posts notified in the advertisement columns appears in the Summary.

## A British Medical Association Lecture ON SOME PROBLEMS OF THYROID DISEASE.

DELIVERED BEFORE THE ULSTER BRANCH ON APRIL 30TH  
BY

ROBERT McCARRISON, C.I.E., M.D., F.R.C.P.,  
LIEUTENANT-COLONEL, INDIAN MEDICAL SERVICE.

THE problems to which I desire to direct attention relate (1) to certain causes of thyroid disorder; (2) to the influence of iodine in preventing either thyroid hyperplasia or undue accumulation of colloid material in the gland; and (3) to the types of simple goitre with which we have to deal when employing iodine as a prophylactic agent.

### CAUSES OF THYROID DISORDER.

An essential function of the thyroid gland is the manufacture, and supply to the body tissues, of a secretion containing certain active principles or hormones. This endocrine activity is generally believed to constitute the gland's sole function; but it may be doubted whether it has not some other part to play in the metabolic cycle, and whether the administration of the whole gland substance, or of its extracts, provides a complete substitute for the gland itself. Thyroxin, which contains 65 per cent. of iodine, is regarded as the chief, if not the only, active principle of the gland; but it has not yet been definitely proven that thyroxin is produced as such *in vivo*. Nevertheless, most, if not all, of the thyroid gland's activities are exhibited by this substance. Assuming that thyroxin is the gland's active principle, it may be said that the essential function of the thyroid gland is to produce thyroxin, to maintain a definite concentration of it in the tissues, and by its means to ensure a higher rate of metabolism than would exist in its absence. But it can hardly be doubted that the gland has more to do than to control combustive processes. Its anabolic activities and its regulation of the growth and repair of the body tissues are no less important. The thyroid gland is essential to the normal metabolism of iodine, a matter about which very little is known at present. It provides some substance which controls the distribution of iodine within the body and maintains a normal concentration of iodine in the blood. In the absence of the thyroid iodine accumulates in the blood, while the administration of thyroid substance restores the amount of iodine in the blood to normal limits (Hudson). On the other hand, iodine is essential to the functional activity of the thyroid gland. But it does not appear that it is essential to the functional activity of thyroxin, at least in so far as mammalian metabolism is concerned. The effects which thyroxin exercises on metabolism are, according to Kendall, independent of the iodine it contains:

"The function of iodine within the molecule is to increase the reactivity and sensitiveness of the functioning groups present, viz., carboxyl and imino; any other function of iodine is highly problematical."

There is reason to believe that besides thyroxin the thyroid produces other physiologically active substances. Thus, Kendall has extracted one which has no effect on the metabolic rate, although it contains about one-half of the total iodine in the thyroid proteins; it is mainly concerned with the nutrition of the skin and its appendages. Besides these there may be others exercising specific effects on certain organs and tissues; so that the composition of the thyroid gland's secretion is a very complex problem, and one which is far from being definitely settled. It is for this reason, and because the precise part played by the thyroid gland in the metabolic cycle is still so little understood, that the difficulties in the way of elucidating the causes of its disorders are so great. But it would seem to be fairly obvious that such disorders may be brought about by factors which interfere with the normal

elaboration of the gland's secretion or with the normal utilization of its products.

The efficient operation of the thyroid gland is dependent not only on the adequate provision of the raw materials from which its hormone-containing secretion is elaborated, but on a balanced adjustment of ions in its fluids and membranes. The composition of the food is a matter of the greatest importance to the organ, since it is from the food that it derives not only the iodine and other essential constituents of its secretion, but those mineral elements on which the balanced adjustment of ions in its fluid and membranes, and in the cell and tissue plasma of the body generally, depends. It is not enough that the composition of the food should be normal; conditions in the alimentary tract must be such as admit of the adequate absorption of all those elements and complexes which are necessary to the thyroid gland's normal operation. It is, therefore, at the threshold of absorption in the intestine that we must first seek for sources of the thyroid gland's disorder.

The second great source of interference with the thyroid gland's normal operations is disturbance at the threshold of utilization of its products in the tissues. Evidence is beginning to accumulate which suggests that the action of these products may vary at different age periods, in different individuals, and be profoundly influenced by the concentration of certain ions in the cell and tissue plasma. We are accustomed to think of thyroid disease in terms only of "hypo-" or of "hyper-" or of "dys-thyroidism"; but it seems not unlikely that the chemical constitution of the cell and tissue plasma has an importance no less than the paucity or excess or imperfect synthesis of the gland's secretion. Recently Professor Klose of Danzig placed at my disposal two photomicrographs of the thyroid gland from two subjects of "puberty goitre": the one from a case of "unmistakable myxoedema," the other from a case of "unmistakable Graves's disease"; yet both presented histological appearances typical of "primary Graves's disease." It is always dangerous to reason from structure to function, but judged by the histological features of these two specimens both appeared to be glands in active secretion, yet the one was from a case of "hypothyroidism," the other from a case of "hyperthyroidism." Might it not be that the diversity of symptoms in these two cases had its origin in some part outside the gland, and that it was due to biochemical differences in the cell and tissue plasma in these two subjects of puberty goitre? I do not say that this was so; I merely suggest that this point of view is worthy of investigation in regard, not only to puberty goitres, but to other disorders of the thyroid gland. In this connexion one is reminded that severe crises in the course of Graves's disease are sometimes associated with acidosis, and that relief may be afforded the sufferer by measures directed to the relief of the acidosis.

In regard, then, to the causes of thyroid disorder there are these two thresholds to be considered: the threshold of absorption in the intestine, and the threshold of utilization in the tissues. The medium of communication between them is the tissue plasma. Let us now consider very briefly what factors are known to interfere with the normal operation of the thyroid gland at these two thresholds, and to what extent iodine may be expected to counteract their harmful influence.

### Disturbances at the Threshold of Absorption.

1. The gland may become deranged because of the inadequate ingestion of iodine or of tryptophane. Interest at the present time chiefly centres round the former. There may be a deficiency of iodine in soil or in the water supply or in the food. Sophisticated foods, such as white flour, contain little or no iodine; while most cereals and vegetables grown on soil fertilized by artificial manures which are not of marine origin are deficient in this element. Goitre is believed to be due to this deficiency of iodine, whether it be common to all the inhabitants of certain localities or peculiar to some individuals no matter what their place of residence may be. To my mind its etiology is not always so simple as this. Nevertheless, the additional provision of iodine may in such circumstances prevent the occurrence of goitre both in man and in domestic animals. It does not, however, always appear to do so. Thus in parts of New

Zealand, where deficiency of iodine has been definitely traced to the soil and water supplies, and to the food grown on this soil, it has been found by Herens and Baker that in one locality (Timaru) the prophylactic use of iodine for a period of six months was without effect in preventing the appearance of thyroid swellings in previously non-goitrous school children. In another locality (Christchurch) its use for a period of one year reduced the incidence of first attacks of goitre in children from 55 per cent. in those who did not receive iodine to 39 per cent. in those who did. The point of interest and importance in these observations is that 39 per cent. of previously non-goitrous children developed thyroid swellings, despite the prophylactic use of iodine for a period as long as one year. It follows, therefore, either that iodine want was not the cause of the thyroid swellings in these children, or that there was a failure of absorption of iodine at the intestinal threshold, or an imperfect utilization of iodine by the thyroid gland or elsewhere in the body.

2. Another potent source of goitre is the confinement of animals in unhygienic surroundings which involve the ingestion with their food and drink of substances derived from their own alvine discharges. There is, indeed, no more potent source of hyperplastic goitre than this. Fish confined in dirty tanks, animals confined in dirty cages, goats tethered on the same plot of ground for many months, and man living on ground contaminated by his own excreta and that of his domestic animals, are all subject to goitre. In all these instances the goitres are more prone to arise if the food be on the borderland of insufficiency so far as iodine is concerned; at least we assume it to be so, since in all, or almost all, the goitre is preventable by the additional provision of iodine. The point of importance is this: that an amount of iodine which may suffice to keep the thyroid gland in health when the animals are living under hygienic conditions of life may not suffice to prevent goitre when they are living under unhygienic conditions of life. In the latter circumstances the iodine ingested is relatively insufficient for the needs of the thyroid gland or of the body generally. Looking at the problem purely from the point of view of iodine want, it would seem that the presence of certain bacterial agents or their products in abnormal situations in the gastro-intestinal tract may interfere with the adequate absorption of iodine. McClendon has found that bacteria are capable of removing iodine from organic media containing it. It may be, therefore, that the continual ingestion of such bacteria, as in polluted water, may cause a part of the iodine in the food to be lost by way of the faeces.

But the problem does not end with iodine intake nor with iodine absorption, for Gaylord has shown, in the case of fish confined in dirty tanks, that the goitre from which they suffer can be prevented as well by the addition of arsenic or of mercury perchloride to the water as by the addition of iodine; while I myself have shown that goitre is preventable in like circumstances by scrupulous cleanliness. It would seem that the biochemical products of certain intestinal bacteria may be absorbed into the system and cause such changes in the biochemistry of the blood and tissue plasma as to make the thyroid glands hypertrophy and hyperplasia imperative; or they may cause atrophic and degenerative changes in the gland. They may, in short, cause impairment of the gland's capacity as a machine or disturbances at the threshold of utilization of its products. Many, indeed, are the possible ways—in the intestine, in the gland itself, and in the tissue plasma—in which intestinal bacteria or their products may cause derangement of the thyroid gland besides their probable interference with iodine absorption and assimilation. But in whatever way they act it is clear that the additional provision of iodine in the food is a potent means of counteracting their action.

3. There is a third means whereby disturbances at the threshold of absorption may cause goitre—namely, by want of balance of the food in certain directions. Thus, the excessive ingestion of proteins, or of certain fats, or of excesses also in man. But here again goitre is much more likely to arise if the animals be of a certain age and if

living under unhygienic conditions, or if the diet be such as favours constipation and intestinal putrefaction. In circumstances of protein or of fat excess in the food thyroid hyperplasia is preventable by the additional provision of iodine. There is, however, one exception to this rule: opossums kept in captivity and fed on a protein-rich diet develop thyroid hyperplasia whether or not additional iodine be supplied with their food (Bensley); so that metabolic differences in different species, and possibly also in different individuals, are not without their influence in determining what effect iodine shall have. It may be mentioned that cod-liver oil will prevent thyroid hyperplasia in animals no matter how unhygienic their conditions of life may be. Cod-liver oil not only provides iodine in suitable form, but vitamins in abundance, while it favours the absorption of calcium and phosphorus, both of which have a part to play in ensuring the normal operation of the thyroid gland.

4. Again, the excessive ingestion of lime for prolonged periods may cause the appearance of "colloid goitres" of small size in some animals. This also is preventable by the additional provision of iodine.

It may therefore be stated as a general rule, to which, however, there are exceptions, that goitres arising in consequence of abnormal conditions at the threshold of absorption are preventable by the additional provision of iodine, provided the iodine be adequately absorbed; but this adequate absorption is dependent on a healthy state of the gastro-intestinal tract; and this, in its turn, on the provision of a well balanced food.

#### *Disturbances at the Threshold of Utilization.*

Turning now to the threshold of utilization: Mention has already been made of the possible influence which the concentration of certain ions in the cell and tissue plasma may have on the action of the thyroid gland's products. There are certain other facts to which reference may now be made. If the thyroid gland be removed in lambs or kids aged 2 to 3 weeks, nothing much happens for eighteen days; thereafter growth ceases (Simpson). And since the phenomena of growth are essentially these of organic synthesis, it may be said that in animals of this age the withdrawal of the thyroid gland's influence impairs organic synthesis and causes the accumulation in the body of the products of an abnormal metabolism. If, however, the animals be 3 or 4 months old growth is but little affected; the withdrawal of the gland's influence is then evidenced chiefly in failure of nutrition of the skin and in loss of intelligence. In these also abnormal metabolites accumulate in the body. The gland's function thus appears to vary with the age of the animal. The effects of thyroidectomy certainly vary with age; with species, with the nature of the food, with the state of nutrition, with external temperature, and other metabolic factors, as Horsley demonstrated in 1885.

Now if instead of removing the whole gland the major part of it be removed in guinea-pigs—an amount sufficient to initiate compensatory hypertrophy in the remainder—then it is found that again nothing much happens for fifteen to eighteen days. Thereafter hypertrophy and hyperplasia occur in the remnant; and this goes on until the deficiency caused by the thyroidectomy is made good, when the regenerated organ settles down to the normal routine of the gland's cycle of activity: storing colloid, resorbing colloid, and secreting moderately and inconspicuously. It is to be noted that the thyroid hyperplasia occurs only after the lapse of a latent period of about eighteen days—that is to say, just at that time when the normal growth and repair of the body tissues are beginning to be imperilled. During this latent period such changes have taken place in the biochemistry of the tissue cells and plasma as to make hypertrophy and hyperplasia of the remnant of thyroid tissue imperative. In this remnant a "goitre" has been produced, inasmuch as it has been called upon to increase its size. The process by which this increase in size has been brought about is, so far as we know, essentially the same as that occurring in the whole gland when parenchymatous goitre is produced. This is an example of how thyroid hypertrophy and hyperplasia may be caused by disturbances at the tissue threshold

—namely, by the presence in the cell and tissue plasma of abnormal metabolites. Similar effects may be produced in the whole gland when similar biochemical changes are brought about at the tissue threshold by other means; as, for instance, by the injection into normal animals of the biochemical products of bacteria, or by the excessive ingestion of these products, or by the absorption of the proteoses produced in the raw surfaces caused by lumps, or by the absorption of other abnormal metabolites, as from toxic foci.

#### INFLUENCE OF IODINE IN PREVENTING THYROID HYPERPLASIA.

As to the effects of iodine in preventing thyroid hyperplasias such as these, it is generally believed that thyroid hyperplasia is due to iodine want. But in the experiment on guinea-pigs above mentioned hyperplasia occurs in the remnant of thyroid tissue although it has at its disposal all the iodine derived from the food, which sufficed to keep the whole gland in health. It cannot be said, therefore, to undergo hyperplasia because of want of iodine. Further, the additional provision of iodine will not prevent the hyperplasia in these animals; indeed, if anything it tends to increase it (Loeb). It may, however, be modified, but not wholly prevented, by the administration of the preformed active principles of the thyroid gland; while Loeb observed the remarkable fact that it is wholly prevented by the administration of the anterior lobe of the pituitary body. We see, therefore, that the metabolic need which determines the compensatory hypertrophy and hyperplasia is in this case so imperative that no amount of iodine can prevent the thyroid enlargement, and that it is one which concerns other endocrine structures as well as the thyroid gland. Similarly, in dogs iodine will prevent compensatory hypertrophy in the remainder of the gland provided not more than five-sixths of it be removed. But if less than one-sixth to one-ninth be left behind no amount of iodine will prevent compensatory hypertrophy in the fragment that remains (Marino). It would seem, then, that thyroid hyperplasias which result from disturbances at the tissue threshold are not always amenable to control by iodine. In this respect they are in marked contrast to those resulting from disturbances at the threshold of absorption. They are not due to iodine want, nor to a drop in the gland's store of iodine below a certain level; but this drop occurs as a result of the hyperplasia, and the hyperplasia itself is the result of biochemical changes in the cell and tissue plasma.

Etologically speaking, we have, then, to deal with two types of thyroid hyperplasia: the one, resulting from disturbances at the threshold of absorption, which is usually preventable by the additional provision of iodine in the food; the other, resulting from disturbances at the threshold of utilization, which is usually not preventable by the additional provision of iodine in the food.

So much, then, for what iodine will and will not do in preventing thyroid hyperplasias. I have presented both sides of the picture, since if iodine be used indiscriminately the same fate may overtake it as befell it more than fifty years ago; it may fall into undeserved disrepute unless its limitations be realized. So far as my own investigations permit me to form an opinion, I have come to regard iodine as a substance which initiates and maintains the normal cycle of the thyroid gland's activities—it is, so to say, the oil of the thyroid engine—but I do not regard the efficient working of the thyroid mechanism as a matter solely of lubrication, important though this be.

#### TYPES OF SIMPLE OR NON-TOXIC GOITRE.

I have observed three types of goitre to arise under experimental conditions in animals: the first, in which there is a balanced exaggeration of all the normal features of the gland's cycle of functional activity—that is, of both active secretion and colloid storage; the second, in which active secretion occurs to the almost complete exclusion of colloid storage; the third, in which colloid storage occurs to the almost complete exclusion of active secretion. The first may be described as hypertrophic goitre; the second as

hyperplastic, parenchymatous, or adeno-parenchymatous goitre; the third as diffuse colloid goitre. In animals under experimental conditions the first or purely hypertrophic type is an early stage of the second or adeno-parenchymatous type. It has been observed to arise particularly in young animals kept under insanitary conditions of life or fed on faecal material or on cultures of faecal bacteria. The second arises under similar conditions; its histological features being well marked in older animals and in congenital goitres experimentally produced by feeding the parent throughout pregnancy on cultures of faecal bacteria. It arises also in adult animals, especially if they be kept under insanitary conditions of life, whose food contains an excess of proteins or of certain fats or of both. The third arises in animals whose food contains an excess of lime. These three types of goitre have their counterpart in man:

(1) *Hypertrophic goitre* may be a purely physiological condition occurring in childhood, at puberty, during pregnancy or the menopause, and in the course of ovarian disorder; or it may be pathological, as when it represents the beginnings of adeno-parenchymatous goitre.

(2) *Adeno-parenchymatous goitre* is the true endemic goitre of such mountainous regions as the Alps and Himalayas; it may also occur sporadically.

(3) *Diffuse colloid goitre* may occur sporadically or endemically, the latter usually in lowland areas.

#### Adeno-parenchymatous Goitre.

The characteristics of this type of goitre are these: it has its favourite endemic haunts in the great mountain ranges of the world; it is associated with certain forms of cretinic degeneration—congenital goitre, cretinism, deaf-mutism, and idiocy; in the regions where it prevails as an endemic it is rarely or never associated with exophthalmic goitre; the incidence of the acquired disease is low in childhood, but increases gradually with advancing years (Fig. 1); it is

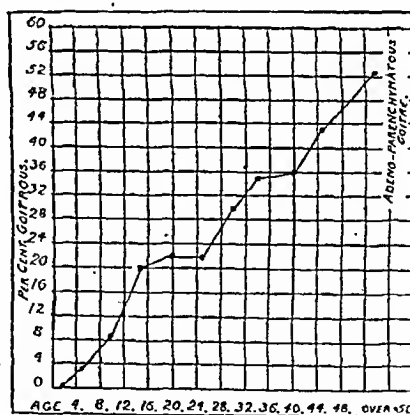


FIG. 1.—Age incidence of adeno-parenchymatous goitre in females: Gilgit, Himalaya.

essentially a hyperplastic goitre; it is of the diffuse, parenchymatous, but often unsymmetrical, type in young subjects; of the adeno-parenchymatous type in older subjects (in the latter the enlarged organ almost invariably contains one or more adenomata); it usually leads to some degree of hypothyroidism in the adult—the cretinic degenerations with which it is associated are the outcome of this thyroid deficiency in the mother; it may be associated, as in Himalayan India, with symptoms referable to other endocrine glands, particularly the parathyroids (endemic tetany and tetanic cretinism are examples); the greater the degree of endemicity the more does the sex incidence approach the ratio 1 to 1, the lesser the degree of endemicity the more does the incidence of the disease in females exceed that in males; newcomers to an endemic area may acquire the disease in as short a period as fifteen days to six weeks, although the "incubation period" is usually longer.



These are the criteria on which the endemicity of this form of goitre is to be based. In Himalayan India, and in other localities where I have had an opportunity to study this malady, it is associated in its origin with insanitary conditions of life, particularly with contaminated water supplies; and is the same disease which occurs under experimental, and like, conditions in animals. It may be that the bacterial agents which are the cause of the disease are favoured in their operation by a deficient intake of iodine in the food and water. This I do not know from actual analysis of the food and water in those regions where I have observed the disease; but judged from the effect of an additional supply of iodine in preventing the hyperplastic goitres which arise in animals under like conditions of insanitation, it seems almost certain that the iodine intake with the food is deficient relatively to the unhygienic conditions of life under which the malady develops in man. It is curable in its early stages by the oral administration of such drugs as thymol. It is preventable by the provision of pure and protected water supplies without increasing the iodine intake with the food. It is to be remembered that the administration of iodine to adults who are the subjects of adeno-parenchymatous goitre is likely to cause hyperthyroidism; this harmful effect of iodine appears, however, to vary in different localities.

#### Diffuse Colloid Goitre.

This malady may occur sporadically or endemically. It differs in its distribution from the "endemic goitre" of mountainous regions. In this connexion the following passage from De Quervain's writings may be quoted:

"The histological structure of goitre varies according to locality. In certain countries, especially in level regions, the diffuse colloid goitre, with or without hyperthyroidism, and exophthalmic goitre predominate. In more mountainous countries the toxic goitre is the exception, and the nearer one approaches the centre of the endemic area (as in the Alps and Himalayas) the less one meets with colloid goitre. It is replaced by the colloid-poor, diffuse parenchymatous goitre in childhood and by the adeno-parenchymatous nodular goitre with its degenerative forms in adults."

In general, then, colloid goitre would seem to be most often found in lowland localities. It appears to be the common variety of goitre in America, and possibly also in the British Isles, but in the latter no attempt has been made, so far as I am aware, to separate it from the adeno-parenchymatous type, or to determine the distribution of either. It is commonly associated in the same locality with exophthalmic goitre. It does not appear to be associated with, or to be a cause of, cretinic degenerations; at all events true endemic cretinism is said to be unknown in America (Gordon). The nearest approach to the experimental production of a similar condition in animals has been arrived at by feeding them on food containing an excess of lime. In these circumstances colloid storage occurs to the almost complete exclusion of active secretion: but the enlargements so produced were small, and the amount of lime used to produce them was large. I am not prepared to state that colloid goitre in man is due to such excess of lime in the food or to do more than say that my experimental production of colloid goitre in animals by this means affords some indication of the factors which may be concerned in its causation in man. Colloid goitre in animals is preventable by the additional provision of iodine in the food; it appears also to be preventable by this means in man.

Both adeno-parenchymatous and colloid goitre may occur in the same locality. The only attempt to separate them with which I am familiar is that of Levin in a certain region of the Great Lakes of North America, where he found 1,146 cases of goitre in a community of 1,783 persons. His work has brought to light several very interesting facts in regard to the course and behaviour of these two types of goitre. In one of his charts (reproduced in Fig. 2) he separated the adeno-parenchymatous goitres from the diffuse, non-adenomatous goitres. The latter include the diffuse hypertrophies of childhood and

diffuse colloid goitres. It will be observed that the age incidence curve of the adeno-parenchymatous goitre is practically identical with the age incidence curve of the disease as it occurs endemically in Himalayan India (Figs. 1 and 2); in both localities the malady is due to causes the effects of which become more and more manifest as age advances. The other group, which includes the thyroid swellings of childhood and the diffuse colloid goitres, is seen to have its highest incidence in early life, tending to disappear after full maturity has been attained. This tendency is more marked, and sets in earlier, in males than in females. Colloid goitre is thus in marked contrast to adeno-parenchymatous goitre: it would appear to be due to causes whose effects become less and less evident as age advances; adeno-parenchymatous goitre to causes whose effects become more and more evident as age advances. If the former be due solely to iodine want then it would seem that the effects of this want become less conspicuous after full maturity has been attained. If the latter be due solely to iodine want then it would seem that the effects of this want become more conspicuous after full maturity has been attained. There must, therefore, be more in the problem of the causation of these two types of goitre than iodine want.

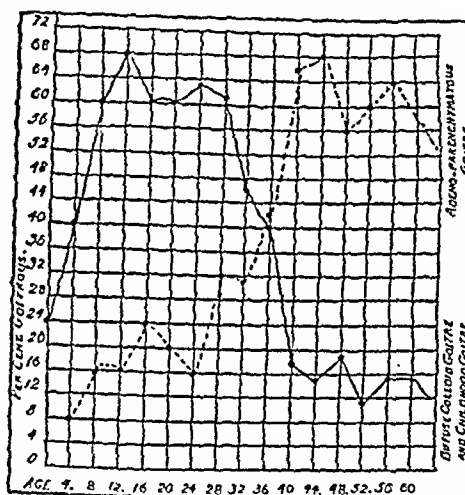


FIG. 2.—Age incidence of (broken line) adeno-parenchymatous goitre, and (continuous line) diffuse colloid goitre, including childhood goitres, in females: Great Lake Area, U.S.A. (After Levin.)

Again, if this be the cause of both types, then we have the remarkable fact of iodine deficiency producing two diametrically opposite effects in the thyroid gland: (a) hyperplasia to the almost complete exclusion of colloid storage, and (b) colloid storage to the almost complete exclusion, or greatly in excess, of hyperplasia. Yet, paradoxical as it may seem, this can actually occur. Thus, if in adult animals the iodine deficiency be relative to an excess of fats in the food, or to certain conditions of bacterial infection of the intestinal tract, goitres may result in which hyperplasia occurs to the exclusion of colloid storage. If, however, the iodine deficiency be relative to an excess of lime in the food, then colloid storage may occur to the exclusion of hyperplasia. In both cases the administration of iodine restores the normal cycle of the thyroid gland's activities, and for practical purposes both may be said to be due to relative deficiency of iodine. But it is the factors which give rise to the relative deficiency of iodine, rather than the iodine deficiency itself, that are of importance in determining the histological character of the goitre; and, as would seem from the course in man of the two types of goitre with which we are dealing, it is these factors also which determine the persistence of the goitre in the individual. Important, then, as iodine is in preventing either type of goitre, it is to be remembered that, in the causation of both, other factors are concerned which impart to each its own particular characters.

*Childhood Goitre.*

It was my intention, had time permitted, to refer in some detail to childhood goitre, since many of the observations hitherto recorded in regard to goitre prevention by iodine relate to the thyroid swellings of childhood. I must, however, content myself with the mention of a few points. Many of these swellings in children are physiological hypertrophies often normal to the individual, and have no title to be classed as "goitre"—a term which signifies thyroid disease. The great majority of them—as many as 98 per cent. (Olin)—are slight, some so slight that but a fleeting glimpse of the gland's outlines are caught as the child swallows. If all these be classed as goitre a wholly erroneous idea of the prevalence of thyroid disease may be gained. Further, estimates as to the prevalence of goitre may vary within wide limits according to what the observer may regard as a goitre. Thus, in a school where goitre was endemic, I have known the malady suddenly to assume epidemic proportions with the advent of one school medical officer, and the epidemic to disappear as suddenly with the advent of another.

A small minority of thyroid swellings in children are true goitres; in Himalayan India these goitres are conspicuous, often unilateral and right-sided, but sometimes regular and bilateral enlargements of the gland, which not infrequently are associated with engorgement of the veins of the neck; they may persist through puberty into adult life and begin to show adenomatous nodules in their substance as early as the twelfth year. They are as obviously true "goitres" as similar swellings in older subjects. "Childhood goitres" attain to their highest incidence in boys at the age of 9 and in girls at the age of 10 in Himalayan India; but the peaks of highest incidence appear to differ in different localities and appear also to be related to the prevailing type of goitre. Thus, where colloid goitre is the prevalent type, childhood goitre is said to be at its highest incidence in boys about the age of 8 to 10, and in girls about the age of 12. The incidence of thyroid enlargement in children below the age of puberty is not of itself a true index of the endemicity of goitre; its incidence may be low and yet the endemicity of adeno-parenchymatous goitre be high, or the incidence of childhood goitre may be high and yet goitre may not be a conspicuous feature in the adult population.

The incidence of childhood goitre is only of value as evidence of prevailing thyroid disease when considered in relation to the other criteria of endemicity and to the prevalence of goitre in the adult population. A marked characteristic of the thyroid swellings of childhood is their tendency to spontaneous disappearance. This tendency varies in different localities, and is probably related to the prevailing type of goitre; in endemic foci in Himalayan India I have found 11 per cent. of these swellings to disappear spontaneously in boys and 9 per cent. in girls; Nicholson has placed the figure as high as 50 per cent. in a certain endemic area in the Himalayan foot-hills; while Bircher reports that although 70 to 100 per cent. of children may be the subjects of swollen thyroids in certain parts of Switzerland, not more than 3 to 9 per cent. of young men are rejected because of goitre when they present themselves for military service. It is necessary to bear these facts in mind, not only when inaugurating iodine prophylaxis in any locality, but when attempting to form an estimate of its value.

**CONCLUSION.**

I have endeavoured to indicate the broad lines on which we must, in my opinion, view diseases of the thyroid gland. It is, I believe, rare that any metabolic disorder such as goitre is due to a single cause. There is, as a rule, a multiplicity of factors involved. The thyroid gland cannot be considered apart from the rest of the body, nor iodine apart from other food constituents. The time has come when we must search more closely for causes of the thyroid gland's disorders in disturbances at the threshold of absorption in the intestine, in disturbances at the threshold of utilization in the tissues, and in disturbances in the cell and tissue plasma of the gland itself.

**An Address**

ON

**DUODENAL AND GASTRIC  
ULCERATION:****SOME PERSONAL EXPERIENCES.\***

BY

**T. P. DUNHILL, C.M.G., M.D.,**ASSISTANT DIRECTOR, SURGICAL PROFESSORIAL UNIT,  
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I HAVE chosen this subject for two reasons. In the first place, whether we be general practitioners, physicians, or surgeons, its problems are constantly coming before us, and have to be dealt with. No one can believe that the methods of treatment are so standardized that the right and only thing to be done in each instance is settled, and we have all lived long enough to know that what we have done has not invariably turned out to be the best. Men of large experience have written and spoken extensively on this subject, and I make no pretence of saying the final word on this occasion; but we each in our different capacities have to accept responsibility towards those patients who come to us for advice. In the second place, I have for some years tried, in conjunction with my colleagues, to attain the maximum degree of accuracy in diagnosis of gastric and duodenal ulcers by means of x-ray examination. The skiagrams are typical of the results that are to be expected whenever a patient is well enough to have the examination made.

I shall not attempt to cover all the ground. This short address must perforce be discursive. In any surgeon's experience sometimes questions of diagnosis appear to him to be of rather more than ordinary interest; the result of x-ray examination often surprises him; and always he has to adapt his surgical procedures to the material which confronts him. It is around these aspects of the question that I propose to speak.

Before saying anything more I want to acknowledge my personal debt to Sir Berkeley Moynihan (whose work has always been open to visiting surgeons, and whose friendly help has been given to many of us), to Mr. Sherren, and to Mr. William Mayo. To some extent we evolve our individual methods in the course of dealing with our own patients, but certain trails have already been blazed for us, which lessen our anxieties and save our patients from some dangers. To these pioneers our debt is deep.

In dealing with gastric and duodenal ulcers, as with osteo-arthritis, exophthalmic goitre, tuberculosis, and many other diseases, the aim of our profession is to prevent their occurrence, and one by one we may hope to see them disappear; but in the meantime we find our patients seriously ill, being already in a condition which hampers their activities, gives them pain, and puts their lives in danger. Usually they have not consulted a surgeon until their disease has become well established, but many of them have come to you earlier, and some of them reach the surgeon without having had sufficient guidance. Therefore etiology should always be present in our minds. The hygiene of the month, arrangement of diet, treatment with drugs, limitation of smoking, and proper rest, may cure in the early stages, and will relieve in all. No surgical operation should be undertaken until all these points have been attended to; for by these means operation may sometimes be rendered unnecessary, and operation will fail to achieve its object if the cause of the condition is not removed.

At what stage, then, are we to say, "This patient should be subjected to operation?" For myself, that time is when the patient, in spite of efficient medical treatment, suffers

\* Given at Felixstowe to the Suffolk Branch of the British Medical Association, October 31st, 1924.

so much pain or inconvenience that work cannot be carried on, sleep is interfered with, and life becomes a burden. The symptoms may never have responded to treatment, or may have recurred from time to time in spite of it; or certain complications may occur which force our hands.

The cases which I propose to discuss are all such as have reached the stage at which, in the judgement of physician and surgeon, the time has come for surgical help in treatment. I put it in that way because it is only "surgical help" in treatment. These patients are not all cured by operation in the way a person is cured who has had an appendix removed during an attack of appendicitis, or cholecystectomy performed for a stone impacted in the cystic duct. A great many are cured; others are so greatly improved that, with ordinary care and some guidance, pleasure in life is regained and work can be carried on with zest. A few have had so large a part of their stomachs destroyed by a long-standing callous ulcer that, whatever method of operation may have been adopted, they are still not normal beings afterwards; they will have been relieved of their intense pain, but will always require guidance in feeding. Then, again, occasionally a gastro-jejunal ulcer will follow a gastro-jejunostomy. It is therefore obvious that there should always be the closest co-operation between physician and surgeon if the patient is to derive the benefit he has the right to expect from our profession.

In an uncomplicated case of duodenal ulcer the symptoms are characteristic. Even in the clearest cases it is satisfactory to have a skiagram which demonstrates the lesion. Fig. 1 is from a patient (of Dr. Morison) whose symptoms might have been taken from a textbook, so accurately did they fit in with the recognized picture. He had pain two hours after a meal, more food always "sending it away." He regularly had an attack of acute pain at 3 or 4 o'clock in the morning, which he would relieve by taking an alkaline mixture; he would then go to sleep again. He had the usual periods of complete freedom from pain. The skiagram shows the distortion of the duodenum, with the barium mixture trickling past the obstruction in a thin stream, and filling the duodenum farther on. But I find that many of the patients, by the time they reach the surgical ward of a hospital, do not give this clearly cut history. In some it can be elicited by careful investigation; in others I fail to obtain it.

Pain such as we expect has been absent in one group of cases. In illustration of this group I show skiagrams of a man and woman, both of whom discovered blood in their stools. From the man I could only get the slightest history of indigestion, and he had not troubled to modify his food as so many patients do; but the melaena had occurred frequently enough to alarm him. The woman stated that she had "queer feelings" two hours after a meal, but her own description of it was that "it was like someone pushing a fist into her back." I could not get an admission from her that she suffered any pain, or that there was abdominal discomfort. Her haemorrhages had been severe. The man was aged 46 and the woman 58. The most common cause of severe melaena is duodenal ulcer; but from the history I could not otherwise satisfy myself of the presence of duodenal ulcer. A skiagram of the man (Fig. 2) gives a cruciform picture from the distortion of the first part of the duodenum. Fig. 3 is a skiagram of the woman, showing the crater of an ulcer filled with barium. In cases of this kind a good skiagram gives conclusive evidence, such as can be obtained in no other way, and it shows the extensive duodenal ulceration that may occur without pain.

As opposed to the cases with unusual freedom from pain, there are others in which pain is atypical in time or intensity, either because of the complications of the lesion itself or of associated conditions. A man was known to drink more wine than he should, and to do so throughout the day. For the last two or three years he had taken considerably too much. During the last eighteen months he had had severe bouts of pain in the upper abdomen with vomiting. It began each time with a feeling that he was not fit, and that an attack was imminent. After a day or two this deepened into pain right across the upper abdomen, which steadily increased in severity and never

stopped except when he vomited, which he did several times a day. Vomiting gave relief for an hour or two, the pain then gradually returning. The intense stage of the attack lasted about three days, and then the pain and vomiting subsided. He was closely questioned as to any relationship between the pain and food, but none could be detected. I believed his attacks to be due to alcoholic gastritis, but I suspected that he might have gall stones, for when the pain was present it was continuous, and when the attack passed his digestion was good. Exploratory operation was performed rather under protest, and a very large duodenal ulcer was found, the inflammatory mass being firmly adherent to the head of the pancreas and the neck of the gall bladder. The liver was cirrhotic. These symptoms were quite unlike those usually present with duodenal ulcer. The patient had been examined by the x rays before I saw him. I believe a skiagram by an efficient radiographer would have definitely demonstrated the lesion.

An ulcer on the free surface of the duodenum may perforate, but this we are not considering to-day. Apart from perforation its base may become adherent to neighbouring structures and surrounded with an inflammatory mass; Fig. 4 illustrates such a case. A narrow channel filled with barium mixture is seen over a considerable length in the pyloric region; the stomach is filled proximally to it, and the duodenum ballooned distally to it, implying the presence of the rigid inflammatory mass which surrounded the duodenal region and showing the barium filling the deep narrow penetrating ulcer. (This skiagram will be referred to more than once later. It presents points of resemblance to gastric carcinoma, also it shows two calcified tuberculous glands above the lesser curvature.) The ulcer, if not on the free surface, may penetrate deeply posteriorly, producing a large inflammatory mass, which may involve, and not infrequently penetrate, the head of the pancreas. Either of these conditions may induce pain which is intense and almost constant, quite unlike the typical pain of duodenal ulcer.

When these conditions have caused narrowing of the lumen of the duodenum, the signs and symptoms of retention of gastric contents are added to those of ulcer. Furthermore, there are sometimes other signs associated with these last mentioned conditions which may be perplexing. I call to mind five men, each of whom had a palpable tumour, seeming to be a little larger than a golf-ball, movable within limits. A distinguished American surgeon has made the pronouncement that when a tumour of the stomach is big enough to be felt it is too late for surgical cure. All of these men had apparently reached that stage. In each the condition was associated with pain which had become very constant. Whether a lump is due to a neoplasm or an inflammatory mass some stenosis is always present, and in each of these there was evidence of gastric retention. One man had vomited constantly for ten days. Another carried a stomach tube in his pocket, and drew off the stomach contents as soon as the pain became intolerable. A third had vomited so constantly for so long a time that his medical attendants regarded surgical intervention as being quite impossible. In these three patients emaciation was extreme; in the other two vomiting and wasting, though present, were not so marked. Fig. 5 shows a pool of barium mixture lying at the bottom of an enormously distended inert stomach; the barium-filled crater of the duodenal ulcer is seen above and to the left.

It is extremely difficult in the presence of a palpable tumour to come to an exact diagnosis between carcinoma at the pyloric end of the stomach and duodenal ulcer penetrating deeply and surrounded by a mass of inflammatory tissue. The inflammatory condition does not necessarily fix the tumour. The history may be long or short. A long history suggests the possibility of a gastric ulcer which has become malignant, a short one that the lesion is unlikely to be an ulcer and has been a carcinoma from the first.

Does x-ray examination help us in these cases? Some patients are far too ill for investigation to be made at the time when the surgeon first sees them. Two of these five



FIG. 1.—Stenosis in first part of duodenum. (Skiagram by Dr. Vilvandre.)



FIG. 2.—Duodenal ulcer: a not infrequent type of distortion with ballooning beyond. (St. Bartholomew's Hospital skiagram.)



FIG. 3.—Duodenal ulcer. Crater filled with barium mixture. (St. Bartholomew's Hospital skiagram.)



FIG. 4.—Duodenal ulcer; stenosis. Crater filled with barium emulsion. Ballooning of duodenum beyond stricture; indentation of pyloric end of greater curvature simulating filling defect of cancer. Two calcified tuberculous glands at cardiac end of lesser curvature. (Skiagram by Dr. Vilvandre.)

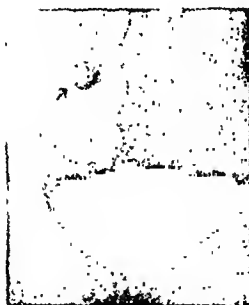


FIG. 5.—Large circular ulcer of duodenum filled with barium mixture. Pool of barium mixture lying in a big atonic stomach. (St. Bartholomew's Hospital skiagram.)



FIG. 6.—Carcinoma of pyloric segment of stomach, showing filling defect. (Skiagram by Dr. Vilvandre.)



FIG. 7.—Marked stenosis of commencement of the duodenum due to ulcer, associated with great dilatation of the stomach and emaciation; death from bronchopneumonia following operation. (Photograph by Miss Vaughan.)



FIG. 8.—Hour-glass stomach with saddle-shaped gastric ulcer: upper part invading left lobe of liver; lower part invading pancreas. Sleeve resection. Patient perfectly well. (St. Bartholomew's Hospital skiagram.)

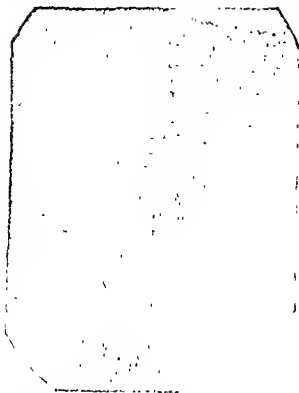


FIG. 9.—Very narrow hour-glass constriction. Sleeve resection. See Fig. 10. (St. Bartholomew's Hospital skiagram.)

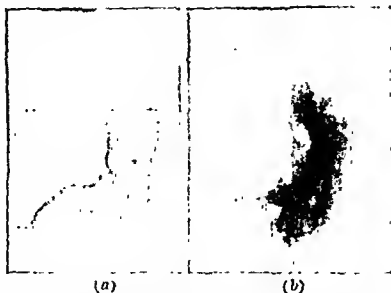


FIG. 10.—(a) The same patient as Fig. 9 one month after operation, showing filling defect caused by the inrolling of the approximated edges of the stomach by the Lembert sutures. (b) Twelve months later; the filling defect has disappeared, the shape and motility of the stomach are practically normal.



FIG. 11.—(a) Hour-glass constriction of stomach. (b) The stomach after the Polya-Balfour type of operation. (St. Bartholomew's Hospital skiagrams.)

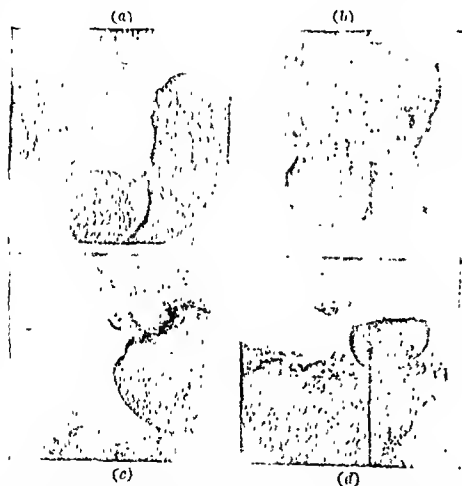


FIG. 12.—(a) Immediately after a meal. The gastric ulcer is shown at the middle of the lesser curvature. Notice also the barium entering the cardia. (b) Two hours later; the gastric and duodenal ulcers are both shown. (c) The same patient after six hours. Both ulcers are shown. (d) At eight hours after the meal. The duodenal ulcer crater is filled and there is considerable residue remaining in the stomach. The gastric ulcer was proved on microscopical examination to have become malignant. (Skiagrams by Dr. Salmond.)

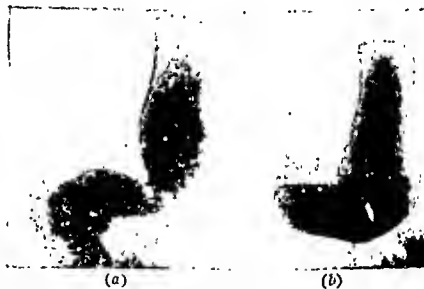


FIG. 13.—(a) Deep incisura extending from lesser curvature, showing narrowing of stomach at the site of a healed ulcer which had been active thirty years previously. (b) Skiagram taken three months after (a). The gall bladder contained calculi. (Skiagrams by Dr. Salmond.)

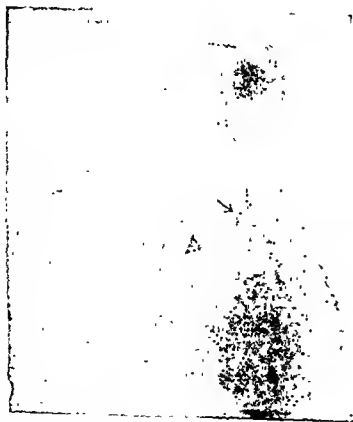


FIG. 14.—An ulcer below and behind the lesser curvature. With a thick meal it is only seen on rotating the patient almost transversely. (St. Bartholomew's Hospital skiagram.)



FIG. 15.—? Ulcerated diverticulum at cardiac orifice of stomach in a tuberculous patient. Inset: Diverticulum still filled with barium mixture after stomach is practically empty. (New Lodge Clinic skiagrams.)



had been steadily getting worse until the operation had to be performed as an emergency measure. If the patient is not too ill, x-ray examination may settle the diagnosis. Fig. 5 is obviously the picture of a large duodenal ulcer with such degree of associated stenosis that the peristaltic vigour of the stomach had diminished and atony resulted. But if Fig. 4 be compared with Fig. 6 it will be seen that the problem is more difficult. The history was identical in each of these two cases, and the age practically the same—about 60 years. In each a tumour could be felt of the same size. Each moved with respiration and was mobile apart from respiration. In each the skiagram appeared to show a filling defect at the pyloric end of the stomach; the indentation of the wall in this area and the narrowing of the pyloric region over a considerable length may be noted. From the skiagram I believed the condition in Fig. 4 to be carcinoma, and I was sure that Fig. 6 indicated the same. Both patients were too ill for a complete operation to be performed at one time. In each gastro-jejunostomy was performed in order to tide the patient over the emergency. In each the tumour was seen and palpated, and in each it appeared to be carcinoma. In one a carcinoma was removed a fortnight later. In the other the second operation was delayed on account of lung complications, and when the abdomen was afterwards opened for the partial gastrectomy all signs of the tumour had disappeared, the pylorus and duodenum being then soft and unscarred. (The deeply penetrating ulcer shown in Fig. 4 had been on the posterior surface.)

It is easy to be wise after the event. In a review of these cases it should be realized that in Fig. 4 the barium entered a long narrow ulcer cavity, quite unlike the cavity of a carcinomatous ulcer; the inflammatory mass surrounding this had thickened, hardened, and indented the stomach wall in its vicinity, and given a skiagram bearing a considerable resemblance to that produced by the carcinoma in Fig. 6.

An associated pathological condition will alter the characteristic history of duodenal ulcer. We have all seen a gastric and duodenal ulcer in the same patient. Moynihan states that a duodenal ulcer is present in 12.3 per cent. of all cases of gastric ulcer. Tuberculous glands are also not infrequently found. Fig. 4 shows, in addition to the duodenal ulcer, two calcified glands along the line of the lesser curvature of the stomach. These may not only make the history less clear, but make the prognosis less perfect. Needless to say, when an abdomen is opened the search for other pathological conditions should be very thorough, even though the ulcer is obvious; for if tuberculous glands are present—as they have been in several of my cases—and are not discovered, the surgical treatment may be deemed to have failed, while actually the remaining symptoms are due to other causes.

In at least two conditions special care is required in planning surgical interference. These are: (1) extreme emaciation from increasing pyloric stenosis with consequent starvation, and (2) repeated haemorrhages. On four occasions I have been able to perform a gastro-jejunostomy very easily and quite successfully with local anaesthesia, when the patient appeared to be too emaciated and weak to justify the use of general anaesthesia; on one occasion I lost, through lung complications, a patient who I believe would have been saved if I had used local anaesthesia. He was the patient who had either vomited or emptied his stomach with a tube every day for many months in order to relieve his pain, and he was emaciated to a skeleton. Fig. 7 is a photograph of the organs removed at autopsy. The first part of the duodenum is seen to be narrowed. It is very thick-walled and the lumen is almost obliterated. Sometimes a patient recovers from repeated haemorrhages sufficiently to undergo operations safely, but occasionally it seems impossible to control the haemorrhage from the ulcer, and day by day the patient becomes weaker and paler. These patients have several times been rendered fit for the appropriate surgical measures by means of blood transfusion.

In gastric as in duodenal ulcer there are long periods of latency, which lead patient and practitioner to believe that the pathological condition has disappeared. There may be

some cases in which the ulcer has healed, but there are many in which it has not. Again, as in duodenal ulcer, the history of gastric ulcer in its early stages is much more characteristic than in the later stages. In many cases which come to the surgical wards of a general hospital the characteristic history has long passed, and the story may have to be reconstructed from the patient's memories of long ago. One man recently came to us who twenty years before had had the orthodox symptoms—pain an hour and a half after food, lasting half an hour, disappearing before the next meal. He had continued in this state for fifteen years, being sometimes better, sometimes worse. Then a severe haemorrhage rendered his admission to hospital necessary. He was discharged "cured." Still later—twenty years after the onset of the first symptoms—there was another attack of haemorrhage, and from this time onwards he was scarcely ever free from pain, day or night. The pain, the sleeplessness which the pain induced, the inability to take food, the loss of blood (which could always be detected in his stools), and the resulting exhaustion made him pallid, emaciated, and very ill. During all this time the ulceration had been slowly progressing; the base of the ulcer became adherent to and eroded the body of the pancreas, while surrounding inflammation in the wall of the stomach resulted in the formation of an hour-glass stomach.

When once these ulcers have penetrated the gastric wall so that the base is formed by structures outside the stomach, the reaction surrounding them may be intense, and the inflammatory products constitute a mass which may fill the upper left quadrant of the abdomen, and extend below the umbilicus. This area will be rigid and without movement on respiration. The rigidity and the tenderness may prevent any effective examination of the abdomen. In one patient of this type pain occurred within a few minutes of taking food and lasted about two hours. He would vomit at any time during this period, but obtained only slight relief. The pain was violent; it "doubled him up," and prevented him from sleeping; he was afraid to take any food except egg and milk. He obtained a little relief by lying in the left latero-prone position. Four weeks before admission to hospital he had vomited blood. He was far too ill for an x-ray examination to be made. He presented the picture of late malignant disease of the stomach, but because of his age (34) his abdomen was explored. There were enlarged glands in the great and lesser omenta. A large hard mass involved the lesser curvature and posterior wall of the stomach and extended up to the cardia; it appeared to be infiltrating the left lobe of the liver. A partial décollement was made in order to examine the stomach from below; it was found to be firmly fixed to the pancreas. The condition was regarded as malignant and inoperable. Three glands were removed for examination and the abdomen closed. The glands were found to be non-malignant, and the patient improved sufficiently to enable an x-ray examination to be made. The result is shown in Fig. 8. The barium mixture is seen filling a large ulcer crater above the lesser curvature; the base of this was formed by the liver, and opposite this, bulging below and overlapped by the greater curvature, is seen the edge of a very large barium-filled crater which had burrowed into the pancreas. The middle third of the stomach immediately below these ulcers was almost obliterated. When the stomach was dissected off the liver and pancreas scarcely any middle third remained. The free edges of the proximal third were very ragged and the induration along the lesser curvature and posterior wall extended almost to the cardiac orifice. The patient suffered from marked aortic disease, and as the distal third of the stomach was healthy it seemed wise to save time by trimming off the ragged indurated edges and joining up the two ends of the stomach. This patient is quite well two and a half years after the operation.

Even when patients are not so ill as in the last case the diagnosis is not always easy. In women it has not infrequently happened that the pains have been so much worse about the menstrual periods, and have appeared not to be so definitely related to food, that attention has been directed to other organs of the body. Of two women who came for treatment, one had had four, and the other three,

previous operations on the lower abdomen and pelvic organs; all these operations were for pain, which was ultimately proved to have been due to gastric ulcer. In one of them the skiagram shows an extremely narrow hour-glass constriction; this case is interesting in that the ulcer perforated immediately above the site of constriction. The hole was big enough to admit a finger, and the stomach contents were mixed up around and between the adhesions consequent on three previous abdominal operations (one of which unfortunately had been a double oöphorectomy). The perforation was closed, and, as soon as the patient was fit for it, an x-ray examination was made. The result is shown in Fig. 9. It was realized that this patient would be in a precarious state if the stomach were left in this condition. It was known that the abdomen was matted with adhesions rendering it difficult to apply the jejunum to the proximal end of the stomach, so it was decided to perform a sleeve resection. The resulting shape of the stomach soon after operation is shown in Fig. 10a. At this early stage the filling defect in the stomach outline caused by the inrolling of the approximated edges of the stomach wall by Lambert sutures is seen. The stomach functions well, and the patient has since married. A recent photograph has been obtained showing the stomach shape and motility to be practically normal (Fig. 10b).

It is not often possible to apply stomach clamps in the manner figured in textbook illustrations of sleeve resection. The cases in which clamps can be applied rarely require sleeve resection, and in those which demand it the surgeon must use all the skill of which he is possessed to cobble together the distal third on to the ragged remains of the proximal piece, so that the posterior wall may be safe and efficient. In the patients upon whom it has been found necessary to perform sleeve resection on account of the exigencies of the condition the late progress has been quite good. Fig. 10b shows a stomach in which abnormality can scarcely be detected.

Usually in cases of hour-glass stomach due to ulcer in the middle third, when the case has been carefully worked out, and the x-ray examination—fixing the site of the ulcer and the degree of mobility of the stomach—has enabled the operation to be properly planned before the abdomen is opened, a partial gastrectomy is performed, the proximal end of the duodenum is closed, and the jejunum anastomosed with the open end of the remaining piece of stomach—Balfour's modification of the operation originally planned by Polya. Figs. 11a and 11b show the hour-glass constriction, and the condition of the viscera subsequent to operation. This operation has proved to be most satisfactory in the cases which have been severe enough to necessitate it. I believe the patients are more free from subsequent discomforts than after any other operation for gastric ulcer in this situation. The only disadvantage I have found is that in a few cases the size of the meal has to be restricted. If this is regarded the patients are happy, and as this operation has usually been performed for very disabling pain they do not mind the slight restrictions. Some are so hungry afterwards that, as one man put it, "I really cannot keep myself away from food."

I have already mentioned the simultaneous occurrence of gastric and duodenal ulcer. Figs. 12a, b, c, d, show the appearance on x-ray examination of such a dual condition: 12a is immediately after the meal; 12b in two hours; 12c shows the condition almost unchanged in six hours; and at eight hours (12d) there is still a barium residue in the crater of the duodenal ulcer. At operation the gastric ulcer was found to be about one and a half inches in diameter and an inch in depth. Examination of the specimen showed that it had penetrated into the body of the pancreas. The duodenal ulcer was on the posterior inferior aspect of the first part of the duodenum; that also is a considerable ulcer. A finger could invaginate the anterior wall of the viscus into the crater of each ulcer easily. The skiagram 12a shows barium in the oesophagus and entering the stomach, so that the position of the cardia is defined. It also shows that there is probably sufficient of the proximal part of the stomach still unaffected to permit a partial gastrectomy. The Polya type of operation, planned to include both ulcers, appeared to be the most suitable pro-

cedure for the condition, and it was performed. The concave floor of the gastric ulcer consisted of pancreas. It was wiped clean, and a layer of great omentum tacked over it with a catgut stitch after the stomach had been dissected free from it. When this man was seen by his latest consulting physician before operation he stated that he had no pain in his abdomen, but an intense pain deep in the middle of the right side of his chest and in his right shoulder-blade, and that it had no relation to food. It had become constant and unbearable. Microscopical examination of the gastric ulcer showed that it had become malignant, thus bearing out the statement that gastric ulcers more than one inch in diameter are prone to be malignant.

Figs. 13a and 13b are shown to illustrate the permanent change which may occur in the shape of a stomach with the healing of a chronic ulcer. These two skiagrams were taken with an interval of three months between them. A similar picture is given on each occasion—a deep narrow incisure cutting into the stomach from the lesser curvature. This was unaffected by peristaltic waves. On other films of this patient the outline of the gall bladder can be easily seen. Thirty years previously he had suffered from a gastric ulcer. He had been seriously ill for six months and an invalid for two years. After four years he could take ordinary food, but often suffered from indigestion. Twelve months before these skiagrams were taken discomfort after food became more insistent, but the symptoms were rather suggestive of gall stones. At operation the gall bladder was found to contain many gall stones. After dealing with this, and removing a firmly bound down appendix, the stomach was opened in its long axis across the constriction for two and a half inches. This was to determine if there was any active ulceration present, and to restore a normal shape by suturing the incision transversely to the long axis of the stomach. The ulcer had healed, the stomach wall was soft, but the stenosis was such that it would just about admit a thumb.

Fig. 14 is the skiagram of an ulcer which, in the days when a large barium meal was given, instead of the small fluid meal, might only be discovered by a lateral view of the patient. The position of the vertebrae shows how much this patient was rotated before the ulcer became visible.

Two conditions are met with which present great difficulty: one is persistent uncontrollable haemorrhage from an ulcer; the other is gastro-jejunal ulcer. The records of St. Bartholomew's Hospital show that during the years 1921 to 1924 inclusive seventeen patients died from haemorrhage attributed to gastric or duodenal ulcer. Blood transfusion has made it possible to deal with these cases under conditions which would have been impossible before the days of transfusion. For this condition some surgeons perform partial gastrectomy. It has seemed to me, however, that a less severe operation is wiser in patients who are almost moribund; and in the cases which have come under my care, partial gastrectomy would scarcely have been effective. In one there was a duodenal ulcer in the distal half of the second part of the duodenum, and on the posterior surface. On opening the duodenum a large callous ulcer was evident, and blood was seen trickling from under its upper margin. It was possible to undermine it with fine catgut and the bleeding was controlled at once. Gastro-jejunostomy was then performed. Blood transfusion was carried on by Mr. Keynes during the operation. Bleeding never recurred, and the duodenal ulcer healed, for I saw it at a subsequent operation. A gastro-jejunal ulcer supervened in the following year, and of this I will speak later.

In one case of persistent haemorrhage from a gastric ulcer the ulcer was so high that on opening the stomach and emptying it by suction it was impossible to reach and undermine the spot where the oozing was readily seen. It was reached by a long-handled cautery at a dull red heat and the bleeding was seen to stop. A gastro-jejunostomy was performed to prevent gastric retention and allow alkaline intestinal fluid to enter the stomach. I am not persuaded that either of these reasons is physiologically sound, but the patient—who for a month had been incapacitated and who at the time of the operation was moribund—has been working as a stevedore ever since.

Haematemesis due to acute ulcer seldom requires operative interference. Rest, medical treatment, and, if necessary, blood transfusion, has, in our experience, been sufficient to arrest the condition and recovery has followed; but with a chronic ulcer it is often otherwise. In spite of rest and blood transfusion the haemorrhages may continue with fatal result. In an increasing number of this class of patient we have been able to operate with success.

I have seen one case of syphilitic ulceration—a patient under the care of Dr. J. H. Drysdale. The patient suffered from gastric symptoms, and x-ray examination revealed the presence of a gastric ulcer. The Wassermann test was positive, and the symptoms cleared up with appropriate treatment.

In another case the diagnosis is not yet absolutely settled. In Fig. 15 a sacculus opening into the stomach close to the cardiac orifice is shown filled with barium emulsion. Inset is shown the cavity still filled with barium after the stomach had emptied. Severe haematemesis had occurred, presumably from this, and I had been asked to take in the patient. Dr. Hurst believes the condition to be ulceration in a diverticulum of the stomach. The patient was subsequently found to be suffering from phthisis—from which she is recovering, so that further opportunity for x-ray examination will probably be possible.

Five cases of gastro-jejunal ulcer have come under my care. Of these, one was the patient mentioned above, upon whom I operated after repeated severe duodenal haemorrhages extending over a month and increasing in severity. He was therefore very much debilitated when the operation was performed, and recovery was slow; whether this influenced the formation of the gastro-jejunal ulcer I am not prepared to say. Another case followed an operation which I performed for a perforated duodenal ulcer. The perforation was closed and a posterior gastro-jejunostomy made. Two years later an ulcer at the site of the stomach perforated. As far as I know these are the only two which have followed my own operations. In one other case I found strands of infected silk hanging into the lumen of the stomach from several ulcerated areas, and the whole circumference was thickened by the infection and granulation tissue surrounding the buried part of the silk. Operation for this condition is very difficult. There is always an inflammatory mass in the mesocolon surrounding the base of the ulcer. Often it is closely adherent to the colon, and separation of this is never easy. The stomach is freed from the mesocolon and the jejunum separated from the stomach; the opening in the jejunum may be closed and some variation of the Polya operation performed, or the jejunum may be divided and the operation completed as described by Sir Berkeley Moynihan.

X-ray examination with a barium meal has become a valuable procedure. Some years ago we were glad when positive evidence was obtained, but we did not expect too much from the method. If the surgeon and radiologist work together, evidence is obtained by a screen examination which is not always recorded on films or plates, and operation is now not often performed if there is no x-ray evidence of ulcer. Some patients are too ill for the examination to be made. If it is done by an unskilled radiologist the findings may be worse than useless, because inaccurate evidence is actually misleading. If ulceration is present, distortion of the outline of the viscus is sometimes seen (Figs. 1 and 2); a deposit of barium may remain in an ulcer crater (Figs. 5 and 13b). X-ray examination not only establishes the diagnosis, but also shows the position of the lesion, and knowledge is obtained of how much of the viscus appears to be normal, so that the type of operation may be considered, and perhaps definitely planned before the abdomen is opened. If a dual condition is present, as in Fig. 4 (duodenal ulcer with tuberculous glands) or Fig. 12 (gastric and duodenal ulcer), the surgeon is forewarned.

Of these skiagrams some have been reduced to a size appropriate for publication by Miss Vaughan in the Dunn Laboratories of the Professorial Units at St. Bartholomew's Hospital, and some by Kodak, Limited.

## REFERENCE.

<sup>1</sup> BRITISH MEDICAL JOURNAL, February 10th, 1923.

## A COMPARISON OF DRIED, EVAPORATED, AND FRESH COW'S MILK: AN EXPERIMENTAL STUDY.

BY

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At the present time there are many varieties of dried, evaporated, and condensed milks on the market. As it seemed possible that there might be fundamental differences between various sorts of dried and evaporated milks, a series of feeding experiments on animals have been made.

Sherman, Rowe, Allen, and Woods,<sup>1</sup> experimenting with rats, observed that "with bread and milk there was continued growth at a normal rate to full adult size." It seemed possible, therefore, to compare the different kinds of evaporated milk by feeding rats on each kind of milk and bread as the sole diet. According to a report of the Medical Research Council (1924) on the presence of vitamins in different varieties of milk, vitamins A and B are quite well represented, but vitamin C may be absent, or only traces present, in evaporated (condensed unsweetened) and dried milks.

Simmonds<sup>2</sup> concluded that the rat does not need the antiscorbutic factor for normal development, and that a diet of milk and bread might be expected to contain all the essential constituents of a complete diet for this animal. The experiments here described were started when the rats were just weaned (three weeks old), and were continued for twenty-two weeks, during which time several litters were born and reared. I regard it as a more searching test of the adequacy of a diet if gestation and lactation are included, and the experiment made not merely for the actual growth period. Mitchell,<sup>3</sup> in his article on the nutritive value of proteins, pointed out that the demands of growth, gestation, and lactation are all separate problems as far as the biological value of protein is concerned, and it is highly probable that this applies equally to all food factors.

## EXPERIMENTAL.

The experiments were made on the following lines:

## (a) Animals and Method of Experiment.

Rats were used in these experiments. They were all bred in the laboratory<sup>4</sup> and were all in equally good condition at the beginning of the experiment. Twelve animals, six males and six females, were fed on each diet. They were kept in a large cage together, so that breeding could take place as soon as the rats reached maturity. Each animal was weighed every day (except Saturday and Sunday) for the first few weeks, and after that, when growth was less rapid, only once a week. They were fed once a day. The females were removed to separate cages before the birth of the young. As far as possible, the method we adopt is to remove a doe from the large cage two or three days before the birth of the litter. She suckles her young for twenty-one days, after which she is returned to the large cage. If the young do not survive (as may happen when the diet is poor) the doe is returned to the large cage again when all her young have died. Rats have large litters, and our custom is to reduce the number of young to six on the second day, in order to prevent any undue strain on the mother rat, and to make the growth curves of the young comparable. The combined weight of even six babies towards the end of lactation may exceed that of the mother rat, but on a suitable diet she is capable of rearing her offspring without detriment to herself. From the second day onwards, the mother and her young are weighed daily; she is given ample food, all constituents of the diet being well mixed in the form of a paste.

## (b) Foods.

1. White bread bought from a baker was used, no crust being given. The bread was weighed each day old.

2. *Milks*.—The fresh cow's milk used was of good quality, was delivered in a bottle, and on standing always showed a large amount of cream. It was heated to 70° C. before being given to the animals. Of dried milks a well known brand (referred to as sample A in a previous paper<sup>5</sup>) was chosen as being a variety largely used by the general public. The brand of evaporated, non-sweetened milk chosen was selected because it appeared to be a popular article.

3. *Proportions*.—The evaporated milk was diluted according to the directions on the tin, and the specific gravity of this reconstructed food was approximately that of fresh cow's milk. With the dried milk 12 grams of solid were mixed with 100 c.c.m. of water. This is approximately the amount of solid required to imitate 100 c.c.m. of whole milk. My object was to use such amounts as would be used by the general public, following the directions given on the tin. Thus, when told to measure out

tablespoonful, etc., different people select different quantities—for example, some people give a generously heaped spoonful, while others will only fill it level. To avoid this difficulty, about twenty people were asked to measure the prescribed quantity, and these amounts were weighed. The average figure obtained in this way gave 12 grams of solid per 100 c.cm. of liquid.

**Actual Foods.**—The proportion given was 15 grams of white bread (crumb only) to 36 c.cm. of liquid, this being the amount of liquid which is conveniently soaked up by that amount of bread; also such a diet has been used with marked success during lactation. The animals were given plenty of food, the ration being increased whenever necessary.

### RESULTS.

All the animals grew well and the females produced litters at the normal time, but throughout the experiment it

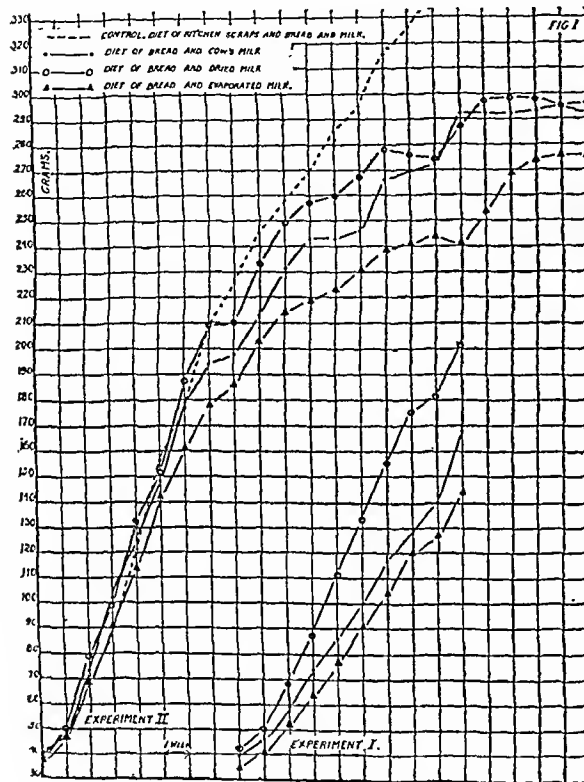


FIG. 1.—Chart showing the growth curves of young rats (just weaned) fed on different diets.

was obvious that the rats fed on the evaporated milk were less fit than those fed on fresh cow's milk, or the dried milk. They were less firm to the feel and did not grow quite so rapidly; neither were their coats quite so thick. There was little to choose between the rats fed on the dried milk and the fresh cow's milk; but, if anything, those fed on the dried milk fared a little better—their coats were slightly thicker and more silky. A possible explanation may be that the milk used for the dried preparation was of better quality than the fresh supply, for Luce<sup>6</sup> has pointed out that the diet of the cow appears to be the main factor in determining the growth-promoting value of the milk. On the other hand, the experiment lasted for twenty-two weeks, and as one sample of milk was not used throughout any variation in composition might be found equally in any one of the three samples used.

### Growth.

Two series of experiments were made with regard to growth. The first were only continued for nine weeks, but the results were so striking that it was thought advisable to repeat them and continue them for a longer period in order to have data about gestation and lactation as well.

The composite growth curve of the male animals is shown in Fig. 1. It is impossible to give a composite growth curve for the females, owing to the rats becoming pregnant at different times.

All the rats grew well, but more rapid growth was exhibited by those which received the dried milk diet. Finally, those fed on the dried milk and those fed on cow's milk were of equal weight, while those fed on the evaporated milk did not attain to quite such a good weight. These rats received a mixed diet of bread and fresh cow's milk, supplemented by kitchen scraps.

It is not the object of this paper to show that the final weights of animals fed on bread and milk is not up to that of the control animals which were fed on a more varied diet, but to compare dried and evaporated milks with fresh cow's milk. It is, however, a point of interest to note that for the first few weeks the growth of the milk-fed rats is equal to that of the control animals receiving a good mixed diet—that is to say, for the first few weeks the rate of growth was maximal. It is also of interest that the first

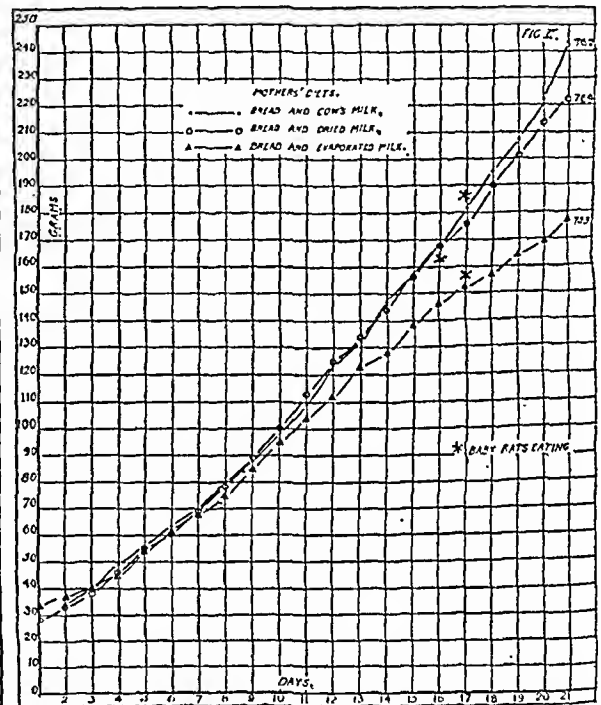


FIG. 2.—Chart showing the weights of litters the mothers of which were fed on different diets.

curve to deviate from the normal standard is that of the animals fed on bread and evaporated milk.

### Reproduction.

Breeding took place at the normal time, and during the experiment fifteen litters were born to animals fed on bread and fresh cow's milk, fifteen litters also to those fed on bread and dried milk, and eighteen litters to those rats which received bread and evaporated milk. The greater number of litters born amongst animals on the third diet is probably due to the fact that fewer litters survived, and therefore the does returned to the males sooner than if they had suckled their young.

Thus all three diets must be regarded as suitable for the attainment of maturity and for fertilization.

### Gestation.

The average weight of the young at birth was not up to that of the stock animals. The average weight of a rat on the second day of life is 5.79 grams (figure taken from records in the laboratory). As will be seen from the accompanying table, none of the young of the experimental rats came up to this weight. It is interesting that, in this respect, the dried milk gives slightly better results (5.26 grams) than the fresh cow's milk (5.049 grams). Again, the failure to rear any babies of some litters is more marked among the mother rats fed on bread and cow's

milk and bread and evaporated milk (see table). Possibly this is due to the young being less fit, as well as of lower weight, at birth.

#### Lactation.

Lactation cannot be studied satisfactorily from this series of experiments. If the young are of low weight at birth, and the mother rat fails to rear them all, it is incorrect to assume that the diet is responsible. Obviously two factors are involved: the diet may be unsuitable for lactation, or the primary factor may lie in the poor condition of the young at birth—that is, a faulty diet during gestation. Since the young were all below average weight at birth, it is possible that the fault lay in the condition of the young, and not in the mother's milk supply. As will be seen from the table, some of the young were successfully reared, but not all.

To compare the three diets from the point of view of lactation, other experiments were made, as follows:

Stock does were selected and were given a good mixed diet during gestation. The milk diets were started as soon as possible after the birth of the litter; three mother rats were given each diet, and all were able to rear six young per litter. Examples of the growth curves of the young are given in Fig. 2.

It will be seen that the young whose mothers had the evaporated milk did not grow so rapidly as the others. Also, these babies were less fit—they were limp to the feel, and their coats were less good. However, they were all successfully weaned at the usual time.

Statistical Comparison of the Three Milks as Food during Lactation.

	Dried Milk (Sample A).	Fresh Cow's Milk.	Evaporated Milk (Sample G).
Average weight of one baby rat on second day	5.25 grams	5.04 grams	4.91 grams
Failures in rearing any one litter	2 failures out of 15 litters	6 failures out of 15 litters	7 failures out of 18 litters
Number of times all six young reared	6	3	4
Highest weight of one baby at 21 days	47 grams	42.75 grams	38.5 grams
Lowest weight of one baby at 21 days	30.33 grams	23.8 grams	25.0 grams

#### COMMENTS AND CONCLUSIONS.

From the experiments described in this paper it is obvious that dried and evaporated milks possess quite different dietetic values, and that the dried milk approximates more closely to fresh cow's milk than does the evaporated variety. Although only one sample of each kind of milk was used in this work, experiments previously reported prove that dried milks are superior to the evaporated ones as regards vitamin B content. To sum up—

1. The dried milk (Sample A)<sup>5</sup> compared with fresh cow's milk:

(a) The initial rate of growth of the young rats was more rapid, but the final weight attained was practically the same.

(b) The weight of the young on the second day was slightly better—that is, dried milk appears to be a better food for gestation.

(c) The suckling rats had thicker and silkier coats if the mothers were fed on the milk diet throughout their lives, but when the milk diet was only fed during lactation (that is, a good mixed diet given during gestation) there was no apparent difference in the sucklings.

2. The evaporated milk (Sample G)<sup>5</sup> as compared with cow's milk:

(a) The rate of growth of the young rats was less rapid and the final weight attained was less.

(b) The weight of the young at birth was less satisfactory.

(c) The weight of the young at weaning was lower. This applied equally to the baby rats of mothers fed on a good mixed diet during the gestation period, or on the milk diet throughout their lives.

Thus, the dried milk (Sample A) appeared to be quite equal in dietetic value to fresh cow's milk; if there was any advantage, it was in favour of the dried variety.

The evaporated milk (Sample G), however, compared less favourably with the fresh cow's milk.

It must be remembered, however, that a restricted diet, such as bread and any form of milk, is not as good as a mixed and more varied diet.

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- <sup>1</sup> *Biochem. Journ.*, 1921, 15, 503. <sup>2</sup> *Am. Journ. of Hygiene*, Supplement, September, 1924, p. 15. <sup>3</sup> *Physiological Reviews*, 1924, vol. 4, p. 424. <sup>4</sup> Hartwell, Mottram, and Mottram, *Biochem. Journ.*, 1923, 17, p. 223. <sup>5</sup> *Ibid.*, 1925, 19, p. 226. <sup>6</sup> *Ibid.*, 1924, 18, 716.

## THE ETIOLOGY OF PERNICIOUS ANAEMIA.

BY

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PADDOINGTON.

SIRER Addison in 1849, in a paper read before the London Medical Society, described idiopathic anaemia, later called pernicious anaemia, a large number of theories have been advanced relative to its etiology. Hunter's hypothesis is that it results from oral sepsis with subsequent streptococci infection of the stomach, and there can be no doubt that pyorrhoea is at least a contributory cause. It may account for the toxin to which the combined lateral and posterior degeneration of the cord, occurring in about half the cases, is due. The latter is a true degeneration of nerve fibres affecting both the axis cylinders and the myelin sheaths, and not a sclerosis such as occurs in disseminated sclerosis. The fact that this degenerative change in the posterior and lateral columns occurs in other wasting diseases and may antedate the anaemia or be unaccompanied by the anaemia, lends weight to James Collier's argument that the toxin affecting the cord is not necessarily the cause of the anaemia, but that the anaemia and the cord changes may be the results of a pathological process responsible for more than one toxin. Other investigators are of opinion that pernicious anaemia is due to intestinal toxæmia. Herter blames the *Bacillus welchii*, while Adami suspects the *Bacillus coli*.

Hurst<sup>1</sup> says that it is now generally agreed that Addison's anaemia is caused by a haemolytic toxin produced by some infection in the alimentary canal, and states his belief "that this infection cannot take place unless free hydrochloric acid is completely absent from the gastric contents." He claims that the achlorhydria is neither caused by the same toxin which produces the anaemia nor is it secondary to the anaemia, but that it is an essential predisposing factor. He quotes Ryle and Bennett<sup>2</sup> to show that 4 per cent. of healthy young men have achlorhydria. It will be interesting to see whether these men in due time develop pernicious anaemia. Hurst sums up his views as follows: "The achlorhydria allows the bacteria which produce the haemolytic toxin, and which probably have their primary focus in the mouth, to pass through the intestines without being destroyed by the HCl which ought to be present."

I have endeavoured to approach the subject of pernicious anaemia from a new standpoint. I agree that an unknown toxin is probably the cause, but can find no proof of this. Therefore I have tried to postulate a theory with a non-toxic basis. It is possible that in this disease two independent processes are at work—an abnormal blood regeneration by the bone marrow and an increased blood destruction. Which of these processes is the primary one?

The general opinion seems to be that the main factor is the toxic effect upon the bone marrow, resulting in the production of immature cells, which are unable to resist the forces of blood destruction and become disintegrated in the blood stream or destroyed by the phagocytic cells in the liver, kidneys, and other organs. The hypothesis I prefer is that the primary factor is the phagocytic action of the liver and kidneys, and that the bone marrow change is secondary, the latter being due to an increased and urgent



demand for red cells to replace those destroyed. As a corollary to this I ventured to suggest to myself that the cause of the increased destruction was not an unknown toxin, but an unknown substance normally present in blood, the diminution or absence of which renders the blood increasingly liable to phagocytosis by the epithelial cells of the liver, etc., and I assumed this substance to be a constituent of bone marrow or a complex circulating in the blood.

In an endeavour to prove this theory, I attempted to extract an active substance by treating 2 kilograms of ox bone marrow with 80 per cent. alcohol, and later with 95 per cent. alcohol, and obtained no result. This was probably to be expected. I now applied this alcohol-fractional precipitation method, used by Banting in Toronto for the preparation of insulin, with slight modifications, to ox blood. I am indebted to Dr. Calvert of the Medical Unit for his assistance in the extraction.

#### Preparation of Extract.

To 8 litres of fresh ox blood 5 litres of 95 per cent. alcohol, previously cooled to 3° C., were added with constant stirring. The mixture was allowed to stand for two hours and filtered through thick Chardin paper. To the filtrate was added one and a half times its volume of 95 per cent. alcohol. The liquid, placed in a cool room overnight, was refiltered next day, giving a perfectly clear yellowish solution. The alcohol was distilled off *in vacuo* at a temperature of 45° C. in a water-bath. The following day the turbid liquid residue was redistilled *in vacuo* until the volume of the aqueous solution, the fat having separated out, was reduced to 250 c.cm. It was then filtered free from fat in a Buchner funnel and the residue shaken up in a separating funnel to dissolve any fat that might be left. After this the aqueous solution was made up to 80 per cent. with absolute alcohol and allowed to stand overnight in a cold room.

On the fourth day a thick yellowish solution had formed; it was decanted off and made up to 93 per cent. with absolute alcohol. This was allowed to stand in ice overnight. By the following day a precipitate had separated out. The 93 per cent. alcohol was siphoned off, about 50 c.cm. being left covering the precipitate. The latter was then centrifuged down, washed once with alcohol and once with ether, and then transferred to a vacuum desiccator over sulphuric acid.

The 8 litres of ox blood yielded 1.45 grams of a blood extract which I called "sanguinin." The substance is light brown in colour and very readily soluble in water. The solution, which is yellowish, I made up in the following dilution: 1 c.cm. of the solution = 10 mg. of sanguinin.

#### Experiments.

Intravenous injections were given into the marginal veins of the ears of two rabbits.

**Experiment 1.**—In the first rabbit 2 c.cm. (20 mg.) of sanguinin was injected. Fifty minutes after injection the blood sugar equalled 0.128 per cent., and ninety minutes after 0.140 per cent., showing that there was no appreciable amount of insulin present in the injection of blood extract given. Blood counts taken on the following dates showed:

1923.	Red Cells.	White Cells.	Haemoglobin.	Colour Index.
Dec. 4, just after injection ...	5,496,000	5,200	70%	0.64
Dec. 8, 4 days " " ...	6,410,000	7,400	65%	0.5
Dec. 10, 6 days " " ...	5,512,000	5,100	80%	0.78

In ninety hours the red corpuscles had increased by nearly a million per cubic millimetre, the whites by 2,200, and there was a fall of 5 per cent. in haemoglobin. The latter may have been due to there being too great a demand for haemoglobin to cope with the increase in the number of red cells. The general deficiency of haemoglobin was due to the animal being kept in confinement.

**Experiment 2.**—Into a second rabbit was injected 5 c.cm. (50 mg.) of sanguinin. Blood counts taken on the following dates showed:

1923.	Red Cells.	Haemoglobin.	Colour Index.
Dec. 17, just before injection ...	4,016,000	83%	1
Dec. 21, 4 days after injection ...	5,654,000	75%	0.66
Dec. 24, 7 days " " ...	6,280,000	90%	0.72
Dec. 31, 14 days " " ...	5,594,000	82%	0.82

Here again we find a fall in haemoglobin and an increase in red blood cells followed by a fall. It would appear that the sanguinin either temporarily stimulates blood formation or temporarily inhibits blood destruction.

A similar effect was observed on giving a series of intravenous injections to a patient with pernicious anaemia in a remission stage.

The patient was admitted to hospital on October 21st, 1922, with the following signs and symptoms: Lemon-yellow tinge of skin, glossitis, complete achlorhydria on three occasions; temperature rising to 100° F. at night; numbness and tingling in arms and legs, oedema of legs, and increasing weakness. All her teeth had been removed eight years previously, and her stools contained coliform bacilli only. The blood picture on admission was as follows: There was a great variety in the size and shape of the red cells, numerous megaloblasts, some showing mitosis. The red cells numbered 802,000 per c.mm., white cells 1,500, haemoglobin 20 per cent., colour index 1.2. Differential count: Polymorphs 32.5 per cent., small lymphocytes 51 per cent., large lymphocytes 7 per cent., eosinophils 5 per cent., myelocytes 3 per cent., hyalines 1 per cent.

The patient left hospital on December 15th for Christmas. She had greatly improved; the red cells numbered 2,436,000, white cells 1,400, haemoglobin 33 per cent., colour index 0.69. She attended afterwards as an out-patient, and periodical blood examinations were made without showing any appreciable difference in the blood picture.

As this seemed a suitable case for experimental purposes, owing to the blood being in a stationary condition, I gave her a series of intravenous injections of sanguinin at intervals of four days: 1 c.cm. (10 mg.) of sanguinin was given on September 30th and on October 3rd, 7th, 11th, and 15th. The blood counts, taken four days before, during, and subsequent to the injections, were as follows:

1924.	Red Cells.	White Cells.	Haemoglobin.	Colour Index.
September 26 ...	2,640,000	1,100	36%	0.68
October 7 ...	3,193,000	1,201	39%	0.61
October 11 ...	2,956,000	1,700	39%	0.66
October 15 ...	3,148,000	1,400	39%	0.61
October 22 ...	3,176,000	—	39%	0.61
October 29 ...	3,560,000	—	42%	0.6
November 5 ...	3,640,000	2,600	40%	0.55

Differential count: Polymorphs 29 per cent., large lymphocytes 10 per cent., small lymphocytes 59 per cent., eosinophils 4 per cent., fragile cells 2 per cent., and neutrophil myelocytes 1 per cent.

After the first injections she complained of sweating and of feeling tired, sleepy, and heavy in head, arms, and legs. After the later ones she said that they gave her fresh life and vitality and she missed them when they were omitted—probably a mental effect.

On December 1st, 1924, the count was as follows: Red cells 2,920,000, white cells 1,600, haemoglobin 40 per cent., colour index 0.69. Examination of the above figures shows that there was a rise in the red blood corpuscles of 1,000,000 per c.mm. in six weeks, followed by a fall in the succeeding three weeks. The white count of this patient has always shown a marked leucopenia, usually about 1,500 per c.mm. with a relative lymphocytosis. The colour index is characteristically high in the relapse and low in the remission stages.

Experiments with sanguinin (1 c.cm.) on blood pressure showed an immediate fall of about 20 mm. of mercury, but intravenous injections of distilled water (1 c.cm.) gave the same results, so the observation was of no value. I expected an increase in the blood pressure, on the assumption that there might be a percentage of adrenaline present in the blood extract. It is impossible to say how much of the undoubted improvement which has occurred in this patient since the injections were given is due to the sanguinin.

#### Conclusion.

The fact of importance which arises out of the above experiment is that an extract can be obtained from blood by means of the alcohol-fractional precipitation method. The substance is freely soluble in water, non-toxic, and has apparently some effect in increasing blood formation. The extraction process is a long and expensive one and the amount of sanguinin obtained very small. The failure to extract sufficient insulin to affect the blood sugar curve in the amount given to the rabbit is interesting, as is also the negative result obtained on examining the blood pressure.

It is not impossible that, by using other methods of extracting blood, further substances, probably of greater import than sanguinin, may materialize.

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- <sup>1</sup> *Guy's Hospital Reports*, Vol. 72, No. 2, April, 1922, p. 123.
- <sup>2</sup> *Ibid.*, Vol. 71, 186, 1921.

## MEMORANDA.

Memoranda:  
MEDICAL, SURGICAL, OBSTETRICAL.

**GALL STONES IN ADOLESCENTS.**  
THE accounts of cases recently published in the *BRITISH MEDICAL JOURNAL* describing the occurrence of gall stones in adolescents have elicited the fact that, at all events until fifteen years ago, no operation for this trouble had been performed on anyone under 21 years of age, and therefore the publication of another instance would appear to be justified.

S. E., a well built French girl, aged 15 years, was seized with abdominal pain, referred chiefly, but not solely, to the epigastrium, and of varying but gradually increasing severity. On the second day, at my request, Mr. C. P. Childe saw her with me, and forty-eight hours later the condition sufficiently resembled an "acute abdomen" to call for immediate operation. An appendix in a high position was the most natural conclusion, but a tentative diagnosis of gall-bladder trouble was made, with, however, less confidence than would have been the case had the patient been older.

Mr. Childe operated through an incision in the right semi-lunar line, which revealed acute cholecystitis without peritonitis. On opening the gall bladder, thickened bile with 150 small faceted stones and two larger ones, measuring  $1\frac{1}{4}$  and  $1\frac{1}{2}$  inch respectively, were found. On account of the infected condition of the gall bladder, cholecystectomy was performed, and recovery was uneventful. The only other point worthy of note is that the patient had been an inordinate eater of sweets from babyhood.

M. ASTON KEY, O.B.E., M.D.

Southsea.

THE note by Mr. C. M. Kennedy (May 9th, p. 882), relating a case of gall stones in a girl of 13, prompts me to send a few details of a somewhat similar case.

M. R., a girl aged 14 years, was sent to me by Dr. E. Gimson, D.S.O., of Witham, with a diagnosis, which he had made, of gall stones. The symptoms dated from two years previously, and there had been five attacks of severe colic in the preceding nine months and minor attacks of pain dating back to 1921. During one attack she was definitely jaundiced. When I saw her on March 24th, 1923, there was distinct tenderness on deep pressure in the right hypochondrium. I performed cholecystectomy for her a few days after, the gall bladder containing a large number of small stones.

Although this is the earliest age at which I have performed this operation for gall stones, I have had one or two others under the age of 20.

CECIL A. JOLL.

London, W.I.

CASES like that recorded below are of interest apart from their rarity. The patient was a Tamil boy, aged 12, with obstructive jaundice caused by gall stones and *Ascaris lumbricoides*. The case demonstrates the importance of this parasite as a cause of surgical conditions.

The patient was admitted to hospital on December 12th, 1923, under the care of Dr. P. H. Hennessy. He was in poor physical condition; both thighs were flexed on the abdomen; there was general abdominal tenderness, but no visible tumour. The temperature was normal; pulse 80. The tongue was coated and the bowels constipated.

His past history was as follows: At the age of 7 he suffered from sudden abdominal pain followed by vomiting. The pain increased in severity and lasted for about a week. He was at this time constipated and retention of food was difficult. He was taken to a dispensary and given "worm powders" and a dose of castor oil, and subsequently passed several *ascaris* worms. The pain subsided temporarily, only to return at monthly intervals. No swelling or distension of the abdomen had been noticed. During the three months previous to admission the attacks of pain had increased in severity; they were not constant in character, but were accompanied by fever and general weakness. Examination of the blood for malarial parasites was negative. A blood count showed: Polymorphs 69 per cent., small mononuclears 20 per cent., large mononuclears 5 per cent., eosinophils 6 per cent. No ova were found in the faeces, and the urine was normal.

On the day following admission the temperature rose to  $100^{\circ}$  F. and the patient had a rigor; severe pain was present in the umbilical region. A well marked globular swelling of the liver, felt protruding from beneath the under surface of the abdomen, was felt protruding from beneath the under surface of the abdomen. The urine contained bile, and the patient was slightly jaundiced. Dr. Hennessy diagnosed obstructive jaundice caused by gall stones in the common duct, complicated by *ascaris* worm in the biliary tract.

The patient was transferred to the surgical ward under my care on December 20th. Examination confirmed the diagnosis, and operation was decided upon.

**Operation.**—Under C.E., ether, and oxygen (Shipway) anaesthesia, the abdomen was opened by a right paramedian incision and the right rectus drawn outwards. The gall bladder was found greatly distended, the liver enlarged and of a bright red colour, with the lower border much thickened. There were no adhesions either in conjunction with the gall bladder or liver. The upper surface of the liver showed some scarring. The common bile duct was enormously dilated. Palpation of the common duct disclosed a number of stones, but palpation of the common duct failed to detect any stones, but palpation of the common duct disclosed a number. The abdomen was thoroughly packed off. The gall bladder was opened, emptied, and the wall was not appreciably thickened; no stones were found. The bile evacuated appeared normal. A drainage tube was fixed into the gall bladder and brought well outside the abdomen. The common duct was then opened over a stone, sufficiently passed upwards to the hilum of the left index finger was then easily passed upwards to the hilum of the liver and several stones were located. These were manipulated downwards and extracted. The finger was then passed upwards and the incision in the duct sutured over it. Both tubes were now brought out through the posterior sheath of the rectus—through a specially made incision. The rectus was replaced and a small split made in it; through this the tubes emerged. The gauze packs had already been removed and the peritoneal toilet attended to. The abdomen was then closed. The drains were removed on the fifth day. The fistula was completely closed on January 5th, 1924, and the boy was convalescent. Examination of the urine showed bile to be present each day from December 23rd to 28th, 1923, but absent on December 30th. There were no *ascaris* ova in the stools. The specimens were forwarded to Dr. Fletcher, Government pathologist, Kuala Lumpur, who reported as follows:

"I could find no eggs, but the fragment of worm was surrounded by a definite article, and there is no doubt that you are right and that it is a piece of round-worm."  
In a subsequent report Dr. Fletcher said:  
"I should think it probable that the *ascaris* was the cause of the gall stones, by acting as a contaminated irritating foreign body. The gall stones probably formed in the gall bladder."

C. BURGOYNE PASLEY, F.R.C.S.I.,  
Chief Surgeon, Perak, F.M.S.

## BILATERAL TWISTED OVARIAN CYSTS.

THIS case seems to be worthy of recording on account of its rarity.

A married woman, aged 45, was in good health until the beginning of March, 1925, when she noticed that she was getting stouter. On March 14th she had an attack of abdominal pain lasting a few hours; there was no vomiting, and the following morning she was well again. She consulted her doctor, and at a subsequent consultation the following facts were noted.

The patient was well nourished and looked well. She had slight exophthalmos with some enlargement of the thyroid and tachycardia (90). Menstruation had been quite regular up to Christmas, but she had seen four periods since then. The abdomen was distended, with bulging of the flanks and a well marked fluid thrill. A solid mass could be felt 2 to 3 inches above the pelvic brim rather to the right of the middle line. No pain or tenderness was elicited. By vaginal examination it was found that the pouch of Douglas bulged into the cervix. Bimanually a rounded swelling or two small fibroids in the cervix. Bimanually a rounded swelling could be palpated, which was thought to be separate from the uterus. The uterus itself was enlarged.

A diagnosis of fibroid uterus with an ovarian cyst or solid ovarian tumour and a large ascitic accumulation was made. The patient came to the nursing home on the following day, and during the forty-eight hours between the consultation and the operation the amount of ascites had markedly increased and the abdomen was tense. The pulse rate had risen to 110, and a systolic bruit was heard at the apex. Just prior to the operation the radial pulse could not be counted, but the patient seemed remarkably comfortable.

On opening the abdomen 14 pints of clear ascitic fluid was slowly evacuated and the patient's general condition improved. Two large ovarian cysts, each about the size of a grape fruit, were found. The right one was in the right iliac fossa and the left was in the pelvis, with many recent adhesions around it. They were both twisted, purplish in colour, and very tense, and many of the vessels running over them were thrombosed. Both were removed in the usual way. The uterus was enlarged to about two months' pregnancy and fibroid, but the condition of the patient did not warrant removal.

The interior of the cysts was lined by a warty growth which Dr. Walker Hall found to be a proliferating papillary ovarian cystoma, with much degeneration, accompanied by haemorrhage due to strangulation and locally malignant. The patient made an uneventful recovery; the bruit disappeared, and she left the nursing home three weeks after the operation.

Hereford.

J. AUGUSTIN PRICHARD.

## Reports of Societies.

### ERYTHROEDEMA.

At a meeting of the Edinburgh Medico-Chirurgical Society on May 6th, with Sir DAVID WALLACE, the President, in the chair, Dr. J. S. FOWLER read a paper on erythroedema and described four cases which had come under his notice.

Dr. Fowler referred to the rarity of the condition in this country, but pointed out that, owing to the fact that the symptoms of the disease did not always form a typical syndrome, it was probable that the condition would be found to occur more frequently if a careful watch was kept for it. He referred to the frequent occurrence of the condition in Australia: Swift of Adelaide was the first to draw attention to the condition, and he named it "erythroedema." Jeffreys Wood of Melbourne, and Bilderback and Weston in America, described further cases, the latter terming the condition "acrodynia." A few cases had been recorded in England by Thursfield, Parkes Weber, and Paterson, and by Feer of Zürich—the only Continental reference. Dr. Fowler then described the four cases seen by him since 1923. In none of them was there any history with regard to diet or antecedents which might throw light on the etiology; the home conditions in all were above the average. The chief clinical features as shown by these four cases were as follows:—*Age:* Dr. Fowler's cases were two boys aged 2 years and 13 months respectively, and two girls aged 2 years 1 month and 13 months. The disease, however, might occur between 4 months and 4 years, and appeared to affect both sexes equally. *Course of Prognosis:* Three of Dr. Fowler's patients died, but this was exceptional; most recovered after a protracted illness lasting up to a year. In Jeffreys Wood's 91 cases only 5 died, mostly from bronchopneumonia. *Symptoms:* The striking appearance of the hands and feet was pathognomonic of the disease, and the red nose and cheeks were often seen. Profuse sweating accompanied by rashes and intolerable itching was invariable. The thoroughly wretched condition of the patient was most striking, and was associated to some extent with the characteristic insomnia. Dr. Fowler thought that this insomnia was not entirely due to the itching but was a direct symptom of the disease, resembling the insomnia of encephalitis in some cases. Loss of teeth was common, and the chief nervous symptom was muscular atony. The frequent pulse without pyrexia and the high blood pressure were probably constant features. Dr. Fowler found no special changes in the blood or cerebro-spinal fluid, and the Wassermann test was negative in all cases. Nothing was definitely known as to the etiology of erythroedema. On account of a distant resemblance to pellagra, a diet deficiency had been suggested, but in the cases described the feeding and home surroundings had been usually quite satisfactory. There seemed no doubt that for some reason or another erythroedema had become more common since the influenza epidemics of 1918; Feer had suggested some upset of the vegetative nervous system. The treatment was not satisfactory. Attention to the diet, and painting the gums with 1 per cent. chromic acid to prevent secondary infection, were the main points. Feer stated that benefit resulted in one case from large doses of atropine, and in another from calcium lactate.

*Case 1.*—A female, aged 2 years and 1 month, had been quite healthy until an attack of vomiting with feverishness of fourteen days' duration, four months before admission. Since then she had been very miserable, cross, and sleepless, refusing food, and suffering from an itchy rash over the body. During the last few weeks her fingers and toes had become thickened, red, and clammy. She had wasted, could no longer walk, and when sitting in bed always fell forward on her face. On admission the child was miserable, whined constantly, and seemed in pain if touched. She was fairly well nourished, her cheeks and nose were bright red, and her muscles very soft and flabby. She lay either with her face buried in the pillow or with her head resting on her knees. A punctate erythema resembling a sweat rash was scattered over the body, and she sweated profusely. The hands and feet were swollen, livid red, with thickened fingers and toes covered by sodden, desquamating skin which felt cold but did not pit on pressure. The discoloration had an ill defined margin and extended to just above the wrists. The hair was short, ragged, and scanty. The heart and lungs were healthy, and there were no signs of rickets. The leucocyte count was 12,000. There was great muscular hypo-

tonia, with no true motor paralysis; the knee-jerks were much diminished, and sensibility to pin-pricks impaired. While in the ward she showed marked sleeplessness, very poor appetite, and slowly wasted. Cutaneous irritation was marked; she rubbed at her skin and pulled out tufts of her hair. The temperature was not raised, but the pulse varied from 120 to 150. The blood pressure was high—100 to 120 mm. mercury. With no apparent previous changes in the gums three incisor teeth loosened and fell out; this was followed by a very bad stomatitis which showed no tendency to heal. During her eighth week in hospital she developed bronchitis and a streptococcal infection of a finger-nail, and died of septicæmia.

*Case 2.*—A male, aged 2 years, was admitted on account of stomatitis and loss of teeth. Seven weeks previously he had become moody, fretful, and irritable. Three weeks later the hands became irritable, red, and swollen, while a speckled rash appeared over the body. He then began to pull tufts of hair out, and play with his teeth, which fell out. There was no insomnia. He was very ill on admission and died a few hours later from bronchopneumonia. The hands and feet had the same appearance as in Case 1; the body was covered with sudamina, the muscles were very soft and lax, and the gums were sloughing deeply.

*Case 3.*—In a female, aged 13 months, the first symptoms were constipation followed by diarrhoea. She became flabby and very cross, and sat with her face resting on her knees. She slept little and had a very poor appetite, but was always thirsty. The hands and feet had become red and swollen. On admission she was fretful, the nose and cheeks red and mottled, the hands and feet swollen, dark red, and moist, and the muscles very lax. The pulse was 160, the blood pressure 115. Several teeth fell out while she was in hospital, and the gums became ulcerated, exposing the permanent teeth and leading to the loss of one of these also. The symptoms were the same as in Case 1, only less severe. After five weeks in hospital she was removed by her parents, who were leaving the town, and had since been lost sight of.

*Case 4.*—In a male, aged 13 months, illness began at the ninth month with bright red rashes on the body. He became very limp, but was not fretful. He sweated a great deal, and the hands were so itchy that they had to be bandaged to prevent scratching. His symptoms had never alarmed the mother, but two days before his death he had erythematous rash, was very flabby, and his hands and feet were red and swollen. Next day his temperature was 100°, and on the morning of Dr. Fowler's visit he had suddenly collapsed. He was moribund when seen, the temperature was 105°, and the pulse was uncountable. He was sweating profusely; one incisor tooth was loose. He died half an hour later; no explanation of the sudden collapse and fever was found.

Dr. JOHN THOMSON said that his own experience of erythroedema—apart from the cases which Dr. Fowler had shown him—consisted of two good-class children aged 2 years 4 months and 17 months respectively. Their symptoms were those which Dr. Fowler had described, but they were milder cases and showed no loss of teeth. They were both treated with cod liver oil and cod liver oil in the diet, and autogenous vaccine injections. Both recovered and had remained well.

Dr. CRANSTON LOW suggested the possibility that the teeth condition might be the primary one, and the source of absorption. From the description of these cases the skin condition seemed to him to resemble what might be called glorified chilblains: in his opinion chilblains were due to the absorption of some toxic substance—most likely from the bowel.

Dr. FOWLER agreed with Dr. Cranston Low about the resemblance of erythroedema to chilblains, and thought there might possibly be some relation between them. He did not think that the teeth could be the primary cause, as disease there was usually a late symptom. An early x-ray examination might, of course, show a primary focus, and in any future case this would be looked for.

### Bronchial Fibrosis in Children.

Dr. CHARLES McNEIL then read a paper on fibrosis of the bronchi and lungs in childhood following bronchopneumonia. He referred to the fibrotic conditions of the lung consequent upon primary interstitial pneumonia produced by tuberculosis, syphilis, the duct diseases, and foreign bodies in the bronchus. He drew attention to the fact that though widespread alveolar pneumonia was a common condition, interstitial inflammation followed by fibrosis rarely resulted from it. Inflammation of the bronchi or pleura was more commonly followed by permanent peribronchial and subpleural fibrosis. With regard to the latter condition, one striking feature was the good general health usually found with widespread physical change in the affected lung. His paper was based on six cases in which the fibrotic changes were definite and demonstrable, and on twelve others in which the fibrosis was indefinite, but where the other clinical features justified their inclusion in the same

group. Referring to the history of the disease, he paid tribute to Laënnec's work in describing the fibrotic condition of the lung associated with bronchiectasis. In Laënnec's four cases the history was life-long, but the condition was compatible with long life and fair health. He apparently considered the bronchial dilatation as the primary factor. In 1833 Corrigan of Dublin described three autopsies, and said that the primary change was the increase of fibrous tissue, bronchial dilatation resulting from the traction of this contracting fibrous tissue. In addition he described the displacement of the heart to the affected side. Dr. McNeil referred to the monograph by Clark, Hadley, and Chaplin, differentiating between simple and tuberculous fibrosis by the good general condition of the patients, the absence of tubercle bacilli from the sputum, and the massive fibroid change in one lung. In most cases the originating illness had not been observed, but he believed that it was always a bronchopneumonia. In three of his cases the bronchopneumonia was primary and in three associated with measles. The immediate sequelae of such cases were the persistent hacking cough and failure to recover former vigour, but alarming thinness was uncommon. In the early months relapses with fever and exacerbation of cough occurred. The cough usually began on waking and lasted for half to one hour. Sometimes it occurred during the night and vomiting was frequent. Cough was apt to follow slight exertion or crying. The sputum in Dr. McNeil's cases was scanty and viscid, occasionally streaked with blood, and tubercle bacilli were never found. The breathing readily became hurried on exertion. In his six complete cases the fibrosis was always unilateral—left-sided in five, and right-sided in one. Flattening of the affected side, dullness, and faint or loud bronchial breathing with accompaniments were found in all cases. X-ray examination confirmed the physical findings and demonstrated the displacement of the heart and trachea. Dr. McNeil showed lantern slides from photographs of his patients and of x rays of their lungs. With regard to bronchiectasis, he suggested that on clinical grounds paroxysmal cough and cavernous breathing were not enough. A copious expectoration and probably also the presence of clubbing of the fingers and cyanosis should be present before the term "bronchiectasis" was justified. The general health in those six cases was found to vary. Under 5 years old, nutrition suffered little, after 5 years periods of good and bad nutrition, according to the severity or otherwise of the symptoms, occurred. In later childhood average energy and activity was shown. Clubbing of the fingers, cyanosis, and dyspnoea did not show in these six cases. Recurrent attacks of pneumonia occurred, but Dr. McNeil's experience had been that they were less severe and prolonged than usually occurred in an undamaged lung. These patients also resisted well ordinary infectious diseases. With regard to the possibility of infection by tuberculosis, Dr. McNeil thought that because of the amount of fibrous tissue these patients resisted tuberculosis more readily. If the general condition was good, and especially if in addition the tuberculin reaction was negative, the presumption was against active lung tuberculosis. Dr. McNeil then described his incomplete cases as being identical with the classical type with nocturnal cough, except for the absence of definite consolidation and contraction of the lung. The x-ray picture was blurred and streaked and the changes were bilateral. The signs of bronchial or pulmonary catarrh, however, were confined to one area of lung and remained so. He showed slides of microscopic sections of lungs of children who died at a very early stage in acute bronchopneumonia, in which congestion of the peribronchial tissue and cellular proliferation and oedema of the interalveolar tissue were seen. The prognosis in these cases, as had been indicated, was usually good, but treatment to reduce the fibrosis was not promising. Dr. McNeil had used iodides and thyroid extract without definite results. For the catarrhal condition and cough, complete rest in bed, warmth, fresh air, and sunshine were the sovereign remedies. Various expectorants and antiseptics might be used with benefit, but postural coughing and autogenous vaccines in Dr. McNeil's six cases—in which probably no real bronchiectasis was present—were of no value.

Dr. FOWLER remarked on the good general health of these

patients. He thought that in the majority of the cases the affection was primarily in the pleura. Dr. RITCHIE said that the massive involvement of one lung and the healthy condition of the other, along with the radiograms, were the most useful signs in differentiating between this condition and pulmonary tuberculosis. Dr. GUTHRIE referred to the condition being produced by a foreign body. In none of Dr. McNeil's cases which Dr. Guthrie examined could any sign of a foreign body in the bronchus be found. Dr. MATHEWSON described two cases in older children in whom an early systolic aortic murmur was heard. He suggested this might be due to mechanical traction on the root vessels of the neck. Dr. McNEIL, in reply, agreed that some cases might be pleural in origin. He had not found any aortic murmur in his cases.

### GASTRIC AND DUODENAL SURGERY.

A MEETING of the Section of Surgery of the Royal Society of Medicine, with the President, Mr. H. J. PATERSON, in the chair, took place on June 3rd, when Dr. CHARLES H. MAYO (Rochester, Minn.) gave an address on gastric and duodenal surgery.

Dr. Mayo said that operations to relieve pyloric obstruction were devised and practised early in the history of modern surgery. The first of these was the operation of pylorotomy by Billroth's first method. In 1882 Hartmann and other Continental surgeons were practising this operation, which gave great relief in successful cases, but was attended by a very high mortality from leakage at the dangerous triangle where the duodenum was united to the suture line in the stomach. To Nicolodena belonged the credit for devising the first short-circuiting operation or gastro-enterostomy, which avoided the difficulty of dealing with this triangle. This was followed by the introduction of Billroth's second method of pylorotomy, in which the cut stomach was completely sutured and the open end of the duodenum anastomosed to a fresh opening in the stomach. Owing to the fact that the duodenum was an unsatisfactory material for suture, the operation of Billroth II was superseded by operations designed to dilate the pylorus, such as those of Loreta and Ramstedt; the latter was still extensively practised to this day for the congenital form of pyloric stenosis in infants. In 1892 Finney began to perform pyloroplasty, an operation which he continued to perform with great success until three years ago, when it was modified. About the same time came the mechanical aid to anastomosis—Murphy's button, Mayo-Robson's bone hobbin, Senn's decalcified bone plates, etc.; all these had now been abandoned in favour of plain suture. The next and very great advance in gastric surgery was the advent of the Polya operation, which was extensively practised at the present time throughout the surgical world, either in the original form, in which the anastomosis was a posterior one, or now oftentimes in Balfour's\* modification, in which the loop of jejunum was brought in front of the splenic flexure of the colon and the anastomosis was consequently an "anterior" one, although the same opening in the stomach was employed for the stoma. It was remarkable that the small remainder of the stomach became dilated after this operation, so that in time the organ resumed a size approximating to the normal. Balfour's modification, now regarded as the more satisfactory operation of partial gastrectomy, whether for ulcer or for cancer, was originally designed to avoid the necessity for the opening in the transverse mesocolon near the mid-colic artery; for it was thought that the liberal blood anastomosis in that region was responsible for the very rapid dissemination of cancer which sometimes followed the original procedure. The success of the operation of gastro-enterostomy had led to its abuse by performing the operation when no ulcer was demonstrable, although symptoms simulating ulcer might have been present. The reflex causes of gastric symptoms were now more generally recognized, and failures from this cause less frequent. Other causes of failure which the speaker had had to deal with arose from an improper site of the anastomosis, a long loop, and ulcer at the anastomosis. In

\* Generally known as the Mayo-Polya operation.



three cases, on reopening the abdomen after a primary operation by another surgeon, he had discovered the anastomosis in the ileum at 9, 10, and 18 inches respectively from the ileo-caecal valve. A long loop was now recognized as being liable to give trouble from angulation or kinking, but the direction of the stoma was a matter the importance of which was still insufficiently appreciated. It was only rarely that the first piece of the jejunum ran directly down from the duodeno-jejunal junction; more often the first turn or loop was in the region of the spleen. There was sometimes trouble with the third loop of the jejunum in the region of the gall bladder. Gastro-jejunal ulcer had become less common since the adoption of the catgut suture for both layers; the majority of anastomotic ulcers were associated with the presence of an unabsorbable suture. At the Mayo Clinic it was remarked that the cases that progressed well from the first generally continued to do so; further trouble was to be expected chiefly in the cases which did not make rapid improvement immediately after the operation.

Regarding the choice of operation to suit the individual case of ulcer of the stomach or duodenum, Dr. Mayo held very strongly that the operation of partial gastrectomy should be reserved for the large ulcer of the body of the stomach, the type that was apt to become cancerous. He had seen extensive resections of the stomach with a portion of the duodenum performed for small ulcers of the pylorus or even of the duodenum, neither variety being of the type that became cancerous; this he regarded as quite unnecessary and unjustifiable. As regards the results of the surgery of gastric and duodenal ulcer, records of 1,000 consecutive cases at the Mayo Clinic showed that 90 per cent. were successful, but 10 per cent. were failures either from haemorrhage, obstruction, or gastro-jejunal ulceration; the incidence of the last had been reduced from 4 per cent. to 2 per cent. by the use of catgut exclusively. The common etiology of ulcer of the stomach or duodenum was expressed by its name, "peptic ulcer," but ulcers did occur in cases of complete achlorhydria which could not be so explained, since no hydrochloric acid was present to activate the pepsin. Such ulcers were associated, he thought, with the innervation of the stomach; the achlorhydria was a part of a general alkalosis throughout the body, accompanied by various symptoms of nervous derangement. The ulcer in achlorhydria he therefore regarded as "trophic." Such ulcers rarely or never perforated. Ulcers could also be produced by large doses of drugs or of bacteria, and ulcers in the duodenum had been experimentally produced by diverting the normal alkaline pancreatic secretion into the lower ileum, but none of these forms of ulceration was permanent; so soon as the stimulus that produced them was withdrawn they healed. The late Dr. John Hunter, in his study of the sympathetic system, pointed out that many muscles possessed the power of fixation only. Such muscles were apt to go into a state of spasm and were responsible for pylorospasm, cardiospasm, and certain cases of hour-glass stomach. The essential feature of such cases was a derangement of the central nervous system. In some cases a similar spasm was observed in the small intestine, and led to the bulging of the mucosa through the muscular coat at the points of entrance of the vessels, thus paving the way to the formation of permanent diverticula. He had actually observed this occurrence during an operation.

Returning to the question of the choice of operation, Dr. Mayo pointed out that gastro-enterostomy was not very successful in dealing with haemorrhage from duodenal ulcer, which was a symptom in 24 per cent. of such cases although serious haemorrhage only occurred in about 8 per cent. He concluded by referring to the necessity for travel and seeing new methods and hearing new theories if medical men were to avoid having a closed mind and becoming stereotyped in their work. In surgery it was essential to keep constantly in mind the ideal of achieving the desired result with the least possible damage to the patient.

A number of lantern slides showing the work at the Mayo Clinic, and Drs. William and Charles Mayo at their home, were shown by the President, and the meeting con-

cluded after Dr. Mayo had replied briefly to a vote of thanks, proposed by Sir JAMES BERRY, seconded by Mr. NICHOL, and carried with acclamation.

## PARASITIC SKIN DISEASES COMMON TO MAN AND DOMESTIC ANIMALS.

A MEETING of the Section of Comparative Medicine of the Royal Society of Medicine was held on May 27th, Mr. F. HONNAY, the President, in the chair.

Dr. J. H. SEQUEIRA read a paper on the parasitic diseases of the skin communicated to man from the domestic animals. The paper was illustrated by lantern slides. This question, he said, was a most interesting one, and although a specially rich field could be found among such diseases from tropical and subtropical countries, he proposed to confine his remarks to those occurring in Britain. In recent years it had been found that so-called "eczema" was frequently due to micro-organisms and often was really scabies; this was true both for man and animals. He divided the skin diseases into four classes: (1) Animal parasites—due to the Sarcophagidae and Demodicidae. (2) Moulds—due to ringworm fungi. (3) Micro-organisms transmitted from animals, including such diseases as tuberculosis, anthrax, and glanders; and parasites inoculated by insects or deposited on the skin in their faeces. (4) Virus diseases such as cow-pox, foot-and-mouth disease, and, possibly, molluscum contagiosum.

*Animal Parasites.*—The most important of the mange mites from the point of view of intertransmissibility was *Sarcoptes scabiei*. No differences were found between those forms in man and those in animals—except possibly in point of view of size. Some of the animal forms were found not uncommonly in man; but in general, infection of the human subject was difficult. Other genera than this were found in animals, but were peculiar to them—with the exception of the mange mite of the cat, *Notodectes cati*. McDonald had recently drawn attention to the infection of a class of veterinary students from a diseased horse which was being dissected, and had given considerable details as to their symptoms and treatment. Cases from dogs were not infrequently reported, and occasionally also from the camel. *Demodex folliculorum* was generally considered a harmless human parasite, but it had been suggested that it might convey bacteria to the skin and be the cause of a form of "ring" impetigo. It appeared to be much more pathogenic in the domestic animals. A final animal parasite of interest in this connexion was the extremely rare subcutaneous hydatid, only two cases of which had been reported.

*Ringworm.*—Many species of ringworm fungi existed in man and animals, and there was a great deal of intertransmission of the various species. Two genera of fungi, *Microsporum* and *Trichophyton*, were responsible for ringworm, and one, *Achorion*, for favus. Many strains of these parasites existed, and the lecturer showed illustrations of ringworm in man caused by infections derived from cat, dog, and calf, that from the calf forming concentric characteristic rings. Dr. Sequeira quoted the case of a "lather boy" in a barber's shop who had contracted the disease from a customer (the fungus being of animal origin originally). The boy developed a lesion on his finger, which passed the disease on to the face of other customers. The forms from animals might be scaly, vesicular, or pustular—the last often developing into follicular or perifollicular abscesses. Favus was uncommon in Britain, and was usually seen in Polish immigrants and those who came into contact with them. It formed a distinct cup-like lesion ("favus cup"), and attacked both hair and skin, leaving very deep scars. It was not a common animal parasite, but evidence had been produced to implicate the mouse as a source of infection, and the infective chain was probably: mouse—cat or dog—man.

*Bacterial Diseases.*—Warty tuberculosis was the commonest form found due to inoculation, and was occasionally seen in those making post-mortem examinations or coming into contact with tuberculous discharges of human or animal origin. It formed a characteristic lesion with a scarified centre, a warty intermediate zone, and a purplish periphery. Anthrax was familiar as a malignant pustule, which, owing to public health measures, was now much less serious than in the past. It was curious that in negroes it appeared to be much less malignant than in Europeans. Glanders was now almost extinct in this country, and he personally had never seen a case.

*Virus Diseases.*—Dr. Sequeira referred to a case of cow-pox occurring in 1913 in a man from direct contact with cattle. The patient was 55 years of age, and had not been vaccinated since infancy. Cases were not uncommon of mothers being



infected by scratches from their own newly vaccinated children. Foot-and-mouth disease was another subject of great interest in connexion with this subject.

The PRESIDENT drew attention to the increasing importance of the animal diseases from the point of view of human health, and gave instances of cases which had come under his own notice.

Dr. A. STOKES raised the question whether actinomycosis could be considered as one of the diseases of animals directly transmitted to man.

Dr. T. W. M. CAMMION drew attention to a source of sarcoptic mange in man which was very often overlooked—namely, cattle, which were very extensively infected, at least in some parts of Britain, and were a source of "dairyman's itch." The parasites of the genus *Demodex* were of great interest. Mr. Stanley Hirst of the British Museum had recently published a most exhaustive monograph on the genus, in which he showed that the human species was not the same as that found in dogs; and that, in fact, most animals had their own peculiar species—unlike the mange mite *Sarcoptes scabiei*, only strains of which existed in the various hosts. It was very improbable that man could be infected by animal forms. At the same time the parasite must to some extent at least be contagious, otherwise one would be compelled to believe in spontaneous generation. The relationship of "follicular mange" to *Demodex* was a very vexed one. Many people believed that a micro-organism was the cause of the disease and the mite merely the carrier. He had often found the parasite in apparently healthy dogs, and it was probably as common as the human form was reported to be, and probably as little pathogenic as a rule. It was possible that the parasite merely found a convenient ground to develop in the primary lesions developed by the micro-organisms, but a *post hoc, ergo propter hoc* attitude must be rigidly avoided. He was very doubtful if actinomycosis, which was rapidly becoming a name for a symptom and not a disease, was ever transmitted from animals to man.

### AORTIC DISEASE.

At a meeting of the Devon and Exeter Medico-Chirurgical Society held on May 21st, the Vice-president, Dr. R. WORTHINGTON, in the chair, Dr. G. L. THORNTON read a paper entitled "A few reflections on aortic disease," based on over five years' study of ex-service men.

Dr. Thornton laid emphasis upon the point that any conjectures and conclusions were purely personal, and in no case represented necessarily the considered views of the Ministry of Pensions. Aortic insufficiency offered special attractions as regards wealth of material for study. The ages of the patients ranged from the early twenties to 65 and upwards, the extremes being supplied for the most part by ex-naval ratings, the discharged "boy" and the chief petty officer, both engaged in active service at ages which were exceptional in the army. After referring to the six groups of aortic disease distinguished by Osler, Dr. Thornton added that in his paper he would limit himself to the endocarditic group (acute rheumatism), the syphilitic, and the arterio-sclerotic. The endocarditic group had supplied every degree of the disease from the case discovered accidentally, the condition causing little or no embarrassment at the time, to that of severe degree with rapidly failing compensation. In the milder cases had occurred what might be described as the "elusive, aortic diastolic murmur," and various clinical details were given in illustration of this and other conditions. Several examples were noted of the arterio-sclerotic type and age, the patients having failed rapidly after four or five years' service in the war, and it might be conjectured that the myocardium must have been exhausted before demobilization. Naval cases comprised the majority of those in which the condition had become rapidly worse since the completion of their service. The arterio-sclerotic type of case raised the question how far the increased tension had in itself a mechanical effect upon the aortic valves, and a great deal of evidence was forthcoming in this respect. In a series of cases of nephritis carefully analysed only 2 per cent. showed lesions of the aortic valve, although blood pressures as high as 260 were registered. Dr. Thornton remembered

two high readings, one approximating 300, in men less than 30 years old, who at present showed no sign of insufficiency at the aortic valve although the condition had been under observation for several years. In both cases, nevertheless, the arteries were thickened, and degenerative changes might well be expected in the valves later in life. There seemed, however, to be no authority for suggesting the existence of any condition of the aortic orifice comparable with temporary regurgitation at the mitral valve, either as the result of strain or of the myocardium being weakened by acute illness. Although strain had a powerful influence for evil on the aortic valve, it would appear necessary to admit the presence of some contributory agent, such as syphilis or atheroma. In some cases a diastolic murmur heard over the aortic area had tended to disappear, but Dr. Thornton could recollect no case where some evidence did not persist pointing to valvular insufficiency, and as regards severity of a case the elusive diastolic murmur had been noted at both extremes of the scale. In several instances the Flint murmur had been detected when the aortic diastolic murmur was either absent or too faint for recognition. Not infrequently such a case had been first diagnosed as pure mitral stenosis.

With regard to symptoms, the general appearance of the patient had been frequently of great service in estimating the disease, and the nature of the cardiac pain gave valuable information, ranging as it did from a mere slight stuffiness in the throat in the milder cases, to the definite angina occurring in the later stages of atheroma. Intermediate degrees were associated with pain across the chest at the level of the nipples, especially the left breast. This distribution seemed to be often compatible with a large but otherwise well compensated heart. On the other hand, the most severe and anginal type of pain had been noted in hearts where pressure from enlargement could be discounted as a factor in the production of pain, and Dr. Thornton believed that the prognosis would be bad in any case, even without the ominous facial appearance, so often present, as a guide. The actual extent of the transverse enlargement of the heart or the position of the cardiac impulse had not provided any sure line of demarcation, but in the young patient, with a past endocarditic history of many years, rough guides could be formulated by calculating the hypertrophy which maintained the compensation and relating it to the apparent age of the affection. With regard to the Flint murmur, if there was a possibility of stenosis of the mitral valve being associated with aortic disease, the case must inevitably be considered grave, but in those cases where the mitral valve was healthy no indication could be drawn from the presence or absence of a Flint murmur. This murmur had been observed in nearly 50 per cent. of the cases, apart from those where there was evidence of the existence of mitral stenosis. It was unnecessary to consider the import of an apical systolic murmur, which was different in pitch from one heard at the base, and more especially if there was wide external conduction of the former murmur. Dr. Thornton alluded to the elusiveness or varying degrees of intensity of the diastolic murmur, and remarked that conclusive evidence of aortic regurgitation might exist without there being a constant diastolic murmur. Although the complete absence of an aortic second sound, either in the neck or at the base, was undoubtedly of serious significance, yet care was necessary before classifying the case as mild when the sound was clearly audible. The second sound had been present, though not necessarily at every examination, in at least 40 per cent. of the cases, and in many of these the symptoms had been so severe as to negative the presumption that the presence of the sound could be taken to indicate efficient closure of the valve, even if it was admitted that the second sound at the aortic area originated solely at the aortic ring. Still greater caution was necessary in atheromatous and syphilitic cases where there might be interruption of the innervation and local circulation of the myocardium. Auscultatory findings must be collated with the symptoms generally. Blood pressure readings had been very variable, though in the majority exceeding 140. Apart from high figures and the wide separation of the systolic and the diastolic readings, more information was derived when repeated routine examinations showed that

the pressure was steadily falling—the sign of a failing myocardium. Oedema, except at the ankles, and pulmonary stasis had been rare, even in the most severe cases, and albuminuria had rarely exceeded a trace, except when the aortic reflex was associated with nephritis. Nervous symptoms had not been prominent, but when present had always been found to be associated with advanced aortic disease and failing compensation. Actual mental disease, necessitating removal to a mental hospital, had been less common than would have been expected.

The prognosis seemed to be particularly difficult in aortic disease; once the diagnosis was established no case could be regarded lightly, either in the present or from the point of view of the future, bearing in mind the circulatory changes of middle life. No single symptom appeared to give a definite lead for forming an opinion; the guidance must be drawn from the sum total of the subjective and objective findings, and not infrequently in aortic disease the condition was clearly shown by the face of the patient. Dr. Thornton expressed his indebtedness to the Director-General of the Medical Services, Ministry of Pensions, for permission to publish his paper.

The CHAIRMAN referred to the pessimistic prognosis which had been attached to cases of aortic regurgitation in his student days. He was glad to learn from the paper that the disease was compatible, in some cases, with many useful years of life, and he quoted a parallel case of an old friend in medical practice.

Dr. WILLIAM GORDON was much interested in the elusive aortic diastolic murmur, which might be subclassified into the true elusive murmur which all observers failed to find from time to time, and the murmur which was easily missed on auscultation. He showed a form of telescopic single stethoscope which, when drawn out to full length, lengthened the wave and proved very useful in doubtful cases. Touching on prognosis, Dr. Gordon quoted Allbutt, who, writing on aortic disease, and from a long experience of an industrial city, gave twelve to fifteen years as the outside expectation of life from the time the murmurs were first noticed. The longevity peculiar to Devon, which Dr. Gordon's statistics had proved in association with other disabilities, had probably a bearing on cardiac survival also. Rheumatic cases certainly survived longest, but syphilitic affections of the aortic valve were very grave unless treated energetically from the onset, and in this connexion he strongly advocated sodium iodide and deprecated injections of salvarsan. As regards congenital cases, the French had considered that the origin might be due to intranatal acute rheumatism. He also quoted a "traumatic" case, where the history pointed to a severe blow over the chest from a football. Finally, he counselled the meeting not to desert such valued friends as the iodides had proved themselves in treatment; whilst, in the literature of cardiac disease, *The Senile Heart*, by Balfour, would still give profitable reading.

Dr. H. JONAS mentioned his personal experience of an elusive aortic murmur, where the remainder of the cardinal symptoms of regurgitation were quite obvious. The murmur appeared, disappeared for a time, and finally became permanent. In his opinion suitable employment was of vital importance in treating the disease, and it was even better to take a little risk in recommending employment than to allow the patient time for brooding and introspection.

### OTORRHOEA.

At a meeting of the Section of Medicine of the Royal Academy of Medicine in Ireland on May 22nd, the President, Dr. F. C. PENNER, in the chair, Dr. J. H. POLLOCK gave an account of 49 cases of otorrhoea observed in Cork Street Fever Hospital.

Dr. Pollock found that from 29 of these a pure culture of *Staphylococcus aureus* was obtained, and from 14 cases diphtheria bacilli were recovered. Treatment by autogenous vaccines resulted in cure or very marked improvement in practically all the staphylococcal cases. He did not think that syringing the ears with antiseptic solutions was beneficial. Very marked anaemia was often present in cases of otorrhoea. Diphtheria frequently occurred in cases of scarlatina and measles, though in these cases the diphtheria

bacilli could rarely be obtained from the throat in the acute stage, but were found during convalescence.

The PRESIDENT said he had noticed that often in cases of severe sore throats, clinically resembling diphtheria, negative results were obtained from a bacteriological examination; diphtheria then developed, and later, when the patient was improving, diphtheria bacilli were recovered.

Dr. J. D. CURTIS said that very often in cases of acute otitis media an obvious cause could be found in the nasopharynx; this cause could be removed, if dealt with rapidly. Dr. W. D. O'KELLY was surprised that none of the cases recorded showed pneumococci, and thought that 29 staphylococcal cases out of 49 was a high percentage. Dr. H. F. MOORE thought the pneumococcus was a very common organism in cases of otorrhoea, and suggested that instillations of ethyl-hydrocupreiu, which killed pneumococci, might be beneficial.

Dr. R. J. ROWLETTE suggested that vaccine treatment should be tried in the more acute cases as in the more chronic cases described. All these cases had been late ones, which would account for the very limited bacterial flora found. Otitis media was generally present in cases of influenza, but these patients seemed to recover without much treatment; he thought it possible that pneumococcal patients also recovered without much treatment. Dr. A. R. PARSONS said that some years ago Sir Robert Woods had found that pneumococci were present in a large number of cases.

Dr. V. M. SYNGE said that in the cases in which diphtheria bacilli had been found, no animal inoculations had been carried out, and therefore it could not be ascertained whether the bacilli were toxin-producing or no. Unless diphtheria bacilli could produce toxin he did not think that they were genuine. He was surprised to hear that Dr. Pollock found the diphtheria bacillus so frequently in the throat in cases of scarlatina and measles; in his own experience diphtheria had been very rarely associated with scarlatina or measles.

Dr. POLLOCK, replying, said that his reasons for postponing treatment until the cases became chronic were that a certain number of these patients recovered spontaneously, and that he wanted to avoid the chance of such recovery after the vaccine treatment had been started.

### Osteomalacia.

Dr. H. F. MOORE and Dr. J. HAYDEN described a case of osteomalacia in an unmarried woman aged 28, in which there was a complete absence of hydrochloric acid in the gastric juice. There was no bending or softening of the bones, though fractures of the pelvis had occurred. The blood calcium was reduced. Dr. Moore discussed the relationship of osteomalacia and rickets, and also referred to tetany. The patient was treated by one drachm doses of dilute hydrochloric acid three times a day. Rapid improvement occurred, and after seven weeks all fractures had healed, while the blood calcium had markedly increased. Dr. GERAGHTY showed x-ray photographs of the bones before and after treatment.

The PRESIDENT said that osteomalacia was a very rare condition: he had seen one case some years previously. Dr. V. M. SYNGE referred to the possibility of lack of vitamin being associated with the condition. It was generally believed at present that rickets was due to absence of the antirachitic vitamin.

At a meeting of the Edinburgh Obstetrical Society held on May 13th, the President, Professor B. P. WATSON, in the chair, a communication was read by Dr. JAMES HENRY on the mobility of the uterus as a factor in the care of the third stage of labour and in the control of post-partum haemorrhage. Dr. Hendry described a simple method by which the mobility of the uterus after the second stage of labour could be taken advantage of. A communication was read by Mr. DAVID LEES on syphilis in pregnancy. The subject was gone into thoroughly, and the contentions of the author were illustrated by descriptive cases. The question of treatment was perhaps the chief import in the paper, and dual therapy was advocated, preferably with a preparation of arsenic and bismuth. No ill effects had been noted in the large number of cases so treated, and bismuth was tolerated well during pregnancy. Mercury could also be given, but not in such large doses, as tolerance was not nearly so good as with the other drugs.

## Reviéws.

### THE RADIO-ACTIVITY OF MINERAL SPRINGS.

FOLLOWING on the discoveries of Becquerel and the Curies in France, and of Rutherford, Ramsay, and Soddy in England, scientists began to study, some twenty years ago, the radio-activity of the mineral springs in several of the European spas. Since then a vast amount of independent physico-chemical, physiological, pharmacological, therapeutic, and clinical research has been carried out. The results have now been collated and examined in an instructive volume<sup>1</sup> by M. PIÉRY, the lecturer on hydrotherapy, and M. MILHAUD, the director of the laboratory of therapeutics, hydrology, and climatology, in the Lyons School of Medicine. It is perhaps the most complete and exhaustive work yet published on the subject, and it is fitting that it should come from the Lyons school, for many of the best known mineral springs of France, such as Vichy, Mont-Dore, Royat, and La Bourboule, are in its immediate vicinity.

The volume consists of a short preface by Professor TEISSIER, an introduction, and four sections. The introduction describes the physical and chemical properties of the radio-active elements and the rarer gases, with a detailed description of the methods of detecting them and estimating their quantity. The unit of radium emanation employed is the millimicrocurie (m.m.c.), adopted by the Congress of Radiology in Brussels in place of the German Mache unit (u.m.), which is equal to 0.4 m.m.c. and therefore readily convertible. The emanations of thorium and actinium derivatives are measured as an electrostatic unit (u.e.s.), equal to 1,000 Mache units. With this essential preliminary information the authors, in the first section of the volume, describe in detail the results of researches into the radio-activity of mineral springs and its geological origin. Several useful tables are given showing the amount of radium emanation (niton) and gaseous products of the principal springs of France and other countries. Stress is laid on the need for estimating the value of radium emanation, not by the number of millimicrocuries in the gases per litre, but by the amount of gases given off hourly. In other words, the horo-radio-activity is the essential measure of emanation value. This is explained by comparing the results in some of the mineral springs. Thus the Boussanges spring, Vichy, has only 0.6 m.m.c. of emanation per litre, but a discharge of about 60,000 litres of gas hourly. The horo-radio-activity is therefore  $60,000 \times 0.6$ , or 36,000 m.m.c. of emanation hourly. On the other hand, the Vauquelin spring at Plombières, with 109,038 m.m.c. of emanation per litre of gas, has only a delivery of 2 litres of gas hourly, so that its horo-radio-activity—218 m.m.c.—is comparatively low. It may be mentioned in this connexion that the Choussy spring at La Bourboule, with 492,420 m.m.c. of radium emanation hourly, is by far the most radio-active of all the French mineral springs. It has not only a high discharge of gas (3,480 litres hourly) but also an exceptionally high quantity of radium emanation (141.5 m.m.c. per litre). In this first section the question of the mineral constituents of the various springs in relation to radio-activity is also considered. Several have small mineral contents or are merely thermal; others are rich in mineral salts and in sulphur, iron, or arsenic constituents. The former are consequently classified by the authors as radio-active springs properly so called, the latter as radio-active mineral waters in which the radio-activity is secondary to the mineral constituents. No tables are given of the estimate of thorium or actinium emanations. Owing to their extremely short life—a matter of seconds—this amount can only be measured satisfactorily at the point of emergence, unless there happens to be a thorium or actinium element in solution or in the sediment.

The next section is devoted to the biological and pharmacological effects of the radio-active bodies, their channels of absorption and elimination, and their action on the

various organs and tissues. The chief difference between the radium and thorium emanation is their action on the blood corpuscles. Radium has little or no influence on these, whereas thorium is said to increase the haemoglobin and diminish the white corpuscles to a marked degree. The third section deals with the therapeutic action of radio-active emanations on individual diseases. Their value in gonitic affections and that of thorium derivatives in diseases of the haemopoietic system stand out as the most determinate effects in hydrotherapy.

The final section contains a description of the installations and methods of radio-active therapy in individual spas of France and other countries, followed by chapters on the indications and contraindications of emanotherapy, as it is called, and on the choice of spas for the treatment of particular classes of disease. Much emphasis is placed on the provision and construction of emanatoriums or installations for the application of radio-active emanation by inhalation. The vault and dome method of construction adopted by the ancient Romans satisfied all the essential requirements. Without knowing why, they hit upon the most practical way of deriving benefit from the emanation in thermal baths. In this connexion the authors consider that the chief value of the immersion baths is due to the emanation given off from the surface of the water and inhaled, and not from absorption by the skin or other channels. Another point is that in places like Vichy and Bagnoles de l'Orne, where there is constant escape of radium emanation into the atmosphere surrounding the springs, patients undergoing the cure are inhaling emanation continuously during their sojourn. Loisel, for example, has stated that the air of Bagnoles is four times richer in radio-active emanation than the air in Paris. The climate, therefore, of the radio-active spas probably plays an important part in the cure, and cannot be transferred to other places in bottles, like the mineral contents of their springs.

The authors have written for the instruction of French balneologists and medical practitioners, but the book is commendably free from propagandism on behalf of the French spas. A chapter, for example, is devoted to the methods and installations in the radio-active bathing establishments of other countries. It includes a description of Bath and Buxton, the only two spas in Great Britain where, they say, radio-activity has been thoroughly studied. But in describing the mud baths they write strongly in favour of the thermal mud baths of France as compared with those of Germany, Czechoslovakia, Italy, and Russia. The French mud baths, of which St. Armand in the north-east and Dax and Barbotan in the south-west are the chief, are naturally radio-active because the springs flow through the mud deposits, whereas in those of other countries the mud is taken from the place of origin at a distance, and often with much delay, and mixed with the water of the springs, and is inert. Further, the French baths are employed at their normal temperature, the others are artificially heated. The former, too, are classed as radio-active properly so called, the latter are sulphur baths or strongly saline; and even those with the highest reputation, such as Battaglia in Italy and Franzensbad in Czechoslovakia, have a less radium emanation than the French mud baths. The conclusion of the argument, therefore, is that France is the country one must go to for a radio-active mud cure. At the same time, the authors acknowledge that the installation of emanatoriums in the French spas is, as a rule, inferior to that in the spas of Central Europe.

Piéry and Milhaud's work merits close study both by balneologists and by all medical practitioners who may be called on to recommend a spa cure to their patients. Hydrotherapy is emerging from its traditional empiricism; but there is still much to be accomplished, not only in perfecting the means and methods of applying the treatment for the cure of the class of patients who have hitherto derived benefit from a sojourn at this or that spa on purely empirical grounds, but also in investigating more closely the conditions under which radio-activity has its origin in each locality and the measure of its quantity.

Further research is needed to detect the presence of thorium, actinium, and other radio-active elements, especially their presence in the sediment and muds of mineral

<sup>1</sup> Les Eaux Minérales Radio-actives. By M. Piéry and M. Milhaud. Preface by M. J. Teissier. Paris: G. Doin, 1924. (Roy. 8vo, Pp. 456; 4 plates (2 coloured), 45 figures, and 25 tables. Fr. 50.)

springs. The dosage and effects of emanation treatment have also to be studied more closely clinically. Much also has to be done in the way of constructing suitable emanatoriums and providing equipment for emanation inhalation.

### CHEMICAL ASPECTS OF IMMUNITY.

THE book by Professor H. GIDEON WELLS, entitled *The Chemical Aspects of Immunity*,<sup>2</sup> has been published as one of the American Chemical Society's series of scientific monographs, and is addressed chiefly to chemists. The technical language of immunology makes difficult reading to all but those who have approached this science by the road of specialized medicine; and the chemist, untrained in pathology, has hitherto received little encouragement in his efforts to master the subject of immunity. Medical science has been the loser thereby, for we must look to the researches of expert chemists for explanations of many of the serological reactions commonly used in diagnosis, and we may hope to learn more accurate quantitative methods from such allies.

Since he is speaking to a non-medical audience Professor Wells begins his book with an introductory chapter in which he defines the technical terms used in immunology, such as antigens, precipitins, agglutinins, toxins and antitoxins, lysins, and anaphylaxis. The ground having been cleared, he proceeds in subsequent chapters to discuss different immunity reactions from the chemical point of view. But this is not a book on chemistry: it is primarily a textbook of immunology, and medical men who have enjoyed the clear descriptions of serological and other technical terms in the introduction need not fear that later on they may find it difficult to follow because a chemist is speaking to chemists. We observe that immunologists are not repaid for their own inhospitality of language, and the author proves that both chemistry and immunity may be clearly dealt with in simple words. One excellent feature of this book is that at the end of each chapter the author has summarized the most important teaching on each theme in the form of a recapitulation, occupying a page or two of print. This enables the reader to pick up the essential points quickly: if read before the text of the chapter the orderly development of the argument becomes more obvious, and if read after the chapter the recapitulation fixes the essential points in one's mind. When touching on subjects which cannot be fully expounded in a book of this size Professor Wells supplies references to guide further study. By a skilful choice of analogies, gathered from wide fields of scientific knowledge, a new significance is often given to familiar facts. Thus, the chapter on immunological specificity is introduced in this inviting fashion:

"We see the manifestations of specificity in so many and so varied processes that many of them are taken for granted, and others are not at first thought of as illustrations of the biological specificity which rules all the processes of life. It must obtain, from the fertilization of the ovum by the specific sort of spermatozoon which alone can enter the germ cell and stimulate division, on through the processes of growth which lead to the formation of specific structures characteristic of the species in form, composition, and function, on to the specific reaction to injury which leads to repair by the proper tissue elements and the specific methods and means of defence against invading enemies. The autumnal reddening of the maple leaf, the yellowing of the birch are as typical examples of chemical specificity as the secretion of a neurotoxic poison by the cobra or the production of antitoxin by a horse immunized with the poison of the diphtheric bacillus. The fact that a dog can follow the trail of his master and recognize him from all others by scent alone, shows that each of us is chemically individual."

Professor Wells's textbook on chemical pathology is known throughout the English-speaking world, and we predict that his monograph on the chemical aspects of immunity will receive an equally wide welcome.

<sup>2</sup> *The Chemical Aspects of Immunity*. By H. Gideon Wells, Ph.D., M.D. American Chemical Society Monograph Series, New York: Chemical Catalog Co., Inc., 1923. (Med. Rev. no. 254; 2 figures, 1 plate.)

### AN INTRODUCTION TO SCHOOL MEDICINE.

Now that *An Introduction to School Medicine*,<sup>3</sup> by Dr. H. LESLIE CRONK, has appeared no doctor engaged in school medical inspection will remain content until such an extremely useful manual has a place on his bookshelf. Information on the minor departures from health of children attending school, their detection, causation, prevention, and importance, is given clearly and concisely, with full references to the authorities quoted.

Hitherto school medicine has been in a somewhat nebulous state, and each individual doctor engaged in the work has perforce had to work out for himself the deductions to be made from his daily experience and observations. The author of this book, who until recently was the assistant school medical officer in the county of Cornwall, has here set down the results of his own experience, with references to similar information collected by others. He states that:

"The school is the link between the intimate sheltered life in the home and the strenuous fight of adult working years; in like measure the functions of the school medical officer lie midway between the personal attentions of the family doctor and the more general and impersonal activities of the medical officer of health."

The book contains a large amount of useful information, and may almost be said to be a complete equipment for a school medical officer.

The first chapters deal with the normal child as regards growth, food, sleep, and teeth; for, in order to recognize slight departures from the normal, the school medical officer must know the normal intimately well. Other chapters are devoted to the recognition of defects in the eyes, teeth, nose, ears, tonsils, and circulatory system. Statistics of various defects are set forth in tables, and the most recent tests are discussed helpfully in the text.

The recognition of tuberculosis in childhood is very carefully and fully dealt with. Deformities are grouped with particular reference to postural deformities, which generally arise during the school period. Very useful information with regard to infectious diseases and the checking of their spread is given. At the end of each chapter is a bibliography and the volume has an index.

The school medical service should be closely linked up with ante-natal and infant welfare care on the one hand and national insurance and factory inspection on the other. All should be co-ordinated to produce the best results in preventive medicine.

### ANNALS OF MEDICAL HISTORY.

THE first number of the seventh volume of the *Annals of Medical History*,<sup>4</sup> which, unlike most journals, has an ever-changing face on its cover, bears on the outside the portrait of Tobias Smollett, whose life is sketched in an interesting manner by Dr. C. K. Drinker of Boston; the well illustrated account of life in Bath, then under the rule of Beau Nash, when Smollett was resident and unsuccessfully sought practice from 1745 to 1762, comes at an appropriate time in connexion with this year's meeting of the British Medical Association. The frontispiece is a reproduction of the print of the portrait of William Cadogan (1711-87) by R. E. Pine in the Royal College of Physicians of London; Cadogan's "Dissertation on the Gout and all Chronic Diseases jointly considered" and a contemporary satire in verso on the author are reproduced with some notes by Dr. John Ruhrh of Baltimore. Dr. Hermann Goodman writes on "Master Dermatologists, based on Diseases named after them," which will serve as a storehouse of information to those interested in eponyms. Dr. Leroy Crammer has done well to provide some further information about early anatomical fugitive sheets as a supplement to his earlier article on the same subject in the fifth volume of the *Annals*; he also writes an appreciative review of Mr. Geoffrey Keynes's *Bibliography of Sir Thomas Browne. The life of James*

<sup>3</sup> *An Introduction to School Medicine*. By H. Leslie Cronk, M.A., M.D., D.P.H. Camb. London: H. K. Lewis and Co., Ltd. 1925. (Cr. 8vo, pp. x + 256; 38 tables. 7s. 6d. net.)

<sup>4</sup> *Annals of Medical History* (Spring Number, 1925). Vol. vii, No. 1. Edited by Francis B. Packard, M.D. Philadelphia, New York: Paul J. Hoeber, Inc.; London: Baillière Tindall and Cox, 1925. (8vo, 122 pp. 10s. illustrated. Subscription in Great Britain £2 2s. per volume of four numbers.)

Menso (1771-1846) of Philadelphia, who was known for his thesis on hydrophobia, which, greatly daring custom, he wrote in English as "being generally useful to my countrymen," is described by Dr. W. S. Miller in an article with a number of illustrations and many annotations. In the interesting article "Su-wen, the Basis of Chinese Medicine," Dr. Percy Dawson utilizes the summary recently given by L. Weiger of this previously untranslated work of unknown authorship, dating from the end of the fourth century B.C. The system revealed in the work is related to the Taoist philosophy. The primordial body, being Su-wen (mystery), is without form or figure and is invisible and impalpable, but enters into the formation of all bodies. The work shows that the Chinese recognized by conjecture, but not by experiment, the circulation of the blood twenty centuries before Harvey's discovery. Among the book reviews which are a feature of the *Annals* attention may be called to the editor's appreciative critiques of Professor M. Bloch's *Les Rois thaumaturges* and Dr. G. C. Peachey's *Memoir of William and John Hunter*; with regard to the wretched story of Home's conduct in dealing with Hunter's manuscripts, Dr. Packman considers that more might have been said, but he explains the length of his review by the good reason that this monograph is "by all odds the best account of both the Hunters which has yet appeared."

### FREUD'S COLLECTED PAPERS.

We have received three volumes of *Collected Papers* by Professor SIGMUND FREUD, and it is proposed to publish a fourth in order that a translation of the whole of the *Sammlung kleiner Schriften zur Neurosenlehre* may be available for English-speaking readers. The papers in this series have been re-grouped, in co-operation with their author, so that they do not follow the same order as in the German original. The date when each paper was written is given, and the editorial preface insists that the only satisfactory way of acquiring a knowledge of Professor Freud's writings is to follow the order of development of his work. Volume I contains the early papers and a lengthy account of the history of the psycho-analytic movement. Volume II includes a number of purely clinical papers, together with some dealing with subjects of general interest; the second section contains all those papers relating directly to the technique of psycho-analysis. Volume III contains psycho-analytic studies of five individual cases.

### NOTES ON BOOKS.

INTO a little book, the *Pharmaceutical Pocket Book*,<sup>6</sup> the Pharmaceutical Society of Great Britain has succeeded in condensing the whole duty of the pharmacist. There is an excellent chapter on the science and art of dispensing, worth reading by the doctor, especially in the matter of incompatibility in prescriptions, which is most delicately dealt with. The dispenser, it is said, must endeavour as far as possible to fathom the intentions of the prescriber; changes are sometimes brought about intentionally; but if the incompatibility is such that the apparent intention will be frustrated, the dispenser should, if possible, communicate with the prescriber. This chapter will be found valuable even by the doctor who does his own dispensing. A list of all the preparations of the *British Pharmacopoeia* is given, the doses are stated in imperial as well as metric proportions, and there is a useful table for the conversion of imperial into metric doses. There are chapters on the analysis of milk, water, and urine; on endocrine organs, food, bacteriology, and poisons. In these matters it might have been wise to lay down the rule that they concern the medical man, are of interest in the complete study of pharmacy, but are not suitable for exploitation as slide-lines in the business of a pharmacist. At the same time a knowledge of poisons and their antidotes may well be of value in an emergency. Of greater importance to the student and practitioner of pharmacy is the chapter on the conditions of sale of poisons in Great Britain, which has been relegated

to small type at the end of the book. The completeness of the little book is shown by its extensive dictionary of synonyms, its table of veterinary posology, and its inclusion of an article on the mysteries of homeopathic dosage and nomenclature.

In *Rejected Addresses* we are told that—

Emmanuel Jennings brought his youngest boy  
Up as a corn-cutter, a safe employ.

That was more than a hundred years ago, and now each successor of red-headed Pat is dignified with the title of "chiropodist." This word has always seemed to us a strange one. Compounded of the Greek words for hand and foot, it means, etymologically speaking, nothing in particular. The logical French, with far more reason, call those who minister to the untoward troubles of the feet "pedicures," and it seems simply that the well intentioned persons who established the Incorporated Society of Chiropodists did not adopt this name for their specialty. Mr. NORMAN C. LAKE, who is the author of *Lectures to Chiropodists*,<sup>7</sup> has been so good as to enlighten and entertain the members of this society and their brethren by instructing them in a number of interesting matters, lying, however, outside the treatment of corns and callouses, and such like. The life and work of Lister, anatomy, pathology, club-foot, pain, galls, varicose veins, and the antiquity of man are only a few of the subjects dealt with. We have no doubt that the students of chiropody were edified, for, as far as it goes, this book forms a useful elementary introduction to various branches of knowledge.

The post-graduate lectures on cancer, delivered under the auspices of the Fellowship of Medicine, have been published in one volume, edited by Mr. HERBERT PATERSON, under the title *Post-Graduate Lectures on Cancer*.<sup>8</sup> The conditions under which such lectures are given lead to emphasis being laid on practical questions such as those with which the practitioner is faced each day, and therefore such a book as this, though it adds nothing fresh to our knowledge of cancer, is likely to be welcomed by many because of its practical character. Eleven lectures are reprinted in this book, the first being by Sir Thomas Horder on "Some medical aspects of cancer," and the second by Dr. Archibald Leitch on "The general pathology of cancer." The remaining nine deal respectively with cancer as it affects some different region of the body—namely, the larynx, oesophagus, breast, stomach, uterus, intestines, kidney, bladder, and rectum, each lecture by an expert in the particular subject. Sir JOHN BLAND-SUTTON observes in a preface written to this book that fortunately these lectures are free from discussions relating to operative methods, and anticipates that their clinical character will make them extremely useful to practitioners.

*Pediatrics for Nurses*<sup>9</sup> is the outgrowth of a series of lectures given by Dr. BALDWIN at the Johns Hopkins School for Nurses during the past six years. It is clearly written and contains twenty-five illustrations and charts; but it is cumbersome and its price would make it in general prohibitive for English nurses. The final chapter on the convalescent child touches on now ground and contains helpful suggestions. In the earlier part of the book the chief interest lies in differences between American methods and those in use in England. Information concerning the normal infant and the premature infant, and the care and feeding of both, is given. Other chapters are devoted to the therapeutics of infancy and childhood, rickets and scurvy, infectious diseases, skin diseases, tuberculosis, syphilis, and the neurotic child. A picture of a cap to prevent ruminant is given. The book should prove useful to doctors who lecture to nurses in this country as a basis of comparison between English and American methods.

We have received a copy, printed in pamphlet form,<sup>10</sup> of the address delivered to a meeting of the North of England Branch of the British Medical Association last October by Dr. WILLIAM ROBINSON, consulting surgeon to the Royal Infirmary, Sunderland. Dr. Robinson's thoughtful address, entitled "On Brains," dealt with the subject mainly from the physiological point of view. His pamphlet is reprinted from the *Northern Counties Medical Journal*.

<sup>7</sup> *Lectures to Chiropodists*. By Norman C. Lake, M.D., M.S., D.Sc. Lond., F.R.C.S. Eng. London: Incorporated Society of Chiropodists. 1925. (Demy 8vo, pp. ix + 245; 5 plates. 10s. net.)

<sup>8</sup> *Cancer. Post-Graduate Lectures* delivered under the auspices of the Fellowship of Medicine. Vol. II. Edited by Herbert P. Paterson, with a preface by Sir John Bland-Sutton, LL.D., F.R.C.S. London: J. Bale, Sons, and Danielsson, Ltd. 1925. (Demy 8vo, pp. xvii + 185; 15 plates, containing 43 figures. 12s. 6d. net.)

<sup>9</sup> *Pediatrics for Nurses*. By John C. Baldwin, M.D. New York and London: D. Appleton and Co. 1924. (Demy 8vo, pp. viii + 261; 25 figures. 7s. 6d. net.)

<sup>10</sup> Newcastle-upon-Tyne: Andrew Reid and Co., Ltd. 6d.

<sup>6</sup> *Collected Papers*. By Sigm. Freud, M.D., LL.D. Vols. I and II translated under the supervision of Joan Riviere; Vol. III by Alix and James Strachey. Vol. I published by the International Psycho-Analytical Press, London (1924); Vols. II (1924) and III (1925) by Leonard and Virginia Woolf, at the Hogarth Press, London. (Roy. 8vo, pp. 359, 403, and 607. Prices: Vols. I and II, 21s. net; Vol. III, 30s. net.)

<sup>6</sup> *The Pharmaceutical Pocket Book for Practitioners and Students*. Eleventh edition. London: The Pharmaceutical Press. 1925. (Pott 8vo, pp. viii + 438. 3s. 6d. net.)



## INTER-STATE POST-GRADUATE ASSEMBLY OF AMERICA.

## LONDON MEETING.

THE 550 members attending the Inter-State Post-Graduate Assembly of America carried through a heavy instructional and social programme in London before going north on Sunday last. The mornings were devoted to a succession of half-hour lectures, the afternoons to hospital demonstrations, and the evenings to receptions and other functions, culminating in the great banquet in the Guildhall of which some account is given below. On every possible occasion, public and private, the American visitors expressed their warm appreciation of the hospitality, intellectual and social, which had been afforded them, the value of what they had been privileged to see and hear, and the organizing capacity of the executive and officers, in particular their compatriot Mr. Philip Franklin, which had made the meeting possible. Dr. Charles Mayo said repeatedly that nothing would content his colleagues except a return visit of British practitioners *en masse*.

At the end of the series of lectures in Wigmore Hall Dr. Mayo invested a number of representatives of British medicine with honorary membership of the Assembly. These were Sir Humphry Rolleston, Bt., P.R.C.P., Sir John Bland-Sutton, Bt., P.R.C.S., Lord Dawson of Penn, Sir St. Clair Thomson, Sir Arbuthnot Lane, Bt., Mr. W. Girling Ball, and Mr. Philip Franklin. It was announced that Sir Holburt Waring, Sir William Hale-White, Sir John MacAlister, and Sir George Newman, who could not be present, were also to be admitted to the fraternity, and at the Guildhall banquet Mr. Neville Chamberlain, Minister of Health, was made an honorary member.

## SECOND LECTURE SESSION.

Some account of the opening session appeared in our last issue (p. 1051). At the second session, on the morning of June 3rd, six lectures were given, Sir JOHN BLAND-SUTTON presiding.

*Renal Disease.*

The first was by Professor H. MACLEAN, who discussed some aspects of chronic renal disease. He confined himself to ordinary chronic interstitial nephritis characterized by the usual symptoms of retention of nitrogenous waste products and cardio-vascular disturbance. This disease, he said, was progressive and ultimately hopeless, but it was possible by certain tests to form an idea as to the length of time which would elapse before the fatal termination. Within the last ten years very elaborate methods had been introduced in order to ascertain the condition of the renal system, though in Great Britain, on the whole, these had not found much favour. At St. Thomas's, at all events, it was believed that as much information could be gathered from the simpler tests as from the much more elaborate ones. The test most frequently employed was the estimation of blood urea, but the mere fact of a patient showing a high blood urea was no evidence whatever that that patient was suffering from renal disease; if high blood urea indicated renal deficiency, naturally the urine would show a low percentage of urea, and when both the patient's blood urea and the percentage of urea in the urine were high it might be taken as certain that renal disease was not the primary condition. He described a urea concentration test, involving a fifteen-hour abstention from liquid, and thereafter periodic examination of the urine, which was a test, he said, that could be carried out in general practice, and in 90 per cent. of cases would furnish all the information it was possible to obtain. He added that although the textbooks stated that sometimes there were cases of uraemia without albuminuria he did not think it was realized how common this state of affairs was; rather renal changes showed no albuminuria at all.

Sir JOHN BLAND-SUTTON remarked that the impression

which the lecture had left on his mind was that their knowledge of the urinary functions was as unstable as their knowledge of the universe!

*Gastro-jejunal Ulcer.*

Mr. A. J. WALTON, who lectured on gastro-jejunal ulcer, said that in this country a large number of gastro-enterostomies had been performed by men whose experience had been limited to a small amount of war surgery, and no doubt the incidence of complications had been increased as a result of technical errors; but before gastro-enterostomy was replaced by another operation it ought to be remembered that in the hands of the experienced surgeon the operation had a mortality of well under 1 per cent. He had never yet seen a case of true jejunal ulcer; every case had been gastro-jejunal, the ulcer invariably starting at the junction. At one time he believed that gastro-jejunal ulcer was due to the use of a wrong form of suture at the operation, but since the use of silk had been given up gastro-jejunal ulcer had not disappeared, though its incidence had decreased; therefore it could not be put down entirely to the use of non-absorbable suture. Any gross errors of technique certainly did increase the tendency to this complication, but minor variations such as all surgeons practised had no bearing whatever, in his belief, on the incidence. It had been assumed that partial gastrectomy did not carry with it any risk of gastro-jejunal ulcer, and there had been published a large series of cases of partial gastrectomy, generally by surgeons of wide experience, which showed that the mortality of such an operation could be very low. But if the operation was done widely by many surgeons there was no question that the mortality would not be low. The removal of so large an amount of healthy tissue as was involved in partial gastrectomy was an extreme step to take, and he held that this was too severe an operation for the routine treatment of gastric and duodenal ulcers. It should be reserved for those cases in which a gastro-jejunal ulcer had developed.

*The Combating of Venereal Disease.*

Colonel L. W. HARRISON gave an account of the combating of venereal disease in Great Britain by the free treatment of the infected. He mentioned that as long ago as 1899 the British Medical Association proposed at the Brussels Conference on Syphilis a resolution, which was carried, to the effect that all governments should appoint a commission to determine the frequency of venereal disease in the civil population, to inquire as to the facilities for treatment available, and to collect opinions as to the best methods of securing control of venereal disease. Treatment centres in this country numbered 193, of which 142 were in voluntary hospitals, and 51 (in places where it was not possible to obtain such facilities in the hospital) were centres controlled directly by county or county borough councils. The work of the treatment centres was shown by comparing the number of new cases for two recent years:

	1920.	1924.
Syphilis ... ..	42,805	22,010
Gonorrhoea ... ..	40,284	31,272
Soft chancre ... ..	2,442	1,038

At the same time the number of attendances at the centres had gone up, from 1,488,514 in 1920 to 1,645,415 in 1924. It was stated that many persons ceased attendance before treatment was completed, but it was easy to exaggerate that figure. Many of the cases put down as having ceased attendance were those in which the venereal condition had quite cleared up, but the patients were under observation or treatment for some intercurrent condition; others, again, resorted to some fresh clinic and were put down as having given up treatment. The cost of treatment (including laboratory work, supply of arsenobenzol to practitioners, and propaganda) was £380,000 in 1923-24.

*Cancer of the Rectum.*

Mr. W. ERNEST MILES gave a lantern demonstration of the pathology and spread of cancer of the rectum. He said that cancer of the rectum accounted for more than one-third of the cancerous growths which occurred in the alimentary tract. Cancer spread in the rectum in three ways: by the venous system, by direct continuity of tissue, and by the lymphatics. The extent of the circumferential involvement was an indication both of the duration of the disease and of the depth of the local infiltration. The tendency of the spread was upwards, and therefore it was necessary to bring into the area of operation a sufficient upper zone, in particular the pelvic mesocolon, which corresponded in its importance from the point of view of spread of infection to the axilla in cases of breast cancer.

*Auricular Fibrillation in Exophthalmic Goitre.*

Mr. T. P. DUNNILL spoke on the surgical treatment of exophthalmic goitre from the point of view of auricular fibrillation. He began the operative procedure in these cases—the patient having been got by the physician into the best possible condition—by ligating one artery in order to test the reaction to operation, then, after a rest of ten or twelve days, another vessel was ligatured, followed by another long rest, after which one lobe of the thyroid was removed, and later from one-half to two-thirds of the second lobe. The cases were put on quinidine, but quinidine could not get them regular while the thyroid toxin was still working on their heart muscle. Quinidine was able to act on the heart muscle to restore it to regularity, but there was a toxin in the thyroid which was able to interfere with the neuro-muscular heart mechanism and make it fibrillate, and so long as that continued quinidine was of no permanent avail. The chief danger was in operating on the wrong type of case. Of 26 patients he had operated on, 3 had died, and 2 others had had only one lobe removed, and still fibrillated on exertion; the remaining 21 had never fibrillated from the time the operation was completed, and the records went back to 1919. The treatment was lengthy—each case would take from six to nine months for the medical and surgical procedures.

*The Heart in Influenza.*

The concluding lecture was given by Dr. STRICKLAND GOODALL, whose subject was "The heart in influenza." He said that a critical survey and analysis of the history of large numbers of heart cases which he had had the opportunity of examining carefully during the past twenty years had convinced him that the etiology of heart disease in this country was changing. Up to a few years ago the only antecedent disease to which any attention was paid in connexion with heart trouble was rheumatism, and if it was found that the patient had suffered from no rheumatic manifestations very little heed was paid to any other complaint from which he might have suffered. Within the last few years one had been struck by the fact that there were a very large number of cases in which definite heart involvement occurred with an antecedent history of influenza. He showed electrocardiograms of cases every one of which had been the subject of the most critical examination for rheumatic history, and no such history had been elicited. These were cases of acute paroxysmal tachycardia of the ventricular region, or auricular fibrillation or flutter, all following upon mild influenza. It was not true that influenza gave rise to a poison which caused many different diseases; all these conditions represented injuries to the myocardium, which was poisoned, with consequent impairment of function. The influenza virus was a muscle poison which might attack any part of the heart. If it attacked the auricle it gave rise to auricular fibrillation or flutter; if it attacked the bundle of His it gave rise to heart-block, temporary or permanent; and if it attacked the ventricles it gave rise either to extra-systoles or to ventricular fibrillation. The myocardial condition following on influenza might develop from seven to twelve days after everything seemed well, the gastro-intestinal disturbance having cleared up, and the doctor having ceased his visits.

## THIRD LECTURE SESSION.

*Medical Research in Great Britain.*

The third lecture session, on the morning of June 4th, was held under the presidency of Sir STCLAIR THOMSON. A sketch of medical research in Great Britain was given by Sir WALTER FLETCHER. He claimed that in this country there had never been wanting men of first-rate ability in science, but research had been crippled by want of means, and that discredit was most marked when the country was most rich. The great achievements of scientific men had been largely dependent upon the accident of financial ability. What would Sir Isaac Newton have done without the monastic endowments which came to Trinity College, Cambridge? It was the endowments of the Royal Institution which supported Faraday in his great work and made Albemarle Street the cradle of the electrical industry of the world. Darwin was able to do his work because he was a rich man, and the same was true of Lord Rayleigh. Very few British statesmen had appreciated the national and world value of helping on the new knowledge. He could name only four conspicuous princes or statesmen in England who had made a mark in this particular. These were: Henry VIII, who endowed colleges under the advice of Thomas Linacre, founder of the Royal College of Physicians; Charles II, who founded the Royal Society; Albert, Prince Consort, who took an active part in the promotion of scientific institutions and research in the middle of the last century; and Mr. Lloyd George, to whom three remarkable departures were due—the foundation of the Development Commission, which had to do with the development of roads and agriculture, the foundation of the Medical Research Council, and, modelled on the Council, the foundation of the Department of Scientific and Industrial Research. The lecturer described the functions of the Medical Research Council, which at first had £40,000 a year to spend, and now, in spite of the impoverishment caused by the war, had £140,000. That annual appropriation had been of immense value. He told the story of the beginnings of the work at Cambridge by Hopkins and others on nutritional problems, and also other episodes of recent research. The State recognition of research had served to stimulate voluntary endowments, and here he mentioned the generous benefactions of the Rockefeller Foundation, which since the war had expended two million sterling in Great Britain, besides one and a half million sterling in other parts of the British Empire.

*Symptoms of Suprarenal Disease.*

Dr. GORDON HOLMES addressed the Assembly on certain symptoms of suprarenal disease. He described two cases which chance had brought in his way which threw some light on the functions of the cortex of the suprarenal body. Hitherto very little had been known of the effects of pathological lesions affecting the cortex. One of these cases, in a girl, exhibited signs of sexual inversion; after a period of normal development, with commencing menstruation, the menses ceased, and she began to show male characteristics, both physical and mental. Ultimately a large tumour was discovered projecting under the liver. On removal one-third of the tumour tissue was found to be identical with the cortex of the normal suprarenal body. Thirty-six days after the tumour was removed she recommenced menstruation, in three weeks an abnormal growth of hair began to fall away, and in three months no trace of abnormal hair remained on face or trunk, her figure began to develop the female shape, and she was now a normal young woman. The other case was that of a girl, very obese and mentally dull. Pituitary disease was suspected, but the type of obesity was not that which was found in such a condition. Ultimately this girl died of bronchopneumonia, and at the autopsy striking changes were found in the suprarenals, almost all the cells of which were abnormal.

*Operation in Gastric and Duodenal Ulcer.*

Mr. JAMES SHERREN dealt with the considerations that should guide the decision as to operation and the choice of operation in chronic gastric and duodenal ulcer. The more one saw of chronic duodenal ulcer the more one realized that it was a condition associated with a great amount of

risk. In the hands of a surgeon used to abdominal work operation was the safest form of treatment. New operative procedures were constantly being brought forward, but duodenectomies and wide partial gastrectomies were no guarantee against recurrence of the ulcer. He believed that gastro-jejunostomy, efficiently carried out, would bring about the healing of all duodenal ulcers, except those very large ulcers which eroded the pancreas, and sometimes even those would respond. The problem was to prevent secondary ulceration, and all efforts should be directed to that end. To bring about healing the gastro-jejunostomy must be efficient, it must be posterior, vertical, and extending from the lesser to the greater curvature. In uncomplicated cases he thought the duodenal ulcer should be left alone. He only dealt directly with the ulcer when it had been causing recent haemorrhage. With regard to chronic gastric ulcer, the danger of the development of carcinoma had to be reckoned with. There was no doubt that malignant disease did develop on simple gastric ulcer. Small mobile ulcers were quite well treated by gastro-jejunostomy. Large indurated ulcers eroding the pancreas and liver should be treated by partial gastrectomy. He urged as far as possible conservative treatment of lesions, believing that any additional cures which might occasionally be obtained by more radical procedures were more than set off by the increased risk.

#### *Cancer of the Larynx.*

Sir STCLAIR THOMSON, after some remarks on cancer in general, from which, he said, 50,000 people in this country died last year, spoke on cancer of the larynx. Intrinsic cancer had yielded in his hands 80 per cent. of lasting cures—by "lasting" he meant anything up to fifteen years' survival. He described by means of successive lantern illustrations his technique in the practice of laryngo-fissure. He deprecated laryngectomy when laryngo-fissure was shown to be not very complicated, but certainly safe, and affording lasting results. Complete laryngectomy was much more successful nowadays than formerly, in respect of operative mortality and ultimate results, for the good reason that it had been almost entirely abandoned for extrinsic cancer. He had done laryngo-fissure some sixty-six times. He gave no opiate of any kind before or after operation, because he had found that this led to a certain amount of operative mortality. As illustrating the sex incidence, sixty of the sixty-six cases were in men. In intrinsic cancer of the larynx it ought to be generally recognized that hoarseness was the first symptom. Persistent hoarseness for more than three weeks should lead to the case being examined by an expert. Sir Felix Semon used to regard fixation of the cord as the characteristic, common, and early symptom. It was certainly characteristic, but it occurred late, and unfortunately many cases escaped treatment because, it was said, the cord was mobile. But to wait until the cord became immobile meant a deeper infiltration. Sir StClair Thomson showed five patients on whom laryngo-fissure had been done. All of these were cases of cancer which had been confirmed by the microscope, and in all of them the patients appeared well, and were able to speak with more or less ease.

#### *Functional Nervous Disturbance in Children.*

Dr. H. C. CAMERON took the audience away from the operating theatre and the laboratory to what he called "the growing point of all neuropathy" in the forcing-house of the nursery. It was only the physician, he said, who was able to detect the very first deflections caused by psychopathic processes, and from all the tangle of forces acting on the child in the home to isolate that which was responsible for any particular disturbance. There was a certain resemblance between the abnormal conduct of an unstable child and of persons who had come to be definitely regarded as insane, between the symptoms which resulted from the functional weakness of the immature brain and those which resulted from degeneration and disease; in ascent and descent the same country was traversed. One of the commonest results of excessive mothering was the production of what he called—to borrow a word from the vocabulary of the alienist—negativism. The negativistic child was the one who, if it were proposed to him that a movement be made downstairs, would immediately rush to

the top of the house. Negativism was the response to a fault of parental management indicated by a constant and repeated attempt to secure control and a constant failure to achieve. One of the commonest things about which doctors were consulted was want of appetite—often a veritable anorexia nervosa. Among poor children this fault was hardly ever met with, for obvious reasons, but in well-to-do households the child who persistently refused food was quite familiar, and usually the food that was refused was the nutritional milk and so forth which the parent particularly wanted him to take. The way to combat this refusal to take food was completely to alter the suggestion with which the food was brought. The mother should give the appearance of haggling over the food she wanted the youngster to take, the second helping should be conceded with a proper amount of reluctance, and this camouflage might induce a willingness to take what had absolutely been refused before. It was easy to see the part that negativism played in pseudo-constipation; in some cases of negativistic resistance the child had actually to be given a state of diarrhoea or even incontinence before the resistance could be overcome. Another group of common nervous disturbances in children were ingrained and perpetuated by the ill judged efforts of the parents to stop them. It would be better to correct the habit of infantile thumb-sucking by ordering the child in the most peremptory fashion to suck his thumb three times a day. In infantile masturbation the awful anxiety of the mother often served only to fix the habit in the child. If splinters were used to prevent masturbation it was worth while to take any amount of trouble to convince the child that the apparatus was used for some other purpose, otherwise the child's attention was riveted on the fault. Purposeless crying, again, was due to the emotional reaction produced in the mother by the cry. In the nursery there was scope for an elementary sort of psycho-therapeutics, and the task of the medical man was to see that the tremendous force of maternal attraction was used for good, and not, as often happened, for ill.

#### *The Speed of Life and Disease.*

The final address was given by Lord DAWSON OF PENN, who spoke on "The speed of life and disease." He remarked, as Sir Thomas Horder had done two days previously, on the change which had taken place in the character of disease. In the West, at all events, pestilences had ceased to devastate the peoples, though it was true that cancer remained, baffling and destructive. A time might be anticipated when specific diseases would be relatively small factors in the general mass of ill health, and their place would be taken by subinfections which caused slow deterioration instead of quick destruction. Many of the causes of the subinfections lay within them—for instance, the streptococcus and the colon bacillus. The microbes of acute infections invaded the human organism in force and laid it low—they were a visitation, and on recovery of the patient they disappeared; but the microbes of the subinfections, like the poor, were always with them, they shared the active life of their host, troubling him little when he was fit, taking advantage of his indispositions. Against these subinfections the measures of public health were of small avail. Here the last word was with the individual. The thoughts of the medical man went first to the treatment of the foci. It was true that where these foci could be treated all authorities would agree that they should be, though in medicine there was no such word as "always," and it might sometimes be better to leave the focus *in situ*. It was necessary to approach these subinfections with more judgement than had hitherto been applied to them, and assess the part they played and the advantage and difficulty of their removal in each case. The effects of subinfection depended on the vitality of the individual and on the conditions of his life. A measure of struggle promoted health, but when the struggle was severe and continuous, as it was in modern life, the result was to produce not strength but stress. Material progress, especially in all that concerned movement, had been so rapid that it had outstripped man's rate of adaptation. Men were so tuned up that they carried over the tension from their work to their play, and the result was fixity, not flexibility. Much might be done by a more careful selection of careers and

employments—not by an official system of card-indexing, but by a careful study by the medical man of each individual case. Everyone was familiar with the man of sound physique, strong digestion, good staying power, with an impressionable nervous system, sensitive, ambitious, whose attitude to modern life was one of tension, who had lost his capacity for relaxation, who could never let go. That man, in spite of vaso-constriction and rising blood pressure, was unaware of any untoward happening, and went on apparently just as efficiently as before. His very constitution became his own undoing. If he had a mild illness it might be the saving of him. But he went on until at last, with little or no warning, cerebral haemorrhage, cardiac insufficiency, or some infection not serious in itself but serious to him, brought about his end; he died of his qualities. In another man of a somewhat different type the effect of strain showed itself in disordered movement and disordered secretion of the gastro-intestinal tract. Often such a man was said to be suffering from colitis—a blessed word—but the nearer one came to the beginnings of disease the more difficult it was to bring the description within a definition. The remedies belonged largely to that side of medicine which was known as education. The tense and hypersensitive people must be taught how to maintain relaxation: the country retreat, the Sunday ramble, the quiet game, the rhythmic exercise, the cult of the garden, the browse in the library, the evening with music, the periodical getting back to nature or to the cloister. Man still needs the “desert place apart” and what it implies.

#### THE GUILDHALL BANQUET.

The ancient Guildhall, lent by the Corporation of the City of London, gave a mellow setting to the great banquet which was the last official event of the Assembly in the capital. On this occasion the visitors, after being guests all the week, became the hosts, and hosts in what they as well as those they entertained might regard as one of their ancestral halls. Gog and Magog overlooked a company of seven hundred seated at the tables, and only by the use of microphones and amplifiers could the speeches be heard in every part of the hall. There was a hint of mediæval ceremonial in the white-capped chef on his high platform carrying the baron of beef, and the turtle soup was ladled out lovingly in the manner dear to the City Fathers. A rumour had been circulated that the banquet was to be “dry,” but presumably it was held to be unthinkable that the Eighteenth Amendment should extend to the Lord Mayor’s banqueting chamber, and the proceedings were, in Sir StClair Thomson’s phrase, “not wet, but pleasantly moist.”

Dr. CHARLES H. MAYO, who presided, had the Right Hon. Neville Chamberlain (Minister of Health) and Mrs. Chamberlain on his right and left hand, and others at the principal table were:

Mr. Ray Atherton (First Secretary, U.S. Embassy), Sir James and Lady Berry, Vice-Admiral and Mrs. Joseph Chambers, Lord and Lady Dawson of Penn, Sir Alfred and Lady Fripp, Sir Kenneth and Lady Goadby, Sir Thomas Horder, Dean Inge, Viscount Knutsford, Sir William and Lady Arbuthnot Lane, Major-General Sir William and Lady Leishman, Dr. and Mrs. Franklin Martin, the Right Hon. T. P. O’Connor, M.P., Sir Cooper Perry, Sir D’Arcy Power, Sir Humphry Rolleston, Sir Arthur Stanley, Sir Harold Stiles, Sir StClair Thomson, Sir Charles and Lady Wakefield, Sir Culbert and Lady Wallace, Sir Holburt and Lady Waring, Mr. Henry Wellcome, Sir W. de Courey Wheeler, Sir William and Lady Hale-White.

A telegram was read from the King, in answer to a congratulatory message from the members of the Assembly. His Majesty replied, thanking them for their good wishes and expressing the hope that their stay in this country might be both interesting and agreeable. A message was also read from the Hon. Frank B. Kellogg, Secretary of State at Washington, expressing his deep interest in the meeting, recognizing as he did “the incalculable benefits which have accrued to the human race through the scientific study and treatment of disease, and the still greater advancement which may be made in medical science through the interchange of views of experienced practitioners.” The toasts of “The King” and “The President” were drunk, and to the latter “The Star-spangled Banner” was sung with great fervour.

Mr. NEVILLE CHAMBERLAIN, in proposing the toast of “The Assembly,” said that it seemed to him that this adventure or expedition of the members might mark something like an epoch in medical history. There had been other visits of professional men from one country to another, either to increase their knowledge or to spy out the nakedness of the land, but he doubted whether there had ever been an instance of a great body of men leaving their practices for so long a time and crossing the ocean in order to acquaint themselves with the progress of medicine in another land. In these days one discovery of medicine succeeded another with startling rapidity. So many scourges had been brought under control that there would be little left for practitioners to do were it not for the fact that new diseases were discovered at a rate approximately equal to that at which the old diseases were eradicated. The general practitioner had special opportunities for educating the public. The community had awakened, perhaps rather late in the day, to the special dangers which attended the crowding together of great masses of people in large cities, and an elaborate organization of sanitation and inspection had been built up. But it was necessary to enlighten the people as well as to improve their environment, and while he would be the last to undervalue the health propaganda carried on by public authorities he could not help feeling that the most powerful and efficient propaganda must always be that which was directed by the general practitioner. Mr. Chamberlain added that, of course, medicine must be international, and he thought it would become more and more so as the years went on. But it was easiest for those who spoke a common language to exchange ideas, and in that respect he felt that there was a great opportunity before the profession of the English-speaking nations. With the natural advantages they possessed they could lead the world in the great war against disease. Therefore this visit would be treasured by those in England because they saw in it the promise of an even more fruitful and abundant co-operation.

Dr. MAYO said in response that their English kinsfolk did not realize how much had been accomplished by this wonderful reception. One of the most important ideas which the visitors would take back with them was that there existed in Great Britain a Minister of Health. In America they had not got so far, nor, indeed, had they a Minister of Education. The creation of the Ministry of Health was due to the combined effort of the medical profession. In every community the condition of health had advanced just as far as the medical profession was capable of carrying it. He went on to speak of the desirability of having in London a great central post-graduate school, where men from all parts of the world could come and sit at the feet of the leaders of British medicine. As instancing the appetite for instruction among those who had come across with him on this occasion, he mentioned that on the boat they had had no fewer than sixty-five lectures and addresses!

Dr. HUGH CANOR (Professor of Surgery, University of Michigan) proposed the health of the British medical profession. He spoke of the influences upon American medicine, especially on the Atlantic side. American clinicians of the seventies and early eighties were much impressed by the French school. Afterwards came the striking and profound influence of the German school, with its accent on the science as contrasted with the art of medicine. This influenced greatly the trend of medical education in the States. It had led, perhaps, to a tendency to lose sight of the patient in considering the pathological process. They had come now to the turning-point, when the question was whether clinical medicine could hold its own, and it was of great interest and importance that at this juncture they should have come to London, where the greatest clinical school in the world had been built up.

Dr. WOODS HUTCHINSON (ex-President of the American Academy of Medicine), who also spoke to the toast, commented on the change which had taken place in therapeutics. Nowadays he was the best physician who knew the worthlessness of most drugs, and extolled only the six or seven real remedies in materia medica. Formerly it was the fashion for the doctor to prohibit many articles of

food, chiefly those which the patient most fancied, but nowadays these foods had all come back into medical favour on account of the vitamins they contained, or, if they did not contain vitamins, one could be nearly certain that they contained iodine, which was good for the thyroid gland. Dr. Hutchinson was hardly in accord with what had been said about the overworked business man, and the need in later middle life for taking things quietly. When a man got to 60 he could afford to do a little experimentation. The speaker was not in favour of slowing down when a man had done the best part of his work and was waiting for his discharge. On the contrary, the happiest thing to do was to put on full steam, to be adventurous, to take risks, to live to the full, until the lenticular striated artery snapped at the base of the brain. The speaker gave some account of public health on the other side of the Atlantic, and mentioned that Mr. Ford in the salvage department of his factory employed 1,100 consumptives, each of whom earned from six to nine dollars a day, and the Ford works were the most successful sanatorium he knew of anywhere in the world.

LORD DAWSON OF PENN, in a brief response to the toast, spoke of the widening horizons of medicine, the proud inheritance of the English-speaking nations, and the limitless possibilities of achievement in co-operation. The enthusiasm and energy of the visitors had been a continual surprise and delight, and he believed that those who had come seeking knowledge from across the seas had brought to their hosts more than their hosts had been able to give them in return.

SIR W. ARBUTHNOT LANE, in proposing the toast of "The English-speaking Nations," spoke of the hope they had in London of establishing a great teaching centre to which their friends from America and the Dominions would continually come. Sir STCLAIR THOMSON also spoke to the toast in a speech which showed that even twice-told stories can be very delightful. He declared that there was nothing to separate the two greatest English-speaking nations, except ignorance and water. The devotion of the Americans to Shakespeare had struck him—a devotion not always manifest among the people in Shakespeare's own country. Indeed, the desire on the part of many to bring in a visit to Stratford-on-Avon was the only thing which had threatened to disarrange seriously the Assembly programme.

Dr. FRANKLIN H. MARTIN (Director, American College of Surgeons), in his response to the toast, implored the leaders of medicine in this country to set up a system of post-graduate medicine worthy of the capital of Anglo-Saxondom. All that it required was organization. There were facilities in London for teaching medicine and surgery which were second to none. Providence long ages ago refused to allow the Thames and the Seine to flow into the Rhine. Why not see to it that scientific medicine no longer flowed into the Rhine? Clinical facilities in London were largely going to waste. There were wonderful medical schools in London for teaching students about to enter medicine, but the resources that might make London the centre of post-graduate teaching were not being used. It was a humiliation to those of them from the West to have to pass through New York and through London to Berlin and Vienna to receive teaching in a language they did not understand. Was it not possible to have in London a great centre for the post-graduate teaching of medicine?

#### THE PILGRIMS' DINNER.

Nothing could be more "fraternal" than the Pilgrims' entertainment of the Inter-State Post-Graduate Assembly of America, at the Hotel Victoria, Northumberland Avenue, on June 4th. The DUKE OF CONNAUGHT, the President, welcomed the guests. He recalled the saying that medicine had now become international, so that the guests were there for an international purpose, and he was certain that they would all feel at home in this country. The Foreign-Sent Guy, Mr. AUSTEN CHAMBERLAIN, made an amusing attempt at proposing the health of the American delegation of what appeared to him to open so wide a vocabulary of the such extensive knowledge that no one child was the one of the *Encyclopaedia Britannica* or the *British Medical Journal* could be competent

to propose it. Mr. Chamberlain said he had not yet recovered from his wonder that, except in Russia and on its boundaries, the great war had not been followed by plague. No comparable event in the history of the world had left so little trace on the health of communities. It was due to the knowledge which doctors had spread throughout the world. Mr. Chamberlain related a story, told by his father, of someone who did not agree that the climate of India was unhealthy, since, except for measles, smallpox, and three attacks of swamp fever, he had never had a day's sickness in his life! Dr. CHARLES MAYO, in reply to the toast, emphasized the unity of medicine. He felt that more good would develop from the present "invasion" of England by America than, perhaps, from that of any other group that had visited this country. The guests were leading men in their profession wherever they came from: a large proportion were in contact with the people as general practitioners, and on their return home they would disseminate the knowledge they had obtained from the "old home." The great men of England belonged to them because they were themselves from England; they had the same ideas and were of the same stock. On previous occasions the visitors had been mainly specialists. Specialists were a peculiar people whom he would call accumulators. The men who were present, as general practitioners, were distributors; and they had been brought into contact with all that was best in the greatest city in the world. At the end of his speech Dr. Mayo made the Duke of Connaught, Mr. Austen Chamberlain, and Lord Desborough honorary members of the Inter-State Post-Graduate Assembly of America. Sir JOHN BLAND-SUTTON proposed the health of the Chairman, and the DUKE OF CONNAUGHT replied.

#### COMPLIMENTARY DINNER TO DR. MAYO.

On the day before the visitors left London for the provinces a complimentary dinner was given to Dr. Charles H. Mayo by the Surgical Section of the Royal Society of Medicine. This took place at the Hotel Cecil, with Mr. HERBERT PATERSON, President of the Section, in the chair. Among others present were Dr. Franklin Martin, Sir StClair Thomson, Mr. J. C. C. Davidson, M.P., the Right Hon. T. P. O'Connor, Sir W. Arbuthnot Lane, Sir Anthony Bowlby, Sir William Macpherson, Sir D'Arcy Power, Sir George Blacker, Dr. H. Cahot, Dr. Woods Hutchinson, Sir James Berry, Mr. H. S. Sonttar, and Mr. Swinford Edwards. Many of those present were accompanied by their ladies. Mr. PATERSON, in proposing the health of the guest, remarked that Dr. Mayo was the son of an Englishman, as his father was born at Eccles, near Manchester. The success of the Mayo Clinic was due to the combination of the highest professional skill, the consideration of the best interests of the patient, and the most highly organized business methods. He praised alike the versatility and the modest disposition of the guest, and spoke of the value of clinical congresses in cementing the bonds of friendship and good fellowship between the English-speaking peoples. These friendly invasions had become established, and he hoped they would be long continued. Dr. MAYO, in his reply, paid a tribute to his brother, Dr. William James Mayo, and expressed his sense of the compliment paid him by the Surgical Section. Mr. J. C. C. DAVIDSON, M.P., Parliamentary and Financial Secretary to the Admiralty, proposed the toast of "America and American Surgery," to which Dr. FRANKLIN MARTIN replied, and the President of the Royal Society of Medicine (Sir StClair Thomson) and the Chairman had their healths proposed respectively by Sir WILLIAM ARBUTHNOT LANE and Sir JAMES BERRY.

#### OTHER FUNCTIONS.

Following upon the morning lectures, the visitors made their way, by a fleet of special motor buses, to the various hospitals where demonstrations of special cases, operations, and lectures by members of the staff formed the usual programme. Garden parties were arranged at the London, St. Thomas's, and St. Bartholomew's Hospitals. The medical staff of the Central London Throat, Nose, and Ear Hospital entertained a party of forty to luncheon at the Carlton Hotel before the hospital was visited.



The evening receptions included one at Lansdowne House, where the guests were received by Mr. H. Gordon Selfridge and Princess Wiasemsky; another by H.E. the American Ambassador, at Crewe House; and a third at the house of the Royal Society of Medicine, when Sir St. Clair Thomson, President of the Society, with the other officers, received the guests, whose numbers were such as to tax the full resources of No. 1, Wimpole Street, great as they are. It was one of the most brilliant of the series of receptions that the Royal Society of Medicine has organized.

A reception at the Royal College of Surgeons was given in the afternoon, when Sir John Bland-Sutton, the President, gave a short lecture on "The psychology of animals swallowed alive." He showed that the story of Jonah does not stand alone even in human history, while among reptiles and deep-sea fishes swallowing alive appeared to be the order of the day. He exhibited from the College museum some creatures which had been swallowed alive by animals whose digestion was not over-dainty. Some fishes, he said, had stomachs so distensible as to enable them to

swallow larger fish than themselves, though the victim sometimes wreaked a fearful *post-mortem* vengeance.

Among other events of the week were receptions by Viscountess Bryce, for the English-speaking Union; by Professor G. M. Gayley, for the American University Union; and by the American Women's Club. The visitors were entertained to lunch by the English-speaking Union, when Sir W. Arbuthnot Lane was in the chair, and by the American Society in London, under the chairmanship of Mr. Wilson Cross. On the invitation of Messrs. Parke, Davis and Co. a party of eighty visited Windsor by motor car and had lunch at the company's laboratories at Hounslow. A party of nearly 300 was received at the Houses of Parliament by Sir Harry Brittain, M.P.

The arrangements for the whole meeting were in the hands of an executive committee under the chairmanship of Sir Humphry Rolleston, and there were a Medical Programme Committee, a Hospitality Committee, and a Ladies' Committee, under the chairmanship of Sir Holburt Waring, Mr. F. E. Powell, and Lady Waring respectively.

## The British Medical Association's Scottish House.

### OPENING CEREMONY.

THE Scottish House of the British Medical Association, which has recently been acquired at 6, Drumsheugh Gardens, Edinburgh,\* was on June 4th formally opened by the Right Hon. Sir John Gilmour, M.P., Secretary for Scotland. The ceremony took the form of a luncheon, given by the Scottish Committee of the British Medical Association, which was largely attended by representatives of the medical profession and various bodies connected with it in Edinburgh. Dr. C. E. DOUGLAS, Chairman of the Scottish Committee, presided.

Among those present were the Lord Provost of Edinburgh, Sir William L. Sleight; Lord Mackenzie, Chairman of the Hospital Services Committee; Dr. R. A. Bolam, Chairman of Council, Dr. H. B. Brackenbury, Chairman of the Representative Body, Mr. N. Bishop Harman, Treasurer, Dr. Alfred Cox, Medical Secretary, and Dr. J. R. Drever, Scottish Medical Secretary, of the British Medical Association; Professor G. Lovell Gulland, President of the Royal College of Physicians, Edinburgh; Professor T. K. Monro, President, Royal Faculty of Physicians and Surgeons, Glasgow; Sir David Wallace, President, Edinburgh Medico-Chirurgical Society; Professor G. M. Robertson, President, Medico-Psychological Association; Dr. A. K. Chalmers, President, Society of Medical Officers of Health; Dr. Drummond Shiels, M.P., President, Royal Medical Society, Edinburgh; and Sir Robert Philip.

#### Speech by the Secretary for Scotland.

SIR JOHN GILMOUR, in declaring the House open, said that those who represented the British Medical Association had applied their minds and energies to bringing healing and light into the community. The Association not only included the country in which they stood but the whole United Kingdom, and the power and influence of the Association was becoming Empire-wide. He was sure he was speaking for His Majesty's Government when he said that they realized very fully indeed the importance of bringing together all well considered opinion upon the increasingly difficult problems with which they were confronted to-day. The British Medical Association had not only banded its members into a great organization, but it had done more in producing a journal which was of great value as a record of medical thought and research. The *British Medical Journal* was a source of great value in post-graduate work to many men who, having become efficient medical practitioners, disappeared into the corners

of the earth. They had met that day for a fresh departure in the history of the British Medical Association. He believed that the relationship of their Association and other medical bodies to Government departments, such as the Board of Health for Scotland, had been essentially of a useful nature, and if in any measure during his present tenure of office he could increase the work between them he would feel rewarded. The health and the housing of the people were clamant and difficult problems, which could only be solved if there was a recognition both by Government departments and by medical associations that they must work together for the solution of these difficulties.

Dr. R. A. BOLAM, replying, said that it was a source of satisfaction that the imperial bearing of the Association was recognized in high quarters. He said that in the Council of the Association, over which he presided, there was a corner called the Scottish corner, which sometimes emphasized the truth of the maxim that you could sit on the rose, you could sit on the shamrock, but you could not sit on the thistle. Nevertheless, they always looked to the Scottish corner for sound guidance. He continued that the outlook for the British Medical Association was good, and they hoped within a month to open their new House in London. He had on occasion resented the comment that the Association was a trade union, for he felt that in it there was something infinitely stronger and greater than a trade union, and he believed that their influence with Government departments was now deservedly great, and was an influence for the good of the country. Dr. Bolam then handed over the custody of the House to the keeping of the Scottish Committee.

The CHAIRMAN, in thanking Dr. Bolam and accepting the custody of the House, remarked that during the last five years the Association's membership had increased by nearly 80 per cent. In the course of an admirable speech, Dr. Douglas drew an analogy between the medical profession and the Army. Every man in each of these callings was, he said, in the first place a keen individualist, depending upon his own strength and brain; but just as the soldier would be ineffective without the organization of the Army, so the doctor nowadays would be able to achieve little without the British Medical Association. There were some respects in which it was necessary for the Association to act as a trade union, but he could say without fear of contradiction that nothing that the Association had ever done had been contrary to the public interest.

The toast of "The City of Edinburgh" was proposed by Dr. R. C. BUIST, Dundee, and acknowledged by the Lord Provost, Sir WILLIAM SLEIGHT; the toast "Floreat Res Medica" was given by Sir ROBERT PHILIP; and that of "The Chairman" was proposed by Dr. H. B. BRACKENBURY.

\* See BRITISH MEDICAL JOURNAL, May 23rd, 1925, p. 580.

## British Medical Journal.

SATURDAY, JUNE 13TH, 1925.

### FAR FROM THEIR ENEMIES AND THEIR FRIENDS.

THE medical report of the Cassel Hospital for Functional Nervous Disorders, a summary of which is given at page 1102, merits close attention at the present time, when so much thought and labour is being expended on the types of provision needed for the adequate treatment of the various forms which mental disorder assumes. That there is a serious need for hospitals taking types of case similar to those for which the Cassel Hospital is intended there can be little doubt. The complex and artificial conditions of modern life would seem to be responsible for an increasing tendency to "neurasthenia." The widespread interest in psychotherapy and the growing volume of literature on the subject are indicative of the fact that there really is a social problem requiring solution. Fortunately a cessation from work and isolation from social life are unnecessary measures in many cases of nervous illness; such measures, indeed, are often undesirable, and it is an essential part of the treatment that the patient should remain in active contact with life. There are cases, however, for whom sanatorium treatment is a necessity, and there is little question that by such treatment many patients can be saved from a life of chronic invalidism which renders them not only unproductive themselves, but liable to deplete the energies of those with whom they live; for it has to be recognized that mental illness in any form is more exhausting to the entourage of the patient than any other type of illness.

Fortunately there are now many more facilities for the treatment of the milder forms of mental disorder in persons of the professional and business classes than was formerly the case. The voluntary boarder system has been a great benefit to a certain type of patient, and, as is evident from the report of Dr. T. A. Ross, the medical director, the Cassel Hospital is meeting the needs of patients for whom a mental hospital would be unsuitable. We would emphasize the fact, however, that there is absolutely no provision for the sanatorium treatment within the means of persons belonging to the artisan class who are the subjects of functional nervous illness. Every practitioner has brought home to him the fact that artisans, especially those of the intellectual and ambitious type, are liable to break down with nervous illness, after having struggled to acquire a position of moderate comfort. Very often the collapse occurs at the time when the patient is placed in a position of responsibility which it has been a life's ambition to achieve, and he develops a condition which renders him quite incapable of effective and productive action. In such cases the practitioner is helpless because the sanatoriums to which the patients should be sent, and where, as the Cassel Hospital report shows, they may be greatly benefited, do not exist. In such cases we discover a strong argument for the development of psychiatric clinics. The necessity for provision of this kind is, of course, generally recognized, and Professor Pierre Janet has recently made some interesting com-

ments and suggestions on the subject. He refers to the need of organizing treatment for curable neuro-paths whom it is necessary "to transport far from the noise of the city, the turmoil of business, far from tramways and telephones," and, incidentally, far from their families, their enemies, and their friends. He points out that convents formerly furnished such patients with the retreats they needed, and that while these institutions must have engendered some cases of insanity, they prevented and cured many others that would have developed in a life in the outside world. He suggests that perhaps the next century will see the development of lay convents which will serve our successors as temporary asylums for restoring their forces, calming their nerves, and ret tempering their wills for the struggles of the coming year.

The report includes an interesting discussion of the differential diagnosis between functional and organic disease. Dr. Ross points out that first there is the difficulty of deciding whether organic disease is present; secondly, there is the more specialized difficulty of deciding whether, if present, it is responsible for the symptoms presented by the patient, and if responsible at all, whether in part or altogether. The factors responsible for the production of morbid states of mind are, of course, so complex that it is difficult to assign a predominant part to any one of them in a number of cases. A careful examination of the nervous system, with attention to the diagnostic criteria indicated by Dr. Ross, should in the majority of cases render it impossible to confuse organic disease of the nervous system with a psycho-neurosis. A much more difficult matter, and one which is to be considered in a later report, is to determine in the early stage of a mental disorder the category in which it should be placed. Thus in many cases it is hard to state with precision whether a patient is the subject of a neurosis or of a psychosis such as dementia precox or paranoia. There are probably no absolute criteria which justify a confident diagnosis in the incipient stages, though the impenetrability, lack of co-operation, reticence, and emotional poverty of the precocious dement, in contrast to the frankness, desire to talk of his case, emotionalism, and dependence of the psycho-neurotic will probably afford diagnostic clues to the experienced psychiatrist. Another difficulty arises from the fact that a typical psycho-neurosis may develop into a severe and incurable psychosis. This is often observed in the obsessional neurosis, which is in any case a form of malady particularly resistant to treatment. Thus a patient who has suffered from obsessions for many years may develop a paranoid psychosis or a profound melancholia with fantastic delusions of unworthiness; still more curiously, and more rarely, a paranoiac with ideas of reference may lose these delusions and develop into a typical hypochondriac. We refer to these facts in order to point out how difficult it is to predict the course or outcome of mental disorder, and to emphasize the importance of submitting cases to treatment before symptoms are fully developed. Not only will this render the possibilities of recovery greater before the disease is confirmed, but it will enable the psychiatrist to study the symptoms of incipient mental disease and thereby to gain better insight into their significance from the prognostic point of view.

It is evident from the three reports which have already been published on the work at the Cassel Hospital that these problems are engaging the attention of the medical staff, and it is much to be desired that further clinics of a similar kind may be developed,

not only for those who are in a position to pay for their nursing and treatment, but others connected with the general hospitals or under the control of the health authorities.

### THE LENGTHENED TRAINING OF THE MIDWIFE.

As the British Medical Association, in its evidence before the Royal Commission on National Health Insurance, has made "an efficient service of registered midwives" one of the conditions for its maternity scheme, the rules for the extended training of midwives recently issued by the Central Midwives Board for England and Wales, and the explanatory memorandum accompanying them, have a special interest for members of the Association at the present moment.

The period of training has been increased from six to twelve months for the previously untrained woman, and from four to six months for the fully trained nurse. This differentiation in the degree of lengthening may be justified on the ground that the trained nurse comes to her midwifery work already drilled in the ritual of surgical cleanliness—that part of the training which calls for intensive and continuous discipline until an instinctive habit is acquired. Possibly this halving of the period of study in favour of the trained nurse marks a stage towards making nursing training an essential preliminary to that of a midwife. The number of cases to be "personally delivered" and nursed remains at twenty as before, and one reason for the Board making no increase has been the very sound one of not encroaching further on the already too scanty material for the training of medical students. The memorandum, however, emphasizes the fact that twenty is to be regarded as the minimum number, and that it is expected that the pupil will deliver more, especially in institutions with a small number of cases, so as to compensate for the less continuous experience and less frequent impressions. Another new proviso is that besides the cases actually delivered, the pupil must be certified as having "witnessed not fewer than ten labours," so that she will have learnt what is expected of her before taking her twenty personal deliveries. The most striking change, however, is that five of those twenty cases must be attended within a hospital, and of the remaining fifteen at least five must be attended in the patient's home, with a corresponding proviso that of the twenty lying-in women to be nursed at least five must be nursed in their own homes. This last-mentioned point in the new rules should appeal particularly to the general practitioner who has to carry out the domiciliary practice of midwifery and work with the midwife, because its object, as stated in the memorandum, is that the pupil may learn "how to apply hospital methods to the more difficult circumstances of the patient's home, how to improvise and make the best of what she finds there," as well as how to discharge other duties that may not come to her notice in hospital, such as "her relations with, and duties to, the local health authority and co-operation with private medical practitioners." Space does not permit us to call attention here to other modifications in the rules, which seem well designed to meet their purpose in training women for the maternity service of the country, but it may be as well to note that the antenatal examination of twenty pregnant women is included in the certificates for admission to examination.

Even a cursory study of these regulations, and

particularly of the memorandum, which endeavours to interpret the spirit rather than the letter of the rules, will serve to emphasize the remarkable change that has followed the passing of the Midwives Act of 1902. Save in exceptional instances, the midwives of that period, though attending more than half of the births in the country, were untrained and unsupervised. To this day nearly 20 per cent. of those in independent practice are still of the old order, their names having been placed on the roll because they were *bona fide* in practice at the time the Act was passed. The training meanwhile has advanced by stages from three months—often taken as an apprenticeship to a midwife in practice—to a year's curriculum as set out in these regulations, with service both in a hospital and in the homes of the patients. Experience, however, has shown that it is much easier to turn out trained women than to get them to follow their profession as the Act intended. A large proportion of those taking the training laid down by the Central Midwives Board and passing its examination have no intention of practising as midwives. The qualification is useful to them as maternity nurses, in obtaining positions as health visitors and other appointments; but the work of a midwife is too strenuous, the responsibilities too great, and the prospects and economic return not such as to attract the more educated and highly trained woman. The recognition of her professional status by the Act has been paid for by the midwife by a close supervision of her practice, and by an amount of form-filling and "red-tape" that must excite the sympathy of the insurance practitioner.

The more difficult problem of distributing the services of these well trained midwives throughout the country so as to make them available wherever required is one that must be solved by the public and the health authorities responsible for the local administration of the Midwives and Maternity and Child Welfare Acts. Although something has been done under these Acts and by voluntary effort, such as the Queen Victoria Jubilee Institute and county nursing associations, only its fringe has been attacked; and until this aspect has been faced and some solution found, the degree of benefit from these regulations that will reach the mothers and infants of the country will be but a fraction of what it ought to be.

### THE INTER-STATE POST-GRADUATE ASSEMBLY.

It was said many times over during the meeting of the Inter-State Post-Graduate Assembly in London last week (of which we conclude our report at page 1086) that Medicine has no national frontiers. It may have no national frontiers, but very often at congresses in which different nations take part certain linguistic frontiers are very evident, and only a few specially gifted people hold the necessary passports. In a gathering of British and American medical men, however, this barrier does not obtrude itself, and there can be not merely amity but perfect understanding. The numerous lecturers last week never found it necessary to go back on themselves and recast a phrase because they were not addressing an English-speaking audience or to explain an idiom. They must have felt themselves being warmed, too, by the evident quickness of apprehension and appreciativeness of those they addressed. Not often do lecturers have audiences, especially consisting of the citizens of another country, so eager and co-operative.

The visitors were tireless in their search for instruction. In spite of very strenuous mornings, no flagging was permitted in the afternoons. If any hospitals made preparations for visitors and none came—which did happen in at least one instance—it was due to no negligence or disrespect on the part of the Americans, but simply to a breakdown of one item of the arrangements; and when one considers what an enormous amount of organization such a meeting entailed, it is a wonder that more breakdowns did not occur. On the side of the hosts there was an excusable pride in what this old country had to show. They took it as a great compliment that visitors should have come so many days' journey to explore their possessions, intellectual and other. One doctor from California, who had left his home on May 10th and had been three weeks on the journey, told an Englishman that, apart from what he hoped to hear and see on the professional side, he had two great ambitions in visiting this country, and had fulfilled both; one was to go to Stratford-on-Avon and the other to see the Rosetta stone at the British Museum. The reverence which the visitors showed for our traditions and our ancient things was most noteworthy.

The outstanding personality of the Assembly was Dr. Charles Mayo, of the famous clinic at Rochester, Minnesota—a man who dominated any company, though not by any assertiveness on his own part. The one anxiety of Dr. Mayo, who described himself as "the brother of William James Mayo," seemed all through to be to express as often as possible his gratitude for all that had been done for him and his friends. The visitors have certainly left behind them in London, among all with whom they came in contact—and we do not doubt that they will produce the same impression in Edinburgh and the other centres they are visiting—a greater friendliness for their country. Tennyson's lines were quoted at the Guildhall banquet:

Gigantic daughter of the West,  
We drink to thee across the flood,  
We know thee best, we love thee best,  
For art thou not of English blood?

But this was felt to be not an occasion for grandiloquent protestations of Anglo-American unity, but rather for good fellowship and companionableness. So far as could be told, the visitors represented the general practitioners of all the States from one seaboard to the other. A very large proportion of them came, not from the great cities, but from relatively small communities of the Middle West. What they gathered in the way of fresh instruction will be carried to wider circles through their medical societies, the local units of the American Medical Association, to which three-fourths of them belong. We only hope that their recollections of us will be as kindly as our recollections of them. A permanent result of the visit in this country may be some further approach to the ideal which Dr. Franklin Martin urged at the Guildhall banquet—that of making London the post-graduate centre of the English-speaking world.

On Thursday, June 25th, the President will give an evening party at the Royal College of Physicians of London to commemorate the centenary of the opening of the present College building, during the long presidency of Sir Henry Hallford, to whose influence it was mainly due that the site at the corner of Trafalgar Square and Pall Mall East was placed at the disposal of the College.

## THE PRESIDENT'S VISIT TO CANADA AND THE UNITED STATES.

Mr. J. BASIL HALL, M.Chir., F.R.C.S., President of the British Medical Association, during his recent tour of Canada visited Montreal, Kingston, Peterborough, Toronto, Buffalo, Hamilton, Winnipeg, Ottawa, and the Niagara district. In Toronto he addressed the Academy of Medicine on the overgrowth of modern specialism, and his lecture is described by an officer of the Academy as "one of the most eloquent and inspiring that has been delivered before that body; his visit will undoubtedly strengthen the bonds of sympathy and esteem uniting the British and Canadian Medical Associations." While in Toronto the President also addressed the Ontario Medical Association and the Medical Alumni Association of the University of Toronto. In the United States he has been entertained by the Philadelphia Medical Club, and he addressed the annual meeting of the American Medical Association in Atlantic City. Our contemporary the *Journal of the American Medical Association*, after referring in an editorial article to Mr. Basil Hall's visit to the headquarters of the association in Chicago on May 11th, quotes from his Presidential Address last summer at Bradford, and concludes thus: "At a time when the American medical profession is concerned with similar problems, we are exceptionally fortunate in the visit of a British confrere with a real sympathy for the problems of the general practitioner." Immediately after his return to this country the President, on June 10th, attended a meeting of the Council of the British Medical Association. He was very warmly received, and in the course of a few words spoke of the fine welcome he had met in Canada and in all the other centres he visited. He was, he said, sure that his visit had done good. During the midday recess the members of the Council were entertained to luncheon at the Grand Hotel by the Chairman, whose health was proposed by Dr. Braekenhury. In the course of a brief response Dr. Bolam referred to the great debt the Association owed to many older members, some of whom he was glad to see present; the possibility of acquiring the new house was due to their courage and foresight.

## MEDICAL EDUCATION IN WALES.

THE progress of medical education in Wales can scarcely fail to be impeded by the decision of a recent meeting of the Court of Governors of the University College of South Wales and Monmouthshire, Cardiff, against the separation of the National School of Medicine from the local college. It is true that the court was by no means fully attended, and that the decision arrived at challenges no less an authority than the Privy Council; nevertheless the decision was made, and the next move seems to rest with the Privy Council. The history of the present unfortunate situation is long and complicated. The beginnings of medical education in Wales date back to 1893, when departments of anatomy and physiology were formed at Cardiff College. In 1909 the Treasury gave a special grant to the medical school, which led to the establishment of a chair of pathology and bacteriology; and in response to a general demand the complete "final" school was brought into being soon after the war. In the meantime the urgent need was felt for the reorganization of the University of Wales itself, and in 1916, at the request of the university and colleges, a Royal Commission on University Education in Wales was appointed, with Lord Haldane as chairman. The university and colleges promised to abide by the decisions of the Government based on the findings of the Commission. In their final report the Commissioners recommended the organization of the medical school as a constituent college

of the university, to be governed under the university by a council and senate of its own. This recommendation has since been endorsed by the Faculty of Medicine, the Council of the University of Wales, and the Privy Council. The Council of the University has drawn up a draft scheme for the constitution of the National School of Medicine as a school of the university, which has been submitted to and approved by the Privy Council, but the local college refuses to accept it. The situation is further complicated by the fact that Cardiff College itself is petitioning the Privy Council for a supplemental charter, which, however, the Lords of the Committee refuse to advise His Majesty to grant till the clauses dealing with the School of Medicine are deleted, since "they are convinced that the only satisfactory solution of the problem is to give the school an independent position under the National University." While the desire of Cardiff College to retain within itself its most powerful faculty is natural and understandable, it is just as clear that this retention is directly against the wishes of the medical faculty and the rest of Wales. Incidentally, the college itself would appear to appreciate that its progeny has outgrown its nest, since, while all professors of other faculties have a seat on the senate of the college, only a limited number of the professors of the medical faculty are accorded this privilege. In other words, the other faculties would seem to fear the numerical power of their medical brothers, which is surely acknowledging that the medical school is sufficiently grown up to move into a house of its own. The School of Medicine receives generous financial support from the whole of Wales because it is a national school; if it is to remain an adjunct of Cardiff College this aid will, there can be little doubt, be withdrawn. On March 25th last Swansea Town Council affirmed its approval of the principle of a national school of medicine, and decided that its contribution to the school should be paid into a suspense account, on the distinct understanding that if the school did not become part of the University of Wales the contribution should be refunded to the borough. It seems likely that the rest of Wales will follow Swansea's lead—no national school, no national contributions—and Cardiff College may be placed in the unpleasant position of having to appeal to a Government which it has flouted for financial support for a school which has been impoverished by its short-sighted policy.

#### ENCEPHALITIS PERIAXIALIS.

In 1912 Schilder described a curious form of diffuse sclerosis of the brain to which he gave the name of "encephalitis periaxialis diffusa." Isolated records already existed of cases in which a similar pathological picture had been found, and since the publication of Schilder's paper between twenty and thirty cases of the same sort have been described, chiefly by German writers. A summary of the literature, together with descriptions of new cases, is contained in two articles in *Brain* (1924, Part IV)—one by Professor L. Bouman of Amsterdam, and the other by Drs. James Collier and J. G. Greenfield of the National Hospital for the Paralysed and Epileptic, Queen Square, London. The pathological appearances are remarkable and quite distinctive, but an altogether new interest has been added to the subject by the fact that a fairly constant clinical picture can now be associated with the disease, since Dr. Collier demonstrated one of his cases during life as an example of Schilder's disease. He was led to make the diagnosis by the clinical resemblance which the case bore to one he had observed in 1902 in the wards of the late Dr. Beever at the Queen Square Hospital; this case presented pathological appearances characteristic of the condition described ten years later by Schilder. The subjects of this disease are for the

most part children or young adults, and no predisposing factors have been noted. The onset is fairly abrupt, and the earliest symptoms are usually disturbances of vision of a kind suggestive of a lesion in the occipital region of the brain. Most of the patients complain simply of a rapid failure of vision, but in a few the loss of vision has been preceded by visual hallucinations, inability to estimate distances, or other signs of visual disorientation. It may be found on examination that the loss of visual acuity affects equally the whole of the visual fields, or that homonymous hemianopia is present; in one of Schilder's cases the blindness affected at first the lower half of each field, corresponding to a lesion in the upper part of each occipital lobe. The pupils continue to show the normal reflex contraction to light—an important sign that the blindness is occipital in origin. A mild degree of optic neuritis has been found in several cases, and has led to the diagnosis of intracranial tumour; its occurrence adds considerably to the difficulty of diagnosis, but the fact that it remains stationary or passes off altogether while other symptoms advance rapidly is a strong argument against the presence of a tumour. Along with the loss of vision there is usually headache and in some cases vomiting. In typical cases the earlier symptoms are followed more or less rapidly by evidences of involvement of the parietal, temporal, and finally frontal regions of the brain. Anaesthesia of cortical type in the form of astereognosis, and unsteadiness of gait from loss of sense of position, may be succeeded or accompanied by progressive deafness. Sooner or later in all cases spastic paralysis develops in the limbs of one or both sides; the legs are usually first affected, and the development of an extensor plantar response is an early sign in most cases. Epileptiform fits are a common symptom, and may occur early. Some degree of progressive mental deterioration is invariable, and may set in early, leading in most cases to a condition of complete dementia. The duration of the illness averaged in seventeen cases ten and a half months, the extreme limits being forty-one days and thirty-six months; in one case recorded by Marie there was, however, an almost complete remission for nine years. In a minority of the cases the order of occurrence of the symptoms is not typical, and visual disturbance may be wholly absent; here the main features are spastic paralysis, fits, and mental changes, and it is difficult to see how the diagnosis could be made with any degree of certainty. The Wassermann reaction was positive in one case only, and the only abnormalities recorded in the cerebro-spinal fluid have been an increase of albumin and a slight excess of lymphocytes. There is usually no fever throughout the illness. The appearance of the brain after death is quite unlike that seen in any other affection. Almost the whole of the white matter of both hemispheres is converted into a pale brown translucent substance of firm consistency, the condition being typically most advanced in the occipital region. In the cases in which vision was unaffected the lesions in the brain corresponded in position with the symptoms present during life, and the occipital lobes were relatively intact. The spread of the disease forwards from the occipital region corresponds with the march of the symptoms, and the frontal area, the basal ganglia, and the brain stem are usually affected late or in slight degree. The cortical grey matter and the arcuate bands of nerve fibres immediately below the cortex are either spared entirely or affected to a moderate degree late in the disease. This fact seems to point to the conclusion that the white matter is affected by some noxious substance, possibly organismal, brought to it by the blood vessels, since the cortex and arcuate fibres receive their blood supply from the surface of the brain, and not from the deep vessels which supply the white matter. The microscopical picture is characterized by an extensive destruction of the myelin sheaths of the nerve fibres in the



white matter, while the axis-cylinders remain more or less intact till the later stages of the disease, when they also are destroyed. In addition there is a widespread overgrowth of neuroglial fibrils, and a general infiltration of the white matter, especially around the blood vessels, with cells of various types. Many of these are round cells resembling lymphocytes, but there are also present compound granular corpuscles concerned in the removal of the myelin, and in addition groups of giant cells of a character probably peculiar to this disease. The histological appearances, especially the preservation of the axis-cylinders which gave rise to the name proposed by Schilder, are somewhat similar to those of disseminated sclerosis, but the distribution of the lesions and the clinical features of the illness are totally unlike that disease.

#### THE ACTION OF GOLD SALTS IN EXPERIMENTAL TUBERCULOSIS.

PROFESSOR OLUF BANG, who has been investigating the action of such gold salts as sanoerysin, contributed to the journal of the Danish Medical Association, *Ugeskrift for Læger*, for May 14th an account of recent experiments, which appear to show that these gold salts have no bactericidal action *in vitro* even in strong solutions, and are of no value in experimental tuberculosis in rabbits. The salts tested were sodium aurothiosulphate and sodium aurichloride; it is stated that the former was subsequently found to be identical with sanoerysin. Early in October, 1924, to each of eight rabbits was given an intravenous injection of tubercle bacilli of bovine origin, followed in six animals by the administration of gold salts, the other two serving as controls. One of the rabbits treated with sodium aurichloride and one of the controls survived the infection, and there was no evidence that the intravenous injection of gold had been beneficial. In a second series of tests nine rabbits were infected with bovine tubercle bacilli by the intravenous route and eight subcutaneously; four of the seventeen served as controls. The gold was given by intravenous injection immediately or five days after infection. The treatment had no effect on the disease, and of the animals infected by intravenous injection the controls lived longest. A curious observation was made in the case of a rabbit given a second injection of sodium aurichloride: as this was proceeding the rabbit suddenly became very restless and seemed to be dying. The injection of gold was discontinued, and 1 c.cm. of Moellgaard's serum was injected, when the rabbit revived at once. Later on it again began to look ill, but a second dose of serum had a similar revivifying effect, and next day the rabbit was perfectly well. It was found that the preparation of sodium aurichloride given on this occasion was more acid than those previously used. Next day the same solution of sodium aurichloride was injected into a rabbit in which the absence of tuberculosis was subsequently determined after death. This rabbit collapsed immediately, but recovered after an injection of serum. Professor Bang suggests that the action of serum in cases of shock caused by sodium aurichloride is unconnected with tuberculosis, and he is very sceptical about the theory that Moellgaard's serum prevents shock in tuberculous animals by neutralizing tuberculin supposed to have been set free by the action of sanoerysin on tubercle bacilli. In a third series of tests the dosage and virulence of the injected tubercle bacilli were reduced, and sanoerysin was administered before as well as after the experimental infection. But the four rabbits thus treated fared no better than the two controls. In a fourth series of tests seven rabbits were used, and only a few tubercle bacilli were introduced by the intravenous injection of an emulsion of tuberculous tissue. Only two of the rabbits were dead at the time of

writing, but in this series also there was no evidence to indicate that the gold treatment had a beneficial effect. After describing experiments with gold salts *in vitro*, Professor Bang states that sodium aurothiosulphate (Gjaldback) does not interfere with the growth of tubercle bacilli in a 1 in 2,000 solution, and sanoerysin (Moellgaard) does not do so in a 1 in 3,200 solution. As for the alleged bactericidal action of sanoerysin on tubercle bacilli, Professor Bang describes a test indicating that sanoerysin in a 1 per cent. solution at a temperature of 38° C. fails to kill tubercle bacilli in the course of eleven days. He concludes that the gold salts investigated have no specific action on tubercle bacilli, and that any curative action resulting from the use of sanoerysin in human tuberculosis must depend on other factors. Professor Moellgaard has answered Professor Bang's criticisms in a long letter published in *Ugeskrift for Læger* for May 21st. His points may thus be summarized. Tests *in vitro* of the bactericidal and growth-inhibiting actions of a chemotherapeutic remedy are valueless, as chemotherapy is not internal antiseptis, witness the inability of such drugs as atoxyl, salvarsan, and Bayer 205 to kill in a test tube in a dilute solution the germs which they destroy *in vivo*. The shock observed by Bang in the case of the rabbit which recovered when given serum was a pure drug shock, such as may follow the administration of salvarsan, and has nothing to do with toxin shock following the injection of a chemotherapeutic remedy in a highly infected animal. Bang's method of infection with pus does not ensure a uniform dose of tubercle bacilli, and may entail a mixed instead of a pure experimental infection. The sodium aurothiosulphate prepared by Gjaldback is not necessarily identical with sanoerysin, and negative experiments with the former do not, therefore, at once invalidate the claims made on behalf of the latter. Bang's tests *in vivo* with sanoerysin itself were limited to six rabbits, none of which was treated with serum, and it is doubtful whether the optimum dosage was given; and even if sanoerysin proves to be ineffective in the experimental tuberculosis of rabbits, it does not necessarily follow that it is ineffective in the tuberculosis of other animals and man. Moellgaard concludes with the generalization that as great reserve and caution should be practised in the publication of negative findings and destructive criticism as in that of positive findings and therapeutic claims; and he does not admit that Bang's work on rabbits has upset the observations and conclusions based on four years of conscientious experimental work.

#### SWINE ERYSIPELAS AND MAN.

ONE of the most widespread porcine diseases in this country is the so-called swine erysipelas. Unlike swine fever, it is not a notifiable disease; but although exact statistics are not at present available, there can be no doubt that it is a very serious source of loss to pig-breeders. Its importance is intensified by the fact that the causal organism is capable of attacking human beings. It is a Gram-positive, facultative anaerobic, immobile bacillus, morphologically identical with the bacillus of mouse septicaemia. It is non-sporulating, but nevertheless has very considerable powers of resistance, and apparently can exist as a saprophyte in the soil. In pigs acute and chronic forms of the disease are encountered. In the acute form there is fever, purplish discoloration of the skin, and hæmorrhagic visceral lesions; while in the chronic type, in addition to the skin coloration, there are frequently seen arthritis and a verrucose endocarditis—the vegetations containing immense numbers of the bacillus. A serum obtained from the horse with or without a vaccine has been successfully used in the prevention of the disease; the serum has also been used for treatment. In man the lesions of the heart are unknown;

and in general the disease runs a much more benign course than in pigs. Many cases have been reported at one time or another. Cameron<sup>1</sup> recently referred to a case in one of the inspectors of the Ministry of Agriculture; while Cotoni<sup>2</sup> and Cauchemez<sup>3</sup> have recently described the symptoms as seen in themselves. Numerous other cases have been reported in Germany. All the cases in man have been traced to direct inoculation from a porcine source. In the pig infection is generally by ingestion. The symptoms vary, but usually a slightly painful erythema is observed within forty-eight hours of infection. The swelling extends up the arm—the primary lesions in all recorded instances have been on the fingers—and there is a more or less generalized lymphangitis of the extremity; for some days the patient suffers from a low fever and general malaise and fatigue. In some instances encephalitis has been spontaneous; in others a subcutaneous injection of antiserum has materially assisted the cure—in Cauchemez's own case the swelling disappeared within seven hours after the injection and the subsequent recovery was rapid. In addition to its transmissibility to man, the disease is of considerable economic importance. It is apparently reaching epizootic proportions in some parts of England this year, and is causing great losses. If energetic measures are adopted by the Ministry of Agriculture, there should be a considerable improvement in the situation and a diminution in the probability of human infection.

#### THE ROYAL FREE HOSPITAL.

THE Royal Free Hospital, in Gray's Inn Road, is, we believe, the only hospital in Great Britain which enjoys the specific distinction of being the hospital of a medical school for women. It was the consent of the managers and staff of the hospital to occupy the position which made possible the London School of Medicine for Women, and during the forty or more years the connexion has existed there has grown up a strong feeling of loyalty among the old students of the school. The dean of the school, Dame Aldrich-Blake, M.D., in responding to the toast of "The Hospital" at a festival dinner given on Tuesday evening at the Guildhall, London, dwelt on this point, and said that in this way the fame and name of the hospital was carried into every corner of the British Empire. The toast had been given by Mr. J. H. Thomas, M.P., who, beginning in a humorous vein, went on to make a really eloquent appeal, during which he recalled that the hospital had been founded by Dr. William Marsden in 1828, and moved to its present site in 1840. While there was, he said, difference of opinion as to whether hospitals should be supported by voluntary contributions or by the State, there was no difference of opinion that the hospital work must go on. Lord Riddell, who was in the chair, and who is president of the hospital, said that at the present time it almost seemed that any hospital desiring to raise money must either be falling down, or about to close a number of wards, or have a substantial overdraft. The Royal Free Hospital was not falling down, nor were any of its wards to be closed; on the contrary, a special appeal was made for £50,000 to build a ward for children. It had, however, a substantial bank overdraft. Since its foundation the hospital had treated four million patients, and during all the ninety-eight years of its existence had been able to command the support of generous benefactors, among whom at the present day very special thanks were due to Mr. Alfred Langton, one of the hospital's greatest friends. Lord Riddell was very warmly received, as was his reference to Mr. Langton. The toast of "The Guests"

was given by Dr. Walter Carr, consulting physician to the hospital, and acknowledged by Lord Jessel, formerly M.P. for St. Pancras, and Mr. C. T. Cramp, general secretary of the National Union of Railwaymen. Sir Charles Wakefield, an alderman of the City of London, and formerly Lord Mayor of London, proposed "The Medical Profession"; this was acknowledged by Sir Humphry Rolleston, Bart., President of the Royal College of Physicians, and Sir Squire Sprigge, M.D. It was announced that subscriptions amounting to £21,250, including a gift of £5,000 from Mr. Alfred Langton, had been received in connexion with the festival dinner, and Lord Riddell said that he would make the amount up to £25,000. We fervently hope that the whole amount required will shortly be received, for it seems to us something of an anachronism that the hospital of a medical school, especially perhaps a medical school for women, should lack children's wards.

#### HEALTH AND THE LEAGUE OF NATIONS.

IN a brief foreword to his little volume *What the League of Nations Is*,<sup>1</sup> Mr. Wilson Harris explains that no such publication already exists in small compass and at a reasonable figure. Everyone doubtless thinks he knows a good deal about the League, but after perusal of this admirable work he will find that concise and specific knowledge has displaced his vague acquaintance with the subject. The chapter that particularly interests a medical reader is devoted to the world's health. Article XXIII of the Covenant requires that the League shall "take steps in matters of international concern for the prevention and control of disease." Its organization for that, as for some other purposes, consists of a Health Advisory Council, a Health Committee, and a Health Section of the Secretariat, the Committee being the chief agency. Having neither personnel nor funds for large activities, its main function is to co-ordinate and direct national effort, though at the very beginning it had to participate actively in the campaign against typhus in Eastern Europe. For that special purpose voluntary contributions by Governments provided a fund of about £200,000, so that doctors, hospitals, and drugs were supplied for the emergency at the same time that the countries concerned had the benefit of an object lesson in the prevention and control of disease. Also, an office has had to be established as far away as Singapore to fight the origins of disease in the Far East, under direction from Geneva. Uniformity of standards in the use of medical terms and in the production of serums is manifestly of international importance, and for this the State Laboratory at Copenhagen has been made responsible under the scheme of the League. The same remarks apply to vital statistics and statistical methods. Cancer, malaria, sleeping sickness, and tuberculosis are subjects of study. Thanks to funds provided by the Rockefeller Foundation, health officials of different countries have been organized into parties of twenty or thirty, to receive a two or three months' course of instruction in the administration of selected countries, including Great Britain. An example of other activities is to be found in the inoculation against typhus of half a million refugees pouring into Greece from Asia Minor after the Turkish victory over the army of Greece. Infectious diseases pay no heed to national boundaries, and the League endeavours to establish a system of mutual protection. In the other chapters of his book Mr. Wilson Harris deals with such subjects as the Court of International Justice, the armaments problem, the reconstruction of Europe, the Saar and Danzig, and the protection of the rights of small nations.

<sup>1</sup> Cameron: *Proc. Roy. Soc. Med. (Comp. Med.)*, 1924, pp. 31-36.

<sup>2</sup> Cotoni: *Ann. Inst. Pasteur*, 1919, pp. 634-645.

<sup>3</sup> Cauchemez: *Rec. Méd. Vét.*, 1925, pp. 172-174.

<sup>1</sup> *What the League of Nations Is*. By H. Wilson Harris, M.A. London: George Allen and Unwin, Ltd. 1925. (Cr. 8vo, pp. 128 6d. net.)

## UNIVERSITY OF BRISTOL.

## ROYAL OPENING OF THE NEW BUILDINGS.



On Tuesday, June 9th, the King and Queen visited Bristol to open the new buildings of the University provided by the munificence of the Wills family. Bristol is the youngest of the English universities, for its charter dates only from 1909. When members of the British Medical Association visit the sister city of Bath next month they will have an opportunity of inspecting the University.

## ORIGINS OF THE UNIVERSITY.

In anticipation of this important event Professor J. A. Nixon, C.M.G., M.D., has contributed to the *Bristol Medico-Chirurgical Journal* an article, with illustrations, on the past and present of the University, with special reference to the Bristol Medical School. Higher learning, he says, met with no encouragement in Bristol until the decay of the Barber Surgeons' Company early in the eighteenth century stimulated some of the infirmary staff to give anatomical and other lectures to their surgical pupils. In 1816 Dr. J. C. Prichard conceived the project of founding a medical school in connexion with the infirmary. By 1830 various independent courses of lectures had been combined to form two recognized medical schools—the School of Anatomy and Medicine and the Bristol Medical and Surgical School. In 1833 these were amalgamated to form the Bristol Medical School. When the University College was founded in 1877 some of the lecturers in the Medical School advocated complete incorporation of the new school with the College, but this proposal was defeated and the Medical School remained autonomous until 1892, when it was incorporated in the College. When seventeen years later King Edward VII granted a charter to found the University of Bristol by merging University College and the Merchant Venturers' Technical College, the incorporation of the Medical School in the new university was not even then made complete. At length, in 1922, the whole medical curriculum came under University management.

"Thus the Bristol Medical School with its long and honourable tradition continues as one of the most vigorous faculties in the university to whose foundation it had so actively contributed, even if at times it has dissembled its filial affection and pride by a certain degree of independence."

Professor Nixon follows this historical note with a brief review of the opportunities and advantages which the medical student can enjoy to-day in Bristol. The departments of chemistry, biology, physics, anatomy, physiology, and pathology are splendidly equipped. As for the departments of medicine, surgery, obstetrics, ophthalmology, otology, and laryngology, although these find scanty accommodation in the University buildings, "they can spread their wings wider and more freely in the great hospitals of the city." In the new buildings, however, there is a fine Medical Library, containing collections of books which

formed the separate libraries of the Royal Infirmary, the General Hospital, the Bristol Medico-Chirurgical Society, and University College.

In conclusion Professor Nixon points out the advantages offered by Bristol in the provision of halls of residence for undergraduates. Students who do not live at home are no longer compelled to find isolated and ill furnished lodgings. "The University of Bristol has from the outset aimed at being a residential university, and in the short space of sixteen years has succeeded in laying the foundation of true collegiate life for both men and women students."

## THE NEW UNIVERSITY BUILDINGS.

The new buildings, occupying the Queen's Road frontage of the central university site, are the gift of Sir George A. Wills and of his brother, the late Henry Herbert Wills, who died three years ago. The buildings constitute a memorial to the donors' father, Henry Overton Wills, founder of the University and its first Chancellor. Built of stone in Gothic style, they are surmounted by an imposing Memorial Tower, of which some idea may be gained from the illustrations on this page. This tower, 215 feet in height, which dominates the skyline of Park Street and overlooks the spires and cupolas of mediæval and eighteenth century Bristol, contains a lofty entrance hall with fan-vaulted roof and double flight of stone stairs; a striking feature of the interior is the founder's window. The entrance hall gives access to the Great Hall, a splendid chamber with carved oak panelling and hammer-beam roof, and an apse of fine proportions.

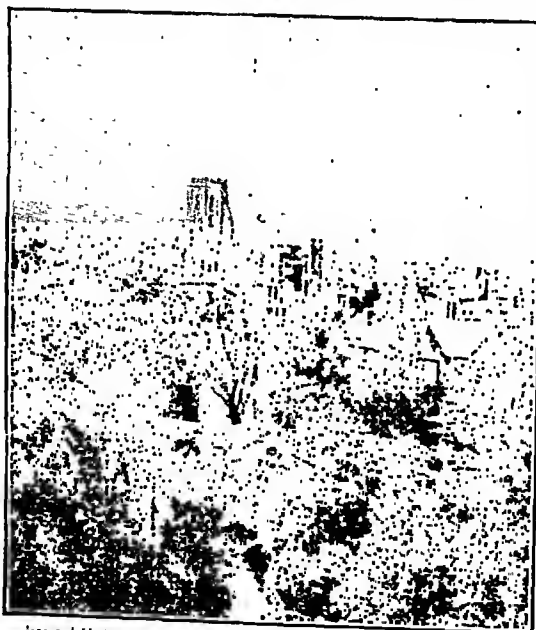
Other features of the new building are the Council Chamber, the administrative offices of the University, and the new premises set apart for the Faculty of Arts. It accommodates also two important libraries in a separate wing—the large general library, with its remarkable barrel roof, and the medical library referred to above.

The architect, Sir George Oatley—as is justly observed in a sumptuous book of the University of Bristol, published for the occasion—has followed the Gothic precedent of previous builders: a choice of style justified by the peculiar adaptability of a Gothic building to complex requirements on a somewhat crowded site. His work, however, shows no servile reproduction of fifteenth century forms. The Memorial Tower with its belfry—original in the solution

of the old problem how to set an octagon upon a square without leaving awkward corners—gives cohesion to the imposing mass of the exterior. Throughout the new buildings the balance of severity and ornament is carefully observed, both in masonry and in woodwork.

Within the octagonal belfry hangs a great bell weighing nearly 10 tons, and bearing an inscription from the Vulgate (Rev. vii, 12).

When, more than a year ago, we had an opportunity of inspecting this great work in progress, with the architect as guide, the idea came over us, as we climbed dizzy heights and scrambled among masses of stonework and forests of



Bristol University: Memorial and Arrowsmith Towers seen from Physics Laboratory.

beams, that we were back in the days of mediæval craftsmanship. Masons and carpenters one and all seemed to be working as their forefathers worked, each fashioning his piece of the fabric as though the success or failure of the whole turned on how he did the job that lay to his hand. The impression that remained was that the artificers of Bristol, conscious of their heritage, had entered into the spirit of the thing. This, as the younger generation would say, must be counted as one up to the architect, who, with boundless resources at his command—for where there are Wills there are ways—has risen to the height of a wonderful opportunity.

#### HALLS OF RESIDENCE.

A large proportion of Bristol students are drawn from the towns and villages of the West and South-West of England, and the aim of the University from the first has been to give such students, and any others who wish for them, the unquestioned advantages of a residential system, thus providing the means of a true corporate life. The authorities recognize how much is to be gained from the influence of a large nucleus of resident students, suitably housed and organized, on the spirit of the University as a whole.

The women students of the University have been fortunate from the outset; a private benefaction enabled the University to purchase and equip for their reception the delightful property of Clifton Hill House. To this has been added the adjoining premises of Callander House and grounds, and another mansion near at hand known as the Manor House. Besides these there are four smaller halls of residence for women.

For the reception of male students Canynge Hall and Mortimer House were instituted in 1919 and 1922. A further and most important step on this side of University development is the projected establishment of a new residential college for men on an estate of twenty-five acres across the Clifton Downs, not far from the University athletic grounds. This estate was the last gift in his lifetime of H. H. Wills, and the buildings are to be given by Sir George Wills in memory of his brother. The plans, as our reproduction of the architect's drawing shows, are already prepared; they foreshadow a complete scheme of collegiate life, such as is practicable only where buildings are originally designed for the purpose. Thus Bristol, thanks to its benefactors, will be able to provide for its undergraduates a full residential college life, such as hitherto has been the peculiar asset of the ancient universities.

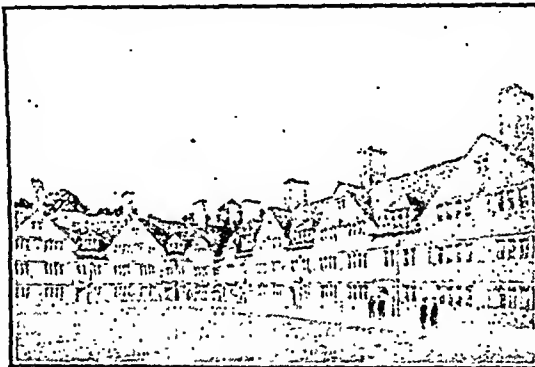
#### THE OPENING CEREMONY.

When the King and Queen arrived at Temple Meads, Bristol, at noon on Tuesday they were met by the High Steward of Bristol, the Duke of Beaufort, and Lord Beauchamp, Lord Lieutenant of Gloucestershire, who presented the Lord Mayor and other officials to the King. Their Majesties, accompanied by Lord Eustace Percy, President of the Board of Education, then drove through cheering crowds to the Council House, where the Corporation presented an address of welcome. In his reply the King said that the advance of education was a traditional virtue in Bristol, and that the merchants of the sixteenth century and afterwards who made the city famous in exploration and trade were also great founders of schools. At one time it had been thought that a university town was the seat of a university and nothing else, but it had been the most characteristic feature in the modern development of higher education that new universities had been founded in busy and populous centres. This was in the best interests of both

learning and business, for the interaction of the two was stimulating to each.

After luncheon their Majesties proceeded to the University, where the University procession was formed and entered the Great Hall, headed by the architect and contractor and representatives of the workmen. The Chancellor of the University, Lord Haldane, presented an address, in the course of which it was said that "It is our happy lot and duty to cultivate and encourage learning both by imparting knowledge to those who seek it, and not less by providing facilities for its development through maturer study and research." It was the part of a university to unite in a common life and inspire with a single ideal persons whose fortunes had been unequal. The University was conscious also that it was incumbent upon it to bring science to the aid of industry, and in that region particularly to the aid of the ancient and fundamental industry of agriculture, in which their Majesties had shown so keen and so expert an interest.

The King, in his reply, said it gave him great pleasure to open the magnificent buildings which had been erected in memory of the first Chancellor by his sons, one of whom, to the deep regret of all, had not lived to see the completion of a work to which he had devoted, not only wealth, but many years of thought and care. He had, however, left an inspiring example of devotion to a high ideal. The lofty ideals of the University which had been outlined in the address united the youngest and the oldest of our universities in an undivided fellowship of national service. "To hold in trust," the King said, "for the common use the treasures of past thought; to provide for the creative minds of the present a congenial and stimulating home; to give to all the opportunity of a liberal education in the arts and sciences; to animate men and women with worthy ideals of clear thinking and social usefulness; to spread the pure light of disinterested studies over an ever-widening circle—these



Quadrangle of Projected Residential College for Men.

are some of the essential and ennobling duties of the universities. Their responsibilities are heavy as their opportunities are great; and they can only rise to the full measure of their task if they be strong in public sympathy and support. I am, therefore, glad to hear that, not only the city of Bristol, but also neighbouring counties and important cities, are giving practical proof of a firm belief in the value of the work of this University, and evincing a determination to help in the extension of that work to ever higher levels of achievement."

An address was then presented by the Master of the Society of Merchant Venturers. The King, in reply, said that the society had a striking history, in which the names of Colston and Whitson were proof that the great merchants of the past had a just appreciation of the value of knowledge. The schools of Colston's foundation were still flourishing, but when the educational system of Bristol grew in direction Colston would never have foreseen the Merchant Venturers showed themselves faithful to their old traditions in the new circumstances. The facilities provided in their Technical College were freely used, and the part the society had taken in founding the University of Bristol was fully appreciated. Recent and happy experience showed that the society's old traditions of munificence were not extinct, and that there were still families in Bristol ready to emulate the generosity of earlier benefactors.

The King then, at the invitation of the Chancellor, declared "the University building open as a memorial to the founder for the uses of university education for ever." When the Royal party had made a tour of the building the procession re-formed and passed through cheering crowds to the station.

## RESEARCH DEFENCE SOCIETY.

## ANNUAL MEETING.

THE annual meeting of the Research Defence Society was held on June 9th under the presidency of Lord LAMINGTON. The report showed that during the past year the society had had relatively a peaceful time, though a good deal of work had been done to educate the public in the need for vaccination against small-pox. Dr. G. P. Crowden had been appointed honorary secretary (in place of Dr. Harris, who had resigned owing to the increasing calls on his time), and Dr. A. Salter, M.P., parliamentary honorary secretary. The financial report, submitted by Sir DAVID FERRIER, showed a diminution both in income and expenditure. The income from subscriptions and donations amounted to little more than £70.

*Our Defences against Small-pox.*

Dr. R. A. Lyster (M.O.H. Hampshire) gave a lecture on our defences against small-pox. He said that generally in the campaign against those diseases which had a frightening effect on the public it was not difficult to make headway, but in the case of small-pox and venereal disease, owing to special circumstances, difficulties arose. Both were loathsome diseases, the secret of both of them was known, they were diseases easily prevented and easily exterminated, and yet both continued to exist, thanks to powerful influences against the effective employment of the measures which medical science had at its command. As soon as the secret of small-pox was discovered, the antiprevention crusade began, and a Dean of St. Paul's preached a sermon to prove that small-pox was an agent of the Almighty for keeping down the surplus population. The fight against disease had been constantly hindered by the idea that sooner or later some universal panacea would be discovered whereby disease itself would be abolished. The biggest unit of the antivaccination army believed that sanitation was such a panacea. But there would never be a universal panacea, because every disease had its own particular secret and key. The secret of venereal disease was personal disinfection; the secret of small-pox was immunization by vaccination—that is to say, an extremely mild and non-infectious form of the disease could give the same immunity, or approximately the same, as the disease itself. Many diseases—rabies, tetanus, diphtheria, enteric fever, among others—were combated by the production of immunity, and the triumphs in these cases were as noteworthy as in small-pox. Apart from the possession of the vital secret with regard to any diseases, only general measures could be taken, and these, while useful enough, might be of no avail in an epidemic.

Recently, in the *Times*, Mr. George Bernard Shaw had disputed the assertion that before vaccination small-pox was almost universal. It was true that there were no general official records, but local records did exist which upset Mr. Shaw's conclusion. In Kilmarnock from 1728 to 1764 the average population was 4,000, and 16 per cent. of all the deaths were due to small-pox; the average age of all the small-pox patients at death was 2½ years, and only 3 of the deaths were of persons over 20. At Chester a census was taken in 1775, when the population was 15,000, and only 1,060 of the persons alive in that year had not had small-pox. At Ware in 1772, in a population of 2,515, only 302 had not had small-pox. In the eighteenth century there was evidence that many parents in their panic deliberately inoculated themselves or their children from mild cases. Recently vaccinated persons were exempt from small-pox. Every epidemic told the same story. In the Nottingham epidemic of 1821-22 no vaccinated child took the disease. In the recent epidemic at Toronto no case of small-pox occurred among persons who had been vaccinated during the previous twelve years; there were no deaths at all in that epidemic among persons who had ever been vaccinated, whereas 71 per cent. of the unvaccinated cases died. He cited similar figures for the Gloucester epidemic of 1895 and the Poplar epidemic of 1922. With regard to the Gloucester epidemic, he quoted the report of Dr. John Campbell, the medical officer of health for that city at the time, to the effect that the disease raged at its worst in the area which was the most recently built and

the least densely populated—a fact which contradicted recent assertions. Dr. Lyster confessed himself baffled in his efforts to discover the scientific position of the antivaccinationist agitation. The propagandists on that side appeared to take refuge in a series of denials of scientific facts, and themselves brought forward alleged facts which lacked the necessary precision to permit of their being verified. Moreover, antivaccinationists contradicted one another; one party said that the almost universal incidence of small-pox in the eighteenth century was a myth, another party admitted its existence but said that it was due to bad sanitation. He himself had no quarrel with antivaccinationists on any other than the scientific ground. He gave them credit for high ideals and a desire for the public benefit. He asked only that they should give him similar credit. And he would like to see how far the antivaccinationists were prepared to prove the faith that was in them. Any medical school on the vaccination side would provide two dozen volunteers who, having been efficiently vaccinated, would welcome the opportunity of being brought into intimate contact with a number of typical and fairly severe small-pox cases. Was the antivaccinationist brigade prepared to put up a similar number of enthusiasts? Let them employ whatever prophylactic other than vaccination they chose, and then let them attend on small-pox cases, and let some independent body judge the results. The experiment might have interesting scientific consequences, and might even go far to settle this long-standing controversy. It was time that the bitterness and hostility between the two camps came to an end, and it could only do so by a scientific test to which both sides submitted.

## RUTHERFORD MORISON TESTIMONIAL.

THE following is the third and final list of subscriptions to this fund, the grand total of which, including subscriptions promised, amounts to £1,528.

## THIRD SUBSCRIPTION LIST.

- £32 10s.—Professor C. Saint (Newlands, C.P.).  
 £15 15s.—Dr. Mary S. Gordon (Grahamstown).  
 £10 10s.—Professor R. P. Ranken Lyle (Newcastle), Dr. W. Frank Wilson (Newcastle), Mr. F. C. Pybus (Newcastle), Mr. T. A. Hindmarsh (Newcastle), Mr. J. Collingwood Stewart (Newcastle).  
 Dr. O. W. Ogden (Newcastle), Dr. R. Ingram (Muswell Hill), Mr. A. Dewar (Stanley), Mr. C. W. Craig Dunlop (Carlisle), Mr. J. W. (Newcastle), Professor R. Hawden (Newcastle), Dr. A. Parkin (Newcastle), Dr. Howie (Newcastle), Dr. George Hall (Newcastle), Dr. D. Wells Patterson (Newcastle), Dr. R. W. Wardle (Newcastle), Dr. H. D. MacPhail (Newcastle), Dr. R. W. Wardle (Newcastle), Dr. W. Kerr Russell (Newcastle), Mr. H. Franking (Harrington), Dr. G. E. Lloyd (Hexham), Dr. C. C. N. V. Potts (Newcastle), Dr. C. Robertson (Darlington), Dr. C. C. R. Goodwin (Barrasford), Dr. P. Holgate (North Shields), Captain J. A. Charles (Stanley), Dr. A. Dryden (Newcastle), Dr. J. W. Gibson (Newcastle), Dr. W. Pattullo (Spenningmoor), Dr. W. Hudson (Bedlington), Dr. Langenberg (Houghton-le-Spring), Dr. A. Livingston (Newcastle).  
 £12.—Dr. H. Widdas (Shildon), Dr. P. Vernon Anderson (Shildon), Dr. Janet A. Vaughan (Kasimir), Dr. Hamilton (South Shields), Dr. B. A. Colville (Newbiggin), Dr. L. F. Brown (Felling), Dr. Whitley (Newcastle), Dr. H. S. Brown.  
 Commander C. brough), Dr. J. Dr. William C Herbert Christ Trede (St. Bl Dr. James Smi Helen C. Bucken (Gimpey), Dr. M. M. M. (Sunderland), Dr. D. McArthur (Bury St. Edmunds), Dr. T. R. Pearson (Torquay), Dr. Miller (Bellingham), Dr. Ian Macdonald (Huelva, Spain), Dr. R. A. Welsh (Polton), Dr. F. H. Kennedy (Pershore), Dr. C. A. Mason (Sunderland), Dr. Catherine M. Jones (Swansea), Dr. N. A. Eddlestone (Whitley Bay), Dr. H. E. Smi Dr. Dickson (Heaton), Dr. A. head), Dr. Dr. T. L. Cro Carina A. B. Lewis (Innes, N.Z.).  
 £1.—Dr. S. A. Sheild (Minia, Egypt), Dr. H. McAllum (Inglewood, N.Z.), Dr. W. G. Wardle (Middlesbrough).  
 £10.—Dr. W. J. Davis (Low Fell), Dr. Revie (Ashington), Dr. Dawson Walker (Durham).  
 Subscriptions Specified.—Dr. Sally Allen (Meadowfield), Drs. J. and G. Denholm



## Nova et Vetera.

### AN EARLY VICTORIAN MEDICAL JOURNAL.

PRACTICE and domestic medicine in 1837 were necessarily more primitive than now, but we should hardly have imagined them to be as nearly medicinal as appears from the perusal of an old medical magazine, of which the first number appeared in the year of Queen Victoria's accession. This journal is "The New Doctor, a Medical, Philosophical, and Literary Magazine, and Family Journal of Health: containing New Views in the Prevention and Treatment of All Disorders and Diseases familiarly described, and adapted to All Classes of Society." It was published with rude but spirited woodcuts by Steill of Paternoster Row, and the editor was G—S—, M.R.C.S., lecturer on midwifery and the diseases of women and children, author of a *Treatise on the Disorders of the Digestive Organs*, surgeon to two most respectable clinics, consulting surgeon to the St. John's Midwifery Institution, and honorary member of the Medical Society of St. Bartholomew's Hospital. This does not exhaust the catalogue of the New Doctor's qualifications, but it bears eloquent witness to his respectability in the profession. And this, from the modern point of view, is the more remarkable, for he is emphatically what would be now regarded as an advertising quack: he sells pills and plaisters named after himself, and takes half-crown fees from patients whose ailments mostly require anonymity.

We suppress the surname of the New Doctor, since it still survives honourably in the provinces and has been known in both medical and lay literature. The fact that the New Doctor could apparently proceed in his methods unchallenged and unrebuked marks the extreme difference between the medical ethics of two epochs.

Almost the first article in the magazine we are considering—for the first item is a picture of a skeleton—bears the curious title "Sedative Effects of the Spider's Web." It is the case of "an intelligent young man (in private practice), who after consuming three quarts of brandy in thirty-six hours, fell into a state of temulent excitement, so excessive that he was incapable of keeping a recumbent or even a sitting posture for more than a minute, but paced his chamber with a ceaseless step for two days and nights." He was not delirious, says the record, but vehement in his hurried talk, and haunted by visionary monsters. After taking quantities of opium he felt no relief till the New Doctor, on the morning of the third day after the drinking bout, began to administer *fresh spider's web* in pills of five grains every hour. The patient found great relief, and cobweb, the New Doctor opines, is the sovran remedy in cases of alcoholic excess. Once famous as a febrifuge, especially in Latin countries, cobweb is not now found in pharmacopœias.

The New Doctor on the whole holds sensible views on alcoholic and other excess. He recognizes that ale is bad for invalids, and recommends weak gin and water as far more wholesome than strong ale. "A festive season is approaching; beware, readers, of the dire effects of overloading the stomach"—thus he ends a Christmas article.

The major diseases are still treated by the New Doctor in the traditional manner. Thus "an excellent receipt for consumption" is Dr. Babington's, consisting of "one drachm of compound tincture of camphor, a few drops of aniseed oil, and two ounces of infusion of roses." This draught, amounting to a cough mixture, is to be taken twice a day to ease cough and irritation. "Cancer quackery," as it is called, is condemned, but the views of cancer set forth by this old therapist show that the disease was then rarely diagnosed. Too often, manifest carcinoma was set down as scrofula. A case of Asiatic cholera among the New Doctor's near neighbours is described at some length. Water contamination is not suspected as a cause of the disease, which is fatal in this case, and the patient is allowed to drink many quarts of pump water. The water supply of London, which the householder drew from pumps in the street, did not incur suspicion till long afterwards. The New Doctor is quite nonplussed as to the origin of cholera. He observes that in the great epidemic of 1832 the staff of the Free Hospital in Greville

Street, "opened for cholera cases during its ravages in London," noticed that constipated patients did not recover. Constipation, then, he opines, must have something to do with cholera.

In one particular he just misses being a prophet. We quote here from his article entitled "Contagion communicated by Insects." "We are authorized," he says, "we think, to infer that infection, if not contagious, may be communicated by flies and other insects, and we are of opinion that this is one of the leading causes of the spread of destructive epidemics, such as plague, small-pox, and, perhaps, typhus fever." Mrs. Baillie, Diemerbrück, Francis Bacon, and Dr. Rush are quoted in support of his thesis.

"During the yellow fever in Philadelphia, in 1793, we are informed by the celebrated Dr. Rush, 'that a prodigious number of flies and mosquitoes were observed.' The year 1663," says professor Chapman, "which produced a pestilential fever amongst the settlers at Plymouth, New England, was also remarkable for swarms of large flies, filling the woods with their hum." The same author informs us, that "during the prevalence of a recent epidemic [malaria] in America, which continued for three seasons, mosquitoes abounded beyond all former example; and on its cessation scarcely one was to be seen." In some recent investigations, also, of the yellow fever, the black vomit was found, during the life of the patient, so filled with animalcules as to compose the chief part of it. Though the professor, however, states these facts, he will not admit that there is any foundation for the opinion which we have attempted to advocate; but he adduces no reason whatever, except that he considers it "a much more rational conclusion," that the unusual number of insects "is owing to the state" of things of which epidemics are the effect. This position we would at once grant; but we think it extremely probable that a number of flies, mosquitoes, or other insects, after alighting on a deceased or dead body, and afterwards alighting on a person in good health, may infect the latter.

"We should like much to see this matter farther investigated by those who have more learning and more time than we can bring to bear on the inquiry."

Among disease-conveying insects the New Doctor expressly ranks "animalcules," which, he avers, are found in vast quantities in stagnant water and, among other things, in infusions of oats, barley, and wheat. Here, indeed, we have a dim adumbration of bacteriology and Pasteurism! He foresees the possibilities of the microscope:

"The naked eye takes in from the elephant to the mite; but here commences a new order reserved only for the microscope, which comprehends from the mite, to those twenty-seven millions of times smaller; and this order cannot be yet said to be exhausted, if the microscope is not already arrived at its highest possible degree of perfection."

VICTOR G. PLARR, M.A.

### INTELLIGENCE TESTS AND INDUSTRY.

THE Industrial Fatigue Research Board, in collaboration with the National Institute of Industrial Psychology, has instituted an inquiry into vocational guidance. In the course of the investigation much use was made of "tests of intelligence," most of which have up to the present been designed on a linguistic or verbal basis—that is to say, the answers to the questions submitted are expressed by means of words. It has been represented, first, that such tests, valuable as they are, may sometimes weigh unduly in favour of those which have a special facility for verbal expression, and may fail to discover intelligence, valuable for many industrial occupations, in those who have a special difficulty in using or understanding words; and secondly, that since with all individuals it is desirable to measure intelligence by the most comprehensive means possible, a combination of linguistic and non-linguistic methods is probably preferable to the former alone.

Miss Frances Gaw has made an investigation into what is known as "performance tests," which are mainly the production of American psychologists, and which have been tried and found directly applicable to children in elementary schools under the London County Council. The results of her investigations are now published in a pamphlet.<sup>1</sup>

The history of the developments of these tests is followed by detailed descriptions. Some of the tests, such as the Porteus maze test, are well known, others are of more novel type. Most of them are on quite simple lines and require no more intelligence than the recognition of a

<sup>1</sup> Industrial Fatigue Research Board. *Performance Tests of Intelligence*. By Frances Gaw, B.A. London: H.M. Stationery Office. 1925. (Pp. 41. Price 2s. 6d. net.)

shape and the production of this shape by the building up of pieces cut into several parts, for the formation of cubes or triangles, or of fitting pieces into a ground-work to fill up a simple jig-saw puzzle. Instructions are given as to the way in which the observer should note the actual performance of the child, and of the method of scoring adopted. Uniformity of method and marking is essential if the results are to be of any comparative value. Calculating intelligence quotients is not the only use that can be made of the scores. It is sometimes desired to compare groups of subjects by means of a given test, as for example, 9-year boys with 9-year girls in the Porteus test; or to compare results from a given test within a single group, as, for instance, the range in the cube imitation test covered by 11-year-old boys. For either of these purposes it is sufficient to compare scores without reference to mental ages. It is noted that the differences between boys and girls in performance tests illustrate two of the sex differences in various intelligence tests found by Burt, Terman, and others—first, that while girls excel in a linguistic type of test, boys excel in a more perceptual sensorimotor type of test; and secondly, that girls usually excel in memory tests, boys in reasoning.

The President of the School Medical Officers' Group of the Society of Medical Officers of Health gave for his presidential address in October last an account of his experience with intelligence tests as an indication of the prospects of defective young persons.<sup>2</sup> The tests employed were the second edition of the Binet-Simon tests of 1911. A detailed account is given of the results of these tests when applied during school life and the subsequent careers of the children on leaving school.

Summing up the evidence obtained from this examination of 112 after-careers, he said that if a boy on discharge from the special school has an intelligence quotient of 50 or over, with an average annual gain of six months or more, if his character has been good, and if he has some manual ability, he will probably succeed even if his home conditions are poor and his physique below normal (unless there is actual disease of the heart, lungs, or nervous system or actual crippling deformity). He is still more likely to succeed if he can be allowed to leave at 14 years, suitable occupation having been found for him. If, however, he has already shown antisocial tendencies he will probably presently have to be placed in a residential institution, especially if these tendencies are encouraged by similar actions at home, the antisocial tendencies outbalancing all the other factors. . . . Out of 131 persons from whom this experience has been gained, . . . only 7 per cent. are earning enough to keep themselves, and 28 per cent. are earning on an average 9s. 8d. a week. . . . A very liberal estimate would place the number of those capable of maintaining themselves at . . . about 17 per cent.

With girls, however, the chances of remunerated employment are decidedly less, and the influence of the home greater whether by causing the girl to be unemployed in a good home or causing her to be sent to a residential institution from homes which are undesirable. Also, as far as the experience of this school shows, there is no chance of a girl obtaining remunerated employment if school attendance is enforced until she attains 16 years.

A less optimistic view would limit the number of those capable of maintaining themselves to the [7 per cent.] who are already earning enough to do so, and would expect that the remainder would become chargeable to the rates . . . either as inmates of institutions or workhouses . . . or by requiring outdoor relief.

Institutional treatment is said to be impossible on account of the expense and the lack of institutions, but as it seems that great expense must ultimately be incurred to support these persons at a time when they will be too old to do anything towards earning their living, would it not be better to urge as strongly as possible the necessity for the increase in the number of institutions, and that they should be organized . . . so that every inmate should perform an amount of profitable work proportionate to his ability and be thus kept happily employed and earning something towards the upkeep of the institution? Thus segregated, the mentally defective persons would be kept out of mischief, and the output of mentally defective children would be appreciably reduced.

Special schools would then become only the preliminary observation grounds, at which the children could be graded, measured against the time when they would be drafted into the residential institution.

<sup>2</sup>The Value of Intelligence Tests in the Prognosis of the Future of Mentally Defective Persons. By James W. Fraser. School Medical Officer, Hull, 1924.

## CASSEL HOSPITAL FOR FUNCTIONAL NERVOUS DISORDERS.

THE third annual report of the Cassel Hospital for Functional Nervous Disorders at Swaylands, Kent, is, like its predecessors, of considerable interest and value, and serves in particular to draw attention to the fact that provision, such as this clinic supplies, for the treatment of mild mental cases meets a greatly felt need. The medical director, Dr. T. A. Ross, following the precedent of former years, gives the after-history of all those cases in which it was obtainable, for he believes that, while on the whole the after-report can be shrewdly guessed from the state on discharge, there are exceptions; and from the standpoint of scientific evidence, the longer the period of freedom from symptoms has lasted, the more is it likely that the methods of treatment adopted have been of real value.

The present report contains not only details of all the patients who passed through the hospital in the year 1923, together with the after-history of a large proportion of them, but also further reports on those who were under care during the years 1921 and 1922, whose subsequent histories have been kept up to date. These details are given in an appendix; in each instance the number of months between discharge and report is indicated. The cases are classified by Dr. Ross into various broad diagnostic groups: the first, which includes the largest proportion of cases, embraces the psychoneuroses; the second deals with drug addicts; the third with psychoses, which are mainly of the depressive type; the fourth with organic diseases; and the fifth with a few unclassified cases. An interesting feature of these tables is that they contain a further classification of the psychoneurotic cases according to the results obtained by treatment. The first table contains the patients who are now well or improved; the second, those who are not better but who are at work; the third, those who are improved but who do not admit that the improvement is due to treatment at Swaylands; and the fourth, those who are no better. Of the 144 patients discharged during 1923, 98 belonged to the psychoneurotic group; and of these, 11 were not heard from, 62 were classified in the first table, 3 in the second, 3 in the third, and 19 in the last. These results may be regarded as very satisfactory, especially as they are based upon the condition of the patients some months after discharge.

It is probably true to make the generalization that the psychoneurotic does not make such a clear and undoubted recovery as many psychotics who recover. Many of the latter give the impression that they are quite well and will keep well. The psychoneurotic, on the other hand, may greatly improve under the protected conditions of hospital life, but upon discharge, when he has again to meet the difficulties of domestic and social life, some of which may have been largely responsible for his breakdown, it is by no means unlikely that he will again fail to make a good adaptation. For this reason the treatment of these nervous cases must not merely consist of "a rest cure"; it must include a course of self-examination, a widening of the conscious outlook, and a frank facing of the realities of life. From the reference to the modes of treatment adopted made in the previous report we gather that the treatment given is along these lines, and probably that is why the after-history has been so satisfactory in a good proportion of the cases. Dr. Ross draws attention to the fact that since the hospital opened there has been a waiting list which has blocked admissions for periods of from at least six weeks to about three months. Indeed, but for the fact that many have been found to have made other arrangements when their turn for admission comes, the blocking would have been more serious than it has. Dr. Ross points out that while most psychoneurotic patients suffer from a chronic disorder, and for many the weeks of waiting are at worst only an annoyance, there are some who cannot wait without a serious aggravation of their symptoms; there are others who, if they do not come at once, cannot come at all: for example, school teachers, students, and the like, who must employ their vacation for this purpose, people whom one would be sorry to see give up their work. He goes on to show that the most obvious

way to effect a reduction of the waiting list is to keep the hospital strictly to that class of case for which it is intended. The report shows that a number of cases sent by practitioners turned out to be suffering from lesions of the nervous system, arteries, heart, and other miscellaneous organic diseases. The admission of such cases must cause much inconvenience and disappointment, and Dr. Ross devotes a considerable section of his report to an analysis of the signs and symptoms presented by those patients who were found to be the subjects of organic disease, in the hope that his observations may be of some help in differential diagnosis. It is mainly through improved diagnosis that the full use of the beds can be obtained, and Dr. Ross considers that the elimination of the psychotic cases is of the utmost importance also from this point of view. He proposes to defer the discussion of this subject to another occasion, but observes that for certain patients with psychotic depression the hospital provides a suitable environment, though it does not do so by any means for all who are sent in.

## England and Wales.

### HUGH OWEN THOMAS MEMORIAL LECTURE.

DURING the war the council of the Liverpool Medical Institution resolved to establish a fund to keep green the memory of Hugh Owen Thomas, truly described as a surgical genius. Subscriptions came from surgeons the world over, and the council of the institution decided to establish a lecture on some surgical aspect of orthopaedics, to be delivered every two years by some eminent surgeon, and to use the interest of the fund for his honorarium. The second biennial lecture was delivered by Dr. Robert B. Osgood, of Boston, U.S.A., at the institution on June 2nd. There was a large audience, and the president, Mr. R. C. Dun, who was in the chair, introduced the lecturer in graceful terms. At the outset Dr. Osgood paid a tribute to the memory of Hugh Owen Thomas, and referred to Sir Robert Jones as a leader in orthopaedic surgery. Dr. Osgood took as the subject of his lecture the orthopaedic aspects of chronic arthritis. We hope to publish a report of the lecture in a subsequent issue. The lecture was listened to with attention and was much applauded. The president, in thanking Dr. Osgood, alluded to his inspiring qualities as a teacher.

### UNIVERSITY OF LIVERPOOL.

At the graduation ceremony held in St. George's Hall on June 5th, the Chancellor, Lord Derby, conferred the honorary degree LL.D. on Sir Dyce Duckworth, Bt., and on Sir Robert Jones, K.B.E. Sir Dyce was described as a distinguished alumnus of the old Liverpool Royal Infirmary School of Medicine, whose loyalty to Liverpool and his old school has been steadfast. A lover of books, a lucid teacher, a polished speaker, a writer who has advanced clinical medicine, the Chancellor expressed his pleasure as a Lancashire man on paying Sir Dyce the highest honour the University could bestow. Sir Robert Jones, who was greeted with vociferous applause by the students, was introduced as the greatest bone surgeon of this or any generation, renowned and honoured the world over. Through his influence and teaching he had been the means of saving to the Empire and the Allies a vast number of lives, and it was owing largely to him that our streets show relatively so few cripples as compared with bygone days. The Chancellor recalled the fact that as War Minister he had appointed Sir Robert to the Medical Advisory Board of the War Office. The illustrious surgeon had not kept his great skill and knowledge for Liverpool only, but had given them to the world at large. The University delighted to pay Sir Robert this high honour as a tribute to his outstanding ability in his profession.

### PRESENTATION TO DR. W. E. THOMAS.

Dr. W. E. Thomas, J.P., of Ystrad-Rhondda, was presented, on June 6th, by the insurance practitioners of Glamorgan, with his full-size portrait in oils, painted by

Miss Margaret Lindsay Williams, as a tribute to the great services he has rendered to the medical profession, and to the British Medical Association, of whose Council he has long been a member. A diamond brooch was given to Mrs. Thomas on the same occasion. The chairman of the presentation committee, Dr. J. Morgan Rees, laid stress on the great value of the yeoman service rendered by Dr. Thomas, not only to the medical profession, but also to the social and public life of South Wales and Great Britain. Dr. Howard Davies emphasized the courageous way in which Dr. Thomas had tackled so many difficulties in the past; and the Medical Secretary of the British Medical Association, Dr. Cox, speaking in the same strain, added that, in addition to his other qualities, Dr. Thomas had the very rare power of inspiring affection wherever he went. Dr. Thomas, replying, said that during the forty years he had lived in the Rhondda he had found that the people there proved to be very good friends. It was owing to the great self-sacrifice of his wife that he had been able to devote so much time to public work. Dr. Thomas was the guest of honour at a banquet which was held the same evening, when the toast of "The British Medical Association" was proposed by Sir David Evans, and the toast of "Our guest, W. E. Thomas, doctor of medicine, justice of the peace, and prospective high sheriff of his native county," was proposed by Sir Ewen Maclean. Dr. Thomas, in his reply, expressed his gratitude for the warm appreciation of his work. He was glad that his friends and colleagues had deemed him worthy of such a present in spite of the fact that he had never concealed or been false to his political or professional views.

### PUBLIC HEALTH NEEDS OF LONDON.

The Minister of Health, the Right Hon. Neville Chamberlain, M.P., received on June 8th a deputation from the London County Council, which submitted to him the report of the Special Committee on Health Administration in London. In submitting it, Captain C. E. Warburg, chairman of the Council, laid special emphasis on—

- (1) The necessity for an early reform of the Poor Law, along the general lines of the report of the Maclean Committee, in order that a fuller use might be made of the existing Poor Law institutions in the treatment of disease. Pending a settlement of the future of Poor Law infirmaries, it was not possible to reach a satisfactory position as to the hospital needs of London and, in particular, as to the use which might be made of the existing infirmaries in connexion with advanced cases of tuberculosis.
- (2) The need for the revision and consolidation of the Acts relating to health services in London.
- (3) The desirability of an expert inquiry into the question of the disposal of refuse.
- (4) The advisability of a technical inquiry into the problem of dealing with the drainage of London. This arose particularly in connexion with the pollution of the River Lea. One obvious solution of the problem was that the drainage of the outlying districts at present discharging into the Lea should be taken by the London County Council, but the capacity of the Council's sewers was limited, and the Council also felt that it should not lightly add to the volume of effluent discharged into the River Thames.
- (5) The desirability of instituting an inquiry into the after-care of tuberculous patients. Valuable as were the experiments being carried out at Papworth and Preston Hall, they could never by themselves provide a solution of the problem of tuberculosis in urban districts. Patients who returned from sanatoriums partially restored to health were in danger of relapse when they came back to the conditions of life in which they had originally contracted the disease, with weakened physique and earning capacity.

Mr. Herbert Morrison said that Labour members of the Council gladly endorsed this report so far as it went. They attached particular importance to the reform of the Poor Law, which had been promised for the last five years but had never made any progress. The Labour members did not, however, endorse the view that management by joint committees would be satisfactory; the alternatives were local administration pure and simple, or central administration.

Smoke knew no borough boundaries, and he was satisfied that the responsibility for dealing with smoke abatement should be laid primarily on the central authority for London. Mr. H. Arthur Baker, J.P., speaking for the Progressives, said that they warmly endorsed the report.

The Minister said that he welcomed the description of the relation between the Ministry, the London County Council, and the metropolitan borough councils as a partnership. He was satisfied that great value had been derived in the past from the surveys that had been jointly undertaken by the Council and by his department. The latter he regarded in the light of a sort of general staff in dealing with health matters. The Ministry of Health, ever since its foundation, had always been hampered by the demands made on the attention of Ministers by the housing problem, but this was only temporary and partial, and was now, he hoped, well on its way to settlement. He had already publicly announced his intention of dealing with the reform of the Poor Law next year, provided always that he was successful in getting the Rating and Valuation Bill, which was an essential preliminary, through the House of Commons this year. He agreed with the deputations that in dealing with advanced cases of tuberculosis it was highly undesirable to segregate them in special institutions, to be sent to which was regarded by the patients as equivalent to a sentence of death, but he was not yet satisfied that the existing Poor Law infirmaries were necessarily the best suited for that purpose. He agreed that in connexion with hospital provision, both for tuberculosis and other diseases, some central co-ordinating authority was necessary. This was a subject which would require further discussion. He had included a bill for smoke abatement in his programme for next year, but he was not clear that the view of the London County Council with regard to the advantages of central control in this matter represented the views of the majority, but he would give this point further consideration.

The consolidation of the Public Health Acts was in hand, though it would be necessary for him to pass a further amending bill next year before consolidation could be carried through.

He was inclined to fall in with the suggestion of an expert inquiry into refuse disposal, with a view to the issue of an authoritative technical report, though more information on this subject was already available than was generally made use of. Further consultation with the interests concerned, such as the metropolitan borough councils, would be necessary before he could set up the committee.

The drainage of London was rather a question for the London County Council itself to consider. It was clear that not much more sewage could be taken from outside districts without either enlarging the sewers or undertaking expensive works for the treatment of sewage, or possibly both. Either alternative would be very expensive. If the Council agreed he would gladly associate a technical officer of his department in an inquiry, and he thought that there should also be representatives of other authorities.

The after-care of tuberculous patients he regarded as an essential part of schemes for the treatment of the disease. If relapses of patients whose condition had been relieved were to be avoided suitable occupation under medical supervision was absolutely essential. Papworth and Preston Hall were useful examples of what could be done along these lines, but he agreed with the Council in thinking that they did not provide the solution of the problem so far as it affected the urban population. He had under consideration measures for increasing the after-care provision available.

#### THE LONDON HOSPITAL.

At the recent quarterly court of the Governors of the London Hospital Lord Knutsford announced that Mr. Bernhard Baron had presented £10,000 to the hospital for the erection of a pathological institute. The cost of the new operating theatre presented by Lord Bearsted would be about £7,000, and the donor desired that the difference between this cost and his gift of £10,000 should be invested so that the interest on the sum might be devoted to

medical research. A new hostel for the resident medical staff was to be built at the cost of £39,983; the children's department was to be enlarged and improved so as to serve as a consultative centre for all the child welfare organizations in the East of London. The honorary medical staff would be increased by the addition of a specialist in children's diseases.

#### UNIVERSITY COLLEGE, READING.

It is probable that University College, Reading, will soon become an independent university, the Privy Council having issued a notification that it would be prepared to recommend the grant of a Royal Charter subject to certain financial conditions. The College was founded thirty-three years ago in part of the old Abbey of Reading, from which it was transferred in 1804-5 to its present site. In 1896 the College Hall (seating 1,000 people) was opened, and in 1911 it was decided to apply for the status of a university, an endowment of £200,000 being in hand at this time. This application was delayed by the war, but after the armistice the recovery of the College was rapid, and in June, 1920, it was decided to proceed with the application for a university charter. The reply to the petition, while approving in principle the establishment of a university at Reading, required that there should be an increase in the number of students reading for university degrees, and that the College income should approximate £80,000. The present College income, apart from the halls of residence, has now reached this figure; including that from the halls it is more than £120,000. The first of these six halls was founded in 1805, and in 1808 the late Lady Wantage endowed a residential hall for men; soon afterwards an existing women's hostel was transferred to St. Andrew's Hall. The Faculties of Letters and Science are the foundation of the teaching, and there has been added a Faculty of Agriculture and Horticulture, including the British Dairy Institute and the Research Institute in Dairying. Supplementary faculties include the three schools of fine arts, music, and domestic subjects. The main site of the College building occupies about ten acres, interspersed with lawns and gardens. The residential halls are all within walking distance of the College, which owns about 530 acres of land.

## Scotland.

#### EDINBURGH POST-GRADUATE COURSES.

THE programme of the vacation courses conducted by a Committee of the University and School of Medicine of the Royal Colleges at Edinburgh has been issued. The courses begin on July 13th with one on obstetrics and gynaecology lasting four weeks. It includes daily clinics on midwifery at the Maternity Hospital, followed each day by clinics on gynaecology in the gynaecological wards of the Royal Infirmary. In the afternoon there will be ante-natal clinics, lecture demonstrations on obstetrical and gynaecological pathology and on infant feeding and ophthalmia neonatorum. Concurrently with this course another will be held upon diseases of children in the Royal Hospital for Sick Children. It will include medical clinics, surgical clinics, and clinics on ear and throat diseases, eye diseases, nutrition, child welfare, venereal diseases, and dentistry. From August 10th to September 5th there will be a general medical and a general surgical course. The medical course will include demonstrations on applied anatomy, a series of clinics in which the examination of the different systems will be taken up in rotation—the respiratory system, ductless glands, renal and alimentary systems, nervous system, and circulatory system respectively; a number of clinics upon dermatology, venereal diseases, diseases of children, diseases of the eye, and diseases of the blood. A few meetings are devoted to morbid anatomy, dietetics, genetics, comparative pathology, radiology, hydrology, and tuberculosis. The surgical course will include demonstrations on applied anatomy, general surgery, diagnosis of renal disease, and surgical pathology. Surgical and gynaecological operations in the Royal Infirmary and

Royal Hospital for Sick Children and a series of meetings and special lectures are open to those attending both the medical course and the surgical course. During the period of the general courses in August and September special classes will be held upon vaccine therapy, medical chemistry, and diseases of the blood, while at an earlier period of the summer courses will be available upon tuberculosis, clinical therapeutics, insulin therapy, venereal diseases, surgical pathology, diseases of the nose, ear, and larynx, ophthalmoscopy, and radiology. For each of the last-named classes a special fee is payable, while the courses on diseases of children, obstetrics, and the general medical and general surgical courses are covered in each case by a composite fee. Further information can be had on application to the Secretary, Post-Graduate Courses in Medicine, New University Buildings, Edinburgh.

#### MAN'S EVOLUTION.

Sir Arthur Keith took as his subject for the eighth Munro Lecture given in the Anatomy Theatre of Edinburgh University, "Australian aborigines, ancient and modern." All that was known of the early peoples of Europe had been derived from the study of fossil bones and of stone implements; but in Australia the anthropologist could still study living types of "fossil man." The Australian aborigine still retained a primitive mode of living. He neither sowed nor reaped, but was dependent on the natural produce of the soil and on his prowess as a hunter, just as were the inhabitants of Western Europe until some eight thousand years ago. In his body, also, the Australian aborigine was of a primitive type, and he might serve as a common ancestor of living types of Caucasian, Mongolian, and Negroid, but he had retained more than they the characters of the common ancestor from which all living races had arisen. Sir Arthur Keith discussed the possibility that a band of humanity had broken away from the ancestral stem at the dawn of the modern racial differentiation, and had somehow succeeded in reaching Australia. A discovery made in Australia eleven years ago made it reasonable to believe that the aborigine reached that continent long before the Ice Age had come to an end in Europe, although it was certain that Australia had been isolated by sea from the rest of the earth for many geological ages. This discovery was announced to the British Association in 1914 by Sir T. Edgeworth David and Professor J. T. Wilson, who had produced a fossilized human skull which had become exposed on the bank of a stream at Talgai in Queensland. These observers showed that this Talgai skull was in the same state of fossilization as extinct kinds of pouched mammals, which occurred abundantly in a stratum in the neighbourhood of Talgai. The discovery of the Talgai skull proved that man reached Australia and saw alive certain types of marsupial animals which were known to geologists only by fossil bones; the evidence made it appear that the Talgai man equalled in antiquity the Neanderthal man in Europe. In only one respect did the fossil skull differ markedly from modern aboriginal skulls, and that was in the size of the jaws. Never before had a human skull been seen with such a width of muzzle, while the roof of the mouth was shaped as in anthropoid apes, but the canine teeth were not prominent and pointed as they were in these animals and also in Pittdown man. The same process of jaw reduction had taken place in the development of the Australian aborigine as was seen in that of the Caucasian inhabitants of Europe. Sir Arthur Keith, however, did not think that this was to be explained as the result of eating soft and easily masticated food, for some races were much more liable to jaw reduction and jaw deformity than others eating the same kind of food. The people of the North-West of Europe, for example, particularly the Scottish people, were much more liable to irregular growth of jaw than the Southern races of Europe. The land bridge by which the ancestral people reached Australia was represented now by the Malay Peninsula, Sumatra, and Java, but the original Australian aborigine must have crossed a stretch of sea some twenty miles in width, taking with him his wife and his dog, from which the Australian dingo was descended, although it

clearly hailed originally from Asia. Representatives of the early Australian human stock were to be looked for in India and in the Malayan parts of Asia. The Mongols had generally wiped out all traces of this stock, but in certain jungle tribes of Southern India individuals could still be recognized with a definite resemblance to the Australian aborigine. The first colonization of Australia had, therefore, taken place from Asia at a time when our forefathers in Europe were scrambling for a living on the edge of the ice sheet. Tasmania stood to Australia as that continent stood to the rest of the world. The early Tasmanians were now extinct, but their stone implements were of a kind used by Europeans at a very early stage of evolution. The Tasmanian had had more of the negro in his composition than the modern Australian black now has.

In the ninth lecture Sir Arthur Keith dealt with the discovery of the real missing link. He believed that the discoveries of fossil man which had been made in Java by Dr. Eugène Dubois, Professor of Geology in the University of Amsterdam, had been of the greatest importance in reference to Darwin's theory regarding man's origin. Many missing links had been discovered in the chain which leads from ape to man. There were now only three kinds of great anthropoid apes—the gorilla and chimpanzee in Africa, and the orang in Borneo and Sumatra; but fossil fragments of at least twelve extinct kinds of great anthropoids had been found in Europe and India. All of these were "missing links" in the sense that they connected together the living types of anthropoid apes and showed what an immense family of these there had been in long past times; but none of these seemed to take us appreciably nearer to man than did the living gorilla or chimpanzee. At the human end of the scale, however, the case was quite different, for the fossil remains of Europe, Africa, and Australia carried the human lineage a decided step backwards towards an anthropoid stage, although between the lowest fossil man and the highest anthropoid there was still a wide gap. The fossil form found by Dr. Dubois in Java in the early nineties of last century had fitted into the middle of this gap and it had received the expressive name of *Pithecanthropus*. Of the Java man the skull cap, teeth, and thigh-bone had been found. The streams of Java made a record of history just as did those of Europe, and in their deposits were wrapped up the bones of the animals that lived on or near their banks. The fossil animals which had been found near the bones of the Java man were those found in deposits of India of late Pliocene date.

In the tenth and last lecture of the series Sir Arthur Keith gave a summary of the origin of the "Nordic type"—that is, the kind of man who made up the backbone of the population of North-West Europe, including the British Isles. Fifty years ago anthropologists had spoken of Celts and Saxons, and had held that the British people was an imperfect amalgamation of these two races. The politician still retained these terms, which he rightly believed stood for realities of race, but the scientific anthropologist had had to abandon the idea of race, and only spoke of types. Amongst modern Europeans three main types were to be distinguished: the "Nordic type," which was tall, fair, long-headed, and usually long-faced, and formed the ancestral types of the peoples of Britain; the "Mediterranean type," which had had its home since remote times in the South of Europe; and the "Alpine type," distinguished from the other two chiefly by the rounded shape of his skull. The Nordic type was a development of the Caucasian stock which had ousted Neanderthal man about 20,000 years ago. The earliest known representatives of the Nordic race were two skeletons found in sand deposits on the Rhine opposite Bonn, one a man and the other a woman. Both had been buried with tools and ornaments used by reindeer hunters in the final phase of the Ice Age, the bodies had been sprinkled thickly with red ochre and interred with ceremony, and they dated from a period some 12,000 or 14,000 years ago. While the male skull had strong jaws, wide cheek arches, and heavy eyebrow ridges, the woman's skull had been like that of her modern representatives. This structural difference between the sexes had been



exaggerated in all of the early European pioneers, among whom the woman seemed always to be ahead of the man in evolutionary progress. At a much later date traces of early Nordic people had been found in the Baltic lands and in Scotland, but though their stone implements and bone harpoons were known the very early burials of these Nordic people north of the Humber had not yet been found.

#### SCIENCE AND HEREDITY.

A lecture upon the inheritance of acquired characters was delivered on June 4th by Dr. F. A. E. Crew, lecturer on genetics in the University of Edinburgh, under the auspices of the Workers' Educational Association. Professor N. Kemp Smith presided. The lecturer said that a character might be either genetic in its origin (that was to say, associated with a hereditary mechanism) or it might be produced by environment (that is, due to the impression on a plastic body of a change in use or in surrounding influences). It was, he considered, established beyond doubt that every character based upon determiners in the germ plasma was hereditary, and the mode of its inheritance could be predicted. It was also established that any character that had no basis in the germ plasma was not inherited. There was no doubt, however, that the effects of use and disuse, as well as of external changes, led to profound modifications in structure, form, and function. The question at issue was whether or not the latter agencies could affect the germ cells of an individual in a permanent manner. It was known that alterations in the germ plasma were not uncommon, and that having taken place such an alteration persisted, but the causes producing them and the manner in which they occurred had not yet been discovered. It was possible to affect the germ plasma by subjecting it to the action of alcohol or x rays, but such methods were similar to dissecting a flower with a charge of nitroglycerin. As technique improved, however, more localized and delicate interference with the ordinary processes of hereditary transmission might be expected. At present such evidence as existed seemed to lead to the conclusion that acquired characters were not transmitted in inheritance, and that it was not, therefore, reasonable to base any line of action in sociology or education on the assumption that they were.

#### FORTHCOMING CONGRESSES IN EDINBURGH.

The Inter-State Post-Graduate Assembly of America, which is at present visiting various medical schools in England, will pay a visit to Edinburgh on June 18th, 19th, and 20th. The members of the Assembly will be received on June 18th by the Vice-Chancellor of the University in the McEwan Hall, where the honorary degree of LL.D. will be conferred upon Dr. Charles Mayo of the Rochester Clinic, Minn. On the evening of the same day the Lord Provost and magistrates will hold a reception for the members of the Assembly in the Royal Botanic Gardens. The greater part of Thursday and Friday and the morning of Saturday will be spent in the Royal Infirmary, where operations and ward clinics are to be conducted by members of the staff in the forenoons and a series of "dry clinics" delivered in the afternoons. A museum of surgery, pathology, and tropical diseases is being arranged in the Pathological Department of the Royal Infirmary. Arrangements are being made for a visit to Holyrood Palace on Friday, June 19th.

The Congress of the Royal Sanitary Institute opens in Edinburgh on July 20th, and will, it is expected, be attended by between 1,200 and 1,500 delegates and members. The Congress is the thirty-sixth of the series, will last for five days, and will be attended by visitors from almost every country in the world. The Secretary for Scotland, Sir John Gilmour, will deliver an inaugural address on the opening day of the Congress. The meetings will be held in the University of Edinburgh, and visits have been arranged to various health institutions and to places of historical interest in and around Edinburgh. The Health Exhibition, to be held in the Waverley Market, will be an important feature of the Congress.

## Ireland.

#### VACCINATION IN THE FREE STATE.

IN a recent discussion in the Dail with regard to the Ministry of Local Government urging local authorities to prosecute in the case of vaccination defaulters, Deputy Sears said that the Minister of Local Government should amend the Irish law so that it would be on the same basis as the English law. Parents in Ireland to-day were bound by the law to vaccinate their children. In Wexford, however, two or three out of every four children were not vaccinated, and Wexford was as healthy as any other county in Ireland. The statistics compiled applied to deaths from measles, scarlatina, and other dirt diseases, and deaths from these causes had fallen considerably. Vaccination or other such treatment could not claim the credit of that decline. The same causes that had brought about the decline in measles and scarlatina brought about a decline in small-pox. The decline was due to improved sanitation and improved housing. Those things had brought about a better state of health in the country. Sir James Craig, M.D. (Dublin University), observed that on a previous occasion Deputy Sears had said that the profession was tired and needed a little amusement, and that the only way they could get amusement was by going around with their instruments and inserting dirty lymph in the arms of children. Deputy Sears did not go so far that evening, but he made statements which it should not be necessary for him to repeat, but, from the attitude of the Dail, he took it that members would like him to reply. It was true that in England there had of recent years been epidemics of small-pox, but Deputy Sears was wrong in his conclusions, because statistics showed clearly that small-pox attacked unvaccinated populations, and where it did attack the vaccinated populations it attacked them in a mild way, and these were cases where revaccination had not been done within seven or ten years previously. Deputy Sears made a statement which ought to be repelled—namely, that the calf lymph used in vaccination was impure. He was surprised to have to refute such a statement. The Government had under its control an institution in which the calf lymph was prepared in the most hygienic surroundings and under the supervision of a most experienced bacteriologist, so that there was a guarantee that all the lymph distributed throughout the country for vaccination was absolutely pure. He would go so far with Deputy Sears as to say that in the old days when lymph was inoculated from arm to arm there was a certain risk of inoculating syphilis from one arm into another, and there was a danger of inoculating other blood diseases. That had entirely passed away with the pure calf lymph which was now being used for vaccination. He would venture the opinion that the reason why the people of Wexford had not allowed their children to be vaccinated was because they had been led astray by cranks. He did not for a moment admit that measles and scarlatina were dirt diseases. If they were dirt diseases they could have been eliminated altogether.

#### PREVENTIVE AND CURATIVE MEDICINE IN THE FREE STATE.

Dr. T. Hennessy (Dublin City South), Irish Secretary of the British Medical Association, speaking recently in the Dail on the vote for the office of the Minister of Local Government and Public Health, said that in the administration of medical matters there were grave defects, both centrally and locally. He did not desire to attribute these defects altogether to the present Minister of Local Government and Public Health, who had made very considerable advances, especially on the preventive side. Any marked improvement in the general health of children would be brought about by good housing combined with proper and sufficient feeding. The present high mortality amongst Dublin children was due to insanitary housing and the want of sufficient and suitable food. Recent public health legislation had been on a comprehensive and generally on an up-to-date basis. The Dairy Produce Act was excellent in its conception, and would, he had no doubt, achieve at the butter factories everything for which it was intended, but to get

the full value out of this Act it would require a more rigid administration of the Inspection of Cowsheds and Dairies Acts, and he would suggest the employment of the Civic Guards, as otherwise the administrative cost would be prohibitive. He would also suggest that the Minister of Local Government and Public Health should see that the county medical officers of health to be appointed next October should receive an adequate salary with sufficient allowances for travelling expenses; if these officers were underpaid their activity could not be assured and they might as well not be appointed. The curative side of medicine in the Free State, although progressing, still had arrears to make up. The abolition of the office of medical commissioner in the Ministry of Local Government and Public Health was a distinct disadvantage; the medical profession did not, either in an official or advisory capacity, occupy the position which in the public interests it merited. The little importance the public seemed to attach to the amount of work which was done by the dispensary doctors was surprising. The returns for the Free State showed that 483,270 new cases were treated in 1923. More than a fourth of these were treated at the patients' homes. Owing to the reluctance and neglect of patients to produce tickets for medical treatment, the figures given would be nearer the true number if multiplied by three; this was true especially of patients who attended the dispensaries. For all this work the dispensary doctors received a total sum of £150,000 a year, which was very much less, at garage rates, than the mileage covered in attending the domiciliary cases. The Minister for Local Government and Public Health said that Dr. Hennessy's speech, whilst in some respects praising the Ministry, contained on the whole serious criticisms of its work. Dr. Hennessy seemed to think things would be better if there was a Ministry of Health and if the medical profession occupied a more prominent position in the Ministry. In 1904 the average salary of a dispensary doctor was £109 a year; it was now £251. Dr. Hennessy had inquired what the salaries of the new county medical officers of health would be. At present he (the Minister) was not in a position to state what the salaries would be, but he should say that they would be up to £700 a year, or perhaps more. He agreed with most of what Dr. Hennessy said in regard to the supervision of milking, but he believed the appointment of the county medical officers of health would remedy the matter. Moreover, the Ministry intended to appoint county veterinary surgeons to supervise all matters under the Dairies and Cowsheds Orders. He believed in vaccination, and he was convinced that its neglect in England was responsible for the recent outbreaks.

## Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

### The Finance Bill.

THE House of Commons resumed its sittings on June 9th, and discussed the Finance Bill in Committee on that and the following day. On June 11th it debated a Government proposal to impose a duty on imported lace. The Finance Bill will be further debated next week.

### "Patent" Medicines.

During the consideration of the Finance Bill on June 9th debate arose on Clause 2, which provides that the additional excise duties imposed by Section 11 of the Finance (No. 2) Act of 1915 upon medicines liable to duty should continue to be charged until August 1st, 1926. Mr. Wedgwood Benn complained of the manner in which this clause was drawn. It referred to the Finance Act of 1915, which in turn referred back to the Medicine Stamps Act of 1802, and that measure related to the Tonnage and Poundage Act of Charles II. The Act of 1802 set out a schedule of medicines liable to be taxed, which included Austin's chalybeate pills, Addison's reanimating European balsam, Clyde balsam, Guest's welcome guest powder, and Wheatley's ointment and fluid. An Act of 1812 revised the schedule, and that was the last revision he could find. He asked if it would be possible to include in the next Finance Bill a clause stating plainly what the taxes were and on what commodities they were levied.

Mr. Guinness (Secretary to the Treasury) said that the first legislation on this subject was passed in 1783. Since then there had been repeated amendments. He admitted that it was not

very easy to summarize the principles on which the duties were imposed. Speaking generally, there were three alternative tests of whether a preparation was liable to duty. The first test was that it must be advertised, or, in other words, recommended as a specific for some illness or disease. If it was said that So-and-so's preparation cured headache it was liable to duty, but if it was said that such and such an ointment was good for the skin it was not liable. The second test was that the remedy should be secret, and the third that it should be proprietary. The proprietary test covered most of the preparations that came under the old Patent Medicines Duties. He would like to look into the codification of legislation on the subject, but that was a matter which concerned the Ministry of Health rather than the Treasury. A few years ago a Select Committee inquired into the subject, but nothing had been done as a result of its report. There were many more complicated forms of revenue collection, which were based upon a far more scattered legislative code than this particular duty. In view of the fact that it was working smoothly, he did not think the House would see any cause to resist the retention of this clause. The duty was doubled in 1915 as a war tax, and was now yielding over £1,300,000, which was nearly three and a half times as much as before it was increased. That showed that the tax was useful from a revenue point of view, and it was not pressing hardly on any section of the population.

Sir Alfred Mond said the matter had nothing to do with the Ministry of Health. If the recommendations of the Committee were adopted it would be necessary entirely to alter the process by which these duties were levied. A large number of American "patent" medicines or mixtures were imported into this country. The importers of these foreign productions were given an advantage compared with those of British manufacture. He suggested that an expert committee should be set up to study the question.

Dr. Haden Guest said that the compositions of most of these patent remedies were perfectly well known and quite simple. Their vogue depended on the extent to which they were advertised. The law on the subject should be codified and brought up to date before the next Finance Bill was introduced. If the tax were reduced to a reasonable and intelligent code more attention might be paid to the demerits of some of these productions.

The clause was then accepted by the House.

**Operations on Children.**—Mr. Neville Chamberlain informed Colonel Day that statistics of the total number of deaths of children under 2 months old in workhouses and infirmaries were not available. In 1923 no infants under 2 months old died under or in connexion with the administration of an anaesthetic in a workhouse or workhouse infirmary in England and Wales. Colonel Day, in a supplementary question, asked whether the Minister of Health was aware that facilities had been granted by Westminster Hospital for the mothers of children to attend operations and to remain at the hospital so that they could feed their children at the breast. No answer was returned.

**Methylated Spirit Drinking.**—Mr. Guinness informed Commander Bellairs that he was not aware that the drinking of methylated spirits was on the increase. In the year ended March 31st, 1925, the quantity of mineralized methylated spirits sent out by makers in Great Britain and Northern Ireland was 1,383,448 bulk gallons.

**Subnormal Prisoners.**—In reply to Mr. Rennie Smith, the Home Secretary said male prisoners who, although not certifiable as insane or mentally defective, were unfit for the ordinary discipline of a prison, were collected in four prisons; similar female prisoners in three prisons. Since July 1st, 1924, ninety-one males, seven under 21 years of age, had been transferred to these centres from other prisons. Four female prisoners were transferred, one under 21 years. All were serving sentences of three months' imprisonment or more. In addition there were at the centres fifty males and eighteen females of the same class. All such prisoners were under special supervision. Brabazon classes had been arranged for those who were unfit for ordinary prison work. The prisoners were under the observation of the medical officers and of a selected staff, and special allowance was made for the inability of the prisoners to conform to prison discipline. The prisoners received extra facilities for exercise.

### Notes in Brief.

The Admiralty is inquiring into the complaint that at the Royal Naval Hospital, Simonstown, South Africa, English ratings of the Royal Navy are accommodated in the same wards as Kroomen.

The Under Secretary of Health for Scotland states that where a pauper lunatic in Scotland has been removed to an asylum without the consent of the relatives, the parish council can still recover the expenditure on maintenance.

The reports of the district medical insurance officers for Edinburgh, Glasgow, Aberdeen, and Dundee will not be published in full, but a summary with extracts of special interest will be embodied in the annual report of the Scottish Board of Health for 1924.

The Government cannot promise legislation to compel the insertion in every book of the date of publication.

During the three months ended May 1st last 21,674 houses were completed in England and Wales in connexion with State-assisted schemes, and 56,202 were in course of construction on the date mentioned.

## Correspondence.

### RAW PANCREAS BY MOUTH COMPARED WITH INSULIN.

SIR,—May I, as a diabetic, enter the arena in the important discussion that has been going on in your columns on the above subject? On the one hand Dr. Hollins and his supporters find raw fresh pancreas by mouth entirely satisfactory in the treatment of diabetes, and on the other Drs. Harrison and Graham find it utterly useless. The question is of the utmost importance to all diabetics, and the following experiment, conducted on myself, shows that raw pancreas is quite ineffective in severe diabetes. The idea that it may be a substitute for insulin may quickly lead patients to disaster.

The diet for the past eighteen months has been 45 grams of carbohydrate, 80 of protein, and 150 of fat, and insulin varied from 34 to 22 units a day, depending on the variations in the strength of insulin and the amount of exercise taken. Blood sugars have varied between 0.14 to 0.20 fasting level and 0.08 to 0.12 per cent. three or four hours after insulin. Glycosuria has been entirely absent except for occasional traces after breakfast. Insulin was discontinued on the morning of May 27th, and the diet kept constant, except to replace a corresponding quantity of protein when raw pancreas was taken. Fresh raw frozen pancreas was obtained, by the courtesy of the British Drug Houses, in the same condition as the glands from which they obtain the maximum of insulin.

The blood sugar on May 27th was 0.190 per cent. before breakfast (20 grams of carbohydrate); one hour after breakfast 0.302; two hours 0.295; three hours 0.268; four hours 0.260; and the urine sugar varied from 4 to 6 per cent. One ounce of raw pancreas was taken before lunch (5 grams of carbohydrate). The blood sugar one and a half hours after lunch was 0.258 per cent.; three hours after 0.236; then one ounce of pancreas, and one and a half hours later the blood sugar was 0.244 per cent. One ounce of pancreas before dinner (20 grams of carbohydrate), and the blood sugar two hours later was 0.278 per cent. One ounce at bed time. Next morning the fasting level was 0.278 per cent., and one ounce of pancreas was taken. The blood sugar one hour after breakfast was 0.340 per cent., two hours 0.350, three hours 0.340, and thirst and polyuria were severe. Insulin 12 units was then given; the blood sugar one and a half hours later was 0.245 per cent.; then lunch as before; and four hours after insulin the blood sugar was 0.105 per cent. While insulin was omitted and pancreas taken, the ferric chloride test for diacetic acid became positive for the first time for months.

Besides proving conclusively that raw pancreas is no substitute for insulin, the above shows what happens in a severe case when insulin is omitted. During the first five hours far more glucose was excreted in the urine (63 grams) than was absorbed in the food (47 grams glucose equivalent). On the second day, 23 grams was excreted during one hour alone after breakfast. This occurs because the carbohydrate which insulin has stored in the body as glycogen in the liver, etc., cannot be maintained and immediately floods the blood and urine with glucose. Dr. Cammidge seems to suggest that raw pancreas may at least control this "glycogenetic" function, but the above experiment disproves this also.

Dr. Hollins admits that raw gland is ineffective in insulin cases, and is at a loss for an explanation. What happens is that insulin temporarily makes the diabetic metabolism normal and builds up a normal glycogen store which at once reappears as glucose when the patient has to rely on his deficient endogenous insulin. Dr. Hollins himself finds in these cases that raw pancreas is no substitute for insulin, and is only effective where no insulin has been used—that is, in mild cases, I suspect. If raw pancreas acts at all it ought to act when insulin is omitted, as there is no evidence that insulin changes the nature of diabetes or does more than control it temporarily.

On reading the arguments on both sides, we see that in carefully controlled cases on weighed and constant quantitative diets, raw pancreas is no substitute for insulin and has no effect on severe diabetes. On the other side we are told that a "strict diet" was observed, but are given no details and are not even assured that it was weighed. Dr. Dunn states that his patient could only tolerate "1½ oz. of starchy food." Is this in the twenty-four hours or at a single meal? Is it 1½ oz. of bread or cabbage, which contain respectively 22 and 1½ grams of starch? The control of diet is the difficult factor in experimental

work on human diabetes. One is often assured that a case is severe and has been on a strict diet and has not improved, while two or three days on a weighed diet renders the patient sugar-free and proves the mildness of the case. I do not suggest that the discrepant results obtained with raw pancreas depend entirely on such an obvious explanation, but the supporters, by giving no facts or figures, lay themselves open to this accusation. (I found raw pancreas so horrible as to prefer a dozen injections a day, if necessary, and I am sure that its continued use would have made me unable to eat much else—thus providing a simple method of introducing nausea, starvation, and under-nutrition into the treatment!)

Raw pancreas has been carefully tried before and found wanting. Though it cannot replace insulin, the slender possibility still remains that it may stimulate and cause the release of endogenous insulin in mild or moderate cases. I intend to try such cases in a carefully controlled experiment lasting two or three months, and, though I am not hopeful, I shall be delighted to find evidence of its value in treatment.

In the meantime some patients, who have not had it, are clamouring for raw pancreas. Give it to mild cases by all means, if they insist, in an experimental frame of mind, but do not court disaster by its use in severe cases.

—I am, etc.,

London, W.1, May 30th.

R. D. LAWRENCE.

### THE BLOOD PRESSURE IN SPLENOMEGALIC POLYCYTHAEMIA: A SUGGESTION.

SIR,—It is not yet sufficiently recognized that in true splenomegalic polycythemia (erythraemia, or the "Vaquez-Osler disease") the blood pressure is hardly ever more than slightly, if at all, above the average, in spite of the fact that, as measured outside the body, the blood viscosity is greatly increased. Some compensatory mechanism doubtless exists within the body to account for this. The mechanism in question is probably of autonomic nervous origin, and must, I think, depend on the reflex opening up of numerous blood capillaries, which would, under normal conditions, be closed or contracted. Active dilatation and contraction of capillaries play an important part in the regulation of the circulation—a part till recently hardly even thought of (cf. the investigations of Otfried Müller, Parrisius, and others with the skin microscope). Such a diffuse capillary dilatation in cases of splenomegalic polycythemia is proved at necropsies by the great engorgement of the viscera with blood, and during life it manifests itself by the redness (often with lividity) of the lips, nose, ears, tongue, fauces, and elsewhere.

The "Studies of capillaries and blood volume in polycythemia vera," by G. E. Brown and H. Z. Giffin, in the *American Journal of the Medical Sciences* (1923, cxlvi, pp. 489-502), intimately bear on this question, but the authors regard the (proved) dilatation of the blood capillaries as being rather compensatory for the increase in the total blood volume than for the increase of the blood viscosity.—I am, etc.,

London, W.1, May 30th.

F. PARKES WEBER.

### THE EARLY DIAGNOSIS OF CANCER.

SIR,—Some twelve months ago it was suggested that the education of the public on the signs and symptoms of cancer would cause them to seek immediate advice. This has since been advocated by numerous writers in both the lay and medical press. So far as my experience goes it has done little good and much harm. People still do not go to their doctor for a lump in the breast, as they dread an operation. In addition, cancer phobia is developing, the sufferers from which it is impossible to convince. Some of these resort to quacks, who profit by curing such "definite" cases of the disease. After all, this is what one must expect, as the normal person rarely bothers about a disease the flesh is heir to. It is usually the neurotic who reads articles on medical subjects, the constant perusal of which will sooner or later lead his imagination astray. Most medical men will remember the imaginary diseases of student days

that disappear after experience in practical medicine, which alone can give a real appreciation of the value of symptoms. Few lay people can ever attain to this. To try to frighten the easy-going healthy Britisher—and cancer seems to prefer the healthy man—is foredoomed to failure, showing as it does a want of knowledge of the ways of our people.

It is a mistake to think that the early diagnosis of cancer will take place from without rather than from within the profession. What is necessary is to impress on the public that a medical examination at least once a year, and certainly after the age of 40, is just as essential as an annual holiday. During this the doctor could, without alarming the patient, find out whether anything suggestive of cancer was present. But for such an examination to have any practical value we must have a profession that is thoroughly conversant not only with the earliest signs of the disease, but is also aware of valuable methods of diagnosis when certain suspicious symptoms exist.

Those of us who have the responsibility of teaching students realize the importance of laying stress upon these points. But our teaching can be of the greatest value only if we are supported by the examiners. For the aim of the average student is to qualify; and he most appreciates that teaching which enables him to get through his examination. Should he qualify, he usually has a respect for the views of his examiners, which he remembers for the rest of his life.

I am afraid that in our efforts to make our students practical men who are not supported by the examiners to the extent we might wish. I shall take as an example the question of haematuria. At the end of each lecture on the subject it is my custom to stress the following points:

Haematuria is a symptom and not a disease. Drugs have practically no action, and, being intermittent, it ceases whether treatment is carried out or not, no matter what the cause. As an apparently quite innocent variety of haematuria may be due to a cancer in the urinary tract, no medical man has the right to treat an undiagnosed case of haematuria, certainly after the age of 30, until a cystoscopy has been performed.

I do this with all the more zeal because in the last twelve cases of cancer of the bladder seen by me the average duration of the haematuria was two and a half years, and in only two was removal considered advisable. Yet some of our students tell me that at a recent final examination they were taken over the diagnosis of haematuria and stress was laid on the difference between that due to innocent and malignant growths of the bladder. The reply expected was that the bleeding of a papilloma is symptomless, that of a malignant growth is associated with frequent and painful micturition. Yet in practice one knows that in the earliest stages—and it is only here that the operative treatment of cancer is really worth while—there is no difference, and the diagnosis can be made only by cystoscopy. If our men who qualified remain impressed by the views of these examiners, then it is obvious that no improvement in the statistics of the operative treatment of cancer of the urinary tract can be expected.

Our knowledge of the early signs and symptoms of cancer might be abbreviated into about twenty rules. Were a knowledge of these, together with an acquaintance of the methods of investigation that are available, to be insisted on at all final examinations (in fact, the failure to answer one should be regarded as equivalent to a "plough"). Then men from the day they qualify would be impressed with the necessity of being on the lookout for them. And this, combined with an annual overhaul, the wisdom of which is beginning to be appreciated by the public, and to which they will soon consent, will enable the precancerous conditions to be recognized at the time they are most suitable for treatment. No neurosis or morbid fear is set up; and the doctor will be able to influence the patient should any growth be found. It would thus be possible to accomplish in a short time what all the propaganda of to-day can do only after the expenditure of much money and time, and without any of its harm.—I am, etc.,

Cardiff, June 4th.

T. E. HAMMOND, F.R.C.S.

## COELIOTOMY VERSUS LAPAROTOMY.

SIR,—In a memorandum on page 1006 of the issue of May 30th Mr. Muingot rightly uses the word "coeliotomy" to indicate a central abdominal incision, whereas in his heading "laparotomy" is used. I fear it is too late to impress on my colleagues that laparotomy is a misleading word; it designates an incision through the flank. (By the by, the word should be "laparatomy," the word for flank being *λαπάρα*, not *λαπαρό*). On the other hand, coeliotomy correctly indicates an abdominal incision; or, as old Dr. Robert Lee once called it, at a meeting of the Medico-Chirurgical Society in Berners Street, "belly-ripping." Bland-Sutton uses the correct term, but I do not know how many other surgeons do.—I am, etc.,

Chichester, June 3rd.

HAYWOOD SMITH.

## ULTRA-VIOLET LIGHT.

SIR,—I have read with surprise Mr. Percy Hall's letter in your issue of June 6th (p. 1061).

He raises certain points which provoke inquiry. Writing about the mercury vapour lamp, he says: "Its fragility and varying output render it unreliable," and later, "The tungsten arc lamp is as great an advance over the mercury vapour lamp as is the Coolidge tube over the old gas-filled tube in x-ray work—that is, for operators who desire to standardize their dosage and results." Using the mercury vapour lamp experimentally, I have found it extremely easy to control, very reliable in its output, which can be maintained perfectly steady, making it possible to repeat exposures with accuracy and always producing the same result provided the necessary standard conditions are kept constant.

Dealing with the tungsten lamp, he says, "The only variable factors—target skin distance, amperage, and exposure time—are under the control of the operator." Lower down on the same page we find this: "The personal factor or idiosyncrasy of the patient is of the utmost importance. No two patients react alike, and no patient reacts in the same manner to successive doses." There is no suggestion as to how this factor is taken into account in treatment.

In another paragraph Mr. Hall observes that—

"The skin reaction or erythema is nothing to go by. . . . I have given dozens of doses to infants and children without any skin reaction, and yet have achieved the results I desired. Similarly with pigmentation, which, more often than not, is what one wants to avoid. If pigmentation occurs too early further treatment is useless, as the pigment acts as an impervious screen to the ultra-violet rays."

It is interesting to compare the above statement with the following quotation from page 19 of Mr. Hall's book *Ultra-violet Rays in Treatment and Cure of Disease*:

"This reaction (pigmentation) has to be carefully watched. It is an excellent guide as to both progress and prognosis. The degree of pigmentation is proportionate to the gain in the patient's powers of resistance against disease, and, roughly speaking, corresponds to his rate of progress towards cure."

Perhaps I may be allowed to quote also from a paper I read before the Royal Society of Medicine on April 17th of this year:

"If pigmentation is aimed at as a standard of treatment this is tantamount to producing deliberately in the patient a natural and efficient protection against the very source of treatment employed. . . . If pigmentation could be avoided without preventing the penetration of the rays to the cutis vera it might prove more beneficial."

I should like to know what has led Mr. Hall to change his views between last year and last week; whether it is as a result of individual experiment, or as a result of work by others, and, if so, by whom.—I am, etc.,

P. REDINGTON PEACOCK,  
M.R.C.S., L.R.C.P. Lond.

London, W.1, June 8th.

## SEVERE DERMATITIS FOLLOWING ULTRA-VIOLET LIGHT.

SIR,—There are several points of interest in the paper by Drs. MacCormac and McCrea published in the *JOURNAL* of April 11th (p. 693). They do well to draw attention to the danger in the use of powerful remedial agents by untrained and inexperienced persons. It is to be hoped that

the lay press, which has recently made so much *rêclame* for the artificial sunlight treatment, will give this aspect of the question an equal amount of prominence.

Such prolonged exposure to the rays as that to which this patient was subjected is very rarely employed therapeutically. It must not be denied, however, that irradiations up to an hour have been used upon patients without any untoward effects. These long exposures have only been given after a period of treatment had elapsed. The time of exposure is gradually increased, and the distance of the lamp from the body is gradually diminished. It is my experience that after a time the patient's skin becomes accustomed to the rays.

Accidents of the nature described are rare. Your contributors do not state the distance that the lamp was from the skin in their case. Distance is an important factor, especially when one is dealing with the air-cooled mercury vapour lamp. It is remarkable how well even comparatively severe burns heal.

The ultra-violet rays have on an average a penetrating power of about 1/2 mm. It has been observed, however, that exposure to the rays has a powerful effect on the whole economy of the body. It has been suggested by Hoffman (*Deut. med. Woch.*, 1919) that the skin performs a biological function—"Esophylaxie." In virtue of this view it is possible that the reaction of the skin of the back in Drs. MacCormac and McCrea's patient was in the nature of a defence reaction.—I am, etc.,

Johannesburg, May 7th.

M. LIRSCHITZ, M.D.

#### THE GENERAL PRACTITIONER.

SIR,—It has been left for our wise visitor Dr. Charles Mayo to voice the need of more of the ordinary common variety of doctor, "someone who can take care of people when they are sick." In one illuminating phrase he defines the field of general practice, and indicates its proper and peculiar function. Human nature sick demands something more than a book of rules of health, and this touch of nature it is the birthright of the ordinary doctor to give. No bureaucratic infiltration, no net of regulations, can dilute his efforts or hamper his steps in this the ultimate sphere of his life's work. But he must be worthy of the trust, and so silence the voices raised against him.

Dr. Mayo expresses the view that the next twenty years will see a relative increase in the number of general practitioners. The conditions of practice were never more burdensome than they are to-day. Modern developments have added materially to the weight of uncompensated work, and have immeasurably increased the wear and tear on mind and body. The practitioner is more accessible, more often consulted for minor ailments, more apt to have his time devoured by "the beginnings of disease" (often a mare's nest, alas!), more under the necessity of facing, guiding, and enduring that half-knowledge which is worse than ignorance. Yet his early training fits him for none of these things. The student sees our mistakes and knows nothing of our trials; his attitude towards the general practitioner is entirely uninstructed, though the majority must needs put on the ordinary doctor's mantle.

There is neither any sign that the burden of practice in the future will be lightened nor that the rewards will be greater. What inducements, then, can this field of work offer? An answer will have to be found, if Dr. Mayo is to prove a true prophet. Nevertheless, the necessity calls forth the men, but the obligation rests on the profession as a whole to ensure that it calls only the best men.—I am, etc.,

Birmingham, June 5th.

W. A. STOKES.

#### INDIVIDUAL MEDICAL DEFENCE.

SIR,—The suggestion that a British Medical Association scheme for individual defence would be in a position to prosecute its own members, unlike the present defence societies, did not originate from me, but from Dr. Manson himself. When Dr. Robinson afterwards states that such a procedure would be *ultra vires*, Dr. Manson, forsooth, deems my ground, not his, is cut away.

On the financial side I cannot see the necessity for

laboured arguments. With the membership of the British Medical Association there can be no difficulty, if the members are convinced of its wisdom and utility.

It is on other grounds,—of policy and higher expediency—I defer to the Medical Defence and London and Counties, who are in a better position for counsel on behalf of clients. "The ethical machinery" of the British Medical Association would occupy an invidious relationship, productive possibly of internecine warfare. Besides, I am not in love with machinery, and prefer ethical education.

I hazard the opinion that the British Medical Association is stronger outside, reserving its influence for matters of moment.—I am, etc.,

London, N.W., June 8th.

RICHARD GILLBARD.

#### FASHIONS AND FADS IN MEDICINE.

SIR,—I read with much amusement and profit Dr. Robert Hutchison's address on "Fashions and fads in medicine" (May 30th, p. 995).

When I was a junior student I spent many hours in the out-patient department sitting at the feet of a (now) fairly distinguished physician, who diagnosed practically every case of dyspepsia as "dilated duodenum." Exactly what this diagnosis was supposed to imply I was never very sure, but in view of subsequent experience I am tolerably certain that many of those patients were suffering from gastric and duodenal ulcers. If we asked questions we were met with specious explanations; and yet that physician was, and is, in many respects an exceedingly brilliant man.—I am, etc.,

June 7th.

AMUSED.

#### ARTIFICIAL PRODUCTION OF THE ANTIRACHITIC VITAMIN.

SIR,—In a leading article on artificial production of the antirachitic vitamin in the *JOURNAL* of May 30th (p. 1011), whilst discussing the activating action of ultra-violet light on substances not containing the fat-soluble vitamins, you say: "This effect is remarkable and unexpected, for Zilva in 1920 had shown that prolonged exposure to ultra-violet light actually destroyed the vitamins in cod-liver oil."

This reference to my work is not strictly accurate. My experiments showed that vitamin A was destroyed if the active oil was exposed to a mercury quartz lamp without taking precautions to prevent the oil from coming in contact with the ozone generated by the lamp. I was, however, able to demonstrate that if such precautions were taken no inactivation took place. Moreover, I found that ozone, even in the dark, destroyed the vitamin.—I am, etc.,

The Lister Institute of Preventive Medicine,  
London, S.W., June 2nd.

S. S. ZILVA.

#### Obituary.

##### MICHAEL DEWAR, M.D.,

Edinburgh.

THE death took place on May 30th at his residence 5, Chalmers Street, Edinburgh, of Dr. Michael Dewar, a well known practitioner in that city.

Michael Dewar was born in Leith in the fifties of last century, and after graduating M.B., Ch.B. in 1876, he held various appointments and began practice in Edinburgh in 1884. In 1890 he took the degree of M.D. at Edinburgh University with honours, presenting as his thesis for the degree "A clinical analysis of 1,000 obstetrical cases." Throughout his practice Dr. Dewar was regarded as an authority on obstetrical matters, and was a keen supporter of the Obstetrical Society of Edinburgh. His interest in this subject was recognized in the fact that at the time of his death he had been for five years deputy chairman of the Central Midwives Board for Scotland. After the passing of the Insurance Act, Dr. Dewar took a great interest in the working of the National Health Insurance system, and he had been for some years a member of the Edinburgh Insurance Committee appointed by the Town Council, for a time also acting as chairman of the Panel Committee. Various papers on medical subjects had issued from his



pen, such as "A clinical study of influenza during the epidemic of 1904-5," "Notes on puerperal eclampsia," an article on "Hospital reform," which appeared in the *British Medical Journal* in 1912, and an article on the "Administrative control of malingering," published also in our columns.

Dr. Dewar's connexion with the British Medical Association had for many years been very close. His duties as an office-bearer began with the honorary secretaryship of the South Edinburgh Division of the Edinburgh Branch, which he held from 1904 to 1910. Between the years 1904 and 1913, and again from 1918 to 1920, he acted as a member of the Edinburgh Branch Council, and in 1911-12 he was a member of the Central Council of the Association. In 1911 he was elected a representative of the South Edinburgh Division at the Annual Representative Meeting, and he acted as honorary secretary of the Edinburgh Branch from 1910 to 1913. His interest in National Health Insurance questions was evinced by his serving as a member of the Insurance Acts Committee of the Association from 1919 to 1922, and at the time of his death he was a member of the Insurance Acts Subcommittee for Scotland. At the Annual Meeting of 1912 he was one of the Vice-Presidents of the Section of Medical Sociology. Dr. Dewar also took a keen interest in local affairs, and for many years he had been session clerk of St. Stephen's Parish Church, Edinburgh. He leaves a widow, a daughter, and a son who for some years has acted as his assistant in medical practice in Edinburgh.

#### JAMES SCOTT, M.B., C.M.Ed.,

Late Governor and Medical Officer, H.M. Prison, Holloway.

An important link with the criminal trials of the past has been severed by the death of Dr. James Scott in a nursing home in London on May 29th.

Born at Leith in November, 1853, he received his medical education at Vienna and Edinburgh, graduating M.B., C.M. with honours at the latter university in 1877. After a period spent on the resident staff of various hospitals in Bristol and elsewhere, he joined the prison service in 1881, entering with the highest testimonials from Lister, Clouston, Matthews Duncan, Grainger Stewart, and others. He first served as assistant surgeon at Dartmoor and Chatham convict prisons, and later became in succession medical officer at Manchester, Stafford, Holloway, and Brixton prisons. It was at the two latter that he gained the opportunity of making full use of his special abilities, for there the remand and trial prisoners of the metropolis and adjacent areas were sent for observation, and he became a familiar figure at the Central Criminal Court, London and Middlesex Sessions, and assize and session courts of the adjacent counties. He was soon recognized as an authority on criminal responsibility, and the judges before whom he appeared frequently expressed their confidence in his opinion. His imperturbability in the witness box was the result of the enormous pains he took in getting up his cases, and his wide experience, technical knowledge, and close attention to detail made him a difficult witness to upset. Although in the course of his duties he was frequently obliged to give evidence against prisoners, they seldom failed to elicit his sympathy, and he would often regret that his evidence was of necessity adverse to the accused. He was never tired of teaching his juniors that if they appeared for the prosecution the accused was entitled to have everything brought out in his favour that might assist his defence. But he never shirked responsibility, and his constant advice to a hesitating junior was to "grow shoulders" upon which to rest the burden. He was a tireless worker, but eventually years of strenuous and often harassing court work began to tell on him, and when he was offered by the Prison Commissioners the governorship of Holloway prison he accepted the appointment and held it until his retirement in 1912.

He was an ideal colleague, unselfish to a degree, always taking his full share of the work, and appreciating to the full such assistance as his juniors could give. He was always ready to teach such of them as were anxious to learn, and to work with him was an inspiration to his juniors. With his special experience and wide store of

knowledge he was enabled to instruct as no textbook could. During these years he was, with other contemporaries in the prison service, steadily and unostentatiously directing attention to the importance of taking into consideration the individual mental condition of prisoners in relation to their treatment; and it is a matter for congratulation that these workers, each in his own sphere, laboured towards the same end, and that their results are effective at the present time. In private life he was exceptionally generous and hospitable; he endeared himself to a large circle of friends, and his constant thought, up to the time of death, was for others. Somewhat late in life he became a Freemason, and during the war his efficiency and energy were of very great value. At the time of his death he held the rank of P.P.J.G.W. A bachelor, he enjoyed the devoted attention of his sister to the end, and to her his numerous friends will extend their deep sympathy.

W. N. E.

#### SAMUEL TAYLOR DARLING, M.D.

In our issue of May 30th we recorded briefly the terrible accident that befell members of the League of Nations Malaria Commission in Palestine on May 20th, and gave an account of the career of Major N. V. C. Lothian, one of the party. Another of those killed by the overturning of the car was Dr. Samuel Darling, who for the past ten years had been a member of the staff of the International Health Board of the Rockefeller Foundation. Dr. Darling was a pathologist of unusual distinction, who made important contributions to the scientific knowledge of malaria, relapsing fever, dysentery, and parasitic diseases, particularly hookworm disease, filariasis, and trypanosomiasis.

He was born in Harrison, New Jersey, on April 6th, 1872. He received his degree in medicine at the College of Physicians and Surgeons, Baltimore, in 1903. From 1906 to 1915 he held the post of chief of laboratories of the Isthmian Canal Commission, Panama Canal Zone. His research studies in tropical medicine during this period won him wide recognition among the medical profession. In 1913-14 he accompanied General Gorgas on a sanitary mission to the Rand Mines and Rhodesia, South Africa. In 1915 he joined the staff of the International Health Board, and for the next three years he headed a medical commission engaged in investigating the causes of anaemia among the people of Malaya, Java, and Fiji. From 1918 to 1920 he served as professor of hygiene and director of laboratories of hygiene in the Medical School of Sao Paulo, Brazil. Since that time he had been director of a field laboratory for research studies in malaria, located at Leesburg, Georgia. He was recently appointed corresponding member of the Malaria Commission of the League of Nations. At the time of his death he was travelling with the Commission, which was investigating the prevalence of malaria in Palestine and Syria.

Dr. Darling was an honorary Fellow of the Royal Society of Tropical Medicine and Hygiene, London, he and General Gorgas being the only Americans so honoured. He had accepted an invitation to deliver the annual address to the society next month. He was also a Fellow of the American Medical Association, and a corresponding member of the following organizations: Helminthological Society, Washington, D.C., the Malaria Commission of the Health Section of the League of Nations, Société de Pathologie Exotique de France, and Sociedad de Medicina e Cirugia de Sao Paulo, Brazil. He was president of the American Society of Tropical Medicine for the year 1924-25. His published works include numerous studies on malaria, dysentery, hookworm infection, trypanosomiasis, and other tropical infections.

Dr. DAVID JOHN LEWIS, who died on April 25th at Machynlleth at the age of 53, received his medical education at the London Hospital and in Edinburgh. He obtained the L.S.A. in 1903, and the diplomas of L.R.C.P. and S.Ed. and L.R.F.P.S.Glas. in 1904. He was elected F.R.F.P.S.Glas. in 1918, and graduated M.D. Durham in 1922. After holding an appointment as a ship surgeon in the Union Castle Line, Dr. Lewis engaged in private practice at Winscombe, Somerset, acting as medical officer

twenty years' service, and retired on December 14th, 1909. He served on the North-West Frontier of India in the Mahsud-Waziri campaign of 1881, and in the Egyptian war of 1882, when he was present in the actions at Tel-el-Kebir and Kassassin, and received the Egyptian medal and the Khedive's bronze star. Most of his service was passed in civil employment in the North-West, now the United Provinces. In 1883 he married Ada, daughter of Mr. Dyer, of Lucknow, who survives him.

UNIVERSITY OF CAMBRIDGE.  
At a congregation held on June 6th the following medical  
degrees were conferred:

M.D.—K. H. Tallerman.  
M.B., B.Ch.—H. Yates, A. R. Jilster, G. F. Lund, J. P. White Janle.  
M.B.—G. B. Tait, H. E. Harris, R. A. M. Scott.

KING'S COLLEGE.

Extensions in the Department of Physiology.

*Extensions in the Department of Physiology.*

At the last meeting of the Senate of the University final approval was given to proposals of the delegacy for extensions to the department of physiology. Building will be commenced at an early date, and it is expected that the new rooms will be ready by the end of the long vacation. By the new building facilities will be provided for experimental research, a professor's room, and for general mammalian physiology. It is formerly occupied by the bacteriology for the teaching of biochemistry, and for staff room. Approval was also given for the establishment of two of the annual value of £100, which can meet the expenses of such research, recognized as teachers of the University institutions indicated:

*St. Mary's Hospital Medical School.*—Mr. W. D. Newcomb (pathology).  
*Maudsley Hospital.*—Dr. F. L. Golla (neurology).  
Applications to—

Applications for grants from the Thomas Smythe Hughes Medical Research Fund, allocated annually for assisting original medical research, must be sent in by June 15th to the Academic Registrar, from whom further particulars can be obtained. The following candidates have been approved at the examination indicated:

The following candidates have been approved at the examination indicated:

Tamm M.B., B.S.—J. C. Barrett, \*H.R. A. Brews, \*C. P. Crags,  
\*W. Evans, \*R. S. Johnson (*University Medal*), \*F. D. S. Poole,  
\*Mary E. Tyars, \*Iris V. Ward, \*A. J. Wrigley, Harriet  
Achesson, W. L. Ackerman, F. G. Alban, H. G. Anderson, Doris M.  
*Hester*, Alison I. M. Barnaby, P. C.  
Blackledge, S. Bloom, W. G. Booth,  
Garmann, L. I. M. Castledean,  
H. G. Close, Doris M. Collins,  
D. Crosskey, C. K. David, G. H. Devereux,  
A. C. M. Elman, Mary H. Elmitt, Barbara Finch, Mary S. A. Foden  
E. G. France, L. W. Gallant, Florence M. Gamble, Katharine A. C  
Gillio, A. W. Grace, G. E. R. Hamilton, A. B. Hodgson, M. W. P.  
Hudson, R. G. W. Husbands, Beatrice Jervis-White-Jervis, E. F.  
Jobason, B. H. Jones, H. Nables, C. E. ff. Kemm, V. J. Lack,  
Muriel A. Lester, N. L. Lloyd, A. McMillan, R. G. Malpas,  
B. A. Mayo, J. H. Moore, H. S. Morley, Marjorie Murray,  
Josephine W. Na—  
Holten E. D. E.  
J. J. R. Robins—  
P. E. E. Schaei—  
V. A. T. Spang, Nettie H. Stein, E. V. Suckling, G. P. Tatton,  
Charlotte F. Taylor, R. W. Thomas, W. R. Throver, Mary M.  
Webham, E. R. P. Williams, Edith W. Wood, J. P. Yeoman.

\* With honours.

ROYAL FACULTY OF PHYSICIANS AND SURGEONS  
OF GLASGOW.

OF GLASGOW.

THE following have, after examination, been admitted as Fellows of the Faculty: John Gardner, Stanley G. Graham, Chaudiram H. Primlani, James H. Robertson, and James Taylor.

CONJOINT BOARD IN IRELAND.

CONJOINT BOARD IN IRELAND.  
The following candidates have been approved at the examinations indicated:

Approved at the examination  
M. J. Cleary, R. E. G. Dickson,  
Gardnor, J. Graff, T. Griffith,  
bc, M. A. Monahan, Allen M.  
-Patrick Moran.

ROYAL COLLEGE OF SURGEONS IN IRELAND.  
At a meeting of the College on June 3rd 1882.

Mr. Andrew Keane, president of the College on June 3rd and 4th, 1890.  
The  
indicat

FINAL FELLOWSHIP.—Dr. R. A. Keane.  
PRIMARY FELLOWSHIP.—C. J. O'Reilly, J. Owens, M. A. W. Roberts.  
J. Scott.

TERRITORIAL AMBULANCE CHALLENGE SHIELD.  
LONEL E. C. MONTGOMERY-SMITH (secretary)

**TERRITORIAL AMBULANCE CHALLENGE SHIELD.**  
COLONEL E. C. MONTGOMERY-SMITH (secretary) informs us that the competition for the Ambulance Challenge Shield (T.A.) will take place at the Duke of York's Headquarters, Chelsea, S.W.3, at 2.30 p.m. to-day (Saturday, June 13th). Ten units will take part: 143rd (South Midland) Field Ambulance, 12th (Wessex) Field Ambulance, 170th (Cavalry) Field Ambulance, 125th (East Lancs) Field Ambulance, 1st (Casualty Clearing) Field Ambulance, 53rd (3rd Western) Field Ambulance, 7th (2nd London) Casualty Clearing Station, and 23rd Battalion London Regiment.

INDIAN MEDICAL SERVICE.

INDIAN MEDICAL SERVICE.  
As already announced, the annual dinner of the Indian Medical Service in London will be held at the Trocadero on Wednesday, June 17th.  
Lieut.-Colonel A. W. Alcock, C.I.E., F.R.S., will be in the chair.  
Tickets and all particulars may be obtained from the joint secretaries, J. J. Pratt, I.M.S.(ret.), 18, Nevill Mans

DEATHS IN THE SERVICES  
Joseph Sykes, Bengal 25

**DEATHS IN THE SERVICES.**  
Lieut.-Colonel Joseph Sykes, Bengal Medical Service (ret.), died at Polkstone on May 5th, aged 71. He was born at Janmah in the Deccan, and got his first medical education in the Madras Medical College. He entered the Subordinate (now the Indian) Medical Department as a hospital apprentice on June 29th, 1874, and resigned two years later. He then came to Europe, matriculated at Glasgow University, and took the L.R.C.P.Ed. and L.R.F.P.S.Glas. in 1879. He entered the Bengal Medical Service as surgeon on October 31st, 1879, became a Lieut.-Colonel in 1891, and died on May 5th, 1900.

## Medical News.

THE half-yearly dinner of the Australian and New Zealand Medical Association in England will be held at the Trocadero Restaurant, Piccadilly, on Friday, June 26th, at 7.45 p.m. All visiting Australians and New Zealanders wishing to be present should communicate with one of the honorary secretaries, Mr. E. T. O. Milligan, Mr. H. Bedford Russell, at 86, Harley Street, W.1.

THE annual summer dinner of the Glasgow University Club, London, is to be at the Trocadero Restaurant, Piccadilly, W., on Friday, July 3rd, at 7.15 for 7.30 p.m. The Right Hon. Augustino Birrell, K.C., LL.D., will preside. Any Glasgow University men who, though not members of the club, desire to attend are requested to communicate with the honorary secretaries, 1, Harley Place, N.W.1.

NOMINATION for the David Lloyd Roberts Lecture is in the hands of the Royal Society of Medicine for this year. Sir Arthur Keith, M.D., F.R.S., has accepted an invitation from the Council of the Society to deliver the lecture on November 16th.

THE annual general meeting of the Royal Society of Tropical Medicine and Hygiene will be held at 11, Chandos Street, W.1, on Thursday, June 18th. A demonstration at 7.45 will precede the meeting. At 8.15 the new President, Dr. Andrew Balfour, C.B., C.M.G., will be inducted. The Chalmers medal will be presented to Professor Warrington Yorke, who will read a paper on "Further observations on malaria made during treatment of general paralysis." Dr. G. C. Low will make an announcement on the use of a drug named "malarina" in the treatment of malaria.

At a meeting of the Central Midwives Board for England and Wales, on June 4th, when Sir Francis Champneys was in the chair, it was decided to inform the M.O.H. Gloucestershire that midwives living in District Nursing Association homes are, according to the general practice throughout the country, subject to the same rules as to supervision as midwives in private practice. It was agreed to place before the Royal Commission on Local Government a statement of the Board's views on the question of the transfer of functions under the Midwives Acts from county councils to other local authorities.

THE Fellowship of Medicine announces that Sir Gerald Giffard will lecture at No. 1, Wimpole Street, on June 17th, at 5.30 p.m., on some Madras methods in the teaching and practice of midwifery. A second course for general practitioners will be held at the London Temperance Hospital from June 22nd to July 4th. The special course in urology at St. Peter's Hospital has been postponed to June 29th to July 25th. From July 6th to 17th an intensive course in cardiology (limited to an entry of sixteen) will be held at the National Hospital for Diseases of the Heart. The Queen's Hospital, Hackney Road, will hold a course in diseases of children from July 6th to 18th, and from July 27th to August 15th the West End Hospital (Out-patients' Department, 73, Welbeck Street) will hold a course in the diagnosis and treatment of nervous diseases. Full particulars of these courses may be obtained from the Secretary, at No. 1, Wimpole Street, W.1.

THE annual meeting of the National Council for the Unmarried Mother and her Child will be held at Carnegie House, 117, Piccadilly, W.1, on Thursday, June 18th, at 2.30 p.m., with Lord Henry Cavendish-Bentley, M.P., in the chair. The annual report will be presented, and a discussion on the Mental Deficiency Act as it affects unmarried mothers will follow.

AMONG the recent recipients of the degree of M.D. at the University of Lausanne were Dr. Charles A. H. Franklin (Sevenoaks) and Dr. Arthur Shirley (London).

DR. F. G. BUSHNELL, who a short time ago ceased to be assistant medical officer of health for Plymouth in circumstances indicated in the SUPPLEMENT of April 25th (p. 186), has been recommended by the Plymouth Public Health Committee for appointment as assistant consulting tuberculosis officer at a salary of £300 a year.

THE second Franco-Polish Medical Congress was held at the Paris Faculty of Medicine, under the presidency of Professor Roger, on April 28th, when addresses were delivered by Professor Roger, Dr. Krzyżtalowicz, rector of Warsaw University, and M. Jules Godard, ex-Minister of Labour and Hygiene.

A COURSE on dermatology and venereal diseases will be held, under the supervision of Professor L. M. Pautrier, in Strasbourg, from September 21st to November 7th. Besides lectures and clinical, bacteriological, and histological demonstrations there will be individual training in the different therapeutic methods, including the use of carbonic snow, radiotherapy, electrolysis, and cauterization. The fee for

the course is 200 francs. A special course in the principal laboratory methods and the general pathological anatomy of skin diseases will be arranged if five applications are received. The fee for the special course is 150 francs. Applications should be made to Professor Pautrier, 2, Quai St. Nicolas, Strasbourg, from whom information may also be obtained with regard to accommodation in pensions on reasonable terms.

THE third congress of French-speaking dermatologists and syphillographers will be held at Brussels from July 25th to 28th, when the following subjects will be discussed: the nature and treatment of tuberculides; the etiology of herpes febrilis and herpes zoster; syphilitic reinfection, pseudo-infection, and superinfection; endocrine disturbances due to inherited syphilis; modern treatment of lupus. Further information can be obtained from the general secretary, Dr. L. Dekeyser, 9, Rue des Sablons, Brussels.

DR. W. H. MAXWELL TELLING, who has occupied the Chair of Therapeutics in the University of Leeds for the past two years, has been elected by the Council of the University Professor of Medicine and head of the Department of Medicine, as from October 1st next, on the retirement from that office of Dr. T. Wardrop Griffith. Dr. R. A. Venle has been elected to the Chair of Therapeutics in place of Professor Maxwell Telling, and Dr. G. W. Watson has been elected to the Chair of Clinical Medicine, which has been vacant since the retirement of Dr. A. G. Barrs.

## Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to **THE EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.**

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the British Medical Journal alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring REPRINTS of their articles published in the British Medical Journal must communicate with the Financial Secretary and Business Manager, 429, Strand, W.C.2, on receipt of proofs.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the JOURNAL, should be addressed to the Financial Secretary and Business Manager, 429, Strand, W.C.2.

THE TELEPHONE NUMBER of the British Medical Journal is **MUSEUM 9864**. The telephone number of the British Medical Association remains, until further notice, **Gerrard 2630** (internal exchange).

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The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*); telephone: 4737 Dublin, and of the Scottish Office, 6, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*); telephone: 4361 Central.

## QUERIES AND ANSWERS.

### RESPIRATORY DISTURBANCE AFTER MEALS.

A CORRESPONDENT asks for information about the significance and treatment of a symptom characterized by a desire to take a deep breath, with difficulty in completing the final stage. This is sometimes accompanied by frequent yawning. It comes on about twenty minutes after meals and is considerably relieved by alkalis. Is it, he asks, a reflex spasm of the diaphragm, and is any special drug or diet advisable?

### MANGE.

"E. M." writes: Some patients of mine are very nervous about the possibility of mange in their cats being transferred to them or their children. They are compelled to keep them to prevent the house being overrun with mice, and they say their cats always get mange sooner or later. I told them that I was under the impression that each animal had its own parasite and could not transfer it to another animal. A cat gives mange to a cat, a dog to a dog, and so on, but a cat will not infect a dog. I should be glad to know whether I am correct or not in my ideas on this matter.

\*\* Several genera of mange mites infect the domestic mammals, but most of these are not transmissible to man. *Sarcoptes scabiei* occurs in all the domestic mammals except the cat, but in each case a special strain is found which, although indistinguishable morphologically from the other strains, yet

will only live on the other hosts with difficulty. All the strains of *Sarcoptes scabiei* will live on man; but in no case have they been found to cause a severe form of scabies, and it has generally been very easy to treat by the conventional sulphur dressing. "Sarcoptic" mange in the cat is caused by *Notedres cati*, a form closely related to *sarcoptes*. There are now several well authenticated instances of its occurrence in human beings, and Ross in Australia has been able to prove it experimentally. In this case also infection, when it does occur, is not serious, and is easily treated. It is important, however, not to allow dogs or cats with mange to come into contact with children. The comparative rarity of the infection in man is probably due to a biological resistance similar to that existing in human beings against bovine tuberculosis. Cats and dogs also suffer from a form of ear mange and a form of demodectic mange which are not transmissible to man.

## LETTERS, NOTES, ETC.

## SLEEPLESSNESS.

DR. JAMES HOLMES (Bury) writes: With reference to "Scot's" inquiry about sleeplessness in the seemingly healthy, I venture to give my personal experience, hoping it may be helpful to him or others. Acting on a hint from the late Mr. Ernest Hart, a former Editor of the BRITISH MEDICAL JOURNAL, I have, for general sleeplessness, tried and found reading very helpful, provided it is not light literature or matter in which I was very interested. By preference the book should be on a subject as to which I felt I ought to be more or less well informed but in which I was not really interested. I frequently waken near 3 a.m., about the time of the body's lowest temperature, and lie awake for a considerable time, unless I draw an extra rug over me, in which case I generally feel warmer and soon fall asleep.

"M.B." writes in further reply to "Scot" (May 30th, p. 1026): For nearly a year I slept soundly on going to bed, but awoke, to begin with, about 4 a.m. and gradually, after about six months, not later than 2.30 a.m. I took a long holiday but was no better. I then saw a London specialist, who advised a rest cure in a nursing home, which was strictly carried out for six weeks, in bed all the time. My weight when I began the rest cure was 12 st. 6 lb. (about 6 lb. too much, according to height); it had not varied for over twenty years. When I came away from the nursing home I was 14 st., and had not slept at all for five weeks. I had no pain, not the slightest flatulency, but still, after some few months' rest, my insomnia was due entirely to my food. I ate small meals, especially my evening meal, taking for that meal something very simple and no animal food with it; I also masticated my food much more thoroughly. After a few months' careful feeding I have since slept quite well again. I always had a good appetite, and I believe that was the cause of my insomnia. I strictly avoided hypnotics and only took one on three or four occasions. My age at that time was 47.

## STRENGTH OF MERCUROCHROME SOLUTION IN GONORRHOEA.

MR. W. HARRISON MARTINDALE Ph.D. writes:

intended. My firm has devoted attention to the manufacture of this compound in a solid form ready for use. It had no adverse reports of its use. In the 18th edition (p. 675, eighteenth edition) I have summarized statements in the current medical literature on this new remedy. The 25 per cent. solution was mentioned, but the strength seemed to me so high as to necessitate a word of warning, which, therefore, I inserted both at that page and in the preface, p. xvii. At a recent meeting at Montreal of the Inter-State Post-Graduate Assembly of America I understand the mercurial was criticized severely, and it is possible that the strength of the solution is of paramount importance. May I ask that medical men having a copy of the Extra-Pharmacopoeia will be good enough to note on page 675 that, in general, solutions should not exceed 1 or 2 per cent. strength? The misprint was pointed out by Dr. White in the Journal of the American Medical Association (November 29th, 1919, p. 1703), which I have only recently seen. It is there stated that the 2.5 per cent. is the strongest solution used in the urothra.

## WITTY INVENTIONS.

THE Institute of Patent, Lord Askwith is president, has brought to the Central Hall an exhibition of new inventions, many of them so simple and obvious as to make one wonder why nobody ever thought of them before. A good deal of ingenuity has been expended on making the same thing, with the minimum of adjustment, serve two or more different purposes. Thus there is an article of furniture which, by a couple of movements, it can be converted from a bed-motor body which is convertible in a few moments from a motor to a van. A good many small domestic implements also "contrive a double debt to pay." There is a thimble with a cutting mechanism to snap off the ends of thread

or cotton, and there are nut-crackers which not only break the shell but scoop out the kernel, and furnish a toothpick as well. One little device will remove a good deal of embarrassment from afternoon tea parties. It enables a person with a single grip of finger and thumb to hold in perfect balance a plate and a cup and saucer. Many men deserve less well of their kind than the inventor of such a thing as that. Then there are arrangements for preventing windows from rattling or bed quilts from slipping, there are kettles which never boil over, and teapots with lids that cannot fall off. Other inventions are more ambitious. Among several devices for preventing industrial accidents are self-adjusting safety belts for catching falling workmen. Some one has invented a tri-signal indicator for fitting to the rear or side of a motor car. It gives a warning yellow light when the car is turning to the right or off side, a red light when it is slowing down or stopping, and a green light when it is turning to the left or near side. Some of the inventions have a hygienic motive; various new forms of automatic disinfection, cleansing, and deodorizing are exhibited. Other devices include rubber hot-water bottles for wear, either around the waist as belts, or, in the shape of a stole, for placing around the neck and under the arms, for use in disorders of the chest. A vibro-massage apparatus is motorless, but is fitted to the bath tap, and the direction and strength of vibration are regulated at the tap and transmitted through a rubber diaphragm to any part of the body. One invitation of medical interest is the work of a lady (Miss Holmes), and is an apparatus of a simple, compact, and portable kind for artificial pneumothorax; it is being placed on the market by Messrs. Allen and Hanburys. Altogether, the exhibition proves that what the ancient writer calls the knowledge of witty inventions has by no means worked itself out. The ingenuity extends not only to the contrivances, but to the words used to describe them. At every turn one comes across fresh coinages like "passaver," "Axoquick," "gripail," and "cezikary," which make one wonder what the English language is coming to. The exhibition closes on June 15th.

## THE VALUE OF THE GOAT.

THE British Goat Society has published in its Year Book for 1925 much valuable information about this animal, which does not yet receive the attention in this country that it deserves. The considerable economic possibilities of goat-keeping are well described in several short articles, and Dr. B. D. Z. Wright gives several examples of the value of goat's milk in the treatment of various diseases. The large amount of practical details it contains will commend the book to those who keep goats, either as a hobby or for profit, and the numerous interesting articles and good illustrations should secure for it a wide circulation. Copies of the Year Book may be obtained from the office of the British Goat Society, 10, Lloyd's Avenue, E.C.3, price 1s. 6d., post free.

## THE "MOTOR OWNER."

THE Motor Owner, a monthly magazine of motoring, has been issued in a new and improved form. It is a paper which combines amusement with the more serious task of instruction in driving and the use of the roads, and with criticism and descriptive matter. Thus, in the June issue, Mr. S. F. Edge opens a series of "Driving hints from experts." His golden rule is: Never drive faster than the speed at which you know, and can see, that the car can be pulled up. An address on the "Courtesy of the road" by Mr. Stenson Cooke, secretary to the Motor Owners' Club, is reproduced. A harrier-at-law is to be a matter of serious difficulty to the medical motorist—alleged obstruction through leaving a car in a public street. There is an amusing article on police trapping on the new arterial roads which have been built for motor traffic largely out of taxes on motors. Imaginative writing is exhibited in the attribution to a car of the beauty of Venus, the strength of Hercules, and the speed of Mercury. The illustrations are numerous and good.

## "DOCTORS DIFFER."

"E.S." writes: I see that Dr. Robert Hutchison in his interesting and wise address (May 30th, p. 935) repeats the statement that this saying refers to practitioners of medicine. Is he right in this? May it not be that the proverb was applied originally to doctors?

or philosophy, or simply to learned men? Dr. Hutchison raises, too, the individual and the nation of

One would think that to begin with there must be a sincere regard for truth and sympathy; then there should be a knowledge of any particular subject at first hand, or from a reliable source; and the emotions must be subdued to truth. But, of course, people vary in intelligence, in emotional restraint, and in desire for truth; and many subjects are so complex that their principles have not yet been settled. A truth-seeking scepticism and a sense of humour are saving graces.

## VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 41, 44, 45, 46, and 47 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 42 and 43.

A short summary of vacant posts notified in the advertisement columns appears in the Supplement at page 203.



## Remarks ON PAINLESS PELVIC SURGERY.

BY

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ALTHOUGH the title "Painless Pelvic Surgery" is employed to express an ideal, yet my object is to show that by appropriate care pain and discomfort after pelvic operations may be so minimized that it is justifiable to speak of a "painless operation." The mortality of pelvic operations has been reduced, but post-operative morbidity has not been diminished in proportion to the low mortality rate. An acute or even a chronic painful illness may follow the operation. It is true that this illness may be short and sharp as measured by duration and intensity, but it is none the less difficult to bear; indeed, the mental impression may long remain, and accentuate the "fear of the knife" for all time, besides exerting a subtle effect on the nervous system which may continue for months or years. Vomiting after an anaesthetic is so common that the suffering of the patients is apt to be ignored or forgotten, yet to them its duration may seem interminable and all the while they are racked with pain.

Even this suffering may be dwarfed by the agony endured in consequence of intestinal distension. To be told that "you must bear the pain," or that "every patient has it," is poor comfort when you feel tearing, grinding, and gnawing in your inside. It should be the aim of the surgeon to do his utmost to prevent post-operative pain so that a painless operation may be followed by a painless convalescence. In the mind of the patient the dread of pain after an operation is greater than the dread of the anaesthetic. To prevent pain and discomfort it is essential that certain precautions should be taken before, during, and after these operations.

### PRECAUTIONS BEFORE AN OPERATION.

#### Abdominal Operations.

It is true that the less a woman is disturbed physically or mentally before an operation the better she will be able to face this trying ordeal. Unless the complaint from which she suffers is urgent she should be admitted into the hospital or nursing home at least forty-eight hours before the proposed operation, and in certain cases a longer interval is required. The practice of admitting a patient in the evening and operating on her the following morning, unless in emergency cases, should be condemned.

If an abdominal operation is to be performed the patient should be kept in bed and should be provided with a suitable diet. A dose of castor oil should be given, if she is constipated, but otherwise the intestinal canal should not be disturbed. To give a purgative the previous night to a woman about to undergo an abdominal operation, and to awaken her at 5 a.m. for an enema and a cup of tea when the operation is to be performed at 8.30 or 9 a.m., is a form of "scientific cruelty" which should be abolished. The employment of enemata before or after pelvic operations is a practice I have never favoured. In certain circumstances it may become necessary to administer enemata, but as a routine they should be avoided. Unless skilfully given an enema may cause considerable shock and distress to the patient, whilst after pelvic operations the proximity of the rectum to the wounded area is an additional reason against their use. No one except her nurse or doctor should see the patient on the day of the operation.

When a bed-pan is used for the first time after an operation there is not merely the difficulty in its use which is due to the operation, but in addition nervousness and apprehension may increase the difficulty. For this reason it is essential that the patient should learn to use a bed-pan for micturition and defaecation during the days preceding her operation. This simple precaution will prevent much pain and discomfort and will often obviate the use of a catheter. A sleeping draught is in the

majority of women unnecessary; sodium bromide, 10 or 15 grains in a tumblerful of water, is useful if required.

The time at which an operation should be performed is made to depend on various circumstances, but if it be considered entirely from the point of view of the patient I believe 2 or 3 p.m. to be the best time. The last mentioned hour, however, has the disadvantage of the failing light in the winter, necessitating the use of artificial light should the operation be of long duration. The afternoon operation has the advantage that the first night passes more quickly, whereas if the operation be performed in the morning a long day is succeeded by a still longer night. Moreover, the patient should be permitted to rest undisturbed and not worried in the early hours of the morning by the crude methods of preparation so commonly used. Although individual variations must be taken into account, yet for most women the afternoon is to be preferred. A light breakfast of tea and toast is given at 8.30 and a similar meal at 11 a.m., after which no food is permitted.

The arrangements for dealing with patients about to undergo operations are not satisfactory in most hospitals and nursing homes. The difficulty is not only one of inadequate accommodation, but also of inadequate nursing facilities. To overcome these difficulties the hospital or nursing home must be specially constructed or arranged to facilitate the rapid transference of the patient from her bed to the operating theatre. In a small private hospital for gentlewomen to which I am visiting surgeon the conditions are almost ideal, and a brief description of them may not be out of place.

The patient about to undergo an operation occupies a bedroom on the same floor as the operating theatre. Half or three-quarters of an hour before the operation she is given a hypodermic injection of morphine 1/6 grain and atropine 1/150 grain, her bedroom is darkened, and no one is permitted to see her or speak to her until the anaesthetist arrives to give her the anaesthetic. She is anaesthetized in bed, after which she is placed upon the trolley. The trolley is then wheeled into the operating theatre, a distance of a few yards, and she is carefully lifted on to the operating table. The operating table has the shoulder-pieces padded and a folded blanket is fixed over the central portion of the table by broad webbing laterally and longitudinally, and covered by waterproof sheeting, and pillows are provided for the head.

Much of what may be termed "aseptic discomfort"—uncovered metal tables and trolleys, concrete floors, and so forth—could and should be improved, with great benefit to the patients as suffering human beings and without detriment to the surgical results, immediate or remote. I can only assert that the results which have been obtained in this small hospital have encouraged me in the conviction that all these minor details are of paramount importance, and, thanks to the benevolent lady who presides over this hospital, every detail which would promote the well-being of the patient has been faithfully carried out. These precautions have had a marked effect in diminishing or counteracting post-operative shock and post-operative pulmonary complications.

To employ such a system in a hospital it would be necessary to have several single rooms on the same floor as the operating theatre, for the present method of bringing a patient some distance to an anaesthetizing room, and after operation taking her back again, implies considerable disturbance and exposure to the air of cold and often draughty passages. Yet something should be done to prevent those all too frequent pulmonary complications which in many instances are contracted during this perilous journey. Unless a nursing home is specially constructed such a system is wellnigh impossible, and yet many struggle on even without the assistance of a passenger lift.

Again, the heating of the operating theatre calls for careful supervision. It is difficult to obtain that happy medium between cold and excessive heat, for the latter is not merely trying to the patient but to all those present. A patient, sweating profusely after an operation, who is wheeled out into a cold and draughty passage, is fortunate if she does not develop some pulmonary complication. A cradle covered with a blanket over her head, or other



suitable device, should be employed to retard the ingress of cold air, and a sufficient number of warm blankets should envelop her body.

#### Vaginal Operations.

Women suffering from genital prolapse require a longer period of rest in bed before operation. The prolapsed uterus and vaginal walls should, as far as possible, be replaced, thus permitting congestion to diminish; at the same time any uterine or vaginal discharge should be treated, as well as any ulcerated or abraded surface.

For the treatment of a vaginal discharge irritating injections should not be used, and the injections should not be too hot. For ordinary routine use an injection of salt solution, 2 drachms to the pint, comfortably warm, is most useful. Hot irritating injections tend to cause oedema of the vaginal walls and delay in healing, with consequent discomfort to the patient.

The present fashion is to shave the vulvar hairs completely before a vaginal operation, and I have known this done even before the removal of a urethral caruncle, whilst it is the common practice before curettage. In the unclean shaving of the vulvar hairs may be a necessity, but in those of cleanly habit it is not only unnecessary, but too often leads to local discomfort after the operation. Moreover, the vulvar hairs are an important protection, and can be rendered clean and kept clean. Lister did not advise shaving the head in the treatment of scalp wounds; on the contrary, he disinfected the hairs and made use of them as a further protection to the wounded surface. For these reasons I have never favoured routine shaving of the vulva, which is, moreover, distasteful to the great majority of female patients. My results fully justify me in adhering to this opinion.

#### PRECAUTIONS DURING AN OPERATION.

##### Abdominal Operations.

I do not believe it is sufficiently realized how much can be done during an operation to prevent post-operative pain and discomfort. If the art of surgery is to develop as it ought, and if it is to become one of the fine arts, then the "tearers" and the "bruisers" must give place to a race of surgeons who will be respecters of human tissues, causing the minimum amount of traumatism, and who will accomplish their task with that refinement of execution known only to the highly skilled artist.

Vision is too often fogged by a display of mortality statistics, and although the day when operations will have no mortality may be not far distant, let us see to it that they will also have no morbidity. The surgeon of the future should be able to assure the patient about to undergo an operation that it is devoid of risk, and that the convalescence will be free from pain and discomfort.

Iodine is probably more frequently used in different parts of the world in the preparation of the skin of the abdominal wall than any other medicament. I have abandoned its use for some years because it tends to cause local irritation, and as a cleansing agent is not so good as methylated spirit and acetone. These agents can be recommended as effective cleansers of the skin which do not cause irritation, provided that the methylated spirit be of good quality.

To avoid the leg-aches, the knee-aches, and the shoulder-aches, it is essential that the patient should be securely fixed when the operating table is elevated into the so-called Trendelenburg position. Few operating tables are capable of affording a correct position, the fault being that they are not provided with leg-pieces. In some the patient, when elevated, hangs by the knees without shoulder supports; in others with shoulder supports the ankles are fixed by a bandage; or again, the legs are elevated and the whole weight of the body is sustained by the shoulder supports. It is thus easy to comprehend why patients so fixed complain of what is called "rheumatism" during convalescence.

The operating table should therefore be provided with leg-pieces as well as shoulder supports. The patient should be so fixed on the operating table when elevated into the Trendelenburg position that the knees are flexed, the thighs slightly flexed and abducted, and the shoulders supported.

In this position there is a more equable distribution of strain, and it is surprising how much better the abdominal wall is relaxed. Moreover, ready access is obtained to the vagina should any combined procedure be required, and there is no "rheumatism" during convalescence.

The operating table should be elevated before the surgeon begins the operation, and he should be able to tell by the contour of the abdominal wall if the intestines have descended towards the diaphragm. The patient should be deeply anaesthetized before the incision is made, and if kept under the anaesthetic it will be found, on opening the abdomen, that the intestines have fallen back and a large abdominal sponge can be inserted and spread out so as to retain the intestines in their position. Too often, owing to incomplete anaesthesia and straining, there is a battle between the protruding intestines and the surgeon, ending in the defeat of the former after much handling and exposure, and it is doubtful if as good retraction is ever obtained under these conditions.

The ability to use a knife is one of the greatest achievements of the accomplished surgeon. If the tissues of the abdominal wall be cut cleanly with a sharp knife they heal better, they are easier to coapt by stitches, and subsequent pain is diminished. When the abdomen is opened the abdominal incision should not have the appearance as if it had been eaten by rats. A sharp knife should also be used for the separation of adhesions, and not scissors, or, worse still, a gauze sponge.

Both the skin and the divided abdominal wall should be protected. After a trial of various materials I have come to the conclusion that the best protector of the divided abdominal wall is the peritoneum. For this purpose sterilized cloths are fixed by toothed forceps to the parietal peritoneum. The abdominal wall and skin being protected, and the intestines completely covered, the contents of the pelvis are exposed to view. The large abdominal "sponge" (made of lint) is steeped in hot normal saline solution, and no irritant fluid is used within the abdominal cavity. Large abdominal retractors of the self-retaining pattern are best avoided on account of the injury they do to the parietal peritoneum by pressure. Indeed, the less the abdominal wall is retracted by instruments the better for the future comfort of the patient.

In a paper entitled "Suggestions for the prevention of post-operative embolism and thrombosis" I have already indicated many points in technique which not only prevent embolism but also prevent post-operation pain. Amongst the foremost of these are: (1) the avoidance of transfexion and puncturing of blood vessels; (2) accurate haemostasis; and (3) the avoidance of mass ligatures.

It is a good rule in surgery "never to transfix a vascular area," and the reasons why this rule should be observed are fully set out in this paper.

Accurate haemostasis is one of the most important means of preventing pain, for blood effused into the peritoneal cavity probably causes more pain than any other fluid, even more than that produced by the gastric or intestinal contents. Blood effused under the peritoneum—as, for example, after the operation of supravaginal hysterectomy where the haemostasis has been incomplete—probably causes pain by tension and stretching of the peritoneum should the sutures effectually prevent the blood escaping into the peritoneal cavity.

Effusion of blood into the abdominal wall from incomplete haemostasis is a common cause of pain. This effusion causes tension, and is evidenced at a later stage by the formation of a haematoma. For this reason it is wise to tie or twist bleeding points in the abdominal wall, especially at its lower end, and to make sure that all haemorrhage is arrested. It is a good plan to place a gauze sponge, held in long forceps, at the bottom of the pelvis before the operating table is lowered from the elevated position. The object of this sponge is to soak up any blood which has collected, as well as to indicate if additional bleeding has occurred after the horizontal position is resumed. If there be any bleeding it is likely to be increased during vomiting and straining as well as from the vascular reaction which occurs after every abdominal operation of any severity. Although this amount of bleeding

may not endanger the life of the patient, yet it causes pain, and should be prevented.

I believe it to be important to lower the operating table into the horizontal position before suturing the abdominal wall, and to "arrange" the abdominal contents so that the sigmoid colon covers the pelvic cavity, and the omentum is spread over the intestines. The withdrawal of the large abdominal sponge should be delayed until the peritoneum is partly stitched, and if the sponge be pulled gently downwards towards the symphysis pubis the omentum comes down with it. Chilling and exposure of the intestines are thereby diminished.

Subcutaneous emphysema may result from neglecting to lower the elevated table, and may cause considerable discomfort for some days. Again, volvulus of the small intestine, with accompanying signs of intestinal obstruction, may result from a similar cause, whilst it is difficult to be certain that all haemorrhage has been arrested when the abdomen is closed with the pelvis elevated.

The wound in the abdominal wall is a great source of pain, and too much care cannot be taken to cut cleanly, to avoid bruising and tearing, and to arrest all bleeding. The method of suturing is all-important, and here it is not so much the material used as the manner of its use that matters.

Stitches only act as splints, and yet how often this is forgotten. It is "Nature's glue" which produces union, and without this assistance all the efforts of the surgeon would be vain. The function of a suture is to maintain the opposing surfaces in apposition, and Nature does the rest. In suturing there should be that nicety of adjustment, that apposition without constriction, which is the hall-mark of the finished craftsman. The peritoneal edges should be apposed by a suture which is not pulled too tight and by which the edges are not constricted, and thus the thinnest suture material can be employed without breaking it. Again, the type of through-and-through abdominal suture in common use causes considerable pain. It is inserted at a distance of an inch or more from the cut edges, taking up skin, fat, fascia, muscle, and sometimes peritoneum, and then is tied firmly, encompassing within its grasp a mass of tissue which writhes and struggles in vain until relief comes with removal of the suture.

To overcome this difficulty I have used for some years a figure-of-8 suture of silkworm gut. It is inserted on one side, a quarter of an inch from the skin margin, passing through skin and fat, then it is passed through fascia and muscle on the opposite side, taking a good grip of both, and again through muscle and fascia on the same side, and finally through fat and skin on the opposite side, emerging a quarter of an inch from the skin margin. A piece of fine india-rubber tubing half an inch in length is threaded over one end of the suture, which is then tied so that the skin edges are apposed—not constricted—and the small piece of rubber tubing lies flat upon the line of the incision. Sutures so inserted may remain in position for fourteen days or longer. Preliminary scratching of the skin at intervals during the position of the incision ensures accuracy in suturing.

Before the figure-of-8 sutures are tied the muscle and fascia are united by catgut, continuous or interrupted according to requirements, and the skin by Michel clips. In the application of these clips it is essential that the skin edges be apposed and not crushed. Crushing not only causes pain, but redness and sloughing. If clips be carefully applied they may be left in position for a week without even causing redness of the skin edges. Skin edges apposed and not crushed heal rapidly without pain. A dressing of double cyanide gauze fixed in position by collodion is then applied, care being taken that only the edges of the covering layer of gauze are so fixed. A pad of wool and a many-tailed bandage complete the dressing.

The practice of fixing the gauze dressing by means of the through-and-through sutures has such obvious disadvantages that it cannot be recommended.

#### Vaginal Operations.

As already mentioned, it is important to use non-irritating antiseptic solutions and to see that they are not too hot, in order to prevent oedema of the tissues and subsequent dis-

comfort. After thorough cleansing of the vulva it is disinfected with acetone followed by mercury biniodide solution 1 in 2,000. The vagina is swabbed out with the mercury biniodide solution and then thoroughly dried with gauze sponges. I believe many vaginal operations fail through neglecting this simple precaution, for moisture in this region favours septic infection.

Hæmostasis is of paramount importance in vulvar and vaginal operations. Bleeding points should be caught and tied, not left to chance. Secondary hæmorrhage is far too common after these operations, many of which are regarded as minor operations, and sufficient trouble is not taken to see that all bleeding is stopped. There may be troublesome vaginal hæmorrhage after the operation of colpoperineorrhaphy, or the effused blood may form a hæmatoma in the perineal tissues, causing local pain and discomfort. Such results may be due to septic infection or the neglect to tie or crush bleeding vessels, especially veins. After the operation of colpoperineorrhaphy the bleeding usually comes from two small arteries at the apex of the triangular flap, excised from the posterior vaginal wall. The patient complains of pain, she is restless and somewhat blanched, often unable to urinate, and yet her vagina may be distended with clotted blood, although the amount of external blood loss is small.

Secondary hæmorrhage is still more frequent after operations on the cervix uteri. Cervical tissue heals slowly and its blood vessels have a tendency to retract within its substance, thus favouring secondary hæmorrhage. From a study of the writings of the older authors secondary hæmorrhage does not appear to have been a common complication of operations on the cervix uteri because a non-absorbable suture, most frequently silver wire, was used which was allowed to remain until healing was complete. The modern use of catgut is responsible for much secondary hæmorrhage, because too often the catgut melts before Nature has glued the apposing surfaces together. If catgut be employed it must be forty-day chronic catgut, but who can guarantee that it will hold? I have obtained the most uniformly successful results in operations on the cervix by the use of silkworm gut, but unfortunately such sutures require to be removed, whereas catgut becomes slowly absorbed and does not require removal. If the catgut employed will remain for the requisite time secondary hæmorrhage will not occur, but who can tell when it is reliable? The announcement that the catgut will last forty days is a pious opinion; it is not always a statement of fact.

For the major vaginal operations of hysterectomy and colpotomy accurate hæmostasis is one of the secrets of success. "Get it dry and keep it dry" should be the guiding principle in vaginal surgery.

Women appear to dread perineal operations more than any other. They seem to have heard of the pain following the operation, of the pain when the stitches are removed. Their fears are certainly justified unless the surgeon takes special precautions to prevent pain. A perineorrhaphy may be, and often is, one of the most painful operations in surgery, yet with care the pain can be prevented. The perineum should be stitched in the same manner as the abdominal wall. To constrict tightly a mass of perineal tissue within the grasp of a suture is to cause not pain but agony—agony which is accentuated by the oedema of the tissues which supervenes.

The through-and-through sutures, which should be of silkworm gut, should be inserted, and should emerge a quarter of an inch from the margin of the incision, and after the superficial skin sutures of catgut have been inserted and tied the silkworm gut is tied, one end being threaded through rubber tubing as in the abdominal wall. The common error is to constrict an unnecessarily large amount of skin within the grasp of the suture and to pull it too tight. The sutures must be tied with that nicety of adjustment which comes with practice and experience.

It may be urged that by the use of catgut only pain is prevented. This is true—if the catgut were always reliable; but even if it were, infection may defeat the efforts of the surgeon. I consider it essential in these operations to use a non-absorbable suture, which not only acts as an efficient splint but also as a second line of defence to the catgut sutures.

The nicety of adjustment to be achieved in suturing the perineum is most important in the recent tears following childbirth, where a certain amount of oedema is constantly present. I have often been told by practitioners that they have abandoned silkworm gut because it "cuts out." The real explanation, however, is that the suture has been pulled too tight, and that the oedema which follows has made it tighter, and it cuts the tissues, meanwhile causing unnecessary suffering to the patient. Interrupted catgut sutures fortified by silkworm gut yield the best and most certain results in this department of surgery.

Curetting is an operation which should not be followed by pain if care be taken. Pain may be produced through the character of the cervical dilatation, the vigorous use of the curette, or the application of irritants to the interior of the uterus.

1. *The Character of the Cervical Dilatation.*—The tissues of the cervix should be slowly stretched by the cervical dilators; this stretching is only possible up to a certain size of the dilator employed, and this size varies according to the dilatibility of the cervix. Large dilators do not dilate—they lacerate; and not only haemorrhage, but pain, follows this accident—pain which may persist in consequence of cicatricial tissue forming in the cervical wall and parametrium. The preliminary use of a glycerin ovule, pushed up against the cervix, aids materially in softening cervical tissues whose consistence, as detected by a local examination, suggests interference with easy dilatation.

2. *The Vigorous Use of the Curette.*—A sharp curette may cause chronic uterine pain through the excessive removal of uterine tissue. It should not be used for the body of the uterus, but should be reserved for the cervix. The curette should be held lightly in the hand, and should be used more as a rake than a scraper; this is especially necessary in the post-abortion uterus. The possibility of perforating the uterus and of causing tubal inflammation must be borne in mind by the inexperienced.

3. *Application of Irritants to the Interior of the Uterus.*—It is difficult to understand why this useless procedure is continued in the practice of gynaecology. The only apparent result is that the patient has uterine pain for three or four days after the curetting. It is sufficient for all practical purposes to dry the interior of the uterus, or if it bleeds freely to introduce a gauze plug to arrest the bleeding. The gauze plug is removed at the end of twenty-four hours, and no further local treatment is employed.

#### PRECAUTIONS AFTER AN OPERATION.

##### *Abdominal Operations.*

The patient should be placed in a warm bed upon her side, with one pillow under her head, so arranged that the act of vomiting may be facilitated—that is, with the head slightly inclined forwards, resting on the edge of the pillow. To place a patient in the dorsal position and twist her neck on one side as soon as she begins to vomit is not the last word in surgical art. There may be reasons for adopting other positions, but it must always be borne in mind that the dorsal decubitus interferes with vomiting, and even in the so-called Fowler position, employed many years ago at the Samaritan Free Hospital by Sir Spencer Wells, if the patient lies on her side the act of vomiting is facilitated.

Vomiting still remains one of the most troublesome sequelae of an anaesthetic. I have made many attempts to prevent post-anaesthetic vomiting by drugs and by washing out the stomach on the operating table, but have come to the conclusion that it is best to encourage vomiting and rid the stomach of the ether-laden mucus, which seems to collect even after the stomach has been washed out. For this purpose copious draughts of sodium bicarbonate and water should be given, and ordinary water, hot or cold according to the desire of the patient, swallowed (not sipped) *ad libitum*. Moreover, when vomiting does not occur, nausea may continue for some days, accompanied by distaste for food, which is even more trying to bear.

The amount of post-operation pain when the foregoing precautions have been taken is so trifling that even an injection of morphine is rarely required. However, if there be severe pain which persists, it is wiser to administer an

anodyne and repeat it rather than to allow the patient's suffering to continue.

After the first night the amount of what may be termed "traumatic pain" is, after a carefully performed operation, comparatively trifling. Another factor, however, comes into play—to wit, intestinal pain. This is prevented by the careful covering of the intestines, thus preventing exposure with consequent drying and chilling, the avoidance of drastic purgation before the operation, and the early administration of solid food after the operation.

I think I may fairly claim to have been a pioneer in advocating the early administration of solid food after abdominal (gynaecological) operations. Solid food cleans the mouth better than any mouth-wash; it stimulates peristalsis and encourages the bowels to act naturally. Those who have seen, as I have seen, the older methods of treatment, where patients were fed for days on a liquid diet, are able to appreciate the advantages of solid food. Foul mouths, often followed by parotitis, intestinal pain and distension, obstinate constipation—all these, together with general malaise and wretchedness, combined to make the patient look and feel the victim of a severe illness. All this has been changed through the improvement in the methods of pre-operative, operative, and post-operative care, and amongst the last the early administration of solid food is of first-rate importance. In all my cases of intestinal suture, whether of the small or the large intestine, solid food has been administered after the post-anaesthetic vomiting has ceased, and with the happiest results.

Moreover, I would plead for the systematic dieting of patients who have undergone abdominal section. Briefly, their diet should be so planned that those foods which, singly or in combination, tend to the production of flatulence should be excluded. Too little attention is paid to this most important question, yet for the comfort of the patient it is essential that a suitable diet should be prescribed by the surgeon instead of leaving the task to others.

I suppose no subject has been more frequently debated than that of the administration of purgatives after abdominal section. The time at which a purgative is first administered varies in the practice of different individuals, some giving purgatives at once, others after three days, and so on. I have always advocated "leaving the bowels alone" until the patient is uncomfortable, and then she receives a dose of castor oil. My reason for so doing is that rest is the best therapeutic agent in medicine, and I decline to believe that an early movement of the bowels, with the pain, difficulty, and discomfort it entails, is in the best interests of the patient. Moreover, the disturbance in the abdomen through increased intestinal peristalsis and movement may interfere with reparative processes, whilst the employment of purgative enemas is still worse. For these reasons it is best to refrain from purging the intestine for four or five days, and then a purgative may be given if the bowels have not acted naturally. After the bowels have acted it is wise to ensure a daily action by means of a laxative, which will be found to cause little, if any, discomfort when a preliminary period of rest has been enjoined.

Yet another debated question is: When should the patient be permitted to get out of her bed after an abdominal operation? My answer is that she should be permitted to get out of her bed on the seventh day, provided always that she is having an uninterrupted convalescence. I dress the wound for the first time on the seventh day and remove the Michel clips. The patient is then permitted to leave her bed, unassisted if possible, and sit in a chair for half an hour and then return to bed. This is continued daily, the length of time being gradually increased, until the wound is again dressed on the fourteenth day, when the through-and-through sutures are removed. During the following week the patient walks about her room or in her ward, gradually increasing the amount each day, and this is continued for yet another week, when she is discharged, being then able to walk erect with confidence. I was led to adopt this method after observing the "bent up" women with unsteady gait, emerging from hospitals and nursing homes, whose prolonged rest in bed had materially affected their power of locomotion.

This "early rising," however, possesses still further advantages: it stimulates the circulation, thereby aiding in the prevention of post-operative embolism and thrombosis; it promotes the coaptation and healing of the abdominal wound; it prevents or alleviates those difficulties in micturition so commonly experienced after extensive pelvic dissections; and, by giving the patient hope and confidence, the bodily functions are improved, so that she not only sleeps better but digests and assimilates her food better.

The effect on the abdominal wound is quite remarkable, for I have seen the edges so pressed together in an obese patient that the small pieces of rubber tubing were completely hidden from view. When the dorsal position is maintained for any length of time there is a tendency for the edges of the incision to be dragged asunder, often aided by a varying amount of intestinal distension, whereas the contraction of the recti muscles brought into play in assuming and maintaining the erect posture of the trunk serves to coapt the edges. Although no apparent change may be observed in the skin, yet the subjacent fasciæ, and more often the muscle, may have undergone separation. This is evident long after the operation, and may be demonstrated by placing the hand over the incision with the patient in the dorsal position, and then asking her to raise herself, when it will be found that the muscles are not united and there is not infrequently a bulging produced along the line of the incision. For all these reasons I have become a strong advocate of "early rising" whenever permissible. I do not, however, believe in permitting patients to leave the hospital or nursing home too soon, for it is to their interest to be kept under observation until they are able to walk with confidence. The practice of "early getting up" and "early getting out" is not to be recommended.

As the use of a catheter, especially if not skilful, causes both pain and discomfort, every effort should be made to favour the natural action of the bladder, whilst the danger of infection is an additional reason for avoiding a catheter. The removal of the Michel clips and the through-and-through sutures should be practically painless, if properly done. The early removal of the through-and-through sutures deprives the wound of the advantages of a splint, whereas if they are not removed and the patient gets up, firmer union is obtained. It only remains to be added that the dressing of antiseptic gauze fixed in position by collodion is removed after the collodion is dissolved by acetone, thus rendering the removal painless.

#### Vaginal Operations.

The routine employment of douches after vaginal operations is not to be recommended. Indeed, the less that is done in the way of local treatment or manipulation the better for the patient. The use of an antiseptic "wash" after defecation or micturition is helpful in favouring local cleanliness, and the employment of a special dusting powder favours dryness and relieves pain.

To the patient the most dreaded event is the removal of the perineal stitches, but if these are tied over small pieces of fine india-rubber tubing the removal of the stitches is painless. Where stitches have become embedded through constriction and subsequent oedema their removal may not only be very difficult, but very painful.

Both in incomplete and especially in complete perineal tears I believe it is best to leave the bowels undisturbed for four or five days in order that healing may be uninterrupted.

The other details in the after-treatment of vaginal operations should always be carried out so as to avoid pain and discomfort to the patient. A longer period of rest must be enjoined after operations for genital prolapse, in order that the newly united tissues may become thoroughly consolidated before the erect position is assumed. It is wise to keep such patients in bed for at least three weeks.

Although I must plead guilty to having dealt with what may be regarded as trivialities, yet, after all, it is the little things that matter. Too often it is forgotten that an operation is to the surgeon but a part of his daily work—to the patient it is a great adventure.

#### REFERENCE.

BRITISH MEDICAL JOURNAL, March 9th, 1918, p. 277.

## A STUDY OF THE EFFICIENCY OF STERILIZATION OF DRESSINGS.

BY

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### INTRODUCTORY NOTE

BY

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THE honorary surgical staff of the Jessop Hospital, Sheffield, watched the experiments described in the paper by Mr. R. J. B. Hall and Mr. A. W. Chapman with great interest. They were satisfied that the observations and deductions were correct. It is valuable to have obtained corroboration of the suspicion that the permeability by steam of surgical dressings, etc., is greatly influenced by the nature of the container and the compactness of the contents. Lightly packed hessian bags are evidently much more easily sterilized than tightly packed metal drums.

However, the chief interest lies in Mr. Chapman's clever device for detecting not only the highest temperature reached, but the duration of time for which that temperature has existed. Most surgeons must have desired such a control. Here it is to hand, and it can be easily and inexpensively employed, as the tubes only cost 40s. to 50s. a gross.

At the Jessop Hospital these controls have been constantly employed for over a year and the surgical staff derive great comfort from their use. They take this opportunity of thanking Mr. Chapman and Mr. Hall for the skill and trouble displayed by them in inventing the control and in elucidating the details of its correct use.

#### OBJECT OF INVESTIGATION.

If a package or drum of dressings is to be sterilized efficiently the steam must penetrate to the centre of the package and raise it to a temperature sufficiently high to destroy any micro-organisms present. In addition to the occasional use of maximum thermometers, many tests have been employed to indicate the temperature in the centre of the dressings. Usually they depend on the fusion or rapid colour change of an organic compound, or, more recently, on the fusion of small pieces of standard alloys.<sup>1</sup>

If complete security is to be attained, the materials to be sterilized must not only be raised to a sufficiently high temperature, but must be kept at that temperature for a certain length of time. All the tests previously employed suffer from the common disadvantage of recording only the maximum temperature in the dressings, without giving any indication of how long it has been maintained. A simple type of indicator has been devised, the reading of which depend both on temperature and time, and hence give a more trustworthy index of the efficiency of sterilization than one recording temperature alone.\*

#### Indicator for Checking Sterilization.

The indicator consists of a small, stout, sealed glass tube containing a few drops of a standard solution of glucose and sulphuric acid. When heated to a sufficiently high temperature the solution slowly darkens in colour and finally chars. The concentrations of acid and glucose are so adjusted that at 212° F. the change in colour is very slow, whilst at 239° F. the solution becomes straw-coloured after five minutes, bright yellow after ten minutes, deep brown after twenty minutes, and nearly black after thirty minutes.

A series of experiments was carried out to determine whether the colour developed in the test solution was a satisfactory index of sterility under the ordinary conditions employed for dressings. A number of sterilizing drums,

\*The device is made and sold by Messrs Albert Browne, Ltd., Chancery Street, J.

were packed with gamgee tissue and towels, some tightly, others loosely, and among the contents of each drum one or more of the control tubes were enclosed. Beside each control tube was placed a small glass tube containing a sporing broth culture of *Bacillus subtilis*. The drums were treated at various pressures for different times in a pressure steam sterilizer and then opened. The control tubes were matched against a colour scale prepared from tubes heated at 239° F. for known times, and the culture tubes were opened under aseptic conditions and subcultured to test for sterility. In all, 47 comparisons were carried out, the results of which are summarized in Table I.

TABLE I.

Group.	Number of Tests.	Subculture Results.	
		Sterile.	Growth of <i>B. subtilis</i> .
A. Colour of control tube indicates exposure to 239° F. of 20 minutes or more	24	23	1(?)
B. Colour of control tube indicates exposure to 239° F. of between 10 and 20 minutes	9	7	2
C. Colour of control tube indicates exposure to 239° F. of less than 10 minutes	14	0	14

It was therefore concluded that when the colour of a control tube enclosed in a package of dressings corresponded with exposure to 239° F. for not less than twenty minutes, the material had been efficiently sterilized, whilst a lighter colour indicated at best doubtful efficiency.

#### Factors Influencing the Penetration of Steam into Dressings.

A few preliminary tests showed that under ordinary conditions steam frequently fails to penetrate to the centre of a drum of dressings even when these are not very tightly packed. This observation has recently been confirmed by Black.<sup>1</sup>

Experiments were accordingly carried out to determine the factors influencing the penetration of the steam through the dressings. It was found that the tightness of packing was one of the most important. How tightly a drum may be packed with safety depends on various considerations, such as size of the drum, the degree of evacuation attainable, the nature of the material to be sterilized, and the pressure of steam and duration of heating which can be employed without damaging the outer layers of dressings. Efficiency can only be attained by trial in each case, but the following experiment illustrates the bad effect of packing too tightly.

#### Experiment on Packing.

Three metal drums, each 11 by 9 by 9 inches, were packed evenly with gamgee tissue. The drum which was most tightly packed contained roughly twice as much as that most loosely packed. Control tubes were placed in each drum in the positions indicated in the table and in some cases were accompanied by small maximum thermometers. A control tube and thermometer were also placed unprotected inside the sterilizer to afford a check on the conditions outside the drums. All three drums were sterilized simultaneously. The sterilizer was first evacuated to a negative pressure of 16 inches of mercury, and steam was then admitted. The process was completed by drying in a current of hot air for one hour. The results obtained are shown in Table II, the control tube readings being expressed as number of minutes' exposure to 239° F.

It will be seen that whilst it was possible to obtain adequate penetration of the steam even into the most tightly packed drum, the length of time necessary to produce efficient sterilization in this case was so long that the outer layers of material would soon be damaged by repeated treatments. Similar experiments with linen towels and cotton abdominal sheets yielded completely analogous results.

#### Comparison of Drums and Bags.

Experiment showed that, within the limits found in the types of drum commonly used, variation in the area of the holes for the entrance of steam made little difference to the penetration. When, however, the dressings were enclosed in a hessian bag of similar size and shape to the drum,

TABLE II.

Drum and Weight of Contents.	Position of Control Tube and Thermometer.	Heating 1.		Heating 2.		Heating 3.	
		20 mins. at 15 lb.		20 mins. at 20 lb.		1 hour at 20 lb.	
		Max. Temp.	Tube Reading (mins.).	Max. Temp.	Tube Reading (mins.).	Max. Temp.	Tube Reading (mins.).
A.—1 lb. 12 oz.	1. Middle of drum one-third way up	235	10	246	10		
	2. Middle of drum two-thirds way up	213	20	243	10		
	3. Edge of drum against holes at side	—	20	—	30+		
B.—2 lb. 10 oz.	4. Middle of drum one-third way up	173	2	199	6		
	5. Middle of drum two-thirds way up	204	4	205	8		
	6. Edge of drum against holes at side	—	30+	—	30+		
C.—4 lb.	7. Middle of drum one-third way up	176	2	181	4	266	30+
	8. Middle of drum two-thirds way up	176	4	187	4	251	30+
	9. Edge of drum against holes at side	—	30	—	30+	—	—
Control	Uncovered in sterilizer	246	30	257	30+	263	30+

the increased area available for the entrance of the steam resulted in greatly increased penetration. There can be no doubt that, whatever the disadvantage of bags for storage purposes, they are much more efficient than metal drums for the actual sterilizing process.

#### Conclusions.

To ensure efficient sterilization it is necessary that the articles be packed loosely in bags or in adequately perforated drums. The pressure of steam and time of sterilization must be adjusted according to the material being treated so as to ensure complete penetration without damage to the goods.

Satisfactory control of the process can best be assured by placing in the centre of the materials an indicator such as that described, the changes in which depend both on temperature attained and the duration of exposure to that temperature.

We desire to express our thanks to Miss C. D. Tingle, M.B., Ch.B., who kindly conducted all the bacteriological examinations.

#### REFERENCE.

<sup>1</sup> Black: A Weak Point in Sterilizing Methods, *British Medical Journal*, 1925, 1, 230.

## A CLINICAL STUDY OF ENCEPHALITIS LETHARGICA.

BASED ON SIXTY-TWO CASES.\*

BY

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The present outbreak of encephalitis lethargica was admirably described by Von Economo<sup>1</sup> in May, 1917, in a classical description in which somnolence, ophthalmoplegia, and profound asthenia are given as diagnostic criteria. It must not, however, be forgotten that even in April, 1917, Cruchet, Montier, and Calmette recorded a series of 40 cases of "subacute encephalo-mylitis" before the Société Médicale des Hôpitaux de Paris<sup>2</sup>; these cases had occurred in the winters of 1915-16 and 1916-17. Thus the disease was recorded in France and Austria almost at the same moment.

Dr. Crookshank<sup>3</sup> traces the disease back to the time of Hippocrates, and shows that during the last 450 years there have been a number of epidemics in various countries of Europe. It is worthy of note that during the twenty or

\* A paper recently read before the Liverpool Medical Institution.



thirty years prior to 1917 several isolated cases of encephalitis had been described, but their significance was not detected at the time.<sup>4</sup>

The epidemic nature of encephalitis lethargica indicates that the disease is due to a specific organism. The work of Loewe and Strauss, confirmed by Thalhimer, Levnditi, Harvier, McIntosh, Turnbull, Ottolenghi, D'Antona, Toniatti, and others, merits the highest commendation of having established the closest relationship between organism and disease.<sup>5</sup> The two first claim to have discovered the specific organism. Crookshank and other authorities have drawn attention to the relation of outbreaks of encephalitis with epidemics of influenza. I would suggest that the obscure conditions which favour an epidemic of one disease may at times also favour the outbreak of the other. It remains for the bacteriologists to complete the separation of the two diseases.

Clinically, it is to be noted that the headache of influenza is usually frontal, whereas that of encephalitis is not uncommonly occipital. Moreover, not infrequently the feverish commencement of a case of this complaint may be labelled influenza—especially if the two diseases are coincident. Undoubtedly the majority of the cases of encephalitis on which this paper is based have occurred when influenza has been conspicuous by its absence, and in none of them has a history of true influenza in the individual or his family been proved. It appears to me that the headache of influenza may be a form of influenza encephalitis.

The infectivity of the disease is apparently very low, but, as Dr. Stallybrass<sup>6</sup> has recorded, a few instances of severe infection have occurred in institutions, and, as he says, "pointed to the possibilities of the disease." During this year I have seen four instances of more than one patient in a family affected with the disease:

A young married woman was suffering from a severe form of the hyperkinetic variety; her mother complained of headache, lethargy, and weakness, accompanied by nystagmus, tremor, and paresis in the right hand; and the grandmother had headache, lethargy, nystagmus, and ptosis.

A schoolboy, aged 12, developed an acute pharyngitis, headache, and fever, followed shortly by sleepiness and delirium, when ptosis, squint, and nystagmus became evident. A few days later his mother became ill with headache, drowsiness, delirium, and nystagmus.

A man and his stepson in one house, and two women and a baby in another, were affected about the same time.

Five of these cases, though showing quite definite symptoms, were mild, and should be classed in the abortive group. They occurred in Dr. McNeil's practice. It is probable that many people suffering from the abortive type exist, but are not detected.

Most authorities think that the mode of entry of the organism is by one or other mucous membrane, most probably the mucosa of the naso-pharynx as demonstrated by Strauss. In many of my cases severe pharyngitis has been found. In one patient acute rhinitis with haemorrhage, in another severe stomatitis, in a third intense conjunctivitis, and in four diarrhoea occurred at the commencement of the illness.

Moreover, the various cases can generally be separated into an acute, subacute, or chronic variety of the disease. The acute and subacute varieties are in the great preponderance of cases that interest us here, but three at least may be classified as chronic. Wimmer has just published an interesting monograph<sup>7</sup> on chronic epidemic encephalitis, in which he truly says that "the cases may be and often

are of a chronic and insidious nature from the very beginning." In other words, chronic encephalitis may be said to be an encephalitis with non-febrile course. There is no doubt that we are now meeting with patients whose illness begins with a gradual and insidious onset, in which there is no history of fever, and which appear to be very chronic in type. Such is case No. 50, who states that her condition began gradually, without any fever for several months, and that she has been ill for two or more years. At what date an acute or subacute case with prolonged symptoms should be called chronic is sure to be a debatable question.

There seems to be no discrimination between the sexes: in these cases there have been 26 males and 36 females. The annual incidence of these patients is:

Annual Incidence.			
Year.	Cases.	Year.	Cases.
1919 ...	2	1922 ...	3
1920 ...	1	1923 ...	13
1921 ...	2	1924 ...	41

It is considered that after adult life is reached there is a diminishing liability to infection. The age incidence of these cases according to decades illustrates this pretty clearly, but at the same time it also strongly demonstrates that no age is immune: the youngest patient was 14 months, and the oldest 82 years of age.

Age Incidence in Decades.			
Age.	Cases.	Age.	Cases.
0-10 ...	4	50-60 ...	9
10-20 ...	15	60-70 ...	4
20-30 ...	14	70-80 ...	1
30-40 ...	7	80 ...	1
40-50 ...	7		

The mode of onset is very variable: frequently it is sudden.

For instance, Case 37 was struck down with headache and giddiness whilst riding a bicycle, and was found lying by the roadside in a collapsed condition. He was found to be suffering from stupor, delirium, and pyrexia. Another case, No. 61, complained of headache, went off to sleep at her work, and could not keep awake when roused. A third case, No. 18, after previous headache, became suddenly semi-conscious and appeared to be suffering from apoplexy, until it was found that he could be roused and move his limbs. Case No. 13, a woman aged 19, returned home from work and suddenly developed twitching of the legs, followed a day or two later by twitching of the arms, delirium, sleeplessness, and restlessness. In fact, she was an example of the severe hyperkinetic group. The sudden onset of two ataxic cases is mentioned later.

Other cases begin with fever, headache, and drowsiness. Thus, of 62 cases, 27 give a history of sudden onset; 15 an onset which could be described as quick (within eight days); and in 20 cases the onset was over eight days, and they are therefore classified as gradual.

Case No. 47, a woman aged 21, who had marked Parkinsonian syndrome with monotonous voice, twitching of the limbs, and tremor of the tongue, gave a history of gradual onset of many months' duration (Fig. 1).

Case No. 48, a well developed girl aged 15, complained of sore throat, feverishness, and depression for three weeks before the definite acute symptoms showed themselves.

Case No. 50, a woman aged 67, stated that her condition of lethargy, nystagmus, partial ptosis, Parkinsonian syndrome, and rigidity had taken months to develop (Fig. 2).

It is extremely difficult to classify the cases of encephalitis lethargica into different groups or types. The classification given by the American Association of Research appeals to me as best covering the ground, therefore I adopt it.

#### Clinical Types.

- I. Somnolent-ophthalmoplegic type (febrile or afebrile).
- II. The paralytic (akinetic or hypokinetic) type.
- III. The amyostatic type (Parkinson-like and cataleptic syndromes).
- IV. The hyperkinetic type (myoclonic, choreic, and epileptic forms).



FIG. 1.—Case 47.

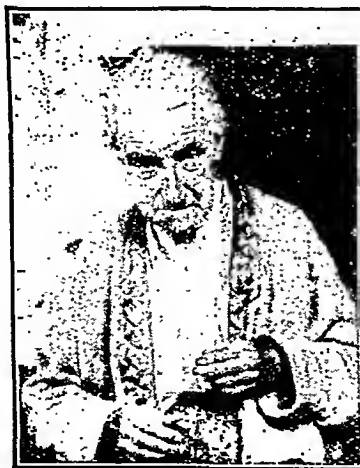


FIG. 2.—Case 50.

- V. The psychotic type (delirious, maniacal, and depressive forms).  
 VI. The hyperalgesic type (painful forms).  
 VII. The tabetic type (Argyll Robertson pupils with loss of deep reflexes and sometimes with lancinating pains).  
 VIII. The ataxic type.  
 IX. The abortive type (formes frustes: imperfect, rudimentary, and ambulatory forms).

X. The aberrant type (intestinal, cutaneous, vagal forms, etc.).  
 Even with that grouping it is noted that individual cases may belong to two groups, either at the same time or at different periods of illness. Thus, Case 14 belonged to the hyperkinetic and ataxic groups, and Case 16 at one time to the hyperkinetic and later on to the amyostatic group.

The most common type of case has been a combination of the somnolent-ophthalmic and amyostatic types—namely, patients who suffered from lethargy or stupor, external ophthalmoplegia (of which nystagmus, ptosis, squint, and diplopia were evidence, the frequency being in the order in which they have been named), and who had the Parkinsonian syndrome more or less marked, but without tremor. Delirium in a greater or lesser degree was a noticeable feature in many of these cases. In three instances the patients were sleepless and restless at night and drowsy during the day. This condition is more frequently found in children, as in a boy aged 8—Case 54 (Fig. 3). Internal ophthalmoplegia is also sometimes present, and was the only ocular disturbance in Case 61.

One patient, Case 16, was choreic, restless, and sleepless for one week, and then changed into the type mentioned above; in the first stage her reflexes were exaggerated, and in the later stage they were diminished. Case 53 was the reverse type, as he was at first somnolent and later hyperkinetic.

Of the 62 cases, the first two, middle-aged men, were affected in 1919. Both were a combination of the paralytic and amyostatic types with Parkinson's syndrome (minus athetosis) and had cataleptic stupor well marked. Ptosis, nystagmus, and some squint with sluggish knee-jerks confirmed the diagnosis. Both patients dropped off to sleep during the examination, and showed no interest beyond asking in a monotonous whisper if they would recover. A similar case (No. 12), also a male, aged 51, was an in-patient in my wards in 1923. He lay in a deep stupor—almost coma—just swallowing liquids for several weeks, with expressionless face, dropped jaw, double ptosis, and paralysis of the left external rectus.

One other such case should be mentioned, an old gentleman aged 68 (Case 18), who had small pupils, marked ptosis, nystagmus, and lay in a cataleptic stupor from which he could only be roused by shouting. His temperature was 102°, and he gradually passed into deep coma and died. (Dr. Robertson Dunn's patient.)

Early in 1923 Group IV, the hyperkinetic type of case, became evident, in which severe restlessness, insomnia, choreic movements, rhythmical twitches of muscles and of the limbs, were pronounced symptoms. Of 17 such patients, 3 showed marked dyspnoea. One (Case 13) had respirations of 70 to 80 a minute for eleven weeks, and another

Two patients had marked myoclonic contractions of the lower jaw muscles, the rhythm of which varied from time to time, but was more or less constant except during sleep. Marked depression was found in two cases, and this quickly passed off under treatment (Cases 48 and 54—Chart 2). Mania was present in three cases only.

One patient only can be classed in Group VI—the hyperalgesic type (Case 11). This was a man, aged 33, who was suffering from the usual symptoms, but his chief complaint was shooting pains down his limbs and in his back and head. This man steadily improved, and after three months was able to leave the hospital, free from pain and convalescent.

Two remarkable cases (Nos. 14 and 41) may be classed under Group VIII, the ataxic type. Both were young women, and both had a sudden onset which included giddiness.

One, a lady stenographer, left her office on Saturday at midday, and remembered nothing further till she recovered consciousness in bed in my ward. In the meantime she had gone to the Everton football match, paid her entrance money, taken her place on the stand, and, whilst sitting there, had fallen and been picked up unconscious and brought in an ambulance to the hospital. On admission there was no evidence of injury, and it was possible to rouse her to answer questions in a slow monotonous voice. Her face was expressionless, her limbs were a little stiff with some twitching, but no real paralysis. Nystagmus and ptosis were present. She ultimately recovered and returned to her duties.

The other patient, whilst working in a garden became dizzy, had headache, squint, diplopia, and nystagmus. Later she became an in-patient and it was found that she had definite ataxia when standing with her eyes shut, and also ataxia in her arms. The other symptoms were those of Type I. (Dr. Blair's patient.)

Seven instances of Group IX have been met with, in which the symptoms have been slight and abortive. These patients were walking about, and all complained of headache, lethargy, and showed signs of nystagmus. Five of them had the Parkinson face. A few weeks' rest and treatment completed their recovery, though signs of nystagmus remained for a little time afterwards. One patient had troublesome hiccup of two weeks' duration, and thus should be classed in Group X.

The Parkinson syndrome, so characteristic and seen in nearly all of these cases of encephalitis, may be described as the typical expressionless face, the stiff expressionless gait, in which the patient moves with short steps, arms motionless by his side, head fixed straight to the front and not moving. The voice is frequently expressionless and monotonous. Athetosis was only seen in a small proportion of cases.

Delirium was present in a marked degree in 24 of the patients and was of an occupational character. For instance, a small girl, aged 15, the eldest of a large family, rolled up a towel and rocked it in her arms as though



FIG. 3.—Case 54.

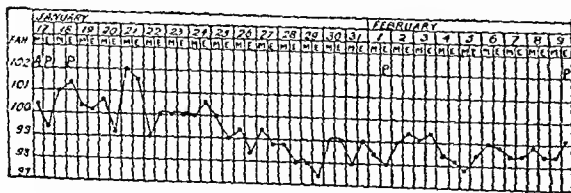


CHART 1.—A, admission; P, lumbar puncture.

(Case 8) of 30 or over for fourteen weeks. It was noticeable in these two most dyspnoeic patients that a rhythmical contraction of the right arm and leg occurred with each inspiration. Several cases had retraction of the head with or without rigidity and stiffness in the limbs; in one the deep reflexes were exaggerated, and Kernig's and Babinski's signs were present. Lumbar puncture was performed on 6 of these patients. In each instance a clear colourless fluid was withdrawn under pressure, in which no micro-organisms were found, but an increase in the number of mononuclear cells (Chart 1).

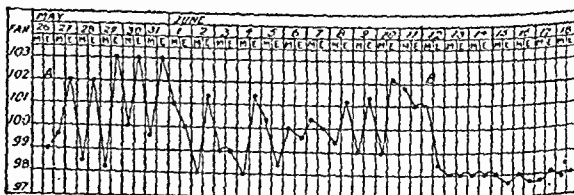


CHART 2.—Case 48.—Patient very depressed; Parkinson syndrome, nystagmus, and great sleepiness; improved on administration of sodium salicylate gr. x every three hours. Temperature dropped at B when dose was doubled, and symptoms correspondingly improved.

"nursing a baby." A joiner, also a local preacher, "held forth in prayer"; a publican fond of Llangollen was seen making the signs of traffic control, and stated that he imagined "he was in the middle of the main street of Llangollen controlling all the transport of the country, which had become congested there, and which the local police were unable to control." His wife told us that he was an ex-police sergeant, an expert on point duty. Thus, the delirium is connected with the patient's habitual or

favourite occupation, and is usually remembered by him when roused up.

One man, however, though witty and sensible when roused out of his delirium, became so violent, although the other symptoms were improving, that he had to be sent to Mill Road Infirmary, and thence to Rainhill Asylum. On his return, perfectly recovered, he did not remember a single incident of the whole of his illness after the severe occipital pain and dizziness with which it commenced.

It is remarkable how readily a patient can be roused from his delirium and remain sensible whilst spoken to. In this way it is not unlike the delirium of delirium tremens. I would suggest that delirium tremens is an encephalitis due to the toxic effect of alcohol.

Nystagmus, well or slightly marked, was found in about 90 per cent. of the cases. It was noted in many instances that the eyeball followed the finger sluggishly, and frequently returned to the centre where it was at rest. Thus a sort of nystagmoid movement was made by the patient in his effort to follow the test.

Temperature is usually found early in the severe type of case, but does not generally extend more than a week or ten days, and is not as a rule above 100° or 101°. A few instances of a more severe or prolonged fever have occurred. It is noteworthy how many—over 50 per cent.—of the patients have shown no fever; but in several, whether a temperature was present or not, the pulse rate was considerably quickened.

Four patients had marked deafness during part of their illness, two being almost totally deaf, one of whom (Case 49, aged 34) was transferred to my care by Dr. Courtenay Yorko at the Stanley Hospital. She had marked lethargy, slight nystagmus with lagging of the eyeball, and some internal strabismus. The Parkinson syndrome was present, with sleeplessness and tremor of the right hand. She has steadily though slowly improved under three months' treatment, and all the symptoms have passed away except considerable deafness. Persistent deafness of this kind is rare. In the other patients the deafness was only of short duration.

The complications which occurred were not numerous: septic sores of an intractable form were found on the fingers of one patient, sloughing bedsores in another. Herpes was noted three times, and pressure erythema twice. Nephritis was a complication in one case. Recrudescence of symptoms occurred or recurred in several patients. The symptoms were observed to become milder in each recurring attack.

#### TREATMENT.

The treatment I have found most effective is sodium salicylate 15 to 30 grains every three or four hours. In those cases where there are symptoms of insomnia and restlessness I usually add 5 to 10 grains of bromide and iodide of potassium. Influenza and acute rheumatism respond so well to salicylates that I was encouraged to hope that it would have a similar effect in encephalitis. Moreover, I treat my cases of Sydenham's chorea with this drug, with satisfactory results. Therefore, in the chorea of encephalitis, which is due to the same lesion but another virus, I felt the same drug might have the same good effect. I think the results have been satisfactory, and though signs of change of character and change of affection are noted in the convalescence of a few patients, I believe that the many disabilities and after-effects of this disease will be overcome with a persistence of treatment followed by a return to former environment and former mode of life.

As already stated, in those cases accompanied by meningeal symptoms, lumbar puncture has been performed with considerable benefit. I however look forward to the day when an antitoxic serum or some powerful vaccine will be produced from the specific organism itself.

#### RESULTS.

It is almost impossible within so short a time of the 62 patients' illness to give a strict account of their recovery. At present they can be classified as follows:

4 deaths—1 two days after admission, with coma; 1 seven days after admission, with coma; 1 seven days after admission, with toxæmia, sloughing bedsores, and septic ulcers in the mouth, after lying in bed in lodgings neglected for two weeks; 1 after five days' illness, with coma.

- 1 has neurasthenia of sixteen months' duration.
- 2 show change of affection: "affectionate father intolerant to children"; "wife's loss of affection for husband." Both of these patients are gradually regaining their normal states.
- 2 remain somewhat lethargic and inclined to loaf about instead of getting to work.
- 4 have altered character: 2 are not so active as formerly; 1 is inclined to be rude and cheeky; 1 is irritable instead of calm and placid, but is improving.
- 1 has altered handwriting—small and cramped instead of large and bold.
- 1 still remains deaf; otherwise she has recovered.
- 10 are under treatment, all improving—one a recrudescence of a former attack twelve months ago.
- 3 are chronic cases, all showing improvement: one change of character returning to normal, another showing some Parkinsonian syndrome but otherwise recovered, and a third still showing the Parkinsonian syndrome, though much less pronounced, and with less rigidity.
- 4 have recovered—any change not known.
- 30 recovery complete, including 7 abortive cases.

The duration of the illness was, with a few exceptions, two to four months.

This result, though good, shows a marked tendency for some physical defect of nervous origin to occur as a result of this disease, and, what is more serious, change of affection or character. These changes may be temporary or permanent. At present I am unable to say how many of the 24 people who have one or other of these disabilities will have a permanent alteration in character or affection. Nevertheless, I feel it is most important that the medical officers in charge of these patients should encourage them when the illness is over, and, after a prolonged change of air, to get back to their former work. The neurasthenic young lady would, I am confident, be leading a healthy normal life, attending dances and cinemas, if it were not for her devoted mother, who will not tolerate a strict nurse or carry out strict discipline. The same applies to one of the lethargic men, who will not return to work. His wife and daughter do not encourage him to get back.

I am of opinion that some of the mental changes which are considered as sequelae are due to a too lenient treatment in convalescence. For example, the alleged kleptomania in a post-encephalitic boy, who, to demonstrate his complaint when being taken before the magistrate for stealing, lifted a lamp off a police ambulance, shows rather that the lad was an expert in legal defence than a mental deficient.

It is noted that some patients for months have worn the expressionless face and walked with the stiff expressionless gait, but gradually their expressions have become natural, and they have themselves become alert. One patient who left hospital with the Parkinsonian syndrome well marked returned to the out-patients' department a few weeks later cheerful and smiling.

#### DIAGNOSIS.

In spite of the number of clinical forms met with in epidemic encephalitis there is a marked tendency to the repetition of certain characteristic types, and one type usually predominates during any particular epidemic. Thus, in 1919 and 1920 the somnolent-ophthalmic and amyostatic prevailed, and in 1923 the hyperkinetic. These types are the most common.

The occurrence in a patient of one or more of the following symptoms should make one think of the possible existence of the disease: (1) pathological drowsiness (lethargy), (2) cerebral nerve paralysis (especially ophthalmoplegia), (3) an acutely developing Parkinsonian syndrome, (4) a cataplectic state, (5) a myoclonia, (6) a chorea, (7) pupillary disturbances, (8) violent neuralgia, (9) a poliomyelitic syndrome, (10) a peculiar delirium, (11) a psychotic state, or (12) signs of meningeal irritation in times when encephalitis is epidemic.

The differential diagnosis in these cases has been: apoplexy 2, hæmorrhage in pons in 1, meningitis in 5, progressive bulbar paralysis in 1, chorea gravis in 1, delirium tremens in 3, myasthenia gravis in 2, catalepsy or epidemic stupor in 3, neurasthenia and paralysis agitans in several. The most difficult to diagnose was the case which simulated bulbar paralysis; the absence of atrophy of the tongue, together with the improvement of dysphagia and the paresis of the facial muscles, confirmed the diagnosis of encephalitis lethargica.

## PROGNOSIS.

It seems almost impossible to give any data on which to form a sound prognosis. My impression has been that the hyperkinetic is more virulent in type, and more difficult to treat, than the somnolent-ophthalmic or amyostatic type. I have seen several deeply cataleptic cases recover. On the other hand, the severe paralytic type, which simulates cerebral haemorrhage, is probably the most serious of all.

The prognosis is always grave, as noted by Faigular Buzzard<sup>2</sup> and others. My percentage of complete recoveries up to date is only 50. I would, however, strike a sanguine note, always admitting that virulent types and virulent cases do occur. One patient with mania of a most violent and acute type completely recovered in all respects, and a lad with change of character for twelve months has become normal. The Parkinsonian facies has already disappeared in over 50 per cent. of these cases.

I fear that there are many conclusions in this paper left as it were "in the air." I must plead that the disease "though old is new," and therefore it is premature to form other than hypothetical conclusions in many important details.

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## THREE SIMULTANEOUS EMPYEMATA FOLLOWING PNEUMONIA.

BY

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On January 3rd P. S., aged 29, a bus driver, developed severe pneumonia, which, when I saw him on January 11th, had caused complete consolidation of the whole of the right lung and of the left lower lobe. The temperature became normal on January 12th, and so remained until January 21st, when it rose to 100°; three days later his medical attendant, Dr. Hubert Cox, reported that he had developed signs of empyema on both sides.

The patient was admitted to Queen's Hospital, Birmingham, on the morning of January 25th. He was cyanosed,



SKIAGRAM No. 1.

breathed rapidly and with great difficulty, and was extremely ill; the temperature was normal. He had signs of a large empyema at the left base, another over the front of the right lung, and a third at the right base. The axillary region was resonant.

Mr. Gemmill saw the patient with me and decided to operate immediately on the largest collection—namely, the left empyema—which was drained after resection of a rib; 50 ounces of thick greenish pus was removed; microscopically and by culture the pus showed pneumococci and pneumobacillus, and from it a vaccine was made and administered



SKIAGRAM No. 2.

subsequently at intervals of a few days. On January 31st the empyema at the right base was aspirated and 27 ounces of pus withdrawn.

On February 7th skiagram No. 1 was taken; it shows the tube in the left chest, the round shadow of the empyema over the front of the right lung, and the denser shadow of the collection at the right base.

On February 10th the anterior collection was aspirated, but only 7 ounces of pus obtained. Skiagram No. 2, taken on February 13th, shows how much pus remained un aspirated. By February 16th the patient's general condition had so much improved and the expansion of the left lung was so satisfactory that we decided to drain the remainder of the right basal collection, and after resection of a rib Mr. Gemmill completely evacuated it.

A few hours after the patient had returned from the operating theatre a discharge of 26 ounces of pus suddenly occurred through the tube. The anterior empyema had evacuated itself.

Thereafter the patient's progress was rapid: both lungs expanded well, the tubes were removed, and no abnormal physical signs remained. Skiagram No. 3, taken on March



SKIAGRAM No. 3.

24th, two months after admission, shows no abnormality. The patient left the hospital looking fat and well, feeling better, he said, than he had ever felt in his life.

The result was very satisfactory; whether we went the right way to get it is quite another question.

## INSULIN TREATMENT OF DIABETES IN PHTHISIS.

BY

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CONTINENTAL and American opinions on insulin treatment of diabetes in phthisis have been conflicting. The following cases are therefore of interest. The prognosis of progressive or ulcerative phthisis with diabetes mellitus is always very grave. Leyton recorded 5 cases, of whom 4 died without responding to controlled dietetic treatment. In two cases treated with ladder diet in a sanatorium in 1918 the urine was never freed of sugar or acetone; one died of coma and the other of extreme wasting. The cases since treated with insulin are briefly as follows.

CASE I.—A girl, aged 14, with active pulmonary tuberculosis, first diagnosed in 1922. When first seen she weighed 4 st. 10 lb., and had in the urine 9 per cent. sugar with diacetic acid and acetone. Polyuria and wasting continued with ketosis on Graham's diet. X rays showed consolidation of the left upper lobe, and enlargement of the peribronchial glands with fibrosis. Early in 1923 her condition was so much worse that one felt certain that to her the advent of insulin was a real boon. In May, 1923, the fasting blood sugar was 0.18. Insulin injections were started on July 9th, at first 5 to 10 units thrice weekly. Soon the necessity for more frequent injections was recognized and financial help for the cost of the remedy obtained. In August, 1923, the urine contained 2.8 per cent. sugar; on August 21st, with two doses of 60 and 30 units of insulin, she was sugar-free for the first time. About this period she could not tolerate 5 grams of greens, and 70 to 80 units were necessary to maintain the urine sugar-free. She was able slowly to increase the carbohydrate tolerance, and by October she had a diet of 400 calories with 10 grams of carbohydrate. Her weight was now over 5 st. The blood-sugar estimate was 0.074, though previously it was as high as 0.320. In April, 1923, the lenses were swollen and cataractous, and in October Mr. Whitehead of the Leeds General Infirmary found considerable opacity in both the lenses. Her sight has now considerably improved. The physical signs of the chest are quite quiescent and her general health is very satisfactory. Early during 1924 she had fifteen or sixteen injections monthly of 10 or 20 units and a diet of 700 calories containing 16 grams of carbohydrate. With any excess of blood sugar the dose was increased. Since April, 1924, her diet consisted of 4 oz. milk, 2 oz. fish, 4 oz. meat, 4 oz. greens, 2 eggs, 3/4 oz. olive oil, 2 oz. bacon, 1/2 oz. bread, 3/4 oz. butter, and beef-teen—total calories 911, proteins being 61 1/2 grams, carbohydrates 19 grams, fats 65 1/2 grams. At present only once or twice a week she gets about 5 units of insulin.

CASE II.—Male, aged 31, height 5 ft. 2 1/2 in., weight 9 st. 5 1/2 lb. before treatment, having previously lost a stone in weight. Tuberculosis of lung was suspected by his own doctor whilst the patient was undergoing dietetic treatment for diabetes. On examination there was clinical evidence of early infiltration; this was confirmed by x rays. He had 2 per cent. sugar in the urine with acetone and diacetic acid. The blood-sugar estimation in September, 1923, was 0.258. Diet failing, 20 to 30 units of insulin were injected twice daily. The dosage had to be doubled before the urine became sugar-free with a carbohydrate tolerance of 5 grams. Two weeks after the patient only needed 5 units two or three times weekly, and remained sugar-free on a carbohydrate diet of 20 grams with proteins and fats to make up 1,250 calories. The blood sugar varied about this period from 0.122 to 0.14. Later he needed only fortnightly injections, and was able to resume work early in 1924; he continues to maintain his health. For over six months he has received no injections. He is 10 st. in weight and his lung condition is quite quiescent. He has been on a diet of over 1,360 calories; cream 2 oz., greens 12 oz., 2 eggs, fish 4 oz., meat 4 oz., bacon 2 oz., bread 1 oz., olive oil 1 oz., butter 3/4 oz., and beef-teen.

CASE III.—Male, with incipient pulmonary tuberculosis; he had 1 per cent. sugar in the urine in October, 1923, with blood sugar 0.262. On controlled diet he remained sugar-free for a time, but he began to lose weight. Insulin was therefore given through the National Health Insurance scheme. With 5 or 10 units two or three times weekly he was able to have a diet of 1,200 calories with 30 grams of carbohydrate. His chest condition is now quiescent and he does not need insulin at present.

CASE IV.—Male, suffering from chronic phthisis, with diabetic history of over a year when first seen. In October, 1923, the urine contained 3 1/2 per cent. sugar with acetone and diacetic acid; blood sugar 0.624. He was subject to neuritis. The Wassermann reaction was negative. Injections of insulin twice daily of as high a dose as 70 to 80 units failed to free the urine from sugar with practically starvation diet. He admitted he felt better with the injections. He did not continue the treatment owing to the expense and apparent failure to become sugar-free, except on one occasion. He is one of the cases with a long-standing history of diabetes in phthisis in which insulin may not effect a cure.

CASE V.—The patient in this case was a myxoedematous type of woman with chronic pulmonary tuberculosis and blood sugar

0.624. She had kept her general health on controlled diet without insulin for a year.

CASE VI.—Another patient with primary phthisis, with later diabetic onset, has also kept sugar-free for a year on controlled diet.

These cases leave no doubt that insulin has a part to play in diabetic phthisis, especially when a satisfactory diet is necessary to maintain resistance. Failure may occur with long-standing diabetes. In others diet alone may suffice for a time, and insulin may be tried if diet fails.

## TREATMENT OF EFFUSIONS IN ARTIFICIAL PNEUMOTHORAX.

BY

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Effusions in artificial pneumothorax may be grouped under three headings: (1) simple, (2) serous, and (3) purulent.

*Simple Effusion.*

Simple effusion into the pleura, without fever or pain, occurs in at least 50 per cent. of the cases. It is often to be recognized by x-ray examination only, and generally gives rise to no unpleasant signs or symptoms. The patient sometimes discovers it himself, on hearing a splashing noise when he moves.

*Serous Effusion.*

Serous effusion (serous pleurisy) is a frequent complication of artificial pneumothorax, and occurs in a large number of cases. It begins with pain in the side, and fever, the temperature perhaps rising to 103° or so, and the fluid gradually accumulating. In uncomplicated cases the fever generally lasts three or four weeks, falling gradually to normal, often being reabsorbed without the need for any interference. It should not be aspirated or interfered with if this can be avoided. If, however, it becomes very large and is causing discomfort, and is not being absorbed after a long period, it may sometimes be made to disappear by sweating. The patient is sweated for one hour thrice a week by means of aspirin, hot-water bottles, and so on. Should this fail, then it would be necessary to aspirate and replace the fluid with air. In any case, whether the fluid is absorbed naturally or removed, replacement should always be performed in order to prevent re-expansion of the lung and formation of adhesions which would render the continuance of a satisfactory pneumothorax impossible. It cannot be too strongly emphasized that repeated x-ray observation is necessary.

*Purulent Effusions.*

Purulent effusions may be divided into three classes.

(a) Those due to infection with the tubercle bacilli alone—in other words, a cold abscess of the pleura—are most frequently seen in cases of severe infection; they are ushered in with pain in the side and fever, which may last some weeks. The fluid is at first clear and serous-looking; it gradually becomes more turbid, and finally develops into thick pus. After some time the temperature comes down and the patient feels, and is, in good general health. It is better not to aspirate too soon, but to wait until all active symptoms have abated. The fluid should then be drawn off in small quantities at a time, at intervals of, say, a week, and replaced with air until the chest is emptied. The effusion will probably reaccumulate, and the procedure will have to be repeated perhaps many times, but in some cases it will eventually cease to reappear.

I have at present under observation three cases of cold abscess of the pleura which have been aspirated from time to time and in which the patients have remained in excellent health, and apparently are fit and strong. This fluid in each case has now become so thick that it is impossible to get it out even with the largest-sized needle. In two of the cases it extends up to the third rib, and in one case the chest is quite full. Curiously enough, these three patients are all women of about the same age (30). I am not



interfering, in the hope that the material will organize and be converted eventually into fibrous tissue, thus causing an obliteration of the lung on that side. These three patients are all in very good general health, without cough, sputum, or fever.

(b) With purulent effusions containing tubercle bacilli and certain organisms of mixed infection the same procedure is indicated—namely, aspiration and replacement by air—and often the whole process dies down and becomes passive. I have sometimes found it very useful, instead of replacing by air, to replace by oil of gomenol (10 per cent.), which seems to act as a lubricant of the pleural cavity and prevent reaccumulation of the pus. In these cases, if the mixed secondary infection is not too virulent, the whole process may eventually settle down and not give rise to severe septic poisoning.

(c) In this class may be put those cases of acute massive secondary infection of the pleural cavity, with high fever of a septic type, shivering, sweats, rapid emaciation, and all the signs of acute septic poisoning. I have had two instances of this in the last few years.

One, in a young man of 21, was due to a perforation of the lung into what was previously a successful artificial pneumothorax cavity, which rapidly became infected. Aspiration and washing out were resorted to frequently, with no effect, and finally a rib was resected and the cavity drained. An attempt was made later to close the suppurating cavity by a plastic operation, but the patient ultimately died of an acute spread of tuberculosis in the opposite lung.

The other case was a woman aged 25. A successful pneumothorax had been done on the right side for a severe acute spreading disease in the right lung. She kept quite well, except for a serous effusion, for eighteen months, but one day her temperature suddenly rose to 104°, and the fluid rapidly became purulent. It was found to contain a pure culture of pneumococcus and no other organism. The same process was resorted to as in the last case—that is to say, aspiration, washing out, and finally drainage, and a thoracoplasty—but without effect, the patient dying a day or two after the final operation.

#### Conclusions.

Regarding the treatment of fluid, I have come to the following broad conclusions.

When dealing with a serous effusion or a serous pleurisy, do not aspirate if it can possibly be avoided. The fluid will often reabsorb by itself, or may be aided by sweating the patient. If, however, it is a very big effusion, or is causing inconvenience and discomfort, or is not showing signs of disappearing after some weeks, then it should be aspirated and replaced with air, but it is a bad thing to irritate the pleura unnecessarily by needling. A simple serous effusion may easily be turned into a purulent one by frequent aspiration. At each aspiration the fluid is seen to get more and more turbid and finally to become pus. Another important maxim is not to interfere needlessly with an acute effusion—that is to say, while the temperature remains high; it is better to wait to see if the fever will come down, as it generally does except in infective cases, and to deal if necessary with the condition when it has become passive.

When removing effusions, if there is any suspicion of the lung underneath being infected with tuberculosis, always replace with air, thereby establishing a pneumothorax. Whether the fluid is absorbed or removed, careful watch should be kept by x-ray examinations and air put in as the liquid disappears, to avoid the re-expansion of the lung and the formation of adhesions which would render the continuance of the pneumothorax an impossibility.

When dealing with purulent effusions, aspirate and replace with air when necessary. Avoid washing out if possible; it is merely irritating to the pleura and has, I believe, no beneficial effect. I have seen good results obtained by replacing in these cases with oil of gomenol (10 per cent.) instead of with air. In acute infected cases, such as the two described above, there is really nothing to be done except to drain the pleura, after attempts at aspiration and washing out, etc., have failed, and then, if possible, to continue with a plastic operation at a later date. I have seen one or two recoveries in these cases, but they are always very serious and very often fatal.

## Memoranda:

### MEDICAL, SURGICAL, OBSTETRICAL

#### COMPLICATIONS OF LUMBAR PUNCTURE:

##### OPISTHOTONOS: OEDEMA OF SUBCUTANEOUS TISSUES.

In a series of 200 lumbar punctures, headache and pain running down the back of the legs were the commonest complications. The two following rarer sequelae which occurred in the series are worthy of notice because of the apprehension they aroused.

##### *Opisthotonos.*

*Case 1.*—D. V., a boy aged 9, with septic sores on his hands and feet, was admitted to hospital as a doubtful case of encephalitis. (This diagnosis was not verified.) A few hours after puncture he complained of intense headache, and within twenty-four hours his body was arched backwards almost to a semicircle and Kernig's sign was very definite. The boy was crying out with pain. There was, however, no rise of temperature or acceleration of the pulse rate. Within twelve hours the rigidity was passing off and the patient was free from symptoms on the fourth day.

*Case 2.*—O. I., a girl aged 7 years, was suffering from early tuberculous peritonitis. On account of drowsiness and headache she had been admitted to hospital as a case of encephalitis. Within twelve hours after lumbar puncture she developed marked nuchal rigidity, the legs stiffened, and the back was considerably arched. Her temperature rose to 99.5° F. and the pulse rate to 120. These symptoms were at their maximum in about twenty hours and had disappeared by the third day.

In these cases the opisthotonos occasioned the thought, "Have I introduced septic material and set up a meningitis?" As it happened the opisthotonos was an extreme manifestation of meningism, but the anxiety felt at the time was considerable.

##### *Oedema of the Subcutaneous Tissues.*

Levinson in his book on the cerebro-spinal fluid mentions this complication as not uncommon after repeated punctures. The case described is of interest because it occurred after the first puncture and the nature of the oedema was not at first apparent.

*Case 3.*—W. P., aged 2 years, had a history of drowsiness, vomiting, and diarrhoea, and was admitted to hospital certified encephalitis. (This diagnosis was afterwards altered to gastroenteritis.) The day following lumbar puncture a fluctuant swelling, the size of half an orange and with a fairly well defined margin, was noticed between the scapulae. There was no obvious oedema at the site of puncture. The child had no constitutional symptoms. A needle was inserted, with negative result. On the second day after puncture an oedematous area extended down the back and joined the swelling between the scapulae to another similar but smaller swelling over the site of puncture. Only then was it recognized that the oedema was due to a considerable leakage of cerebro-spinal fluid. The swelling subsided in four days and the child did not appear to suffer any ill effects.

JAMES L. HALLIDAY, M.D.  
(From Ruchill Fever Hospital, Glasgow.)

#### ACUTE CALCULOUS CHOLECYSTITIS IN A GIRL OF FIFTEEN.

I WOULD like to add the following to the interesting series of cases of gall stones in young subjects recently appearing in the JOURNAL.

I. C., aged 15 years, was seen with Dr. Hendrie Kirk on May 20th, 1920, with acute abdominal condition of four days' duration. Illness began with pyrexia, pain in the back, and sickness. On the third day there was considerable vomiting, and on the fourth day rigidity was noticed in the upper part of the right rectus, and persisted even after an opiate had been given. Tenderness was present, the maximum being at or just above McBurney's point. The case was thought to be one of acute appendicitis, and she was admitted to the Western Infirmary for operation.

An incision made through the right rectus just below the level of the umbilicus exposed a swollen and inflamed rounded mass below the edge of the liver, and glued to the surrounding viscera by recent fibrinous exudate. Dark green bile was drawn off by hypodermic syringe. The mass was then incised, and proved to be an acutely inflamed gall bladder containing twenty-six calculi and a quantity of debris and mucus. The calculi were pale, soft, and friable, spherical in outline, and of average diameter of 5-7 mm. They possessed a raspberry-like surface, and each seemed to be formed of a conglomeration of smaller spheres. The wall of the gall bladder was nearly a quarter of an inch thick, and the mucous membrane was

oedematous and velvety. Drainage was employed and recovery was uneventful. The bile which had been aspirated failed to show organisms in film or culture.

G. H. EMMINGTON, M.D., D.Sc.,  
Surgeon, Western Infirmary, Glasgow.

### HEREDITARY JAUNDICE.

HEREDITARY icterus is a condition which has long been recognized by the profession, but I cannot find a reference to a case where the sex of the child appears to play a part. The following case shows a striking susceptibility on the part of the female children, while the boys were more or less unaffected.

The mother, aged 41, has been subject to "fits"—presumably fainting fits—more or less all her life, but especially while she was pregnant. Her father died at a comparatively early age of tuberculosis. Her mother also "took fits." She (the patient) had several sisters who died in infancy from jaundice and convulsions.

The patient's own family has been as follows (the mother's age at the birth of each child is given in parentheses):

1. Boy; healthy. (18 years.)
2. Boy; tuberculous. Has had one or two fits. (24 years.)
3. Boy; healthy. (27 years.)
4. Boy; healthy. (30 years.)
5. Miscarriage at three months.
6. Girl; died when 23 hours old—jaundice and convulsions. (33 years.)
- 7 and 8. Twin girls. One died when 3 days old, the other when 7 days old; both had jaundice and convulsions. (3½ years.)
9. Boy (premature—8 months); healthy. (36 years.)
10. Girl; died when 7 days old—jaundice and convulsions. (41 years.)

Glaister recorded in 1879 (*Lancet*, March) a case in which a woman had 8 children, 6 of whom died of jaundice shortly after birth, but the above sex preference does not appear to have shown itself. The cause of the condition is rather obscure, no particular changes being found in liver or bile ducts, but it would be interesting to know if others have observed this curious selection of female children.

The strong tuberculous taint may play an important part; but, as I was unable to make a *post-mortem* examination in the case which I saw recently, I could not determine the state of the liver and bile passages.

Leadgate, co. Durham.

W. MURRAY TAYLOR.

## British Medical Association.

### CLINICAL AND SCIENTIFIC PROCEEDINGS.

#### OXFORD DIVISION.

A MEETING of the Oxford Division was held at the Radcliffe Infirmary on May 27th; in the absence of the President (Dr. Neill) Mr. R. H. A. WHITELOCKE was in the chair.

#### Vesical Calculus.

Mr. W. W. WAGSTAFFE read notes of a patient, aged 69, from whose bladder he had removed a mulberry type of calculus weighing 6 ounces.

This patient was admitted to hospital on April 29th, with a history of acute retention; he had had difficulty and frequency of micturition for five years, but had never been catheterized, and apart from the difficulty of micturition had had no pain. His mental condition was not very clear, so that it was not possible to get a very good history from him. His bladder was found to be acutely distended, and 32 ounces of urine was withdrawn by a gum elastic catheter, which passed quite easily. The rectal examination showed an enlarged prostate and a hard nobby mass in connexion with it. The blood urea was 220 mg. per 100 c.cm. On May 1st the bladder was opened and a large stone of the mulberry type was removed, which weighed 6 ounces. The prostate showed some enlargement of the middle lobe; as a whole it was fairly soft. The bladder was drained. Since the operation the patient improved at first, but gradually lost ground, sank, and died three and a half weeks after admission; no necropsy was permitted. The terminal condition was one of suppression of urine.

It was very exceptional to find such a large mulberry stone with no phosphatic concretions on it. The hard, nobby mass felt by the rectum was undoubtedly the stone lying in the base of the bladder, but, since the prostate was also enlarged, it was difficult to dissociate the two conditions, and the existence of the stone was not suspected before the operation. The history was entirely suggestive of prostatic enlargement and not of vesical calculus.

Another point of interest was the high blood urea, which gave a very good indication of the severity of the clinical condition, being correlated with anorexia, dry tongue, and, frequently, a confused mental condition. The blood urea test was very valuable as regards the suitability for operation of all urinary cases.

#### Typhlitis.

Mr. Wagstaffe then gave an account of a patient who was found at an operation to be suffering from the rare condition of typhlitis.

A man, aged 50, was admitted to hospital with a history of vomiting and twenty-four hours' acute pain in the right iliac fossa. For one week previously he had had slight pain in the right iliac fossa, but had continued at work. On examination he showed an indefinite mass in the right iliac fossa, but was rather tender in both right and left iliac fossae; there was some resistance in the right iliac fossa but no tenderness in the loin. His temperature was 100° and pulse 100. The diagnosis made was appendicitis, and an operation was immediately performed. On exploring the peritoneum through a Battle incision some free fluid was seen. The appendix was found to be long but not adherent, slightly thickened, but not acutely inflamed; it was removed, but was obviously not the original condition which had caused his acute illness. On further examination the caecum was found to be acutely inflamed, especially the posterior part, and parts of it were almost gangrenous. It resembled a caecum which had been in an intussusception, except that there was no trace of inflammation on the small intestine; the caecum and the ascending colon were not sufficiently mobile for this to have been the case. The caecum was thoroughly explored; no perforation was found, and the rest of the gut was also explored; nothing else abnormal was found. The pathological report was that the appendix was the seat of chronic inflammation, while the caecum was acutely inflamed. A soft rubber drain was inserted to the posterior aspect of the caecum through the operation incision; the wound healed perfectly, but there was considerable distension and constipation, which was overcome by appropriate treatment.

Inflammation of the caecum apart from inflammation of the appendix was described in the textbooks as not occurring, and a fairly extensive search of the literature had revealed no similar case. Before the publication of Fitz's paper on appendicitis in 1886 the condition of the caecum and appendix in appendicitis was not properly understood. The importance of the appendix was not appreciated and the importance of the caecum was over-estimated; but pathological conditions had not been in the least appreciated, and there was great confusion of thought. The reason of this was that these cases were rare, and they were only investigated after death, when the condition in the peritoneum cavity was that of general acute suppuration, so that it was difficult to identify the primary cause. In 1885 Hector Mackenzie, writing in the *St. Thomas's Hospital Reports*, said: "Perforation of the vermiform appendix is a disease raro in its occurrence, obscuro in its symptoms . . . and from this rarity and obscurity it is not always that a physician recognizes it and is able to differentiate it from other diseases." A search through the records of St. Thomas's Hospital showed that the first case of appendicitis recognized in the hospital was reported in 1889. It was not true, probably, that the diagnosis was missed in a large number of cases, because the records did not show a large number of patients dying from acute peritonitis or abdominal abscess. One or two a year only were found, and it was very striking, when comparing the results for, say, 1889 with those of the last year published, 1922, that there were actually 215 cases of acute appendicitis operated on at St. Thomas's. Secondly, the first account found by Mr. Wagstaffe of this condition of inflammation of the right iliac fossa was in Dupuytren's *Leçons Orales* (date 1833). Dupuytren gave a long account of abscess in the right iliac fossa, but this was not very helpful, since he built up a very fine theory on extremely loose observation. The theory which held ground for a long time was that the caecum was the site of origin of all these abscesses in the right iliac fossa. It was not until the work of Fitz, in 1886, which gave a rational and clear account of appendicitis, that this caecal theory was finally overthrown. But such a case as this showed that there was after all something in the caecal theory.

#### Gall-bladder Surgery.

Mr. DODDS-PARKER read a paper on some aspects of gall-bladder surgery, in which he advocated cholecystectomy rather than cholecystotomy for gall stones. The advantages of the former were: (1) that it removed the site of

gall-stone formation; (2) that it removed the focus of infection, which was otherwise liable to persist; (3) that it prevented many cases of biliary fistula; and (4) that it eliminated the risk of the subsequent development of cancer. Since 1907 Mr. Dodds-Parker had removed the gall bladder in 90 cases with only 3 deaths. One of these was from septic pneumonia, another from multiple abscess of liver, and the third from delirium tremens. He performed cholecystectomy in cases of acute septic gall bladder with gall stones and in chronic inflammation with gall stones, where the gall bladder might be either enlarged or small and contracted, with many adhesions, which offered considerable difficulties at times. In addition to the complications which arose from adhesions, the presence of jaundice added to the gravity of the case, since then the general condition of the patient was usually worse. Mr. Dodds-Parker described three cases of gall stones he had met with in undergraduates. Mr. R. H. A. WHITELOCKE described two cases in which he had performed cholecystendysis with a satisfactory sequel in each. Dr. COLLIER related a case in which typhoid bacilli had been found in the excreted contents of the gall bladder (duodenal tube) as well as in the gall stones which were subsequently removed. The attack of enteric fever had occurred twenty-five years previously. It was probable that the case would be recorded more fully at a later date.

### ULSTER BRANCH.

The annual meeting of the Ulster Branch was held in the King Edward Hall of the Royal Victoria Hospital, Belfast; the professional part consisted in the exhibition of rare and interesting cases, pathological and bacteriological specimens, instruments, and photographs.

Dr. Monnow showed a case of muscular dystrophy, and, as a contrast, one of amyotrophic lateral sclerosis; Dr. T. HOUSTON, some experiments with leucocytes; Professor THOMSON, a chondroma of the brain; Dr. BOYD CAMPBELL, slides and specimens from a case of myeloblastic anaemia; Mr. MITCHELL, a case of pressure paraplegia treated by Albee's spinal graft.

Professor FULLERTON showed unusual varieties of club-foot, polypoid projection in the posterior urethra, plating of re-fractured femur, chondroma of the hand, malignant growth of the bladder treated by diathermy, also radiograms illustrating pyelography and cystography. Mr. HOWARD STEVENSON showed medullary carcinoma of breast, and, with Dr. RANKIN, some cases of carcinoma of the tongue and soft palate treated by fulguration.

Dr. J. A. SMYTH showed six cases of diabetes under insulin treatment. One of these, a male, aged 34, had a duodenal stenosis, and the carbohydrate tolerance improved greatly after successful operation; no insulin had now been administered for three years. Another received 500 units of insulin daily during an attack of pneumonia in which she had excessive acidosis; a dose every four hours was given. Professor WILSON demonstrated a new method of counting the red cells, which did away with the use of a haemocytometer.

Mr. S. T. IRWIN and Mr. R. J. MCCONNELL showed a series of club-feet treated by adhesive plaster; three cases of slipped epiphysis of femur; a series of radiograms of duodenal and gastric ulcers; a case of arthrodesis of shoulder-joint for flail-joint due to infantile paralysis; a case of ramisection for spastic diplegia; and a stereoscopic radiogram of a rare fracture of the acetabulum.

Mr. P. T. CRYMBLE showed a case of resection of two-thirds of stomach for hour-glass contraction due to ulcer, together with a specimen and radiogram. He exhibited also the instruments for reduction and fixation of a fracture by steel ribbons and plate, with illustrative radiograms. Mr. H. P. HALL's exhibits referred to plating for spiral fracture of femur, plastic repair of hypospadias, perforated duodenal ulcer, compound depressed fracture of skull, and reconstruction of the nose following rodent ulcer.

Mr. H. P. MALCOLM showed seven very successful end-results of the treatment of hip-joint disease from the open-air home at Greymount, a case of chronic abscess of the frontal bone, a case of lymphangioma of the submaxillary region, from which a clear serum could be drawn off which clotted at once.

Professor McILWAINE showed a case of infantilism in a boy, aged 17 years, with enlarged spleen and hydrothorax, which had undergone repeated aspiration; the Wassermann test was positive, and under antisyphilitic treatment the patient had grown two inches, and increased from 4 st. 11 lb. in weight to 6 st. 1 lb.

## Reports of Societies.

### MALIGNANT DISEASE OF THE PHARYNX AND LARYNX.

THE summer meeting of the Section of Laryngology of the Royal Society of Medicine was held on June 5th, with the President, Dr. A. LOGAN TURNER, in the chair. Before the proceedings began the President welcomed a number of distinguished guests, including Dr. Tapia of Madrid, Professor Burger of Amsterdam, Dr. Charles Mayo of Rochester, Minnesota, and Dr. Graham Brown of Brisbane.

#### *Big Pharyngostomes as an Accident in Laryngectomy.*

Dr. TAPIA read a paper, in French, on the big pharyngostomes as an accident in laryngectomy. He had performed 151 laryngectomies, with a post-operative mortality of about 5 per cent. It was impossible to leave a patient with the mutilation that radical removal of malignant tumours from the region of the pharynx and larynx demanded. Dr. Tapia showed how large pharyngostomes could be avoided. Pre-operative preparation of the mouth and nose, with a view to avoiding sepsis, was most important; septic teeth and septic tonsils, if present, should be removed some time before the operation. He described his method of closing pharyngostomes when they had resulted. The object of the second operation was to make the life of the patient more worth living, to help him to speak and to swallow.

Mr. WILFRED TROTTER said that the object of plastic procedures in the treatment of malignant disease in the pharynx and larynx was not only to offer the patient a reasonable chance of maintaining his powers of speech and swallowing, but it was extremely important to leave the patient, immediately after the operation, without any extensive raw surfaces in communication with the pharynx, in which infection could occur, with the very serious dangers of cellulitis in the neck and secondary haemorrhage. For instance, with such a bugbear of surgery as post-ericoid carcinoma one could have the patient, in a reasonably favourable case, speaking and swallowing normally within six weeks of the primary operation. The surgeon must know beforehand what kind of tumour he had to deal with, and it was surprising how exact and precise one could be on that point. He asserted that one could not do good plastic work in the pharynx and larynx unless one could secure a reasonable amount of asepsis. Sepsis meant, if the patient survived, scarring; and there was nothing more upsetting to the results of plastic surgery in the pharynx than a great deal of scarring.

Mr. LIONEL COLLEDGE recounted a case which illustrated the importance of removing the teeth before operating for malignant disease of the larynx. The patient had a recurrence of cancer of the larynx, and after laryngectomy the wound broke down and septic bronchitis resulted, although some septic teeth had been removed before the operation. After removing all the remaining teeth the wound healed up.

Sir STCLAIR THOMSON said that the textbook descriptions of laryngectomy, or similar operation gave the impression that the wound was stitched up and it healed like a razor cut on the face. Frequently, however, it was not so. Before the war, when less was known about plastic surgery than now, one had to wait and pack; he had sometimes seen three months occupied in closing.

Sir JAMES DUNDAS-GRANT said that he had been greatly impressed, when seeing Mr. Wilfred Trotter doing a lateral pharyngectomy, to notice that he stitched the deeper parts, and only partially stitched the superficial parts, thus leaving a space for the escape of any secretions and for packing; the result was eminently satisfactory.

#### *The Case of Diseased Conditions of the Pharynx, Larynx, and Mouth.*

Dr. CHARLES MAYO said that in thinking of infection by a particular kind of organism it was well to inquire also what was its chemical composition and its place in the

world. Warts and papillomatosis of the mouth, vocal cords, bladder, rectum, and other parts, if irritated and subjected to ineffectual attempts at removal, became liable to the development of malignancy. More attention should be paid to the mouth region in the somnolent form of encephalitis; in this disease there was a redness of the pharynx, and it was very likely that the mucous membrane of this region was suitable to the causal organism. He believed that in his father's day ordinary clinical observation was carried to a higher degree of perfection than in these days of elaborate laboratory and other aids. Sometimes to-day the clinical examination of a patient by a doctor omitted the examination of the tongue. There had recently been, in America, a tremendous increase in heart disease and in infections, and *post-mortem* examinations showed that much of this was due to sepsis from the teeth. The killing of tooth nerves and filling and crowning by the dentist prevented the patient from feeling the danger signal of pain when he had actually a septic focus in his mouth. In middle and later life people had troubles which were not purely due to infection, but to alteration in the blood found at those periods. He would like x-ray pictures to be taken of teeth and jaws, not only to see the amount of infection, but also to find out how Nature was dealing with the calcium in infected areas. There were periods of life at which they were resistant to certain infections, and then when a break came a change was seen in a person's colour and appearance; the leucocytes of such a person would probably be found to be down anything from 75 to 55 per cent. Inheritance was really a question of the degree of resistance, and a study of family history supplied an inkling of what had specially to be contended against.

#### *Speech after Laryngectomy.*

Professor BENGER read a paper on the means of restoring some measure of speech to patients whose larynx had been completely removed. He brought with him a patient on whom he had performed this operation, in order that the meeting might judge the measure of success, which was very remarkable, of the means employed. He formed a pseudo-glottis at the mouth of the oesophagus, so that during quiet respiration the mouth of the oesophagus was always wide open.

Mr. LIONEL COLLEDGE demonstrated the McKenty-Western artificial larynx, and showed two patients who were using it successfully. In many respects this artificial larynx resembled that of Dr. Tapia, except that the chamber was a little larger in his, and there was also a screen by which the tension of the membrane could be adjusted.

Dr. GRAHAM BROWN exhibited an artificial larynx, the chief advantage of which over others was that it overcame the escape of saliva which usually occurred around the opening of the artificial larynx.

Dr. TAPIA also demonstrated his well known apparatus employed for the same purpose. He said that the ideal, however, was to get the patient to speak without the aid of any apparatus.

Sir JAMES DUNDAS-GRANT showed a patient, a young woman, whose larynx he had removed two years ago, and whose articulation was so clear that she was able to do her own shopping.

#### *Tracheotomy in Tuberculous Laryngitis.*

Dr. T. RICHIE RONGER said that the root treatment of tuberculous disease in any part of the body was to place the affected parts in a state of physiological rest, as far as possible. Records showed that the normal lung was not prejudiced by the wearing of a tracheotomy tube. He gave details of four cases in which he had carried out tracheotomy in tuberculous laryngitis.

Sir JAMES DUNDAS-GRANT thought that in the cases described tracheotomy was fully justified.

Mr. E. D. D. DAVIS said that he always tried to avoid tracheotomy in such cases, because the tracheotomy wound became very septic, and also because such patients had a good deal of coughing, which did most damage to the larynx. Sir STCLAIR THOMSON said that tracheotomy as a curative measure was seldom called for in tuberculosis. Dr. P. WATSON-WILLIAMS and Dr. DOUGLAS GUTHRIE also

#### *Intranasal Daercycystostomy.*

Mr. J. S. FRASER read a short paper on intranasal daercycystostomy, and described the operation in detail. No after-treatment was necessary, and the average stay in hospital was only four days. The procedure was much more effective than dilatation of the tear passages or excision of the tear sac. The paper was discussed by Mr. J. B. HORGAN, Mr. LAWSON WHALE, Mr. A. J. M. WRIGHT, Mr. W. J. HARRISON, Mr. E. D. D. DAVIS, and Dr. GRAHAM BROWN.

#### *The Sinus Condition in Encephalitis Lethargica.*

Mr. A. LOWNDES YATES said that in the cases investigated the pneumococcus or Friedländer's bacillus was most commonly found, and in all the patients there was rhinitis and sinusitis, usually affecting the posterior group of sinuses. Mucus was absent, and the membrane seemed to have lost its function. There were comparatively few sufferers from the disease, but many carriers.

### MANGANESE AND ANTIBODY PRODUCTION.

At a meeting of the Section of Pathology of the Royal Academy of Medicine in Ireland on May 15th, the President, Professor J. T. WHELAN, in the chair, Dr. HORGAN read a paper on the non-specific stimulation of antibodies (effect of manganese on agglutinins), and showed lantern slides.

Dr. HORGAN stated that each of a number of rabbits had been given one dose of typhoid vaccine intravenously, and subsequently intravenous injections of manganese chloride after various intervals of time. It was found that manganese did not prevent the normal fall from the primary peak of the agglutination titre. In three out of six animals the metal caused a rise in titre. The animals which were positive all showed well marked primary peaks, a fact which might suggest a relation between the power of the animal to produce antibodies and the powers of response to the stimulation of manganese.

Professor J. W. BIGGER said that the definite opinion of the Danish school was that manganese increased the antibody content. Experiments in England indicated that manganese did not increase the antibody content; Dr. HORGAN had obtained partial positive results. This difference in the results obtained was probably due to the difference in the rabbits in the different countries. No experimental evidence of the efficiency of colloidal preparations had ever been produced. Apparently manganese greatly stimulated the production of antibodies but did not itself produce antibodies. He thought that manganese might do good in cases where the patients had shown some signs of an active immunity, but not in cases where there was a total absence of immunity. He did not think that the results obtained by the use of colloidal preparations would be any better than those obtained by Wright's immuno-transfusion.

Dr. G. FITZGERON referred to the results obtained in cases which had been treated by injections of manganese chloride for sepsis. He agreed with Professor Bigger that this treatment could hardly be looked upon as being one of the most effective, although in some cases patients responded well to it. He thought it probable, however, that in these cases any cure was due to the patients being able to resist bacterial invasion.

Professor J. A. SCOTT thought the elements which produced blood clots were very much the same as antibodies. He thought it should be remembered there were different types of blood, and that in some rabbits manganese might produce changes, while in others it would not, because the types of blood were different.

Dr. V. M. SYNGE referred to the beneficial effect, in cases of boils, of the use of colloidal manganese. Sometimes patients in whom an autogenous vaccine had failed would improve rapidly after a few injections of colloidal manganese, while, on the other hand, some patients who had become better after an autogenous vaccine had not improved after colloidal manganese injections. This fact seemed to him to be rather contrary to the conclusions of Dr. HORGAN.

## Kretschmer.

### PHYSIQUE AND CHARACTER.

DR. E. KRETSCHEMER'S contributions to psychiatry are practically unknown in this country, and we therefore welcome a translation of his notable work, *Körperbau und Charakter, under the English title Physique and Character: An Investigation of the Nature of Constitution and of the Theory of Temperament*.<sup>1</sup> The problem considered is the relation between human form and human nature. The poet, the novelist who takes such pains to describe the physical appearance of his characters, and the man-in-the-street, all intuitively recognize some general correlation between psychic type and physical constitution. Dr. Kretschmer, basing his views, not upon vague impressions and general reflections, but upon exact anthropological investigations and the study of psychological types, has arrived at a position which gives some support to the popular view. Briefly, he discovers statistical relational frequencies between certain forms of physique and certain psychic types. The author, who impresses the reader as not only an eminent psychiatrist but as an attractive writer, commences his work with the following quotation, which provides a fitting introduction to his thesis:

Caesar: Let me have men about me that are fat;  
Sleek-headed men, and such as sleep o' nights;  
Yond Cassius has a lean and hungry look;  
He thinks too much: such men are dangerous.  
Anthony: Fear him not, Caesar; he is not dangerous;  
He is a noble Roman, and well given.  
Caesar: Would he were fatter! . . .

The fat men preferred by Caesar correspond to the cycloid or manic-depressive psychic dispositions which the author finds shows a clear biological affinity with a body-build which he describes under the term *pyknic*. The "Cassius" types, on the other hand, whom Caesar distrusted correspond to the schizophrenic psychic dispositions which, according to Kretschmer, have a clear biological affinity with a body-build which he describes as of the *asthenic* and *athletic* types, together with certain *dysplastics*. We do not, of course, wish to convey the impression that the distinction between the various types of physique is based upon mere fatness and leanness; actually it is based upon detailed researches of the physique, skeletal and muscular systems, the face and skull, the hair, skin, complexion, and ductless glands. Dr. Kretschmer holds that diagnosis by means of body-build is as vast and complicated a region as organic neurology, and that it calls for the accurate observation and co-operation of numerous observers. He modestly describes this book as a preliminary canter, and obviously confirmation by others working on a scheme similar to that outlined in his text is needed. In a general way it may be said, however, that his formulations will be recognized by most psychiatrists to be approximately true since they are based upon facts already known to experienced observers of abnormal psychic types. Particularly would we call attention to the tendency to dysplastic forms of growth in schizophrenia (dementia praecox). A superficial survey of the physique of the young people who come into asylums suffering from dementia praecox reveals a striking incidence amongst them of inhibited physical development. They are obviously inferior biological types, and exhibit, in particular, marked deviations from the normal sexual characteristics. In a chapter dealing with this subject the author emphasizes the fact that variations in physique in a dysgenital direction, and indeed of a eunuchoid as well as of an infantile nature, are relatively common among schizophrenes. This leads us, of course, to think of the work of Mott in this country, to which the author refers only in a footnote. Dr. Kretschmer warns us, as Mott has done, that we must beware of setting out the possible causal functioning of the generative glands in schizophrenic disease in the form of a simple massive, monosymptomatic disturbance of function.

<sup>1</sup> *Physique and Character: An Investigation of the Nature of Constitution and of the Theory of Temperament*. By E. Kretschmer. Translated from the second, revised and enlarged edition by W. J. H. Sperry, B.A. Harcourt, Brace and Co., Inc., 1925. (Demy 8vo, pp. xiv + 266; 32 plates. 12s. net.)

Castration of a soundly constituted man has, as is well known, no psycho-pathological results of a schizophrenic nature. If an endocrine etiology be accepted as probable in schizophrenia, we must regard it as a very tangled chemical relation between the brain and the glandular complex, in the etiology of which the generative glands are very obvious.

Such researches must be regarded as of fundamental importance since they tend to place psychiatry upon a firm biological foundation. In commenting in this JOURNAL of December 6th, 1919, on Mott's researches into the pathology of dementia praecox, attention was drawn to the fact that the regressive biological changes he described served to explain the clinical phenomena and psychic peculiarities of the subjects of this disorder. Dr. Kretschmer has an interesting chapter on this, in which he correlates the morphological findings in dementia praecox with its clinical manifestations, drawing particular attention to the fact that the disease is usually associated with inadequate sexual functioning. In seeking to correlate bodily habitus with inborn temperament it has to be borne in mind, as the author reminds us, that the factors responsible for the build and character in any given case are not entirely dependent on the inherited psycho-physical constitution. On the one hand, the body-build is influenced by occupation, mode of life, biological epochs, and nutrition; on the other, the personality depends, not only upon the inborn temperament, but upon all the experiences to which an individual is subjected from the day of his birth. It still remains, however, that there is something in the physical form and in the psychic reaction which is purely inherent and unalterable by circumstances or environment, and this is the problem considered by the author.

In the second part of the volume Dr. Kretschmer deals with the psychological aspects of his subject, and it may here be mentioned that his cyclothymic corresponds closely to Jung's extrovert, and his schizothymic to the latter's introvert. These two biological types include the great mass of healthy individuals as well as the corresponding psychotics scattered among them. Dr. Kretschmer would have us look on the biogenetic psychoses as variations from the biologically normal. He suggests that we should not look on certain types of personality as psychopathic abortive forms of certain psychoses, but vice versa, certain psychoses should figure as caricatures of certain normal types of personality. On this theory the psychoses are only uncommon exaggerated editions of large groups of healthy constitutions. In his study of temperaments, the author reveals himself a connoisseur of the subtle variations of human nature, and also as the possessor of a gift of character delineation which a novelist might well envy. The following picturesque description of the schizoid temperament could hardly be improved upon (p. 146):

"Schizoid men have a surface and a depth. Cuttishly brutal, dull and sulky, like a mollusc without a shell—that is the surface. Or else the surface is just nothing; we see a man who stands in our way like a question mark, we feel that we are in contact with something flavourless, boring, and yet with a certain problematic taste about it. What is there in the deep behind all these masks? Perhaps there is nothing, dark hollow-eyed nothing-affective anaemia. Behind an ever silent facade, which twitches uncertainly with every expiring whim—nothing but broken pieces, black rubbish heaps, yawning emotional emptiness, or the cold breath of an arctic soullessness. But from the facade we cannot see what lurks behind. Many schizoid folk are like Roman houses and villas, which have closed their shutters against the rays of the burning sun; perhaps in the subdued interior light there are festivities. . . . A young man dreams away the lovely days of his youth. He is so clumsy and loutish that one could shake him. If he is set upon a horse he falls off at once. He smiles in an embarrassed way, rather ironically. He says nothing. One day there appears a volume of poetry he has written; exquisite feeling for nature; and every blow that some fat lout has given him is passed by is moulded into an inner tragedy, and the polished rhythms flow on full of quiet."

Or, in less sombre vein, the author makes the polite sensitive man live before us (p. 214):

"His whole nervous system is tender; he flies from all that is common; he takes an aesthetic interest in tea, and is affected by the scent of hay. In society he prefers a carefully chosen circle. *Odii profanum vulgus*. Painful care is dispensed on tending the body. Such men may easily be upset by a bad ironing crease; they cannot get over aesthetic details, and they have a tendency to little vanities, and society pedantries. They like to cultivate their own personalities, and observe their own psychic fineness."



The author's investigations take him into the fields of family character and heredity, and a study of the book as a whole encourages the reader to believe that the problems of psychic life must not only be approached from a purely psychological aspect, but also from the point of view of natural history and biology. We can thoroughly commend this volume to those who are interested in psychiatry and its allied sciences.

### THE PRACTICE OF GYNAECOLOGY.

PROFESSOR JELLYTT has provided the profession with "the long and the short of it" in regard to both midwifery and gynaecology, and each of his volumes, whether full treatises or short textbooks, has met with a degree of success which is the best testimony to its worth. The fifth edition of the "long" *Practice of Gynaecology* has just appeared, and presents a number of alterations and additions which have brought it up to date. Thus, the comparatively recent work on gas inflation of the peritoneal cavity receives adequate notice, while the work of Sampson and others on implantation adenomata of endometrial origin is well summarized. The connexion between the menstrual function and the ductless glands is more fully explored than in previous editions, and the author evidently leans to the side of scepticism as to endocrine therapy in disorders of menstruation. In the section dealing with endometrial implantations in the pelvis he expresses the view, with which we are in entire agreement, that there is need for much more experience of the results of conservative treatment. The indiscriminate performance of radical operations in such cases is to be deprecated until our knowledge and experience are considerably increased. New chapters have been added on sterility and on the general principles governing gynaecological operations. The latter gives very lucid and convincing expression to truths and principles which ought to be the guide of everyone who essays to operate on the female pelvic organs.

Dr. Walter Stevenson has contributed a very full, but at the same time succinct, discussion of the use of x rays and radium in gynaecology, and Dr. R. J. Rowlette is responsible for an optimistic chapter upon vaccine treatment. The chapters on operative methods are clearly written and well illustrated, and our only criticism is that it seems unnecessary to describe an operation at some length and then state that such a method ought never to be followed. This is a somewhat cumbersome way of teaching advanced students, but, of course, it is to be remembered that this is the "long" textbook, and that the author has also published a "short" one for those who prefer brevity.

Completeness and up-to-dateness are the main impressions which this edition leaves upon us, and the book can be recommended as an admirable textbook on the subject. We offer our congratulations to the author and also to the publishers.

### PALMER OF RUGELEY.

DR. GEORGE FLETCHER's book on *The Life and Career of Dr. William Palmer of Rugeley* differs from those accounts of remarkable trials of which some have been lately reviewed in these columns. Instead of a formal and sometimes wearisome report of the evidence, we have here the outcome of almost a lifetime's study of this criminal and his doings, in which the author enjoyed certain personal advantages as a resident in the neighbourhood. He tells us that his first visit of inquiry was made only three years after the trial of Palmer for murder, and his last five years ago, so that this book is the result of more than sixty years' inquiry and study.

Our profession is justly proud of many members who have distinguished themselves and adorned their calling by their virtues and their talents. On the other hand, it has to deplore the undeniable fact that, like other callings, it has fostered some unspeakable villains such as the poisoners Palmer, Pritchard, and Lamson. Of these the subject of

this biography was *facile princeps*, for it appears probable that he was guilty of the murder of at least a dozen persons, among whom were his own children, legitimate and illegitimate, and his wife, his mother-in-law, and brother; yet it was for none of these that he was tried and found guilty, but for the murder of his friend Cook, apparently committed in order to facilitate and conceal his thefts. Dr. Fletcher claims that, although a number of books have appeared on this subject, his is the first to deal fully with Palmer's life and career, and we think that this claim is justified and that no other work probably shows so clearly how long the murderer's career of crime had been and how extraordinarily unsuspicious and gullible were his neighbours and fellow practitioners. For this is not a case of a man of apparent respectability being at last detected in crime. Palmer had for long been leading a notoriously dissolute life, neglecting such practice as he once had, and associating with disreputable racing men and other shady characters.

The most astonishing aspect of the case is the medical, in which the ineptitude of practically all the medical men concerned, before the coroner's jury returned their verdict, is almost incredible. Not a shade of doubt of their good faith and intention has ever been suggested, yet had they been in collusion with Palmer and accomplices before the fact they could hardly have played into his hands more completely. Not only the aged Dr. Bamford, who was probably past his work, but younger practitioners of good repute showed themselves astonishingly ready to accept the poisoner's suggestions as to the cause of death and to sign certificates accordingly. The scene at the *post-mortem* examination of Cook has often been described, and is indeed a commonplace in all books on forensic medicine and toxicology; yet no matter how often its description is read, the amazement of the reader at such a fiasco is unabated. It still remains inexplicable that the conduct of Palmer on that occasion did not arouse the very strongest suspicions in the minds of the spectators. Yet it remained for the stepfather of the murdered man to insist on an inquiry, on the inquest, and on probing the matter to the bottom.

Nearly all the great names of the Bench and Bar and of the medical profession of the day appear in the records of the trial, and one of the great benefactors of medical charities, Mr. George Herring, then a betting commission agent, was a witness for the prosecution. The case occasioned the passing of what is popularly known as "Palmer's Act," under which the venue of a criminal trial may be changed when popular feeling seems likely to jeopardize the course of justice. Another innovation was the starting of a hunger strike by Palmer when in prison, in which, less determined than the women suffragists, he did not persist when threatened with the stomach pump.

It is difficult, nearly seventy years later, to realize the tremendous excitement caused by this trial throughout the country. Such an evil notoriety was attached to the name of Rugeley that the inhabitants petitioned the Home Secretary to allow the name to be changed. Lord Palmerston wisely laughed them out of their wish, saying, "If you want to change the name of your town, why not pay me the compliment of calling it after me?" The deputation retired, and the true significance of Palmerston's joke only dawned upon them on their way home.

Despite some repetitions and a certain looseness of construction, Dr. Fletcher's book is most readable and interesting. We only regret that it is not furnished with an index.

### NOTES ON BOOKS.

DR. FAIRBAIRN'S *Text-Book for Midwives*, which was first published in 1914, has recently appeared in a fourth edition, and it is therefore obvious that it is meeting with a well deserved popularity. In this new edition the main alterations are those necessitated by the recent revision of the rules of the Central Midwives Board and by the regulations regarding the lengthened training which will come into force a year hence. Similar alterations have been made in regard

<sup>2</sup> *A Practice of Gynaecology*. By Henry Jellytt, M.D., F.R.C.P.I. Fifth edition. London: J. and A. Churchill. 1925. (Roy. 8vo, pp. xiii + 744; 412 figures, 12 plates. 25s. net.)  
<sup>3</sup> *The Life and Career of William Palmer of Rugeley*. By George Fletcher, M.D. Cantab. London: T. Fisher Unwin, Ltd. 1924. (Crown 8vo, pp. 193; illustrated. 12s. 6d. net.)

<sup>4</sup> *A Text-Book for Midwives*. By John S. Fairbairn, M.A., B.M., B.Ch. Oxon., F.R.C.P. Lond., F.R.C.S. Eng. Fourth edition. Oxford Medical Publications. London and New York: H. Milford, Oxford University Press. 1925. (Roy. 8vo, pp. xiii + 365; 113 figures, 3 plates. 25s. net.)

to the rules of the Scottish Central Midwives Board where these differ from the English rules. Dr. Fairbairn has taken the opportunity of introducing some criticisms on points in which the regulations of the Scottish Board differ from those of the English. We are not sure that this book was quite the best place for such criticisms, which do not directly concern midwives or midwifery pupils. His observations are, we have no doubt, of the highest value, for Dr. Fairbairn is himself a member of the English Board, but they might, we think, have better appeared in the medical periodical press. This, however, does not affect the value of the book as a guide to midwives and midwifery pupils. It provides for them a thoroughly sound and interesting presentation of the whole subject, and can be heartily commended, especially to those who are studying for the examinations.

The importance of a child's mental and nervous health ranks equally with his physical health, and both are interdependent. *Safeguarding Children's Nerves*,<sup>5</sup> written by two doctors who have had considerable experience of the psychological problems of children, is published under the auspices of the American Child Health Association. The language is clear and not technical, and an endeavour is made to set out the elementary principles underlying the growth of the mental and nervous health of the normal infant and child. The avowed object of the book is to educate parents to protect the developing nervous system from both "the hardness and softness" of modern life. The book is pleasantly got up with a small picture at the head of each chapter, showing toddlers delightfully employed in the open air. The keynote of the book is to emphasize the importance of health and how to generate and maintain it. The authors say that most children will be normal in their nervous function if their parents and relatives allow them to be so: "Self-denial, self-control, and self-discipline, these are the all-important factors for the salvation of the nervous child from his own tendencies as he grows up." The book deals with heredity, rest and fatigue, discipline, habits, dreads, and dislikes. The treatment of defective and backward children is suggested. The concluding chapter gives a warning against charlatanry and advertised cures of various kinds.

The treatise of the fifteenth century physician, Giovanni di Albertis di Capodistria, on the plague, of which the full title is *De præservatione corporum a pestilentia et de causis pestilentiae et motis ejus*,<sup>6</sup> has recently been published by Professor ARTURO CASTIGLIONI of Trieste from the MSS. in the National Library at Vienna, together with a scholarly introduction which forms a valuable contribution to the history of epidemiology. The treatise is dedicated to the Emperor Frederick III, for whose personal use it appears to have been composed. It is divided into a series of chapters of very unequal length, in which, in addition to general observations on the cause of the disease and the time and places in which it occurs, a number of therapeutical rules are laid down, particularly as regards food, exercise, sleep, and drugs for local and internal administration.

The little book on *Small Pox and Vaccination*,<sup>7</sup> by Dr. BENJAMIN WHITE, Director of the Biologic Laboratories in the Massachusetts Department of Public Health; and a professor in the Harvard Medical School, is the latest addition to the series of "Harvard Health Talks," the aim of which is to supply the layman with information on medical subjects of general importance. An excellent account is given of the history of small-pox and vaccination, as well as of the prevalence of small-pox in those countries in which universal vaccination is not enforced.

The reference book entitled *The Medical Who's Who* (stated to have made its last appearance in 1918, though we have seen no later edition than that of 1915) has now been revived under fresh management. The new edition, bearing date 1925,<sup>8</sup> is more comprehensive than its predecessors, and differs from them in binding, in size of type and page, and in certain other respects, though the general plan has been preserved. While the volume is by no means a complete list of the medical profession at home and abroad, it is stated that "inclusion in this work is open to every registered

medical practitioner and that proper particulars are printed free of any condition, save only that of legal qualification." The entries appear in alphabetical order, and each name is followed by brief details of qualifications, professional work past and present, and date of registration, together with some particulars of a more personal nature. An index, arranged topographically, is appended, the London addresses being given in full. The type, though small, is very clear, and much care has evidently been taken in revising the material for the press. The rather flowery preface might be cut down with advantage in later editions.

The chief interest of Dr. LEO BUEGER's work on *The Circulatory Disturbances of the Extremities*<sup>9</sup> is that it contains a very full pathological and clinical description of thrombo-angitis obliterans, which is sometimes known as Buerger's disease. In addition to a detailed account of other diseases of the peripheral circulation, several chapters are devoted to anatomy and physiology as well as to capillary microscopy. The book, which is freely illustrated, will prove a valuable work of reference.

A revised edition of the *West London Hospital Pharmacopoeia*<sup>10</sup> has been published. Besides a considerable number of new formulae, dosage tables, notes on infant feeding, and the treatment of poisoning, charts of special diets have been included. Blank pages are provided for further additions, and the book retains its convenient size for the pocket.

<sup>5</sup> *The Circulatory Disturbances of the Extremities*. By Leo Buerger, M.A., M.D. Philadelphia and London: W. B. Saunders Company. 1924 (Roy. 8vo, pp. xiii + 633; 182 figures. 42s. net.)

<sup>10</sup> *West London Hospital Pharmacopoeia*. Revised edition. Leeds: L. Upcott Gill and Son, Ltd., The Avenue Press. 1925. (3½ x 5½, pp. xiv + 92.)

## MEDICAL AND SURGICAL APPLIANCES.

*A Drip for Continuous Intravenous Infusion.*  
Dr. H. H. MOLL (Resident Medical Officer, General Infirmary, Leeds) has devised a drip for the continuous intravenous infusion of glucose by the drop method. It is air-embolism proof and self-regulating. It consists of a small glass chamber and a rubber cork, in which two holes have been bored. One end of a piece of fine glass tubing is curved to the shape of a shepherd's crook; the other, connected by a rubber tubing to the main tank, is passed through one of the holes, while some rubber tubing is tightly fitted into the second hole and connects the drip to the recipient's vein. The drip is interposed between the main tank above and the recipient's arm beneath at any height, provided that the proximal loop of tubing, A, connecting the main tank with the drip, be at a lower level than the distal one, B, connecting the drip to the patient's vein. Water is then run through the drip for a few seconds. A negative pressure will develop inside the glass chamber of the drip, allowing it to be flooded up to a given level. By clipping the distal tube the rate of the drop can be regulated. Any obstruction occurring in the distal tube will cause the pressure within the glass chamber to rise so that the drip will stop flowing automatically. The drip can be disconnected from the main tank during the act of refilling without emptying itself, thus preventing air embolism. Mr. Charles F. Thackeray, Great George Street, Leeds, has undertaken to make the drip.

### An Anaesthetic Inhaler.

Dr. W. R. SOMERSET, honorary anaesthetist to the Wolverhampton and Staffordshire Hospital, has devised a new inhaler, which can be used for open or closed anaesthesia. The following advantages are claimed for it. It is simple in construction and economical in use, and with it nitrous oxide, ethyl chloride, a chloroform mixture, or ether, by the open or closed method, can be administered. The anaesthetic can be renewed by opening the lid and dropping it on to the pad without removing the inhaler from the patient's face. When used with closed anaesthesia very little vapour escapes into the atmosphere. In operations requiring a lateral position of the head it is possible for the anaesthetist to keep well away from the field of operation, and there is less interference with the work of the surgeon than when the ordinary mask is used. The metal face-piece is attached to a metal cylinder, which is divided by a vertical partition into two compartments, the smaller communicating at the bottom with the interior of the face-piece; while the larger compartment is closed at the bottom and opens at the top, with a projecting metal tube at the side. The upper end of the cylinder has a compartment with a pad of absorbent material to receive the anaesthetic, and there is a sump at the bottom of the large compartment to trap any excess of anaesthetic. Attached to the metal tube is a rubber bag with a tap at the extremity, to which an oxygen tube can be attached. Bayonet joints enable the cylinder to be turned so that the bag opens into either compartment as required.

<sup>5</sup> *Safeguarding Children's Nerves*. By James J. Walsh, M.D., Ph.D., Sc.D., and John A. Foote, M.D. With a foreword by Honorable Herbert Hoover. London: J. B. Lippincott Company. 1925. (Cr. 8vo, pp. ix + 272; illustrated. 3s. net.)

<sup>6</sup> *Libro della Pestilenza di Giovanni di Albertis da Capodistria*. Trieste: Lucio Capelli. 1924. (Roy. 8vo, pp. 67.)

<sup>7</sup> *Small Pox and Vaccination*. By Benjamin White, Ph.D. Harvard Health Talks, 13. Harvard University Press. 1925. (Fcap. 8vo, pp. 90.)

<sup>8</sup> *The Medical Who's Who*. Seventh edition. London: Grafton Publishing Co., Ltd. 1925. (Demy 8vo, pp. lviii + 770. 30s. net.)

## THE SIR WILLIAM OSLER MEMORIAL AT OXFORD.

## UNVEILING OF PLAQUE.

A BRONZE plaque in memory of Sir William Osler, Bt., F.R.S., M.D., F.R.C.P., late Regius Professor of Medicine, was accepted on behalf of the University of Oxford and unveiled by the Vice-Chancellor, Mr. Joseph Wells, M.A., Warden of Wadham, on the afternoon of Wednesday, June 10th, in the Court of the University Museum, in the presence of a large and distinguished gathering. Among those present were Lady Osler, Sir Humphry Rolleston, Bt., President of the Royal College of Physicians and Regius Professor of Physic in the University of Cambridge, Dr. J. G. Adams, Vice-Chancellor of the University of Liverpool, representing McGill University, Lieut.-General Sir William Leishman, Director-General Army Medical Service, the Dean of Christ Church, the Master of University (Sir Michael Sadler), the President of University, Professor E. B. Poulton, Professor Arthur Thomson, Professor Ramsay Wright, Mr. A. P. Dodds-Parker, and Dr. Ainley Walker (Dean of the Faculty of Medicine).

The plaque, which has been affixed in the University Museum by permission of the Delegates, is the work of M. Vernon of Paris, and is a replica of that made for the Faculty of Medicine of Maryland, U.S.A. It was presented to the University, on behalf of the subscribers to the Sir William Osler Memorial Fund, by the President of Magdalen, Sir HERBERT WANNER, who spoke in terms of warmth and feeling of Sir William Osler's services to Oxford and to Medicine, and of the charm and inspiration of his personality. He referred briefly to the remarkable growth and development of the School of Medicine and its scientific departments, since the time when Sir Henry Acland set to work to devote himself to the restoration of an almost derelict school. By their genius and enthusiasm he, and his successor, Sir John Burdon-Sanderson, infused new life into the school and launched it on the fresh career of usefulness to which the late Regius Professor so largely contributed.

The VICE-CHANCELLOR read a telegram from Sir Robert Hadfield conveying respectful admiration and homage to the memory of his late friend. The Vice-Chancellor said it was a very great personal pleasure and honour to him to accept the memorial on behalf of the University. There were many who knew Sir William Osler as a name of authority in medicine; but in Oxford he was remembered even more for his never-failing kindness, his sympathy, his love of children, and his magnetic personality. He was not only a great man, but a most lovable one. It was very fitting that his memorial should stand in a place connected with so many great men of Oxford, and especially of Christ Church, his own college.

After the Vice-Chancellor had unveiled the plaque a wreath of laurel and white heather was placed at its foot by Mr. J. F. Fulton, Magdalen and Harvard, on behalf of the Inter-State Post-Graduate Assembly of American Physicians and Surgeons.

## Tribute by Sir Humphry Rolleston.

SIR HUMPHRY ROLLESTON, in a brief tribute to Sir William Osler's life and work, said:

Osler's services to medicine, like the man himself, were remarkable for their infinite variety; his activities were not mainly confined, as have been those of some heroes of our profession, to one field, such as laboratory research, clinical observation, teaching, or education, for he played a prominent part in all these spheres. Osler first made his mark as a microscopist—in an investigation of the Canadian Diatomaceae, then of the blood-platelets, and somewhat later of the malarial parasite; and as a morbid anatomist at McGill, Montreal, he laid the firm foundations of that sense of proportion so essential for a physician. As a clinician he established new syndromes, such as erythraemia (Vaquez-Osler disease), hereditary telangiectases, splenic anaemia, and pointed out certain symptoms or signs in recognized diseases, so that "Osler's nodes" in subacute bacterial endocarditis are familiar. The most modern

methods of the laboratory were fully utilized to supplement the routine and thorough examination of the patient, the new and the old being skilfully blended so as to obtain the best of both. Like Trousseau he ranged widely over the whole field of medicine and enriched it both by observation and by deductions based on collected statistics—for example, in his studies on endocarditis, cancer of the stomach, and on typhoid fever; his literary output in forty-nine years amounted to more than 770 books, papers, and addresses.

Much learning is sometimes a handicap to a teacher, but ever young in mind, and with a wide sympathy and knowledge of young men—for he was their fellow student all his days—Osler was the ideal and inspiring guide of his pupils. He taught them, not medicine only, but humanity and the way of life, more by example than by solemn precept.

Ever active in the wards, his influence stimulated others to individual observation and research, and so to advance the science and art of healing. His writings, especially his great textbook, remarkable alike for its conciseness, completeness, and atmosphere of personal experience, brought him numberless followers whom he had never met. A happy manner of per-

suasive enthusiasm admirably fitted him as a great leader in campaigns for the prevention of diseases, such as enteric fever, malaria, tuberculosis, and venereal infection, and he not only originated but carried through successfully schemes, for the benefit of the nations. His most remarkable success, however, was as an educator of the medical profession; this was largely due to his personality and to the way he put into effect his motto, "Write me as one that loves his fellow men." A great believer in the educational and harmonizing influence of medical societies and in united effort, he was the moving spirit in starting the Association of Physicians of Great Britain and Ireland, and for its first twelve years the senior editor of its official organ, the *Quarterly Journal of Medicine*. These were but two examples of his many inventions for the good of his fellow practitioners. Devotion to old books and to medical history made him a power for a broad culture, and with Sir Norman Moore and his brother Regius of Cambridge he was largely responsible for the increasing study of this pleasant by-path in medicine. As a tribute to his wide sympathy with all forms of sound learning there could not have been a greater than his election as President of the Classical Association (1919), and thus he recalled the scholar-physicians, such as Linaere, whom he so much admired, and his profession was once more his debtor for an added prestige. We shall not look upon his like again.



The Regius Professor of Medicine, Sir ARCHIBALD GARROD, proposed a vote of thanks to the Vice-Chancellor for presiding, and referred to the position happily chosen for the memorial in close proximity to the statue of Sydenham, and near the figures of Harvey, Hunter, Acland, and Burdon-Sanderson. It had, he said, been the very good fortune of their medical school that the Regius chair had been held in succession by three great men. They recognized in Acland the parent of modern science in Oxford, of which that museum was the chief monument. They recognized in Burdon-Sanderson the father of their physiological department, which they knew to be unsurpassed, and fondly hoped unequalled, by any other university. It was only fitting that the third of these great men should be represented in that corner of the museum, which was in a sense a Valhalla of medicine. They of the medical school were proud of being members of a great university with no narrow outlook, but celebrated the world over as a seat of learning in classics, the humanities, science, law, and medicine.

#### THE OSLER MEMORIAL FUND.

By a recent Decree in Convocation the University of Oxford has gratefully accepted the Fund subscribed in memory of the late Regius Professor of Medicine, and has made the following regulations for its administration:

1. The fund shall be called "The Osler Memorial Fund."
2. A bronze medal shall be awarded once in every five years to the Oxford medical graduate who shall, in the opinion of the Board of Awarders hereinafter constituted, have made the most valuable contribution to the science, art, or literature of medicine, and who has not previously received the medal.
3. For the purposes of the preceding clause the term "Oxford

Medical Graduate" shall mean a person, whether man or woman, who has taken the degrees of bachelor of arts and bachelor of medicine at the University of Oxford.

4. The Board of Awarders shall be constituted as follows: the Vice-Chancellor; two professors of the Faculty of Medicine elected by the Board of the Faculty of Medicine; two persons not being members of the University, elected by the Hebdomadal Council on the recommendation of the Board of the Faculty of Medicine. The elected members of the Board of Awarders shall hold office for five years and be re-eligible.

5. All expenses in connexion with the award of the bronze medal shall be paid out of the income of the Fund.

6. The residue of the income of the Fund may be used at the discretion of the members of the Board of Awarders resident in Oxford in making grants from time to time to teachers in the Oxford Medical School, recognized as such by the Board of the Faculty of Medicine, to enable them to pursue some special study connected with medicine outside the University.

7. Applications for such grants shall be made to the Dean of the School of Medicine, who shall act as Secretary to the Board of Awarders.

#### First Quinquennial Award.

The bronze medal to be given every five years to the Oxford medical graduate who has in the opinion of the Board of Awarders made the most valuable contribution to the science, art, or literature of medicine has been awarded to Sir Archibald E. Garrod, K.C.M.G., F.R.S. D.M., F.R.C.P., Regius Professor of Medicine and Student of Christ Church.

The Board of Awarders consisted of the Vice-Chancellor Mr. Joseph Wells, M.A., Warden of Wadham, Sir Charles S. Sherrington, O.M., President of the Royal Society, Sir Humphry D. Rolleston, President of the Royal College of Physicians and Regius Professor of Physic in the University of Cambridge, and Lieut.-General Sir William B. Leishman, Director-General Army Medical Service.

## THE CHARCOT CENTENARY.

### COMMEMORATION AT THE ROYAL SOCIETY OF MEDICINE.

THE centenary of the birth of Jean Martin Charcot was commemorated by a conversazione and lecture at the Royal Society of Medicine on June 15th. The Fellows and guests were received by the President (Sir StClair Thomson) in the library, where, thanks to the assiduity of the honorary librarian (Mr. Walter G. Spencer), a very large collection of Charcot's writings, original and in translation, including his collected works in nine volumes, and his many essays in periodical literature, was displayed, together with the bibliography, at present only in manuscript, which Mr. Spencer has prepared. Various portraits of Charcot were also on view, including an oil painting lent by the Wellcome Historical Medical Museum, and a copy of the well known print of Charcot delivering at the Salpêtrière a clinical lecture to an audience which included most of the leading French neurologists of the time. Two specimens which Charcot himself brought over to the International Medical Congress in London in 1881, illustrating bone and joint lesions in tabes, were lent for the evening by St. Thomas's Hospital, to which he had afterwards presented them; one of them illustrated spontaneous fracture of the ulna, the other the condyles of the femur, showing the condition generally known in this country as Charcot's disease. The most recent of the Charcot memorials shown was the special medal which has been struck in Paris to commemorate the centenary.

Sir StClair Thomson mentioned that the gathering was honoured by the presence of M. Campana (French Consul-General) and some members of his staff, of Dr. Dubreuilh (Bordeaux), Dr. Jovan Popovic (Jugo-Slavia), a travelling Fellow of the Rockefeller Foundation, and of a number of medical officers of health from ten countries of Central and South America, who are at present in London, under the auspices of the League of Nations, for the study of public health administration. The Académie de Médecine of Paris, which had asked Sir D'Arcy Power to represent it on that occasion, had written cordially thanking the Royal Society of Medicine for joining in the commemoration of the great French physician. Professor Armand, the permanent secretary of that body, wrote that Charcot had

received no higher appreciation anywhere than among the profession in Great Britain. Nor was it forgotten in the Académie de Médecine that the great names of Ferrier and Horsley had secured for British neurology a conspicuous place in the medical science of the world, and that the Neurological Section of the Royal Society of Medicine was ably carrying forward the work of these illustrious seniors.

Dr. FARQUHAR BUZZARD, President of the Section of Neurology, then delivered an appreciation of Charcot. He began with an expression of gratitude to Mr. Walter Spencer for collecting the works of the great Frenchman and arranging them in the library. Those works were sufficient to show how numerous and versatile and historically important were Charcot's contributions to medical science. In a sketch of Charcot's life Dr. Buzzard recalled that he was the son of a working coach painter who, recognizing the brilliant abilities of his son, decided to give him a medical education. The turning point in Charcot's career was his appointment to be medical officer of the Salpêtrière, then what in this country would be called a Poor Law infirmary. He continued to occupy that position for thirty years, making it the chief neurological clinic in Europe. There, in 1866, he inaugurated his weekly clinical lectures, upon which his fame was largely built; in 1869 there appeared the first description of what was named in England Charcot's joint disease; in 1882 a professorship of neurology was created for him, and a neurological institute was founded in which his genius could exercise itself to the full. To get a proper orientation it had to be remembered that Charcot was about twenty years junior to Duchenne of Boulogne, who was the founder of French neurology. The two together might be said to have discovered a new field where the harvest was ripe for the gathering. According to a contemporary, Charcot was more of a co-ordinator and a man of method than a true inventive genius. But he was a pioneer of no ordinary qualities, and he lent distinction to every task to which he set his hand. He was second to none in his ability to make observations, and he excelled all others in his power of measuring the results of his labours and giving them their proper presentation, whether by pen or word of mouth. It

was difficult to think of an instance of a British physician who, in addition to making countless contributions to scientific knowledge, could compare with Charcot in his ability to attract students from all over the world by his inspired gift of exposition. Had he not been a physician, and had the stago been his career, he would not only have been a leading actor and stage manager, but no doubt he would also have painted the scenery and designed the dresses. Dr. Buzzard gave an interesting account of Charcot's domestic life and his daily routine, in which he was as methodical as in his scientific observation. He was not a proud man, he cared nothing for worldly distractions, and his artistic temperament—for he was no mean artist and connoisseur—left him curiously lacking in the ability to appreciate the value of money. He was generally so indifferent to the payment of fees that his patients would come to his secretary afterwards to be relieved of their embarrassment or would leave the fee surreptitiously behind them. The rank of his patients never impressed him. Once when a princess whom he kept waiting sent in some angry remonstrance, he remarked that evidently she was not aware that they had taken the Bastille! But he was, nevertheless, highly appreciative of the honorary distinctions which came to him in his later days from learned bodies all over the world. He was always ready also to give honour to others, and his appreciation of British medicine was high. He was the first to talk of Jacksonian epilepsy, he early recognized the work of Ferrier on cerebral localization, and he supported the election of Lister as a foreign associate of the French Academy. Charcot was to be regarded as one of the founders of neurology, a supreme exponent of the science and art of medicine, and probably the finest teacher of modern times. Dr. Buzzard concluded with some description of the recent centenary commemoration in Paris, which Sir StClair Thomson and himself attended. One of the events was honoured by the presence of the President of the Republic. Altogether it was perhaps the most wonderful tribute ever paid to any medical man, and it was paid to him, not as a scientist, nor

as a discoverer, but just as a physician whose work and personality had made a deep and permanent impression on the science and art to which he had devoted his talents and his life. It was difficult to imagine our own Government commemorating so enthusiastically the work of even a Lister or a Jenner.

Sir DAVID FERRIER, in proposing a vote of thanks, spoke of his personal acquaintance with Charcot, whom he first met, after some preliminary correspondence, about fifty years ago, when for a time he attended Charcot's clinic at the Salpêtrière. Charcot was then at the zenith of his fame. He had converted what was originally a large old workhouse infirmary into the most attractive and most visited clinic in Paris, or indeed in the world. There, in the out-patients' department and in the wards, he demonstrated the wonderful phenomena of hysteria, convulsions, and so forth, and in addition many forms of organic degeneration, such as disseminated sclerosis and the disease which bore his own name. The extraordinary power and fascination he had over his patients was very striking; he could get them to do anything. He was a man of dignified presence, rather sallow in complexion, his cast of face resembling that of the great Napoleon—a resemblance of which he liked to be reminded. On one occasion he had said to Charcot how much the lucidity of French writers was to be admired, and Charcot had answered that the French language did not allow anyone to be obscure. But Sir David Ferrier thought also that much was due to Charcot's own habit of clear thinking and his love of system. He spoke English well, though he was diffident about using it. One domestic recollection which Sir David Ferrier had was of Charcot's son, the distinguished explorer, Dr. Jean Charcot, then a boy of 6, reciting Gray's "Elegy." Shortly before his death Charcot promised to take part in the proceedings of the Neurological Society, but his death (in August, 1893) from angina pectoris occurred before the promise could be fulfilled. His reputation and achievements made him worthy to be called one of the glories of France.

## INTERNATIONAL CONGRESS OF RADIOLOGY.

LONDON, July 1st to 4th.

WHEN in 1891 Crookes discovered that certain corpuscular rays, known as the cathode rays, were created by an electric current passing through a high vacuum tube, there was no obvious indication that a new era in medical diagnosis and treatment was about to commence. Four years later, however, Roentgen discovered that if these cathode rays struck a solid body they gave rise to a hitherto unknown series of light vibrations—as he was not sure of their nature he called them *x* rays—which possessed great powers of penetration through many substances. The medical possibilities of this discovery soon became apparent, and its application became much simplified when Professor Jackson, in 1896, introduced an antienthodal target, thereby concentrating the area of production of the *x* rays and providing a focus for their origin. The gas tube in use to-day remains almost identical with Jackson's model. One of the first *x*-ray photographs taken was the achievement of Sir Oliver Lodge, and very early work was also done in this country by Campbell Swinton; a small plate by him showing the bones of the hand was the first *x*-ray photograph (skiagram) published in the *BRITISH MEDICAL JOURNAL*. The medical application of the new discovery was energetically investigated by Thurstan Holland of Liverpool, Mackenzie Davidson of London, and J. Macintyre of Glasgow, amongst others. Its use for the diagnosis of bone lesions was soon followed by its application to diseases of the kidney, the chest, and the abdomen. Gradually a specialty developed, and radiological departments were established in hospitals under the supervision of trained medical *x*-ray workers, now known as radiologists.

In 1897 the Röntgen Society was founded for the scientific study of the *x* rays, and the improvement of the apparatus by which they are produced; its first president

was the late Professor Sylvanus Thompson. A British Electro-Therapeutical Society was also formed for the investigation of the medical applications of the rays, and a few years later, when the Royal Society of Medicine formed an Electro-Therapeutical Section, the two were merged. At a much later date, in 1920, the British Association for the Advancement of Radiology and Physiotherapy was established, and owing to its representations the University of Cambridge established a diploma in radiology and electrotherapeutics. In 1923 a committee of these three societies, under the chairmanship of the late Sir Archibald Reid, resolved to found the British Institute of Radiology to serve as a clearing house for all matters pertaining to radiology in both its physical and medical aspects. The old chapel of the Russian Embassy at 32, Welbeck Street, was acquired and fitted up for its new purpose, as was described in our issue of November 8th, 1924 (p. 871).

Concurrently with this advance in Great Britain, similar movements were on foot in other countries, and attempts were made to arrange international meetings of radiologists. These plans were seriously interfered with by the war, but meetings of international scope had been held previously in Amsterdam, Germany, and elsewhere, and the British Medical Association encouraged this new department of practical medicine by arranging special sections at its Annual Meetings. Radiological journals also came into existence, and the *Acta Radiologica* of Scandinavia was prominent amongst those making an international appeal. The coming congress in London (from July 1st to 4th) represents, however, a new departure by reason of its magnitude and its extensive programme. It appears likely that a record number of delegates will attend, and that the number of countries represented will be unprecedented.



A matter of great importance has emerged in recent years—namely, the protection of radiologists. The British X-Ray and Radium Protection Committee, formed a few years ago by representatives of the three societies mentioned above under the chairmanship of Sir Humphry Rolleston, issued a preliminary report in 1921, and a second report in 1923; its recommendations have been adopted by almost every country in the world. The assistance of the National Physical Laboratory was invoked, and early in 1924 the committee issued the pamphlet mentioned in our issue of March 8th, 1924 (p. 434), defining various protective measures, both with regard to the equipment of radiological departments and the safeguarding of operators; it may be hoped that such tragedies as have occurred in the past will soon be entirely prevented. The co-operation of radiologists from all countries will materially aid in this by discussion and by the establishment of international standards.

#### INTERNATIONAL CONGRESS.

One of the first proposals of the British Institute of Radiology was to hold an International Congress in London in order to make its objects more widely known and to enlist the co-operation of radiologists in other countries. This proposal, which had the support of the Röntgen Society and the Royal Society of Medicine, met with a very favourable response, and, owing to the number of delegates who have signified their intention of being present (over a hundred representatives are expected from America) and the many papers which have been submitted, the work of the Congress is to be conducted in three sections. As the house of the British Institute of Radiology was not large enough for so many, and to accommodate also an exhibition of radiological apparatus, it has been found necessary to engage the Central Hall, Westminster, where most of the meetings of the Congress will be held.

The Congress will be officially opened on Wednesday, July 1st, at 2.30 p.m., by the Duke of Connaught, who will be accompanied by the Minister of Health (Mr. Neville Chamberlain). A reception will be held by the President of the Congress, Mr. Thurstan Holland, on the previous evening, at the house of the Royal Society of Medicine. As already said, the work of the Congress will be conducted in three sections: for physics, for electrotherapy and actinotherapy, and for radiology, respectively. On the morning of July 1st a joint discussion will be held by the Sections of Physics and Radiology on international units and standards for x-ray work. This important discussion will be opened by Professor Sir W. H. Bragg and Dr. Bédère of Paris. At the same time, in a separate session, papers of more strictly medical interest will be read, dealing with the gall bladder, with radium therapy, and with diagnosis of lesions of bones and teeth, with pregnancy and embryology, and with the urinary tract. On Wednesday afternoon, after the official opening, the discussion on international units will be resumed, and papers on the diagnosis of gall-bladder diseases and on radiotherapy will be read. In the evening the Sylvanus Thompson Memorial Lecture will be delivered by the Duc de Broglie of Paris, his subject being the absorption of x and gamma radiations and the secondary radiations which accompany them.

On Thursday morning the three Sections will continue their work, and among the discussions will be one on actinotherapy, to be opened by Sir Henry Gauvain. In the afternoon a visit will be paid to the National Physical Laboratory at Teddington by the Physics Section, and the other Sections will continue discussions opened in the morning. On Thursday evening, at 8.30, the Congress dinner will be held at the Great Central Hotel, Marylebone Station.

On the morning of Friday, July 3rd, Dr. Rollier and Dr. Leonard Hill will continue the discussion on actinotherapy, and papers will be read dealing with the thoracic organs and x-ray therapy, amongst other subjects. In the evening Sir Berkeley Moynihan will deliver the Mackenzie Davidson Memorial Lecture, on the relation of radiology and surgery.

On Saturday morning, July 4th, papers will be read on the use of radiology in the diagnosis of disorders of the nervous system and on x-ray therapy, and at 12.15 p.m.

the international delegates will meet to make arrangements for the formation of an international committee.

During the Congress an exhibition of radiographs will be on view in the lecture hall of the British Institute of Radiology, including many relating to papers read at the Congress. The Institute building will be used as a central bureau; visitors will be welcomed there, reception rooms being provided for members. A Ladies' Committee has been formed to make arrangements for entertaining the wives of members of the Congress.

An exhibition of radiological, electro-medical, and actino-therapeutical apparatus will be arranged at the Central Hall, Westminster, and will contain all the latest forms of apparatus from this and other countries, the American and German sections being well represented. In this exhibition will be included books and other objects of interest. Visits to Oxford, Manchester, Cambridge, Edinburgh, Glasgow, Salisbury, Stonehouse, and Winchester, with extensions, are being organized, and a garden party will be held on Saturday afternoon.

The President of the Congress is Mr. C. Thurstan Holland, Ch.M.; the Vice-Presidents are: Dr. A. E. Barclay, President of the Röntgen Society; Dr. Stanley Melville, President of the Electro-Therapeutic Section of the Royal Society of Medicine; and Sir Humphry Rolleston, President of the British Institute of Radiology. The general secretary is Dr. Stanley Melville, and the joint executive secretaries are Drs. J. E. A. Lynham and J. Muir, from whom copies of the programme and other information may be obtained. All communications should be addressed to them at the British Institute of Radiology, 32, Welbeck Street, W.1. The fee for membership of the Congress is two guineas. A detailed programme of the Congress has been prepared, and it is intended to publish the papers read at the Congress in the *British Journal of Radiology*.

#### ROYAL MEDICAL BENEVOLENT FUND.

At the last meeting of the Committee fifty-two cases were considered and £573 voted to thirty-nine applicants. The following is a summary of some of the new cases relieved.

M.R.O.S. (1913), aged 35, who helped his father in practice until the father's death last year. Applicant served in France, Salonica, and Egypt from 1914 to 1918, and was discharged on account of dysentery and malaria. Disablement pay £125 per annum. He discharged himself from hospital, but was taken suddenly ill, and is now in lodgings in London at a cost of £2 10s a week. An emergency grant of £20 to help with debts contracted during this illness was paid. The case was brought to the notice of the Fund by the Officers' Association.

Widow, aged 62, of M.R.C.S., who practised in London. She divorced her husband in 1906; he married again, and died in 1915. Since 1920 the applicant has supported herself as a housekeeper in several posts, but she suffers from severe varicose ulcers and has been obliged to give up her posts. She had cerebral haemorrhage on February 15th, 1925. Has recovered to the extent of getting about a little, but could only take a very light post. She has no children and no friends who can give any material assistance. The case was brought to notice by the Charity Organization Society. Voted £26 in twelve monthly instalments.

The daughter, aged 77, of M.R.C.S. Eng. who died in 1872. Applicant and her sister kept a girls' school until too old to carry it on. She has an annuity of £87 and earned £10 last year by teaching French and other languages. A boarder pays £1 a week. Friends contributed £20, and her rent and rates come to £77 per annum. Applicant's sister was an annuitant of the Fund until her death last year. Voted £12 in twelve monthly instalments.

Daughter, aged 29, of L.R.C.P. Edin. (1880) who died in 1915. Applicant was left with her brother and sister to educate. She has struggled to do this by letting and by clerical work. Her salary has been reduced to £2 a week, and letting brought in £32. Rent and rates come to £78 per annum. Applicant asks for help for the fees which are owing for her brother, who is in his last term at school, and for assistance to get him a post in a bank. His ambition is to be a doctor or architect to a solicitor. Her sister also requires some work. Voted £20 and referred to the Guild for further inquiries.

Wife of M.B. who has been in an asylum for the last four and a quarter years. The charges for him have been reduced to £58 a year, and his sister defrays half of this. The applicant's income is about £27 per annum. Her son, aged 26, is a junior clerk at £36 a year. Voted £16 in twelve monthly instalments.

Daughter, aged 69, of M.D. Edin. (1840) who died in 1881. The applicant, though deaf, has managed to support herself. Her only income is £60 from the "Dail" Fund, which she obtained in 1910. Voted £12 in twelve monthly instalments.

Subscriptions may be sent to the Honorary Treasurer, Sir Charters Symonds, K.B.E., C.B., M.S., at 11, Chandos Street, Cavendish Square, London, W.1.

The Royal Medical Benevolent Fund Guild still receives many applications for clothing, especially for coats and skirts for ladies and girls holding secretarial posts, and suits for working boys. The Guild appeals for second-hand clothes and household articles. The gifts should be sent to the Secretary of the Guild, 58, Great Marlborough Street, W.1.

# British Medical Journal.

SATURDAY, JUNE 20TH, 1925.

## GLANDULAR THERAPY.

THE discovery of the manner in which the ductless glands control the activities of the body is perhaps the most striking advance which physiology has made in the last half-century; but unfortunately the study of the physiology of these glands is beset with extraordinary difficulties, and every advance in scientific knowledge has been slowly and hardly won. Physicians, however, have been impatient of this halting progress and have made bold raids into the unknown far in advance of the consolidated positions, and the present result is that all sorts of therapeutic claims are being made which not only lack any support from controlled experiments, but in many cases actually are opposed to such facts as have been established.

The evils of this situation have been exaggerated by commercial interests, which have recognized a rich and easily exploited field. Every registered practitioner is, in consequence, deluged with literature giving lists of extracts of every organ of the body, and making sweeping therapeutic claims in respect of every one. Modern medicine is, indeed, threatened with a reversion to mediæval magic disguised under a pseudo-scientific terminology. Not long ago the *Journal of the American Medical Association* published a series of articles each containing short and simple summaries of what is really known regarding glandular therapy, thus providing the medical practitioner with a standard by which he can judge the truth of the commercial literature.

The articles, which were prepared under the auspices of the Council on Pharmacy and Chemistry of the American Medical Association, have been reprinted in a small volume.<sup>1</sup> Three or four articles are devoted to each of the more important organs of internal secretion. There are twenty-two articles, all by different authors, and the list of contributors includes the names of many of the best known American authorities on the physiology of ductless glands and on glandular therapy. The articles set forth briefly such outstanding facts as have been established with reasonable certainty. The volume is of special value because at present the practice of glandular therapy is in rather an exceptional and doubtful position, for therapeutic practice has completely outrun established scientific fact.

The articles on the pancreas, thyroid, and suprarenal glands are excellent summaries of our present knowledge of these subjects, and as this knowledge is relatively advanced these articles contain fewer controversial statements than those in the second half of the volume, which deal with the pituitary, parathyroid, ovarian, and mammary glands. The writers on these latter subjects adopt an attitude of great caution. For example, Dr. Miller, who deals with pituitary gland therapy, is evidently doubtful whether extracts of the anterior lobe, when given by the mouth, have been proved to produce any certain therapeutic effects; and

Dr. McCann is even more sceptical regarding parathyroid preparations, for in concluding his article he expresses the opinion that "there is no single condition for which the use of parathyroid therapy rests on a firm foundation of scientific proof except the use of autotransplants in tetania parathyreopriva." Dr. Novak, in his article on ovarian therapy, is almost equally cautious, for his main conclusion is "that, rational as ovarian therapy appears to be in some conditions, the results are rarely striking and often nil to the level-headed observer. It cannot be assumed that a commercial extract can replace the normal ovarian secretion in the patient's body, or, for that matter, that it originally contains any of the active hormones of the ovary."

These quotations show that the articles are written in a spirit of healthy scepticism. Since the subject is contentious, most people will not agree with every conclusion, but the series as a whole represents very fairly the present attitude to glandular therapy of the majority of laboratory workers and critical clinicians. It will be found very useful by all those medical practitioners who are interested in glandular therapy, but who are not content to take commercial advertisements as their chief authority in therapeutics.

## SCARLET FEVER.

IN many different laboratories the new views on scarlet fever expounded by the Drs. Dick are being studied critically, and two medical men in Moscow have reported experiments on this subject conducted in Russia.<sup>1</sup> Their paper does not carry the question into any new territory, but it has an interest as a further confirmation of the Dick thesis. To some slight extent the Russian results differ from the American, but only in small matters of detail. Thus in Moscow the Dick reactions on healthy people gave a higher percentage of positive results than has been noted elsewhere. The Russian observers state also that persons who had formerly been ill with scarlet fever sometimes gave a positive Dick reaction on being retested.

Drs. George and Gladys Dick have published another article, entitled "Results with the skin test for susceptibility to scarlet fever: preventive immunization with scarlet fever toxin."<sup>2</sup> The first part of this paper contains a detailed account of the preparation and standardization of the toxin, both for skin tests and preventive immunization. The technical details here recorded should prove very useful to laboratory workers. There follow some observations on pseudo-reactions and different types of skin reactions, advice which will assist the interpretation of difficult or uncertain appearances. It is in the third section of this paper that the authors include the latest of their researches, concerned with active immunization by scarlet fever toxin. Here they have something fresh to say.

Scarlet fever toxin when injected subcutaneously is less injurious than diphtheria toxin, therefore it is not necessary to add antitoxin or to decrease the toxicity by chemical modification in order to employ it in amounts large enough to immunize. To ensure success preventive immunization with scarlet fever toxin must be carried to the point of a negative skin test, and the authors state that "if properly graduated doses are given at intervals of five to seven days, it is possible to immunize all susceptible persons to the point of a negative skin reaction without undesirable results."

<sup>1</sup> *Glandular Therapy*. A series of articles prepared under the auspices of the Council on Pharmacy and Chemistry of the American Medical Association. Chicago: American Medical Association, 1925. (Small 8vo, p. 89; 3 illustrations.)

<sup>2</sup> *Journ. Amer. Med. Assoc.*, May 16th, 1925, p. 1476.

<sup>3</sup> *Ibid.*, p. 1477.

It seems that previous investigators have not given sufficiently large doses of toxin in preventive immunization. Thus, the New York City Health Department, which has employed scarlet fever toxin in preventive immunization on a large scale, has given doses too small completely to immunize the majority of susceptible individuals. Toxin, put up in inadequate doses, is also being widely distributed by commercial firms. Judging from the figures reported by the Dicks, the conclusion may be drawn that the average susceptible individual is not completely immunized until he has received a quantity of toxin equivalent to about 10,000 skin test doses of the phenolized toxin. The first dose should be about 500 skin test doses, the second of 1,500 skin test doses, after which larger quantities may be given without any undesirable reactions.

The active immunity produced by injections of graduated doses of scarlet fever toxin is acquired fairly quickly. Retests after immunizing doses of scarlet fever toxin, made at intervals of three days to a year in a series of 1,634 susceptible persons, showed that immunity commenced to show itself in one to two weeks. To determine how long the immunity lasts after adequate treatment with scarlet fever toxin, groups of persons with positive skin reactions were immunized to the point of completely negative reactions and retested at intervals of three months, six months, one year, and one and a half years. In each case the results were negative, proving that active immunity lasts at least a year and a half.

#### BRISTOL AND OXFORD.

WITH the Royal opening of the new buildings of Bristol University fresh in mind,<sup>1</sup> it is of interest to recall that in 1449 Gilbert Kymer, who had been rector of the Faculty of Physicians in London when the attempt to set up a conjoint college of physicians and surgeons (1423) failed, admitted, in his capacity as Chancellor of the University of Oxford, a certain John Free of Balliol College to the degree of B.A. Free became a Fellow of his college, and presently went to Bristol as rector of St. Michael's Church. But the revival of learning in Italy attracted him, so that with three or four friends he took passage in an Italian ship from Bristol, studied at the Universities of Ferrara, Florence, and Padua, and settled as a teacher of medicine in the first named. Leland credits John Free and his friends with being the advance guard of Englishmen who visited Italy at the renaissance of letters: "primus Anglorum erat, qui propulso barbarie, patriam honesto labore bonis literis restituit." His honest labour made little impression on the city from which he sailed, and higher learning met with small encouragement in Bristol, though schools have flourished down to present times whose pious founders were contemporary with John Free. University College, Bristol, was founded in 1877, and in 1909 King Edward VII granted a charter whereby the University College and the Merchant Venturers' Technical College were fused into a new university. There had been talk of this possibility for some years, but the men who ventured to imagine such an enterprise were regarded as foolish visionaries. Oxford, however, sent its new Regius Professor, Sir William Osler, in 1905 to support unexpectedly these visionaries. Osler, distributing the prizes to the students of the Faculty of Medicine, made the remark in his address that Bristol was the only medical school in Great Britain not in connexion with a university. The question was whether Bristol people had risen to the importance of founding a university with which this

medical school could be incorporated. There could be no question about the advantages to be derived from such a course, and he alluded to the remarkable growth of the medical schools in Manchester and other large centres. There were three essentials to the carrying out of such a scheme—capital, men, and buildings. When they had secured the capital they should not encroach too much upon it for buildings. They should then look for the men, for if the men were worth much it did not matter a great deal about the buildings. There were four kinds of university—first, those which had buildings but neither men nor money; second, those with men, but precious little money, and these often did the very best work; third, those with money and no men; and fourth, those like the one which they might establish in Bristol—a university with buildings, money, and men, which would be worthy of the Empire. Osler's address made a great impression, and his influence must be counted as a considerable factor in getting the university started. At the special congregation held at Bristol University last week, the Vice-Chancellor said that the University of Oxford, which had been closely associated with the university movement in Bristol, proposed to confer an honorary degree on Sir George Wills, joint donor of the magnificent new buildings; and a Latin address of congratulation and good wishes from the University of Oxford was read by Mr. W. W. Ward.

#### OCCUPATION THERAPY IN MENTAL DISORDER.

In his annual report for 1924 Dr. D. K. Henderson, the physician-superintendent of the Glasgow Royal Asylum, again draws attention to the fact that the number of voluntary admissions is approximately half the total admission rate. Naturally he regards this as a satisfactory condition of affairs, since it must mean that gradually the laity are beginning to have more confidence in mental hospitals. The public, he finds, are interesting themselves more in mental hospitals, and, irrespective of alarmist accounts, the distrust and suspicion which has been so prevalent is gradually being dissipated. This, he believes, is largely due to the fact that the relatives of patients, and the majority of patients themselves, realize that their treatment is kindly and considerate, and that everything possible is being done to promote recovery and betterment. Dr. Henderson points out that the institutional treatment of mental cases is by no means the largest part, and he considers that the problem of the care of the mentally ill should be viewed largely as a public health question, which can only be satisfactorily met by co-operation between the medical profession and the public. He refers to the fact that tuberculosis and other physical conditions have only been coped with by campaigns directed to the education of the people in regard to the causes of these diseases and in regard to personal hygiene, and he suggests that, though the problem of the mental health of the community is more difficult, it must be dealt with in the same way. Since a considerable proportion of the cases admitted into the hospital have shown mental symptoms for over a year, he regards it as essential that members of the medical profession should educate the public to seek earlier treatment and to assist in dissipating the idea that it is a family disgrace should one of its members be treated in a mental hospital. The existing overcrowding in mental hospitals Dr. Henderson thinks should be met, not by indefinite extension of the accommodation, but by attempting to devise better means for dealing with early cases and convalescents. He is of the opinion that mental hospitals have never sufficiently appreciated the importance of developing out-patient departments and of organizing social service and home care to a greater degree than has yet been attempted in this country. The account he gives of this work in connexion with the Western Infirmary is interesting, and

<sup>1</sup> BRITISH MEDICAL JOURNAL, June 13th, p. 1098.

indicates that much useful work is being done, especially by preventing mental illness from developing further, or sometimes by effecting a permanent betterment. The report draws attention, as in previous years, to the importance of the development of organized occupational therapeutic work. The Glasgow Royal Asylum now has two pavilions under skilled instructors, whose sole interest it is to occupy groups of patients. It is found that the value of this work is reflected in the general atmosphere of the hospital—the wards have been quieter and the patients better conducted. A series of papers by Dr. Henderson, Dr. A. G. W. Thomson, senior assistant physician of the hospital, Miss Brodie, lady superintendent, and Miss D. Robertson, instructress in the occupational department respectively, dealing with various aspects of this important work was published in the *Journal of Mental Science* last January. There can be no doubt that occupation therapy is one of the most important means of interesting the chronic patients in external affairs and in preventing them from sinking into regressive fantasies and general dilapidation. The ultimate aim of occupation therapy is not merely to interest the patients in modes of activity which are of no real value; it is to start them on work in the schoolroom, as it were, with the idea that they may in time gain a pleasure in useful work and become serviceable social units in the asylum community. In many cases, of course, to arouse interest in work is the first stimulus towards recovery.

#### THE NERVOUS FACTOR IN THE PRODUCTION OF CANCER.

ALTHOUGH it may be said that we know nothing certain at present of the cause of cancer, a considerable amount of knowledge has been accumulated regarding the conditions favouring its appearance in the body. Among these the influence of the nervous system has so far received comparatively little attention. In papers published in this *Journal* in 1903 and 1908, Lenthal Cheatle suggested that a definite relation existed between the incidence and spread of cancer and the innervation of the area involved, and he was able to adduce some striking clinical evidence in support of his theory. Cases recorded by him, in which an extensive rodent carcinoma was sharply restricted in its spread by an adjacent anaesthetic area of skin, are particularly striking in this connexion; and if the modern trend of opinion is correct, that the essential feature in cancer will be found to be a derangement of cellular metabolism, it is not improbable that the nervous system plays a part in the production of the disease. The subject has recently been taken up experimentally by Cramer.<sup>1</sup> His experiments, conducted in the laboratories of the Imperial Cancer Research Fund, London, deal exclusively with the production as distinguished from the spread of the disease, and it is clear that this distinction should constantly be borne in mind. The conclusion he deduces from his experiments is that, although cancer may arise in an area of skin which has been deprived of its nerve supply, the denervation does not induce a predisposition to the disease. This definite result does not, however, exhaust the problem of nervous influence, and Cramer points out that the chronic inflammatory irritation that so frequently constitutes a predisposing factor in the production of cancer is itself dependent on the integrity of the local nervous mechanism. Indirectly, therefore, nervous influence must be regarded as being of great importance in the production of cancer. The experiments referred to were made on mice. A piece of skin on the middle of the back, about 2 cm. long and 1½ cm. broad, was severed from the

surrounding skin and from the underlying tissues, and sewn on again with fine catgut so as to form an autoplast completely freed from nervous control. In some of the animals the severance was complete, in some the skin was left attached by a bridge of tissue 3 to 4 mm. broad. After complete healing the centre of the detached skin was painted with tar twice weekly, and, as a control, also the normal skin on the neck. At the end of nine months twelve of the surviving mice had developed tumours, and of these all had tumours on the normal area but only five on the operated area. Of the latter only one mouse developed a tumour on the operated area previous to showing one on the normal skin. Clearly, then, the operation had not induced any predisposition to the disease. In three of the cases the tumour appeared very late on the denervated skin (after more than seventy paintings), and it appeared probable, from the results of Meeks's observations on the regeneration of nerve plexuses, that nervous control had been re-established in these cases. If these three cases are excluded from consideration it appears that of nine mice, all of which developed tumours on the normal skin, only two showed growths on the autoplasts. An additional observation of interest was made with regard to the characters of the resulting tumours, those on the normal skin exhibiting a much more decidedly infiltrating character than those on the operated area.

#### SPIROCHAETOSIS RIVERENSIS.

New diseases in place of old always attract attention and excite critical consideration; syphilis and yaws have in the past been confused, and South America has several diseases of which we know little and have no experience. As the result of many years' work Dr. Louis A. Micheloni<sup>2</sup> of Montevideo, Uruguay, now describes for the first time a serious disease of spirochaetal origin which occurs in the department of Rivera (hence its name) and in the southern part of Rio Grande, Brazil. It is regarded as a transitional infection standing between syphilis and trypanosomiasis (gambiensis), and is a chronic meningitis which, while not proving immediately fatal, impairs health and leads to death by some intercurrent disease. Spontaneous cure, however, may occur in children and during adolescence, but is rare in adults. The spirochaete resembles *Spirochaeta refringens*, but is thicker and shows more active movement than the *Spirochaeta pallidum*, and is found in the cerebrospinal fluid but not in the blood. The Wassermann reaction is usually positive, but salvarsan and mercury fail to do good and may even do positive harm. It is usually conveyed along with gonorrhoea, and Dr. Micheloni believes that 75 per cent. of the whole population in Rio Grande are infected with the *Spirochaeta riverensis*. While gonorrhoeal pus does not contain the spirochaete, elongated nucleated cells, which may be a transient phase of the spirochaete, are found in it. The ocular symptoms are peculiar, and are thought to be pathognomonic; the spirochaetes are present in large numbers in the anterior chamber of the eye, and can be seen by the infected person; when looking at the sky, in a sort of dreamy way, the patient sees hundreds of thousands, possibly millions, of shining bodies moving quickly before his gaze. The two other cardinal symptoms are tinnitus and cardiac palpitation. The patients are extremely susceptible to ether and chloroform, and sudden death sometimes occurs after exertion; intercurrent infections, such as influenza, are likely to be severe. Dr. Micheloni suggests that patients infected with this spirochaete are thereby protected against carcinoma, but this appears to be no more than a surmise based on the rarity of malignant disease in the areas where spirochaetosis riverensis is prevalent.

<sup>1</sup> Brit. Journ. Exper. Med., vol. vi, p. 71.

<sup>2</sup> Micheloni, L. A.: New York Med. Journ. and Record, 1925, cxxi, 593.

## CENTENARY OF FARADAY'S DISCOVERY OF BENZENE.

THE centenary of the discovery of benzene by Faraday was celebrated at the Royal Institution, where he was professor, on Tuesday last, by the Royal Society, the Chemical Society, the Society of Chemical Industry, and the Association of British Chemical Manufacturers. Faraday himself seems to have attached little importance to the discovery, and turned away to the study of electricity, but his observations were the foundation of the synthetic chemical industry. In the morning a reception was held in the Institution, when a number of relics of Faraday were exhibited, and the President, the Duke of Northumberland, gave an address. He was followed by Professor H. E. Armstrong, and afterwards a number of British and foreign delegates spoke in praise of Faraday. Afterwards Lord Balfour made a speech, in the course of which he said that almost all, if not absolutely all, the most striking developments in the world of industrial production and scientific speculation were associated with the name of Faraday and intimately connected with his discoveries. In the world of practice and in the world of theory Faraday was one of the greatest builders the world had ever seen, but it would be a mistake to exaggerate the immediate effect of those discoveries. A generation had to pass before the first step was taken to turn the discovery of benzene into the commencement of the great dyo industry. Neither statesmen nor men of business had taken all they could from the actual knowledge science had already acquired. The new discoveries made daily in all countries could not be expected to produce an immediate result to be measured either in human convenience or in commercial dividends. In the evening a banquet was given in the hall of the Goldsmiths' Company, when the Duke of Northumberland presided over a representative gathering of British and foreign chemists. The toast of "Chemical science and industrial art" was given by Sir Alfred Mond and acknowledged by Sir James Irvine, Vice-Chancellor of St. Andrews University, Professor Norris, president of the American Chemical Society, and Dr. E. F. Armstrong, the newly appointed managing director of the British Dyestuffs Corporation, Ltd. Professor H. E. Armstrong, in proposing "Our court of assistants," said that one of the chief was benzene itself. The toast was acknowledged by M. Paul Kestner, Professor Cohen, Professor Katayama, Mr. Milno Watson, and Lord Blanesburgh. The Institution has founded a medal, to be awarded perhaps every six years, without regard to nationality, for an outstanding achievement in some clear relation to Faraday's discovery of benzene. The first award was made to Mr. James Morland of Carlisle and Grangemouth in recognition of the signal service he has rendered to chemical science and industry in this country during the last ten years by developing the manufacture of anthracene dyestuffs, and, more recently, by extending their application to silk and wool.

## PEMPHIGUS NEONATORUM.

OUTBREAKS of pemphigus neonatorum have recently occurred in connexion with maternity homes in this country, and to remind medical men of the chief features of this rare disease the Ministry of Health has issued a memorandum.<sup>1</sup> It is a highly contagious disease, and is characterized by the development of bullae or blebs which rupture and heal without a scar. They first appear as small pink spots resembling flea-bites; the spot enlarges, the overlying skin becomes pale and wrinkled, and fluid collects below until a blister half an inch to an inch in diameter has developed; when the covering layer bursts it exposes a round red moist surface surrounded by a bright pink border. Other

bullae may arise, coalesce, and when they burst leave an irregular raw surface. Pemphigus neonatorum is considered by many to be a variant of impetigo contagiosa, its special character being due to the peculiar nature of the infant's skin. Mild and grave varieties have been distinguished in different outbreaks. No severe illness accompanies the mild cases, which end uneventfully in a few weeks, whereas in grave cases extensive eruptions appear all over the body, attended by fever and signs of toxæmia. Such grave cases are often rapidly fatal from pulmonary oedema. Different types of germs have been accused of causing this disease, but no unanimity exists as to the exact nature of the infecting agent. But whatever type of microbe this may be, there is little doubt that the disease is spread by contact with infected material, and that the portal of entry is usually some slight lesion of the skin. Thus, the first bleb often appears at some point of pressure, or where two surfaces of the skin are in close apposition—for example, in the folds of the neck, axillae, groins, and flexures of the limbs. General infection may occur through the unhealed umbilicus, resulting in the early appearance of toxæmic symptoms. In the majority of outbreaks the attendant midwife is the original source of the infection and agent of its spread. Less often the mother or nurse has been discovered to be suffering from the common forms of impetigo or from whitlow. It is advised that the vesicles should be opened, drained, the edges exposed, and the base freely anointed with 2 per cent. ammoniated mercury ointment. Warm baths of weak potassium permanganate solution are said to be useful. The control and prevention of pemphigus neonatorum can only be successful when its highly infectious nature is understood. Nurses or midwives suspected of carrying the infection should be suspended from duty until they have been thoroughly examined and their equipment and apparel effectively disinfected. But the first requirement is early diagnosis of cases, which the Chief Medical Officer of the Ministry asks should be immediately reported to the local supervising authority, in order that prompt inquiry may be made to discover the person who is responsible, and the manner in which infection is being contracted.

## A RADIOLOGICAL METHOD OF INVESTIGATING HEART MOVEMENT.

At the meeting of the Röntgen Society on June 9th Dr. Robert Knox described certain work which has been proceeding in the radiological department of the Cancer Hospital on the investigation of the movements of the heart by the use of x rays with a slit diaphragm and a moving film. Attention was first drawn to this method of examination by Reider and Rosenthal of Munich in 1912, and by Crane in America in 1916; after this the subject seems to have been allowed to lapse for several years, until the opportunity came to Dr. Knox to investigate it further. The patient stands with his chest in front of the tube-box, which has a lead shield with a horizontal slit in the middle of it, and the film is placed in a moving cassette which travels slowly in a vertical direction past this slit so that upon the film there is exposed a continuous image of the moving edge of the heart. As a result of many experiments it has been found that the best records are obtained with eight seconds of total exposure, the film moving about sixteen inches during this time. The positions are so arranged that the edge of the slit to the left projects clear beyond the heart's shadow, or, if the horizontal slit is wide enough to cover the transverse chambers of the heart, the movements of both the left and the right edges may be presented. The resulting image on the film resembles in many points of detail the tracing obtained by the use of the electro-cardiograph. Practically all that the electro-cardiogram shows can be demonstrated by the x-ray record

<sup>1</sup> Ministry of Health, Memo. 103 Med. To be purchased directly from H.M. Stationery Office or through any bookseller. 1925. 1d. net.



the heart if a full examination is made of all its layers, and the x-ray record has advantages over the electro-cardiogram in that it is a faithful record of the actual movements of the pulsating heart. The film shows a number of outlines which are difficult to interpret; for a time it was not recognized that there were what might be described as primary and secondary lines. The primary, which are very pronounced, are obviously the records of the movements of the left ventricle and the right ventricle, the ventricular movements, if examined carefully, giving all the information afforded by the electro-cardiogram and the pulse tracing, and other information in addition. The secondary lines are more obvious on the left side, where the movement is greater. One wavy line appears at the point of maximum expansion of the heart in diastole, where the heart edge impinges upon the pericardium, pleura, and adjoining lung substance. Others on the right side are similarly caused by the transmitted impulses of heart movement upon a buttress of bone. By the use of this method it is possible to measure accurately the transverse diameter of the heart in any of the levels of the cardiac shadow, and to obtain information regarding the movements of the various chambers. In the case of the aorta the method has proved useful for estimating the size of the aneurysm transversely and the character of its pulsation, whether true or transmitted to other structures in its vicinity. It is believed that a comparison of the various measurements will be of the utmost importance in the investigation of cardiac diseases. The degree of dilatation can be estimated, and also the ability of the heart muscle to deal with the dilatation. The transverse width of the heart can be estimated readily by direct measurement from the tracing if the record of both edges of the heart is on the film, the width of the organ in systole and diastole is equally well ascertainable, and the difference between the two gives a rough estimate of the tone of the heart and its contractile power. It is intended to use the apparatus in the investigation of the movements of the normal aorta, to establish, if possible, the normal range of motion of its structure, and to apply the knowledge so gained to the pulsation in aneurysm of the aorta. Possibly the apparatus may also be used for the investigation of other forms of movement—diaphragm, stomach, oedema, and colon. One of the chief difficulties has been the inadequacy of the x-ray apparatus to give a record of the film through a thick subject because of the shortness of the exposure. This difficulty has been overcome to some extent by selecting thin patients, in whom it has been possible to get a faint record of the moving edge of the heart; but more powerful apparatus is required, and the possession of two or more times the intensity of the moderate power available would permit of the radiography of thick subjects at a distance of two metres. Work done at this distance, in Dr. Knox's opinion, would soon place the apparatus on a sound footing for clinical research.

#### EPIDEMIOLOGICAL BUREAU AT SINGAPORE.

In February the Far Eastern Epidemiological Bureau and Information Section of the League of Nations was opened at Singapore. A conference was held from February 4th to 13th, which was attended by delegates from twelve Far Eastern administrations. Arrangements were made for the operation of the bureau, the collection and transmission of epidemiological information to the Governments concerned and to Geneva, and for co-operation between the Governments concerned. The Government of French Indo-China has agreed to broadcast from the Saigon wireless station the epidemiological bulletins of the bureau once a week throughout the East, and to transmit them to Europe. Subject to final approval of the Governments concerned, the conference decided that the first appearance in any part

of Asia or Australia of cholera, plague, small-pox, yellow fever, or the unusual prevalence of any other infectious disease, should be reported to the bureau immediately; and that a weekly bulletin should be dispatched giving the mortality from plague, cholera, or small-pox, indicating the existence of plague infection among rats, and giving notes of any unusual epidemics. Weekly letters would also be forwarded giving supplementary information to the bureau, which would telegraph to all Far Eastern Governments and the head office at Geneva a weekly summary of all this information; monthly and annual publications would be issued later by the bureau. Any of the Governments concerned could obtain from the bureau at any time special information required. The weekly telegrams sent by the bureau will be cabled to Saigon and sent out by broadcast each Thursday, a special wireless message being sent to France and transmitted by telephone to the Central Epidemiological Service at Geneva. It was suggested that some form of advisory council should be established, including representatives of the countries concerned. The Rockefeller Foundation has offered a total sum of \$125,000 for five years on the understanding that if the bureau proves its value by the time this sum is exhausted, the Governments concerned will take the necessary steps to keep it in existence. The Singapore conference reported that it would be necessary to augment this contribution at no distant date. The representatives of Siam and the Straits Settlements stated that their Governments were willing to bear a reasonable share of the expenses of the bureau, and similar support was indicated from other countries. Dr. Gilbert Brooke, of the Straits Settlements Medical Service, has been appointed director of the bureau, and the first bulletin was broadcast on April 4th.

#### MEDICAL SCHOOL ORGANIZATION IN AMERICA.

Dr. A. L. Hoops, principal civil medical officer of the Straits Settlements, paid a three weeks' visit to the United States last year as the guest of the Rockefeller Foundation. He evidently made no holiday of his visit, unless change of occupation be regarded as a holiday, and even so, what he inquired into and learned related wholly to medical and public health questions. The outcome is a pamphlet in which he gives notes of what he observed in various places regarding various matters. These visits to American medical schools furnish information which could, no doubt, be extracted from official publications, but is conveniently condensed in his pamphlet. There are now about eighty such schools in the States, mostly connected with universities. The differences between the best and the worst of them are more marked than in the leading European countries, but Dr. Hoops points out that their degrees alone are insufficient to obtain a State licence for practice, a State examination being also required. He visited two of the best—Johns Hopkins and Harvard. A few schools require that a student shall have taken a degree in arts or science after four years at college before admission to the medical course. Others need only two years. These pre-matriculation studies are devoted to physics, chemistry, biology, and modern languages—French and German. A student is usually over 21 years of age when he applies for entrance to a medical school, and applicants are so numerous that the best schools have a wide choice. The minimum curriculum is four years, and some schools require five. Towards the end of the second year the elements of physical examination and diagnosis are taught in the outpatient department. The third and fourth years are wholly clinical, and after passing the M.D. (not M.B.) examination at the end of the fourth year, about three-fourths of the graduates obtain resident intern appointments in hospitals. At this time the State board examination is usually taken, and failure is the exception. The

intern residence is for twelve to twenty-four months, and the best of the men may stay on for two to five years longer, with free residence and perhaps a small salary, on condition that they devote themselves to intensive study in some special field of medicine. The American medical curriculum has recently been revised in the direction of shortening, the Harvard course being now 900 hours a year instead of 1,300. In preventive medicine and hygiene at Harvard great stress is laid on field work. Each student is required to make a sanitary survey of a city or town. The report consists of: (a) data; (b) interpretation of the facts; and (c) criticisms and recommendations. The survey includes history, geography, topography, climate, geology, population, health organization, water supply, sewage disposal, refuse removal, vital statistics, milk supply, nuisances, industrial hygiene, housing, infectious diseases, schools, markets, slaughterhouses, cold storage plant, educational pamphlets, diagnostic laboratory, meat inspection, district nursing, city planning, food and drug administration, etc. We do not observe any statement as to how long this survey, with its reports, usually lasts. Dr. Hoops also visited three hospitals—Johns Hopkins, Mount Sinai in New York, and a hospital in Boston. At the first named, disease prevention is taught in all the out-patient departments along with the curative work. Patients who can pay are charged anything up to 17.50 dollars a day, the cost being at least double this. The professorial staff are all whole-time officers, and their salaries are paid by the university, not by the hospital. Many other details are given in Dr. Hoops's interesting record of his visits. One conclusion is that in the matter of hustling he has not had much to learn from his hosts in his three weeks' tour.

#### MOSQUITO CONTROL.

In many localities in England and Wales happiness in summer weather, when we have any, is diminished by the mosquito. Even in the immediate neighbourhood of London there are pleasure haunts a visit to which is made memorable for the succeeding days by an almost uncontrollable impulse to scratch. The popularity of several delightfully situated seaside resorts also has been endangered by the mosquito or its congeners, until the local authorities have taken steps to abate the nuisance, unfortunately not always in the right direction, as was made clear in some notes on mosquito control communicated recently to the Portsmouth Literary and Philosophical Society by Mr. G. F. Marshall, Director of the Mosquito Control Laboratory, Hayling Island, Hants, who is known to some of our readers on account of the demonstration he gave to members of the British Medical Association during the Portsmouth meeting in 1923. We have in previous years published accounts of the progress of the campaign instituted on Hayling Island, and Mr. Marshall has now given a useful account of the various measures which may be taken in this country to control the mosquito pest. Mr. Marshall sums up the points for and against such different methods as surface oiling, the use of larvicides, and the abolition of mosquito breeding places by appropriate engineering methods. Naturally, no water should be treated with larvicide unless the presence of larvae has actually been observed, and in organizing a mosquito control campaign in any district the first step is to ascertain which species are prevalent in the neighbourhood, and then to estimate their relative importance as nuisance producers, so that those which are causing the greatest annoyance shall be the primary objects of attack. We notice that the Mosquito Control Laboratory at Hayling Island is offering a service, which will be of great value, by promising to examine and report free of charge upon all specimens of mosquito larvae and adult mosquitos forwarded by post.

#### "PROTOZOOLOGY."

UNTIL very recent times the animal parasites were not only much neglected both in the teaching of medicine and in medical literature, but periodicals devoted to their study were few. A little over two years ago we welcomed the appearance of the *Journal of Helminthology*, under the editorship of Professor R. T. Leiper, F.R.S., of the London School of Tropical Medicine, and director of the Institute of Agricultural Parasitology. We now have the pleasure of welcoming *Protozoology*, which is being issued under the same auspices. Hitherto no English journal has been exclusively devoted to this subject—a subject which includes the parasites of so many important diseases, including malaria, sleeping sickness, kala-azar, amoebic dysentery, and probably many others not yet fully understood. The Institute of Agricultural Parasitology has for its aim the solution of the many parasitic problems affecting animals and plants, and also, directly and indirectly, man. The new journal is intended primarily to provide a means of publication of original communications on the parasitic protozoa observed during the course of the work of the Institute. It is intended at present to issue *Protozoology* in separate numbers when required as a supplement to the *Journal of Helminthology*. The first number contains an article by Dr. J. G. Thomson on a *Giardia* found as a parasite of a parasitic nematode, and articles by Miss M. Triffitt on *Gastrocystis*—a common parasite of sheep in Britain—and on various *Coccidia* found in reptiles at the London Zoological Gardens. The illustrations are in line and half-tone. The new journal is a distinctly valuable contribution to the sciences of protozoology and parasitology, and we hope that the occasions for its appearance will frequently arise.

#### A TOWN-PLANNING JOURNAL.

SPECIALIZATION in modern activities leads to specialization in journalism, some of it ephemeral, some persistent. Of the latter type is the monthly magazine, *Garden Cities and Town Planning*, which is now half through its fifteenth year of publication; and is well written, well printed, and well illustrated. Its issue for June (a copy of which the secretary has sent us owing to the interest excited by the leading article on suburbanization published in our issue of May 30th) contains an article descriptive of no fewer than eight of the special constructive systems of house building which have been devised to meet the urgent national need for more and better dwellings at a time when the building industry is so short of labour that ordinary brick and stone houses cannot be supplied in anything like sufficient numbers. The way in which the brick and stone syndicalists are using their powers of obstruction is one of the most deplorable facts in the social life of the present day. That, however, is merely an aside, called forth by one of the articles in the magazine under notice. Other contributions include an exposition of the scheme of a Public Utility Society at the Garden City of Welwyn; reviews of recent books on housing; and an interesting lesson in mass production showing "How we get our doors." The journal is the organ of the Garden Cities and Town Planning Association, whose headquarters are at 3, Gray's Inn Place, W.C.1.

A DETAILED announcement appears on the first page of the SUPPLEMENT this week giving further particulars of the arrangements made by the Reception Committee, and confirmed by the Council at its last meeting, for the opening by H.M. the King, who will be accompanied by the Queen, of the British Medical Association's New House in Tavistock Square, on Monday, July 13th, at 3 p.m.; and for the dedication by the Archbishop of Canterbury of the Gates of Honour, erected in memory of members of the Association who fell in the war.

# NINETY-THIRD ANNUAL MEETING of the British Medical Association, BATH, 1925.



Doorway of St. John's Hospital. (From a wood engraving by Horace Gerrard.)

THE ninety-third Annual Meeting of the British Medical Association will be held at Bath at the close of next month, under the presidency of Dr. F. G. Thomson, physician to the Royal United Hospital, Bath, and consulting physician to the Royal Mineral Water Hospital. The Annual Representative Meeting, for transaction of medico-political business and discussion of the internal affairs of the Association, will open at Bath on Friday, July 17th. The statutory Annual General Meeting will be held on the afternoon of Tuesday, July 21st, and on the evening of the same day the new President will deliver his Address to the Association. The twelve Sections, among which the scientific and clinical work of the meeting is being divided this year, will meet on the three following days. The list of Sections and sectional officers, together with the full provisional programme and time-table and announcements about hotel accommodation, etc., were published in the SUPPLEMENT to the BRITISH MEDICAL JOURNAL of June 13th, 1925. Further details of the arrangements will appear in later issues. On the last day of the meeting, Saturday, July 25th, there will be excursions to places

of interest in the neighbouring West Country. We publish below the third of a series of descriptive and historical articles on Bath.

## THE BATHS OF BATH.

BY

JOHN HATTON,

DIRECTOR OF THE HOT MINERAL BATHS.

THE Baths of Bath form what is probably the oldest curative establishment in the world. No less than eighteen and a half centuries have passed since the Romans founded their great *Thermae*, and from some time about the year A.D. 54, with scarcely an interruption, the hot springs of Bath have been used for the treatment of rheumatic diseases.

If, for a moment, we may leave the clear light of fact for the mists of legend, Bath's beginning as a place of healing is thrown back still another nine centuries, and the earliest patients are discovered to be a royal prince and a herd of swine. Taking into consideration the somewhat inadequate system of recording then in use, our earliest case record, remembering that its date is 863 B.C., is really remarkably complete.

Bladud, son of a British king, Lud Hudibras, becoming afflicted with leprosy, was banished from his father's court. Outcast, he secured the post of a swineherd in the Avon valley, only to transmit the disease to the swine. Dreading his employer's wrath, the prince drove the herd higher up the valley until they came to a hot swamp. Day after day the leprous pigs wallowed in the steaming morass, with the result that the disease entirely disappeared. The treatment having proved successful in the case of the swine, Bladud decided himself to try balneological measures, with equally happy results. Returning eventually to his home, cleansed of his leprosy, the outcast was welcomed and in due course succeeded to his father's throne. In later years he returned to the scene of his wonderful cure, there to found his capital, and, enclosing the springs, he built the first bathing establishment and

An interesting case, and a picturesque story, perhaps with more than a grain of truth in it; but the proximity of ancient ways and early settlements affords more reliable presumptive evidence of the pre-Roman use of the hot springs.

With the coming of the Romans we get on to surer ground, and in the wonderfully preserved remains of the Baths of *Aquae Sulis* the establishment of a definite system of balneology may clearly be seen.

Roman Bath was essentially a health resort. It was neither a military camp nor a city with a municipal charter, but a spa, drawing its patients chiefly from Britain—soldiers invalided from the garrison stationed in the island, a town councillor from Roman Gloucester—with an occasional visitor from the western parts of the Continent, from the places we now know as Trèves, Metz, and Chartres; no slight journey in those days, and an indication that the fame of the springs had become widely known.

### THE ROMAN BATHS.

The Roman Bathing Establishment, dating in its earlier portion from about the middle of the first century, appears to have been extended or altered at least twice during the subsequent three hundred and fifty years of Roman rule. Evidence of this is clearly seen in the eastern portion of the Roman Baths, which has been excavated during the last



FIG. 1.—Roman Circular Bath. (From a wood engraving by Horace Gerrard.)

two years. Here later hypocausts have been superimposed on previous Roman work, which in its turn had been built on a filled-in bath of still earlier date. When this middle-period work was broken through last year the still perfect masonry of the oldest bath of all was seen again for the first time since it was covered in by the Romans themselves, probably in the second century. At the moment of writing this newly discovered Roman work is not open to the public, but it will be on view before the British Medical Association meeting in July.

Occupying a hall 110 ft. by 68 ft., the Great Bath, with a water surface of 82 ft. by 40 ft., formed the principal feature of the Roman Bathing Establishment. The original pavements, or scholae, surrounding it are in a good state of preservation, and considerable portions remain of the rectangular and semicircular recesses or exedrae, similar to those at Pompeii, three on each of the longer sides, evidently provided for the clothes of the bathers or for rest and retirement.

The large bath was also supplied with a jet of cold water to serve the purpose of a douche or to quench the thirst of the bathers, a long section of Roman pipe remaining *in situ*, which appears to have been used for the purpose of conveying cold spring water to the bath.

Covering the floor of the bath is the original Roman lead, laid in sheets 10 ft. by 5 ft. and weighing 40 lb. to the square foot. The lead was obtained from the Roman mines in the Mendip Hills, a few miles from Bath, while the buildings themselves were constructed of Bath stone, obtained from the hills in the immediate neighbourhood. The preservation of the Roman carvings is a testimony to the lasting properties of this famous building stone.

The well known Roman system of bathing—the preliminary hot chambers, forerunner of the Turkish bath, followed by bathing in the large baths, with subsequent massage and the use of unguents—could here be carried out in every detail. All the baths were supplied with water from the hot springs, and from their construction the several bathing pools, of which no fewer than six have been discovered, appear to have been used at different temperatures.

A large circular bath, some smaller baths, and hypocausts or heating chambers, forming the system of hot-air baths, may also be seen, while, partly obscured by the foundations of the modern Queen's Baths, are other large baths indicating the vast extent of the Roman Bathing Establishment.

The recent excavations have resulted in discoveries of exceptional interest. Two large rectangular baths have been found, over which at later periods the Romans built hypocausts, the pilae of which still remain *in situ*. The apsidal ends of two sudatoria have also been found, one containing a portion of the original tessellated pavement supported on pilae, with the air-shaft intact whereby the heat was obtained from the furnace, which is still clearly visible.

The great culvert, built by the Romans for carrying off the waste water from the baths, has also been discovered, and, its masonry still sound and watertight, is now used for its original purpose, while under the King's Bath the waters of the King's Spring are still protected and enclosed by the Roman reservoir built in the first century to conserve the mineral water and prevent the admixture of any cold or surface water.

A small ante-chamber has just been built to enable visitors to see the head of the culvert and the Roman arch in the outer wall of the reservoir, and the steps which led to the dipping well whence the Romans drew the mineral water for drinking. Until this well was found it was always supposed that the Romans only used the waters externally, but the discovery of drinking cups in the bottom confirmed the view that from this

well, supplied, as is the Pump Room to-day, with water from the King's Spring, the Romans obtained the mineral water for internal use. An inscription over the bronze doors of the ante-chamber records that—

"This Hot Spring used by the Romans has been from time immemorial the principal source of the health-giving waters of Bath."

#### THE BATHING ESTABLISHMENT TO-DAY.

As this article is not intended to be a disquisition on Roman remains, it is time to leave the ancient and visit some of the modern departments of the bathing establishment. These represent a capital value of well over £200,000, and constant improvements to meet the advance of knowledge, and (so far as the past few years are concerned) almost continuous additions, have produced an exceptionally well equipped balneological institution.

Three buildings in close proximity form the principal part of the bathing establishment. The Queen's Baths, adjoining the Grand Pump Room; the Royal Baths opened in 1916 by Field-Marshal the Earl of Ypres on his return from France—a graceful recognition of the action of the Bath Corporation in placing the facilities of the baths at the disposal of the army medical authorities (and it may be recorded that Bath had the privilege of giving no fewer than 226,889 treatments to men wounded and invalided in the great war); and the Old Royal Baths, at present undergoing reconstruction as a suite for Plombières douches and large pool treatment. The Bath Street wing of the Royal Baths was opened in 1919 by Dr. Christopher Addison, the first Minister of Health, and the electrotherapy department was added a couple of years later.

Let us for a moment follow a patient visiting Bath for "the cure." First he will come to the booking office in the entrance hall of the Royal Baths, and there presenting his doctor's prescription, arrange the times of the treatments and receive the appointment cards and the bath tickets, purchasing at the same time a visitor's ticket, which gives the entrée to the Pump Room and the gardens and admission to the concerts and entertain-

ments—a kind of voluntary *kur-tax*.

Now he will go to one or other of the three main departments for his bath or other treatment. It may be a deep bath, the oldest and perhaps the most important form of treatment. Immersed in some five hundred gallons of the mineral water, freedom of movement is easy, and the under-current douche—a powerful jet of water usually at a higher temperature than the bath—can be applied to any part of the body. Patients too helpless even to walk down the steps are lowered into the water in chairs actuated by hydraulic power. Or he may be ordered the modified form of immersion in a reclining bath, or the more tonic procedure of the aeration bath.

When the stage is reached for something more vigorous perhaps some form of douche massage may be prescribed. Bath was the first spa to introduce the Aix douche into Britain many years ago, and the natural hot mineral water douche combined with massage and movements has ever since held a prominent place in the Bath system. There has been a great demand for both Aix and Vichy douche treatment; two of the Vichy douche suites are now being enlarged, and it is hoped, before the meeting of the

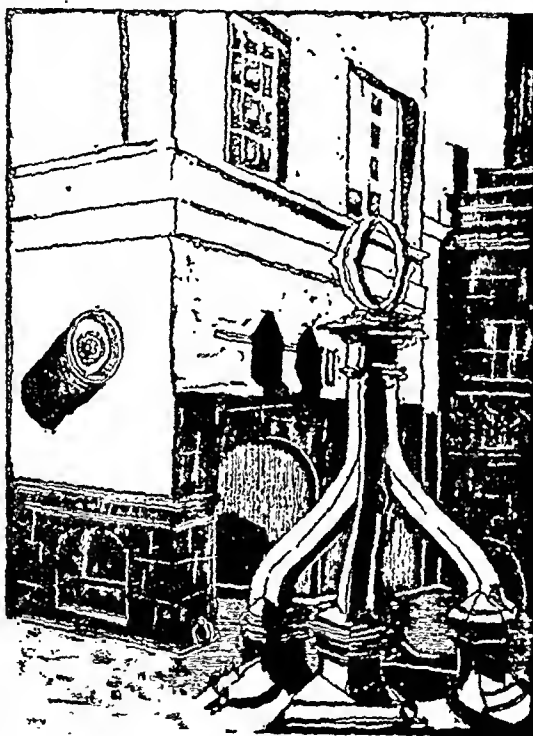


FIG. 2.—The King's Bath. (From a wood engraving by Horace Gerrard.)

British Medical Association, to have an entirely new suite completed and ready for use.

Intestinal douching on the Plombières system was introduced some years ago, and successful results necessitated more and more accommodation. Now it has been decided to concentrate this treatment in one building, and the visitors in July will find the Old Royal Baths in the process of being reconstructed into a suite of Plombières baths, embodying the details of equipment which have proved successful at Bath, together with the experience of Continental spas.

The Old Royal Baths were designed by John Wood the younger in 1778, and in adapting them to modern requirements every care has been taken to retain Wood's ingenious planning and the many delightful old features that give the characteristic Bath flavour. In the centre of the block is a large pool supplied direct from the Hot Bath Spring which will be used for the treatment of spastic and flaccid paralysis by voluntary and controlled movements, which has been in successful use at Bath for some time.

The concentration of the Plombières douches into the Old Royal Baths will release some particularly good rooms in the Royal Baths for vapour treatment, now given on the lower floor of the Queen's Baths. In certain gouty conditions, and in some of the subacute and chronic forms of eczema, this treatment by the vapour from the mineral water is much used.

Sir William Ramsay's estimation of the exceptionally high radium content of the natural gases which are given off from the springs led to the installation of throat and nasal sprays in which the mineral water is atomized by these radio-active gases, and of means whereby the natural gas may be administered by inhalation. The gas is 96.4 per cent. nitrogen and 3.6 per cent. CO<sub>2</sub>, and the nitrogen contains the rare gases argon, neon, and helium. The niton or radium emanation in the gas is equivalent to 33.65 milligrams of radium per million litres. The room for this treatment is in the Queen's Baths, directly overlooking the King's Spring, whence the water and gas are collected.

Many other methods are in use, but this article must not resolve itself into a mere list of treatments available at the baths; there will be many opportunities of seeing them all demonstrated during the third week of July. Brief mention, therefore, need only be made of the Department of Electrotherapy, where the usual light and heat treatments and the various hydro-electric methods are administered, and ionization, diathermy, high frequency, and other treatments are employed, usually in conjunction with the mineral water baths, which are often ordered only on alternate days. A useful addition—an ultra-violet ray room for general irradiation—was opened last month by Dr. Leonard Hill, F.R.S., director of the Physiological Department of the National Institute for Medical Research.<sup>1</sup> There is also one of the very few installations in this country of Zander machines for mechanotherapy.

There are two large swimming baths supplied with mineral water cooled to about 80° to 84° F., which afford an agreeable form of bathing for patients who have reached the convalescent stage and are ordered the full use of their limbs. And they fulfil the no less useful purpose of helping

to keep in health those who resort to them for the exercise of swimming.

#### *The Pump Room and King's Bath.*

The internal use of the waters is an important part of the "cure," and the Pump Room, where the waters are served for drinking, is the meeting-place of all who come to Bath. This handsome, well proportioned building, designed by Baldwin in 1796, bearing on the pediment the appropriate motto from Pindar, ΑΡΙΣΤΟΝ ΜΕΝ ΥΔΩΡ,<sup>2</sup> is a fine example of a great Georgian apartment. At one end is the musicians' gallery, and at the other a statue of Beau Nash by Hoare. Below is the famous Tompion clock to which Dickens alludes in the pages of *Pickwick*. It occupied a place in the first Pump Room, built in 1704 under the auspices of Nash, to whom the clock was given by its maker, Thomas Tompion, the most celebrated of all English horologists, in gratitude for benefits received from the Bath waters. Some of those, by the way, who motor from

London to the Annual Meeting—which they can do without getting stuck in the "bottle-neck" of Brentford now that His Majesty has opened the great wide way to the West—may remember that it was this same Thomas Tompion who was called in to measure with accuracy and precision the famous Bath Road, which he found to be 107 miles from London to Bath.

To return to the Pump Room where Tompion's clock still ticks—there are some beautiful original settees of Chippendale period and a couple of sedan chairs, and several portraits of notables connected with Bath.

The concerts proper—the morning music in the Pump Room is really to stimulate conversation and enliven the process of drinking water, actually odourless and almost tasteless, but declared by Sam Weller to have "a strong flavour of warm flat-irons"—are held in the concert hall of the Roman Promenade, a building designed by Brydon in 1897 and forming part of the same block. Here the Pump Room orchestra plays from October to May, while from May to October the band performances are given in one or other of the

parks and gardens. The Institution Gardens are quite near to the bathing establishment, and here during the summer season the waters are also served for drinking *en plein air*.

Perhaps the most interesting thing about the Pump Room is the view of the King's Bath from the large window on the south side. In the centre rises the King's Spring, the largest of the three hot springs supplying the baths and Pump Room. The others—the Cross Spring and the Hot Bath Spring—rise a short distance only away, within the precincts of the bathing establishment, the three yielding half a million gallons a day. The water rises at a temperature of 120° F., and in quantity and temperature the springs are entirely unaffected by climatic or seasonal changes.

In the eighteenth century the King's Bath was the fashionable bathing place, although when Pepys visited Bath in 1668 he "looked into the Baths, and found the



FIG. 3.—The Bath Street Colonnade of the Royal Baths. (From a wood engraving by Horace Gerrard.)

<sup>2</sup> ΑΡΙΣΤΟΝ ΜΕΝ ΥΔΩΡ—

"Which means 'The pure Element  
Is for Man's belly meant!'"

*Ingoldby Legends.*

<sup>1</sup> BRITISH MEDICAL JOURNAL, May 23rd, 1925, p. 582.



King's and Queen's full of a mixed sort of good and bad, and the Cross almost only for the gentry." The broad pencil of Rowlandson and other caricaturists found ample material in the mixed bathing of the Georgian period—the gentlemen in canvas waistcoats and drawers, the ladies' robes adorned with yellow ribbons. Floating on the water were little trays containing scents and sweetmeats for the delectation of the bathers, while their friends strolled on the broad paved promenade surrounding the bath, finding, with Christopher Anstey, that

"'Twas a glorious sight to behold the fair sex  
All wading with gentlemen up to their necks."

The handsome stone balustrade still exists, with the inscription recording that it was the gift in 1624 of Sir Francis Stonor, Kt., in return for relief given by the bath from "gout and aches in the limbs," the donor "living many years after well in health to the age of near ninety."

The brass rings in the walls, the votive gifts of grateful bathers between 1602 and 1784, bear many interesting

inscriptions. One is inscribed with the name of Barbara, Duchess of Cleveland, and another was presented by John Revet, brazier to King Charles the Second, who attributed his recovery to "God's Marey and Pumping."

Flowing from unknown depths for untold ages, the King's Spring is the very *fons et origo* both of the bathing establishment and the city of Bath itself. One side of the King's Bath forms part of the Roman *Thermae*, opposite is the wall of the eighteenth century Pump Room; the west end of the bath is the beginning of the present bathing establishment with all its modern equipment and scientific methods, while at the other end is the concert hall to remind us of the im-

portant part music and recreation now play in a spa cure.

To the building of the King's Bath Roman and Saxon, Norman and Tudor, Georgian and succeeding generations, have in turn contributed, thus, as an inscription on the south wall records, connecting in work and object the modern with the ancient world.

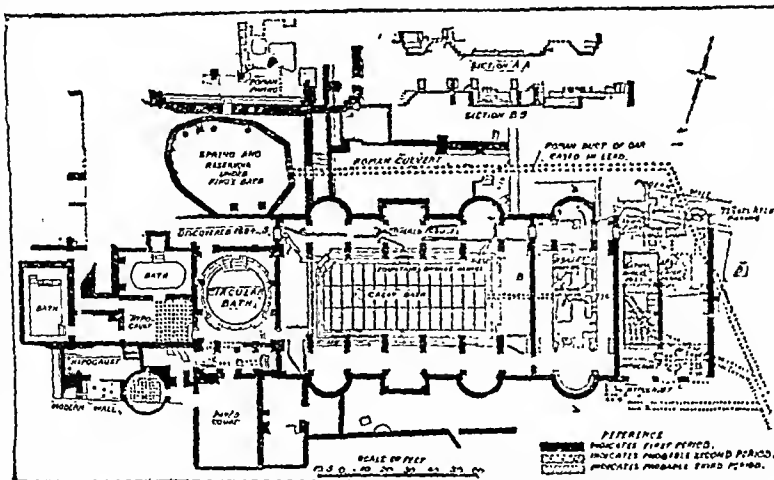


FIG. 4.—Plan of the Roman Baths at Bath. (By kind permission of Mr. Alfred J. Taylor, Architect to the Baths Committee.)

## England and Wales.

### NOTTINGHAM GENERAL HOSPITAL: RANSOM MEMORIAL LABORATORY.

THE new Pathological Laboratory of the Nottingham General Hospital, which has been instituted in memory of Dr. William Henry Ransom, F.R.S., and his son, Dr. William Bramwell Ransom, was opened on June 12th by Sir John Rose Bradford, K.C.M.G., C.B., F.R.S., consulting physician to University College Hospital, London. The ceremony was held in the board room of the hospital. Sir Charles Seely, who presided, read a message from Mr. James Forman, president of the hospital, expressing deep regret at being unable to be present and pay respect to the memory of two men, father and son, who did so much for Nottingham and its General Hospital. The chairman said that Dr. W. H. Ransom was appointed honorary physician to the institution in 1854, and continued as senior physician until 1890, when he resigned. His place was taken by his son, who carried on the duties until 1909. During their combined period of office the medical profession and the hospitals of the country performed one of the greatest services to the human race which any set of men had ever done; the happiness and comfort of life had increased enormously. In the general advance of medicine and surgery the Ransoms bore a full share of the work. He did not suppose anyone had striven harder for their fellow men, and with less regard for their own comfort and health.

Sir John Rose Bradford, in the course of his address, paid tribute to the distinguished services rendered by the Ransoms to medicine and to science, and to their work in promoting the welfare of the inhabitants of Nottingham. For over half a century father and son were identified with the manifold activities of the city. Neither confined himself to the narrow pursuit of his profession, but each took an active part in all work designed to make the individual more efficient for the discharge of his duties as a citizen. It was only fitting, therefore, that some acknowledgement in the form of a permanent memorial should mark the

appreciation felt by their fellow men for their devoted work. The elder and the younger Ransom resembled each other in that their early work was not concerned with the investigation of a definite medical problem, but was carried out with the object of elucidating some fundamental question in biology. In other words, before specializing in their life work as practitioners of medicine, they acquired a wide practical knowledge of the larger subject of biology, of which medicine was but a part. The history of medical science, like that of science in general, taught that the great advances had come about as a result of some discovery in what was misnamed abstract science. Nowadays the value of laboratories and laboratory methods in the daily work of medicine was so universally recognized that not only could no hospital dispense with one, but no practitioner could do his work without having means of access to such an institution. The Ransoms were pioneers in recognizing that development must take place, and each throughout his career developed such methods to the fullest possible extent under the conditions then existing. It was more especially for that reason that the form taken by the memorial was so singularly appropriate.

At the conclusion of the ceremony the Bishop of Southwell performed a short dedicatory service; and a vote of thanks was accorded to Sir Charles Seely, Sir John Rose Bradford, and the Bishop, on the proposal of the senior physician, Dr. F. H. Jacob, seconded by Mr. J. K. Wright. Afterwards the company proceeded to the new department in Amberley Street.

The Ransom Memorial Laboratory, designed by Messrs. Evans, Clark, and Woolf, is admirably equipped and is already in full working order. The medical staff has long felt the need of a pathological department as an integral part of the hospital. The laboratory is in charge of Dr. J. Kilian Clarke, late of St. Mary's Hospital, London.

### A NEW LONDON RESERVOIR.

Less than a generation ago it seemed not improbable that London would go to the mountains of Wales for its water. A Royal Commission made a long inquiry, and a scheme was drawn up, but to carry it out would have

involved a very large capital expenditure. Nothing came of it, and the Metropolitan Water Board proceeded to develop local sources. It seems now certain that water for London will in future, as at present, continue to be drawn from the Thames, supplemented by the Lea and certain chalk wells. Guided by its medical adviser, Sir A. C. Houston, Director of Water Examination, and by its engineers, the Metropolitan Water Board has succeeded in instituting effective methods of purifying river water, and the policy has necessitated the establishment of large reservoirs both for settling and for storage. Twelve years ago the King and Queen visited the then new reservoir formed at Chingford, in the Lea Valley; the ceremony took place at the tercentenary of the opening of the New River works due to the genius of Sir Hugh Myddelton. That reservoir, which bears the name of King George, has a capacity of nearly 3,000 million gallons, and cost £407,000. A still larger reservoir has recently been completed at Littleton, near Staines, for Thames water; its capacity is 6,750 million gallons, and when quite completed it will have cost £2,145,364, including all buildings, machinery, and conduits. Its banks have a circuit of four miles, embracing 800 acres, and when filled it could provide anchorage for a fleet of battleships. It is larger than all the other Thames Valley reservoirs put together, and will hold enough water to supply the seven million inhabitants of London for a month. The King, who was accompanied by the Queen, visited the reservoir on June 13th. After inspecting the intake from the river and then crossing a handsome granite bridge carrying the road over the intake Their Majesties went on to a granite platform forty feet above the bed of the reservoir; the King, by pressing a button, started the pumps and said, "I name this the Queen Mary reservoir." At a dinner in London in the evening, when Mr. J. C. Musgrave, chairman of the Metropolitan Water Board, was in the chair, the toast to the Ministry of Health was given by Mr. E. B. Barnard, who said that the undertaking of the Board was the greatest municipally owned thing in the world. Lord Long was right when he took the supply of water out of the hands of companies, because he believed that nothing touching public health should be subject to the temptation of profit. The toast was acknowledged by Sir Arthur Robinson, First Secretary of the Ministry of Health. Lieutenant-Colonel J. B. P. Karlake then submitted the toast of the constituent authorities, through whose co-operation it had been possible for the Water Board to carry out the work it had accomplished during the last twenty-three years in improving and supplementing the water supply of London. The toast was acknowledged by the chairman of the London County Council. Lord Desborough, chairman of the Thames Conservancy Board, in responding to the toast of "The Visitors," said that the Board's increased storage capacity would relieve the Thames Conservancy of considerable anxiety in times of drought. In 1921, when for some months the rainfall in the Thames Valley was little or nothing, instructions were issued to millers and lock-keepers to store water in the forty-seven reaches along the 136 miles of river. If the Water Board told the Conservancy that it wanted to pump water so stored it would be possible to save the metropolis from the menace of drought in future. Should London be menaced with drought this year, and the Board informed the Conservancy of its needs, the Conservancy could let down from the Cotswold Hills water thus stored and the Board could pump it up.

#### HARVEIAN SOCIETY OF LONDON.

The annual dinner of the Harveian Society of London was held on June 11th at the Connaught Rooms, under the presidency of Sir John Broadbent. A large number of distinguished guests were present. Sir Humphry Rolleston, proposing the toast of "The Harveian Society," referred to many present and past distinguished members, and also mentioned the Harveian Lectures. The President, replying, touched on various sides of Harvey's life and work, including the occasion of his appointment to St. Bartholomew's Hospital, when he drew up regulations for its internal administration. In these rules were instructions

that the surgeons should consult with the physicians in all difficult cases, and that the surgeons should not operate on the body nor give treatment without the consent and direction of physicians. All the regulations were approved by the hospital, but Sir John Broadbent believed that conditions had somewhat altered since. He referred also to Mr. Buckston Browne's gift of a portrait of Harvey and £1,000; the interest of this sum would be devoted to the presentation of a prize of £50 in alternate years, together with a medal designed by Mr. Langford Jones, who was present at the dinner. The toast of "The Visitors" was proposed by Mr. V. Zachary Cope, and Sir William Leishman, Sir StClair Thomson, and Sir Edward Marshall Hall replied. Sir StClair Thomson, speaking at times with something more than a shade of American accent, due, as he explained, to events of the last fortnight, referred to many of the visitors present in a characteristically witty speech. He repelled the insinuation that he himself was a visitor, and insisted that he had been a member of the Harveian Society for thirty-two years, and still paid his subscription.

#### THE MEDICAL WOMEN'S FEDERATION.

The membership of the Medical Women's Federation at the end of 1924 reached the figure of 900. At the annual meeting held last month in London it was decided that a fund should be raised for endowing a bed in the Taylor Memorial Home for Incurables, at Birmingham, in memory of the late Dr. Mary Sturge, a former president of the federation. Miss Frances Ivens was re-elected president at the half-yearly meeting of the council. Reports were also received from subcommittees appointed to consider lunacy reform, assaults on young persons, the defence of married medical women, and the Nursing Homes (Registration) Bill. The national corresponding secretary of the Medical Women's International Association stated that the association was extending in various countries; the German medical women had formed a national association with a membership approaching 600.

#### MEMORIAL TO THE LATE DR. T. D. LISTER.

On May 30th the council of the National Sanatorium Association entertained the delegates of the conference of the Post Office Sanatorium Society at the National Sanatorium, Benenden, and a memorial tablet to the late Dr. T. D. Lister was unveiled by the chairman of the Council, Mr. R. E. V. May. In an address the services of Dr. Lister to the Benenden Sanatorium and to the antituberculosis campaign in general were strongly emphasized. The tablet, which is in the entrance hall, bears the inscription: "Erected by the Council of the National Sanatorium Association, Benenden, Kent, to commemorate the untiring zeal and devoted service of Thomas David Lister, C.B.E., M.D., M.R.C.P., one of the founders of this institution, and for 17 years advisory physician to the Council, who by his personal sympathy endeared himself to all. Born January 30th, 1869, died July 30th, 1924." A tablet has also been placed in a room in the sanatorium to the memory of Dr. David Duncan Reid, who died last November. He was vice-chairman of the National Sanatorium Association, and member of the Hospital Saturday Fund Committee.

## Scotland.

#### PATHOLOGICAL BIOCHEMISTRY IN THE UNIVERSITY OF GLASGOW.

The University and the Royal and Western Infirmarys of Glasgow have recently received considerable benefactions for the purpose of promoting the advancement of medical knowledge by biochemical and other scientific methods. At each infirmary suitable laboratories are being provided and equipped, and the University has agreed to co-operate by providing at each a university lecturer in pathological chemistry, who shall also be appointed by the infirmary its clinical biochemist. The stipend of the joint post, which is a whole-time one, will be £700 a year. The duties include the giving of practical instruction in biochemical methods to students and practitioners, promoting the advancement

of medical knowledge by scientific investigation, and assisting the physicians and surgeons by undertaking chemical examinations and tests in relation to their patients. It is expected that appointments to the new offices will be made during the summer vacation.

#### MAINTENANCE OF VOLUNTARY HOSPITALS IN SCOTLAND.

In an address delivered to the annual meeting of the Scottish Clerks' Association in Glasgow, on May 30th, Sir George Beatson said that reorganization of the hospital system was urgently necessary. Suitable hospital treatment should be placed within reach of all classes of the community. What he would like to see in the hospital system was (1) improved co-ordination between all the hospitals; (2) abolition of Poor Law hospitals; (3) restriction of the services of the existing voluntary hospitals to the needs of poorer artisans and manual workers, with the adoption of a contributory system of payment carried out by insurance; (4) the establishment of paying hospitals with moderate charges for the upper middle classes; and (5) nursing homes with higher charges for the more wealthy classes. The question of approved societies providing hospital treatment for their own members was of great importance. This he thought might give a lead which would materially help to a solution of some difficulties in the hospital crisis. It seemed to him that there were three lines of policy open: one was to follow the present practice of making application to the voluntary hospitals in the usual way and waiting their turn of admission for free treatment while the society made a contribution to the funds of the hospital; secondly, an arrangement might be made with different hospitals for members who wished to be admitted as contributory patients making a payment based upon the cost of maintenance, and for this the society would require to charge its members a separate insurance fee; thirdly, the society might itself arrange to provide hospital treatment for its own members and dependants by having its own hospital, the cost to be met by a special insurance rate. He thought that no one could be satisfied with the system under which the voluntary hospitals were conducted at present, for they were largely utilized, free of cost, by patients for whom they were not intended. This state of affairs was not due to patients being unwilling to pay, but because hospital directors seemed unwilling to depart from the open-door plan, despite the fact that they saw it entailed financial embarrassment. To apply legacies to annual current expenses was open to grave objection and contrary to the first principles of sound economy. If hospital expenditure were examined it was found that it was divisible into two main groups, the first including the maintenance of the hospital itself (two-thirds of the annual expenditure), and the second the maintenance of the patients (one-third of the annual expenditure). He thought it would be a fair arrangement to place the larger amount on the general public and the smaller share on those who were less favoured financially. Such a maintenance payment need not be heavy and might be made up by a very moderate weekly insurance charge. He could only offer a very general calculation as to what the amount of this should be. Assuming, as hospital figures showed, that the stay of a patient in hospital averaged three weeks, the total cost for an operation case would be about £3 18s. 9d., for a non-operative surgical case £2 17s. 9d., for a medical case £2 6s. 9d. Such payments would relieve the hospitals of a great financial strain, would bring in an assured annual income, and would leave legacies and all annual subscriptions to be devoted to the upkeep and improvement of the hospital itself.

#### CLINICS FOR CRIPPLED CHILDREN.

At a meeting of the Edinburgh Branch of the Chartered Society of Massage and Medical Gymnastics held in Edinburgh for the purpose of raising the initial funds to establish a clinic where massage and remedial gymnastics would be available at a low cost for crippled children, Mr. W. A. Cochrane, F.R.C.S.E., indicated the close association between ordinary orthopaedic work carried out in hospitals and the work of the society in relation to all kinds of deforming and crippling diseases amongst children. It was important to link up such work with the care and cure of

the crippled child. There were in England and Wales at the present time about 150,000 crippled children, and these were being augmented at the rate of 15,000 a year. It was estimated by the Central Committee for the Care of Cripple Children that 10,000 beds were actually required for their treatment, while there were only 3,000 at the present time available under the county schemes in England. The waiting lists in hospitals were so large that the crippled child had to take his turn after more urgent cases, and was discharged immediately after an operation, so that after-care could not be carried on. Under the schemes for county clinics small clinics would be provided at different centres where after-care sisters, as they were called, could see the mothers and advise them. Cases would be drafted into hospitals as necessary and after treatment sent back to their homes to be followed up from the after-care clinics. This work was being done both in England and in Continental countries, while in America, as the result of a special organization, clinics were in operation all over the United States and Canada caring for about half a million cripples. How many crippled children there were in Scotland was not known, but he specially recommended this cause to public munificence and generosity.

#### HOME RELIEF FOR INCURABLES.

The annual general meeting of the Royal Society for Home Relief for Incurables, Edinburgh, was held in Dowell's Rooms, Edinburgh, on May 29th. Dr. William Robertson, medical officer of health for Edinburgh, presided. The chief object of the society is the payment of a money grant of the value of £10 a year to persons resident in Scotland who are certified to be suffering from incurable diseases, and who are, as a result, no longer able to earn a livelihood. The annual report stated that during the past year the sum of £4,784 had been paid in this manner. The chairman referred to the greatness of the work of the society, which lay in the fact that it threw gleams of light into the lives and homes of the most unfortunate. He was, however, glad to see on glancing down the list of diseases which called for their assistance that there were some which were preventable, and he would predict with considerable confidence that the demands on the society would be reduced when medical science was able to bring its weapons to bear on some of the diseases for which assistance was at present given.

#### NEW EDINBURGH HOSPICE.

The Elsie Inglis Memorial Maternity Hospital was visited on May 30th by the members of the Edinburgh Women Citizens' Association. The hospital, which will, it is expected, be open in July, will be staffed entirely by women. When in full working order there will be accommodation for 50 patients, in addition to provision for 10 ante-natal cases, 22 nurses, 8 resident women medical students, and the administrative staff. The building and grounds have cost £40,000, and this sum, together with sufficient money to pay for equipment, has already been subscribed. The income of the hospital will be derived from paying patients, from the maternity benefit of insured persons, and from public subscriptions. The number of beds used will depend largely upon the funds derived from the last-named source.

#### HOSPITAL COLLECTIONS.

At a meeting of the board of managers of the Royal Infirmary of Edinburgh on June 1st it was reported that the receipts during the past two weeks had amounted to over £7,050, including a sum of £5,161 on account of money collected by the pageant and other activities held on the badge day, Saturday, May 23rd. A contribution from the Prudential Approved Society in recognition of treatment received by members of that society for the quarter from March 31st, 1925, amounting to £709 15s., was also intimated. Last month an effort made by Aberdeen University students to raise funds for the local hospitals was completed, with the result that £4,945 was collected. An annual effort of a similar nature made by Aberdeen students during the past six years has resulted in the collection of a total of £22,039 for Aberdeen hospitals.

## CENTRAL MIDWIVES BOARD FOR SCOTLAND.

The examination of the Central Midwives Board for Scotland, held simultaneously in Edinburgh, Glasgow, Dundee, and Aberdeen, has just concluded. Out of 129 candidates, 120 passed. Of the successful candidates, 26 were trained at the Royal Maternity Hospital, Edinburgh, 24 at the Royal Maternity Hospital, Glasgow, 5 at the Maternity Hospital, Aberdeen, 13 at the Maternity Hospital, Dundee, 11 at the Queen Victoria Jubilee Institute, Edinburgh, 11 at the Cottage Nurses' Training Home, Govan, Glasgow, and the remainder at various recognized institutions.

INTER-STATE POST-GRADUATE ASSEMBLY  
OF AMERICA.

## VISIT TO LIVERPOOL.

A COMPREHENSIVE and varied programme had been arranged beforehand for the visitors on June 8th, 9th, and 10th. The staffs of the four general hospitals provided ample opportunity for the exhibition of cases, practical demonstrations, and varied surgical procedures. The formal welcome took place at the Liverpool Medical Institution on June 8th, where every facility was provided for the visitors to gratify their wishes in any department of medicine. The President, Mr. R. C. Dun, was in the chair, and in a short address assured his American colleagues of the pleasure the profession in Liverpool had in entertaining them. Several short papers were read on topics uppermost in medical literature at the present time. After tea an exhibition of cases illustrating children's diseases, orthopaedics, skin diseases, and nervous diseases took place. The exposition of these cases was much appreciated by the audience. Sir Robert Jones, who was present, often gave a practical demonstration either on his own arm or those of his interlocutor in connexion with the display of orthopaedic appliances. In the evening a musical soiree was held in the Walker Art Gallery, where the visitors had the opportunity of seeing the works of art and listening to an excellent programme of music.

On Tuesday the various hospitals were visited, and each department received a quota of Americans interested in its particular branch of medicine. In order to prevent undue crowding, tickets limiting numbers were issued at the Liverpool Medical Institution, which was thrown open to the visitors, and from which all information was supplied. The City Isolation Hospital and Sanatorium at Fazakerley claimed a large number, who took great interest in the methods of isolation in infectious disease and the treatment of tuberculosis by are light and surgical measures. At the Children's Hospital at Heswall clinical demonstrations of medical and surgical cases were given by the staff. The visitors admired greatly the hospital and the surroundings.

In the evening of June 9th the Lord Mayor held a reception, which was thronged with the medical profession from both sides of the Atlantic. On all sides expressions of appreciation from the visitors were voiced with animation and sincerity. The Town Hall was decorated with flowers arranged with great taste. Not a few of the Americans were accompanied by their wives, who were charmed with their surroundings, and regarded their visit to England as one to their old home. In the afternoon of June 10th a large party visited Ruthin Castle, North Wales, where they were entertained by Dr. E. I. Spriggs and the staff. Clinical demonstrations on recent work and methods were given and the institution thrown open to inspection. The historical interest of the castle added much to the pleasure of the visitors.

Mention should be made of Mr. Robert E. Kelly, on whose shoulders the chief burden fell in making the arrangements and so ensuring the success of this visit. The sincere expressions of pleasure from our American colleagues will have amply rewarded him for his labour in making their visit memorable in the annals of medical affairs in Liverpool.

## VISIT TO IRELAND.

The American doctors who travelled to Ireland divided themselves into two sections, each section visiting alternately Dublin and Belfast. During their visit in Ireland they were entertained at receptions and garden parties by the Governor-General of the Irish Free State, the Governor-General of Northern Ireland, the President and Executive of the Irish Free State, and the Lord Mayor of Belfast.

## DUBLIN.

The visitors attended nearly all the Dublin clinical hospitals, where they followed with keen interest the various surgical operations and demonstrations. A large number of the doctors also attended at University College (National University), where a discussion took place on the sequelae of encephalitis lethargica, opened by Dr. F. C. Purser. Sir James Craig presided.

The most noteworthy function of the day was, however, at the Royal College of Physicians, Kildare Street, Dublin, where a large gathering, representative alike of the visiting doctors and the members of the profession at home, assembled to witness the admission of Dr. Charles H. Mayo and Professor George W. Crile to the Honorary Fellowship of the Royal Academy of Medicine in Ireland. Professor Sir James Craig, M.D., T.D., President of the Royal Academy of Medicine in Ireland, presided, and on the platform were: Sir William Thompson, President of the Royal College of Physicians, and Mr. C. B. Mannsall, President of the Royal College of Surgeons, with their maces; Sir William de Courey Wheeler, Sir John Moore, Sir William Taylor, and Sir Thomas Myles. Dr. Charles H. Mayo occupied a seat on the chairman's right. Professor Crile was unavoidably absent.

The President of the Academy, Sir James Craig, extended a hearty welcome to the American doctors who had done them the honour of coming to Dublin. He hoped that they would return to their homes with nothing but the most sincere pleasurable memories of their visit; also with knowledge which had been gleaned at the source and from personal touch and experience. They were assembled, he said, to confer the Honorary Fellowship of the Royal Academy of Medicine in Ireland upon two very eminent American surgeons—Dr. Charles Mayo and Professor George Crile. The honour was small in comparison with the merits of the recipients, but this much might be said: that the honour was greatly enhanced because of the care exercised by the Council of the Academy in the selection of those only who occupied the highest position in scientific medicine. There were at the moment only twelve Honorary Fellows on their list, and only two had been conferred in the last thirteen years. He thought that the Academy had not been over-generous in its recognition of American work, but still there were found on the past roll the names of four Americans whose names were familiar to all. These were Thomas Addis Emmet, Austin Flint, Howard Kelly, and William Osler. They were now adding two to the number. Sir James Craig thanked Dr. Mayo, who is President of the American College of Surgeons, for the honour conferred on him in making him an Honorary Fellow of that body.

Introducing Dr. Mayo, the secretary of the Academy, Dr. T. P. C. Kirkpatrick, said:

"History tells us that the great Empire of Rome sprang from a city founded by two brothers, Romulus and Remus, and that city was afterwards saved from destruction by the prowess of the great twin brethren. In the empire of medicine we ourselves have witnessed the development of an institution which sheds its light and exerts its influence in regions Caesar never knew, yet which, like Rome of old, is the offspring of two brothers—the brothers Mayo."

In reply Dr. Mayo said that this was indeed a great honour. So many of his countrymen were there who had done remarkable work in their many lines in scientific medicine that he felt the honour extended to him was extended to them as he represented them. He was glad to see some members of that Academy wearing the robes of the College of Surgeons of America, of which college he had the honour of being President this year. He appreciated very much that they saw fit to wear these gowns

on that occasion. The science of medicine had been upheld in Ireland at a very high point—as high as in any place, considering the population and the number of men engaged in medical work. Irish medical men had contributed their portion to scientific advancement in many ways. Since he was a boy he had always thought of Dublin as a great centre of medicine. In his imagination he had expected to see the Rotunda Hospital something enormous. The enormous part of it was that it turned out literally hundreds and hundreds of men well trained in the special work carried on in the institution. The members of the Royal Academy of Medicine in Ireland were doing their part in a country that had never been wealthy, but whose people had always been great. The medical profession had always done its part, regardless of any political condition. Science knew no country and no language. He could not help thinking that one of the great things about the people in Ireland was their charity and their friendliness. They were always willing, regardless of whatever they had, rich or poor, to help those in need. They were appreciated in America and all the world over. He accepted the honour with a deep feeling of humility for his own shortcomings, but with a profound thankfulness that it would go back as representing the work of the many in America—the work of their two great associations, and in particular the work of the Mayo Clinic.

The Honorary Fellowship was conferred on Professor G. W. Crile *in absentia*. A number of the American doctors were entertained at dinner by Sir W. I. de Courcy Wheeler. During the proceedings the Governor-General (Mr. Healy), who was present, was admitted an honorary member of the Inter-State Post-Graduate Assembly of America. Dr. Charles Mayo said the Assembly had few honorary members and only three laymen as honorary members; these were President Coolidge, the Duke of York, and the Duke of Connaught; now they proposed to add the name of the Governor-General of the Irish Free State.

#### BELFAST.

On June 13th the Queen's University of Belfast conferred honorary degrees on three of the visitors. The ceremony took place in the examination hall of the University. The Chancellor of the University, the Marquess of Londonderry, K.G., presided, and conferred the degree of Doctor of Laws, *honoris causa*, on Dr. Charles H. Mayo, Dr. Franklin H. Martin, and Dr. H. Cabot.

In the evening the three new graduates were entertained to dinner in the Medical Institute by the medical faculty of the University and the members of the medical staffs of the teaching hospitals of the city. The Vice-Chancellor occupied the chair, and after the loyal toast of "The King" proposed that of "The Guests" in his usual felicitous manner; and his theme was supported by remarks from Professor Fullerton, Mr. Mitchell, and Dr. Dempsey. The toast was responded to by Dr. Mayo for himself and for Dr. Martin and Dr. Cabot, who were unavoidably absent. Dr. Woods Hutchinson and Dr. Peck were also called upon, and responded with thanks from the Assembly. Dr. Mayo then, as President, conferred the honorary membership of the Inter-State Post-Graduate Assembly of America upon Professor Andrew Fullerton, F.R.C.S.I., Honorary Fellow of the American College of Surgeons, and upon Dr. Robert Marshall, F.R.C.P.I., both of whom had been indefatigable in their efforts to make the visit of their American friends a success in every way. The announcement was received with loud applause, and gave great satisfaction and pleasure to all present, and will be gratefully recognized by the profession in Northern Ireland. The dinner ended with singing "Auld Lang Syne" and the National Anthem.

Owing to a clerical error in the list officially supplied to us of those representatives of British medicine upon whom the honorary membership of the Inter-State Post-Graduate Assembly of America was conferred during the London visit, we omitted to state last week that Sir James Berry, F.R.C.S., was one of those to whom this honour was paid.

## Correspondence.

### MEDICAL EDUCATION IN WALES.

SIR,—I have been much interested in the article on the Welsh Medical School question in your issue of June 13th (p. 1094); but I trust you will allow me to say that the writer does not seem to me to be quite fully informed as to the facts of the case.

The policy of separating the Cardiff School of Medicine from its parent college was not a recommendation of the recent Royal Commission, but a demand of the Treasury, made before the Commission was appointed, with reference to an application from the college for the State endowment of the school, and as a condition of considering it. The Treasury in those days had ample reason to apprehend that the award of such a grant to a single college of the university would be speedily followed by commensurate claims from one or both of the two others. The college at Cardiff was at first disposed, in the interests of the school, to enter into some such arrangement with the Treasury, and the Royal Commission recommended what they held to be the best method of carrying it out; but after the issue of their report a good deal of public opposition to the idea of separation manifested itself, a change was about the same time introduced in the mode of assessing State grants to the university and its colleges, the Government dropped the subject, and the new Charter of the University of Wales, based on the Commission's report and granted by the Crown in 1921, made no reference to it, but specifically indicated "the University College of South Wales and Monmouthshire" as the seat of medical education in the university (cf. Art. XVII, 2, and Art. VI, 2, viii and ix). The present aim of the Privy Council, seemingly, is to wave aside Crown, Government, and Commission alike, and to force the university and the college into accepting a new scheme of separation, stated to have been drawn up by the University Council, apparently at the instance of Whitehall.

This new scheme, instead of erecting the medical school into an independent constituent college, as the Commissioners advised, proposes to relegate it to an institution of inferior rank and lesser privilege, under the name of a "school of the university." The article I am referring to seems to suggest that this scheme has the approval of the faculty of medicine of the university; my information is that it has not yet been before the faculty.

That the scheme is wholly illegal under the existing charter of the university is plain to anyone who knows that document; the curious point is that none of the promoters of the scheme, either in Wales or in Whitehall, appear to have discovered this fact until the college pointed it out.

What public advantages are anticipated from the proposal the college has yet to learn. No statement on the subject has so far reached it. It is a subject, indeed, on which the advocates of separation have always shown themselves singularly reticent. The obvious and grave objections, financial and academical, to the proposed isolation of the medical school were forcibly pointed out some months back by a very competent authority, the present Vice-Chancellor of Liverpool, in a communication to the *Western Mail*. They have, further, been set out at length in the reply that the college has just made to the Privy Council, which also has been communicated to the press. The college, at least, has no occasion for secrecy in the matter. As regards the "nationalism" of the school of medicine, all the University Colleges of Wales, in their entirety, are national institutions, and, like the medical school, receive a large part of their income from a national fund, to which all parts of Wales contribute.—I am, etc.,

Weston-super-Mare, June 15th.

ISAAC OWEN.

### PERINEAL DRAINAGE AND PROSTATECTOMY.

SIR,—For many years I have invariably employed perineal drainage after internal urethrotomy. At the completion of the operation the urethra is opened by a small incision in the perineum and a rubber tube introduced into the bladder. The tube, which has a lumen about equal to that



of a No. 12 catheter, is sufficiently long to drain comfortably into a urinal between the patient's legs or on the outside of the thigh. It is kept in position by a silkworm gut suture, which fixes it to the skin of the perineum. The tube is well tolerated, and is left in for five or six days. No instruments are passed along the urethra for twelve days, after which a No. 12 bougie is passed daily. The perineal wound quickly heals, and the patient almost always is fit to leave the hospital in sixteen days. There is no reaction when perineal drainage is employed in this way, and the absence of fever and discomfort is in marked contrast with my earlier experience when a catheter was tied in the urethra.

I was led to employ perineal drainage after prostatectomy in the case of a highly nervous man who was suffering from cystitis of several months' duration.

The cystitis was set up by the passage of a catheter for retention of urine. He was very intolerant of catheterization and so excitable and unmanageable that a two-stage operation would have been difficult to carry out unless a general anaesthetic had been given each time. The bladder was opened under a general anaesthetic and the prostate removed. A tube was then introduced from the perineum into the prostatic pouch—its exact position was easily ascertained by a finger introduced into the bladder from the suprapubic wound. The prostatic cavity was then packed with gauze in the usual way. After forty-eight hours the gauze was removed and the bladder washed out through the perineal tube. Urine flowed freely through the tube and was collected in a bottle. Twice a day the bladder was irrigated with weak silver nitrate solution and the perineal tube was left *in situ* for a fortnight. The patient made a perfectly smooth recovery and the suprapubic wound healed in about three weeks.

Since then I have employed perineal drainage on several occasions, and with uniformly satisfactory results. The introduction of the tube is very easy: the urethra is opened by cutting down on to a Wheelhouse's staff in the urethra; the tube is then guided into the prostatic pouch in a curved pair of forceps and fixed in position by a silkworm gut suture, which transfixes it and the skin in the perineum. The advantages are that: (1) irrigation of the bladder and prostatic pouch can be carried out easily and efficiently; (2) urine escapes from the bottom of the bladder and the pool of pus and old clot which tends to collect in the prostatic pouch is prevented; (3) the patient is comparatively dry from the first, very little urine escaping from the suprapubic wound after the removal of the gauze; (4) convalescence is shortened, the suprapubic wound healing in a time appreciably shorter than usual.

For the reasons given, the greater comfort secured to the patient, and economy in dressings, I consider that perineal drainage confers real advantages. Although my experience of it is as yet too limited to enable me to dogmatize, I believe that it will materially diminish the risk of late septic troubles which develop when the suprapubic wound is closing and of phosphatic deposits in and upon the walls of the prostatic pouch.—I am, etc.,

Edgbaston, Birmingham, June 11th.

WILLIAM BILLINGTON.

#### SUBURBANIZATION.

SIR,—The thanks of your readers are due to you for the excellent leader in your issue of May 30th on suburbanization. We cannot afford to make any more mistakes such as those which created our slums. We have no longer vast profits to spend as we like, for we have not the monopoly of manufacture, nor are we now the workshop of the world. The mistakes of to-day will be even more serious than those made a century ago, unless we can regain our lost markets. But there is another reason why we should scrutinize new buildings. In the past a house may have had its own well and its own cesspool, its oil lamps or candles, and a lightly made road to serve the light traffic. Now the road must bear heavy motors on six inches of concrete, beneath which run sewers, gas, water mains, and lighting cables, not to mention power cables also where such are in use. All this is costly beyond the dreams of our ancestors. It must be done, but the road and the services beneath it should be laid out to the best possible advantage—that is, the road should serve as many houses as possible, and therefore should be as short as possible. A ribbon of houses fringing a long arterial road must need more roadway, more sewerage, more gas and water pipes and electric cable than the same number of houses well

laid out round a central point, from which roads and services would radiate, and to which the citizens would come for common purposes, not only for amusement and education, but also for local self-government. Such a centre should be an ornament and an attraction to the town, like some of the squares in Florence or Venice.

What our forefathers did in walled towns surely we could do when we are no longer pent in behind fortifications. Towns need not be ugly, and with modern improvements traffic need not be either dusty or noisy. It is hard to believe that if once we made our towns graceful the people would fail to take a pride in them. Then perhaps the streets would not be littered with bus and tram tickets, mixed with greasy papers thrown down by the customers of the local fried-fish shops. I fear to trespass further on your space, but I hope that the medical profession may be roused to do all that is possible to prevent any further suburbanization on ribbon lines.—I am, etc.,

June 11th.

SENEX.

#### DOCTORS AND CORONERS' (? INQUEST) FEES.

SIR,—Until comparatively recently, should a coroner require medical evidence of the cause, or probable cause, of a death, the usual method of procedure was for some medical practitioner to be instructed, through the medium of the coroner's officer, to make, or cause to be made, a *post-mortem* examination, with or without an analysis of the contents of the stomach, and to present himself before the coroner's court on some future date, then and there to give evidence touching the death of A. B. and therein fail not at his peril.

For the carrying out of these instructions he was legally entitled to the princely fee of two guineas in all—namely, one guinea for performing the revolting work of the *post-mortem* examination, and the other guinea for his medical evidence at the subsequent inquest.

Out of the first guinea he could not do otherwise than "tip" either the mortuary attendant, who assisted at the *post-mortem* examination, if there was a mortuary, or the assisting policeman, if there was not a mortuary, or both these men. So far so—bad, as regards the adequacy of the fees.

Legally, moreover, the doctor could, though he hardly ever did, refuse to give his evidence in the coroner's court until he had received his fees, such as they were.

Recently, in country districts, it has frequently been the coroner's method, where a "certificate of the cause of death" is refused by a doctor, to send the coroner's officer, or the nearest resident policeman, to "pump" the doctor as to his opinion as to the cause of death, with a request that he (the doctor) should provide "a provisional death certificate," or such information as may enable the coroner to grant a death certificate himself without any inquest being held at all. For doing this the doctor is informed that he will receive "the usual fee," and, after a considerable interval, for complying with this ingenious demand, he receives a visit from a constable, who tenders him the fee of—three shillings and sixpence! for which he must sign a formal receipt. This corresponds to an ordinary day attendance police-call fee.

Once or twice I have been instructed to visit and view the corpse and report, to the best of my ability, without, of course, any *post-mortem* examination or inquest being held at all. In both instances the fee tendered was the same—three shillings and sixpence!

In this locality there are a very large number of the sect of "the Peculiar People," whose monomania is, roughly, a disbelief in any medical or surgical treatment, and the absolute refusal of either. Should death appear probable to the "elders" of this sect, or to the friends of the patient, and only then, a doctor is called in, in the hope that a death certificate may be obtained, the doctor being thus placed in a position enabling him to state when he last saw the patient alive, and so obviate the necessity for "opening the body," etc. Of course, all treatment is refused, even though in the doctor's opinion life might have been either saved or prolonged. Such certificates, I need hardly say, I invariably refuse to give.

Now, Sir, I ask for enlightenment on the following points:

1. Is a doctor obliged, on the coroner's instructions—written, verbal, or telephoned—to act as above stated, and that for a three-and-sixpenny fee (irrespective of mileage)?

2. May he refuse to render to the coroner any opinion he may have formed as to the cause of a death, until he has received (or been guaranteed) the recognized inquest fee of one guinea, which of course he could have demanded had an inquest been held?

3. Is a doctor legally obliged to perform a *post-mortem* examination on a coroner's order, or, failing this, cause such an examination to be made by somebody else?

Only a few days ago the village constable called upon me and tendered to me ten shillings and sixpence as representing three fees for obliging the coroner, as above stated, on three separate occasions, all of which happened some considerable time ago, and for which I had to sign the usual formal receipt.—I am, etc.,

June 15th.

WILDMAN E. BAKER.

#### DISEASES DUE TO FASHION IN CLOTHING.

SIR,—I can confirm the cause of erythema of the legs in young women suggested by Dr. Gibson (June 6th, p. 1059). A young relation of my own told me she had something the matter with her legs, and I found she had erythema, with slight irregular swelling of both legs from knee to ankle. Later I noticed that when an opportunity came she drew her chair as near to the fire as possible, and concluded that the cause of her complaint was over-heating, and not cold. Now that fires are discontinued the oedema is quickly lessening and the erythema disappearing without any local or other treatment.

I was present at the meeting of the Dermatological Section of the Royal Society of Medicine when the two cases of erythema referred to by Dr. Parkes Weber were shown, and the case of my relation was exactly like them. Curiously, a visitor friend at this meeting remarked, when he saw these cases, that they had been sitting too near the fire. I have since made inquiries and discovered two sisters who have suffered from a similar complaint, one mild and the other severe, and both were in the habit of sitting as close as possible to the fire.

Thus it would appear that this complaint is more common than it is supposed to be, and it is not thought serious enough by the sufferers to seek medical advice. I recall the fact that our grandmothers were in the habit, when the chance occurred, of sitting close to the fire and drawing their skirts above the ankle only. Thus they were saved from erythema by their longer skirts and thicker stockings.—I am, etc.,

Twickenham, June 15th.

G. F. GUBBIN.

SIR,—In his interesting article Dr. Parkes Weber directs attention to the changes which time may bring about in the nature of the diseases that a doctor may be called on to treat. We often hear of the part played by fashion in the theories and methods of the doctors, but we sometimes hardly recognize how much fashion plays in the etiology of the diseases they have to treat. We have evidence of the influence of fashion in the troubles produced by small boots and shoes, high heels, etc., and in the now well recognized forms of dermatitis from cheap furs; but it is well that Dr. Weber should have emphasized how recently there has been prevalent a form of erythema of the legs, due probably to the wearing of silk stockings, together with the fact that skirts are now worn short.

I personally have seen a good many cases, chiefly among girls of the working classes. The stockings worn by many of them are of the thinnest and flimsiest kind, with little heat-retaining qualities. The symptoms begin practically like chilblains, sometimes in localized patches, sometimes as a more diffuse hyperaemia or erythema, and if it continues a certain amount of induration is added to the congestion. The part of the leg affected is from the knee to the ankle, probably more frequently in front, but extending also round the limb, as described by Dr. Weber.

It has been seen most frequently after a spell of cold, frosty, or damp weather, dampness having, I think, something to do with it as well as cold. It rapidly diminishes or disappears when the weather gets warmer. One probable cause of its aggravation I do not notice mentioned by Dr. Weber. I believe that it is often aggravated, if not actually produced, by the habit some girls have of sitting close up to the fire, letting the fire warm the fronts of their shins when they come indoors with chilled legs. Heating frozen skin undoubtedly aggravates, if it does not cause, chilblains, and this condition is practically a chilblain, and occurs in the same type of circulation liable to chilblains. It is much benefited or cured by wearing woollen stockings in cold weather, and the cure is hastened by resting at the same time.

With regard to chlorosis, one cannot but be struck with the great decline of its incidence in recent years. When I started practice, about forty years ago as an assistant in an industrial town, a large number of the girls one had to treat suffered more or less from a degree of chlorosis, and we know how common it was in hospitals in the days when I was house-physician. I believe that the great diminution in the number of cases has shown that probably fashion, in the form of the tight corset, as stated by Dr. Weber, had much to do with it. I remember, some time in the late eighties, Sir Andrew Clark pointed out how much constipation probably had to do with its causation, this constipation itself arising often from an undue modesty in girls who, after puberty, failed to develop the habit of seeking an opportunity for regular evacuation. The condition was very common among domestic servants, and probably their ill ventilated sleeping rooms had to do with this. In addition to giving up the tight corset the rapid growth of the cult of fresh air and healthy exercise in girls before the usual date of onset of chlorosis, as well as after, has had much influence. In these days girls, in developing into young ladies, became less and less free and natural in their life and movements. The diminution in chlorosis and the appearance of this erythema of the legs are therefore, at least in part, alike due to a change in the life and habits of girls.—I am, etc.,

Leith, May 30th.

WILLIAM ELDER, M.D.

#### ULTRA-VIOLET LIGHT.

SIR,—Dr. P. Redington Peacock does me the honour of criticizing my letter published in your issue of June 6th. My communication was written with the intention of stimulating inquiry and provoking criticism, preferably from workers of experience in this field. The strictures I passed upon mercury vapour lamps in general are the result of my own experience as well as that of others. Perhaps when Dr. Peacock has got beyond the "experimental" stage to which he refers, and has gained some clinical experience, he will have cause to modify his present opinions.

He compares a paragraph which he has extracted from my book (p. 19) with another paragraph extracted from my letter, quite regardless of the context. If he will again refer to my book he will find that the quotation he makes is from a chapter headed "Heliotherapy," and refers to the action of sunlight and not to ultra-violet light.

In a new branch of therapy one is daily gaining knowledge and experience, and is therefore continually modifying one's views. Since I wrote my book I have given many thousands of exposures to hundreds of patients, and I feel I am now in a position to state categorically what a year ago I did little more than hint at. Dr. Peacock may rest assured, as also the members of the Royal Society of Medicine, that my conclusions are based entirely on the results of my own work and experience, and are quite independent of the work of others.—I am, etc.,

London, W.1, June 13th.

PERCY HALL.

SIR,—I note that a correspondent advocates the use of the tungsten arc lamp as giving the best ultra-violet output. It is admittedly a good ultra-violet lamp, but so is the quartz lamp—and with this difference, that the

tungsten are lamp costs £300 per 1,000 hours worked, while the equally efficient quartz lamp costs but £2 10s. for the same number of hours.—I am, etc.,

Brixham, June 13th.

A. BLAKISTON.

### A COMPARISON OF DRIED, EVAPORATED, AND FRESH COW'S MILK.

SIR,—Miss G. A. Hartwell, D.Sc., in her article on the comparisons of the feeding value of various milks (June 13th, p. 1073), states that the fresh cow's milk she used was bottled. The greater proportion of fresh cow's milk sold in London is pasteurized. Even if the milk used was not pasteurized the heating of it to 70° C. interferes with its properties.

The only guarantee of real fresh cow's milk is to purchase Certified, Grade A tuberculin tested, or Grade A milk, as these milks are issued under a licence from the public health authorities, and the date of milking is on every bottle.

In any case the conclusions drawn from these experiments are therefore based on cow's milk heated to 70° C., and not on fresh cow's milk.—I am, etc.,

Reading, June 15th.

G. MADDOCK, C.I.E.,  
Lieut.-Colonel I.M.S.

## Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

THE House of Commons debated the Finance Bill in Committee this week on Monday, Tuesday, and Wednesday, without making any large amendments.

The Medical Committee of the House of Commons on Monday night received a deputation from the Section of Anaesthetics of the Royal Society of Medicine, which came to discuss the difficulties arising from coroners holding inquests in all cases of death under anaesthetics, and from the publicity given by the press to such fatalities compared with that given to other deaths during or subsequent to operations. The deputation suggested that a scientific inquiry into death under anaesthetics might be more useful than an ordinary inquest. The Medical Committee asked the deputation to formulate specific proposals. During the discussion it was suggested that the anaesthetists should see whether a clause could be drafted for addition to the forthcoming Coroners Bill, and some members of the committee declared their belief that the publicity given to such mishaps was valuable.

It was mentioned that six medical members of Parliament were about to go to Geneva to see the preparation of M. Spaulinger's antituberculosis serum and to examine the records of its use. The Medical Committee will take no action until these members return and report. They are not making the journey as official representatives of the committee. The committee received a report that Dr. Fremantle and Sir Richard Luce had seen the War Secretary, Sir L. Worthington-Evans, and were in correspondence with him with regard to complaints of the failure of the Government to carry out its promises to the senior majors of the R.A.M.C., and also with regard to the causes underlying the shortage of candidates for commissions in the corps. Representations may later be made to the Army Committee of the House of Commons on the subject.

The Medical Committee agreed that arrangements should be made early next session for a meeting, to which the whole House would be invited by the Medical Committee, for the purpose of hearing a complete statement of the case for the efficiency of vaccination as a personal safeguard, this matter being kept separate from the case for compulsory vaccination. During a brief discussion on compulsion it was pointed out that the Parliamentary Labour Party, including those Labour members who are personally convinced of the efficacy of vaccination, is opposed to compulsory vaccination.

**Bethlem Hospital Bill.**—In the House of Lords, on June 16th, the Bethlem Hospital Bill was read a second time without a division. The bill authorizes the Corporation of the City of London to sell the site of the hospital, at present let at a nominal rent to the governors, and to use the proceeds to erect a new hospital on a large estate which has been acquired in Surrey, to the south of Croydon. The new site will afford space to put into operation the newer methods for the treatment of the insane for which the present site in Southwark affords no adequate opportunities.

**Medical and Sanitary Administration in the Colonies.**—Tables supplied to Colonel Angus McDonnell by the Colonial Secretary show that in 1901 Trinidad spent £18,926 on its staff of medical men and in 1924 £30,034. The total cost of administration of medical and sanitary services in 1901 was £76,947, and in 1924 £152,781. Hong-Kong in 1901 spent 30,155 dollars on its staff of medical men, and in 1924 170,246 dollars. Its total medical and sanitary expenditure in 1901 was 283,127 dollars, and in 1924 1,273,640 dollars. The Gold Coast spent £15,708 on its staff of medical men in 1901 and £63,165 in 1923-24, while its total medical and sanitary expenditure in the first year was £30,293 and in the second £236,506. In 1901 none of these colonies provided specially for medical research. In 1924 Hong-Kong set aside 59,341 dollars for it, and the Gold Coast £7,348 in 1923-24.

**Small-pox in Colombo.**—Answering Mr. Bromfield, on June 16th, Mr. Amery said that 629 cases of small-pox had been notified at Colombo during the period 1915 to 1924 inclusive, and 163 deaths had occurred. The available reports did not always particularize between vaccinated and unvaccinated cases, but of the 21 deaths which occurred in Colombo in 1920, the year in which there was the heaviest mortality since 1915, 3 occurred in children who had never been vaccinated and 16 in cases showing no evidence of primary vaccination, though they were said to have been vaccinated in childhood. Of the 24 cases which occurred in Colombo in 1923, 14 had no visible marks of vaccination and 8 were unvaccinated. No further particulars were at present available.

**Drugs on Ships.**—Mr. Lougher, on June 16th, asked the Minister of Health whether, in respect of the issuing of certificates to enable masters of vessels to replenish their supplies of drugs scheduled under the Dangerous Drugs Act, 1920, the forms necessary for granting certificates would be drawn up in such a manner as to be fully understood by the masters of foreign vessels; and whether more adequate arrangements would be made by the Ministry to facilitate the detection of concealed drugs upon foreign vessels entering the various ports of the United Kingdom. Mr. Locker-Lampson (Under Secretary to the Home Office) said that the regulation did not prescribe the use of any form. Under the regulation all that the master had to do was to apply to the port medical officer, who was authorized to give him a certificate for such quantity of drugs as might be needed until the ship next reached its home port. He had no reason for supposing the present arrangements to be inadequate.

**Overdose of Strychnine.**—On June 16th Colonel Day asked a question about a recent case at the Billericay isolation hospital, Essex, where a patient named Joseph Drage died as a result of the administration of an overdose of strychnine by a temporary unqualified nurse; and if he would take such action as would allow of only fully qualified nurses being allowed to administer poisonous medicines to patients undergoing hospital or institutional treatment. Sir Kingsley Wood (Ministry of Health) said that the Minister of Health had communicated with the Billericay Rural District Council, to whom the hospital belonged. He had no control over the internal administration of isolation hospitals, but was informed that the district council was taking all possible steps to prevent the recurrence of such a regrettable accident. Colonel Day asked whether the Minister of Health could enact that when unskilled persons had to dispense poisons the medicine could be made up in phials of one dose each. Sir Kingsley Wood replied that these cases were very occasional, and that the Ministry of Health had no power to make such regulations.

**Vaccination.**—The Minister of Health is awaiting a report from the Lambeth Board of Guardians into the case of twin girls, aged 10 months, who are alleged by Colonel Day to have been vaccinated shortly after admission to the institution, although the father had obtained a certificate of exemption from vaccination in respect of both children. Colonel Day further alleged that one child died after the inoculation, the other still being an inmate of the infirmary. The Colonial Secretary, Mr. Amery, informed Mr. Compton that although vaccination was compulsory in Southern Nigeria and might be enforced in particular areas of Northern Nigeria when deemed necessary, it was impossible to enforce the Ordinance strictly, and the vaccinations performed between 1913 and 1923 were only 1,890,237 in a population of over 18,000,000. Registration of deaths was not, and could not be made, compulsory, so the approximate number of deaths from small-pox could not be given. There died in hospital in Nigeria from small-pox 30 persons in 1919, 341 in 1920, 182 in 1921, 97 in 1922, and 44 in 1923, but these figures were known to bear no relation to the total mortality.

**Trypanosomiasis.**—Answering Sir Sydney Henn, Mr. Ormsby-Gore said the Colonial Secretary hoped that the proposals would be approved for the dispatch of an expedition to Uganda under the general direction of the Duke of the East African Medical Researches into the problem of the side of the problem. The Colonial Secretary trusted it would prove possible to arrange a more comprehensive campaign for the destruction of tsetse fly in the British dependencies of tropical Africa on the lines contemplated in the report of the East Africa Commission.

**Information on Birth Control.**—The Minister of Health informed Mr. Thurtle that he had received a resolution recently passed by a conference of Labour women asking that medical officers at maternity centres should be allowed to give information on birth control to married women who desired it. He agreed with his

predecessors that institutions provided at the cost of public funds should not be used for so controversial a purpose without express directions from Parliament. He considered, however, that women attending maternity or infant welfare centres who, on medical grounds, appeared to need information on birth control should be referred to a private doctor or to a hospital.

**Boron Preservatives.**—Answering Mr. Whiteley on June 15th, Mr. Neville Chamberlain said that the harmfulness of boron preservatives was thoroughly considered by the Departmental Committee which inquired into the subject. Its report showed that boric acid in small doses had been known to produce ill effects, and that in continued doses it was likely to impair the health of the consumer.

**Parasites of Insect Pests.**—On June 15th, Mr. Cadogan asked whether the experiment of breeding beneficial parasites with a view to fighting insect plagues in our overseas dominions had proved a success. Mr. Ormsby-Gore (Under Secretary for the Colonies) replied that the Director of the Imperial Bureau of Entomology reported that during the eighteen months in which this experiment was being carried out two successful introductions of beneficial parasites were effected. A New Zealand parasite of the pear-slug was introduced from Nyasaland into Nigeria with a view to control of *Glossina turbinoides*, a species of tsetse fly prevalent in Nigeria. Two parasites of the earwig had also been introduced into New Zealand, but owing to difficulties in rearing them in the laboratory there the strains had died out. This work had been suspended, but it was hoped to resume it shortly.

**Veneral Disease in the Straits Settlements.**—On June 15th, in reply to Mr. Pethick-Lawrence, who asked whether the Legislative Council of the Straits Settlements had submitted a draft bill embodying any of the proposals of the committee appointed to investigate the spread of veneral disease there, which recommended in favour of the licensing and registration of all brothels by a Government official to be called the Controller, and the submission to a weekly medical examination of all prostitutes, Mr. Ormsby-Gore replied that a draft bill had been received from the Governor of the Straits Settlements, which embodied the proposals of the committee referred to. The bill had been under consideration by the Advisory Committee on Social Hygiene, and he was now awaiting its report.

#### Notes in Brief.

For advertisements of soap on the back of the current issue of notices of the requirement of vaccination, £135 was received. It is not intended to continue this means of raising revenue.

In 1923-24 the estimated gross expenditure of local authorities in England and Wales for milk for mothers and children was £285,900, and the estimated net expenditure £175,000.

In the first quarter of 1924 West Ham supplied 61,625 lb. of dried milk to mothers and children, but no liquid milk; Poplar, 3,733 lb. of dried milk and 139,974 pints of liquid milk; Birmingham, 17,772 lb. of dried milk, but no liquid milk.

The Government has decided to set up a Food Council as recommended by the Royal Commission on Food Prices.

Early steps are to be taken for the re-establishment of the Amami Institute in Tanganyika Territory, and for its upkeep as a centre of scientific agricultural research.

Commander Kenworthy has presented a petition from 1,606 residents in Brighton and Hove against vivisection.

On January 1st, 1924, 203,757 persons were in Poor Law institutions, of whom 19,965 were insane.

Officers of the Ministry of Health are giving constant attention to the question of providing separate accommodation for children outside workhouses where boards of guardians have not already provided this.

The Government cannot undertake legislation to enable the guardians to take legal proceedings, prior to the birth of an illegitimate child, against the putative father, for the expenses of the mother's confinement.

On June 15th, the Secretary for Air stated that no officer or airman would be allowed to carry out a practice parachute jump from an aeroplane until he possessed considerable air experience. It was clearly laid down in regulations that such jumps were only to be made by volunteers.

The Home Secretary informed Colonel Day that he is looking into the police regulation which, when a person is in custody on a charge of being drunk while in charge of a motor car, does not permit that person to be examined by a doctor called by anyone other than himself.

No issues of medical importance have yet been raised in Grand Committee on the Public Health Bill.

No reputed cure for tuberculosis in cattle has been submitted to the Government for testing.

In the recent outbreak of poisoning in the York and Lancaster Regiment at Cologne no soldiers died. The War Office is awaiting a report.

On January 1st last 10,489 children were boarded out by Poor Law authorities in England and Wales. Ten women inspectors are

## Obituary.

We regret to record the death of Dr. SAMUEL DONN CLIPPINGDALE, who before his retirement had practised for many years in Kensington, and was a familiar and respected figure in London medical circles. He was educated at the University of Aberdeen and the London Hospital, and obtained the diploma of M.R.C.S. in 1875. He graduated M.B., C.M. Aberd. in 1876, and M.D. in 1879, and became F.R.C.S. Eng. in 1880. He had served as prosector at the Royal College of Surgeons and house-physician to the London Hospital, and was for a considerable period surgeon to the Kensington Dispensary and Children's Hospital. Dr. Clippingdale was a diligent student of historical and antiquarian matters. He had held office as president of the West London Medico-Chirurgical Society, and was a former vice-president of the Section of Bacteriology and Climatology of the Royal Society of Medicine. His medical-literary turn of mind and the industry with which he worked up historical material were shown in the papers he published in the BRITISH MEDICAL JOURNAL. These were a Medical Roll of Honour of Physicians and Surgeons who remained in London during the Great Plague, which appeared in 1603; a Medical Parliamentary Roll, 1558-1910, published in the following year; and an article on Medical Baronets, 1654-1911, published in 1912. He contributed also to the *London Hospital Gazette* a large number of biographical sketches of past members of the medical and surgical staffs of that institution, and had published several papers on the climatology of London and its environs.

Dr. WILLIAM LESLIE, who died in Edinburgh on May 29th, was born in 1865. He received his medical education at Edinburgh, graduating M.B., C.M. in 1894, and proceeding M.D. in 1907. Dr. R. A. Fleming writes: His love of surgery induced Dr. Leslie to become a Fellow of the Royal College of Surgeons of Edinburgh in 1908, and as one of the surgeons to the Clackmannan Hospital his surgical dexterity had free and successful scope. He practised in Alloa for thirty years, where he speedily acquired a large and ever-increasing practice. Dr. Leslie will be long remembered, not merely for his professional skill, but also for the friendship and for the confidence inspired in his patients. For a long time he had suffered from the effects of high blood pressure, unquestionably due in part to the anxious solicitude he bestowed on his patients. A severe attack of pneumonia subsequently necessitated his retirement for a prolonged rest. He had come to Edinburgh for medical advice, when his death from angina pectoris occurred with tragic suddenness. Our sympathy in full measure goes out to his widow, whose care and devotion enabled Dr. Leslie to continue his work in spite of considerable and increasing physical difficulty. Dr. Leslie was laid to rest at Alloa on June 2nd, among those whom he had so long served as physician and friend.

Dr. JOHN KENDALL, who died on May 22nd at Coniston, Lancashire, at the age of 71, came of a well known local family, the Kendalls of Cockenshell, Blawith. Dr. Kendall was educated at Anderson College, Glasgow, and obtained the diplomas L.R.C.P. and S.Ed. and L.M. in 1875. After filling the appointment of house-surgeon at the Glasgow Royal Infirmary he began practice in Coniston. He was a member of the British Medical Association and was a justice of the peace for Lancashire. A colleague writes: Dr. Kendall belonged to the finest type of country practitioner. He had a wide experience of the surgery of accidents, particularly in connexion with the quarries on "Coniston Old Man" and "Tilberthwaite," and there are many men now walking about Coniston sound in health who have to thank him for his skill and devotion. He was a loyal friend and true colleague; no petty thought ever came into his mind. He was the soul of honour, and his devotion and kindness to his patients set a fine example to his fellow practitioners. That this was appreciated was well shown by the large number of sorrowing friends who attended the funeral on May 25th at the little church where he had been for many years churchwarden. Dr. Kendall retired

about eighteen months ago, since he found the work becoming rather too much for him in what is, geographically, probably one of the most difficult practices in England. Even in his retirement he took a lively interest in the affairs of the village where he had been in practice for forty-eight years. He leaves a widow, two daughters, and a son (in the medical profession) to mourn his loss.

## Medico-Legal.

### ALLEGATIONS OF NEGLIGENCE REBUTTED.

#### INMAN v. TANNER.

IN a High Court action, brought on May 20th and 21st by Mrs. Nina Inman of Bayswater against Mr. Herbert Tanner, F.R.C.S., for damages under Lord Campbell's Act, on the ground that the death of her son, Cecil George Inman, aged 24, was due to the negligence of Mr. Tanner, the special jury, after hearing Mr. Tanner's evidence, stopped the case and gave a verdict in his favour, the Lord Chief Justice adding that he entirely concurred in the verdict.

The deceased was a panel patient, and, prior to the hearing of the case in the High Court, Mrs. Inman's complaint was dealt with under the National Insurance Acts. The Medical Service Subcommittee—the medical members, however, recording their disagreement—found the case proved against Mr. Tanner, and severely censured him, and Mr. Tanner's appeal to the Ministry of Health was dismissed—save in respect of one particular finding of fact—the Ministry stating that the question of the sum to be deducted would be deferred until after the hearing of the High Court action. An officer of the Ministry present at the hearing of the appeal was also present at the hearing in the High Court. The Ministry has not yet made its decision known.

The case against Mr. Tanner was that he diagnosed a case of diabetes mellitus as one of cerebro-spinal meningitis and so failed to treat the deceased properly; that he failed to visit the deceased one night when informed of the patient's condition; and that he did not make any examination of the deceased's urine; further, that he failed (a) to make or cause to be made a lumbar puncture or examination of the spinal fluid, (b) to examine the optic discs, (c) to give sodium salicylate or potassium sulphate, (d) to give Flexner's antimeningeococci or any other serum, (e) to order a sufficiently low or liquid diet.

Sir Reginald Coenry, K.C., and Mr. Eric Sachs (instructed by Messrs. Judge and Priestly) appeared for the plaintiff, and Mr. J. A. Hawke, K.C., and Mr. T. F. Davis (instructed by Messrs. Buleraig and Davis) appeared for the defendant, who denied negligence and damage.

The plaintiff's evidence was to the effect that her son had not been well from January, 1924, and first visited Mr. Tanner on April 14th, 1924. He was getting thin, passed much urine, and was very thirsty. After a few surgery visits the deceased grew worse, and was visited at his home by Mr. Tanner on May 10th, 12th, and 14th. She showed Mr. Tanner the quantity of urine passed in a night, and she said the doctor said it was normal. On May 10th Mr. Tanner certified the deceased to be suffering from bladder irritability, and ordered him to be kept warm and to be given a little nourishing diet, not much meat. On May 12th her son went "boss-eyed." On the night of May 14th Mr. Tanner was informed that the patient was sick, and he ordered that ice be sucked and soda water drunk, adding that he would call in the morning. She agreed that the doctor was not asked to call that night. The deceased, however, became unconscious late that evening, and Dr. Goldfoot was called in. He diagnosed diabetic coma, and sent the deceased to Paddington Infirmary, where he was treated with insulin. To this treatment there was no response, and death occurred at 2 a.m. on May 16th, 1924.

Dr. Goldfoot, in his evidence, said that polyuria, glycosuria, and wasting were signs of diabetes, but that sugar in the urine could be present from meningitis, and that as (1) the doctor had examined the urine on April 23rd or April 28th and found no sugar, (2) there was no reaction from the injection of insulin, (3) the deceased had gone "boss-eyed," it was reasonable for Mr. Tanner to come to the conclusion that the deceased was suffering from meningitis.

Dr. Conolly, resident medical officer at the Paddington Infirmary, said he certified the cause of death to be diabetes mellitus. A post-mortem examination was made, but the brain and spinal cord were not examined. A specimen of the urine was taken, and showed sugar present. The presence of sugar was not conclusive of diabetes, and when he gave the death certificate he was not aware that the deceased had gone "boss-eyed." Coupling that fact with the lack of response to insulin, there was a possibility of cerebral trouble.

Dr. A. S. Woodcock said if Mr. Tanner examined the urine and found no sugar, and was unaware of polyuria and great thirst and wasting, he was quite reasonable in excluding diabetes. Sugar could be present in the urine from brain trouble, and in diabetes there was generally a response to insulin treatment.

Mr. Tanner, in his evidence, said that on April 23rd or April 28th he examined the urine and got no reaction for sugar. The patient was dull and lethargic, but he found no signs of wasting. The urine passed in one night was normal, both in quantity and colour. He was not surprised at the fact that the deceased was

a little thirsty, because he had been prescribing diuretics. By May 14th he was very suspicious that the case was cerebro-spinal meningitis, and decided that if there were no change by May 15th he would send the deceased to hospital. On calling the next day he found the deceased had been removed. He was still of opinion that the deceased did not die of diabetes mellitus, but from meningitis.

Before the hearing in the High Court, the Ministry of Health, in dismissing Mr. Tanner's appeal to it, said:

"We cannot escape from the conclusion that the presence of diabetes mellitus was excluded upon insufficient grounds, and, further, that, having regard to the very serious suspicions present in his mind, Dr. Tanner was at fault in omitting to take active steps either to confirm or dispel them. While we fully recognize the frequent necessity for keeping a doubtful case under observation, we feel that the period of observation, pure and simple, unaccompanied by active investigation, should be kept within reasonable limits, and that in this case even if Dr. Tanner had not recognized the need earlier, yet in view of his serious suspicions the onset of an increasingly acute condition on and after May 10th should have indicated the urgent necessity of making an immediate attempt to clear up the real nature of the case by all available means (for example, further tests of urine, lumbar puncture, examination of the optic discs, second opinion, removal to hospital). The failure to take any of these courses, some of which, as the doctor's own evidence showed, he had in mind, constitutes, in our opinion, something more than an error of judgement on his part."

They did not think the fact of the patient being sick, without the disclosure of the fact that the patient was also in a state of coma, was sufficient ground for the allegation that the doctor refused to respond to a summons for help on the night of May 14th.

"On the other hand, we agree in this respect with the view taken by the subcommittee, that whatever the terms of the message the doctor should have gone to the patient. . . . The peculiar significance attaching to a lethargic condition in diseases of the central nervous system is, in our view, an additional reason for his responding to a message which gave any indications of the onset of fresh symptoms whatever its terms."

## Universities and Colleges.

### UNIVERSITY OF CAMBRIDGE.

THE Professor of Anatomy has reappointed Dr. A. B. Appleton, Mr. D. G. Reid, Mr. A. Hopkinson, and Mr. V. C. Penell as demonstrators of anatomy.

The congregation for conferring degrees in medicine and surgery has been postponed from July 14th to Tuesday, July 21st.

### UNIVERSITY OF BRISTOL.

AT 9th, in connexion with the opening by University buildings, the Chancellor a number of honorary degrees were conferred on the LL.D. on Sir George Osley, architect of the new building; the D.Litt. on Sir Henry Hadow, Vice-Chancellor of Sheffield University; and the D.Sc. on Sir Richard Gregory, F.R.S., Editor of *Nature*, and Sir John Herbert Parsons, F.R.S., F.R.C.S., both natives of Bristol.

### UNIVERSITY OF MANCHESTER.

THE Council of the University has accepted the resignation of Dr. J. M. W. Morrison, lecturer in applied anatomy, on his appointment to the lectureship in radiology in the University of Edinburgh.

### ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AN ordinary Council meeting was held on June 11th, when the President, Sir John Bland-Sutton, was in the chair.

The congratulations of the Council were offered to the President on having received the honour of a baronetcy and to Sir James Berry on having received the honour of knighthood on the occasion of His Majesty's birthday.

### Diploma of Fellowship.

Mr. J. Basil Hall, President of the British Medical Association, was introduced and admitted a Fellow of the College. Diplomas of Fellowship were granted to the following twenty-four candidates:

A. C. B. Biggs (Univ. Coll.), G. . . . .	rajkar,
I.M.S. (Bombay and St. . . . .	ll. and
St. Bart's), K. N. Purkis . . . . .	nias's),
	larnett
	Coll.),
	hart's),
	so and
	and Lond.), M. Geaney
	l), J. B. Oldham (Liver-
	W. M. Cotter (Otago and
	s), A. Rugg Gynn (Edin.
	St. Bart's).

### Lectures and Demonstrations.

The following Professors and Lecturers were appointed for the ensuing year:

*Hunterian Professors.*—Sir Arthur Keith: Six lectures on the Evolution of the Higher Primates. Arthur Edmunds, C.B.: One



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lecture on Pseudo-hermaphroditism and Hypospadias and their Surgical Treatment. J. E. Adams: One lecture on Malignant Disease of the Jejunum. E. Musgrave Woodman: One lecture on the Surgical Treatment of Phthisis and Bronchiectasis. A. Lawrence Abel: One lecture on the Treatment of Cancer of the Oesophagus. Hugh William Bell Cairns: One lecture on Neoplasms of the Testicle. Stanford Cade: One lecture on Cholera and Gale Lecturers. Two lectures on the Importance of cystography. Alfred Piney: Six demonstrations in Haematology in Surgery. Erasmus Wilson Lectureship.—Clement E. Sbattock: Six demonstrations on Surgical Pathology. Sir Arthur Keith: Six demonstrations on the contents of the Museum.

## Board of Examiners.

The following were elected as members of the Board of Examiners in Anatomy and Physiology for the Fellowship for the ensuing year: Anatomy: William Wright, Frederick Gymer Parsons, Wilfred Edward Le Gros Clark, Cecil P. G. Wakeley. Physiology: John Mellanby, David Henriques de Souza, Frangcon Roberts, John B. Leathes.

## The following were elected examiners under the Examining Board in England for the ensuing year:

Elementary Biology: Thomas William Shore, James P. Hill. Anatomy: Henry A. Harris, Oscar S. Hillman, John Basil Humo. Physiology: Charles A. Lovatt Evans, George A. Buckmaster. Midwifery: Charles H. Roberts, Eardley L. Holland, Donald W. Roy, Harold B. Whitehouse. Diploma in Public Health: Part 1, Richard Tanner Hewlett; Part 2, Francis J. Stevens. William P. MacArthur; Diseases and Hygiene of Tropics, Philip H. Maunon. Diploma in Ophthalmic Medicine and Surgery: Part 1, Sir John Herbert Parsons, Charles B. Goulden; Part 2, Malcolm L. Bahr. Diploma in Psychological Medicine, Messrs. C. H. Hephurn. Diploma in Laryngology and Otology: Part 1, Herbert Tilloy, Arthur H. Cheattle; Part 2, Herbert J. Marriage. Messrs. C. H. Fagge, L. B. Rawling, H. S. Clogg, H. Lett, and T. P. Legg were elected members of the Board of Examiners in Dental Surgery for the year ending June 30th, 1926. The following of the Board of additional members of the Dental Section of the Board of Examiners in Dental Surgery: Ernest Blair Dowsett, D.S.O., Arthur Thomas Pitts, D.S.O. Mr. Graham Simpson of Sheffield was elected a member of the Court of Examiners in the vacancy occasioned by the resignation of Mr. A. P. Dodds-Parker.

## ROYAL COLLEGE OF PHYSICIANS OF IRELAND.

At the June meeting of the President and Fellows the following were admitted Licentiates and Members of the College: C. A. Nadicarianda, J. S. Quin.

## The Services.

## INDIAN MEDICAL SERVICE.

Warrant Governing Age of Retirement of D.M.S. With reference to Army Department Notification No. 2649, dated August 15th, 1919, the Governor-General in Council March 17th, 1925, publication of the following Royal Warrant, dated March 17th, 1925, regarding the age for compulsory retirement of an Indian Medical Service officer holding the appointment of Director, Medical Services in India:

George R.I.  
Royal Warrant.  
Whereas we deem it expedient in the interests of the Service to make the following change as to the age at which officers of our Indian Medical Service holding administrative appointments shall be placed on the Retired List.  
Our Will and Pleasure is that an officer of our Indian Medical Service holding the appointment of Director of Medical Services in India shall be placed on the Retired List on attaining the age of 60.  
Our Warrant dated 13th June, 1919, shall be amended accordingly.  
Given at Our Court, at St. James's, this 17th day of March, 1925, in the fifteenth year of Our Reign.  
By His Majesty's Command.

(Sd.) BIRKENHEAD.

## DEATHS IN THE SERVICES.

THE LAST MEDICAL SURVIVOR OF THE INDIAN MUTINY. Bengal Deputy Surgeon-General Philip Warren Sutherland, aged 93. He was the son of Adam Sutherland, surgeon, of Hayes, Middlesex, and was educated at King's College Hospital. After taking the M.R.C.S. in 1853, he entered the rank of deputy surgeon-general in May, 1854. He attained the rank of deputy surgeon-general in December, 1883, and retired on February 5th, 1889. He served in the Indian Mutiny in 1857-58, and received the medal. His whole service was spent in military employ, winding up with five years as assistant medical officer of the Clarence Cooper. Since the death of Sutherland had been the senior member of the I.M.S. retired list. That distinction now falls to Surgeon-General Henry Cook, of the Bombay Service. More interesting, however, is the fact that Sutherland appears to have been the last medical survivor of the Mutiny. There are still two retired officers of the I.M.S. living who were in India during the Mutiny—

Surgeon-General H. Cook and Surgeon-Major A. Gamack—who neither of them served in the field during the campaign. The last surviving Mutiny veteran of the Army Medical Department seems to have been the late Surgeon-Major A. E. T. Longhurst, who died on March 20th last.

Lieut.-Colonel Alfred Henry Williams, Bengal Medical Service (ret.), died at Eastbourne on May 20th, aged 78. He was the son of the late Henry Williams of Longford, and was educated at Aberdeen, where he graduated M.B. and C.M. in 1871, and at St. Thomas's, taking the M.R.C.S. in 1872. He entered the I.M.S. as assistant surgeon in March, 1872, became lieutenant-colonel after twenty years' service, and retired in 1897. His entire service was spent in military employment, for the greater part of the time in the 9th Bengal Infantry, one of the Company's old "Parade" regiments, which was disbanded in 1834, and re-raised as a Gurkha battalion, with the 9th he served in the Afghan war in 1880, and received the medal.

Captain Cyril Armand Bernard, M.C., R.A.M.C., died suddenly at Cologne on May 10th, aged 36, while acting as wicketkeeper in a cricket match. He had joined at Cologne, from India, only five days before. He took the diplomas of L.R.C.P. and S.E.d. and L.R.F.P.S.G. in 1914. He received a temporary commission as lieutenant R.A.M.C. on August 12th, 1914, just a week after war was declared, became captain after a year's service, and took a permanent commission on February 12th, 1918. He served in the recent great war, was mentioned in dispatches in the London Gazette of September 22nd, 1916, and received the Military Cross on that date.

## Medical News.

THE report of the Commanding Officer of the Corps of Commissionaires, presented to the annual meeting of the governors on June 13th, contained a reference to the death of Dr. Haslip last November. In him the corps, it was said, had lost a medical officer whose exceptional qualities as a physician and a friend of admirable judgement had been of the highest value to the corps for thirty years.

THE Albert medal has been awarded by the Council of the Royal Society of Arts to Lieut.-Colonel Sir David Prain, C.M.G., C.I.E., F.R.S., I.M.S.(ret.), "for the application of botany to the development of the raw materials of the empire." The medal was instituted in 1853 by the society as a memorial of the Prince Consort, who was its president for eighteen years, and is awarded annually "for distinguished merit in promoting arts, manufactures, and commerce."

In order to draw the attention of overseas visitors to its appeal for the Nurses' Home as a memorial to the nurses of the overseas nursing services who died in the war, the Elizabeth Garrett Anderson Hospital is showing a modern operating theatre in the Palace of Transport and Housing at the Wembley Exhibition. We have already mentioned that the names of ninety-seven overseas nurses will be inscribed in the home, and that donations may be sent to the Dowager Marchioness of Dufferin and Ava at the hospital, 144, Euston Road, London, N.W.1.

AN assembly of the Faculties of University College, London, will be held on Thursday, July 2nd, at 3 p.m., when the Duchess of Atholl, M.P., Parliamentary Secretary to the Board of Education, will receive the scholars, medalists, and prizemen, and will give an address. Afterwards the new anatomy and physiology building, the College libraries, and the Bartlett School of Architecture, the College of recent discoveries of the British School of Archaeology in Egypt will be open to inspection.

THE annual prize-giving at the London (Royal Free Hospital) School of Medicine for Women will take place on Thursday, June 25th, at 3.30 p.m. The ceremony will be followed by tea in the garden.

THE annual meeting of the Tuberculosis Society will be held on Tuesday, July 7th, at Pritchard's Restaurant, 79, Oxford Street, London. It will be preceded by a dinner at 5s. 6d. a head. Full information can be obtained from the honorary secretary, Dr. Frederick J. C. Blackmore, 138, Herbert Road, Woolwich, S.E.18.

THE Liddle triennial prize of the London Hospital Medical College will be awarded next year for the best essay on the etiology and treatment of primary high blood pressure. Essays in competition must be delivered at the hospital not later than January 30th, 1926.

IN connexion with the visit of the American medical practitioners to London an illustrated booklet was prepared containing a description of the Brompton Hospital for Consumption, and of its sanatorium at Frimley. This contains a short history of the development of the hospital and a detailed account of its activities.

THE bicentenary of Guy's Hospital and the centenary of the Medical School both fall this year. On Monday, June 29th, the Duke of York will visit the hospital and distribute the prizes to successful students. The laboratories, museums, the college, the nurses' home, and the wards will be open to inspection after the ceremony.

THE Fellowship of Medicine announces that Dr. A. F. Hurst will give a lecture on Friday, June 26th, at 5.30 p.m., in the West Lecture Hall, No. 1, Wimpole Street, on the treatment of cholecystitis and the prevention of gall stones. From June 22nd to July 4th the London Temperance Hospital will hold a special course from 4.30 in the afternoon, for the convenience of those in general practice; fee, £1 ls. A course in urology has been arranged by the St. Peter's Hospital from June 29th to July 25th. The Queen's Hospital for Children has organized a two weeks' course from July 6th to 18th. A course in the diagnosis and treatment of nervous diseases will be given at the West End Hospital (out-patient department, 73, Welbeck Street) from July 27th to August 15th. Other special courses in August are a vacation course at the Prince of Wales's General Hospital, Tottenham, from August 3rd to 15th, a fortnight's intensive course at the Queen Mary's Hospital (Stratford), and a urology course, continuing throughout the month, at the All Saints' Genito-Urinary Hospital. Copies of the syllabuses and the programme of the Fellowship of Medicine may be obtained from the Secretary at No. 1, Wimpole Street.

THE next meeting of the Anaesthetic Section of the Royal Society of Medicine will be held at Manchester on Saturday, June 27th, in the Physiological Lecture Room of the University. A discussion on chloroform will be opened by Dr. H. P. Fairlie, and Mr. S. R. Wilson and Dr. S. McSwiney will give a demonstration on the effects of adrenalectomy injections during ether and chloroform anaesthesia. In the laboratories an exhibition will be arranged of physiological methods of investigating acidosis, and of new apparatus for anaesthesia.

SOME time ago (April 25th, p. 811) we announced that the next Voyage d'études médicales to the health resorts of France (organized solely for the medical profession) would take place in September. It has now been arranged that the party shall meet at Vittef at 5.30 p.m. on September 2nd, and during the subsequent thirteen days visit Contrexéville, Martigny-les-Bains, Bourbonne-les-Bains, Bains-les-Bains, Plombières-les-Bains, Luxeuil-les-Bains, Bussang, Gerardmer, La Schlucht, Münster, Colmar, Soultzbach and Soultzmatt, le Linge, les Trois Epais, Aubur, Ribécourt, Chatenols, Barr, Sainte-Odile, le Hohwald, Schirmeck, Strashourg, Niederbronn, Morsbronn, Luxembourg, Mondorf, Thionville, Sierck-les-Bains, Spa, Naucy-Thermal, Sermaleux-les-Bains. The cost has been fixed at 1,150 francs, which includes all expenses throughout the voyage. English doctors desirous of participating are asked to communicate without delay with Madame M. C. Juppé-Blais, representative of the French Spas, at the Office Français du Tourisme, 56, Haymarket, S.W.1.

THE fortieth Balneological Congress was held at Carlsbad, Marienbad, and Franzenbad from April 3rd to 8th under the presidency of Professor Dietrich of Berlin. After an address by the general secretary, Dr. Hirsch, on the German Balneological Society, which now contains 750 members, the following papers, among others, were read: the experimental pharmacology of mineral springs, by Professor W. Wiechowski; combined therapy, by Professor A. Strasser; the influence of radio-activity on metabolic processes in the animal and vegetable world, the effect of baths on the gases of the blood, by Dr. E. Freund; the treatment of diabetes, by Professor von Jaksech-Wartenhorst; the effect of diet cures on hypertension, by Dr. F. Wagener; modern humoral pathology and balneology, by Dr. B. Aschker; the complications of obesity, by Dr. E. Tuszka; and arterio-sclerosis and cardiac failure, by Dr. A. Selig. At the termination of the proceedings it was decided to found a new monthly journal, entitled *Archiv für Balneologie und Klimatologie*. The next balneological congress will be held at Aix-la-Chapelle in April, 1926.

THE Société Française Nationale de Chirurgie has awarded the quinquennial Lannelongue prize, consisting of a gold medal and 5,000 francs, to Dr. George Crile of Cleveland.

ON June 10th Commemoration Day was held at Livingstone College. There was a good attendance, including Sir George Makins, G.C.M.G., Dr. Manson-Bahr, Dr. Whitfield Guinness, and Dr. J. H. Cook. The chair was taken by Dr. Andrew Balfour, C.B., C.M.G., Director of the London School of Hygiene and Tropical Medicine. The Principal, Dr. Tom Jays, made a short statement as to the financial position of the College, showing that about £800 is needed in order to close the current financial year without a deficit. He showed that the need is for more students; if they are forthcoming the financial needs are small, but owing to the lessened numbers entering since the war, and also to much extra necessary expenditure, the financial burden is heavy. He

spoke of the world-wide influence of Livingstone College, the students of which are now scattered in almost every part of the globe. Dr. Balfour said that what had impressed him extremely in his knowledge of the work of Livingstone College was the way in which the students were trained in persistency in their studies and work. In addition to learning something of medicine and surgery, the students also learnt preventive work in hygiene as applied to tropical disease. The Rev. H. Wakefield (Calabar, West Africa) said he had often wondered what would happen if Old Livingstonians all the world over were to send their testimonies of what Livingstone College had done for them. It would not be a story of increased salaries, of promotion to the heads of departments, but a story of gigantic struggles against disease and squalor. Mr. F. Kilbey (Central Provinces, India), a student of the first session, told of his thirty years' work in the mission field and of the work he had been enabled to do through the knowledge he had gained. He had been able to do much in preventing the spread of disease, in outbreaks of plague and cholera, and had alleviated many cases of eye diseases.

THE *Giornale Italiano delle malattie venere e delle malattie della pelle* has changed its title to *Giornale Italiano di dermatologia e sifilologia*.

A DISCUSSION will be held on hereditary syphilis on the occasion of the Congress of the Association of French Gynaecologists and Obstetricians in the first week in October, when the following papers will be read: latent hereditary syphilis, introduced by MM. Leredde, Lesné, Devraigne, and Carle; treatment of syphilis during lactation and early infancy, introduced by MM. Marcel Pinard, Lomairo, and Péhin; preventive treatment of hereditary syphilis, introduced by MM. Millan, Lévy, Spillmann, Solal, and Petges. Further information can be obtained from the French National League against the Venereal Peril, 7, Rue Mignot, Paris VI.

THE forty-ninth session of the French Association for the Advancement of Science will be held at Grenoble from July 27th to August 1st, under the presidency of Professor J. Teissier of Lyons, when the question of duodenal ulcer will be discussed. Further information can be obtained from Professor Teissier, 108, Chemin d'Alais, Lyons.

## Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to **The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.**

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## QUERIES AND ANSWERS.

### SOURD MILK.

"G. B." writes to ask where he can obtain lactic acid (Bulgarian) bacilli; also for directions how to prepare the milk from day to day, and how often and how much should a patient be given, and at what hours.

To prepare a suitable soured milk it is necessary to start with a good milk supply, as the resultant junket, in great measure, depends upon the quality of the milk. For the sake of safety it is desirable to bring the milk to the boil and to cool down rapidly, thus ensuring an adequate freedom from extraneous organisms. A good commercial lactic acid bacillus tablet, or a liquid culture, is then employed to inoculate the milk, and after carefully covering the vessel incubation is conducted for a period

**VACANCIES.**  
NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 39, 40, 41, 44, and 45 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 42 and 43.  
A short summary of vacant posts notified in the advertisement columns appears in the Supplement at page 271.

## A British Medical Association Lecture

ON

## THE MEDICAL WITNESS.\*

BY

H. H. JOY, K.C.

I WOULD like to preface my remarks by emphasizing the immenso responsibility which attaches to the medical witness in connexion with cases of every sort in the various courts of justice involving medical evidence. In some instances the medical questions involved are comparatively simple, and the lay tribunal can to a certain extent exercise an independent judgement upon them. But, speaking generally, the doctor is almost in the position of a man who is interpreting for the court from some foreign language, and accordingly it is obviously his paramount duty to be scrupulously fair and frank. I would like to add that, in the opinion of those best qualified to judge, the medical witnesses as a class prove worthy of the high confidence reposed in them. It is interesting to notice in this connexion that the rules of evidence which apply to ordinary witnesses have had to be modified in an important respect in favour of the medical witness. Speaking generally, the ordinary witness may only give evidence as to facts, and from these facts the court draws its own conclusions; but the medical witness is permitted to give his opinion upon the facts which he has observed, or which are submitted to him—that is, he may state what, in his view, is the proper inference and conclusion to be drawn from a given set of facts; in other words, the court entrusts him with the duty of interpreting those facts, and this at once shows what a responsible and powerful position he occupies.

If the nature of the case to which a doctor is called is such as to suggest to him the possibility of ultimately being required to give evidence—it may be before a coroner or a civil or criminal court—he should equip himself from the start for such an eventuality. I advise him therefore in such a case to observe and record most fully everything that he finds. It is surprising how often great importance afterwards attaches to matters which at the time may not have seemed important. A doctor's connexion with a case may begin only at a later stage—namely, when he is asked to examine with a view to being called as a witness; he may probably be furnished with views or theories by the party engaging his services; he should keep an open mind; he should make his examination fully first and then see to what conclusion it leads; if he cannot to his own satisfaction support the case let him say so plainly; if he can, let him be careful to include in his "case note" everything which really affects his conclusion. It may be a long time before he finds himself in the witness-box; and when there he may refresh his memory from his note; but he may also be asked to show it to the counsel for the other side; obviously, if something to which in his evidence he has attached importance is not to be found in the note made at the time, he lays himself open to criticism. As regards the making of the note, dictation will do provided he takes the precaution to initial it, and he should see that it is dated. The note should be made at, or as nearly as possible at, the time of the examination; the witness should have the original note with him. But the doctor should not make a habit of using this "note" too liberally—any "refreshing" should be done before entering the witness-box; a witness is not likely to create such a good impression on the court if he gives the appearance of not knowing the facts.

Not infrequently, I suppose, you may wish to apply certain tests when making an examination, to help you to decide whether a man's condition is really the consequence of an injury or is due to disease; it is not always easy to know what to do. Each case must depend largely, of course, on its own special circumstances, but I think I may say this much at any rate: if there is some test which in your view is really essential to forming a sound conclusion, but is perhaps lengthy and irksome to the patient, you should at least ask him to consent to it, otherwise you may find,

when in the witness-box it is put to you, "Isn't so-and-so an accepted test of the presence of such disease?" you have to say Yes; and when you are asked why you did not apply it, you can say, "Well, I asked permission to do so, but the man objected and I could do no more." It will at any rate show that you were not avoiding it for fear it might have upset your view of the case. Such difficulties are largely, I think, obviated in cases under the Workmen's Compensation Act, because that Act contains provisions for what is in effect a compulsory examination of the man on behalf of the employer, and further provides that if he refuses to submit to or in any way obstructs such examination his right to compensation may be suspended until he has submitted; so in cases under that Act you would report to the employer's solicitors that you were not able to make what you considered a proper examination, and the court would then have to decide whether the man was refusing to submit to or was obstructing the examination. In connexion with examinations under that Act, you may like to know that the House of Lords has held that there is no absolute right in the workman to have his own doctor present at such examination, so if a workman refuses to submit himself unless his own doctor be present, it is for the court to say whether his refusal is reasonable or not; so that from your point of view you need not worry over any questions of etiquette as regards the attendance of the man's own doctor, though doubtless you would seldom raise objection to his being present.

When the case is one where you have to rely mainly or wholly upon subjective symptoms, test the man's credibility during your preliminary examination by such devices as appear best to you, so as to be able when in the witness-box to fortify your conclusions that he was or was not exaggerating his symptoms or perhaps malingering.

Sometimes doctors from either side meet by arrangement of the parties for an examination of the applicant, with the hope of agreeing, for instance, as to whether there is any incapacity or whether the condition is the result of accident or disease, and so saving litigation. This is an excellent thing to do (except from counsel's point of view); but my own personal opinion is that on all such occasions the discussion should by arrangement be "without prejudice," so that neither doctor can be examined or cross-examined, if the case should eventually come to court, as to what was or what was not said by one to the other. The failure to take this precaution has led to some unpleasant personal conflicts of recollection in the witness-box. Do not give your solicitor a stronger report than you can really maintain in the witness-box. For instance, if your report says that a man is a malingerer, there should be no risk of having to climb down and say that he is not intentionally exaggerating. Remember that counsel opens his case largely from your report, and it is a fatal thing to open it too high and see it being painfully brought down. Counsel's brief is almost invariably marked with a fee of 3 and 1, or 5 and 1, or whatever else he can get and 1. The 1 indicates a conference. When circumstances permit make a point of attending that conference; counsel can then get a far better grip of the medical aspects from a talk with you; he can also discuss with you the nature of the points which the other side is likely to put forward, and get your observations upon them. Also do all you can to get hold of the correct version of the facts—a by no means easy task sometimes, but obviously a most essential matter. In hospital cases ask to see the notes; they are not strictly evidence unless produced by the doctor who made them (who has often gone away), but the Court of Appeal has expressed the view that they should be at the disposal of each side. Of course, if in the progress of the case facts new to you come out which cause you to modify or even alter your views you will naturally have to act accordingly if you go into the witness-box; but in such a case take care to let counsel know how the new or altered facts affect your view. I think I can best explain my meaning by an illustration.

You have been called in to examine a case of a man who has some time ago received a blow over the spinal cord, and is now exhibiting symptoms of paralysis; you are told that the blow was at point A, and you see the symptoms of loss

\* Delivered before the South Staffordshire Division, February 3rd, 1925.



of power are in the appropriate parts corresponding with an injury at that precise point; you have therefore concluded cause and effect, and were prepared to give evidence accordingly. During the case the doctor is called who saw the man while the mark of the blow was still to be seen, and he locates it at a spot which would not affect the paralysed part. You cannot, of course, any longer rely upon the opinion you had formed; nor can you give evidence—if you give it at all—without qualifying it by saying that “if the seat of injury was really so high up as Dr. So-and-so says, then I must admit it would not be reflected in the part now paralysed, and therefore is not the cause of it.” Now counsel or the solicitor conducting the case would almost certainly not know what a vital change of affairs would result from Dr. So-and-so’s evidence as to the precise spot, and you must at once explain to him what has happened, or else he will find himself hopelessly involved.

Now let us assume a case has reached the court. You are going to give evidence for the defendant’s side. Please do not think it is enough to be on call by the ‘phone to hurry round when your evidence is wanted. In the great majority of cases it is most essential that you should hear all the evidence, and especially, of course, the medical evidence; you may thus obtain some entirely fresh light upon the matter, and you can then, with your special skill and knowledge, be enormously helpful to your counsel; and further, when you go into the witness-box you will know exactly how the case stands and what you have to meet, and will be forewarned against the line of cross-examination.

As regards the actual giving of your evidence I would make a suggestion or two. Remember that the simpler the language of the expert the greater is his effect upon the court. In a case before a judge and jury a doctor stated in his evidence that “on examining the prosecutor he found him suffering from a severe contusion of the integuments under the left orbit, with great extravasation of blood and ecchymosis in the surrounding cellular tissue, which was in a tumefied state; there was also considerable abrasion of the cuticle.” The judge: “I suppose you mean that he had a black eye?” The doctor: “Yes.” The judge: “Then why not say so?”

Scientific evidence should therefore be as unscientific as possible when given in court. Take care to have ascertained beforehand what the real issues in the case are. I am afraid it does not always occur to those who engage your services that it is necessary for you to know the precise issues, but it almost always is, and you should see that you are fully informed. To take one illustration from an actual case. A man has had nystagmus which has incapacitated him, and he has received compensation. He “recovers,” and his employers claim to stop his compensation, alleging that any incapacity due to “the so-called accident” has ceased. He claims a continuance of the compensation, and it is necessary for him to show that his incapacity (that is, in this case inability to resume work in the mine) is due in one way or other to the so-called accident—namely, the disease of nystagmus. The doctors called on his side agree that he is now free from nystagmus, but say that it will probably recur if he again works below; but they omit to say that the danger of that recurrence is due wholly or partly to the attack that he has had. He loses his case; whereas if they could have said, “There is an increased susceptibility consequent on the previous attack,” the man would have succeeded.

In many of the matters that come into court under the Workmen’s Compensation Act the question is whether the injured man is now sufficiently recovered to do some work. In these cases you are asked to give evidence as to his capacity for work or as to what work is suitable for him; you should therefore ascertain what work it is that the employer is suggesting as suitable, and go and get personal knowledge of the actual work and of the surrounding conditions. Counsel for the man cross-examines you somewhat in this fashion: “Don’t you think for a man with impaired sight the work offered is unsuitable, because of his having to go about where machinery is in motion, or chips flying about?”—or whatever it is. If you can say, “No; I have seen the place myself under ordinary working conditions,

and the job is quite suitable for him,” you enormously increase the value of your evidence. Again, I would have you remember that, though the medical aspect of the case is perfectly plain to you, it is seldom plain to the tribunal; so that you should give your evidence in a way which will commend itself and be intelligible to the court: give in as simple language as you can the data upon which you rely and the reasons for your conclusions—for example, “When I find this and this followed by that, I am certain the cause is so-and-so.” The judge says to himself, “This fellow knows his job, and I can see his line of reasoning—it strikes me as sound.” When you are being cross-examined keep your temper, for the gentle art of cross-examination embraces infinite styles and varieties, and some, I am sure, must be enough to try the temper of a saint. Listen carefully to the question; beware of double questions, and if you do not understand what is put to you, say so and get it made intelligible to you before you answer. When being cross-examined do not merely answer Yes or No to medical questions; such questions are put to you presumably—at least they should be—because the witnesses for the other side are going to give them as their views, so explain your reasons for not accepting what was put to you. Avoid arguing with the cross-examiner; if there is anything you consider really objectionable in a question or in the way of putting it appeal to the judge—you are entitled to be protected from unfair treatment—but, of course, don’t do that unless it is really bad. If an extract from a book is cited to you in cross-examination, remember that you are fully entitled to see the passage and its context before you give your answer; it not infrequently happens that when investigated with its context the point which was intended to be made against you wholly collapses; or the quotation may be from a standard work now out of date; or from an old edition of a work, in the recent edition of which a different view is given; or it may happen (indeed, has) that the passage was one cited by the writer of the book for the purpose of contradicting it or exposing its fallacy. But when you know that you are giving a view which is really contrary to the usually accepted view, be ready to fortify it by your special experience or other good ground.

Some doctors, I believe, are so rash as to have themselves committed their views to writing. If faced with some earlier observation of your own on a point on which you have really altered your view, do not try to camouflage the two views, but say why you have changed your mind in the light of further experience or whatever the cause was. I think myself that when such a situation is dealt with fairly by the witness in that way the effect on the judge’s mind is to confirm rather than detract from the value of his evidence. The judge knows as well as you do that science is never final—experience, new discoveries, increased research cause the modification or reversal of views previously held; and while the judge respects a man who is strong enough to say that he has changed his mind in the light of further experience, he necessarily views with mistrust the man who tries to explain away or reconcile the two opinions. When, as sometimes happens, you are going to give your opinion in the witness-box that a man was a malingerer, you must be prepared for awkward questions in cross-examination and be armed at all points. Of course, you sometimes are provided with fairly conclusive evidence—for instance, a man has had an accident some time ago and injured some muscles of his back. He alleges that it is still stiff and that he cannot stoop without great pain. You get him to describe his woes, and listen most sympathetically to all he has to say, and soon get an inkling how far he is to be believed. Then during a friendly chat you “accidentally” drop the handkerchief with which you are wiping your glasses, and of course, if he politely bends down and picks it up without a groan you probably will not need to stay much longer; but it is seldom, I suppose, that you get such easy positive proof.

Let me give you an instance of an actual experience in this connexion. Counsel was cross-examining to try and prove that a man really was suffering from neurasthenia, and that he exhibited certain symptoms of it. The doctor says, “No, he is malingering neurasthenia.” Counsel:



"Do you say that those symptoms can be voluntarily assumed?" Doctor: "Yes, I do." Counsel then asked him to give a demonstration of voluntary sweating. This so disconcerted him that he at once broke out into obvious perspiration, and so appeared effectively to establish his assertion, though one wonders whether it was quite a case of voluntarily sweating on his part.

If, as I suppose must sometimes be the case even with doctors, in cross-examination you find yourself being cross-examined on a subject on which you have no particular knowledge, do not try to answer; say you cannot deal with that; or, if you like, say what I heard said in court by a well known surgeon, indicating a well known physician who was going to give evidence also: "You'd better put that question to the finished article that follows me; I'm only a surgeon." I assure you the court will esteem you the more highly for not pretending to have knowledge that you do not possess. I need hardly advise you to avoid making any sort of attack upon the other medical witnesses or giving the impression that you consider yourself far superior. You probably know what Max O'Rell says of American experts—"Every fellow wishes the other fellow to think himself a devil of a fellow."

It is often a matter of amazement to counsel, and must even sometimes be so to yourselves, to find how completely doctors differ, or appear to differ, from each other in the evidence that they give about a case. Presumably both sides cannot be right—though I believe that in the great majority of such cases both sides are honestly giving their opinion; the reasons for this difference are no doubt various. Perhaps the most influential one is that of unconscious partisanship. You have become identified, as it were, with the one party: you are for his side; you cannot help noticing particularly and perhaps magnifying the points that assist your side's case; you overlook or fail to give due weight to points that do not fit in so well. The ideal medical witness should be on guard against this from the beginning; he should remember that he has probably approached the case at the very start with one side's views and wishes placed before him, and not the other's; he begins by looking for something, expecting to find it, instead of looking—with a quite open mind—to see what he does find.

Or, again, he is in the witness-box, is being cross-examined; he feels that it is "up to" him to justify the confidence placed in him by his side; it is human nature to want to "play up" accordingly, and almost unconsciously he adds a little or omits a little; he cannot bear the idea of "letting down" his side, or being what might seem to them "disloyal"; and when faced with a point which he sees might be unfavourable, he screws himself up just a little bit to enable him to discount it, justifying it to himself perhaps by saying, "Well, I know my man really is in the right, and is entitled to succeed." A clever cross-examiner will comprehend your state of mind, and try to get you to go a little further, and still a little further, and in the end you have to go too far and the damage is done.

Sometimes the cause for this difference of views is of quite another kind: there may be a real division in the profession upon the point under discussion—some think this, some that. Here is a chance for you to help counsel. As a rule doctors know something of each other's views and theories. I remember once in a case of nystagmus there occurred a remarkable difference of evidence. The question was, Had the man nystagmus or had he not? Eminent witnesses on my side said he had; an equally eminent witness on the other said he had not. Happily the mystery was solved: on a tip from my side the latter was asked what he meant by hating nystagmus, and he answered that he admitted no nystagmus where the symptom of oscillation of the eyeballs was not present—little he cared for the extended definition of that disease in the Workmen's Compensation Act. Again, it may be in some cases that the respective doctors may have made their examination at widely different times, and the patient's condition may have essentially differed; no doubt various other reasons will suggest themselves to your minds. I mention these matters to impress upon you that you can frequently be of great assistance to counsel, not only by your giving evidence in the witness-box, but by

closely following the whole evidence and giving advice to him on points of this kind which may be invaluable for cross-examination. May I add, when possible, jot down your "tips" on paper and let him have them; it is not at all easy to take them in from a whispered conversation, while perhaps counsel is on his feet examining or cross-examining. You must remember that rarely, if ever, has counsel sufficient medical knowledge of his own to hope to cross-examine a medical expert effectively; and rarely, too, I am glad to say, has he any ground for cross-examining such a witness as to honesty or credibility; and so his only chance of making any impression is by being supplied by you with material whereby he may throw some new light on the case, or lay bare the reason why the doctor under examination may have been misled into forming such an erroneous view of the case.

If you make a deduction from certain stated facts, be quite sure there is no flaw in your deduction. No less a person than a very learned judge whose face was an exact counterpart of that of George III on the coins, on one occasion when counsel was inviting a jury to infer a certain consequence from the likeness of two people to each other, interrupted him, saying, "Don't dwell too long on that. It has been said I am the son of His late Majesty George III because of my likeness to him; all I can say upon that subject is this: George III was never in Scotland, and my mother was never out of it; so if you can make me out to be his son, do. Now go on." Counsel, in a stage whisper, for the jury to hear, to his neighbour: "But they might have met at the border!"

When you are being cross-examined be on the look-out for questions which assume that you have said something which you have not said, or that something has been proved which has not been proved, and for questions to which you cannot properly answer Yes or No—for example, "Have you given up beating your wife?" Considerable latitude is allowed to the cross-examiner, but he has no right to put unfair questions or make inaccurate statements, and the witness is fully entitled to point out the inaccuracy, and, as I have said—in extreme cases—to appeal to the judge if he thinks the question unfair. When you feel that you have scored a point and floored the cross-examiner with your answer, be content—do not try to kick him as well. That proceeding is apt sometimes to do harm. Your parting kick perhaps discloses something that provides him with a new weapon. So let well alone; remember the epitaph on the tombstone of one who failed to do so: "I was well, I wanted to feel better; I took physic, and here I am."

Bear in mind always that your function is to assist the court to arrive at what you believe to be a correct conclusion upon the medical question in the case, and you will do that most effectively by not showing any resentment at cross-examination, or trying to score off counsel personally, but by answering the questions courteously and simply; and, as opportunity arises, giving the reason why you cannot accept this or that suggestion that is put to you. So long as the medical witness conducts himself as an impartial expert giving assistance to the court, no counsel will gain any advantage by attacking him; it is only where he shows himself biased, or gives the impression that he is keeping something back, that he really exposes himself to effective cross-examination.

A medical witness in the box generally gives his evidence in chief with greater effect if he is allowed to give it in his own way; it is enough as a rule for counsel to say, "You examined Mr. — on such a day; what did you find?" Then you state all that you regard as of importance, and he then asks for your conclusions. This is far preferable to the half-and-half sort of way that so often occurs where counsel asks about this and that, and then the doctor is left wondering whether or not to mention other matters that have not been specifically asked. When that position does occur I advise the doctor to go on and complete all that he thinks bears on the point; but such misunderstandings seldom arise when they have met previously at conference. Again, when you are giving your evidence for the defendants—that is, after the doctors for the plaintiff have been in the witness-box—you should be prepared for

your counsel to travel somewhat freely beyond your mere proof or report, because he will almost certainly ask you to give to the court your views upon the points made by the doctors on the other side; he will probably say, "Now, doctor, you heard Mr. B. say he thought this was a case of so-and-so; what do you say about that?" Then is your opportunity to explain why you differ, and to endeavour to do so in a way that will convince the court that your reasons are sound. By doing this you have incidentally made it difficult for the counsel who has to cross-examine you, because you have dealt in advance with most of his material; and if he still persists in putting it the judge gets a bit restive and says to him, "The doctor has already explained that; what's the good of merely putting it to him over again?"

I would like, if time permits, to say a word about the position of doctors as regards what is somewhat vaguely described as "privilege," in so far as it concerns cases that come into the courts. For a witness in court there is no privilege recognized by the law as regards facts which the doctor may have observed or with which he has become acquainted in his capacity as medical attendant. Obviously there cannot be, because it would conflict often with statute law and nearly always with the administration of justice. As to the former, I may instance the Notification of Diseases Act and the Notification of Births Act. As to civil and criminal proceedings, it is apparent that over and over again the ends of justice would be defeated if doctors were allowed to decline, when in the box, to give evidence of the facts which had become known to them.

One can easily understand that in many cases it must be very unpleasant for a doctor to find himself asked to disclose information about his patients; but I fear that he can do no more than appeal to the judge to know whether he is bound to answer. The judge will say Yes; but the doctor will feel that he has done what he can to preserve the confidential relationship between himself and his patient. If he persisted in refusing to answer he would be liable to be committed for contempt of court. Incidentally I may mention that what a witness says in the witness-box is privileged, which means that it cannot be made the subject of an action for slander.

Now may I just try to give you a short summary of my suggestions?

Approach the case with an open mind.

Your examination should be complete—not limited (except in obvious cases) to the part affected or injured, but generally, of the systems and organs; it may later prove to be as important to say that such and such symptoms were absent as that some others were present.

Investigate carefully all the objective symptoms, and if the man complains of some that you do not then see—for example, sickness or passing blood—try to get a chance of seeing them; satisfy yourself as best you can about the subjective ones; make and keep careful records, and date them; and make as sure as you can that you have got the facts right.

When you make your report or give your proof, let it be as intelligible as circumstances permit to the counsel who is to have it: give the dates of your examinations, what you observed on the several occasions (if more than one), and then your conclusions and the reasons for them; ascertain what are the issues or points in the case, and show the bearing of the medical evidence upon them; attend if possible at a conference with counsel, and tell him what are the debatable features, and the probable criticisms or attacks to be expected from the other side.

When the case comes on, be there, stay there, and listen to the opening and the evidence, and jot down for counsel any tips or comments that occur to you. Diagnose the judge, and see what treatment he needs; then give it to him when in the witness-box—for example, clear his mind of some fallacy you have seen him absorb.

When in the witness-box speak plainly and not too fast, and as much as you can towards the judge; it is a good thing as a rule to adjust your pace to the judge's note; watch his pen; keep cool; do not let counsel make you lose your temper; do not argue with him; do not answer questions without being sure you understand them; and

always remember that the judge regards you as there to assist the court in arriving at the true view, and to give your opinions and make your criticisms honestly and impartially. Try to convey to the judge a clear and definite impression of what your decision would be; he wants you to enable him to arrive at a right and a real conclusion, and not to feel that he ought to give a verdict such as a jury once gave where the doctor at an inquest flitted aside with lightning and foul play as being the cause of death, and the bewildered jury's verdict was "Death from a visitation of God under suspicious circumstances."

## An Address

ON

## CERTAIN PHASES OF LEUCOCYTE ACTIVITY.

DELIVERED TO THE SHEFFIELD MEDICO-CHIRURGICAL SOCIETY

BY

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### SECTION I.—PATHOLOGICAL.

In an article published in the *BRITISH MEDICAL JOURNAL* (January 11th, 1919) it was shown that when washed red cells are ground up, a drop of the suspension of the washed and sedimented debris, when incubated (in a closed cell) with two or three drops of the freshly drawn blood from the same individual, exercises a leucotoxic effect on the native leucocytes varying in intensity according to the degree of concentration of the red cell debris in the incubated blood. The leucocytes emigrate very sparsely from the incubated clot, and those cells which adhere to the slide show marked signs of arrested activity, and cytolysis.

### Malaria and Leucocyte Activity.

In *The Leucocyte in Health and Disease* (London, 1904) a description is given of the leucocyte films from the incubated blood of a malaria patient taken during the pyrexial and the apyrexial stages of the disease respectively.

In blood obtained during the rigor or pyrexial stage emigration is very scanty, and the cells are spheroidal and show the cytolytic changes characteristic of poisoned cells. If, however, the same clot be detached from the slide, washed in normal saline, and reincubated on a fresh slide, a much more copious emigration of active cells takes place from the same clot after the removal of the serum. This proves that the scanty emigration in the first instance is not wholly dependent on a reduction in numbers of the white cells.

The findings of different observers as to a rise or fall in the mononuclear and polymorph cell count in various phases of malaria, and in blood drawn from different parts of the body, vary a good deal. The fact, however, that the emigration is very scanty from the incubated blood clot, taken during the pyrexial stage, while it is active from the same clot after the serum is washed away, strongly suggests that the inhibitory influence is in some way due to the presence of the blood serum and not to any lack of leucocytes. If blood be taken from the same patient during the apyrexial stage, normal emigration occurs from the incubated clot.

### Induced Malaria.

The induction of malaria by the injection of blood from an infected patient in cases of general paralysis, for therapeutic purposes, has enabled us to carry out observations on malarial patients on a more definite plan.

The emigration picture is first obtained by incubating the blood from a case of general paralysis immediately before the treatment is commenced. A second emigration picture is taken during one or more of the dozen or so rigors which usually follow the injection of the infected blood. A third emigration picture is taken during the stage of treatment by quinine, and a fourth after recovery from the malarial infection. The character of the leucocyte

emigration in this induced form of the disease follows the same lines as in the natural disease—that is, inhibition of emigration during the pyrexial stage and normal activity during the apyrexial stage; and also after recovery by quinine treatment.

#### Paroxysmal Haemoglobinuria.

I have recently had an opportunity of studying the same problem in a case of paroxysmal haemoglobinuria in a child of 3, in whom, although the paroxysms were accompanied by malaise and the passage of a large amount of haemoglobin in the urine, no rigors and no marked rise of temperature occurred.

The emigration picture obtained from blood during the paroxysm showed only a few leucocytes, surrounded by threads of fibrin and red cells in various stages of degeneration. When the clot was washed in saline and reincubated a much larger crop of active cells was obtained. In the convalescent periods, during which the urine was free from haemoglobin, the emigration picture gradually returned to a more normal condition.

Eason<sup>1</sup> states that a slight leucocytosis is generally present during the paroxysm. If this be so, the failure of the leucocytes to emigrate from the clot cannot be due to a scarcity of these cells in the circulating blood. In order to test this point and to ascertain whether the blood serum during the paroxysm is leucotoxic, three drops of my own blood were incubated in a closed cell with one drop of the patient's blood serum diluted with normal saline. The effect on my own leucocytes, though slightly inhibitory, was not very marked. When, however, my washed red cells, previously treated for one hour with the same serum, diluted with normal saline, were incubated (after rewashing) with my own blood, a striking effect was produced. Only a very scanty emigration of damaged leucocytes occurred, and many of these cells had debris of red cells hanging to them. In a control film, in which the same washed red cells were used without previous treatment with the haemoglobinuric serum, a good emigration field of normal cells was obtained.

This observation shows that the serum of the haemoglobinuric patient exercises its effect on foreign as well as native red cells, at room temperature *in vitro*, and that when cells so treated are incubated (after rewashing) with foreign blood, the red cells apart from the serum acquire a leucotoxic character. This observation is in harmony with the hypothesis put forward by Eason, Landsteiner, and other observers, that the recurring attacks of haemoglobinuria are due to the presence in the blood of a substance (amboceptor) which at a low temperature attaches itself to the red cells. When the local or general temperature of the blood rises, this substance acts as an intermediary body, and links the complement normally present in the plasma to the red cells, and thus brings about haemolysis.

These facts, taken in conjunction with our previous observations on malarial blood, suggest that disintegrated red cells, when damaged, either by invasion by the malaria parasite or as the result of the action of some haemolytic substance, as in haemoglobinuria, do exercise a profound leucotoxic effect *in vitro*; and further, this leucotoxic substance, whatever it be, only apparently becomes leucotoxic after it has been linked up with the red cells of the patient.

In diseases like malaria and haemoglobinuria, in which a mass destruction of red cells occurs periodically, leucotoxic substances are present in the blood serum during the acute phases of the disease. The removal of the blood serum from the clot *in vitro*, and the restoration of the serum to normality during the recovery stages *in vivo*, removes the inhibitory influence, whatever it be, which prevents the emigration of the leucocytes, and which, if present in a more pronounced form, brings about the death of the emigrated cells.

#### Leucocytic Emigration in Pneumonia.

It will readily be recognized that the emigration picture in diseases which are characterized by a mass destruction of red cells will probably be very different from the emigration picture seen in other diseases, especially those of bacterial origin. In pneumonia, for instance, in the acute febrile stage, the carpet of leucocytes which covers the floor of the cell in which the blood is incubated is a

thick one, the cells are very active, and a large quantity of iodophil substance is liberated. At the same time the increased leucocytosis which is present in acute pneumonia must be borne in mind.

In this connexion some observations by Dr. Gardner-Medwin<sup>2</sup> suggest that a leucopenia is actually present in the general blood stream during the early days of an attack of acute pneumonia, but that this is succeeded by a leucocytosis at a later stage. However this may be, the emigration picture from incubated blood in pneumonia in the acute stage is a striking one, and is in marked contrast to that seen in malarial and in paroxysmal haemoglobinuria. It may be that in paroxysmal haemoglobinuria a more extreme form exists of a condition ordinarily present in many other diseases (as in pneumonia), where red cells are agglutinated to, and undergo ingestion by, leucocytes in considerable numbers. These conditions can be so modified experimentally by removing the blood serum from the clot that the emigrating leucocytes can be induced to agglutinate and ingest washed native red cells on a wholesale scale.

#### Leucocytic "Aggressiveness."

If the red clot from which the first crop of leucocytes has been obtained be washed in normal saline to remove the blood serum, and reincubated on a fresh slide with a drop of a suspension of the washed red cells from the blood of the same pneumonia patient, the same phagocytic activity—that is, the aggressiveness—of the same leucocytes to their own washed and native red cells will be much more marked. Almost every leucocyte will be surrounded by a number of adherent red cells, and many will contain one or more ingested erythrocytes. This heightened "aggressiveness" to red cells on the part of leucocytes in the washed clot is not wholly specific in character—that is, it is not limited to native red cells; it extends to the red cells of other individuals, and to non-human red cells. Thus, washed red cells from certain individual sheep, which are sufficiently toxic to inhibit emigration and poison the leucocytes when incubated with human blood, will be readily ingested by the same leucocytes after the removal of the serum from the washed clot when reincubated on a fresh slide.

Moreover, this altered relationship between red cells and leucocytes in a disease like pneumonia may be brought about in normal blood (*in vitro*) by treating the washed red cells of one individual with the blood serum of another individual, or with the blood serum of the sheep, under certain conditions. After rewashing the clot red cells so treated may be readily agglutinated to and ingested by human leucocytes, whereas previously they produced no reaction on the part of these cells, or were so leucotoxic as to prevent emigration.

These and other facts suggest that it is some change on the surface of the red cell which brings about the altered attitude on the part of the leucocytes. We shall consider later whether, in addition to the deposition of this additive substance, some other substance may also not be removed, and whether by this process of addition and subtraction a profound chemical change may not be brought about in or on the surface of the red cell.

#### The Spleen and Leucocytic Stimulation.

We may regard the lacunar spaces in the spleen and the backwaters in the circulation as regions in which this aggressive action of the leucocytes on the red cells reaches a high level. Thus, in a case of enlarged spleen, in a man (also the subject of syphilis, with a history of previous malaria) in whom the spleen was removed by operation, serum from blood drawn from the finger—that is, the general circulation—when incubated with my own leucocytes and examined under dark-ground illumination, gave an emigration picture in which the individual leucocytes showed only moderate activity, while serum from blood taken from the splenic vein at the time of operation and incubated in the same way had a much more marked stimulatory effect, and greatly increased the pseudopodial activity of my leucocytes.

This comparative observation on serum from the general and the splenic circulation confirms the previous statement that substances which are capable of stimulating the

aggressive activity of leucocytes towards red cells are present in the blood in situations and in organs where, normally, red cells are undergoing disintegration.

In an interesting article on the spleen<sup>3</sup> Barcroft has described that organ as a reservoir from which large numbers of red cells are thrown into the circulation under certain conditions. The observations just recorded seem to suggest that substances having a leuco-stimulating character are present in the blood after it has traversed the splenic tissues. It may probably be that, as with bacteria so with red cells, a previous opsonization of the red cells by the blood serum is necessary to enable the leucocytes to ingest them.

It seems clear, however, that it is possible to reduce the leucotoxicity of a given sample of washed red cells *in vitro*, not only by treatment with an appropriate serum, but also by treatment with certain chemical substances.<sup>4</sup> Further, it is possible to increase the "aggressiveness" of the leucocytes to both native and foreign red cells *in vitro*, just as occurs irregularly in vaccine therapy, and with more uniformity through the influence of a previous infection, as in those diseases in which one attack confers subsequent immunity.

#### SECTION II.—PHYSIOLOGICAL.

The observations now to be recorded are concerned with the chemical and physical changes which can be observed in leucocytes as the result of, or in association with, the so-called process of stimulation.

One of the earliest signs of commencing activity shown by the white blood cells when removed from the circulation and incubated outside the body is a vibratory movement of the cell granules. This "boiling appearance" is seen in all varieties of leucocytes, but more in some kinds than in others. It may continue under favourable conditions for some hours, and as the liquefaction of the cell substance commences the amplitude of the granular movement increases. At a later stage it slows down, and finally ceases.

If a leucocyte film be prepared from incubated blood in a closed glass cell, the active cells which form a carpet on the floor of the cell do not, for the most part, stain with a 1/2 per cent. solution of ruthenium chloride in normal saline; or, as this reagent is called, ruthenium red. A few odd leucocytes may show nuclear lobes of a rosy pink colour, but the great majority of the cell nuclei remain unstained. If the film is treated, however, with a 1 per cent. solution of iodine in normal saline, and is then washed in the saline, the majority of the cell nuclei will quickly stain with the ruthenium red. It is possible to bring about the same result by incubating the film in normal saline through which air is frequently bubbled, but the oxidation process takes one and a half to two hours before the cells will react to the stain.

If the film be treated with a weaker solution of iodine (1/2 per cent. in normal saline) for a few seconds only (four to twelve), and the iodine be then quickly washed away, and the film (covered with normal saline) be placed in the incubator for a few minutes, many of the cells will be seen on examination to be exuding colourless droplets. Some of these globules remain attached to the cell for a time, and then gradually dissolve in the surrounding medium. These droplets are composed of substances some of which have a strong avidity for iodine, and stain with it a pinkish-mauve, or, when more concentrated, a port-wine colour. If to the film so treated with a wash of weak iodine the solution of ruthenium red be added, many of the cells still remain unstained. For the most part it is the cells to which these iodophil droplets are attached which do not stain with the ruthenium red. The cells which show the pink-coloured nuclei have probably passed through the first stage of partial oxidation, and have reached the later stage in which the nucleus has become exposed by the removal of the lecithin coat, and under these conditions the nuclear substance combines with the ruthenium red.

Examination of the film at this stage under dark-ground illumination confirms this view. Thus, the iodophil globules can be seen exuding from, or in some cases distending, the cell. The nuclear lobes in these liquefying cells often appear more translucent, as though more liquid

than in cells in which these droplets are absent. The nuclear material can often be seen streaming along one or more of the pseudopodial processes. If a second dose of a stronger solution of iodine (1 per cent.) be floated under the covered glass, the droplets take on the mauve colour, and when the excess of iodine is washed away and the ruthenium red again added all the cell nuclei show the pink stain. What is the significance of this fact—that the cell nuclei do not stain until they have been acted on by the second dose of iodine? We know that the semi-permeable membrane, or the perinuclear meshwork which normally surrounds the nucleus, is composed of a lipid material (chiefly lecithin) in combination with magnesium or calcium, the lecithin component being in a comparatively insoluble form. The first effect of the oxidizing agent, the iodine, is to bring about a change in this lecithin coat. The membrane becomes more soluble and is partly removed, and the nuclear substance is thus exposed to influences which reach the cell from outside. The cell now begins to form iodophil substances in the form of droplets. These droplets consist partly of lecithin in the water-soluble form with traces of cholin split off from the oxidized lecithin, and it is probably this cholin component (and not glycogen as was previously thought) which gives the droplet its capacity to stain mauve with iodine.

This exudation of substances from the cell which have the capacity of lowering the surface tension at the contact face between the cell and the medium brings about the protrusion of dendritic and pseudopodial processes, and eventually results in the cell movements. It also contributes to the surrounding and engulfing of red cells, micro-organisms, and other foreign bodies by the leucocytes. It constitutes, in fact, an essential factor in phagocytosis.

#### Experimental Evidence.

I must now give some experimental proof that this view of what happens in the cell when activity commences is founded on sound evidence. It is first necessary to establish the fact that the capacity of the nucleus to stain with ruthenium red depends on a denudation of its lecithin coat and consequent exposure of the nuclear material to a water-soluble substance like ruthenium red. The following observations bear on this point.

A leucocyte film, obtained by incubating normal blood in a closed cell, is treated with a faintly acid 1/2 per cent. solution in normal saline of potassium chloro-platinate for one hour. The excess of the platinum salt is then washed away in normal saline and a 0.05 per cent. solution of benzidine base in distilled water is added to the film. A blue-coloured deposit is formed, which reveals the situations in the cell where the platinum salt has combined with the lecithin compound to form a precipitate.

Two points, however, at once arise. First, how do we know that the blue deposit seen in the cell is really a lecithin-platinum precipitate coloured blue by the benzidine, and not some protein or other constituent of the cell? In the first place, the potassium chloro-platinate in neutral solution does not give a precipitate with the globulins or plasma proteins, while it does combine with water-soluble lecithin to produce an insoluble lecithin chloro-platinate in the presence of weak acids. Also reagents like mercuric perchloride and iodine, which precipitate serum albumin, do not precipitate lecithin. As long as the lecithin is present in the cell in the form of the magnesium or calcium compound it does not react with the neutral platinum salt. This can be demonstrated in the test tube by taking some lecithin magnesium sediment, suspended in water, and adding the neutral platinum salt in solution to it. No reaction occurs, and no blue deposit when benzidine is added after washing the precipitate. If, however, the lecithin magnesium compound be first converted into the water-soluble lecithin by treatment with sodium chloride, then the soap-like solution so formed precipitates with the chloro-platinate, and, after removing the excess of the platinum salt, this precipitate is coloured blue on the addition of benzidine. The demonstration of the arrangement and location of the lecithin substance in the cell by means of precipitation as a chloro-platinate is of considerable physiological interest, because it serves as an indicator of successive stages of cellular activity.

In the inactive phase, as in the white blood cells circulating in the blood, little or no blue deposit is seen after treating the washed leucocytes by the chloro-platinated benzidine method, although a few blue granules may appear on the surface of the cells. In the slightly stimulated condition, as in cells which have emigrated from the clot when blood is incubated, the lecithin material becomes water-soluble through partial oxidation. Under these conditions a blue deposit is seen as a granular membrane covering the nuclear lobes when the film is treated with platinum and benzidine.

In cells which have undergone further stimulation and have reached a further stage of activity (as by a wash of weak iodine, or by incubation in a medium, which stimulates dendritic formation and iodophil droplets) the blue material is scattered through the cytoplasm as blue grains or masses, and it may collect as a blue ring at the margin of the cell. Further, since the water-soluble lecithin tends to flow out of the cell in the form of iodophil droplets, it is possible to prevent this material from dissolving in the surrounding medium by treatment with a weak solution of mercury perchloride. In such cases, after treatment with platinum and benzidine, the blue deposit often forms a film over the surface of the exuded droplets.

Treatment of the leucocyte film with a 1 per cent. solution in normal saline of phospho-tungstic acid produces some change or precipitation in the substance forming the iodophil droplets, whereby the droplet stains with basic dyes such as Nilo blue after the phospho-tungstic acid has been previously removed by washing. Experiments have been carried out with other substances which exert a solvent action on the lecithin nuclear membrane without unduly damaging the cell. Thus, cyclohexanol dissolves the insoluble magnesium lecithin compound in a test tube.

If a leucocyte film be washed with a 3/4 per cent. solution of cyclo-hexanol (hexhydrophenol) in normal saline, the nuclei in the great majority of the cells at once stain pink with ruthenium red. This reagent, by removing the lecithin coat, exposes the nucleus to the ruthenium salt. A saturated solution of ethyl ether in normal saline, on the other hand, while it dissolves the water-soluble sodium lecithin compound, leaves the insoluble magnesium form untouched; other also brings about a curious fusiform swelling of the protruded dendrites in the incubated leucocyte film which may be due to surface tension changes which follow the solution of the lecithin, and thus to the retraction of these processes.

#### Pus Cells.

Pus cells can be used instead of incubated white blood corpuscles. If the liquor puris be removed from healthy pus by washing and centrifuging in saline, the cells so treated can be divided into two groups by the addition of ruthenium red: (a) living cells, which remain unstained; and (b) devitalized or exhausted cells, in which the nuclei take on a pink colour.

On warming the slide the unstained cells commence to throw out dendrites and pseudopods, and eventually form iodophil droplets, while the cells with the stained nuclei retain the spheroidal form of the inactive or the dead cell. Further, if a drop of such living pus in normal saline be incubated for a short time, and then treated by the chloro-platinated benzidine method, an association can be traced between the distribution of the lecithin compound and the vitality and activity of the cell. The blue deposit appears as a ring surrounding the nuclear lobes in the less active, and as blue masses scattered through the cytoplasm in the more active cells, while in the dead cells, in which the nuclei stain deeply with ruthenium red, the lecithin material is absent, having been washed out of the cell; and no blue deposit is obtained. In the inactive, resting white blood cell, on the other hand, the lecithin substance, although present, is in the insoluble form, and consequently no blue deposit is formed with benzidine. The same result has been obtained with the neutral chloro-platinated, and subsequently fluid from a case of pneumococcal meningitis. About one-third of the leucocytes stained pink with ruthenium red, the rest remained unstained. Another portion of the same

deposit was treated by the chloro-platinated and benzidine method. The cells showed very little blue deposit. When the same sedimented fluid was incubated, however, an entirely different picture was obtained. Each film of three portions of the sediment were taken and incubated for three-quarters of an hour, for half an hour, and for a quarter of an hour respectively. Each film of the chloro-platinated and benzidine method. The first film showed a fair emigration carpet of active cells, with some blue material, mostly in the neighbourhood of the nucleus. The second film showed more blue deposit, scattered through the cell. The third film presented the same picture in a more advanced form, and, in addition, blue material was seen in the surrounding medium, starting from points which were probably particles of the lecithin compound which had exuded into the medium.

Just as the capacity to stain with ruthenium red depends on exposure of the nucleus, so the capacity of the lecithin membrane to react with the chloro-platinated benzidine stain by testing the water-solubility of the lecithin compound. Thus by testing the capacity of the nuclear substance to stain with ruthenium red, and by testing the distribution of the lecithin compound in the cell by the chloro-platinated benzidine method, some idea can be formed of the stage of activity of the cell. The rapidity and the completeness with which the nucleus stains with ruthenium red provides a means by which the proportion of living to dead cells can be quickly ascertained in any given sample of pus, and affords a useful criterion of the healthiness of a wound apart from any examination of the number of organisms present, provided the cell has not been exposed to oxidizing reagents which would tend to denude the nucleus.

#### Oxidation and Contact with Foreign Substances as Factors in Cell Activity.

Before leaving the subject of oxidation some reference must be made to previous observations on this point. Metchnikoff, in his classical researches, dealt with the role played by oxidation in stimulating leucocytic activity. More recently Sir A. Wright<sup>1</sup> has recorded observations on the bactericidal property of blood obtained under anaerobic conditions. I have recently reinvestigated this question from the point of view of leucocytic activity. If a little saucer-like shelf be made by coating a circle of wire with hard paraffin, melting above 37° C., this little shelf can be let down into a beaker of liquid paraffin, and a drop of blood drawn from the paraffin-coated finger can be placed on the shelf without coming in contact with the air or any foreign substance other than the liquid paraffin. The drop of blood remains for a considerable time as a sphere, standing upon and only touching the paraffin shelf at one point of its convex surface. Coagulation is then placed in and a droplet of serum exudes from and adheres to the coagulated sphere.

During incubation, and before coagulation takes place, or at any later period if defibrinated blood be used, the still liquid blood can be drawn up in a very fine pipette, and blown out and examined on a slide. The leucocytes, although they have been incubated for a considerable time, will appear as spherical, inactive cells, resembling white blood corpuscles, floating freely among the red cells. If, before submergence in the liquid paraffin, the drop of blood be received through the air into a drop of normal saline containing a little dissolved glutathione\* or other substance which acts as an oxygen carrier, and then placed on the paraffin shelf and incubated as before, the leucocytes on examination will have lost the perfectly regular outline, and will be roughened by projections from the surface, resembling immature dendrites. If treated with iodine some of the cells appear of a port-wine colour. Chemical changes have commenced in the cell which, if carried further, would lead to the production of iodophil droplets and dendrites.

\* I am much indebted to Professor Sir Gowland Hopkins for the glutathione. This substance, when added to the blood plasma, greatly stimulates leucocytic activity and pseudopodial movement in the incubated blood.



The reason why these do not form, although the cells have access to oxygen, is, I think, owing to the absence of contact with foreign surfaces. No localized reduction of surface tension is produced at any one portion of the surface of the cell. Hence the cells preserve roughly the circular outline. They show, however, a slight tendency to stick together, and to form agglutinated groups of white cells, although they do not adhere to the red cells. These and other observations enable us to say that in the entire absence of oxygen leucocytic activity is delayed, even at a temperature of 37° C.

But although oxidation may set going the chemical changes in the cell which lead to the formation of iodophil dioplets and other effects, contact with foreign substances is necessary to bring about those localized surface tension changes on which dendrite formation and pseudopodial movement depend. These and other observations point to the fact that, when incubated under conditions which prevent contact with foreign substances, certain chemical changes are initiated, but that contact is necessary to bring about phagocytosis in the full sense of that word.

This is shown in another way. If a slip of glass, previously heated in a flame to drive off the air, be inserted into the blood drop in which the leucocytes are undergoing incubation under the liquid paraffin, the leucocytes at once attach themselves to the glass surface and throw out dendrites and pseudopods.

#### *The Reversible Process in Leucocytic Activity: Cell Recovery.*

Although it has not been possible with our present crude methods to demonstrate fully the recurrence of anabolism following katabolism in a very delicate cell like the leucocyte, after cellular activity has reached the stage at which the nuclear membrane undergoes solution, and the nuclear substance stains deeply with ruthenium red, and iodophil substances have been elaborated and dendrite formation has occurred, yet it can be shown that recovery does follow on a less advanced phase of activity.

For instance, living pus cells (which are simply leucocytes which have emigrated from the blood vessels) must at an earlier stage have been sufficiently active and sufficiently mobile, both as regards their nuclear and cytoplasmic substances, to enable them to pass between the endothelial cells lining the capillary wall. When we recover these pus cells, however, from a well drained pleural effusion, or from the surface of a healthy wound, they have returned to the spheroidal shape and inactive condition, although they are by no means dead cells. When washed in normal saline and incubated they rapidly resume activity; they throw out dendrites and pseudopods, and they elaborate iodophil material, and, if activity proceeds further the lecitin membrane may undergo solution, and the nucleus become exposed, and it can then be stained with ruthenium red.

I have already said that in a film of emigrated leucocytes from normal blood a few odd cells will stain with ruthenium red. Are these cells which stain at once dead cells? Are they cells which have wandered on to the surface of mucous membranes, or into the tissue spaces, and have returned by way of the blood stream or the lymph stream to the general circulation by a process of what I have termed "return immigration"? If so they should be found in large numbers in the blood of persons in whom inflammatory foci, or wounds, or catarrhal conditions of the mucous membranes are present.

On the other hand, they may be cells which have become injured in the process of drawing the blood. There are some suggestive facts which bear on this point. In the incubated blood from a patient recovering from pneumonia with a normal temperature, but with some unresolved consolidation at the base of one lung, the leucocyte film of emigrated cells so obtained showed but few cells giving the pink colour. The clot was then detached from the slide, washed, and reincubated on a fresh slide. In this second crop a large number of cells showed pink-coloured nuclei when treated with the same reagent. The second crop of cells from the washed and reincubated clot from the blood of a healthy person remained unstained when treated in the same way. This suggests that the leucocytes in a patient recovering

from pneumonia, even after a week of normal temperature, are in a more unstable condition or are less rich in lecithin than in health—that is to say, their lecithin nuclear membrane is more permeable.

The following observations also throw some light on "cell recovery." A cell containing normal blood was incubated for half an hour, and then allowed to stand at room temperature for twenty-four hours. The emigrated cells, which, if examined immediately after incubation, would have been very active and adherent to the slide by dendritic processes, have now, after twenty-four hours, returned to the spheroidal shape. Some of them have become detached from the slide by the retraction or the rupture of their dendrites, and float freely in the serum as circular cells. The cells still adherent to the glass are nearly all more or less circular in outline; in some of the cells the nuclei stain with ruthenium red, while in others they remain unstained.

If such a film of "recovered" circular cells be washed in normal saline and again reincubated for a quarter of an hour in a mixture of native blood plasma and normal saline, or preferably Marshall's solution, these spheroidal inactive cells quickly resume activity. They throw out dendrites, they adhere to the slide, and they elaborate iodophil material. Moreover, they can again revert to the circular form and again be induced to resume activity a second time by repeated incubation. This observation shows that cells in this inactive phase are not necessarily dead cells. If, as I think, they are cells which, after passing through a katabolic or active phase, have reverted to the resting condition, an important fact will have been established in the life-history of the leucocyte and probably also in that of other cells.

In this matter of the development of acidity by cells when in the active phase it is of interest to note that Roux,<sup>1</sup> in 1913, showed that fragments of embryonic tissue explanted into plasma coloured blue with litmus turned pink (that is, developed acidity) as growth proceeded, but remained blue if growth was arrested. Peyton Reus has also recently shown<sup>2</sup> that acid substances are formed within leucocytes and other phagocytic cells under certain conditions during cell activity.

Levaditi and Gabrick<sup>3</sup> also showed that pieces of tissue stained with neutral red and explanted in plasma become colourless as growth proceeds, while sterile portions turn yellow—that is, remain alkaline.

I have previously shown<sup>4</sup> that the property of elaborating iodophil substances is not confined to leucocytes. It is present in certain epithelial cells, both in the skin and in mucous membranes, especially those lining the orifices of the mucous canals, also in some marrow cells, in the giant myeloid cells in sarcomata of bony tissues, and in some cancer cells of epithelial origin.

In the light of the observations now recorded it seems probable that this iodophil substance is not glycogen, as was originally thought, but (as shown by the reactions given with platinum salts) that it consists partly at least of lecithin in the water-soluble form, together with cholin split off from the lecithin. Further, it seems probable that the lecithin component is derived from the partial solution of the perinuclear lipid membrane during cell activity, and that cell recovery depends on the lecithin content of the cell, and may be associated with the restitution of this perinuclear lecithin membrane.

If these observations are confirmed, then I think a further step will become possible in the elucidation of the difficult problem of the chemical changes associated with katabolic processes in the life of the leucocyte, and probably also in many other cells.\*

#### REFERENCES.

- <sup>1</sup> *Journ. Path. and Bact.*, March, 1906. <sup>2</sup> *BRITISH MEDICAL JOURNAL*, April 25th, 1924, p. 748. <sup>3</sup> *Lancet*, February 14th, 1925. <sup>4</sup> *BRITISH MEDICAL JOURNAL*, January 11th, 1919. <sup>5</sup> *Proc. Roy. Soc.*, lxxi, 1902. <sup>6</sup> *General Cytology*, University of Chicago Press, p. 391. <sup>7</sup> *Journ. Exper. Med.*, March, 1925. <sup>8</sup> Quoted in *General Cytology*. <sup>9</sup> Banks Memorial Lecture, *BRITISH MEDICAL JOURNAL*, December 10th, 1921.

\* Since this address was given Professor J. B. Leathes, F.R.S., has published his most important Croonian Lectures on "The Role of Fat in Vital Phenomena," in which he describes the essential part played by lecithin in cell metabolism.

## ESTIMATION OF THE CARDIAC OUTPUT AS A MEASURE OF ITS EFFICIENCY.

BY

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THE clinical estimation of the cardiac output depends mainly upon the fact that we are able to observe the extent to which the heart is able to distend the two largest elastic viscera of the body—namely, the lungs and the liver; for a variation in their degree of distension must, owing to their elasticity, result in a variation in their size and in the tenseness of their tissues. Owing to a difference in the density and in the anatomical relationships of these two organs, there is a difference in the clinical method whereby the degree of their distension with blood can be estimated.

### *The Size of the Lungs as a Measure of Cardiac Output.*

The great elasticity of the lungs ensures that a considerable variation in their size must accompany any serious variation in the volume of blood in their blood vessels. A lessened cardiac output due to cardiac inefficiency is followed by a recognizable diminution in their size, and, vice versa, an increased distension with blood (as in chronic venous congestion) is followed by a recognizable increase in their size. The accessibility of the lungs to physical examination renders it easy to note these changes, and in the absence of variations in circulation due to vasomotor control makes the information gained reliable as an indication of the cardiac output.

Owing to the relative rigidity of the thoracic walls any variation in the size of the lungs must result in an alteration in the average level of the diaphragm, and in the degree of hollowing of the suprascapular fossae. These variations in the level of the diaphragm are easily detected, when a patient is recumbent, by percussing out the upper border of the liver dullness on the right side and of the gastric resonance on the left side, for there is almost always enough air in the stomach to admit of the lower level of the cardiac dullness being defined by percussion when the patient is in this attitude. Clinical cases, with diagrams illustrating variations in the level of the diaphragm, are given in my book *The Early Diagnosis of Heart Failure* (pp. 168-178, also 182-183 and 195-199).

### *Degree of Distension of the Liver as a Measure of Cardiac Output.*

In the case of the liver the relative density of its tissue does not favour much variation in its size with variations in its distension with blood; but the configuration of its lower portions, together with their anatomical relationships with the subjacent air-containing viscera, do constitute a very delicate clinical guide to the degree of distension of the liver tissues.

To make this point clear it is necessary to remember the principles which underlie the practice of percussion of a solid body which overlies a resonant, air-containing viscus. If the solid body be elastic and distensible (such as the liver) percussion over it will elicit the resonant note of the subjacent viscus if its tissue be either tensely distended or if it be relaxed, for in either case it will transmit the vibrations of the percussion stroke just as any other hard solid or soft solid body would. When, however, it is sufficiently distended to possess a certain amount of definite elasticity it will be capable of absorbing the vibrations due to the percussion stroke, and thus preventing them from eliciting the resonance of the subjacent cavity; and therefore percussion over such an elastic solid will then give a dull note, if its thickness is sufficiently great in proportion to the force of the percussion stroke.

Now it is a fortunate fact clinically that the liver tissue, when normally distended with blood, does possess to its maximal extent that degree of elasticity which is necessary for the absorption of percussion vibrations, for, as we know well, in the case of a gentle percussion stroke liver tissue half an inch or less in thickness is capable of giving a dull note on percussion when overlying resonant viscera. A very

slight lessening of its distension, however, such as characterizes a slight degree of cardiac inefficiency, is sufficient to lessen this power and prevent the thinner portions of the liver from giving a dull note when overlying the stomach or intestines. This statement can easily be put to clinical proof. If a series of patients be examined who are suffering from the slightest degrees of cardiac inefficiency which cause the lassitude so commonly observed after influenza and similar infective conditions, it will be found that in the majority there is distinct curtailment of the area over which an absolutely dull liver note would be obtainable in a similar series of healthy persons.

In cases of really severe myocardial weakness the absolute liver dullness often does not reach the middle line of the costal arch, and in very severe cases may be unobtainable internal to the right of the nipple line.

As further proof of the accuracy of this method of gauging the cardiac output it will be found, on carefully mapping out the area of absolute liver dullness in such cases, that as soon as improvement sets in the area of absolute liver dullness enlarges day by day until it once more returns to the normal size.<sup>1</sup>

### *Diminution of the Cardiac Dullness an Evidence of Lessened Cardiac Output.*

Although the amount of recognizable cardiac dullness varies much in patients whose circulation appears to be normal, and although in emphysema it may be absent although the heart be actually enlarged, yet nevertheless a lessening of the cardiac dullness is a valuable sign of lessened cardiac output. This diminution in the area of cardiac dullness may be in part due to the diminution in the size of the heart which accompanies lessened output. Other factors may contribute to this diminution in the cardiac dullness—such as a badly filled aorta or pulmonary artery allowing the heart to fall away somewhat from the anterior chest wall.

A careful study of many cases showing loss of cardiac dullness, however, suggests the probability that the amount of cardiac dullness depends primarily upon the tenseness of the heart and its contained blood, just as is the case with the liver. This may seem theoretically to be altogether improbable, but the clinical evidence in favour of it is very strong. There are certainly clinical grounds for the assertion that valuable information as to the cardiac output can be obtained by observation of the area of the cardiac dullness, and from carefully noting the variations in its size from day to day.

### *Estimation of the Patient's Vigour as an Indication of the Vigour of the Circulation.*

The general practitioner who knows his patient well is able to form a very sound estimate of the cardiac output (when other causes of want of vigour can be excluded) by taking the common-sense view that the vigour of an individual must be proportioned to the effectiveness of the circulation. The same principle of judging the amount of blood the heart is able to circulate without embarrassment finds expression in the exercise tests now so generally adopted for ascertaining the efficiency of the heart. Both these tests, though valuable and reliable up to a certain point, are by their nature only applicable to the less severe degrees of cardiac inefficiency. They give us, moreover, no detailed information regarding the circulation.

### *Estimation of the Cardiac Output by the Study of the Pulse.*

Little information as to the cardiac output can be obtained from the radial pulse (except in the severe degrees of cardiac inefficiency) unless the normal pulse for the individual be well known to the observer. When, however, the normal pulse is well known the radial pulse can give useful information as to the falling output due to cardiac inefficiency.

There are, however, many fallacies which must be guarded against owing to the effect of vasomotor changes upon the peripheral circulation. For instance, in a patient with normally somewhat high blood pressure lessening in the fullness and force of the pulse may only mean that there had been successful elimination of the toxic materials

which were the cause of the high blood pressure; the feeble and more empty radial artery, instead of meaning lessened output, may be accompanied by greater efficiency of the circulation and an increase in the cardiac output.

In the brachial artery, when a sphygmomanometer is used really valuable information as to the cardiac output is obtainable if the range of oscillation of the needle of the aneroid be studied as well as the systolic and diastolic pressures. An abnormally small range of oscillation naturally implies a deficient distension of the arm with blood at each beat of the heart, and therefore presumably a lessened output. It is often possible by the use of the sphygmomanometer alone to diagnose cardiac inefficiency such as that which follows influenza, and to forecast with fair accuracy what other signs of deficient output will be observable in the patient. It must, however, be remembered that in certain conditions small oscillation of the pulse does not imply diminished cardiac output, but only an abnormal state of the peripheral circulation. For instance, a small range of oscillation usually characterizes Graves's disease, Ménière's vertigo, and allied conditions. Information as to the cardiac output can also be gained by noting the nature of the sound heard at the bend of the elbow when using the auscultatory method of reading the blood pressure. A distinctly slapping sound is suggestive of badly filled arteries, due either to failure in cardiac output or to undue relaxation of the arterial system.

When knowledge of the sphygmomanometer has been further increased it is possible that valuable information as to the cardiac output may be given by the relation of the systolic pressure estimated by the finger to that estimated by auscultation, taken in conjunction with the information given by the range of oscillation of the needle of the aneroid.

On comparing the information gained by observation of the size of the lungs, of the physical condition of the liver as judged by percussion, together with the size of the area of cardiac dullness and the results given by the sphygmomanometer, a very trustworthy and exact estimate can be formed as to cardiac output, and the recognition of myocardial weakness will be made more easy, whether toxic in nature or due to atheroma of the coronary arteries. It must, however, be borne in mind that the cardiac output may be lessened by the compensatory diminution in the total volume of blood in circulation which occurs (apart from cardiac weakness) in starvation and certain other pathological conditions.

## REFERENCE.

<sup>1</sup> See *The Early Diagnosis of Heart Failure*, Figs. 42 to 45 (pp. 186-189).

## URINARY INFECTIONS WITH *B. COLI* AND THE PYOGENIC COCCI:

THEIR PATHOLOGY AND THEIR TREATMENT  
WITH COLLARGOL.

BY

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A THOUSAND years ago Rhazes<sup>1</sup> described a case of urinary infection in a young man, but it was not until, at the fifteenth French Congress of Surgeons in 1892, Guyon and Reblaub<sup>2</sup> called attention to the frequent occurrence of spontaneous urinary infections—that is, infections not resulting from trauma or consequent on obstruction—that medical men became alive to their existence. Guyon then expressed the view that the infection was an ascending one from the bladder to the kidney, but ever since there has been a controversy about this question, concerning which there are now two main views.

The first view, the one enunciated by Guyon and vigorously supported by C. R. Box<sup>3</sup> among others in this country, maintains that the infection passes from the external surface of the urinary organs along the urethra to the bladder and thence upwards to the kidneys; while according to the second view the infection is haematogenous, and first affects the kidney and its pelvis, whence it passes down into the bladder. Frank Kidd is a firm upholder of

this view, which is accepted by Sir William Hale-White<sup>4</sup> and probably by the majority of physicians and surgeons. Of course, the fact of the infection being haematogenous would not preclude primary infection of the bladder with ascent to the kidney. The upholders of the ascending view lay stress on the far greater frequency of the complaint in females than in males, while their opponents point out that, although less frequent than in females, cases of urinary infection are quite common in males, in whom the length of the urethra renders the probability slight of an infection spreading from the meatus to the bladder, even if contamination with the most common infecting organism, the *B. coli*, were more frequent than it probably is. Experimental evidence of the effects of the presence or absence of obstruction is adduced in favour of their argument by both sides. Frank Kidd<sup>5</sup> maintains that "Pure cystitis seldom occurs, but when it does it is never associated with fever. This is because the bladder is designed as a reservoir, is poorly supplied with lymphatics that it shall not absorb water, and therefore equally not poisons."

Now the line of treatment adopted must depend on which of these views is correct. In the end we shall probably find that both views are correct—that is, that in some cases the infection starts in the bladder, in others in the kidney, and that naturally a different line of treatment will be needed for each class of infection. J. S. Dudgeon<sup>6</sup> and his co-workers showed that in 74 per cent. of *B. coli* infections in females a non-haemolytic bacillus was present, a haemolytic type in 25 per cent., while in males this order of frequency was reversed. This lends some support to the view that the usual progress of the infection differs materially in the two sexes.

The protagonists of both views regard the symptoms of fever, general malaise, and tenderness over one kidney as always evidence of the existence of pyelitis, but I question whether this view is based on indubitable evidence. Cystoscopy combined with ureteral catheterization might give the evidence desired, but in the early stages such examinations are considered inadvisable. However, Frank Kidd has made two or three cystoscopic examinations in the earliest stages, and thus describes what he saw:

"The whole bladder wall was intensely engorged and inflamed and covered with portions of purulent membranous or fibrinous deposits and the mouths of the ureters buried in the general oedema of the mucous membrane."

I suggest that such oedema produces partial obstruction of the ureteric orifices with consequent distension of the ureter and renal pelvis, accompanied by congestion and tenderness of the kidney. I do not maintain that the pelvis of the kidney is never involved in these cases of urinary infection, but question whether the involvement is as frequent as is usually maintained.

From the successful effects of renal lavage, in which 4 c.cm. of 5 per cent. collargol are injected through a ureteric catheter into the renal pelvis, compared with the unsatisfactory results of ordinary vesical lavage, Frank Kidd considers he has clinched the argument in favour of primary, and persistent infection of the kidney, into which he has found the collargol penetrates. In view of the results I have obtained by injecting 0.5 to 2 per cent. collargol into the bladder, I am led to doubt whether his conclusions are justified. It must be borne in mind that 4 c.cm. of 5 per cent. collargol would make 40 c.cm. or about 1½ oz. of 0.5 per cent., and that the results attributed to renal lavage may possibly be due to the effect of the collargol on the bladder. I must, however, admit that I have obtained no such striking successes as cure after two or three injections. However, in Case 1 of my series the patient, who, previous to receiving the treatment I will describe, suffered from recurring attacks of fever, after treatment had no more of such attacks and has remained cured for over four years. It seems reasonable to conclude either that cystitis alone may produce all the symptoms usually attributed to the presence of pyelitis, or that pyelitis in this case was the result of an ascending infection. The other successful cases of this form of treatment justify the conclusion that, whether the infection ascends or descends, infection of the bladder alone is a very frequent condition in chronic cases, and that, even if the acute cases start in the renal pelvis, the infection there soon disappears, while that in the bladder

persists. Even cases of bacilluria have been cured by intravesical treatment.

In treating these infections a drug must be chosen which, while it may have a direct bactericidal effect *in vitro*, must not impede, and, if possible, should stimulate the natural methods of the tissues in overcoming infection. Collargol appears to possess these qualities.

Collargol, first used in the treatment of cystitis by Voelker and Lichtenberg<sup>1</sup> in 1905, was recommended to me for the treatment of a *B. coli* urinary infection by Mr. Percy Sargent in 1912. But although its beneficial action was reported so long ago, and although Frank Kidd speaks highly of its use in renal lavage, little use seems to have been made of it in recent years, partly, no doubt, owing to the unfavourable report on its bactericidal action by Marshall and Neave<sup>2</sup> in 1906, but mainly owing to the prevailing view that the primary and persistent seat of the infection was the kidney and renal pelvis. I have, however, myself investigated the bactericidal action of collargol *in vitro*, and found that in a dilution of 0.25 per cent. it will destroy *B. coli* in half an hour (a very conservative estimate of its potency), and that it is equally efficacious against streptococci. But its action in these infections is due not only to its bactericidal action, otherwise a 4 per cent. solution, which is quite well borne by the bladder—that is, can be retained without discomfort—would produce the best effects, whereas it will be found that 0.5 to 1 per cent. will usually prove more efficacious. The strength must be controlled by microscopic examination, and in the early stages pus must be regarded as beneficial and not the reverse. Indeed, in a case of bacilluria no progress can be looked for until pus cells begin to appear in the urine. When a case, after progressing favourably, tends to relapse, then usually it will be found advisable to reduce the strength of the collargol solution injected.

The technique of the treatment is simple, and in females can be carried out by a well trained surgical nurse, but unless sure of the nurse's skill the medical attendant should carry out the treatment himself. One of the two men in my series of cases carried out the later part of his treatment himself. A syringe, such as the ordinary large metal ear-syringe with a conical nozzle, capable of holding 2 to 3 ounces, is filled with the collargol of the desired strength (0.5 per cent. is a good strength to begin with, sterile water being used as a diluent); so that the syringe does not leak at the junction of nozzle and barrel. A soft rubber or gum-elastic No. 8 catheter with a conical proximal end, into which can be inserted the nozzle of the syringe, is passed into the bladder with aseptic precautions. Any urine in the bladder is drawn off and a sample kept for microscopic examination. The nozzle of the syringe is now inserted into the catheter and the collargol injected, after which the catheter, still attached to the syringe, is withdrawn, the collargol being allowed to remain in the bladder until the patient feels a desire to void it—that is, from twenty to sixty minutes. A small glass funnel, into which the collargol can be poured, may be substituted for the syringe. As the collargol solution is brownish-black and cannot be easily removed from any fabric on which it drops, care must be taken suitably to protect the bedclothes, etc.

It is not necessary for the patient to remain lying down after the injection, nor to remain in bed during the course of treatment, but confinement to bed will probably hasten cure, and in resistant cases should be insisted on. Injections are made daily until the urine, as shown by microscopic and cultural examination, has become sterile, or until success by this line of treatment seems improbable.

The number of cases—namely, 17—treated by me is possibly too small to base an optimistic estimate of the results obtainable if the treatment were more widely used, but it has enabled me to follow the urinary changes with the microscope, in many cases by daily examinations.

The 17 cases treated by me since 1921 were infected at the outset with the following varieties of bacteria: 2 cases with staphylococci only; 2 cases with *B. coli* and streptococci; 2 cases with *B. coli* and staphylococci; 11 cases with *B. coli* only. Eleven cases have been cured, in the sense that at the end of treatment neither pus nor bacteria were present in the urine, as proved by microscopic and

cultural tests. In 7 of these the urine was known to have remained sterile for at least a month. It was not possible to keep the remaining 4 patients under observation so long. Case 4 in the series has had three attacks, each of which has been successfully dealt with, the urine having been rendered sterile on each occasion for lengthy periods. There has, then, been a successful result in 64.7 per cent. of the cases, or, if Case 4 be counted as three cases, in 68.4 per cent.

Case No.	Sex and Age.	Private or Hospital.	Duration of Infection Prior to Collargol Treatment.	Organisms Present.	Length of Collargol Treatment.	Result.
*1	M.50	Private	6-7 years	<i>B. coli</i>	Not known	Cured.
*2	F.40	Private	Few days	<i>B. coli</i>	14 days	Cured.
3	F.48	Private	2 months	<i>B. coli</i>	2 periods of 3 weeks	Not cured.
*4	F.47	Private	6 or more years	<i>B. coli</i>	1st attack 14 days	Cured.
					2nd attack 19 days	Cured.
					3rd attack many weeks	Cured.
5	F.40	Private	5-6 days	<i>B. coli</i>	9 days	Cured.
*6	F.83	Private	1 month	<i>B. coli</i> and staphylococci	56 days	Cured.
7	F.18	Hospital	4-5 weeks	Staphylococci	10-14 days	Cured.
*8	F.35	Private	5½ years	Streptococci and <i>B. coli</i>	16 days	Cured.
*9	F.65	Private	3 years	<i>B. coli</i>	12 days	Cured.
10	F.65	Hospital	2½ years	<i>B. coli</i>	15 days	Not cured.
11	F.43	Hospital	1 month	<i>B. coli</i>	3-4 weeks	Not cured.
12	F.41	Hospital	?	<i>B. coli</i>	14 days	Cured.
13	F.33	Hospital	1 week	<i>B. coli</i> and staphylococci	1 month	Not cured.
14	F.47	Hospital	13 months	<i>B. coli</i> and streptococci	10 weeks	Not cured.
*15	F.49	Hospital	2½ years	<i>B. coli</i>	1 month	Cured.
16	F.66	Private	7 years	<i>B. coli</i>	16 days	Cured.
17	M.53	Private	7 years	Staphylococci	14 days	Not cured.

\* In these cases freedom from infection was known to have lasted at least a month. Case 10 had a relapse three months after treatment, when too late she was found before her condition had become a urinary infection. Case 13 was practically cured, but had a relapse a charge from hospital. The hospital cases, however, were usually not in as good general health as the private cases.

Unless treatment is continued until the urine is free from pus and sterile relapses are liable to occur. Macroscopic examination is certainly not sufficient, nor do I think we may be content with microscopic examination. Cultural tests are almost essential, although, in the case of a *B. coli* or streptococcal infection, the development of three or four colonies of *Staphylococcus albus* on the culture medium may indicate no more than infection from external parts during the passage of the catheter.

The following is a list of the cases with a very brief summary of the course of treatment.

Case 1.—F. A. N., male, aged 50. *B. coli* infection followed two months after operation by Sir John Thomson-Walker for removal of calculus from left ureteric orifice. Treated by various means, including vaccines and lavage, until 1921. Had several attacks of fever. Early in 1921 began treatment with 2 per cent. collargol. Improvement rapid, but exact time required to render urine sterile not known, as after the first few injections the patient administered the remaining injections himself. Has remained cured four years.

Case 2.—Mrs. G. *B. coli* infection with fever during convalescence from hysterectomy. Collargol 2 per cent. injections cured the condition in about fourteen days. Urine sterile three to four weeks later.

Case 3.—Miss N. Severe attack of pyelonephritis. Temperature 103° to 104° F. Pus and *B. coli*. Treated with potassium citrate and later with vaccines. Two months after attack collargol 2 per cent. injections begun. Treatment at first greatly improved condition of urine, but success was not maintained and treatment was discontinued. (Better results might have been obtained by reducing the strength of collargol.)

Case 4.—Mrs. N., aged 47, wife of Case 1. Had suffered from *B. coli* infection six years. Had *B. coli* bacilluria when treatment by collargol 2 per cent. was begun. Improvement began when collargol 1 per cent. was substituted. The urine then became sterile in fourteen days. Has subsequently had two reinfections very resistant to treatment, but was ultimately cured.

Case 5.—Miss B., aged 40. *B. coli* infection with frequent painful micturition for five to seven days. Temperature 99.4° F. Collargol 2 per cent. rendered urine free from pus and organisms in nine days.

Case 6.—Mrs. K., aged 83. Attack of fever suggesting influenza or appendicitis. Temperature 101° F. Pus, *B. coli*, and staphylococci in urine. Temperature normal three weeks after beginning of attack. Ten days later collargol injected. Urine not sterile till fifty-sixth day of treatment. Injections almost, but not quite, daily, the strength of collargol varying from 0.5 to 2 per cent., and even 4 per cent., but strong solutions made matters worse. Urine sterile many months after cessation of treatment.

Case 7.—Mrs. M., aged 18. Staphylococcus infection. In-patient in London Temperance Hospital for three weeks. Treated with oral administration of drugs. Collargol injections in out-patient department produced cure in ten to fourteen days.

Case 8.—Miss E., aged 35. Urine infected with streptococci and *B. coli*. Collargol 1 per cent. cured the condition in about a month.

Case 9.—Mrs. T., widow, aged 65. Cystitis since removal of an innocent intravesical growth in Guy's Hospital three years previously. Frequent micturition, pus, and *B. coli*. Collargol 1 per cent. injections. Urine free from pus and sterile after nine days' treatment. Treatment discontinued on the twelfth day; urine still sterile on the seventeenth day, and no return of symptoms up to time of her death from pneumonia six months later.

Case 10.—Woman, aged 65; in-patient in London Temperance Hospital. First had difficulty in micturition in 1918; cured April 12th, 1923. On April 19th painful micturition, pus, and *B. coli* in urine. From April 30th till May 14th collargol 1 per cent. daily. On June 15th only four colonies of staphylococci on agar inoculated with loopful of deposit. On May 23rd culture revealed a few staphylococci and *B. coli* in urine. She had no further treatment and was discharged. Three weeks later reported by medical attendant to have another attack of "cystitis."

Case 11.—Married woman, aged 45; in-patient in London Temperance Hospital. Hysterectomy, April, 1923. Just prior to operation urine "strong-smelling." On May 1st the urine contained pus and *B. coli*. Collargol 1 per cent. given for three to four weeks without much improvement. (Twelve months later no pus in urine, three or four colonies of *Staphylococcus albus* developed from loopful of deposit.)

Case 12.—Woman, aged 41; in-patient in London Temperance Hospital. Pus and *B. coli* in urine. Collargol 1 per cent. injections rendered urine sterile in approximately fourteen days.

Case 13.—Married woman, aged 33; in-patient in London Temperance Hospital. Febrile attack; pus, *B. coli*, and staphylococci in urine. On the tenth day, when the temperature had fallen to normal, collargol injections begun. Strength varied from 0.5 to 2 per cent. A month's treatment had not rendered the urine quite sterile, nor free from pus cells.

Case 14.—Married woman, aged 47; in-patient in London Temperance Hospital. Frequent painful micturition ten months prior to operation for a large uterine fibroid, which was followed by phlebitis. Urine examined two months after operation contained blood, pus, *B. coli*, staphylococci, and diphtheroid bacilli. Collargol injections persisted in for about ten weeks, with one or two intermissions, resulted in considerable improvement, but not cure.

Case 15.—Married woman, aged 49; in-patient in London Temperance Hospital. Operation March 1924 for removal of uterine cervix, colpopharynx and peritonitis. Had had discomfort in bladder for three years. On April 14th much pus and *B. coli* in urine. On April 19th injections of collargol begun and continued till May 12th, when neopentol 10 per cent. was substituted for the collargol. Treatment discontinued on May 15th, and patient discharged from hospital on May 22nd, when no *B. coli* were present in the urine.

Case 16.—Mrs. H., widow, aged 66. Had synovitis with effusion in left knee. Urine contained pus and *B. coli* (condition probably of long standing). No urinary symptoms. Collargol 1 per cent. injections rendered urine sterile in seventeen days. Sterile a month later.

Case 17.—M. de L. Long-standing urinary infection. At beginning of treatment blood, pus, and staphylococci present in urine in considerable quantity. Collargol 0.5 per cent. injections rendered urine sterile in twelve days. Bacteria but no pus present one week later.

While very well satisfied with the results I have so far obtained with collargol, and convinced of its efficacy, I do not suggest that equally good results might not be obtained with other remedies unused by me. Certainly the ordinary antiseptics used for lavage have not proved curative. What, however, I desire most to suggest to my medical brethren is, not the efficacy of any particular drug, but the efficacy of treatment of these infections through the bladder.

In conclusion, I desire to express my thanks to my colleagues Mr. James McClure and Mr. R. A. Kerr for permission to treat cases under their care in the London Temperance Hospital, and for their friendly encouragement during the course of the investigations. My thanks are also due to Messrs. John Bell and Croyden, Ltd., for greatly assisting me by obtaining for me a supply of collargol at a cost much below the usual market price.

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## A CLINICAL STUDY OF RHEUMATOID ARTHRITIS.\*

BY

A. H. DOUTHWAITE, M.D., M.R.C.P.

THE following observations are based on examination of 50 patients suffering from rheumatoid arthritis, 38 of whom were females. Attention has been purposely directed more to the patient's general condition than to the state of the affected joints, which are only too apt, by their prominence, to absorb the interest of the physician to the detriment of the patient. Thus in every case, prior to the onset of joint pain, there had been a period, extending in one case up to two years, during which a gradual deterioration of health was in progress. This showed itself most frequently by loss of energy, both mental and physical, together with constipation, and loss of weight and appetite. In a few cases increasing pigmentation of the skin, so typical of this disease, had actually been observed before any painful symptoms had arisen.

No direct relationship could be traced between general diseases contracted in earlier life and the occurrence of rheumatoid arthritis. In 20 per cent. of cases there had been, however, an illness shortly preceding, and probably precipitating, the onset of the disease—a fact which goes to prove that an attack of rheumatoid arthritis is almost invariably dependent on a previous lowering of the general bodily resistance. Of these, influenza occurred in 8, bronchitis in 1, puerperal haemorrhage in 1.

## ONSET OF ARTHRITIS.

It is of great importance to note that in no case was more than one joint involved in the original attack. This was usually the wrist or one of the interphalangeal joints, which, having remained swollen and painful for a few weeks, completely subsided. This was followed, after any period from a few days to several weeks, by extension to other joints.

Particularly noteworthy are those symptoms referable to the involvement of the small joints of the spine and the neighbouring structures. Pain radiating over the occiput may be the very first symptom—in fact, 4 of my cases were originally sent to neurological out-patient departments, 2 diagnosed as neuralgias of obscure origin, and 2 as functional headache. The patients themselves may refer to this pain as headache, but actually it is quite distinctive, being frequently unilateral, intermittent and shooting in character, aggravated by rotation of the head, and following the course of the occipital nerves. When changes occur in the superficial joints, the diagnosis of this pain is clear, but before this it can only be suspected by exclusion, for changes demonstrable by the x-rays, though usually present in the later stages of the disease, cannot be looked for during the first few months. Girdle pains may be produced in like manner by involvement of the intercostal nerves.

Considerable difference of opinion exists as to the correct explanation of these symptoms. That the pain should be due to any pressure by bony outgrowth is inconceivable, for this does not occur, at any rate for several years. There are, then, two hypotheses left: one is that there is a direct infection of the nerve roots by the same process that gives rise to the arthritis; the other, that the nerve root is compressed by inflammatory swelling of the involved connective tissue in the joint neighbourhood, or that the inflammation extends directly into the nerve roots. Arguing on the analogy of the more superficially placed joints, the latter view is perfectly tenable, for indeed their early deformity is largely due to periarticular swelling. Furthermore, the nerves which are involved are usually those related to a diseased area of the spine—a fact which suggests a localized inflammatory process rather than one attacking them independently via the blood stream.

Skin.—The skin is moist, profuse sweating being present on the legs, feet, and palms of the hands. The discoloration of the skin, so admirably described by Kent

\* Thesis approved for the degree of Doctor of Medicine in the University of London (abridged).



Spender,<sup>1</sup> was present in 29 of my cases, of which 26 were females and brimmettes. It varied from a generalized brownish colour to a condition of discrete pigmentation, the spots averaging 5 mm. in diameter. Their distribution was very irregular, but chiefly evident on the forehead, abdomen, and extensor surfaces of the forearm. The possible association between such pigmentation and the constantly low blood pressure in these cases is unavoidable. Thus there seems little doubt that both melanin and adrenaline have common precursors which are protein derivatives. Halle has shown that tyrosine could be converted to adrenaline, and concluded that in the event of disease of the suprarenals this substance accumulated in the tissues and was oxidized to melanogen and finally to melanin. In a recent paper Spencer<sup>2</sup> reviews the subject of melanosis and gives a list of the probable chemical precursors of melanin, including tyrosine, a recognized antecedent of adrenalin. Arguing from the analogy of recognized endocrine disorders—for example, exophthalmic goitre and Addison's disease—it seems not unreasonable to assume that the general constitutional disturbance of rheumatoid arthritis may involve the suprarenal bodies, with depression of function and reduction of adrenaline output, with consequent lowering of blood pressure, increased melanin formation, and pigmentation. In 2 cases (males) psoriasis was present. In both exacerbations of arthritis were accompanied by aggravation of the skin disease. Five cases suffered from lupus erythematosus, which had followed the onset of arthritis by periods varying from three weeks to five months. The coexistence of these conditions appears to me, at least in the second case, to rest on more than a coincidence, and it is noteworthy that the trend of modern dermatological thought is to consider both eruptions as skin reactions to toxins arising from foci of chronic sepsis.<sup>3</sup>

**Cardio-vascular System.**—Rapidly of the pulse rate, a feature which has been stressed by many observers, was far less noticeable in this series than its remarkable daily fluctuations. Thus a pulse varying in daily rate from 65 to 110 was by no means uncommon in patients confined to bed. In no case was disease of the valves present. The blood pressure, however, in every case was found to be low; the following readings were typical of the series:

Age.	Systolic Pressure.	Diastolic Pressure.	Age.	Systolic Pressure.	Diastolic Pressure.
31	100	65	34	105	55
29	120	80	32	119	79
42	114	75	29	118	70

No striking changes in the blood occurred. The lowest erythrocyte count numbered 4,096,000, the highest 5,120,000. In all cases a leucopenia was present. A differential count showed a slight relative increase in lymphocytes.

**Nervous System.**—Mention has already been made of the pains referable to irritation of the posterior nerve roots. In 3 cases there was definite peripheral neuritis affecting the legs. With these exceptions, the knee-jerk was found to be unusually brisk at the height of the disease, with a gradual return to normal as the disease passed into a less acute stage.

**Muscular System.**—Muscular weakness and wasting appeared constantly, and usually there seemed to be a close relationship between the degree of inflammation of the joint and the associated muscular atrophy. In an appreciable number of cases, however, a different picture presented itself. An extensive and early muscular wasting had occurred which appeared unaccountable on the grounds of a disuse atrophy. Thus in one case in which the shoulder-joint had been painful for three weeks, but in which no abnormal signs could be detected apart from pain on movement, the deltoid, supraspinatus, biceps, and upper part of the trapezius were greatly reduced in bulk and had lost their usual firm consistency. They were weak in action but not tender to pressure. Such changes have received more attention in France than in this country, and are there regarded as reflex trophic disturbances. Possibly they may be explained as being due to a complete inhibition of those minimal motor impulses which normally produce tone in muscle.

**Gastro-intestinal Changes.**—The common assertion that achlorhydria or marked hypochlorhydria is an occurrence of extreme frequency in rheumatoid arthritis is totally unsupported by my results. The gastric contents of 30 patients were examined by the fractional test meal. In 27 the total and free acidity were within normal limits; in one case there was hyperchlorhydria, and in 2 cases definite hypochlorhydria. The rate of emptying was often delayed. Other workers on this subject<sup>4</sup> greatly stress the frequency of achlorhydria, and suggest that it plays a part in allowing infective organisms to pass unharmed through the stomach to the intestines, there to elaborate their toxins. This divergence of results can, I think, be explained, in the cases quoted by Coates and Gordon, by the fact that they used the Ewald's test meal, which clearly cannot give a true picture of the various phases through which the gastric contents pass. The total number of cases investigated by Hurst is not mentioned. The only other noteworthy change in relation to the digestive system was the nearly constant gastropnoia and enteropnoia as demonstrated by radiography. In all, except the hyperchlorhydric, the stomach was extremely low in position, atonic, and exhibiting feeble peristalsis. The colon showed scanty segmentation. There was no true intestinal stasis.

**Lymphatic Glands.**—In 4 cases enlargement of glands associated with the inflamed joints took place.

#### Examination for Origin of Infection.

Examination was made of: (1) the air sinuses of the skull; (2) the teeth (including x rays); (3) the tonsils; (4) the faeces; (5) the anal region for suppurating piles, etc.; (6) the vagina; (7) the prostate and urethra.

Dental and tonsillar infection proved by far the most fruitful sources, *Streptococcus longus* being cultivated in each case.

#### TREATMENT.

The following procedure was adopted with the six cases who were hospital in-patients: (1) Immobilization of joints in the acute stage, if possible by extension splints. (2) Eradication of septic foci. (3) Immunization by means of an autogenous vaccine. (4) Massage and passive movements. (5) Auto-serotherapy. The first, second, and fourth steps call for no further comment.

**Method of Vaccine Administration.**—In some patients any attempt to raise the vaccine dosage above a few million results in violent aggravation of the arthritis, probably as the result of sensitization to the foreign protein. In view of this fact the usual method of administration was not adopted, but before each injection of the main dose subcutaneously, a minute quantity (a quarter of a million) was administered intravenously in the hope of desensitizing the patient to the subsequent dose. Highly satisfactory results were obtained by this method, which furthermore allows of a much more rapid increase in dosage than is possible by the subcutaneous administration alone.

The symptoms, though subsiding to a certain point, failed to disappear completely; probably the antibodies were unable to gain access to the oedematous periarticular tissues. On this assumption, the following procedure was adopted. Three days after the final dose of vaccine 20 c.cm. of the patient's blood was withdrawn into a sterile vessel and allowed to stand in an ice-chest. The serum was then separated from the clot. The patient having been anaesthetized, serum was injected through a fine needle so as to infiltrate the swollen tissues right down to the synovial membrane, and finally a small quantity was injected into the joint cavity. On the following day in each case a very striking improvement was observed. The joints could be moved with little or no pain, the swelling had partly subsided, and subjectively the patients experienced enormous benefit.

#### CASE.

E. R., female, aged 36; admitted February 10th, 1923, with a history of pain starting in the finger-joints fourteen months previously. On admission there was swelling of all the small joints of fingers and hands and of the right tarso-metatarsal joint, together with well marked pigmentation, gastropnoia, and muscular wasting. Blood pressure 105 and 55.

A *Streptococcus longus* vaccine was prepared from the emulsified tonsils and treatment carried out as described. Before the injections of her serum she was unable to knit owing to the painful condition of the fingers. On the day following this treatment she was actively knitting with complete freedom from pain. She was discharged on April 10th free from pain, and six months later she wrote stating that she had had no further trouble and was busy with housework. Similar results were obtained with four other cases.

It is, of course, too early to speak of complete cure, but the results justify their inclusion here.

In this abstract I have necessarily omitted details of the very important general treatment, but would just mention that fresh air and sunlight baths (artificial in this country) often produce the most astounding improvement in refractory cases.

The widespread pessimism in dealing with rheumatoid arthritis is responsible for the existence of so many cripples who have been allowed to drift from bad to worse. If, on the other hand, treatment on the lines indicated is carried out, always bearing in mind that the obtrusive joint pains are but concomitants of a host of pathological changes throughout the body, great hope may be held out that rapid relief and ultimately complete cure will be achieved.

My thanks are due to Drs. Beppard, Freach, Inat, Ponlton, Mutch, and Symonds, for permission to examine and treat certain of their cases.

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## Memoranda:

## MEDICAL, SURGICAL, OBSTETRICAL.

## THE SIGNIFICANCE OF HAEMORRHAGE IN CHRONIC UTERINE SEPSIS.

RECENTLY we have had admitted to the wards a case of unusual interest, illustrating the consequences of not recognizing the earliest sign of subinvolution of the uterus—namely, haemorrhage—and showing the efficacy of appropriate treatment.

The patient, aged 21, was admitted to hospital on April 29th, 1925, with a history that she had been confined nine weeks previously. She was in labour sixty-four hours; delivery was instrumental, and four stitches were inserted in the perineum. She bled for the first five weeks, then stopped for ten days, and breast three weeks after confinement. An abscess was opened in the right

On admission she was pale and anaemic; the breast was draining freely; the lochia still red. Temperature  $103^{\circ}\text{F}$ , pulse 104. On May 1st an intrauterine injection of pure glycerin was administered. The haemorrhage stopped a few hours after this treatment. On May 4th the intrauterine treatment with pure glycerin was repeated. Blood cultures were normal, but a cervical smear showed streptococci.

By May 6th the patient had been in the hospital seven days, and each evening the temperature had reached between  $103^{\circ}$  and  $104^{\circ}$ . It was thereupon decided to give four intrauterine injections of pure glycerin within the next twenty-four hours. We were then rewarded by seeing the temperature fall from  $104.6^{\circ}$  to normal and not rise again.

## Remarks.

The earliest sign of morbidity in this case was obviously the fact that the lochia did not lose their red colour as they ought to do by about the end of the first week. This condition should have been recognized as pathological. In other words, the case should have been treated as one of secondary haemorrhage. It should have received the same care and attention as bleeding from a septic amputation stump or any other septic wound. It has long been my contention that a woman after confinement should not be allowed to trickle for weeks for lack of appropriate treatment. She may receive ergot and donches, or be curetted or swabbed out with strong styptics; but none of these measures are as effective as the intrauterine treatment with glycerin.

I have now had the definite experience extending over many cases that if the lochia are still red by about the seventh to the tenth day this is a sign of secondary haemorrhage from the uterus. I find that glycerin is the best drug in stimulating the uterus to contract, and stops

haemorrhage far better than any form of intrauterine manipulation or medication.

In a very large number of cases I have had the satisfaction of seeing patients improve rapidly and their temperatures fall after three or four treatments in the twenty-four hours instead of once daily.

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## CEREBELLAR ABSCESS.

The diagnosis and treatment of brain abscesses are sufficiently difficult to make each case interesting.

M. L., aged 20, domestic servant, had a history of chronic left otorrhoea for several years. Five weeks previous to being seen by me she was admitted to a hospital suffering from headache and earache. After two weeks she was removed home by her parents, too ill to walk. She was at home for three weeks, before being sent to the North Lonsdale Hospital.

When seen by me two days before admission she was lying curled up in bed in a dazed condition. She resisted examination or questioning, but answered slowly and correctly. Urine was being passed involuntarily. Coarse nystagmus on moving the eyes to the left was present. A provisional diagnosis of cerebellar abscess was made. She was admitted on May 11th, 1922, and the following is an extract from the hospital report:

"She lay curled up in bed on the right side, the head and neck slightly retracted. She complained of violent headache, and suffered from intractable vomiting. There was oedema over the left mastoid and left temporal areas. There was a little discharge from the left ear. There was no optic neuritis. Facial paralysis, not well marked, of lower half of face was noted. There was no incontinence of urine, but there was obstinate constipation throughout. The features were expressionless, passive, and wore a meaningless smile. The pulse was on the average normal and regular. The temperature was persistently subnormal."

Operation, May 15th, 1922.—The left mastoid antrum was opened and was found to contain pus. A considerable oedema had developed over the temporal region since admission, an exploratory trephine opening was made above the external meatus over the temporal lobe. No pus was found. An opening was then made over the cerebellum  $1\frac{1}{2}$  inches behind the external meatus and below the lateral sinus, a flap having been previously turned up. The bone, which was thin, was scraped through with a curette till the dura mater was reached. No pus was found on either side of the dura mater. A probe was then passed an eighth of an inch into the cerebellar substance, and about 1 oz. of foul-smelling pus gushed out. The abscess cavity was gently irrigated with warm saline solution till the solution returned clear. A soft rubber drain was then led through the soft tissues to the dura, but no drain was placed in the abscess cavity. The drain was removed in two days and not replaced.

A few days later the patient complained of headache and discomfort. Examination showed some swelling over the cerebellar wound. A pair of forceps passed into the external wound and opened gave exit to a drachm or two of pus. After that recovery was uneventful.

She left the hospital on July 21st, 1922, went to work a year later, and has been self-supporting since.

Dr. A. F. Rutherford was associated with me throughout in the treatment of this case.

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## POISONING BY EUCALYPTUS OIL.

DR. SEWELL's case of poisoning by eucalyptus oil (*BRITISH MEDICAL JOURNAL*, May 16th, p. 922) reminds me of one I saw about fourteen years ago.

A young collier, who was also a pugilist, found himself on the morning of a fight suffering from a cold in the head, for which a friend advised a drop of eucalyptus oil. This unfortunately he interpreted not literally, but on the analogy of "a drop" of whisky, as understood in a colliery district in pre-war days to mean three-pennyworth. He therefore bought and consumed, as I ascertained later from the chemist, about 3 drachms of the oil, and set out for Liverpool, where the fight was to take place. During the short railway journey he fell asleep; at his training quarters he again fell asleep; having got into fighting kit and reached the ring, he once more relapsed into such profound slumber that he could not be roused, and was consequently taken back home and put to bed. I was called to him on the following (Sunday) morning. Except for a slight drowsiness he seemed none the worse; he had no pain, and no gastric or intestinal disturbance. In fact, I think he only sent for me as a precaution in the event of any official inquiry as to his condition in the ring the night before. He resumed his work in the pit as usual on Monday morning.

Here too the effect seemed to be entirely hypnotic, but delayed much longer than in Dr. Sewell's case, probably owing to the greater age of my patient and the fact that he was in hard physical condition.

Cheltenham

PERCY C. GARRETT.

# RUPTURE OF ABDOMINAL ANEURYSM SIMULATING ACUTE INTESTINAL OBSTRUCTION.

The comparative rarity of rupture of an abdominal aneurysm renders the details of the following case worthy of publication, particularly since the symptoms resembled those of acute intestinal obstruction. My thanks are due to Dr. W. B. Wishart for permitting publication.

A cotton twiner, aged 71, was perfectly well and following his occupation until noon of April 20th, when he complained of a severe pain in his back. Persistent faecal vomiting set in two days later; constipation was absolute from the onset of the symptoms. He was admitted to hospital on April 23rd, his temperature being 96° F., his pulse 120, and his general condition very poor. The anterior abdominal wall was rigid, very tender, and dull on percussion; the rigidity and tenderness were more marked on the right side; there was no visible peristalsis and no pulsation of the abdominal wall. In view of the history and the physical findings a diagnosis of intestinal obstruction was made. At an operation performed under local anaesthesia a pulsating aneurysm: the patient's grave condition curtailed further investigations, and he died three days after admission, and six days from the onset of symptoms. A limited autopsy was performed, when it was found that the whole of the small bowel was collapsed and lay in the left hypochondriac region. The right half of the abdomen was occupied by a large bluish-black retroperitoneal mass extending from the dome of the diaphragm down to the brim of the true pelvis. This proved to be a rupture of the right lateral wall of a fusiform aneurysm of the aorta, the size of a man's fist, extended from a point half an inch below the level of the origin of the renal arteries to a point just above the bifurcation of the aorta; the walls of the aneurysm, common iliac arteries, and the portion of the aorta proximal to the aneurysm were markedly atheromatous. The right kidney was polycystic, but no other macroscopic changes were noted in the abdominal organs. Another interesting feature was the almost complete suppression of urine.

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## British Medical Association.

### CLINICAL AND SCIENTIFIC PROCEEDINGS.

#### WESTMINSTER AND HOLBORN DIVISION.

##### Group Medicine in Practice.

At a meeting of the Westminster and Holborn Division of the British Medical Association, held at 86, Brook Street, on June 11th, a paper prepared by Dr. ADOLPH ABRAHAMSON on group medicine in practice was read. In the experience of every practitioner, it was said, cases occurred which did not fall into a definite category, and in which it was difficult to decide whether the symptoms were organic or "functional," and the relative importance of psychical and physical factors had to be carefully assessed. The practitioner's chief difficulty in these cases was the preparation of a systematic scheme of treatment based upon a comprehensive view of the patient—one which, while taking into consideration all the various factors, did not emphasize any one method. This ideal was quite possible of achievement by team work. The elaborate scope of modern methods of diagnosis had made specialization an obvious necessity; the failure to take full advantage of special knowledge and skill was a weakness for which team work could offer a prop. A vital feature in team practice was a conference at which all the members of the team who had seen the patient were present; this conference, if convenient to himself, was attended by the general practitioner who sent the patient for investigation and would be responsible for carrying out the treatment, and at it each member reviewed his opinion in the light of those of his colleagues; in this way his individual opinion might increase or decrease in relative importance when seen from other angles; some puzzling anomaly might become quite clear when assisted by the results of another specialist's investigation; and any tendency to obsession would be neutralized by the criticisms of less partial observers; thus a composite view was obtained.

Owing to lack of co-ordination it was impossible for individual specialists, in cases where two or three factors were playing a part, to be sure that the pathological element in their own particular region was solely responsible; but a team which was so composed that its routine examination necessarily scrutinized the large number of possible causes would not only ensure the large number of investigations in a very short time, but would, by collating all results, eliminate the danger of obsession by specialization, and yet take full advantage of each individual contribution.

The constitution of a diagnostic team might most conveniently be considered as consisting of three circles. The first, or inner circle, consisted of members who saw every patient as a routine procedure. Its composition was the most difficult problem in group organization. It should be as small as possible, and its members must be prepared to make many personal sacrifices and at times perform duties out of proportion to remuneration. The patient's point of view was important; the time he was prepared to give was usually limited to three days; anything not strictly indispensable must therefore be excluded. A patient was likely to object if subjected to a series of examinations which seemed to him mere repetitions. The ideal was so to systematize the inner circle that with a minimum of personnel the largest number of errors resulting from incomplete examination would be avoided. The medical director conducted all communications with the patient and his own practitioner, summarized the report from the patient's doctor, and the odds and ends of pathological and other information that might have accumulated for years; interviewed the patient, took his history, and made a general examination. The medical director could work most conveniently with the general physician of the group. At one interview the history of the case could be fully considered, the routine examination performed, and unnecessary duplication thus avoided. At this routine examination the patient was referred to the oculist, the laryngologist, and the dental surgeon. In many cases a negative report was returned, but in others the early stages of some general disorder might be covered; only an expert was justified in saying that the area which fell within his domain was normal. The pathologist examined the blood as regards the number and proportion of the cells, the haemoglobin content, and the Wassermann reaction, and made a routine examination of the urine. The radiologist screened the cranial sinuses and the chest, and took radiograms of the teeth if instructed to do so by his dental colleague.

The outer circle included the pathologist, radiologist, oculist, and laryngologist in capacities supplementary to their routine work. A further advantage, the importance of which could hardly be overestimated, was that a need for special pathological investigation might be felt by the regional specialists whose interview preceded that with the pathologist. The outer circle also included a general surgeon, a gynaecologist, a neurologist, a cardiologist, a biochemist, a psychotherapist, a physician experienced in tropical diseases, a dermatologist, and a paediatrician.

The outermost circle was a group of very highly specialized individuals to whom patients were referred on comparatively few occasions. It included an orthopaedist and a proctologist. A physiotherapist and a balneologist were sometimes consulted rather for advice on treatment than for diagnosis. This outermost group was indefinitely extensible.

The patients who were sent for examination fell into the following categories: (1) Those who had already undergone a great deal of examination and treatment without relief but nevertheless believed that some remedy could be found for their perpetual symptoms. These would improve their doctors to try something new, and group diagnosis could at least claim to be new. (2) Those who were "seedy" rather than really ill and felt that they were unreasonably handicapped in the battle of life. (3) Those who were genuinely, if not alarmingly, ill, yet without any obvious explanation. (4) A small group with the phobia of serious disease, where it was hoped that a thorough investigation might allay anxiety. (5) A very

## GROUP MEDICINE IN PRACTICE.

small group composed of patients who were very gravely ill and perhaps in the final stages of some mortal disease. A particular symptom would rarely allocate a patient to any one of these categories, and symptoms often seemed to bear no relation to the cause. Still it was with symptoms that patients presented themselves, and for this reason the anamneses of the first 210 patients had been analysed.

The complaint most frequently made was "loss of energy": 35 patients complained of this symptom, with such variations as "tiredness," "always feeling tired," and so on. "Indigestion" was the complaint in 24 instances. Abdominal pain was the presenting symptom in 34 cases and headache in 17. It will be observed that exactly 50 per cent. of the patients were comprised under these four headings—loss of energy, indigestion, abdominal pain, headache.

Seven patients were sent up for attacks of unexplained pyrexia; 7 for depression and irritability; 7 also were victims of pathophobia; 4 feared cancer, 1 pulmonary tuberculosis, and 1 lupus of the nose. One was a false cardiopath, a qualified medical man, who had already seen over sixty doctors, including as he himself stated, all the cardiologists famous and infamous, reputable and disreputable. It was regrettable, but hardly surprising, that he was not convinced by all our unexpected prising. Six patients complained of dizziness or giddiness; 5 of diarrhoea, and 5 of pain in the back—a rather unexpectedly small number for this very common symptom. Pain in one or more joints was the complaint in 8 cases. Loss of weight was the sole complaint in 4 cases; pain in the chest also in 3 instances. Shortness of breath, nervousness, or vomiting, each in 3 instances. Two complained that they "always felt ill," whilst 7 could only be described as polysymptomatic, an invitation to describe their chief symptoms producing a torrent of place. Three patients suffered from defective vision; 2 came for obstinate skin eruptions; 2 with shaking of the limbs—both paralysis agitans; 2 with intermittent hydrarthrosis; 2, both children, with incontinence of urine. The remainder was made up of single cases of obesity, diplopia, enlarged glands, intolerable itching, soreness of the tongue, bad taste in the mouth, contraction in the throat, haemorrhage from the ears, nose, and eyes, loss of voice, swelling of the legs, swelling of the hands, numbness of the feet, stiffness of the face, pain in the groin, and fits.

Only 6 of these patients were suffering from some obvious disorder, easily detected at the preliminary examination by medical director and physician, so that any further investigation was superfluous—namely, 2 cases of paralysis agitans, a patient who complained of obesity, and cases of acne, furunculosis, and uterine fibroid respectively, the last demanding collaboration between gynaecologist and physician only to decide whether operation might be undertaken with safety. Of the rest only 31 presented serious organic disease.

One patient was suffering from acute suppurative cholecystitis, one arrived in the terminal stage of uræmia, a third had gall stones and hydronephrosis. Two patients with cephalitis lethargica presented an interesting contrast—one died in the early acute stage, the other had been ill for over twelve months with vague symptoms of exhaustion labelled "neurasthenia" due to the late Parkinsonian syndrome. The other serious cases included colitis of twenty years' standing. He had reached the stage of the late Parkinsonian syndrome. The other serious cases included 2 of cholecystitis, 2 of gastric ulcer, 2 of duodenal ulcer, 1 of aneurysm of the thoracic aorta, 2 of pernicious anaemia, 2 of early pulmonary tuberculosis, 1 of generalized carcinomatosis, 1 of infective endocarditis, 1 of mycosis fungoides, 1 of optic atrophy, 1 of tuberculous laryngitis, 1 of thrombosis of the pelvic veins, 1 of cerebral syphilis, 1 of pituitary tumour, 1 of malignant disease of the spine, 1 of paraplegia due to a neurofibroma of an anterior spinal nerve root, 1 of Jacksonian epilepsy, 2 of major epilepsy, 1 of tuberculous tenosynovitis, and 1 of disseminated sclerosis.

Thus approximately 80 per cent. of the patients were not regarded as suffering from any severe disease although their disorders were responsible for a great deal of unhappiness and ill health.

Few of these patients gave sufficient positive evidence of disease in a very limited field to justify therapeutic measures directed along one channel alone.

In a case of giddiness, wax in the ears proved to be entirely responsible; dental sepsis alone required treatment in 4 cases. In 4 the symptoms were due to uncorrected or improperly corrected errors of refraction. One case of headache was explained by nasal obstruction, another by Eustachian catarrh, and in a third the rhinologist and oculist agreed to divide the responsibility. But in the large majority of cases the difficulty was to assess the relative importance of psychical causes and of focal sepsis, for these two factors were in some degree responsible for the greater bulk of the symptoms.

The psychical element was prominent in 59 cases. In 28 of these the symptoms were regarded as being entirely

psychical in origin or as presenting so overwhelming a psychic trend that the trivial organic elements were negligible or were best left alone. In the remaining 31, organic factors were considered to play an important part. These included endocrine disturbance, intestinal toxæmia, eye-strain, septic teeth, septic tonsils, uterine displacement, pancreatic insufficiency, chronic cholecystitis, and organic nervous disease. In 10 cases the diagnosis of vagotonia was considered. Now this diagnosis was all-sufficient to those sanguine physicians who saw a definite syndrome in overactivity of the parasympathetic nervous system, but, even if its reality were admitted, it was still uncertain whether this overactivity was determined by a primary constitutional weakness of the endocrine system or a disturbance secondary to some septic process. In any case the indications for an all-round consideration of the patient were emphasized.

Enteroptosis was diagnosed in 14 cases. Again the question was whether enteroptosis alone could produce symptoms, or was a susceptible nervous system a necessary factor? Endocrine disturbance was diagnosed in 14 cases, combined in 7 with enteroptosis, in 6 with intestinal toxæmia, and in 1 with nasal sepsis. Besides the case already mentioned where isolated infection was responsible for symptoms, focal infection was noted as follows:

Dental, biliary, nasopharyngeal, intestinal, and bladder infections in various combinations were found in 10 cases. Septic tonsils alone were regarded as responsible in 2 cases of otherwise unexplained pyrexia, in 1 case of acute nephritis, 1 of iritis, 1 of sciatica, and 3 of chronic tiredness; septic tonsils with intestinal infection were present in 7 cases. The uterus was incriminated as a sole factor in 2 cases. Secondary anaemia was the cause, in 4 cases. In all, intestinal toxæmia was regarded as the cause, and from the results of appropriate treatment, probably with justice. Chronic appendicitis was the diagnosis in 5 cases, and the diagnosis of a post-operative abscess was made and confirmed in a patient who had been operated upon for appendicitis eight months previously. Congenital defect of the colon was the radiographic report in one case, a diagnosis which otherwise could not have been made, but which certainly fitted in with the clinical picture. Spasm of the colon was seen twice, in both instances evidently as a functional condition of the gut after tropical dysentery. Atonic dyspepsia was diagnosed on five occasions, hyperchlorhydria on three. Hyperthyroidism and myxoedema not even appears twice only, dyslipitularism once, and myxoedema not even on one occasion.

Finally, group diagnosis contained a nucleus of very great value for research. Much had been written on the importance of preventive medicine and the urgency of recognizing disease in its earliest stage. It was only in some scheme of group diagnosis that real hope of this early recognition resided. In such a scheme justifications, some found for the insistence on routine examinations, some of which were negative and apparently of no importance so far as the present day was concerned. A different prospect opened up when the value was realized of documentary evidence that certain symptoms or signs were present or absent at an expert examination five or ten years previously. Such investigations on a large enough scale could hardly fail to discover certain common denominators to act as signal posts; and it was possible that by such exhaustive investigations the cause of many obscure diseases might be revealed, perhaps even that of malignant disease itself.

## Demonstrations.

Dr. JOEKES and Dr. S. GILBERT SCOTT gave a joint demonstration of passing the duodenal tube to draw off the contents of the gall bladder for diagnostic purposes. By means of the x rays the tube could be watched passing down into the stomach, and through the pylorus into the duodenum. Its exact position in the duodenum could be checked. By injecting air through the tube it was possible to demonstrate the gall bladder, and in this way to assist in the detection of gall stones. In other cases the opaque (barium) emulsion, as used in gastric work, was injected direct into the duodenum; this method sometimes gave valuable results. It was pointed out that conjoint work in diagnostic research was a great asset, and was best achieved where a number of specialists were working together in one building in close touch with each other. Mr. MONSON gave a demonstration illustrating the use of pyelography in the diagnosis of renal disease.



# A GERMAN TEXTBOOK OF HUMAN PHYSIOLOGY.

In the fourth edition of Zuntz and Loewy's *Lehrbuch der Physiologie des Menschen*, the gap in the editorial staff occasioned by the death of Professor Zuntz was filled by Professor W. TRENDLENBURG, who also has since died. Many physiologists in Germany, Austria, and Sweden have written sections dealing with those special branches of the subject to the knowledge of which each has contributed, or in which each is particularly interested. The book appears therefore at once as an authoritative work, and yet at the same time it has not succumbed to the danger of losing its unity and individuality—a danger always imminent to the production of such a volume.

There are, however, several points to which perhaps criticism may be directed with advantage. In the chapter on the morphology and chemistry of the blood no mention is made of the physiological variations in the numbers of leucocytes with age. The omission is common in textbooks of physiology, although a knowledge of the normal figures is necessary for the clinical interpretation of blood counts in diseases of childhood. The statement is made in the following chapter that adrenaline has no action on the pulmonary blood vessels. It is, however, a well known experimental fact that when this drug is added to the isolated heart-lung preparation a well marked rise in pulmonary pressure occurs. This is interpreted as being due to vaso-constriction in the pulmonary area—an interpretation which is quite justified in the absence of proof that it can be accounted for entirely by the hot wire sphygmograph might have been included with advantage as affording a simple and accurate means of determining pulse-wave velocities. Neither is attention directed to the auscultatory method of determining systolic and diastolic pressures in man.

A short chapter is devoted to the physiology of lymph. The salt content of this is stated to be higher than that of the serum (0.426 per cent. chloride in the lymph against 0.396 per cent. in the serum). It was shown, however, by Colmstein that this discrepancy was due to the serum solids not being taken into consideration in the estimations, and it is clear from the figures that a difference of 7 per cent. in the total solids of serum and lymph would account exactly for the difference of 0.03 in the percentage of chloride. In any case the discrepancy seems too large to be accounted for solely by a membrane equilibrium, as is suggested on page 226. In the same chapter an obvious misprint occurs on page 228, where 0.5 to 0.75 per cent. is said to be the quantity of reducing substance in the cerebrospinal fluid. In the paragraph describing Humphry Davy's method of determining residual air it should, for the sake of clarity, have been mentioned that rebreathing the indifferent gas must begin at the end of deepest expiration.

The chapter on urine and urine secretion falls below the general standard of excellence of the remaining chapters of the work under review. Many inaccurate statements and several important omissions are to be noted. We do not like to think of "ausgespuckter Speichel" as being a normal means of water elimination. In directing attention to the inability of the kidney to retain chloride absolutely even when this salt is being lost to a large extent through excessive sweating, it would seem desirable to mention the symptoms which are liable to ensue when the thirst is quenched under these conditions by copious draughts of water. Again, in dealing with the excretion of phosphorus, lactic acidogen is mentioned without any explanatory qualification. Anyone who has used the urease method extensively will take exception to the statement on page 345 that "an exact and at the same time convenient method of estimating urea in urine does not exist."

On page 350, and again on page 354, the statement is made that "it is sufficient to cut off the arterial supply to the kidney for one minute to bring about cessation of urine secretion for one hour." The true interpretation of this old observation of Heidenhain has been shown comparatively recently by Marshall to be that a reflex vasoconstriction is caused by pressure on the renal sympathetic twigs during the compression of the artery. If this is zealous during the compression of the artery, it is possible that the action of phlorhizin on the kidney is to cause it to secrete the sugar presented to it in the blood, and that there is no need to assume that the kidney manufactures a part of the sugar out of a precursor, as is suggested on page 351. The statement "If the kidney is excised and depends on the method of perfusion. If a heart-lung preparation is used as the propulsive mechanism a copious flow of urine is obtained. Exception must also be taken to the remark that stimulation of the vagus leads to an increased flow of urine. The statement is based on Ascher's work, but anyone who has read the paper by Ascher and Pearce on this subject cannot fail to reach the conclusion that no evidence whatever in favour of a direct action of the vagi on the kidney has been produced by them. Again, a blood dilution cannot be stated to be the cause of water diuresis in the presence of experimental evidence that no hydraemia accompanies it. In directing attention to the condition of diabetes insipidus in man it would have been instructive to have mentioned the specific antidiuretic action which extracts of the infundibular lobe of the pituitary body have in this disease. Several other points in this chapter call for comment. The vascular supply to the tubules is stated erroneously to be derived partly in a direct manner from the renal arteries—that is to say, without previous passage through the glomeruli. Fig. 102 would be more truly representative of the anatomical conditions obtaining in the lumbar and sacral cord, as stated on page 363, but are situated in the mid-pontine region. The defects to which attention has been directed, however, will appear small in comparison with the many excellent qualities the book possesses. It is a pleasure to see a section devoted to the local regulation of the number and width of the capillaries, and extremely useful and instructive to be presented with an exhaustive table giving the gross analysis and calorific value of foodstuffs used by man.

The illustrations and printing are excellent, and both authors and publishers are to be congratulated on the production of the fourth edition of this well known textbook.

## WHEELER'S "OPERATIVE SURGERY."

SIR WILLIAM WHEELER'S *Handbook of Operative Surgery* is passing through a stage previously reached by earlier works on the same subject. Originally a manual for students performing operations on the dead body in preparation for examinations, it is being transformed into the nucleus of a good work on operative surgery for young surgeons. Such a change is easily explicable, for circumstances connected with the restricted supply of bodies have effected an alteration in the courses of instruction that was overdue; Farabœuf's point of view is no longer that of the operating surgeon. So it comes about that the first fifteen pages of the volume are devoted to methods of anaesthesia, largely "local." Ligature of arteries, as an anatomical exercise, occupies fifty pages; this is followed by an account of blood transfusion, and so on. Some sections of the book are very much up to date—for example, the method of aseptic surgery includes a good deal of empyema, the "operative" surgery includes a good deal of after-treatment; space is devoted to Frank's gastrotomy which is disproportionate in view of its limited use.

*Handbook of Operative Surgery.* By Sir William Ireland de C. Wheeler, B.A., M.D. Dub. Univ., F.R.C.S.I., F.L.C.S. Hon. Fourth edition. London: Baillière, Tindall and Cox. 1925. (Demy Bro., pp. xvi + 441; 228 figures. 15s. net.)

*Lehrbuch der Physiologie des Menschen.* Herausgegeben von W. Trendelenburg und A. Loewy. Vierte Auflage des Lehrbuches von Zuntz und Loewy. Leipzig: F. C. W. Vogel. 1924. (Sup. roy. 8vo, pp. xiv + 788; 280 figures, 2 plates.)



application (there is a mistake in the legend of Fig. 231); a student might gather that Finney's operation is used for congenital stenosis. The distribution of the illustrations is uneven: two figures are devoted to the cure of persistent vesical fistula and there are none to accompany the account of abdominal hysterectomy. But, as we have said, it is a book in transition.

#### STATICS OF THE FEMALE PELVIC VISCERA.

In the second volume of *The Statics of the Female Pelvic Viscera* Dr. R. H. PARAMORE continues the study of the subject to which he has devoted so much painstaking attention. In the first volume, it will be remembered, he discussed the question as to how, from the anatomical and physiological points of view, the pelvic viscera are supported in position in the pelvis. In this volume he presents the evidence gleaned from the history of a century of operative treatment. The volume is divided into four parts. The first deals with the inception of plastic procedures, Marshall Hall's operations, the vaginal plecting operations of Jobert, electrolysis and cauterization of the vagina, extirpation of the womb, and Baker Brown's operation. The second part is entitled "The rise of plastic procedures: the amputation of the cervix and perineorrhaphy." Here the work of Huguier, Rizzoli, Küekler, Duenn, Milne, Bantock, Tait, Thomas, and Emmet is reviewed. Part 3 discusses the "Rise of vaginal operations and the confusion and scepticism of the eighth decade." It covers the work of Marion Sims, Whitehead, Duncan and Hart, Hegar, Emmet, Hewitt, Le Fort, and describes their methods of treatment. The last part brings the review down to 1899 and deals with colpo-perineorrhaphy, and the conception of prolapse as a hernia. The operations of Simon, Hegar, Martin, Bisehoff, Winekel, Pozzi, Garrigues, Hart and Barbour, Kelly, Herman, and others are described and discussed.

As a contribution to the history of gynaecology this volume of 400 pages of fairly close print is of interest and value. As an argument in favour of the author's conception of the causation of prolapse—which, briefly, is that it is due to a loss of equilibrium in the realm of abdominopelvic dynamics—it is too long and too elaborate. Few operating gynaecologists will, we suspect, have the industry to read through a book of this size, and it is doubtful whether those who do will find that they have reached any definite destination at the end of it. Our frank opinion is that Dr. Paramore has rather confused the issue by the prolixity of his discussion. All through he gives the impression that he believes himself to be practically the only gynaecologist with anything like a correct conception of prolapse. His position is, indeed, like that of the proud old mother, who, when watching her son's regiment march past, remarked, "They're a' oot o' step but oor Jimmy." With great earnestness Dr. Paramore reviews the opinions and methods of the array of distinguished gynaecologists whose names have been already mentioned. He deals faithfully with them, one and all, exposing the fallacies of their views and assessing the contribution which they made to the development of the modern conception of prolapse and of the present lines of treatment. He is unsparing in his analysis, as will be seen from the following quotation from his introduction.

"Opinion to-day is transitional, uncertain, unbalanced. Many operating gynaecologists, it must be admitted, as far as prolapse is concerned, appear in doubt, are indefinite in their utterances, take refuge in ambiguities, and often are clearly at sea. They teach the maxims of the schools and teach them sedulously and with conviction—dogmatically, tenaciously, as scholasticism insists. But these maxims, when examined, are but simulacra of truths; they are the results of tradition, erroneous reasonings, and empiricism. The doctrines they embody are contradictory, equivocal, evasive, mystifying. They lead to blind ends, and confusion. They divorce prolapse as a disease from general biological laws. They lead to no unity of thought—that man is individual. Frank avowals of this are rare, but occur—few men willingly admit their difficulties."

Dr. Paramore is evidently one of the few, for on page 362, after stating that "Garrigues seems to have got into a muddle," he adds—

in a muddle *once* my-self." (The italics are not in the original.)

One other quotation will show exactly the attitude taken up by Dr. Paramore: "The cause of prolapse is scarcely known or taken into account by the majority of operating gynaecologists." This being so, it is difficult for a modern gynaecologist to attempt to review the book, nor indeed is it necessary to say more. It would be easy, but unfruitful, to criticize various points in the volume, but enough has been shown to indicate the scope of the work and its praiseworthy intention.

#### MARY PUTNAM JACOBI.

*The Life and Letters of Mary Putnam Jacobi*,<sup>1</sup> edited by RUTH PUTNAM, gives the very human story of a pioneer, who was to the women of America what Elizabeth Blackwell, Sophia Jex-Blake, and Elizabeth Garrett Anderson were to the medical women of England. Mary Putnam encountered difficulties similar to theirs in breaking into the profession, and, like them, she succeeded, in spite of opposition that none but exceptionally well endowed women could have overcome.

The book relates incidents of her childhood, quotes letters in which she recounts her life in Paris as a medical student, records her professional activities in New York, her married life, and her death. Her father was the founder of G. P. Putnam's Sons, the famous publishing firm, and it was during his early endeavours to establish an English branch that Mary Putnam was born in a house in the Euston Road in 1842. When she was 6 years old the family returned to New York.

One of the striking features of her father's attitude to his children was his endeavour to induce them from an early age to think and act for themselves. The spirit of self-dependence fostered by her father determined her career, in spite of initial lack of encouragement from both parents. For three years she studied chemistry intermittently at the New York College of Pharmacy, and received a degree in 1863. Later in the same year she was entered as a student in Philadelphia at the Women's Medical College of Pennsylvania, and received a doctorate the following spring. She obtained some hospital experience in Philadelphia, and then went to the New England Hospital in Boston, where she worked for some months. Various "openings" were then suggested for her, but she hoped to begin private practice in New York. The assassination of Abraham Lincoln and the conclusion of the great Civil War occurred about this time, and these events probably combined to carry thoughts to national planes and inspire great ambitions in confident and earnest minds.

Mary Putnam found that Dr. Elizabeth Blackwell and her sister had already in their own country gone far in their medical work. They had succeeded in establishing a dispensary and infirmary in which women who had obtained some medical education could obtain clinical instruction. The available experience was inevitably very meagre, and Mary Putnam decided that not only was it insufficient, but that she must aim at the best obtainable.

Her father's hope that she would find ample scope for her mental activities without leaving the family circle was disappointed, and in September, 1866, she set sail for Havre. She was then in her 24th year, and possessed by the resolve to enter the École de Médecine, and, if determination and the will to succeed might be rewarded, to obtain the doctorate. Her letters from France, full of a vital interest in all the affairs of her daily life, were written with the intention of enlivening her mother's life, at that time narrowed and uneventful. The first six months in Paris were spent at the Lariboisière and the Salpêtrière, but in January, 1868, she was admitted to the École de Médecine; she was the first woman to gain admission. From then on her career was attended by every scholastic success. The same confidence as characterized her earlier years was evidenced in all she undertook. Her studies were carried on during the momentous events of the Franco-Prussian war, the deposition of an emperor, and the revival of a

<sup>1</sup> *Life and Letters of Mary Putnam Jacobi*, Edited by Ruth Putnam. New York and London: G. P. Putnam's Sons, The Knickerbocker Press, 1925. (Med. 8vo, pp. xi + 361; 9 plates, 15s. net.)

<sup>2</sup> *The Statics of the Female Pelvic Viscera*, by R. H. Paramore, M.D., F.R.C.S. (Eng.). London: J. A. Lewis and Co., Ltd., 1925. (Demy 8vo, pp. xx + 424; 58 figures, including 35 plates. 24s. net.)

republic. In July, 1871, she completed her examinations, and her thesis gained the highest commendation—"extrêmement satisfait." She frequently met Miss Garrett (Dr. Garrett Anderson), who was doing post-graduate work in Paris, and often mentioned her in her letters home.

Just before her final examination she received an urgent request from Dr. Jex-Blake, then in Edinburgh, to go to Edinburgh to prepare the women students for the examinations in anatomy. Mary Putnam, after prolonged consideration, felt that the time had come when the claims of home must be recognized, and so regretfully refused this offer. By the end of 1871 she was back in New York, now fully qualified in her profession, and still only 29. She was immediately admitted as a member of the Medical Society of the County of New York. The president of the society who bade her welcome was Dr. Abraham Jacobi, her future husband. She was appointed professor in the Women's Medical College, and immediately took up her duties. The lack of scholarly foundation and mental equipment which she found in her students surprised her, and in a moment of impatience she felt disposed to resign her appointment. An encouraging letter from Dr. Elizabeth Blackwell, then living in England, counselled prudence and patience, and persuaded her to remain and do her best.

In 1872 the happiness of the Putnam family was clouded by the sudden death of George Putnam. He had been ever ready with understanding sympathy with his children, even when their desires and ambitions were greatly in advance of his epoch. The following year Mary Putnam was married to Dr. Abraham Jacobi, and the next ten years were passed in happy home life and in professional duties, which she still pursued with unabated ardour. The tragedy of their life was the death of their son in 1883. The one remaining daughter became doubly precious to her mother, who gave up much time to supervising her education.

In 1888 she resigned her chair in the Women's Medical College, and gave more time to private practice. She was an ardent advocate of woman suffrage, and did much to forward the cause. After six years of invalidism, during which her mind continued active in spite of great physical disability, she died on June 10th, 1906. "She filled the time allotted to her so full of work, of affection, of helpfulness, and of hopefulness that its tale of existence is not recorded in its calendar days. That in so doing she widened the scientific outlook for all women may be counted as sufficient achievement to give her honour."

#### GUY'S HOSPITAL REPORTS.

THE first place in the new number of the *Guy's Hospital Reports*<sup>2</sup> is given to Mr. R. P. Rowlands's admirable "In Memoriam," with a characteristic photograph, of that arresting personality W. H. A. Jacobson, who did good by stealth, was a devoted friend to Guy's students, a wonderful teacher for twenty-four years in the outpatient room, and withal was very human and full of apparent superficial contradictions, mannerisms, and eccentricities. Of the nine other articles two are distinctly medical and the others surgical or dealing with specialties. Sir Charters Symonds describes the evolution of the short tube for the treatment of oesophageal stricture he invented about forty years ago with the help of his then dresser, Mr. B. Campbell Gowan. It cannot be often that father and son have written articles in the same volume, and rarely, if ever, in the same quarterly instalment, of these reports; on a basis of physiology and common sense Dr. C. P. Symonds writes clearly on the etiology and classification of the common neuroses which are divided into the anxiety neuroses, hysteria, and neurasthenia. An article on nervous symptoms due to alkalaemia and renal insufficiency following obstruction in the region of the pylorus, and the alkaline treatment of duodenal ulcer, is introduced by the editor, who, after mentioning the discarded hypotheses of the causation of gastric tetany, points out that the two principal factors are alkalaemia, shown by low chloride

and high bicarbonate content of the blood, due to the loss of hydrochloric acid entailed by vomiting, and renal insufficiency, as shown by the excess of urea and creatinine in the blood; three groups of cases are then described, by Mr. L. W. Houghton, Dr. J. F. Venables, and Mr. N. L. Lloyd respectively, presenting uraemia following obstruction near the pylorus, alkalaemia due to the alkaline treatment of duodenal ulcer, and pyloric obstruction with alkalaemia and renal insufficiency but without nervous symptoms. The 425 gall-stone cases admitted into Guy's Hospital between 1895—when gall-stone surgery began—and 1915 are analysed from a surgical point of view by Mr. W. E. Tanner, who concludes that while the mortality of cholecystectomy and cholecystectomy is the same, the experience that 9 per cent. of the patients who have undergone cholecystectomy may require a second operation does not justify the increased immediate risk of removing the gall bladder in every case. A method of treating grave peritonitis is described by Mr. J. Gaymer Jones; the affected area of the peritoneum is slowly irrigated by saline solution, introduced by a Carrel tube at the rate of one drop a second, and removed, together with exudate, by suction into a Woulfe's bottle. Meningitis of nasal origin is the subject of an article by Mr. W. M. Mollison, who has fortified his own experience by numerous references to other authorities. Mr. Vernon E. Lloyd contributes a clinical study of polypi of the prostatic urethra and their relation to chronic prostatitis, and Mr. Philip Turner analyses the results in fifty cases of trans-septal orchidopexy for imperfectly descended testis.

#### NOTES ON BOOKS.

IN his book, *Food and the Family*,<sup>1</sup> Professor V. H. MOTTRAM has succeeded in explaining a modern physiologist's views about diet in an unusual way. The book is intended for the lay reader, and its object is to translate into ordinary language the knowledge of food economy and food hygiene gained by recent scientific research. The translation is enlivened by many epigrams, and the whole tale told in a breezy if not always soberly accurate fashion. To give an example—speaking of the food value of eggs, Professor Mottram says:

"Admiration of eggs is absurd. Someone has even applied—a doubtful compliment—the following to them:

'Treasure-houses, wherein lie,  
Locked by angel's alchemy,  
Milk and hair and blood and bone.'

Were they like dukes in King Goodheart's days, three a penny, their praises would be sung by every writer on food. But they are extremely dear and should be left to millionaires, invalids, and children" (p. 212).

The second chapter, entitled "Some food fads," gives a very fair, albeit sprightly, discussion of such cults as vegetarianism and Fletcherism, and pauses to weigh the pros and cons of alcohol. In the ninth chapter the food values of a number of common foodstuffs and their value as sources of the elements of a diet are impartially considered. There are two questions about food which seem to be disturbing many people at present—first, in what types of food are vitamins present and which vitamins are where? and, second, how do the physiological values of certain types of food compare with their market price? Both these questions are well answered in this book, which we think will serve a very useful purpose in translating the cold logic of the physiological laboratory into attractive and readable journalism.

*Röntgen Diagnosis and Therapy*,<sup>3</sup> by Dr. ARTHUR C. CHRISTIE of Washington, U.S.A., is an elaboration of a book by the same author published during the war. In the first sixty odd pages we have a very concise description of apparatus, of the dark room, of the x-ray tube, and of electrical terms. It is an admirable introduction to the subject and is written in very plain and simple language. To this succeeds the main portion of the book, which is a rapid survey of x-ray diagnostic work, and very largely depends for its value on the numerous radiographs by which it is illustrated. On the whole these are sufficient for their purpose, even if some of them are not very good, having, it would appear, lost not a little in reproduction. The letterpress is clear, and the points of differential diagnosis are well stressed and distinctly

<sup>1</sup> *Guy's Hospital Reports*, vol. 75 (vol. 5, fourth series), No. 2, April, 1925. Edited by Arthur F. Hurst, M.D. London: Wakley and Son (1912), Ltd., 1925. (Med. 8vo, pp. 125-248; 1 full plate, 16 figures. Annual subscription 42 2s. for volume of four parts; single numbers 12s. 6d. each.)

<sup>2</sup> *Food and the Family*. By V. H. Mottram, M.A. London: Nisbet and Co., Ltd., 1925. (Cr. 8vo, pp. xiii + 240; 3 figures. 5s. net.)

<sup>3</sup> *Röntgen Diagnosis and Therapy*. By Arthur C. Christie, M.D., M.S., F.A.C.P. London: J. B. Lippincott Company, 1925. (Med. 8vo, pp. vi + 320; 180 figures. 25s. net.)

indicated. The short chapter on therapy, without going into any detail, is sufficient for its purpose. In the preface the author states that his aim has been to furnish to the student and practitioner a concise account of the essentials of radiology and a practical guide to the subject. He also lays great stress upon the fact that the foundation for success as a radiologist is "good technical work"; without this no x-ray work can be really successful, although of course it does not follow that one who relies upon this alone is a good radiologist. We can confidently recommend this book to the beginner, and also to the general practitioner who wishes to have some knowledge of the present position of x-ray diagnosis.

We received some time ago a copy of *Chinese Grammar Self-Taught*,<sup>8</sup> by Dr. JOHN DARROCH, and it may be worth while to give a short account of it even at this late date. The author has endeavoured to exhibit the structure of this picture language in terms of the grammar of European countries. For this reason the book should be useful to those who may be led to practise in China. It should be entertaining, also, to others, though they may not feel called upon to study the oldest Chinese medical work containing the plain questions of the Yellow Emperor Su Wen, 2698-2598 B.C.; nor to investigate the actions of the 1,892 drugs contained in the Herbal of Li Shih-chên, which included certain remedies called "sovereign," as certain others were formerly called in this country. The development of the simple pictures of objects into the elaborate modern Chinese characters is set forth interestingly by Dr. Darroch; and the beginner will marvel at the number of those characters required to express a simple short sentence.

Although Mr. COMYNS BERKELEY's *Handbook of Midwifery for Midwives, Maternity Nurses, and Obstetric Dressers* has not yet attained its majority, yet a sixth edition<sup>9</sup> has been called for. This little book is so well known that nothing need be said specially to commend it. The most important change in this edition is the recasting of the chapters on artificial feeding and on the care of premature infants, which have been altered in accordance with the most modern views. The book is of a very convenient size and forms a thoroughly sound guide for all those for whom it is designed.

EDELMANN's *Text-book of Meat Hygiene* has now reached a fifth edition,<sup>10</sup> which has been prepared by Dr. MOHLER, Chief of the United States Bureau of Animal Industry, and Dr. EICHORN, Director of the Veterinary Department in the Lederle Antitoxin Laboratories. The book is based on the regulations governing meat inspection in the United States. An account is given of the methods of laboratory examination for detection of harmful preservatives and adulterants. Chapters are devoted to the examination of prepared and preserved meat, to meat poisoning, to the preparation and control of meat-food products, and to their chemical analysis. Abattoirs and stockyards, including those at Chicago, are described. The illustrations are well done and the volume gives a full account of the meat industry as developed in the United States.

<sup>8</sup> *Chinese Grammar Self-Taught*. By Dr. John Darroch, Litt.D., O.B.E. Marlborough's (Cr. 8vo, pp. 15).

<sup>9</sup> *A Handbook of Midwifery, Maternity Nurses, and Obstetric Dressers*. By Mr. Comyns Berkeley, M.C., M.D. (Camb.). London and New York: Cassell & Co. (1924, 8vo, pp. xii + 578; 74 figures, 8s. net.)

<sup>10</sup> *Text-book of Meat Hygiene*. By Richard Edelman, Ph.D. Fifth edition revised by John R. Mohler, A.M., V.M.D., and Adolph Eichhorn, D.V.S. London: J. and A. Churchill. 1925. (Med. 8vo, pp. vi + 478; 161 figures, 25s. net.)

## MEDICAL AND SURGICAL APPLIANCES.

### An Invalid Appliance.

SIR ROBERT C. BROWN (Preston) writes: About a month ago, while opening and closing a drawer in my dining-room sideboard, the idea occurred to me that much benefit and comfort might be obtained by sick persons and chronic invalids by adapting a similar sliding arrangement to what is known as "the bed-pan." The provision necessary for carrying out what I suggest is: (1) A hole of sufficient size and suitable shape in the mattress and wire sheeting on which it lies. (2) A sliding shelf to which the bed-pan is affixed. (3) A frame standing on four legs, like an ordinary chair, in which the shelf can be applied or withdrawn. At the end of each leg is a castor or small swivelled wheel, and this shelf containing the bed-pan from the hole in the mattress and wire sheet. (4) A simple mechanical arrangement working with a handle and screw for placing in position from below the cover for the hole in the mattress and wire sheet, and taking care that it fits accurately so that the patient does not experience any edge, ridges, or projections.

## INTER-STATE POST-GRADUATE ASSEMBLY OF AMERICA.

### THE ULSTER VISIT.

At page 1150 last week we gave a brief account of some of the proceedings in Northern Ireland. About four hundred of the visitors arrived in Belfast on the evening of June 11th: extensive arrangements had been made to give them a hearty reception and a warm welcome. Some of the wives of the medical men had made preparations for the ladies of the party to enable them to see the town, and a room was kindly kept by the Central Y.M.C.A. as a rendezvous. Excursions left each day for some of the more distant sights: Portrush and the Giant's Causeway were favourite selections. On the morning of June 13th the second half arrived, and the first left.

Professor Lindsay, chairman of the board of management of the Royal Victoria Hospital, received each section in the King Edward Hall and offered them a hearty welcome to hospitals in the city: they looked upon it, he said, as a compliment to the city and to the medical school, and hoped their all too brief stay would be to them a source of pleasure and satisfaction, and leave behind agreeable and lasting memories. Ulster had many ties with the United States and Canada; it had given of its best to them: ten of their Presidents were said to be of Ulster lineage, and one of the most illustrious Governor-Generals of Canada, the late Lord Dufferin, came from their midst. The visitors came, not as strangers, but as friends and comrades united by many ties, influenced by common ideals, and engaged in the common work of endeavouring to alleviate human suffering: their visit was one of the many signs that science was becoming international and knew no race or creed. Professor Lindsay then gave a brief account of the hospitals in Belfast, and drew attention to the special features of the Royal Victoria Hospital, its plenum system of ventilation and its organization; as regards the former, after twenty-two years' experience they were pleased with it as an unqualified success, both as to purity of air and smoothness of working. The chairman of the medical staff (Mr. Mitchell) joined in offering their warmest welcome.

The visitors then attended the pathological, electrocardiograph, blood, clinical, laboratory, bacteriological, and radiological demonstrations, the operations and the lectures that had been arranged for the forenoons, both in the Royal Victoria Hospital and also in the Mater Infirmary Hospital, the special hospitals, and the Municipal Fever Hospital, the Purdysburn Villa Colony, and Graymount Hospital for Tubercular Children and Open Air School. An excellent little booklet had been prepared so that the visitor could tell at once what was on, and the actual operation was posted up on the notice board. It would be impossible to give all the items of the operations, demonstrations, and lectures, as nearly every member of the various staffs did something, and the visitors had an opportunity of seeing the full working of the clinical side of the medical school, which is one of the largest in the United Kingdom.

The Lord Mayor of Belfast, Sir William Turner, received the members of the Assembly and their friends in the City Hall on the afternoon of June 12th, and offered them the welcome of the city, with wishes for a pleasant and happy stay. On Saturday afternoon, Lord and Lady Londonderry delightfully entertained the members of the Assembly at a garden party at their beautiful residence, Mountstewart, The Ards, co. Down, where the combination of fine weather, charming gardens with a perfect blaze of colour, old woods, and rare trees, the noble mansion, and the near proximity of isle-studded Strangford Lough, formed a scene that one may be sure will not soon be forgotten by the guests. On Monday afternoon, June 15th, the members of the Assembly were entertained by the Prime Minister of Northern Ireland, Sir James Craig, at a garden party at his residence, Stormont Castle. Unfortunately, Sir James and Lady

Craig were detained in London; but everything joined in carrying out the kind wishes of the host and hostess for a beautiful and pleasant afternoon in the entertainment of their guests.

#### VISIT TO MANCHESTER.

Some of the members of the Assembly who had been in London the previous week visited Manchester on June 8th-10th. About 160 were accommodated in Manchester itself, and another 100 who stayed in Southport were attached to the Manchester group. The mornings of the three days were devoted to hospital visits, the afternoons of Monday and Tuesday to series of short lectures at the University and the Royal Infirmary respectively. The lectures were given as follows:

Mr. G. Jefferson: The diagnosis of Jacksonian epilepsy. Professor G. R. Murray: Success and failure in organotherapy. Professor E. D. Telford: Formation of bone in soft parts. Professor J. S. B. Stopford: Some investigations of sensation. Sir William Milligan: Infective labyrinthitis; its role in the production of otitic meningitis and its surgical treatment. Dr. J. C. Bramwell: Arterial insufficiency. Professor W. W. C. Topley: The experimental study of epidemics. Professor A. Donald: Gynaecology in Manchester. Professor A. H. Burgess: Symptomless haematuria. Mr. Harry Platt: The surgical treatment of arthritis deformans.

Messages of welcome were given by Mr. Fiddes, the Pro-Vice-Chancellor of the University, and by Mr. Goldschmidt, the chairman of the board of the Royal Infirmary. Most of the hospitals, general and special, were open to the visitors, and among other institutions Mousall Fever Hospital and the group of tuberculosis sanatoriums and colonies in Cheshire attracted some of the visitors. The Royal Infirmary, owing to its size and modern construction, naturally received much attention. The Lord Mayor, who had returned from the Continent with this special object, gave a soirée at the Town Hall on Tuesday evening. On Tuesday and Wednesday the American visitors were entertained to lunch at the Midland Hotel by the Manchester Branch of the Anglo-American Society, and by the staffs of the Manchester and Salford Hospitals respectively. After the latter lunch Dr. Mayo laid on the Manchester war monument a wreath given by the Assembly. For the non-medical members of the party a trip on the Ship Canal and visits to the Rylands Library, Chetham's Hospital, Haworth's cotton mill, and the Royal Exchange at the time of "high change" were arranged.

The visitors expressed themselves well pleased with their stay in Manchester. The arrangements for their welcome were in the hands of a reception committee whose chairman was Sir William Milligan, and honorary secretary Dr. E. Bosdin Leech.

#### VISIT TO GLASGOW.

Under the auspices of the Glasgow Post-Graduate Medical Association preparations had been in progress for some time past for this noteworthy event. A period of only two days was allotted to Glasgow in the very comprehensive tour which has been undertaken by this large body of American and Canadian medical men, and for these days a full programme had been arranged.

The forenoon and afternoon of June 16th were occupied with clinics and demonstrations at the various hospitals and infirmaries, both general and special, throughout the city, and these opportunities for clinical work were largely taken advantage of by the transatlantic visitors. In the evening they were the guests of the University of Glasgow at a conversation in the Bute Hall, where they were received by Principal Sir Donald MacAlister, Bt., and Lady MacAlister. A large company, representative of town and gown, assembled to take part in welcoming the visitors from overseas. In the course of the evening Sir Donald MacAlister, in the name of his colleagues in the medical school of Glasgow, bade them welcome to Scottish soil and to Scottish hearts, and, in the name of the General Medical Council, of which he has been president for over twenty years, assured them of the hearty and brotherly welcome of the profession at large. He referred to the leader of the Assembly, Dr. Charles H. Mayo, as the leader of this new crusade of Knights Hospitaliers, and informed him that the motto of the Mayos in Scotland was *E cruce salus*. Sir Donald referred to the many historic

names which appeared in the list of the University's famous teachers of medicine and surgery, from Cullen and Black, Smellie and Hunter, down to Lord Lister, who had there wrought out the principles and practice of antiseptic surgery, so brilliantly applied in the relief of suffering by American surgeons. In his reply, Dr. Mayo gracefully acknowledged how much the science of medicine owed to the University of Glasgow for its modern development, and he expressed on behalf of the visitors their appreciation of the very comprehensive and varied clinical fare provided that day by the Glasgow Medical School. He said that when they returned to America they proposed to report to their associations, and with the scientific information they would circulate they would broadcast also their sense of the friendship which had been shown to them in this country. Thereafter, in the name of his colleagues, he bestowed honorary membership of the Inter-State Post-Graduate Assembly upon Principal Sir Donald MacAlister, Mr. Archibald Young, Regius Professor of Surgery in the University of Glasgow, and Dr. James Carslaw, Secretary of the Glasgow Post-Graduate Medical Association. Throughout the evening a musical programme was submitted, and was heartily appreciated.

On June 17th the visitors engaged in a tour to Loch Lomond and the Trossachs; on their return they attended a civic reception in the City Chambers, where they were received by Lord Provost M. W. Montgomery and Mrs. Montgomery, and the magistrates. In his speech of welcome the Lord Provost referred to the record of the City and University of Glasgow in medical research and in the advancement of medicine and surgery, and to the mutual benefit which must result from such international meetings in medical matters, and also to the good influence which such gatherings must exert in the development of mutual understanding and in strengthening the ties of Anglo-American friendship. Dr. Mayo, in replying, expressed their appreciation of the hearty welcome which had been extended to his party in Glasgow, a city which had powerful attractions for medical men as a shrine of the great Lister, and as a centre of modern development in medicine and surgery. Not only had they derived great scientific advantage from their visit to this country, but he believed that their visit would do a great deal to maintain the growing harmony between the two great English-speaking peoples. Dr. William B. Peck also replied on behalf of the guests, and humorously remarked that if the doctors they had left behind in America realized what they had missed there would not be sufficient ships on the Atlantic to bring the next invasion of the members of their association. The formal reception was followed by dancing in the banquet hall, and a concert in the council chamber. The company present numbered about 1,000, and included many of Glasgow's prominent citizens.

#### VISIT TO EDINBURGH.

The members of the Assembly, after a visit to various schools in the English provinces, to Dublin and Belfast, and to Glasgow, reached Edinburgh on June 18th.

About 400 members of the party assembled in the McEwan Hall, where the degree of LL.D. was conferred upon Dr. Charles Mayo. The McEwan Hall was well filled by members of the public and by students as well as by the party of American visitors. Sir Alfred Ewing, Vice-Chancellor of the University, who presided, said it was a pleasant duty for him to express, on behalf of the University, a welcome to them as representatives of the great medical association, the Inter-State Post-Graduate Assembly of America. He hoped they would feel in a special sense at home in Edinburgh. They all knew that the heart and kernel of any well regulated home was the nursery, and where was the nursery of medicine to be found if not in Edinburgh? Edinburgh was peopled by the shades of those who had made history in medicine. They had come to the medical school here as to a shrine, but not simply as to a shrine hallowed by noble traditions and memories of the immortal past, but he hoped and believed that they might come to it as to a fountain of living water from which there continued to flow a stream of gathered knowledge and fresh discovery. Their visit, he imagined, was mainly for

the purpose of meeting her teachers face to face and in order to profit by the stimulus that came from contact and from study not only of methods but of men. They in Scotland admired the splendid share taken by the United States in the development of the science of medicine and surgery. They would find all doors open in Edinburgh and would receive a fitting welcome in the inner holies of this Mecca of medicine. Professor James Mackintosh, K.C., Dean of the Faculty of Law, in presenting Dr. Mayo for the honorary degree of LL.D., said that the names of Dr. Charles Mayo and of his brother William were revered throughout the surgical world as those of the joint founders and directors of the famous Mayo Clinic at Rochester, an institution which for some years past had occupied a foremost place as a post-graduate school of surgery. The brothers Mayo, with characteristic generosity and foresight, had benefited and endowed several research scholarships. Dr. Mayo was known all over the world as a leading authority on the pathology and treatment of diseases of the thyroid gland. To his wide knowledge and vast experience he added the sound judgement and wise discretion that gave his opinions exceptional weight with his professional brethren, and when the United States entered the war he and his brother had held alternately the post of Chief Consultant for Surgical Services in the Army Medical Department. The Dean then presented Dr. Mayo for the degree of LL.D., which was conferred by the Vice-Chancellor. Dr. Mayo, in his reply, said that words crowded his mind in a disorderly way due to the emotion of the occasion. Edinburgh University was fortunate in being located in one of the few beautiful cities of the world. He appreciated highly the honour which this institution had now given him in this honorary degree, and he received it in the sense that it was presented to the medical profession of America through the fortunate circumstance that he was there as the representative of the Inter-State Assembly, which not only took in the United States but had members in each province of Canada. He would point out that over 500 doctors from America were now in Edinburgh and that these represented every State in the Union. They would go back taking with them the memory of all the kind and courteous treatment they had received and of the efforts on the part, not only of men of the medical profession and of scientific men, but of the best men in the British Isles, who had looked after them in every way; and they would take with them a kindly feeling for the old country from which they sprung. For the preservation of civilization a closer harmony was necessary, and the two great English-speaking peoples should come closer and closer together as time went on.

After the reception by the Vice-Chancellor and graduation ceremony the American doctors adjourned to the neighbouring Royal Infirmary, where the whole staff took part in a series of clinics, operations, and demonstrations on various departments of surgery, medicine, gynaecology, ear, nose and throat diseases, and eye diseases. After lunch three large meetings were held in the Large Surgical Theatre, East Medical Theatre, and West Medical Theatre, at each of which a series of clinics lasting about fifteen or twenty minutes were delivered on various special subjects. On Thursday evening a reception was held in the grounds of Inverleith House, which had been lent to the Town Council for the purpose by Professor Wright Smith, Regius Keeper of the Royal Botanic Gardens. Lord Provost Sir William L. Sleight and Lady Sleight, supported by the magistrates and town councillors, received the guests. The Lord Provost, in a speech of welcome to the gathering, said that the City Fathers were proud of the Edinburgh Medical School and its eminent surgeons and physicians, whose reputation he thought was second to none and whose skill and ability had done much for suffering humanity; they were glad that the Assembly had included Edinburgh in their tour and that they were having a busy time at the clinics and demonstrations organized for them. The reception, which was held in the open air, was fortunately favoured by perfect weather, and the beauties of the Botanic Garden appreciated by the American visitors.

On Friday, June 19th, two excellent museums in surgery, pathology, and bacteriology had been organized—one in

the pathological department of the Royal Infirmary, and another, which dealt mainly with bacteriology, in the pathological department of the University. A series of medical and surgical clinics in the operating theatres and wards of the Royal Infirmary and of the Sick Children's Hospital, similar to those of Thursday, was held in the forenoon of Friday, and in the afternoon two series of short clinics lasting fifteen to twenty minutes each were held in the Large Surgical Theatre and in the West Medical Theatre. The attendance of the visitors at the clinics both on Thursday and Friday was maintained in very nearly full numbers. Subsequent to the afternoon clinics, the party of visitors were conveyed to Holyrood Palace, where they were met by a party of ladies, the wives of the medical teachers. About 300 visitors passed through the palace in groups of about forty, being guided over the State and historical apartments. Tea was served in the grounds behind the palace. The majority of the American doctors left for the South on Saturday morning, en route for Paris.

### VISIT TO NEWCASTLE-ON-TYNE.

A party of American medical visitors, numbering about eighty, visited Newcastle-on-Tyne on Saturday, June 20th, on their way back from Edinburgh. They were met at the Central Station and conducted in parties to the Cripples' Home at Gosforth, the Princess Mary Maternity Hospital, and the Children's Hospital, where various methods of treatment were demonstrated by members of the staffs of the institutions.

The visitors next attended a reception in the library of the Royal Victoria Infirmary, where they were cordially welcomed by Lord Armstrong, chairman of the house committee, with whom were Sir Thomas Oliver, Dr. Beattie, Dr. A. M. Martin, chairman of the honorary medical and surgical staff, and Dr. R. A. Bolam. In the course of his short address Lord Armstrong spoke of the debt owed by the medical profession to the great post-graduate clinic which their visitors had so successfully established, and with which their leader, Dr. Charles Mayo, was so honourably and so inseparably connected as its president. He then gave some account of the Infirmary and its work. Last year, he said, they treated more patients and performed more operations than any other hospital in England except the London Hospital. On behalf of the medical staff Dr. Martin added a few words of welcome. Immediately after the reception the visitors again separated into parties for the purpose of attending demonstrations in the wards, operating theatres, lecture theatre, and pathological and electrical departments. An exhibition of pathological specimens from the College of Medicine had been arranged for their benefit in the Board Room, and some rare books were on view in the library. The anatomy department and pathological museum of the College of Medicine were also open for inspection, and opportunities were given to visit the War Pensions Hospital adjoining the Royal Infirmary.

At 1 o'clock the visitors were entertained to luncheon at the Grand Assembly Rooms by the Lord Mayor of Newcastle, Alderman Walter Lee, on behalf of the city council. The Lord Mayor, in proposing the toast of "Our Distinguished Guests," said that the people of Newcastle were glad that this ancient city had been included in the visit of the American physicians. Dr. Charles Mayo, in reply, thanked the Lord Mayor and corporation for their hospitality. Referring to Lord Armstrong's generous gift of £100,000 to the Royal Infirmary, he announced amidst loud applause that in recognition of the great work they had done for medicine it was resolved to make Lord Armstrong, Professor Rutherford Morison, Dr. Beattie, Dr. Martin, and Mr. Grey Turner, honorary members of the American Inter-State Post-Graduate Assembly. The health of the Lord Mayor was proposed by Sir Thomas Oliver, who expressed the thanks of all present for the civic hospitality.

After luncheon the visitors were taken by motor coaches to Durham, and visited the cathedral and castle. They were entertained to tea at the Deanery by Bishop Welldon, Dean of Durham, and returned to Newcastle in time to catch a special train for London.



# British Medical Journal.

SATURDAY, JUNE 27TH, 1925.

## THE MEDICAL WITNESS.

It is no exaggeration to say that of the expert evidence in courts of law the larger part is given by members of the medical profession. It therefore behoves all medical men to acquire a sound knowledge as to how best they can prepare themselves for the task. The British Medical Association Lecture recently given by Mr. H. H. Joy, K.C., to the South Staffordshire Division, published this week (p. 1159), supplies much useful practical information and embodies many shrewd pieces of advice. The lack of knowledge of a few simple precepts may easily turn a medical man's appearance in the witness-box into an uncomfortable ordeal. Mr. Joy warns the medical witness against some of the common mistakes he is apt to make, and tells him in plain words, reinforced by homely illustrations, how he can best avoid those traps into which the unwary fall.

Mr. Joy refers—all too briefly, we think—to the question of joint conferences between medical witnesses on both sides before the hearing of a case. In this connexion we may recall that in 1923 the Representative Body of the British Medical Association resolved "that it is desirable that medical men who may be called as witnesses in legal cases (especially under the Workmen's Compensation Act) should consult with each other before the case is heard so that they may if possible agree upon the facts." Upon this resolution the Council of the Association reported that, as this policy had been laid down by the Association as far back as 1905, no further action was necessary beyond a reminder to the Divisions. Mr. Joy favours these joint conferences, but considers they should be held "without prejudice." Some time ago an interesting correspondence on the subject arose in our columns, and the late Sir Clifford Allbutt, in a letter published on December 22nd, 1922, gave an account of the excellent results obtained from the adoption, in his early days in Leeds, of the method of joint conferences, "to avoid the setting up of medical men as fighting-cocks one against another." The method, he said, was bitterly opposed by the lawyers at first, but gradually the best legal firms and the leading counsel approved and applauded it, for the evidence was immensely improved in both quality and consistency, new facts or new interpretations came out, and doctors of less experience were not sorry to accept a more adequate diagnosis or partial modifications. We have not only Sir Clifford Allbutt's word that these excellent results invariably flowed from joint conferences: the late Mr. Justice Stephen, in a case in which Sir Clifford Allbutt was a witness, paid a weighty tribute to the medical testimony given in Leeds—"the only town where he never heard those unseemly disputes between the legal and medical professions which occurred at other places." But, as Mr. Joy points out, even the method of joint conferences is not without danger. For instance, if one doctor should be examined or cross-examined as to what the doctor to be called by the other side said at the joint conference, his answers might involve personal conflicts of recollection. To avoid such un-

pleasantness there ought to be a distinct stipulation that such joint conferences be held "without prejudice," so that there can be no examination or cross-examination with regard to it of the medical men on either side.

To those who assert that the fact that doctors are willing to go into the witness-box and give diametrically opposed statements of opinion somewhat minimizes the value of such evidence, it may be retorted that even judges differ in their opinions on the law, and that judgements in lower courts are often reversed in the court above. Differences of opinion honestly held there will always be. Because one doctor holds a contrary opinion to that held by another it ought not to be inferred that one of them is not to be believed on his oath. Yet this was the very fallacy that Lord Justice Scrutton exposed in his judgement in the Harnett case, when he characterized the direction of Mr. Justice Lush to the jury, "Which do you believe?" as "unfortunate," adding, "The truth is in these mental cases you may believe both." The real question for the jury was: "Do you believe those witnesses who depose to facts which are strong evidence of instability of mind, and what conclusion do you draw from them?" We think Lord Justice Scrutton's comment applies to almost all cases where medical witnesses are called by both sides.

We believe Mr. Joy's advice to be sound when he recommends medical witnesses to attend the conference always held between counsel and the professional and lay clients before the hearing of a case. It is of cardinal importance that counsel should grasp clearly the bearings of the case in its medical aspects, and the medical witness ought not to leave counsel to mere second-hand knowledge conveyed through possibly inadequate instructions from professional and lay clients. Then, further, the medical witness ready to give evidence as to his opinion upon a fact may be surprised to learn while waiting that this fact is inaccurate; and here again it is obvious that the medical witness should at once apprise his counsel of the effect of the new or altered fact upon the evidence he is about to give.

The use of technical terms is sometimes inevitable, and there are cases in which the judge, counsel, and jury must be educated by the medical witness as to the meaning of an abstruse technicality—and this is especially so where there is a fine issue and there happens to be no simpler word in which a certain condition may be accurately described. Subject to this, we sympathize with Mr. Joy when he says that "scientific evidence should be as unscientific as possible when given in court," and (we take the liberty to add) particularly where such knowledge has to be conveyed to the understanding of the average common jury. Mr. Joy's illustration of the futility of the use of technical language where simple words would suffice is a familiar one to medical men—a medical witness's description in pathological terms of a lesion over the orbit, and the judge's comment, "If you mean a black eye why don't you say so?"

The medical profession has always urged that the privilege of non-disclosure should be accorded to medical witnesses where communications of a professional character are concerned. Mr. Joy dismisses this claim as an impossible one—first, because if it were conceded it would conflict with statute law (the Notification of Diseases Act and the Notification of Births Act); and secondly, because in civil and criminal proceedings the ends of justice would be defeated if doctors were allowed to decline to give

evidence of the facts which had become known to them. Lord Justice Atkin, we are glad to observe, was not quite so dogmatic when he recently said that no doubt the law would so remain until some doctor—"should he say some fanatical doctor?"—preferred prison to violation of the confidence reposed in him by his patient. Lord Justice Atkin suggested that the question might then arise whether the conflicting claims of public health and public justice could not be reconciled by something less than a complete obligation on the part of the doctor to make disclosure when called upon to do so. Mr. Joy holds that an absolute privilege not to disclose cannot be accorded the doctor, but we venture to hope, with Lord Justice Atkin, that a qualified privilege is within the realms of possibility. For we presume him to have meant that upon the hypothesis of a "fanatical doctor" electing to go to prison rather than to disclose, the Legislature or the Bench might extend the privilege, already accorded to confidential communications between solicitor and client, not to all, but to a certain class or classes of communications between doctor and patient. At present the medical witness confines himself to a refusal to disclose such confidence until instructed by the judge to make disclosure.

Perhaps the most vital piece of advice contained in Mr. Joy's lecture is his warning to the medical witness against what he picturesquely terms "unconscious partisanship," which, he says, accounts for much of the differences of opinion expressed by the doctors on either side in a case. Counsel is a partisan. He identifies himself with his client's legal fortunes. He is out to win his case by bringing every scrap of evidence and every subtlety of argument to bear upon the minds of the judge and jury to secure a verdict and judgement from them favourable to his client. That, the Bar holds, is what he is briefed for—what is expected of him by judge and jury alike. But this same partisan attitude, which is the essence of successful advocacy, ought to be strenuously avoided by the medical witness. It is true that the mere fact that he is giving evidence for one side tends to identify the medical witness with the legal fortunes of that side, and it is no doubt extremely difficult to avoid the appearance of partisanship, in a mild form at any rate. But if the medical witness remembers that the judge and jury look to him, as a member of a profession possessing high traditions of honour and of scrupulous fairness, to give them a reasonable and impartial statement which will serve to guide them to a right decision, he will give due weight in whatever he says, not merely to the facts deposed to by the other witnesses on his own side, but also to the facts deposed to by the witnesses on the opposing side. This is the type of medical witness the cross-examiner makes very little, if any, headway against. The medical witness, to use a military phrase, has dug himself well in during his examination-in-chief—has not overstated his case, and has made reasonable allowances to the other side already—and so he is now the better able to resist the onslaughts of the cross-examiner. There are cross-examiners and cross-examiners. The most dangerous type is the counsel who puts a question in a form which makes it impossible of truthful answer Yes or No. Very often the judge leaves the task of objection to counsel on the side by which the witness has been called. But the counsel is not always sufficiently alert to protect the witness from questions couched in ambiguous form. In this event the witness is left to his own resources—a layman unskilled in the

field of dialectics pitted against counsel with whom dialectic skill is part of his stock-in-trade. The medical witness would do well to read the Lord Chief Justice's *obiter dicta* on questions put in cross-examination, which will be found in his judgement in *Rex v. Baldwin* (*Times*, March 17th, 1925). In both civil and criminal cases, he said, questions are often asked which are really of the nature of an invitation to an argument—for example, "Is your evidence to be taken as suggesting that . . . ?" The Lord Chief Justice said the prudent witness would answer that he was there not to make suggestions, but to answer relevant questions, and that the conclusions to be drawn from his evidence were for others. As a matter of fact, such a reply it would be almost impossible for any witness to think of making. The Lord Chief Justice himself said that such an answer required a good deal of sense, self-restraint, and experience, but—what is more—it might prejudice the witness in the eyes of the jury. If a medical witness does meet this mischievous type of cross-examination he must above all keep cool, and before answering perhaps an inquiring movement on his part towards the judge may cause help to come from that direction. We say "keep cool," because it is just at the stage when questions are put in a most mischievous form, tending to confuse or aggravate the witness, that tempers become strained. It is well to remember that upon onlookers, as the judge and jury are, exhibitions of lack of self-control have a damaging effect. A witness who loses his temper usually loses his side's case into the bargain. It is, at any rate, a walk-over for counsel so far as that witness is concerned. Counsel's ebullitions—if he is a good advocate—are but simulated for the occasion, and do not involve the slightest loss of self-control.

Mr. Joy's lecture will have served its purpose if it arouses fresh interest and evokes wide discussion of what we consider a much neglected side of the life of the medical man, yet, at the same time, a side which is growing in importance daily—preparation for appearance as a medical witness.

### MEDICAL RECIPROCITY WITH ITALY.

Now that a fresh agreement has been signed with Italy, under the terms of which medical practitioners possessing degrees from the Royal Italian Universities may register in the Foreign List of the *Medical Register* of the United Kingdom, thereby obtaining full privileges of practice in Great Britain and Ireland, and British practitioners may obtain full freedom to practise in Italy, it may be interesting to record the history of this arrangement.

In 1892 the Privy Council forwarded a communication enclosing a copy of a "projet de loi" in regard to medical practice in France, together with a report in which it was recommended to the French Senate that after an interval of a year from the passing of the Act no person should be entitled to practise medicine in France except those who held the Government diploma of M.D. The General Medical Council thereupon drew up a statement of the terms on which foreign medical men were admitted to practise in this country, and this was forwarded to the proper Ministerial authority in each of the principal foreign countries in Europe, in order that they might have the conditions before them.

A reply was received from Italy that under the law then in force foreign doctors and surgeons might exercise their profession in Italy provided they were

furnished with a professional qualification (*abilitazione*) granted by one of the Royal Universities; and it was added that foreign doctors and surgeons could practise, without complying with this condition, when they were summoned from outside the kingdom to attend special cases.

Nothing further was heard of the matter until in 1897 the General Medical Council was informed by a private correspondent that a law was about to be introduced into the Italian Parliament which was of vital importance to all British medical men actually resident and practising in Italy, particularly if the law should be made retrospective, because they would no longer be able to carry on their practice in that country. The Council thereupon communicated with the Privy Council, and was informed that there was no intention at that time on the part of the Italian Government to modify the existing laws. Shortly afterwards, however, it appeared that Italy was contemplating a change in the law which would adversely affect British practitioners. In 1899 the Italian Ambassador asked if Italian physicians in England could practise "in the foreign colonies" of this country; and, if they could not, whether the Government would grant special permission to Italian practitioners if similar facilities were granted to English practitioners living in Italy. The matter was referred to the Council's legal advisers, who gave an opinion that the only alternative to refusing permission to practise, excepting under Section 6 of the Medical Act, 1859, which allowed a foreign practitioner legally qualified in his own country to act as resident medical officer in a hospital exclusively for foreigners, was to extend Part II of the Medical Act, 1886, to the country concerned, which would give full privileges of practice to all those who complied with the conditions laid down.

Further correspondence took place, with the result that in 1901 Part II of the Medical Act, 1886, was extended to Italy, and Italian practitioners were thereby given full freedom of practice in the United Kingdom. Italy, however, did not adopt full reciprocity, and British practitioners were entitled only to practise in that country amongst their own countrymen. It was thought advisable to accept this one-sided arrangement, which was strongly advocated by British practitioners in Italy at that time, because otherwise the British practitioners already in Italy would have lost their practices, and no others would have been able to enter that country.

In 1910 a new law was passed in Italy, under which foreign practitioners whose own countries granted reciprocity of practice to Italy were favourably affected, since, instead of the limited right of practising only among foreigners, they thenceforth enjoyed unrestricted freedom of practice. It was stated that, as matters then stood, this concession benefited British practitioners only, Great Britain being the only country that granted reciprocity to Italy.

This satisfactory condition of affairs continued until 1923, when the General Medical Council was supplied with a copy of the Royal Italian Decree of March 25th, 1923, which was to the following effect: "Italian subjects and foreigners who have duly obtained a professional diploma in an institute of a foreign State can also be inscribed, when such State has come to a special agreement with the Italian Government on the basis of absolute reciprocity of treatment for Italian subjects holding Italian diplomas." This correspondence came through the Ministry of Health, which was informed that, as complete reciprocity in

regard to medical practice was established with Italy in March, 1901, and confirmed by Italian legislation in June, 1910; it did not appear that the new regulations affected Great Britain. A copy of the correspondence was forwarded to the Privy Council for its information.

The General Medical Council was informed at this time that a practitioner whose name was on the *Medical Register* had been refused leave to practise in Italy, and the Privy Council was thereupon asked that His Majesty's Ambassador at Rome might be requested to make urgent representations on his behalf. Further correspondence ensued, and the British Ambassador wrote in December, 1923, that the "special agreement" between the two Governments had been rescinded by the recent decree, in so far as fresh applications from British doctors to practise in Italy were concerned, and that it would be necessary to come to a fresh "special agreement" before reciprocity was again on a satisfactory basis. The practitioner in question, having been informed by the Italian Consul that he would be able to practise in Italy, and having thus been placed in a serious position, was as a special case allowed to register in Italy, but the main question still remained unsettled.

Much correspondence on both sides followed during 1924, and for a long time it was impossible to get the Italian authorities to take any definite action. It was not until December 30th last that the Privy Council was able to transmit a draft of an agreement between Italy and Great Britain to regulate the matter. This draft required some amendment in regard to technicalities, but it was promptly returned by the General Medical Council to the Privy Council. At the end of January, 1925, the Italian authorities suggested certain further amendments, which were immediately accepted; but, notwithstanding the efforts of the General Medical Council, the Privy Council, and the British Ambassador, it was not until May 21st, 1925, that the agreement was finally signed. Thus for some two years, although Italian doctors were freely allowed to register in this country, British practitioners were not granted similar privileges in Italy. Even now the Italian authorities do not seem to have settled what their requirements will be, and the Italian Consul states that it appears that the agreement cannot come into force until it is duly ratified or approved by the Italian Parliament. He does not seem to be in a position to give definite information, but every effort is being made, with the cordial assistance of the Privy Council, to have the difficulties cleared up at the earliest possible moment. All those who desire information should write to the Royal Italian Consul, 144, Queen Victoria Street, London, E.C.4, asking to be informed of the requirements as soon as they are finally laid down. Under the old arrangement an applicant had to produce: (1) his diploma at the town hall of the city in Italy in which he desired to practise; (2) a certificate of medical registration in Great Britain up to date; (3) his birth certificate; (4) a certificate of immunity from any charge, offence, or conviction (which could be obtained from the chief constable or town clerk of the place in which he resided); (5) a certificate attesting that he is in full possession of all rights pertaining to a citizen or member of society (which also could be issued by the town clerk). The diploma and certificates had to be produced at the Consulate for legalization and translation into Italian, and the fee charged was about £12 5s. It is probable that somewhat similar conditions will be laid down for the future.

## INCOME TAX ALLOWANCE FOR DEPRECIATION.

THE Chancellor of the Exchequer has agreed to the insertion in the Finance Bill for this year of a clause put forward by Dr. F. E. Fremantle which is of some importance to medical practitioners. The effect of the clause will be to remove the distinction that has hitherto obtained between traders and professional men with regard to an allowance year by year for the depreciation of plant and machinery used in the earning of their income. Traders have been entitled to such an allowance, but the use of "plant and machinery" by professional men is comparatively recent, and the distinction referred to was evidently the accidental result of the circumstances obtaining when the Income Tax Code was enacted. Arguments in favour of its abolition were put before the Royal Commission on the Income Tax by witnesses representing the British Medical Association, and that Commission reported in favour of the change now to be effected. It may be convenient to indicate here the nature and results of this change.

It is obvious that during his professional career a medical practitioner must normally incur considerable expense in maintaining his motor car equipment. Running expenses—such as the cost of petrol, tyres, oil, and the like—recur frequently, and the proper mode of dealing with them in calculating professional profits is clearly to regard them as expenses chargeable to the year in which they were in fact incurred. But besides running costs, there is the comparatively rare and heavy expense of substituting a new car for one which has become unsuitable for professional use. An accountant, in preparing accounts for a business in which a car—for example, a delivery van—is used, would very properly regard it as necessary to set aside some portion of the profits each year to provide against the expense of replacing the car at some future date. Actually the sum estimated according to the probable life of the car might not be taken out of the business, but the appropriate amount would be charged against the year's profits, so that the correct net balance only would appear as the true amount of the profits made. Substantially—minor differences will be explained later—this principle is accepted by the Income Tax Acts as applied to commercial profits, but hitherto professional profits have been dealt with differently; no anticipatory depreciation allowance has been given, but in lieu of that the professional man has been entitled to treat as an expense of his practice the actual net cost of replacing his car with one of similar grade. This method is open to two main objections: first, that the allowance is not received soon enough, and secondly, that it is insufficient in amount. So far as the question of time is concerned, the expense is originally incurred when the first car is bought, whereas no allowance is received until that car is disposed of and a second one bought to replace it. Even then, the three years' average adds a further period of postponement to the allowance. For instance, suppose the first car to have been purchased in 1920 and the second in 1926, no allowance at all would be received until tax became payable in January, 1928, and then the tax would be affected only by one-third of the sum charged against the 1926 profits owing to the fact that the 1927-28 assessment would be based on the profits of the three years to December 31st, 1926; not until 1930 would the benefit of the full allowance have been received. Secondly, the allowance was insufficient, partly, because the practitioner's retirement or death would

normally leave him in the position of having a car on which depreciation had accrued but for which he had received no allowance, and partly because, with falling motor prices, the renewal cost becomes less than the original outlay, and some inspectors of taxes were apparently taking the strict technical view that in such circumstances the allowance must be based on the smaller value.

It may be convenient before leaving this question to refer to one or two practical considerations. It is clearly a matter of some difficulty to estimate with approximate accuracy the probable life of a motor car, and therefrom to deduce the appropriate annual deduction to be made. The difficulty is, we understand, met as a rule by taking an estimated rate (which is frequently 15 per cent. on the value as written down year by year), and when the car is eventually replaced giving, in addition to the previous deductions for obsolescence, a further allowance in the form of a professional expense equal to the excess of the total net actual cost of replacement over the depreciation deductions. Depreciation allowances are not regarded as expenses—that is, they are not deducted in calculating the profits of the separate years falling into the average period taken for the purpose of the assessment; those profits are calculated apart from any question of depreciation and the amounts of the allowance deducted from the average profits so calculated.

It would be premature at this stage to pursue this subject in greater detail; sufficient may have been said to show that the thanks of the profession are due to Dr. Fremantle for his assistance in securing an amendment of the income tax law which was certainly due in equity, and which should prove of real value to a class of taxpayers who deserve every consideration at the hands of the Exchequer.

## PROPOSED MEDICO-LEGAL INSTITUTE.

THE Medico-Legal Society (as mentioned in our issue of June 6th, p. 1039) proposes to establish a medico-legal institute, but, fully recognizing the many difficulties—financial, statutory, and otherwise—which stand in the way, the meeting which discussed the project at the Royal Society of Medicine on Tuesday, June 23rd, merely expressed a general approval of the idea and requested the committee which has the matter in hand to develop the proposal in co-operation with all interested parties. The objects of the proposed medico-legal institute were fully set forth by the president of the society (Lord Justice Atkin) and by Sir Bernard Spilsbury, the joint secretary. It is proposed that the new institute shall control the teaching and training of post-graduates, and so raise a body of specialists who will be available for posts such as those of coroners and police surgeons, and to effect this purpose the co-operation of the Board of Education, the University of London, and the Royal Colleges of Physicians and Surgeons is sought. A medico-legal museum is to be formed wherein will be housed pathological specimens which will afford special facilities for research. As Mr. Ingleby Oddie, the Westminster coroner, said, there is at the present time an enormous waste of pathological material in London alone. London, although the largest city in the world, will not be the first great metropolis to have established a medico-legal institute if the scheme succeeds. Paris has had such an institution these many years, whilst Vienna, Berlin, and Chicago are similarly fortunate. It is proposed to have a staff of medico-legal experts: a director of investigations, the holder of a chair of medical jurisprudence, a toxicologist, and a bacteriologist. Obviously, as Mr. L. W. J. Costello pointed out, the question resolves itself into one of finance. Sir Bernard Spilsbury said that

if such an institute came into existence the Government and such departments as the Home Office and the Ministry of Health would be closely concerned in seeing that it was satisfactorily developed. Also, assistance is hoped for from the public municipal bodies such as the London County Council, with its interests in the coronerships, and from the great examining and teaching bodies such as the University of London and the medical schools of the hospitals. Sir William Willcox, Sir William Collins, and Sir Walter Fletcher all spoke in terms of approval of the scheme, and the president urged that while to get it into proper working order would need considerable financial assistance, yet to begin in a small way was quite within the realm of present possibilities. If they had a great teacher, he said, even though he had only a shed to lecture in, they were bound to have a successful school: they must make a start. It is clear that if the Medico-Legal Society is willing to start a medico-legal institute in this way, so creating the need for housing lecturers and students and specimens before running into expenditure on building and charges of upkeep, the project may confidently be expected to succeed. Under the aegis of a president who is also the chairman of the Council for Legal Education, and a joint secretary who is eminent as the Home Office honorary pathologist, it is obvious that teachers of the highest standing will be available. All the other problems, financial and constitutional, will, we feel sure, under such favourable auspices resolve themselves as they arise.

#### TREATMENT OF ELECTRICAL ACCIDENTS.

CONSIDERING the extensive use of electricity and the serious nature of the accidents to which it may give rise, it seems desirable that both the laity and the medical profession should have a better knowledge of the subject; at present it appears to be lamentably defective. To remedy this Professor Jellinek has written a small book on electrical accidents.<sup>1</sup> As an indication of the seriousness of the situation he mentions that within the first nine months of 1924 nine fatal accidents occurred in Vienna alone. These were all low-tension accidents—seven of them due to defective lamps, two to faulty installation. All could have been prevented, given a little understanding of the problems involved; all the injured could have been saved if proper medical treatment had been instantly applied. Of the four modes of death from electrical shock described by the author, the commonest are sudden death and delayed death; in the latter the collapse and loss of consciousness are delayed for a few seconds or minutes, during which the patient attempts to extricate himself and calls for help. In both cases, however, it seems that death is for a time merely "apparent," and it is important for every medical man to realize that the so-called primary signs of death (absence of consciousness, pulse, and respiration) are in themselves insufficient, and that it should not be concluded from them alone that a man is dead; the doctor should not rest satisfied that death has occurred until there is hypostatic discoloration of the body. This may not appear for one, two, or more hours, and artificial respiration should be continued up to that time. Another point of importance is that the artificial respiration should be applied instantly and should be continuous; a few minutes, even seconds, may make all the difference in the result, and if artificial respiration is being employed on the arrival of the medical man he should not interrupt it to make inquiries as to the nature of the case. A third point is that the method should be applied *secundum artem*; both the laity and the profession are, according to the author, defective in this matter owing to lack of proper instruction. It may be observed that

artificial respiration is not mentioned in the textbooks among the causes of multiple fracture of the ribs, but many pathologists, from their *post-mortem* experience, would be inclined to include it in the etiology. In any case the author is right in suggesting that intelligent efficiency rather than force should be the guiding principle. In discussing the arrangements made in factories and other institutions for dealing with electrical accidents, Jellinek dwells on the futility of hanging on the walls of the building plentiful directions as to how workmen should act in cases of emergency. He gives examples of the mental vacuity usually displayed under this system. In one instance a man accidentally received an interrupted current of 220 volts, and shouted for help; all the other persons present hurried from the room. Several other similar cases are mentioned. Again, an electrician was inserting an arc lamp on a bridge when he became electrified with a current of 220 volts and was unable to free himself. The man detailed to look after the electrician's safety, instead of endeavouring to release him, ran to the nearest telephone, according to "instructions," in order to inform the Life-saving Society of the occurrence; meanwhile the electrician died. The author points out that nothing is of any use short of actual practice in the measures to be adopted in cases of emergency, as is now generally done in case of fire. The essentials are, in the first place, to extricate the man from the current, and secondly, to treat the apparent death instantly and continuously with artificial respiration. To do these things promptly and efficiently requires previous actual practice. Other practical matters are dealt with in this good and useful essay, including the danger points in electrical installations, the action of electricity on the organism, the interesting problem of the influence of personality as a defence against the action of the electric current, and the pathology of the subject.

#### TRANSMISSION OF DENGUE.

SINCE the original work of Graham in 1903, of Bancroft in 1905, and of Ashburn and Craig in 1907, there has been some doubt as to the part played in the transmission of dengue by the mosquitos *Culex fatigans* and *Stegomyia fasciata* respectively. We pointed out on March 10th, 1917 (p. 339), when referring to the investigations of Cleland, Bradley, and McDonald in Queensland and New South Wales during 1916, that further experiments were necessary to prove whether *Culex fatigans* could propagate dengue. We added that the mosquitos should be bred from larvae and allowed to bite persons under control conditions. Experiments on these lines have now been organized by the Medical Department Research Board of the United States Army and other closely associated workers, and Lieut.-Colonel J. F. Siler, Major M. W. Hall, and Major A. P. Hitchens have published a summary<sup>1</sup> of experimental work at Manila conducted with a view to confirming or disproving the transmission of dengue by the two mosquitos mentioned; the time after the appearance of the initial symptoms during which the dengue patient continues to be infective to mosquitos; the length of time infected mosquitos are capable of transmitting dengue; and the incubation period of dengue in the human subject. All mosquitos used in the experimental work were bred from eggs, and every precaution was taken to prevent the infection from extraneous sources of the forty-two men who volunteered for the experiment. The hospital ward was carefully screened so that no mosquitos could enter. Of the forty-two volunteers subjected to biting experiments dengue was produced in twenty-five instances (60 per cent.), and the positive results obtained by Cleland, Bradley, and McDonald with regard to the transmission by *Stegomyia fasciata* were

<sup>1</sup> Der Elektrische Unfall. Von Prof. Dr. med. Stefan Jellinek. Leipzig and Vienna: F. Deuticke, 1925. (64 x 9 1/2 pp. iv + 142; 25 figures. G.M. 4.80.)

<sup>1</sup> Journal of the American Medical Association, April 18th, 1925 (p. 1163). A full report will be issued in the Philippine Journal of Science.



fully confirmed. The experimental evidence pointed to the conclusion that a patient with dengue fever was capable of infecting these mosquitos during, at any rate, the first three days of the disease. It appeared that the virus causing dengue fever must remain in the mosquitos for a period of approximately eleven days before the insect became capable of transmitting the disease to non-immune human beings. These mosquitos continued to be infective for a very long period, probably through the remainder of their lives. Five volunteers were submitted to the bites of *Culex fatigans* in which the dengue virus had been allowed to remain for a sufficient length of time to produce infection, but the results were entirely negative; these five volunteers were infected at once when *Stegomyia fasciata* was used. Attempts were made to reinfect twelve patients who had recovered from an attack of dengue which had begun between forty-one and one hundred and twenty-one days previously, by the injection into them of blood from patients in the early stages of the disease. It was found that 58 per cent. of these were immune, and those who did develop the typical attack of the disease were ill for an average of 2.8 days, as compared with the 4.8 days of the primary attack. These results appear to indicate that dengue is followed by a definite degree of immunity, but the refractory state does not compare with that of scarlet fever. The authors point out that the striking similarity between the mechanism by which both dengue and yellow fever are transmitted gives ground for the suggestion that the organisms causing the two diseases may fall into the same group. It is possible to find some clinical resemblances between mild attacks of yellow fever and typical attacks of dengue. The authors conclude that both diseases are caused by filterable viruses present in the peripheral blood of the patient, and that both may be produced by the injection into a susceptible individual of blood from an infected person or of a filtrate of it. Both are transmitted by the bites of the *Stegomyia fasciata* mosquito only, and the mechanism of transmission is practically identical in the two. The patient becomes infective to the mosquito during the first three days of the disease; the mosquito becomes infective about eleven days after the virus has been introduced into it, and (as has been said above) continues infective probably for the remainder of its life. The hope is expressed that further research in dengue may suggest other methods of approach to the unsolved problems relating to the epidemiology and control of yellow fever.

#### RADIUM TREATMENT OF MENORRHAGIA.

DR. R. T. LEWIS, in his annual report for 1924 on radium treatment at University College Hospital, gives it as his opinion that the results as gauged during three and a half years' experience in cancer of the cervix are "somewhat gloomy"; though great amelioration of distressing symptoms undoubtedly follows radiation, the progressive course of the cancer cannot be arrested. Similarly, in cancer of the body of the uterus and the vagina and vulva, radium has brought little prospect of cure. On the other hand, in conditions of menorrhagia the sphere of usefulness of radium therapy appears to be continually enlarging and its value more firmly established. Thus, of 32 cases of haemorrhage at the menopause whose early history was given in last year's report, Dr. Lewis finds 27 to be in good health without any recurrence of bleeding. In the menorrhagia of young women who present no sign of pelvic disease—the so-called essential menorrhagia—the records of the three and a half years amply demonstrate that radium is "of incalculable value in the treatment of intractable haemorrhage," and Dr. Lewis announces that this method of treatment is now employed as a routine procedure at University College Hospital. In menorrhagia due to

fibroids radium therapy is, in suitable cases, attended with good results. In general it may be said that fibroid tumours of a size greater than that of the pregnant uterus at five and a half months call for surgical treatment; radium therapy is most trustworthy when dealing with the smaller tumours. Thirteen cases of fibroids were treated by radiation during the year, and in eight of these amenorrhoea followed. Only two cases required a second treatment. Altogether in the last three years 36 cases of fibroids have been treated by radiation, and in 22 of these the menorrhagia has been completely cured. In 9 cases a second treatment has been given, and 3 more will probably require it. In 2 cases it was considered advisable to remove the uterus, though further radiation treatment might have been successful. The report gives a detailed history of all cases treated with radium in the twelve months ending October 31st, 1924.

#### THE MEDICO-PSYCHOLOGICAL ASSOCIATION.

THE eighty-fourth annual meeting of the Medico-Psychological Association of Great Britain and Ireland will be held at the University Buildings, Edmund Street, Birmingham, from July 6th to 10th. The newly elected president, Sir Frederick W. Mott, F.R.S., will be in the chair. Reports will be received from various committees, and it will be proposed that Sir John McPherson, C.B., M.D., Professor of Psychiatry in the University of Sydney, shall be invited to deliver the Mandley Lecture for 1926. On the afternoon of Tuesday, July 7th, Sir Frederick Mott will deliver his presidential address, and in the evening the Council and Senate of the University will hold a reception. The annual dinner of the association will be held on Wednesday evening. On Tuesday morning Dr. David Orr will give a lantern demonstration on the sympathetic endocrine system. On the morning of Wednesday, July 8th, Dr. G. A. Auden of Birmingham will read a paper on encephalitis lethargica and its psychological implications, and Sir Frederick Mott will give a lantern demonstration of the lesions of the disease. On Thursday morning papers will be read by Dr. Graves on the incidence of chronic sepsis in mental disease, and by Dr. Pickworth on the iodine content of thyroid glands. In the afternoon a visit will be paid to Hollymoor and Rubery Hill. On Friday a paper on the institutional treatment of mental deficiency, with special reference to occupational training, will be read by Dr. A. M. McCutcheon; this will be followed by a paper on delinquency by Dr. W. A. Potts, and by another on the psychopathic personality by Dr. Hamblin Smith. In the afternoon visits will be paid to Worcester, Warwick, and Stratford-on-Avon.

DR. EDWARD HINDLE, Milner Research Fellow of the London School of Tropical Medicine and Hygiene, has been granted leave of absence for two years to undertake, in conjunction with Major W. S. Patton, an investigation on the transmission of kala-azar in North China, on behalf of the Royal Society. During the past six months Dr. Hindle has been working on the biology and life-history of spirochaetes, and has also devoted attention to the prevalence of leptospira in the neighbourhood of London. He has been successful in finding these organisms, not only in Thames water, but in tap water and many other sources. He sailed for China on June 22nd, and on his way east will call at Calcutta to see the work of the Indian Kala-azar Commission. While in China the Kala-azar Commission of the Royal Society will have a central laboratory at the Shantung Christian University, Tsinau, where Dr. Hindle expects to arrive about the end of August.

## LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE.

It will be remembered that at the end of February, 1922, the Rockefeller Foundation offered to provide a sum of two million dollars towards the cost of building and equipping a School of Hygiene in London, subject to the condition that the British Government would make itself responsible for the staffing and maintenance of the school when established. The gift and its terms were gratefully accepted, and the Government, through the Minister of Health, undertook to provide funds adequate for the proper maintenance of the school. A small committee was set up to advise the Minister on the preliminary steps to be taken, and on its advice a site was procured in Gower Street, Bloomsbury, sketch plans were prepared, and provisional plans and courses of study drawn up. In May, 1923, the Minister of Health, with the concurrence of the Rockefeller Foundation, appointed a transitional executive committee, whose duties were to appoint a director, to arrange for amalgamation or co-ordination between the school and other institutions, and to prepare plans for the new school. This committee arranged that the existing London School of Tropical Medicine should become an integral part of the School of Hygiene, and provision was made for this in the school's new charter. In November, 1923, Dr. Andrew Balfour was appointed as the first head of the new institution, with the title of Director of the London School of Hygiene and Tropical Medicine. Until the school is completed the Rockefeller Trustees promised to make an annual grant of £4,000 towards salaries and other administrative expenses. Further than this, they have recently generously undertaken that the capital sum to be provided for building and equipment should be the value in sterling at February, 1922, of two million dollars—a sum of about £460,000—instead of the diminished amount which would be payable at the rate of exchange now obtaining.

### *The Tropical Division.*

Under the terms of amalgamation the old London School of Tropical Medicine has become the Tropical Division of the London School of Hygiene and Tropical Medicine. It retains its status as a school of the University of London, and gives instruction in all branches of tropical medicine and hygiene, and in parasitology as applicable to public health work in this country. For the present it continues to occupy the premises in Endsleigh Gardens, where the work has been carried on for several years past. Previously the school was situated at the Albert Docks, where, under the guidance of Sir Patrick Manson, it rapidly developed. Altogether no fewer than 3,000 students have attended its courses of study.

In due course the transitional executive committee relinquished its duties to a board of management, some members of which were appointed direct by the Minister of Health, while some were representative of a large court of governors which has been established, and to which the board will report annually on the work and progress of the institution.

### *Provisional Scheme of Work.*

As explained by Dr. Balfour in an article contributed to the Educational Number of the *BRITISH MEDICAL JOURNAL* last year,<sup>1</sup> the provisional scheme of lectures and practical work has been framed on broad lines and with due regard to the new regulations for the D.P.H. laid down by the General Medical Council in 1922. The scheme divides the work into six main departments as follows: (1) Applied physics, physiology, and principles of hygiene; (2) chemistry and biochemistry; (3) immunology and bacteriology; (4) medical zoology, parasitology, and comparative pathology; (5) epidemiology and statistics; (6) the principles and practice of preventive medicine, general sanitation, and administration. In each of these divisions instruction will be given at the school, with museum demonstrations and practical laboratory work, together with lectures and

demonstrations at associated institutions. In addition the teaching of tropical medicine will be continued and developed.

As regards the building of the new school on the Gower Street site, five selected architects have submitted plans, according to the specification provided, and from these the choice of a design is now being made.

### *Revised Curriculum of the Tropical Division.*

In the meanwhile the work of the Tropical Division of the School has continued in the existing house in Endsleigh Gardens, and developments are in progress along various lines. The curriculum has been extended; for the old twelve weeks' course one of twenty weeks is now substituted. In recasting the plan of study tropical hygiene has received particular attention; 3½ hours, as compared with 8, will henceforward be devoted to this subject. A short series of lectures on biochemistry, in its relation to diseases and hygiene of the tropics, has been included, and opportunities for clinical study will be increased. The revised schedule provides also for the institution of tutorial or seminar weeks, in which no systematic teaching is given, but instead there will be conferences between teachers and students, with museum demonstrations and clinical work. A powerful stimulus has been given to research by the establishment of a field station in Southern Rhodesia, the appointment of Dr. H. H. Scott as comparative pathologist to the Zoological Society, and the acquisition of a field station near St. Albans, financed by the Ministry of Agriculture, under the immediate direction of Professor Leiper. Further steps are being taken to give opportunities for research work by the creation of four new research studentships at the school, each of the annual value of £250; since there is now a large demand for tropical zoologists and entomologists, this may help to provide the right type of man for such posts. Plans for the future include the building up of a graphic museum of hygiene. The existing museum of tropical medicine will also be expanded on graphic lines, and with these ends in view it is intended to collect material in advance.

Further details are to be found in the prospectus and calendar of the Tropical Division, copies of which can be had on application to the secretary of the school, Mr. R. W. Harris, 23, Endsleigh Gardens, Euston Road, N.W.1. The winter term will begin on October 5th next, and the spring term on March 15th, 1926.

## ROYAL COMMISSION ON LUNACY AND MENTAL DISORDER.

A SITTING of the Commission took place on June 19th, Mr. H. P. MACMILLAN, K.C., presiding.

### *Visitations by Guardians.*

Mr. GEORGE HILL and Mrs. GLANVILLE, two members of the Wandsworth Board of Guardians, gave evidence on the subject of visitation. They considered that for visitation to be of any real value it should be informal and unnotified. The method of visitation carried out until a year or two ago, when the patients on visiting days were brought up and passed before the visiting guardians, was quite useless. Mr. Hill thought that the present system of visitation, without prior notification, was an efficient safeguard against ill treatment or other irregularity. He complained of the lack of classification according to mental condition of the patients which he found in the institutions he visited, in particular of puerperal patients being placed in insane wards. Mrs. Glanville said that within a three-mile radius of Epsom there were four large mental hospitals, and she thought that the very acute cases might all be in one building, while the other three buildings could be set apart for cases in various stages of recovery, the last of the three being the institution from which they were discharged. This would mean economy in working.

On the question of punishment, Mr. Hill said that he was satisfied that punishment went on in these institutions. He referred to one or two specific cases of ill treatment by attendants. He had known a man to be put into the acute ward by way of punishment; it was well known that there the other patients, who fought amongst themselves, would inflict punishment upon him. At the time when he came in touch with this case the man had been in the acute ward for three

<sup>1</sup> New Conceptions in the Teaching of Public Health, by Andrew Balfour, C.B., C.M.G., M.D., *BRITISH MEDICAL JOURNAL*, September 6th, 1924, p. 353.

or four days, and the reason given for putting him there was that he had tried to escape. He also complained of the padded room at Cane Hill Mental Hospital; it was dark and ill ventilated, but he admitted that his visit was paid rather late on a winter afternoon, also that it was necessary in such a room to have windows out of the patients' reach. At Hanwell the clothing of the male patients was not adequate in winter. Mrs. Glanville said that the clothing at other mental institutions was better than at Hanwell, but she did not know the reason for the difference. It was much to be preferred that patients should be allowed to wear their own clothing if suitable; any approach to a uniform was felt by sensitive patients.

#### *St. Luke's Mental Clinic.*

Dr. R. W. GILMOUR gave evidence with regard to the working of the St. Luke's Mental Clinic attached to Middlesex Hospital. St. Luke's was one of the oldest of the registered hospitals. For many years it received only certified cases of insanity. In 1923 a clinic was established at Middlesex, with six beds, the nursing staff being supplied by St. Luke's. One of the reasons for founding the clinic in association with a general hospital was that people would be more likely to attend, whereas the name of a mental hospital might deter them. Further, the fact that it was a general hospital to which they went helped them to realize that they were ill, and thus to some extent assisted treatment. In most illnesses expert examinations were necessary, and this was also the case at the clinic. The hospital neurologist and the witness saw the cases in the same room, and there was close association between the ward for mental cases and the other wards of the hospital. By such treatment many cases were prevented from reaching the stage of certification. Patients came of their own desire, they were told that they must obey the hospital rules, and if they seemed likely to give trouble he told them that he was taking their word, which was mostly effectual. Noisy patients likely to disturb others were not retained.

In reply to Sir David Drummond, the witness said that he thought a more general extension of this system would be a very good thing. A clinic purely for out-patients would be beneficial also. The cases he received were chiefly those of neuroses and psychoneuroses, but, contrary to the opinions of some, he was convinced that some of these cases passed into genuine psychoses. Several cases, though not certifiable when they came in, became so later. Certified patients were not received in the ward; that was essential to the character of the ward, for the patients were told that so long as they remained there they would not be certified, nor would they be associated with certified patients. The in-patients last year numbered 5 men and 20 women; 4 of the men and 14 of the women recovered. Of the remainder, 3 were removed by friends at the witness's request, and the others were discharged either relieved or not improved. There was no system of letting out on trial, as in mental hospitals, so that he had no knowledge as to how the patients got on afterwards. Not one of these patients passed from him straight to a mental hospital. Occasionally cases which had developed mental trouble in the general wards of the hospital were received into this ward. The nursing staff consisted of five female nurses, all with mental nursing qualification, and one or two with general hospital experience also.

#### *The Voluntary Clinic.*

At a further sitting of the Royal Commission on June 22nd evidence was tendered by Lady CHICHESTER, the president, and Dr. HELEN BOYLE, senior physician, of Chichester House, Hove, Sussex.

Lady Chichester stated that this hospital was instituted in 1905 as a voluntary hospital for dealing with early nervous and border-line cases in women and children. It had 23 beds and an out-patient department. The average period of residence of an in-patient was three months, and the average cost of an in-patient per week was £1 19s. 7d. The moderateness of this amount was due to the fact that only a small staff was employed, the patients being able to co-operate in the working of the hospital to a considerable extent. No cases at all were taken on discharge from a mental hospital; such cases were left to the After-care Association, but after-care principles were followed to this extent that a person who had been a resident at Chichester House was encouraged at any time to come back to the out-patient department for further advice.

Dr. Boyle said that it was extremely desirable that such a clinic should be in association with a general hospital, and when Chichester House was started it offered itself to the Royal Sussex County Hospital, but the idea at that time was not entertained. It was equally important that such a clinic should have no association with a mental hospital. She spoke from a considerable experience of American and European clinics. The drawback of many of the clinics she had seen abroad was that

they took cases which were too bad for a clinic to take. Professor Winkler's famous clinic at Utrecht was really a great clearing house. That and other clinics of the kind had locked doors, which neutralized the chief advantage of early treatment. Asked which country dealt best with this problem, she said that no country had a monopoly, but the boarding-out system was best in Belgium.

Sir David Drummond remarked that most hospitals in this country admitted the kind of cases treated at Chichester House. Dr. Boyle, however, did not think that general hospital treatment was altogether satisfactory, and this seemed to be proved by the fact that the staffs of general hospitals sent cases to her own institution. Asked what was done when in her clinic a case suddenly developed acute mental symptoms, she said that the relatives were immediately communicated with, and the patient was sent home, if necessary in the company of two nurses. Acute mental cases should not go to such clinics at all; they should go to the mental hospital. She did not want acute recoverable cases to be removed from the domain of mental hospitals, otherwise those institutions would become homes of despair. On the other hand, the clinics, if they did not receive acute cases, would commend themselves better to the general hospitals with which it was very desirable that they should be associated.

Sir Humphry Rolleston noted that a certain number of early cases of disseminated sclerosis were admitted to Chichester House; did not that institution have its hands full with the psychoneuroses? Dr. Boyle defended the right to admit into such an institution all nerve cases, even if there were no signs of functional disturbance. She wanted to maintain the conception that the nervous system should be treated as a whole. Her institution had access to the laboratory of the Sussex County Hospital, so that pathological detail could be investigated there as well as anywhere else.

#### *Nursing Homes.*

Dr. Boyle went on to give, at the request of the Commission, certain opinions of her own with regard to certification and cognate matters. She thought that a doctor should be free to treat a willing patient whenever he thought it desirable or possible, and that the patient should be free to go where he wished to be treated or where the doctor wished to send him—in other words, she would allow an unlimited number of licensed or private houses. Instead of the present monopoly in private houses, she would have free competition. With free competition it was very unlikely that there would be serious abuse. The good houses would survive and the bad houses disappear. Public opinion, the friends of the patient, the nurses and servants employed in the institution, all combined to form a better safeguard against abuses than any system of legal supervision could possibly do. The only bad nursing home she had ever known was one which was under supervision, and the fact of supervision lulled the public into a false sense of security with regard to its management.

Dr. Boyle also expressed the view that from time to time certified patients in asylums should be changed from one institution to another. This would cause many chronic patients to give less trouble; the prejudices which they might feel against particular attendants would no longer operate. Indeed, to stay too long at one place encouraged the chronic condition.

#### *Maudsley Hospital.*

Dr. EDWARD MAPOTHER, Medical Superintendent of Maudsley, also gave evidence. The Chairman of the Commission (Mr. H. P. Maemillan, K.C.) mentioned that, a few days previously, the members of the Commission had had the advantage of paying a visit to Maudsley, and of inspecting the different departments employed in discharging the three functions of the hospital—research, teaching, and voluntary treatment.

Dr. Mapother said that he desired to give evidence, not as an officer of the London County Council, but as an individual with a good deal of experience of asylum administration, and to urge certain general lines of reform of the existing system. In the first place, he held that there should be more adaptation of the legal formalities to the patient's attitude towards treatment. At present, for the poor, certification was almost everywhere an absolute preface to treatment, whereas his ambition would be to make treatment a means of avoiding certification. In the second place—a thing upon which he laid the chief stress—he wanted to see the provision or approval of specialized types of institution which would deal separately with recoverable and with chronic cases, and separately also, in each of these classes, with patients, on the one hand, who were objecting or objectionable, and, on the other, with patients who were, in the widest meaning of the word, quiet. His third principal point was to urge the extension of the present provision for teaching and research.

The classification of patients in respect to the degree of volition which they possessed was very important. Among certifiable patients there were, first of all, those who were able to co-operate in their own treatment; secondly, those who were negative (that is, neither co-operating nor resisting); and, thirdly, those who actively resisted. He thought that at present in asylum administration there was an excessive tendency to consider that certifiable patients were to be regarded as unwilling unless there was definite evidence to the contrary; whereas in his view they should be regarded as willing unless the contrary was clearly shown.

Clinics, of course, were of the very greatest use, but there was a definite limit to their usefulness. In some cases they were certainly not a substitute for mental hospitals. In Maudsley there were no certifiable patients. All the patients were entitled to discharge on giving twenty-four hours' notice. Three-fourths of the Maudsley patients came through the out-patient department in the first instance, having in very many cases been sent to the out-patient department by their own doctors; those who did not come by way of the out-patient department came usually on the recommendation of a mental specialist. He attached much importance to having no certifications carried out at Maudsley. The willingness of the people to approach the institution voluntarily depended upon the knowledge that they would not be certified, or, in other words, that they could leave when they liked. He thought that all of them appreciated the voluntary nature of the institution, save perhaps a few whose intellects had been clouded since admission. More severe cases—though still willing and recoverable—were taken at Maudsley than at Chichester House.

In answer to the Chairman, Dr. Mapother said that the voluntary submission on the part of a patient for a definite period of residence in an institution would be a very useful thing in certain cases, such as drink and drug cases; there were also a number of patients who from day to day could hardly make up their minds whether they wanted to go or stay, and if the problem were solved for them they would be easier in their minds. He thought that the non-volitional patient should be dealt with in the clinics, provided such a patient was not objectionable to others. These non-volitional patients included many recoverable cases. Such cases were not taken at Maudsley Hospital at present, but in the clinic of the future they should be admissible.

#### Observation Hospitals.

Dr. Mapother went on to urge that fresh cases which were recoverable, but were unsuitable for treatment at clinics, should be first treated at observation hospitals, which would take the place of the present observation wards in workhouses. First of all there would be the voluntary clinic for out- and in-patients; then the observation home, to which patients who had ceased to be voluntary or were incapable of being managed in a voluntary clinic could be sent for observation and treatment, and as the last resort there would be the asylum. Some cases would go first to the observation home, without passing through the clinic, but he thought that before any case went to the asylum it should pass through the observation home.

Another reform which he would like to see brought about was for patients who came short of certification to be permitted to become voluntary boarders in private care; at present such patients could not be in private care unless they were certified. The private care of these voluntary patients should be subject to supervision and visitation in the same way as certified cases.

He deprecated in the present asylum administration the mixing up in one institution of different types of cases. If each institution had its own type of case contentment would be promoted, and the advantage of such a classification if voluntary patients were admitted to mental hospitals were obvious. Resistant patients might be confined to one or two institutions. At present, however, the wards were classified, both refractory and quiet patients came into association in the gardens. The isolation of the chronic refractory patient in one institution was the only remedy. Patients whose violence lasted only a short time should be treated in one of the institutions for quiet patients, but a separate ward should be provided.

He mentioned that he had known a number of nurses—male and female—who had extraordinary skill in dealing with refractory patients, and some of them were so much engrossed in this work, which they regarded as a vocation, that they would threaten to resign if they were moved into a "quiet" ward. He was in favour of female nurses in male wards. At Maudsley this employment of female nurses had led to a very slight restriction in the class of patients taken—very much slighter than might be imagined, because some of the most difficult patients were more manageable by women than by men.

He wished to see other Maudsleys serving different centres of population, and he expressed the view that it would be an advantage economically and no disadvantage in other respects if the accommodation of Maudsley were doubled.

## Nova et Vetera.

### MEDICAL MEN MENTIONED ON THE PIPE ROLLS (1156/57—1186/87).

NEXT after Domesday Book, the Pipe Rolls are the most important of the public records of the kingdom. They are the accounts of the sheriffs of the counties of that revenue for which each was responsible annually at the Royal Exchequer. They also include statements of the expenses of the sheriffs in the King's service. The earliest in date of these records is the roll for the thirty-first year of Henry I (1130). This was published in 1833. The next rolls to be published (1844) were those for the first, second, and third years of Henry II. From the first year of this Henry the series is almost complete to the nineteenth century. Among the early specimens issued by the Record Commission, besides the early Pipe Rolls for the last year of Henry I and the first three years of Henry II, was the roll for the first year of Rielard I and that for the third year of John. The Pipe Roll Society was founded in 1883 to complete the gaps between these early publications. The society issued its thirty-seventh volume in 1915, and then succumbed to the war; last year it was resuscitated, and it is hoped that the first volume of its new venture will shortly be in the hands of its members.

The volume containing the earliest roll is practically unobtainable at the present time; I have the second volume and a complete set of the *Transactions* of the society, with the exception of Vol. 24, which is unobtainable.

The first medical item on my list is as follows.

4 Henry II (1156/57).—"Et in Liberationes Constitutae Johanno Medico. xxxs. et vd."

"Liberationes Constitutae" were certain fixed payments charged on the King's lands. This occurs on the roll for Essex. In the same year under Northants:

"Et Radulfo Medico in terris datis xv libras numero. Et quietus est."

"Terrae datae" meant lands which the King had granted away from the *Corpus Comitatus*. The issue of the lands being no longer received by the sheriff, he had an allowance for them when rendering his account at the Exchequer. In the following year Dr. John's 30s. 5d. appears on the roll for Essex, but is not mentioned again in any subsequent year.

5 Henry II (1158/59): Essex.—"Et in perdonis per breve Regis. Et Radulfo Medico iii marcas. Et quietus est."

"Perdonae per breve Regis" were discharges of debts by writs or mandates of the King. The record expressly states that Radulfus was quit. In the same year under Northants:

"In terris datis. Radulfo Medico. xx libras. Et quietus est."

And under Hants:

"Et Girardo Medico Henrici filii Regis es."

The roll for the sixth year of Henry II does not appear to contain any medical entry.

7 Henry II (1160/61): Notts and Derby.—Under "Nova Placita et Novae Conventiones": "Et Radulfo Medico xxvss. et viiid."

And under Essex:

"Et in perdonis per breve Regis, Radulfo Medico iiiii libras."

8 Henry II (1161/62): Northants.—"Et Radulfo Medico vs. et quietus est. Et Radulfo Medico xiiiiis. et viiid."

This 14s. 3d. of Dr. Ralph's is mentioned again in the same year under the Bishop of London "in perdonis per breve Regis," and again in the following year under the same heading. The rolls for the next two years are free from medical entries.

12 Henry II (1165/66): Northumberland.—"Idem Vicecomes reddit Computum de ixs. et xd. de terra Geruasi Medici. In Thesaurio liberavit in II tallis. Et quietus est."

This entry is found in the roll for the next eight years and again in that for the year 1177/78. In the first entry only is the word "tally" found.

In the same year, under Notts and Derby, in the Honor

of William Peverill, under "Nova Placita et Novae Conventiones":

"Henrici Medici reddit Computum de xxvis. et viiid. per fugatorio. In Thesauro liberavit et quietus est."

This 26s. 8d. appears to have been due for the worth either of a fugitivo or more probably for the worth of the goods of the absconder. In any case, Dr. Henry had paid the sum and was quit.

13 Henry II (1166/67): *Northants.*—"Idem Vicecomes reddit Computum de xls. de Gaitintona, Radulfi Medici. In perdonis per breve Regis. Ipsi Radulfi xxxiiis. et iiiid. et debet dimidiam maream."

There was also a little matter of xxs. owing from the same Ralph from lands in Berton. This appears to have been paid, and in the following year he paid up his half-mark due from Gaitinton, but he was not yet out of trouble, for in 1168/69, on the plea of Alan de Nevill, "Gaitintona Radulfi Medici debet iii marcas pro iii fabricis factis in forestam," and the debt of 4 marks appears on the roll for the next year. It does not seem ever to have been paid.

17 Henry II (1170/71): *Notts and Derby.*—Henricus Medicus appears with others for a sum of money "in operatione" Nottingham Castle. This entry occurs in all succeeding rolls for my period. The Latin word *aula* is used in some of the later entries instead of *castellum*. I think that Henry must have been an important person to have had anything to do with Nottingham Castle, for in mediæval times this fortress was one of the most important strategic points in England.

18 Henry II (1171/72): *Hants.*—"Et in speciebus et electuaria per Josephi Medici x libras et viis."

21 Henry II (1174/75): *Lincs.*—"Robertus Medicus de Axford debet i maream."

This occurs under "Nova Placita et Novae Conventiones" of Ranulf de Glanvill and Hugh de Cressi. In the following year it is noted that he renders his account for "one mare," there is "in thesauro" half a mark, and he owes half a mark. In the next year he paid it and was quit.

23 Henry II (1176/77): *Cornwall.*—"Et Jordano Medico xs. in Carneto, per breve Regis de dimidio anno et amodo xxs. per annum."

This sum is entered against Dr. Jordan in all the succeeding rolls of my period.

26 Henry II (1179/80).—"Gilbertus Medicus reddit Computum de v marcas quia pugil suus quem plegiavit retraxit se de duello. In Thesauro 2½ marks et debet 2½."

In the same year: "et de lxs. de Wilclmo pugili Gilleberti Medici pro recreantia."

Under Wilts:

"Robertus Medicus et Osbertus filius Reginaldi et socii eorum reddunt Computum de i maream quia non habuerunt quos plegiaverunt. In corredio Regine liberavit per idem breve. Et quietus est."

In the next year Gilbert rendered his account of 2½ marks "quia pugil suus quem plegiavit retraxit se de duello."

"In Thesauro xviss. et viiid. et debet xviss. et viiid."

In the following year he paid his 16s. 8d. "de misericordia pro duello," as a fine for the duel,\* and was quit.

31 Henry II (1184/85).—"De oblati Curiae. London et Middlesex. Cecilia uxor Roberti Medici debet xxs. pro recto de ix marcas versus Ricardum Speciarum."

32 Henry II (1185/86).—"Et in procuracione Godmanni Servientis Regis et Medicorum ejus, et pro medicamentis et victualibus et pannis et aliis necessariis eorum dum idem Godmannus apud Londinensem infirmabitur £6 13s. 4d. per breve Regis."

33 Henry II (1186/87): *Warwickshire.*—"Lambertus Medicus debet e libras pro dissaisina injusta."

This was at the plea of Richard, archdeacon of the county, and his fellows.

This is my last entry. I regret to have to end this article with a note of what appears to have been a swindle by a dishonest rascal of a physician in these early times. One only hopes that he paid his 100 pounds at some later date.

R. R. JAMES.

\* Duellum=trial by battle.

## England and Wales.

### HOSPITAL ACCOMMODATION IN SOUTH WALES.

At a recent meeting of the Cardiff Medical Society Dr. Colston Williams, in opening a discussion on the provision of hospital accommodation, summarized the major defects revealed by the inquiry of the Voluntary Hospitals Subcommittee in South Wales. He doubted whether voluntary hospitals could adequately meet the needs of the future. In South Wales more beds for medical cases were required, particularly for women and children, and also better facilities for treating orthopaedic conditions and conditions of the eye, ear, nose, and throat. Dr. R. Picken said that the population of Cardiff and East Glamorgan, numbering approximately 800,000, had access to only about 850 beds, of which 460 were in Cardiff. There was a possibility of adding a further 400 beds. The waiting list at Cardiff Infirmary was over 1,800. On a conservative standard of 2 beds per 1,000 of population, 750 additional beds were needed for the area; if a higher standard of 3 per 1,000 was adopted the number of beds required would be 1,550. In the area there were about 1,100 beds in Poor Law institutions in the area, with the prospect of the addition of a further 650. More use might be made of the fever hospital accommodation for such diseases as pneumonia, and more beds were needed for tuberculous patients. Voluntary subscriptions were not likely to be forthcoming in sufficient amount, and voluntary hospitals were unwilling to accept State assistance. The Poor Law authorities might be encouraged to increase their accommodation with the assistance of Government subsidies and with co-ordination through the Ministry of Health. Health authorities might also be stimulated to provide hospital accommodation for preventive work, including ante-natal, maternity, and infant wards, with open-air residential schools. Dr. B. Llewelyn Williams pointed out the need of closer co-operation between the existing voluntary hospitals, which should deal with acute cases requiring specialized surgical or medical treatment, while the Poor Law hospitals should treat primarily those patients whose main need was skilled nursing. The voluntary and the Poor Law hospitals should work together to a greater extent in Cardiff than was at present the case. The large city hospitals should similarly co-operate with small local ones, and patients should not be removed from their own neighbourhoods unless the local hospital was unable to deal with the case. There was much to be said for admitting to the staffs of these local hospitals all doctors practising in their vicinity who could take their share of the hospital work, with the assistance of physicians and surgeons of consultant rank from the larger hospitals.

### HEAT IN THE TREATMENT OF DISEASE.

During the recent course in medical hydrology at London University, Dr. R. Fortescue Fox delivered a lecture on the use of heat in the treatment of disease, with special reference to rheumatic affections and catarrh. The report by the Ministry of Health on the prevalence of rheumatism in England has necessitated fuller consideration of the use of physical remedies in this disease, and the lecture embodied an account of the rationale of treatment by heat. Dr. Fox pointed out that physiologists had shown that normal animal metabolism rose to an optimum at a definite temperature, and that the close connexion between disease and body heat was indicated by the rise of temperature after microbial invasion, which appeared to be a necessary reaction in the process of recovery from acute illness. This connexion was also indicated by the depression of body temperature in chronic disease, a condition unfavourable to recovery because it signified impaired metabolism and a deficiency in the normal reaction to the disturbing causes. The lecturer added that the hottest baths were always associated with the coldest climates. Since the earliest times the northern peoples, including the North American Indians, Laplanders, Finns, Russians, and Chinese, had made habitual use of extremely hot vapour baths followed by exposure to cold, and a similar bath was used in ancient times in this country; in Greece and Rome more moderate



temperatures were employed. The heat bath, about 104° F., increased the temperature of the skin and body, the peripheral circulation, the volume of the circulating blood, and metabolism, whilst it lowered blood pressure. The cold bath, about 60° F., produced at first the opposite results, but later a nervous reaction occurred with stimulation of the nervous centres, and indirectly of the heart and respiration, thus increasing the activity of the circulation, the metabolism, and the body heat. The medical use of cold bathing appeared to be quite modern, and became extreme in the nineteenth century. Cold baths were dangerous for delicate people, invalids, and the aged, because in them the normal power of reaction to cold was defective or in abeyance; such people were "susceptible" to chill. This chilling, or actual lowering of the temperature of the body, signified the uncompensated removal of heat; the demands on heat production could not be met. While a few invalids always felt warm, the majority felt the cold; these conditions were probably associated with the basal metabolism and heat production in connexion with endocrine activity. Such chronic chilliness, generally associated with catarrh or metabolic disorders, might lead to serious illness, such as pneumonia, inflammation of the stomach, liver, and kidneys, or rheumatism. In many of these people illness might be prevented by the periodical systematic use of heat, followed by cold, the defective reaction to cold being thus repaired. Climates might be divided into (1) the hot and moist, prevalent in some parts of England, and beneficial in chronic catarrhal conditions and fatigue; (2) the hot and dry, or desert climates; (3) the cold and moist, with which British medical practitioners were mostly concerned, which were responsible largely for catarrh and for rheumatism; and (4) the cold and dry, exemplified by the winter climate of Canada and of high mountains, and in a milder but most valuable form by the east coast of Great Britain. The following indications for the use of heat were noted. In the prevention and treatment of catarrhal conditions the systematic use of contrast vapour baths was likely to be very beneficial. Dry, cool inhalation of finely divided particles from chloride springs had proved very valuable in respiratory catarrhs, especially in the case of children with enlarged glands and tuberculous bones and joints. Brief (60 to 80 seconds) hyperthermal baths (108° to 120° F.) were efficacious in the defective circulation associated with gastro-intestinal catarrh and Raynaud's phenomena. The painful exudations and deposits in the neighbourhood of joints and other fibrous tissues should be treated systematically by heat, the dosage being most important, and reaction being the chief guide. A series of very small and almost imperceptible reactions were the ideal, since these favoured recovery. The treatment of rheumatism at health resorts and physical clinics should extend over several weeks, the patient being warmly housed, as there was considerable danger of chill after the baths. At the close of the course the patient should be gradually hardened by exposure to cold. In all forms of traumatism the use of heat was indicated at one stage or another to relieve pain and tension and to promote absorption. In many cases, whether rheumatic, traumatic, or paralytic, the heat applied, as in the whirlpool bath, was a good preliminary to the manipulation and movement of injured parts of the body.

#### ALTON CRIPPLES' HOSPITAL.

Founder's day at the Lord Mayor Treloar Cripples' Hospital, Alton, was celebrated on June 20th, when a bust of Sir William Treloar, erected in the grounds of the hospital, was unveiled by the Lord Chancellor (Viscount Cave). The memorial is a gift of a circle of personal friends. The Lord Chancellor, in response to a vote of thanks, proposed by the Right Hon. T. P. O'Connor, M.P., said it was a great honour to be allowed to unveil such a striking likeness of his old friend, whom those present did not look upon as an administrator or magistrate, but as the children's alderman and the children's lord mayor. For thirty years Sir William Treloar had carried on the Crippled Children's Christmas Hamper Fund; had been the moving spirit in the children's feast at the Guildhall, and his acquaintance with the crippled

children of London had led him to organize the hospital at Alton and the home at Hayling Island, which were both doing such excellent work. At a meeting subsequently held in the college, the chairman, Lieut.-Colonel Lawson, emphasized the necessity of clearing off the debt incurred by building the isolation hospital, and the urgent need for extending the nurses' quarters. The institution required continuous and increasing support in order that it might do its work efficiently.

#### NATIONAL HOSPITAL FOR DISEASES OF THE HEART.

The foundation stone of an extension of the out-patients' department of the National Hospital for Diseases of the Heart, in Westmoreland Street, Marylebone, was laid on June 13th by Colonel Walter Faber, Grand Master of the Order of Crusaders. The Crusaders, to the number of 250, all clad in mediæval habit and carrying insignia, walked in procession along the streets between the parish church, where a preliminary service was held, and the hospital. In reply to a welcome from the secretary of the hospital, Colonel Faber said that he rejoiced that the Order's first public act of service should be devoted to the help of such an institution. The stone having been duly laid, Mr. E. R. Morris, C.B.E., chairman of the hospital, delivered an address in which he recalled that this hospital was founded in a small house in the neighbouring Margaret Street sixty-eight years ago. It was the first hospital—and still remained the only hospital in the world—devoted entirely to the special study and treatment of heart conditions. Special heart departments had since been established in general hospitals, thus justifying those who in the middle of the last century decided that cardiac conditions were so very important as to deserve an institution for themselves alone. After various removals to larger premises the hospital found its present home, and now a site adjoining the building had been acquired for the badly needed extension of the out-patients' department. In that department some 35,000 attendances were made every year, and the number of in-patients treated was from 350 to 400, the average period of stay being seven weeks. The cost of the work was £10,000 a year, and to carry through the extensions now begun the sum of £7,000 was needed.

#### LONDON AMBULANCE SERVICE.

A report on the London ambulance service was presented to the London County Council on June 23rd. During the year ended March 31st, 1925, the total number of calls dealt with by the ambulances was 31,700; of these, 5,000 were dealt with between the hours of 11.30 p.m. and 7.30 a.m. The average time taken to reach a case was 7.4 minutes. During the busiest hours on week-days thirteen ambulances are in commission, but under present arrangements this number is reduced to eight on Sundays. The number of cases dealt with on Sundays, however, shows a continual increase. On the first three Sundays of last May the calls were respectively 57, 77, and 83. Calls on the ambulance service continue to increase year by year; the highest number in any one year since the inception of the service was made in the year ending March 31st, and the number for the first quarter of the present calendar year exceeds the number for the corresponding quarter of 1924 by 600. The highest number of calls ever recorded on a single day (161) was on a recent Saturday (May 16th). The statistics show that the calls are most frequent during July; in July, 1924, the number of calls dealt with was 3,002. It is proposed to place in continuous commission from July 1st next three ambulance stations (Battersea, Highbury, and Paddington) which have hitherto been subsidiary—that is, have been closed during certain hours of the night and on Sundays.

#### MILLER GENERAL HOSPITAL.

Active work upon the extension of the Miller General Hospital for South-East London has been started. The hospital at present contains one hundred beds; the new building will comprise a block with three wards, each containing twenty-four beds, and six single-bedded rooms. In the basement of this block there will be a dining-room and classroom for the nurses; adjoining the block a main kitchen is to be provided, with storage accommodation, and

dining and recreation rooms for the maids. The new nurses' home will contain seventy-three bedrooms, as well as sitting-rooms, and will be capable of enlargement at a later date. The cost of the present extension will probably approximate £100,000. King Edward's Hospital Fund has promised £16,000 towards the cost, and at the present time the sums promised or received amount to about £60,000. The annual report of the hospital for the year 1924 shows that the expenditure exceeded the income by £489; the work of the hospital and of its convalescent home at Bexhill costs annually nearly £23,000. During the year 1,555 patients were admitted to the wards, an increase of 70 over the previous year.

## Scotland.

### MILK AND DAIRIES ACT.

THE Milk and Dairies (Scotland) Act, 1914, comes into operation on September 1st; it imposes important duties on local authorities, and their attention has been drawn to its provisions in a circular issued by the Scottish Board of Health, dated June 16th. The local authority may appoint a committee or committees for the exercise of its powers under the Act. The Act authorizes any local authority to whose district milk is sent to complain to the local authority of the district from which the milk originates if the former local authority has reason to believe that the provisions of the dairy by-laws are not being carried out. Power is given for the appointment of a veterinary inspector or inspectors, who are to be whole-time officers. Neighbouring authorities may combine for the appointment of a veterinary inspector, which must be sanctioned by the Board of Health. Inspection of dairies is to be carried out at least once a year, either by the veterinary inspector, the sanitary inspector, or the medical officer of health of the district, and powers of inspection are also to be conferred on similar officers of other districts in regard to milk consigned out of their district. All dairies must be registered with the local authority, which has power to revoke a certificate if the dairyman is or becomes unsuitable for carrying on the trade or if the premises are or become unsuitable for the purpose of the trade. Further, where milk is sold from a cart, van, or other vehicle within a district, such vehicle must be registered as premises within any district in which milk is sold from it. Various special measures are indicated for the prevention of disease; thus it is provided that the milk from a cow suffering from certain specified diseases shall not be sold for human food. Further, that a dairyman must give written notice to the local authority of any cow which appears to be suffering from any sore on the teats accompanied by suppuration or bleeding and on becoming aware that any person resident at or employed in connexion with his dairy shows symptoms of any infectious disease. Further, persons suffering from diseases which are enumerated, or who have been in contact with such persons, are not to assist in dairy work except under specified conditions. Powers are given to the local authority to stop the supply of milk in its district from any given dairy, and to require from dairymen lists of customers when the medical officer of health certifies that an outbreak of infectious disease is in his opinion due to the milk supply. Powers are also given to the veterinary inspector to apply the tuberculin test to any cow with the consent of the owner, and to local authorities to establish depots for the sale of milk specially prepared for consumption by infants under 2 years of age.

### RESEARCH SCHOLARSHIP IN NEUROLOGY.

At a meeting of the University Court of the University of Edinburgh held last week, it was intimated that a legacy of £5,000 had been received from the estate of Miss Catherine S. Howden to found a scholarship for research work, preferably in the domain of nervous diseases. Intimation was received at the same meeting that a party of 175 Canadian undergraduates were to visit Edinburgh from July 6th to 10th, under the auspices of the Overseas Education League. It was decided to invite them to an afternoon reception in the McEwan Hall.

### ROYAL EDINBURGH HOSPITAL FOR SICK CHILDREN.

The annual meeting of contributors to the Royal Edinburgh Hospital for Sick Children was held on June 16th. Sir John R. Findlay, Bt., chairman of directors, who presided, in moving the adoption of the annual report, regretted that the number of Edinburgh contributors and the amounts contributed remained small, despite the fact that the work of the hospital was of great public importance. He referred to the retirement of Mr. Fraser, surgeon to the hospital, who had been appointed professor of clinical surgery in the University, and of the matron, Miss Burleigh. The report showed that 2,727 cases had been treated in the wards during the year, as compared with 2,657 in 1923; of these, 1,543 were medical and 1,154 surgical. The average daily number of patients in the hospital had been 114, and the average duration of residence sixteen days. There had been a large out-patient attendance, the new medical cases having numbered 3,038, with 6,004 re-attendances; the new surgical cases had numbered 3,305, and re-attendances of these 11,133. In the out-patient department, 2,054 minor surgical operations had been performed, and in the ear and throat department 615. The total number of patients to whom the hospital had given assistance during the year was 29,553, as compared with 31,166 in the previous year. Total ordinary income had been £11,134, and the ordinary expenditure £15,815, leaving a deficiency of £4,681. This had been met by using about half of the legacies received during the year, which would normally have gone to capital. The report drew attention to the continued increase in the number of in-patients; the directors consider it inevitable that before long additional accommodation will have to be provided. Attention is also drawn to a clinic for mentally defective children established by Dr. John Thomson; in the twenty years during which it had been carried on it had dealt with nearly nine hundred cases. Many of these cases had been treated and supervised for several years, and the clinic had been of great service both to the hospital staff and to the medical profession in Edinburgh and beyond it. Professor Gulland, President of the Royal College of Physicians, who seconded the approval of the report, said that in his student days there had been very little teaching in regard to children's diseases, while now every student had to go through the course. He believed that there was no part of the student's training which was so useful in general practice as the training he got in the wards of the Sick Children's Hospital, where excellent work was being done.

### CARE OF THE EDINBURGH BLIND.

At the annual meeting of the Royal Blind Asylum and School, Edinburgh, the Rev. Dr. Thomas Burns, chairman of directors, who presided, said that the outstanding feature of the year had been the admission of fifteen blind persons for technical training; in a year or two they would be able to take their place as efficient workers. The directors hoped that in course of time a generally higher standard of efficiency would be attained by all blind employees, and there was reason to expect that infantile blindness would be reduced more and more. He believed that local efforts had had the effect of stimulating interest in the welfare of the blind in other parts of the Empire. The subject had recently assumed such importance as to influence Parliament in passing measures to meet requirements, but further legislation was necessary. He considered that there was more and more evidence of a need for the provision of residential homes for elderly delicate blind persons whose relatives were not able to give them the care and attention they required. This applied particularly to women.

### MONTROSE ROYAL ASYLUM.

The report presented to the annual meeting of Montrose Royal Asylum held on June 10th showed that there were on May 14th last 754 patients in the institution; the certified cases numbered 131, or 26 less than in the previous year. The average age of admission had been 45.9 years; 2 patients were under 15 and 13 over 70 years of age. Out of the causes of mental breakdown some physical disease had been responsible in 35 cases, while a hereditary tendency to insanity could be traced in one-third of the cases admitted. Dr. C. J. Shaw, physician superintendent, points out that pauperization, certification, and the stigma which attaches

to asylum care are serious obstacles to the treatment of mental disease at an early stage, and he comments upon the difference that exists in the attitude of the public in attaching a stigma to treatment in an asylum while placing no stigma upon treatment in, for example, a hospital for infectious disease. He thinks, however, that the public are developing a different attitude towards mental hospitals, and that this is largely due to the introduction of female nurses into asylum wards. When it is realized that the primary function of a mental hospital is curative as in the case of any other hospital, and when the voluntary system of admission is extended to rate-aided cases, patients will, he believes, apply for treatment more readily and with more satisfactory results.

#### ROYAL SCOTTISH NATIONAL INSTITUTION, LARBERT.

The Royal Scottish National Institution for feeble-minded children at Larbert, the reconstruction of which has recently been completed, was visited by a large number of people on May 30th, when the Duchess of Montrose, one of the vice-presidents of the institution, was present. The institution, which was founded in 1862 for 28 mentally defective pupils, now accommodates about 500, and employs a staff of 100; it also has a long waiting list. The visitors were welcomed on behalf of the directors by Sir Alexander Gracie, who stated that in recent years it had been realized that institutions of this sort suffered from one great difficulty in the fact that the after-care of the pupils did not extend beyond 21 years of age. With increased knowledge and experience, however, the public were realizing that this was a mistaken policy. The Duchess of Montrose delivered an address upon the problem of the feeble-minded. No working-class mother, however devoted, could, she said, hope to give her afflicted child the advantages which this institution provided. When the small mental faculty possessed by each child was remembered, it was surprising how much they could be taught by the never-failing patience and devotion shown by the teachers. Mentally defective children could be well trained even if they could not be cured. The problem of the feeble-minded, apart from the insane, was a modern one. About fifty years ago a man was either considered sane or insane, and at that time mental deficiency was deemed insufficient reason for admission to an asylum, and the matter was largely ignored until the rapid increase of mental defect took place during the latter years of the nineteenth century. The Royal Commission appointed in 1908 to inquire into the care of the feeble-minded revealed a very pitiable state of affairs. Figures had been produced showing that one-quarter or one-fifth of all workhouse inmates, one-half of the girls in rescue homes, one-tenth of all prisoners and vagrants, and the majority of the inmates of homes for inebriates, were feeble-minded. Such facts cried for a remedy, yet even now the State only concerned itself with mental defectives up to the age of 16 or 21; after that they were turned loose on the community. This was, on grounds of social economy, a short-sighted policy, for the majority passed to the workhouses, gaols, and rescue homes, where they had to be maintained. A far better solution of the problem would be through permanent care in industrial colonies. In such places all grades of the feeble-minded could, according to their capacity, continue their work in the house, the garden, or on the farm or in industrial shops, and in this way they could become to a large extent self-supporting. It was satisfactory to know that the Scottish Council of Women Citizens' Associations was taking up this question with energy, and making an appeal throughout Scotland for a sum large enough to start a Scottish industrial colony. It was much to be hoped that such a colony would be started soon, so that the children trained at Larbert might be passed on there at the age of 16 or 18. At the Industrial Colony at Sandelbridge the inmates now numbered 300 persons, leading a contented and happy life, doing the work of the colony for themselves, and thus rendering it partly self-supporting. No scheme for social betterment was more urgent in Scotland than this, and for its initiation a sum of £40,000 was necessary. The party subsequently visited the institution, where children were seen busy at such occupations as rug-making, darning, and machine

knitting. Classes of girls were making rush baskets, mats, and shopping bags, and in other workrooms girls were being trained in simple household duties, while the boys were engaged in tailors' and carpenters' shops.

## Ireland.

#### MEDICAL MEETING IN COUNTY WEXFORD.

A MEETING of the County Wexford medical practitioners was held recently in Enniscorthy, with Dr. G. E. Greene in the chair. Letters were read from Dr. P. A. Doyle, with regard to medical fees in accident cases, and from Dr. Brady, in relation to attending and giving evidence in State prosecutions. The pension clauses of the Local Government Acts, 1919 and 1925, were discussed, and, the Irish Medical Secretary having written to say he was taking legal advice in connexion with the advantages and disadvantages of both Acts, it was decided to postpone further consideration of the question until June 17th, when a joint meeting of the medical practitioners of County Wexford and County Wicklow would be held and Dr. Hennessy would be invited to attend. The meeting decided that it would be inadvisable to pronounce any opinion on the interim report of the Committee of Inquiry into Health Insurance and Medical Services until the issue of the final report. Drs. Dowse, Greene, Hickey, Murphy, and O'Brien were appointed as representatives to attend a meeting of delegates when summoned in connexion with the consideration of the reports of the Committee of Inquiry into the medical services. Arising out of a discussion of the resolutions relating to the duties of county hospital surgeons, passed at the meeting of the Irish Medical Committee held on May 11th, it was resolved that the notice of motion to rescind them be put on the agenda for the next meeting of the committee, so that they might be further and more fully discussed. Drs. O'Brien and Dowse having brought before the meeting the overcrowded state of the Wexford County Hospital, it was decided to ask medical officers to make inquiries from Dr. O'Brien and the secretary of the County Wexford Board of Health if beds were available before sending cases for admission, except in cases of urgency, which would be admitted at any time. Dr. Hickey moved, Dr. Lawler seconded, and it was unanimously resolved, to tender heartiest congratulations to Dr. Thomas Hennessy on his election to Dail Eireann, where his presence and intimate knowledge of the requirements of the medical profession would enable him to be of greater service than ever in furthering its many interests. The honorary secretary reported that a sum of £44 16s. was collected in County Wexford for the Organization Fund of 1924.

#### PATHOLOGICAL LABORATORY FOR MENTAL HOSPITALS.

The suggestion of the Minister for Local Government regarding the establishment of a pathological laboratory at Grangegorman Mental Hospital, Dublin, was the subject of a special report by Dr. J. O'C. Donelan, the resident medical superintendent, which was submitted at a meeting of the joint committee of the hospital. In his report, Dr. Donelan stated that the pathological laboratory at Grangegorman might be developed into a valuable centre for work and study, but he did not think that there could be much field for it as a teaching centre in the immediate future, as there were at present three excellent schools of pathology in Dublin. The scheme of creating a central laboratory for all the mental hospitals of Ireland would, to be of any use, involve the appointment of a really first-class man, who had proved himself to be devoted to pathological work, and who would necessarily command a substantial salary. He would also require one, or probably two, assistants. The expenses would be considerable, and although Dr. Donelan was not without hope that something of this kind might ultimately be attained, and ought to be aimed at, he believed that the best results would be obtained by beginning on a small scale and developing as circumstances indicated. It was decided to send a copy of the medical superintendent's report to the Local Government Department for an expression of the department's views, and to defer action.

## Correspondence.

### PERINEAL DRAINAGE AND PROSTATECTOMY.

SIR,—Mr. William Billington's letter (June 20th, p. 1159) recalls some papers I published over sixteen years ago in which an attempt was made to combine perineal drainage with suprapubic prostatectomy by "a simplified method of performing prostatectomy by the combined routes."<sup>1</sup> I reported the results of 23 operations done by the method to the 22<sup>e</sup> Congrès de l'Association française de chirurgie, 1909. The operative mortality in my small number was on a par with Young's 112 perineal cases—that is, none; and a study of the relativity of 4,539 perineal to the 1,932 suprapubic cases collected in my list is greatly in favour of the perineal route.

It seemed to me that an operation combining the advantages of both operations might lead to a better surgical success on the whole. I confess, however, that not many have tried the "combined method" of operating except the few who have seen it done; but three well known surgeons who were in difficulties in enucleating hard small prostates by the suprapubic operation until they were informed of the combined method used it with immediate success.

The length of time is not often less in performing the "combined method" than the suprapubic operation by itself. The apparent paradox is due to the fact that establishment of perineal drainage takes less than a high fraction of a minute to form, and subsequent enucleation of the prostate with two forefingers working *en rapport* secures rapid removal even in difficult hard cases.

It seems to me to be more than important to find out by careful inquiry why the mortality of the suprapubic operation by itself is higher than that of the perineal by itself.

The goal of operations is a recovery rate of 100 per cent., and when it is not gained we have to look out for weakness in the minute details of the plan of attack or of unsound judgement in the evaluation of diverse resisting defensive forces located within the camp—the patient.

Another point in Mr. Billington's letter which is of interest is that of drainage of the bladder after internal urethrotomy. I had the privilege of sitting next to that wise surgeon Mr. Pridgin Teale at Leeds during a function not long after I published a note on "Two cases of urethrectomy for traumatic stricture,"<sup>2</sup> in which I used neither drainage of nor a catheter tied in the bladder; he remarked that he always drained the bladder in cases he had operated on, and while accepting gratefully, I hope, his warm congratulations upon my daring, I felt a sort of chill from which I never recovered, for I always slipped a catheter into the bladder after that privileged occasion.—I am, etc.,

Llechryd, Cardiganshire, June 22nd.

JOHN LYNN-THOMAS.

### DISEASES DUE TO FASHION IN CLOTHING.

SIR,—I have been interested in the correspondence regarding my article (May 23rd, p. 960) on diseases due to fashion in clothing, particularly in the letter by Dr. W. Elder (p. 1152). I have, of course, seen cases, in patients of various ages, of erythema ab igne, also called "erythema a calore," on the legs from sitting in front of the fire, on the abdomen or elsewhere from the repeated application of hot compresses or hot bottles. Some persons seem to be more liable to develop this kind of erythema (and the resulting cutaneous pigmentation) than others, and the hypostatic element in the legs—notably when there are varicose veins—doubtless plays a part; I have, however, also seen it on the upper extremities. It has, in all the cases that I have met with, been distinguished by its more or less reticulate pattern (erythema reticulatum), like that seen in livedo reticulata. Probably the capillary circulation in some persons is more disturbed by heat, in others by cold. Perhaps the subjects of livedo reticulata (to which

more than one member of a family may be specially liable are unduly affected both by heat and cold.

The reticulate pattern above referred to was not apparent in the cases I discussed as "chronic erythema of the legs" and they were certainly not examples of erythema ab igne (a calore). I have never heard of chilblains being produced by the action of heat without cold. Chilblains are in fact, a kind of erythema a frigore, though every sufferer knows that the improper application of heat, after exposure to cold, may favour their appearance. I should therefore not be surprised if "roasting" the legs in front of a fire after exposure to cold favoured the appearance of the erythema of the legs about which I wrote. But heat is probably no more the cause of that erythema than it is of chilblains.

On the other hand, true erythema ab igne of the legs was certainly not very rare in England before short skirts became the fashion, and was not confined to elderly individuals with varicose veins. The curious reticulate appearance puzzled, as it still does, medical men from the Continent, where the open fireplace is much less used than it is here. Some women thus affected admitted that when seated alone in front of the fire they raised their skirt to the knees to warm their legs better. But men were and are, also occasionally affected in spite of their trouser-covered legs.

From some remarks which I have seen elsewhere on the subject of my paper there seems to have been confusion with a condition of chronic non-erythematous swelling or thickening of the soft parts about the ankles in women. That condition is quite distinct from the erythema with thickening to which I alluded; it is, I believe, sometimes associated with premature menopause and thyroidal insufficiency. On the other hand, cases similar to those to which I referred were evidently recognized by Professor V. Klingmüller of Kiel, and were described by him as "chilblains of the legs" in 1921.<sup>1</sup> His cases occurred in well nourished girls and young women, and he recognized the part played by short skirts and thin stockings in the etiology. He obtained good results from local turpentine injections.

In regard to Dr. Elder's remarks on chlorosis I do not think that much stress should be laid on improved general hygiene in food, ventilation, and open-air exercise as causes of the disappearance of the disease; it would only serve to divert attention from the real culprit (corsets), and mask the heinousness of the crime. Probably constipation was much overestimated as a factor in chlorosis; chalybeate treatment was often successful in spite of constipation. "Healthy" open-air exercise did harm to chlorotics when the real cause was unknown, and the very unhygienic method of keeping to bed or living in a basement, without having to climb up stairs, helped much, in conjunction with chalybeate treatment. I have Dr. J. H. Abram's permission to refer to a recent case of genuine typical chlorosis in a girl living in good surroundings (communicated to the Association of Physicians on May 30th). A fatty tumour weighing 1½ lb. had been removed from the side of the abdomen, and she had been tight-lacing because of the swelling. Complete recovery occurred in three or four weeks.—I am, etc.,

London, W.I, June 20th.

F. PARKES WEBER.

### APPENDICITIS.

SIR,—As it happened that I was the first<sup>2</sup> British surgeon to practise and advocate immediate operation in appendicitis, I was much interested in reading two addresses published in the BRITISH MEDICAL JOURNAL of April 18th in which, after the first twenty-four hours, expectant treatment was duly extolled. After reading these my sense of proportion was somewhat alleviated by perusing the last paragraph of the report of a discussion on the mortality of appendicitis at the Surgical Section of the Royal Society of Medicine, in which one of the speakers, in his reply, said: "If expectant treatment were generally adopted by

<sup>1</sup> BRITISH MEDICAL JOURNAL, October 3rd, 1906, p. 922.  
<sup>2</sup> Ibid., November 8th, 1902, p. 1523.

<sup>1</sup> Arch. f. Derm. u. Syph., Berlin, 1921, cxxxv, p. 255.  
<sup>2</sup> Philadelphia Med. Journ., December 2nd, 1899, and Lancet, February 3rd, 1900.

hospitals there was a danger that the practice would extend to those treated elsewhere." Yet I should have felt more satisfied if, instead of the term "danger," he had substituted "certainty." His closing phrase—"The surgeon who would, if and when necessary, operate"—makes me rigid. Without the introduction of the sense of sight, I am, after thousands of appendicectomies, unable to locate the "if" or the "when," but have found<sup>1</sup> that in a huge proportion of cases the "wait and see until things settle down" slogan results in adhesion formation running amok, the patient becoming saturated with deadly toxins, the lymphatics and veins and liver becoming stuffed with bacterial thrombi, and the intestinal walls becoming putrid with septic infiltration.—I am, etc.,

Buenos Aires, May 11th.

JOHN O'CONAN, K.B.E., M.D.

#### MENTAL SHOCK AND THYROID DISEASE.

SIR,—Colonel McCarrison, in his lecture on some problems of thyroid disease (June 13th, p. 1065), did not mention the possible nervous origin of goitre. Last year I had a case in point—a married woman who took fright on seeing her son being pursued by an older boy, who evidently intended to chastise him severely. In consequence she suddenly developed a most marked goitre, non-exophthalmic in nature, which to a certain extent persists. The endocrine glands being correlated, is it not possible that fear may have so acted on the suprarenals as to affect adversely the thyroid, thus altering the ionic balance; or that, alternatively, the occurrence was an example of anxiety neurosis, so called, acting through the sympathetic?

Recently I had a case of goitre, developing in a primipara three months after birth of her child, which rapidly resolved, the sole treatment being a pinch of iodized salt taken with each meal. As there were no symptoms of hyperthyroidism, iodine was not contraindicated, and I have never seen a goitre disappear so completely in so short a time.—I am, etc.,

JOHN B. PRUMMER, M.B., Ch.B., D.P.H.

Cowdenbath, June 13th.

#### BRITISH MEDICAL WOMEN FOR INDIA.

SIR,—I have read recently in the JOURNAL at least two letters which suggest that in India there is unlimited scope for the superfluous medical women in England, if only they will grasp their opportunity. I should very much like to know if this is really the case.

Undoubtedly the mission hospitals can absorb many medical women, and for those who feel that they can conscientiously undertake it, and who can live on very small pay, such work cannot be too highly recommended. The Women's Medical Service for India (Countess of Dufferin Fund) is a small service, and I have been told that it is being gradually "indianized."

With regard to other work, I see in the *Pioneer* and *Statesman* newspapers advertisements for Indian sub-assistant surgeons, but I have never seen one for a European woman doctor. I have worked with Indian women doctors and know how capable some, at least, are. I have also visited one flourishing medical school for women and know of others; but the supply of Indian women doctors is steadily increasing.

I should imagine that in native States the Indian doctor would have preference over the European, and I was told by one doctor (European) that she had not found such service satisfactory on account of the difficulty of "getting things done."

About prospects in State service in British India I know nothing—I have seen no advertisements in the BRITISH MEDICAL JOURNAL, or elsewhere, of appointments.

Private practice, except combined with, or subsequent to, a public appointment seems out of the question. In most places European women are attended by I.M.S. and R.A.M.C. doctors, and the Indian women, purdah and otherwise, are so conservative that it takes years to gain their confidence. In South India a knowledge of several

languages would be of great assistance to anyone setting out "to help the Indian women."

This letter is the outcome of very limited experience in India; I hope it may elicit some real facts.—I am, etc.,

May 26th.

MEDICAL WOMAN.

#### INDIVIDUAL MEDICAL DEFENCE.

SIR,—In reply to Dr. Gillbard (June 13th, p. 1110), allow me to state that he seems to misunderstand the object of my query to Dr. Robinson. While it may be *ultra vires* for a defence society to prosecute one of its members before the General Medical Council, as Dr. Robinson states, I showed by an example (May 30th, p. 1021) that a defence society may prosecute a member of another defence society. In formulating the new British Medical Association scheme it may be thought wise to exclude any such prosecutions and confine it entirely to defence. Personally, I do not think this wise, but that is only a single opinion. The object of my query was to give the topic consideration. If Dr. Gillbard will turn up the SUPPLEMENTS for July 28th, 1906 (p. 98), and August 4th, 1906 (p. 126), he will see therein that the Central Ethical Committee reported to the Representative Meeting of 1906: "That it is absolutely necessary in the interests of the medical profession that the Association should take up cases of a penal nature before the General Medical Council as complainants," etc. The debate, in which Sir Victor Horsley took part, makes interesting reading. If my "naïve query settles" the new scheme, according to Dr. Gillbard, surely *a fortiori* the Association should have been "settled" in 1906.

The difficulty then and the difficulty now is that many members of the General Medical Council are also members of the British Medical Association. In time this difficulty may resolve itself along the lines suggested by Lord Justice Atkin in his address to the Middlesex Hospital Medical Society, when he said that "the question whether medical men might not fairly claim to have decisions affecting professional conduct made subject to some judicial investigation instead of being left to the decision of any tribunal which did not act upon legal principles and upon evidence which could be tested and controverted by cross-examination" (May 16th, p. 936). The New Zealand "E.R.A." cult case is a good example of a case affecting professional conduct tried before a high judicial tribunal.—I am, etc.,

Warrington, June 13th.

J. S. MANSON.

#### SICKNESS AND ACCIDENT INSURANCE.

SIR,—The recent liquidation of an insurance company issuing "sickness and accident policies" has brought home to many medical men the inadvisability of taking an insurance policy of any kind without obtaining independent and impartial advice such as the Medical Insurance Agency was formed to give.

This Agency, founded by the *British Medical Journal* and the *Lancet* in 1907, has never recommended the company in question, but is prepared to offer expert advice to, and to use all possible effort to assist, those members of the profession who have not previously made use of the facilities here provided for them.

An advertisement of the Medical Insurance Agency is published this week (advertisement page 5).—I am, etc.,

L. FENNIS-SCOTT,  
Secretary, Medical Insurance Agency,  
British Medical Association House.

June 22nd.

SIR,—From applications which have been received by the Medical Sickness, Annuity and Life Assurance Society, Limited, 300, High Holborn, W.C., it appears that a number of medical men are unfortunately involved in the failure of the Profits and Income Insurance Company.

The directors of the Medical Sickness Society (which was formed in 1884 by the late Mr. Ernest Hart on mutual lines, solely for the medical and dental professions) have carefully considered in what way they could best assist their colleagues in their present difficulty, and are prepared to give consideration to any applications which may be made to them. Inasmuch as the sickness premiums

<sup>1</sup> *Lancet*, September 5th, 1914.



charged by the Profits and Income were considerably higher than those charged by this society, policy-holders in many cases can obtain the same benefits from this society as those for which they insured in the Profits and Income several years ago without paying increased premiums. Naturally such applicants will now be desirous of ascertaining the financial position of any society or company in which they may desire to insure, so that they may be confident that their claims will be met.

So far as the Medical Sickness Society is concerned I would, with your permission, refer them to the advertisement page in this issue of the JOURNAL, from which they will see that separate funds exist for life assurance and for sickness and accident, invested in sound securities, properly vouched for.—I am, etc.,

FRANCIS J. ALLAN,  
Chairman, Medical Sickness, Annuity and  
Life Assurance Society, Ltd.

June 22nd.

### INMAN v. TANNER.

Sir,—In relation to the above suit (reported in your issue of June 20th), I feel it should be known that I received great kindness and loyal help from my professional brothers. The following gave valuable assistance and attended the High Court to give evidence on my behalf: Dr. Cammidge, Dr. Sidney Phillips, Professor Mclean, and Dr. Worster-Drought; and many others, including Sir William Willeox, were prepared to do so also.

It was a splendid example of loyal fraternity, and I am deeply grateful.—I am, etc.,

HERBERT TANNER.

London, W., June 23rd.

## Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

The House of Commons has this week passed the Finance Bill through report and read it a third time. It has also debated foreign affairs. Next week it will probably discuss the Contributory Pensions Bill and unemployment.

At last week's meeting of the House of Commons Army Committee Sir Richard Luce brought forward the question of the conditions under which medical men enter and serve in the R.A.M.C. The committee expressed sympathy and promised support.

### Income Tax Allowance for Wear and Tear.

A concession of importance to medical practitioners was obtained by Dr. Fremantle during the report stage of the Finance Bill. He moved, and the House accepted, a new clause declaring that—

Rules 6 and 7 of Cases I and II of Schedule D (which provides in connexion with the charge to income tax under that schedule of the profits or gains of a trade for the allowance of deductions in respect of the wear and tear of machinery and plant and in respect of expenses incurred in replacing obsolete machinery or plant) shall apply as if references in those rules to the profits or gains of a trade included references to the profits or gains, whether assessable under Schedule D or otherwise, of a profession, employment, vocation, or office, and, in relation to profits or gains assessable under some schedule other than Schedule D as if the provisions of the said rules were applicable to the tax under that other schedule.

Provided that where the profits or gains are not assessed under Schedule D the powers of the additional Commissioners, under paragraph (4) of the said Rule 6, may be exercised by the General Commissioners.

Mr. Guinness, the Financial Secretary of the Treasury, said the Government was glad to accept the clause which Dr. Fremantle had put down in consultation with the Treasury. It carried out the recommendations of the Royal Commission and extended the income tax allowance which had long been enjoyed by and machinery—an allowance which had long been enjoyed by and machinery—to professional people and employees who, in the opinion of the Royal Commission and the Government, were fairly entitled to the same advantage.

It was subsequently pointed out in the Lobby that under the new clause the medical practitioner will be able to obtain an abatement of income tax in respect of the upkeep and replacement of his motor car.

### Public Health Bill.

During the report stage of the Public Health Bill Mr. Herbert Williams moved a new clause, which also stood in the name of Dr. Fremantle. This clause applied to any room not already regulated under the Factory and Workshop Act, 1901, or the

Public Health (Regulations as to Food) Act, 1907, in which food is sold or prepared for sale, or stored or kept with a view to future sale. No room is to be used for such purposes if a sanitary convenience is in it or communicates directly with it, or if offensive odours therefrom can penetrate to it, or if the cistern for supplying water to the room communicates or discharges directly into any sanitary convenience. If any drain or pipe for the conveyance of sewage is in the room its inlet must be efficiently trapped. The room must not be used as a sleeping place and must not communicate with any sleeping place in the room. It must be ventilated adequately unless used as a cold store. The occupier is under an obligation to keep the room clean and to take reasonable steps to prevent the contamination of food therein, and the cleanliness of apparatus and utensils. Power is provided for the medical officer or sanitary inspector to enter and inspect any room to which these provisions apply. Food is defined as every article of food and drink used by man, other than drugs and water, and also flavouring matters and condiments.

The clause was accepted by the House and Government, and was added to the bill without a division. Any local health authority may now adopt and enforce it.

On a further clause dealing with the payment of "reasonable" wages to municipal employees, Mr. Jack Jones, in moving an amendment as to the pay of manual workers, said the medical officers of health laid down a rule that they must be paid a certain rate for their services; although the local authority to which he belonged did not agree, they felt compelled to pay it because the medical officers were strong enough to make them. The amendment was withdrawn, and the bill was reported to the House and read a third time.

### Births and Deaths Registration Bill.

The Births and Deaths Registration Bill, introduced by Dr. Fremantle, is to be withdrawn. After correspondence, the Minister of Health lately asked Dr. Fremantle to see, along with other promoters of the bill, the Registrar-General and a representative of the Home Office, for the purpose of agreeing on a basis of a revised bill that could be introduced next session as a private member's measure, with a prospect of the Government adopting it. The suggested conference has been held and a subcommittee has been set up on the subject, on which not only the Government departments concerned are represented, but also the Federation of Medical and Allied Societies, who are the original promoters of the bill, and the British Science Guild, which supports it.

### Nursing Homes (Registration) Bill.

Mr. Gerald Hurst has withdrawn the Nursing Homes (Registration) Bill on receiving an assurance from Dr. W. E. Elliot (Under Secretary of Health, Scotland), that the Government will appoint a Select Committee to go into the subject. Dr. Elliot pointed out that time was inadequate for the passage of the bill this session. Mr. Hurst recognized that the bill could not become law this session, but said it was supported by the great majority of nurses in the country. It aimed at preventing bogus institutions from defrauding the public.

### Public Health (Scotland) Bill.

The Public Health (Scotland) Bill was put down for report last week, but was crowded out by a debate on China. The Government does not intend to abandon it, but some considerable time may pass before it can be brought before the House of Commons. Dr. Shiels proposes to move an amendment to it.

**National Insurance.**—Mr. Groves asked the Minister of Health, on June 23rd, if he was aware that his officers connected with national health insurance had recently decided to charge against the funds of Local Insurance Committees the cost of investigating excessive prescribing, and that these investigations were carried out for the purposes of his department; and whether he would arrange for the necessary expenses incurred to be borne by his department and not imposed upon the Local Insurance Committees. Sir Kingsley Wood replied that there had been any change of policy in this matter. It was always intended that the cost of these investigations should be met from the funds available for the administration expenses of Insurance Committees. Mr. Groves also asked, on June 23rd, if the Minister of Health was aware that Local Insurance Committees had received notice of amended regulations which proposed to remove the necessity for the Minister to appoint a practitioner to serve on an Insurance Committee where there were only twenty-five members. Sir Kingsley Wood replied that there had been no change in the medical representation since 1922. The regulations referred to by Mr. Groves contained no new provisions. No evidence of dissatisfaction had reached him.

**Health Insurance Surpluses.**—On June 22nd Mr. Short asked the Minister of Health whether he had received representations from approved societies respecting the pooling of national health insurance surpluses. Mr. Neville Chamberlain said this subject had been dealt with in the evidence given by approved societies before the Royal Commission on National Health Insurance, and would receive his consideration when the Commission had made their report.

**Health Instruction.**—Asked whether he could take any steps to promote the medical education of the people, the Minister of Health said many local authorities already provided simple medical information, and a proposal to extend the powers of local authorities in this matter was now before Parliament. The

Ministry of Health had recently published a memorandum by the Chief Medical Officer on public education in health. Lord Eustace Percy (President of the Board of Education) said he did not think it necessary for him to suggest to local authorities and governing bodies that lessons in personal and public hygiene should form part of the curriculum at girls' secondary schools.

**Medical Referees.**—Asked about a letter to the press from a medical referee under the Workmen's Compensation Acts, the Home Secretary said medical referees were not civil servants but private practitioners paid by fees for their services. No rules had been laid down about communications by them to the press on subjects connected with the Acts, but he was sure the referees generally appreciated the responsibility of their special position. He saw no reason why the writer of the letter in question should not be retained on the list of medical referees. In answer to a further question the Home Secretary said he did not consider it necessary or desirable to limit the power of a medical referee to deciding the disability under which a man was suffering.

**Local Medical Research Laboratories.**—Mr. Graves, on June 23rd, asked if the Minister of Health had considered the handicap to local medical research committees in the non-provision of pathological laboratories in connexion with local hospitals; and whether, in connexion with the Government's plans of research work, he would consider the provision of such equipment for the use of local medical men. Sir Kingsley Wood, who replied, said that there were no funds available at present for the provision of pathological laboratories for the assistance of local committees of this kind. In any future developments of health policy the provision of such laboratories would be borne in mind.

**Milk and Disease.**—The Minister of Health has received representations from local authorities urging legislation to allow greater precautions to be taken against the spread of disease by milk. Asked whether he had introduced legislation making it compulsory for dairymen, cowkeepers, and milk vendors to give immediate notice to the local authority of any illness among their employees, Mr. Neville Chamberlain said the suggestion would be considered when the Milk and Dairies (Consolidation) Act, 1915, came into operation, and Milk and Dairies Orders had to be made under it.

**Mentally Defective Children.**—On June 22nd Lord Eustace Percy (President of the Board of Education) told Mr. Pelling that he was informed that the West Riding authority was making arrangements, in accordance with the suggestion contained in Circular 1319, for the supervision of all mentally defective children in the area whose admission to special schools could be secured. The matter was one which he had no doubt would be further dealt with in the programme of educational development which he had asked the authority to submit to him.

**Veneral Disease.**—On June 19th Mr. Neville Chamberlain, in reply to Sir J. Davidson, said that the joint deputation of the Society for the Prevention of Veneral Disease and the National Council for Combating Veneral Diseases which called upon him urged the necessity for immediate legislation to permit of the open sale of preventive material with concise directions for its use, as recommended by the Trevethin Committee. Since the deputation was received he had been in communication with the two societies on certain preliminary points which needed to be settled before the question of legislation could be considered, and he was awaiting a reply to a letter which he addressed to them on May 15th.

**Medical Services in Kenya.**—On June 22nd Lieut.-Colonel A. McDonnell asked the Secretary for the Colonies the percentage of local tax revenue expended on medical and sanitary services by the Governments of Kenya, Uganda, Tanganyika, Nigeria, Gold Coast, and Sierra Leone. Mr. Amery (Secretary for the Colonies) said that taking the figures from the current estimates, and including expenditure on sanitary services shown under other heads, the percentages were: Kenya, 12.3; Uganda, 20.8; Tanganyika, 17.2; Nigeria, 21.9; Gold Coast, 16.3; and Sierra Leone, 16.7. The Nigerian figures were, however, abnormal, owing to certain exceptional expenditure of a non-recurrent character.

**Mosquitoes in England.**—Mr. Neville Chamberlain said the prevalence of mosquitoes and of other noxious flies in many parts of the country had received expert study in the Ministry of Health for some years; the results were at the disposal of local authorities and of individual inquirers, and would be published shortly. It had been shown that the destruction of mosquitoes could not be secured by the adoption of any single or simple formula. Any useful action must depend upon the identification of the species prevalent in the area and the adoption of appropriate measures.

**R.A.M.C. Officers.**—On June 22nd Lieut.-Colonel Heneage asked the Secretary for War what was the shortage in Royal Army Medical Corps officers in the army; how many civilian doctors were employed instead; and what was the extra cost, if any, to the Exchequer. Captain King (Financial Secretary to the War Office) said the shortage of Royal Army Medical Corps officers was 86. Of these 30 would be under instruction at the Royal Army Medical College and elsewhere, leaving a shortage of 56 regular officers doing duty, which was made up by employing 21 non-regular officers and 35 civilian practitioners. No extra cost to the Exchequer was involved.

**Birth Control.**—On June 23rd Mr. Thurtle asked the Prime Minister if he could give the House an opportunity of directing that maternity centres provided at the cost of public funds should be free to give information on birth control to such married women as might desire it. Mr. Baldwin replied that in the present state of public business it would be impossible to find time for this, unless

an opportunity should arise on the Estimates of the Ministry of Health. Lady Astor asked whether the Labour party were not acutely divided on this question.

**Nurses' Hours and Pay.**—Colonel Day asked the Minister of Health a question as to the difficulty experienced by hospitals and infirmaries under his authority in obtaining the most suitable type of young women as nurses; whether he would make the necessary suggestion to local authorities, with a view to conditions, hours of labour, and remuneration being so improved as to allow nurses and sisters a greater measure of freedom for recreation, in order that the best type of women might be attracted to this vocation. Mr. Neville Chamberlain said he was aware that difficulties of this kind had been experienced, but he understood that the position was better, and that the conditions of employment had generally been substantially improved; he saw no advantage in intervention in the manner suggested.

**India.**—In reply to a question as to small-pox in Madras and Calcutta in recent years, and asking whether, seeing that small-pox in Indian towns had not been controlled by vaccination, the Secretary of State would require all the Governments of India to take steps to improve the sanitary conditions of the larger towns, Earl Winterton said that the Secretary for India was aware of the facts, but had no power to issue instructions as public health was a transferred subject. Mr. Dunning, on June 23rd, asked the Secretary for War whether the instructions in regard to vaccination, under which medical officers on duty with troops in India were required to satisfy themselves once in each year that every man, woman, and child under their care was sufficiently protected by vaccination, were still in force; and, if so, what explanation had the army medical authorities to make in regard to the cases of small-pox amongst British troops in India during 1920, 1921, and 1922, who were stated to have been vaccinated, or to have been vaccinated unsuccessfully, as recorded in the annual reports of the Public Health Commissioner with the Government of India for those years in question. Earl Winterton replied that the answer to the first part of the question was in the affirmative. The current regulations showed that the instructions applied only in regard to persons who consented to be vaccinated. As regarded the second part of the question, he had no detailed information supplied to the Public Health Commissioner by the army medical authorities. The average daily number of women employed in coal mines in British India in 1923 was 63,411, of whom 40,136 were employed underground. On June 22nd Earl Winterton stated that the amounts of opium consumed in Calcutta (including the suburbs, and the towns of Howrah and Bally) and at Rangoon in 1923-24 were respectively 185 lb. and 226 lb. per 10,000 of the population. The amounts consumed in the districts of Amritsar, Bombay, Karachi, and Madras were respectively 56, 86, 43, and 53 lb. per 10,000. No pronouncement by the medical profession in India as to the normal amount per 10,000 considered adequate was on record.

#### Notes in Brief.

The Departmental Committee which considered, among other matters, the suggestion that motor omnibuses and charabancs should be required to carry a first-aid outfit, was not satisfied that the circumstances warranted special regulations directing such provision.

The Foreign Office is not aware that any of the signatory Powers have deposited ratifications to the conventions and protocols drawn up at the Geneva opium conferences.

On January 1st, 1925, 1,205,267 persons in England and Wales were in receipt of Poor Law relief.

The Home Secretary is not aware that the metropolitan police refuse to allow the removal to hospital in private motor cars of persons injured in street accidents, but it is dangerous to move many common types of injury in any vehicle but an ambulance.

## Universities and Colleges.

### UNIVERSITY OF CAMBRIDGE.

The diploma in medical radiology and electrology has been granted to A. Burrows, M.D. Lond., E. P. Cumberbatch, M.B., B.Ch. Oxon., and G. H. Orton, M.D. Cantab. At a congregation held on June 20th the following medical degrees were conferred:

M.D.—E. V. Beale, R. H. White, F. D. Howitt.  
M.B., B.Ch.—T. S. Goodwin.  
M.B.—R. K. Wilson.

At a congregation held on June 23rd the following medical degrees were conferred:  
M.B., B.Ch.—T. H. Sims, M. D. Vint, F. N. Green, F. C. Cozens,  
F. A. H. Simmonds.  
B.Ch.—R. B. Fawkes.

### SOCIETY OF APOTHECARIES OF LONDON.

The following candidates have passed in the subjects indicated:  
Surgery.—C. E. Hagenbach, E. J. Jones, F. G. Martin, R. D. Mason,  
G. H. Weeber, J. W. Whitney.  
Medicine.—L. H. Mackay, C. J. Rozario, H. Winstanley, H. J. F. Wood,  
Forensic Medicine.—T. H. Harrison, E. W. D. Long, C. S. Netscher,  
J. I. N. O'Sullivan.  
Midwifery.—T. H. Harrison, A. H. Henson, N. H. Ibrahim.  
The diploma of the Society has been granted to Messrs. I. H. Mackay, C. J. Rozario, and H. Winstanley.

## The Services.

## INDIAN MEDICAL SERVICE.

## ANNUAL DINNER IN LONDON.

The annual dinner of the Indian Medical Service in London, which was held on June 17th under the chairmanship of Lieut.-Colonel A. W. Alcock, C.I.E., F.R.S., was conspicuously successful. It was attended by ninety-two officers and three guests. Among the guests was Lieut.-General Sir W. B. Leishman, K.C.B., K.C.M.G., F.R.S., Director-General of the Army Medical Service. This was an innovation, and so was the fact that the speeches after dinner, though not long, were a little more than formal votes of thanks. The Chairman, in proposing the toast of "The Service," sketched the scientific achievements in the past of members of the Indian Medical Service, and said that officers still on the active list were carrying on the tradition. The toast of "The Guests" was given by Sir R. Havelock Charles, G.C.V.O., K.C.S.I., who laid particular stress on the presence of the Director-General A.M.S. Sir William Leishman, on rising to reply, was warmly received; he also paid a tribute to the scientific work of officers of the Indian Medical Service, and went on to express the pleasure with which he found himself among them. Then Sir Leonard Rogers, C.I.E., F.R.S., proposed the health of the Chairman, and spoke of the high value of the scientific work done by Colonel Alcock both in India, and since his return home, as a member of the staff of the London School of Tropical Medicine. Colonel Alcock having replied, a toast to the two secretaries, Colonel John Anderson, C.I.E., and Colonel J. J. Pratt, was received with great enthusiasm. Coupled with their names was that of Lieut.-Colonel Fleming, the honorary secretary in India. Colonel Anderson, in the course of his reply, said that, largely through the exertions of Colonel Fleming, both the number of members subscribing to the dinner fund and its financial position had greatly improved. He went on to relate some stories, with which we regret we are unable to enliven our pages. Colonel Pratt also replied, and the company broke up to renew old friendships, some of those present not having met since they served together in India thirty or forty years ago. The following is a list of the members and guests present:

**Guests.**—Lieut.-General Sir W. B. Leishman, K.C.B., K.C.M.G., F.R.S., Sir Dawson Williams, C.B.E. (the *British Medical Journal*), Dr. E. C. Morland (the *Lancet*).  
**Members.**—**Major-Generals:** Sir R. H. Charles, G.C.V.O., K.C.S.I., Sir G. G. Giffard, K.C.I.E., C.S.I., G. F. A. Harris, C.S.I., R. Heard, C.I.E., Sir P. Heltz, K.C.I.E., C.B., O.M.G., C.S.I., A. Houston, C.I.E., J. B. Smith, C.B., C.M.G., C.S.I., D. Munro, C.B., C.M.G. **Colonels:** H. J. Crimmin, V.C., C.B., C.I.E., A. A. Gibb, J. A. Hamilton, C.M.G., A. J. Macnab, C.B., O.M.G., E. L. Perry, D.S.O., J. J. Pratt, H. Austen Smith, C.I.E., C. N. C. Wimberley, C.M.G. **Lieut.-Colonels:** W. G. P. Alpin, O.B.E., J. Anderson, C.I.E., R. F. Baird, G. T. Birdwood, E. W. C. Bradfield, O.B.E., J. T. Calvert, C.I.E., D. G. Crawford, J. M. Crawford, O.B.E., C. D. Dawes, G. L. Dunn, A. M. Fleming, A. T. Gage, C.I.E., E. V. Hngo, O.M.G., T. Hunter, C.I.E., G. H. James, C.I.E., S. P. James, J. G. Jordan, R. S. Kennedy, D.S.O., M.C., J. C. G. Leonard, R. McCarrison, C.I.E., F. O. N. Mell, C.I.E., W. H. T. R. Mulrooney, J. G. P. Murray, F. O'Keefe, C.I.E., C.V.O., N. Rainier, C. H. Reinhold, Sir J. R. Roberts, C.I.E., Sir L. Rogers, C.I.E., F.R.S., E. R. Rost, O.B.E., H. E. Stanger-Leathes, S. Browning Smith, C.M.G., R. Steen, Ashton Street, W. A. Sykes, D.S.O., C. E. Thompson, W. H. Thornhill, J. H. Tull Walsh, H. J. Wilson, O.B.E., H. G. L. Wortabet, A. C. Younan. **Majors:** H. L. Chambers, O.B.E., D. Coutts, M.B.E., G. F. Graham, A. E. Grisewood, R. Knowles, B. E. M. Newland, P. M. Rennie, C. J. Stocker, M.C. **Captains:** P. M. N. Antia, H. L. Barker, S. D. Billmore, Leo Blake, H. Horan Brown, H. R. Cursetji, W. P. Hogg, M.C., N. S. Jatar, D.S.O., V. R. Mirajkar, C. S. V. Ramanan, W. C. Spackman, P. Veyra.

## OFFICERS FOR THE R.A.M.C. SUPPLEMENTARY RESERVE.

In an official announcement issued on June 16th the War Office states that commissions in the Royal Army Medical Corps Supplementary Reserve of Officers are open to members of the medical profession engaged in civil practice. The object of this Reserve is to complete and maintain the various medical units of the Regular Army at war strength on mobilization; and the officers are divided into two categories. Those in the first category (Category B) have to undergo a preliminary training at the R.A.M.C. Depot, and an annual training of fourteen days with a selected formation or unit of the Regular Army. The preliminary training lasts normally for six weeks, but in the case of officers holding Certificate A or B of the Officers' Training Corps it is either dispensed with entirely or limited to three weeks. The other category (Category C) is intended for medical men with previous service and those possessing special professional qualifications. Officers in this cate-

gory are not required to do either preliminary or annual training. The present requirements include a number of specialists in surgery, medicine, mental diseases, x rays, pathology, bacteriology, and hygiene, who will as far as possible be employed in their special subjects on mobilization.

All commissioned officers are paid an annual gratuity of £25, and those in Category B, in addition, receive pay and allowances as for regular officers during all training. Normally an applicant's age should not exceed 32, but this limit may be dispensed with in special cases. The rank on appointment is that of Lieutenant. Promotion, in Category B, will be to captain after three and a half years' commissioned service; to major if qualified after twelve years' commissioned service, after which period officers will be transferred to the Regular Army Reserve of Officers; in Category C service, and after ten years' service transferred to the Regular Army Reserve of Officers. A candidate for Category C who served as an officer in the R.A.M.C. during the great war will be allowed to count such service for rank on appointment, for promotion to captain, and towards the ten years' period of service preceding transfer to the Regular Army Reserve of Officers.

Forms of application for appointment can be obtained, on written request, to the Under Secretary of State for War (A.M.D.I.), War Office, Whitehall, London, S.W.1.

## DEATHS IN THE SERVICES.

Colonel Matthew Denis Moriarty, Bengal Medical Service (ret.), died at Guildford on May 24th, aged 76. He was born on January 26th, 1849, the third son of the late Very Rev. Thomas Moriarty, M.A., D.D., Dean of Ardfert, and was educated at Trinity College, Dublin, where he had a brilliant career, gaining a medical scholarship on entrance as an undergraduate, and taking first place in the examination for the medical degrees, thereby gaining the university medical travelling prize. He graduated as B.A. in 1869, as M.B. in 1872, and subsequently proceeded M.D. in 1891, also taking the F.R.C.S.I. diploma in 1883. Entering the I.M.S. as assistant surgeon on October 1st, 1872, he reached the rank of colonel on October 25th, 1902, and retired on October 25th, 1905. Most of his service was passed in civil employment in the North-West (now the United) Provinces; on promotion to administrative rank he was appointed Inspector-General of Civil Hospitals in the Central Provinces. After his retirement he settled at Guildford, where he occupied himself chiefly in his favourite pursuit of gardening. In 1878 he married Janet Elizabeth, second daughter of the late Surgeon General James Irving, I.M.S. She died in India in 1887. He leaves two sons, the elder of whom is a member of the medical profession, and two daughters. Fleet Surgeon Edward Ferguson, R.N. (ret.), died at Merchiston, Edinburgh, on June 9th, aged 74. He took the L.R.C.S.I. in 1874, and the L.R.Q.C.P. in 1876; he entered the navy soon after, and obtained the rank of fleet surgeon in 1899. During the Chilian war, in 1879-83, he was serving on the Pacific station as surgeon of H.M.S. *Thetis*, and was landed to do duty in the Peruvian hospital at Lima; for this he received the thanks of the Government of Peru and its war medal.

The Territorial Army Ambulance Competition, Shield Competition, 1925, held at the Duke of York's Headquarters, Chelsea, on June 13th, was won by the 1st East Lancashire Field Ambulance with 367 marks out of a possible 400. The 125th (East Lancs) Field Ambulance was second with 354 marks.

## Obituary.

## PROFESSOR A. DEPAGE, Brussels.

We have to record with deep regret the death of Professor Depage of Brussels, after a long illness. He was well known throughout the surgical world, first as secretary-general of the International Society of Surgery, and afterwards as one of the most accomplished military surgeons produced by the war. Madame Depage, who spoke English well, was as well known in this country as her husband, and her tragic death in the foundering of the *Lusitania* caused widespread sorrow.

We are indebted to Sir D'Arcy Power for the following tribute to Professor Depage:

The death of Dr. Antoine Depage removes a great Belgian surgeon and deprives England of a staunch friend. My acquaintance with him dates from 1902, when he invented, organized, and, with the help of his brother-in-law, Dr. Lorthioir, carried to a triumphal issue the foundation of the Société Internationale de Chirurgie. He was the secretary-general whilst I acted as local secretary for Great Britain and Ireland. The meetings of the society were held triennially in Brussels until we became positively ashamed of the hospitality so lavishly bestowed upon us, and it was determined to meet where we could offer some return to our Belgian friends. The United States, Paris, and London received the society in turn, and at the

meeting in the United States Depage went as president; in that office he was succeeded by Dr. W. W. Keen, and he by Sir William Macewen. No sooner had he returned from the United States in 1914 than the war broke out, and he plunged at once into the career which made his name famous as a great military surgeon. In October, 1914, he opened Red Cross hospitals at Calais for the relief of the wounded, and a few months afterwards he established another at the Ocean Hotel at La Panne, where, with many English nurses, such good work was accomplished that it became the Belgian surgical headquarters. In all his labours he was most ably assisted by his devoted and fascinating wife. Perhaps one of the most trying events in my life was when I received a telegram at midnight saying, "Madame Depage drowned in the *Lusitania*. Find Depage in one of the hotels in the Strand and send him to Cork by the mail." A few weeks before she had spent the evening with us, confessing that she was going with a sinking heart to beg funds for the Belgian Red Cross, for she had never spoken on a platform. Her appeal proved satisfactory in the highest degree, and her devoted British friends afterwards subscribed generously towards a memorial for her. Working hand in hand, Dr. and Madame Depage were perhaps mainly responsible for the noticeable improvement in the standard of Belgian nursing which has taken place during the last thirty years. With this object in view Miss Cavell was invited in 1900 to leave England and take charge of his nursing home in Brussels. She accepted the invitation, worked splendidly, raised it to a high pitch of efficiency, and was in sole control from the beginning of the war until the civilized world was shocked to hear that she had been tried and shot as a spy by the Germans. A first-rate organizer, the great war found Depage already skilled in the work of a military hospital, for he had established a Belgian Red Cross hospital at Constantinople during the Balkan war. In Brussels his surgical clinic had long been conducted on the best modern lines. In 1920 his services to surgery were recognized by his election as a corresponding Fellow of the Académie de Médecine in Paris and by an honorary Fellowship of the Royal College of Surgeons of England, whilst his countrymen elected him to the distinguished position of president of the Faculty of Medicine in the University of Brussels, where he had long held the position of professor of pathology and clinical surgery.

#### THOMAS STEVENSON, M.D.Ed.,

LIEUT.-COLONEL R.A.M.C.T.(ret.),

Senior Surgeon, St. Paul's Eye Hospital, Liverpool.

THE death of Dr. Stevenson came as a great shock to his friends and colleagues, who thought he was in his usual good health and spirits. The end came suddenly on June 7th at Dyserth, where he was spending the week-end at his country house. Dr. Stevenson's career was devoted to ophthalmology, and for over thirty years he had practised the specialty with success. He studied medicine at the University of Edinburgh, graduated M.B., C.M. in 1886, and M.D. in 1912. He settled in private practice in Liverpool. His opportunity for becoming an ophthalmologist came when he obtained the appointment of assistant surgeon to St. Paul's Eye Hospital. There he came under the influence of the late Dr. George Walker, and by his assiduity laid the foundation of a sound knowledge of diseases of the eye, which established his reputation as an oculist. An ardent Volunteer, he early joined the local volunteer medical corps, and during the great war served as lieutenant-colonel with the medical forces in France. On his return he became the senior surgeon to the hospital, and was in active practice up to the end.

Dr. Thomas Stevenson was a man of engaging personality, a loyal colleague, and stanch friend. Considerate towards his patients, no trouble was too great, and he passed many hours in the service of the hospital. As an army medical officer no one could have been more thoughtful of his men. A memorial service was held on June 13th in the Lady Chapel of the Liverpool Cathedral. There was a representative gathering of his colleagues on the staff of St. Paul's Hospital and of many friends and patients to do honour

to the memory of one who had earned their esteem and affectionate regard. The tribute paid to him by the canon-in-residence was much appreciated by those present. It set forth the character of the man as he was known to all with whom he came in contact. Dr. Stevenson will be much missed by his colleagues, and not least for his affability and sincerity of purpose. He leaves a widow, with whom we desire to express our sympathy in the untimely loss of one who had endeared himself to so many.

We regret to record the death of Dr. JAMES CAMERON at the age of 55, after a long and painful illness. He received his medical education at Edinburgh, where he obtained the diplomas of L.R.C.P. and S.Ed. and L.R.F.P.S.Glas. in 1894. In 1895 he began practice at Loanhead, Midlothian, and married the daughter of Dr. Gilmour, for many years provost of Linlithgow. A colleague writes: Dr. Cameron was a genial, large-hearted personality, a staunch and loyal friend to his colleagues, and very popular with his patients. He had many activities outside his profession, being a keen and well known curler, a prominent Freemason in Midlothian and Edinburgh circles, and chairman of the local Unionist association. He took great interest in educational matters, being for many years a member of the parochial school board, and later a member of the education authority. He was a member of both the Midlothian and Edinburgh Panel Committees, and also of the County Insurance Committee. He was a chairman of the Lothians Division of the British Medical Association, and in recent years attended regularly the Annual Meetings of the Association. He was a major in the Territorial Division, R.A.M.C., and had a long connexion with the Lothian and Border Yeomanry. His vigorous presence and business capacity will be sadly missed by his colleagues. His two sons had died previously, one being killed in aerial warfare in France.

His many friends in Shropshire have seen with deep regret the announcement of Dr. JUSTIN McCALLUM MCCARTHY's death at Margate. Dr. McCarthy received his medical education at Aberdeen and Guy's Hospital; he obtained the diplomas M.R.C.S. and L.S.A. in 1876, and graduated M.D.Durham in 1898. A colleague writes: Dr. McCarthy commenced practice at St. George's, Shropshire, nearly fifty years ago, and for many years was one of the leading practitioners in the county. He was president of the Shropshire and Mid-Wales Branch of the British Medical Association for the year 1894-95, and president of the Midland Medical Society for the year 1907-08. He was a very sound and successful practitioner, beloved of his patients and most popular throughout the county; but it is for his public work, particularly in public health and education, that he will be mostly remembered. Dr. McCarthy entered the Salop County Council in 1892, and was elected chairman of the Public Health Committee in 1902, a post he held for twenty-one years. He devoted all the time that he could spare from a large and laborious practice to building up a real public health service for the county. His enthusiasm for "health" and his sympathy with the poor made this a labour of love. He was a justice of the peace for the county, and was made an alderman of the county council in 1906. In addition to many other posts that he held, he was chairman of the Shropshire Association for the Prevention of Consumption. When he retired from practice about twelve months ago on account of ill health, and left Shropshire to live in the South of England, his loss was felt very acutely throughout the whole county. Dr. McCarthy was a cousin of Justin McCarthy, the author and Irish leader. He leaves a widow, with whom much sympathy is felt.

We regret to announce the death of JOHN FERGUSON CARRUTHERS. He was the eldest son of Mr. Walter Carruthers of Inverness, and a grandson of Robert Carruthers, LL.D. At 14 years of age he won a scholarship at Fettes College, Edinburgh. He was successful both in work and in games, winning prizes in sport at Fettes



## Medical News.

and becoming a good cricketer. He received his medical education in Edinburgh, where he graduated M.B., C.M. in 1892. After an adventurous career in many parts of the world, Carruthers took the degree of M.D. with honours in Edinburgh in 1897. He practised for several years at Revelstoke in British Columbia, where he was medical officer of health. From 1903-05 he studied at Moorfields Eye Hospital, and then took up ophthalmic practice at St. Peter Port, Guernsey. Soon after the outbreak of the war he was appointed ophthalmic specialist at the Royal Herbert Hospital, Woolwich, where he remained until 1922. His duties in this post were extremely arduous, and it cannot be doubted that his unrelenting work undermined his health. In 1922 he was appointed ophthalmic specialist at Baghdad in the R.A.F. with the rank of squadron leader, but did not take up the post, and shortly afterwards retired. He married a daughter of Mr. W. Scott of Edinburgh, who survives him.

The death occurred on June 13th of a veteran practitioner, Dr. EDWIN J. SLADE-KING, who had reached the age of 95. He received his education at Edinburgh, London, and Paris, and graduated M.D. Edin. in 1853; he took the diplomas of M.R.C.S. Eng. in 1854, L.R.C.P. Lond. in 1858, and D.P.H.R.C.P. Edin. in 1876. He was a member of the council of the Royal Sanitary Institute, was president of the South-Western Branch of the British Medical Association in 1890, and a Fellow of the Society of Medical Officers of Health. For nearly sixty years Dr. Slade-King was advanced officer of health for Ilfracombe, but owing to his last, when he was one of the oldest, if not the oldest, medical officer of health in the country. For many years he was the county coroner. In December last he also resigned the office of medical officer of health under the Torrington and Dulverton Rural District Councils. Dr. Slade-King served for eighteen years on the Devon County Council, and when he decided not to seek re-election in 1922 he was co-opted a member of the Devon Education Committee.

The deaths are reported of the following well known foreign medical men: Dr. CLARO HOMER DE MELLO of Sao Paulo, the Brazilian statesman and psychiatrist; Dr. ALBERT REMY, the French ophthalmologist and inventor of the diploscope; Professor BATTISTA GRASSI of Rome, the malarialogist and one of the leading biologists of the day; and Professor GNOLAMO DAACOMO, a well known pharmacologist of Modena.

## Medico-Legal.

## DIAGNOSIS OF DISLOCATION.

SALTER AND SWIFT, JJ., sitting in the King's Bench Divisional Court on June 17th, allowed the appeal of Dr. Robert Leeming, medical officer to the Kendal Board of Guardians, from a judgement of Judge Chapman delivered at Great Grimsby County Court on February 18th, mulcting Dr. Leeming in £1,800 damages for negligence in failing to diagnose the dislocation of the left hip-joint of George Freeborn, formerly a travelling ganger, of Scunthorpe.

The hearing of the case in the county court was reported in the *BRITISH MEDICAL JOURNAL* of March 14th. Dr. Leeming pleaded (*inter alia*) the protection of the Public Authorities Protection Act, 1893, Section 1 (a), which provides:

"The action . . . shall not lie or be instituted unless it is commenced within six months next after the act, neglect, or default complained of, or in case of a continuance of injury or damage, within six months next after the ceasing thereof."

The plaintiff issued his writ on April 25th, 1924, six months and ten days after he left the defendant's care—that is, October 15th, 1923; but the county court judge held that no cause of action arose till damage occurred, that in this case damage occurred on November 1st, 1923, and that therefore the action was started within the six months.

Salter, J., in a judgement, in which Swift, J., concurred, said it might well be that by the time the cause of action accrued it was too late to sue, but the Legislature had deliberately passed this Act for the protection of public officials, even when they had been guilty of negligence. He could not agree with the county court judge that no damage accrued for several weeks after October 15th, 1923. He thought the damage began to accrue from the time when the doctor ought to have discovered the dislocation, which was some time before October 15th, 1923. Leave to appeal was given.

A MEETING of the Tuberculosis Society of Scotland will be held at the Scottish House of the British Medical Association, 6, Drumshough Gardens, Edinburgh, on Thursday, July 9th, at 4.30 p.m., when Professor Holger Moellgaard and Professor Knud Faber of Copenhagen will speak on the sanocrysin (gold) treatment of tuberculosis.

At the annual summer meeting of the Institution of Heating and Ventilating Engineers, held last week at Birmingham, Mr. Herbert G. Cuthbert read a paper on hot-water installations for large hospitals, founded on his experience with the Metropolitan Asylums Board. He stated that 2,800 to 3,000 tons of coal were consumed annually in many hospitals, for steam raising alone, besides 500 to 850 tons for other purposes. It was necessary, therefore, to give careful consideration to designing plants, which should be centralized. There should be ample capacity for storage of hot water, and spare or stand-by plant should be provided where a breakdown would cause the stoppage of a large part of the essential services. It was desirable to have suitable recording apparatus to furnish a record of the fluctuations in temperature and so as to have complete evidence of the running of the plant, and the shortcomings of the staff. He exhibited a number of graphs, taken from installations of the Metropolitan Asylums Board, showing the hourly consumption of hot water over the twenty-four hours of the day, both Sundays and week-days, which afforded interesting information as to where the hot water was used, and of the times and quantities drawn off.

THE Johnston-Lavis Geophysical Collection, bequeathed by the late Dr. Henry James Johnston-Lavis, student of University College, London, and afterwards in practice for some years in Naples, was formally opened by Sir Henry A. Miers, Vice-Chancellor of the University of Manchester, at a meeting in University College on Thursday last.

THE Fellowship of Medicine announces that on Friday, July 3rd, at 5.30 p.m., Sir John Thomson-Walker will give a lecture, open to all members of the medical profession, on urinary infections, in the West Lecture Hall of the Royal Society of Medicine. A four weeks' course in urology, beginning on June 29th, will be held at St. Peter's Hospital. The second week of the practitioners' course at the London Temperance Hospital begins on June 29th. The special courses to be given during July include one for a fortnight, starting on July 6th, in children's diseases, at the Queen's Hospital for Children, and a three weeks' course in neurology, at the West End Hospital for Nervous Diseases. A lot of night's course, beginning on August 4th, in general medicine surgery, and the special departments, will be given at the Prince of Wales's General Hospital. Starting on the same date, the All Saints' Hospital will give a month's course of instruction in urology. From August 24th to September 5th the Queen Mary's Hospital, Stratford, will hold an intensive course in medicine, surgery, and the special departments. Copies of the syllabuses and the programme of the Fellowship of Medicine may be obtained from the Secretary at 1, Wimpole Street, W.1.

THE annual general meeting of the West London Medical Chirurgical Society will be held at 5 o'clock on Friday, July 10th, at the West London Hospital, Innersmith, W.

THE fourth Annual Conference on Cremation, arranged by the Federation of Cremation Authorities, will be held in the Conference Hall, British Empire Exhibition, Wembley, at 3 p.m., on Wednesday, July 1st.

THE Council of Epsom College will shortly elect two girls to St. Anno's Home Scholarships of £48 n. year. Candidates must be fully 7 years of age and not over 12 and must be for not less than five years in independent practice in England or Wales. Application must be made on a form to be obtained from the Secretary, 49, Bedford Square, W.C.1, by July 7th.

THE eighteenth concert of Hospital-Trained Ex-Servicemen's Choirs will be held at the Chelsea Polytechnic, King's Road, S.W., on Saturday, July 4th, at 3 p.m.

An advanced course in otitis-inflammation will be held at the Toulouse Faculty of Medicine, under the direction of Dr. Escat, from July 6th to 13th. The course is open to French and foreign medical practitioners and students at a fee of 150 francs. Further information can be obtained from Dr. Vignier, Hospice de la Grave, Toulouse.

Dr. PERCY B. SPURGIN, who is honorary secretary of the Marylebone Division of the British Medical Association, has been appointed President of the Metropolitan Police Surgeons' Association for 1925-26.



THE second Imperial Entomological Conference, which began on June 9th, concluded its proceedings on June 18th, when the delegates of certain dominions, colonies, and dependencies who had attended it were entertained at dinner by the Government. The Secretary of State for the Colonies, who was in the chair, in proposing a toast, congratulated them on the success of the conference. He believed that the Governments of all nations, and not least the British Government, were beginning to realize the importance of such questions as the prevalence of diseases due to mosquitos, of trypanosomiasis, and of weevil in the cotton fields. He appealed to men of business in all parts of the British Empire to give attention to the matter and establish their own entomological staffs, but a comprehensive scheme of research and administration action was needed for the whole of the British Dominions. Mr. A. Gibson (Canada) praised the work of the Imperial Entomological Bureau.

Dr. G. E. BROOKER, chief health officer, Singapore, has been elected a life Fellow of the Royal Sanitary Institute. Dr. Robert Dick (Department of Public Health, Sydney, New South Wales), Dr. Duncan Forbes (M.O.H. Brighton), Dr. W. C. Laidlaw (Alberta, Canada), and Dr. E. C. Williams (County M.O.H. Glamorgan) have been elected Fellows.

A MONUMENT, consisting of a bas-relief by the sculptor Raoul Béraud, in honour of the 500 French doctors and medical students who lost their lives during the war, was unveiled on June 14th, at the Paris Faculty of Medicine, in the presence of the President of the French Republic, the Dean of the Faculty of Medicine, and a large and distinguished audience.

THE ninth congress of the Swiss Society of Dermatology will be held at Zürich on July 4th and 5th.

Dr. COSTANTINI has been nominated professor of clinical surgery, Dr. Lohlaue professor of anatomy, and Dr. Plucy professor of natural history and parasitology in the Algiers Faculty of Medicine.

A CONGRESS, convened by the International Council of Nurses, is to be held in Helsingfors, Finland, under the presidency of the Baroness Sophie Mannerheim, President of the International Council of Nurses, and matron of the Surgical Hospital, Helsingfors, commencing on July 20th.

MESSRS. J. and A. CHURCHILL announce for early publication *The Diabetic Life, Its Control by Diet and Insulin*, by Dr. R. Lawrence, Chemical Pathologist, King's College Hospital.

A VACATION course will be given at the Clinique Maritime, Coq-sur-Mer, Belgium, by Dr. Delcher, assisted by Drs. Wettendorf (Middelkerke) and Ledent (Lilège), from August 17th to 22nd. It will deal chiefly with the treatment of tuberculous disease of the bones and joints by surgical means, and by sea air and heliotherapy. The fee will be 100 francs, and full particulars can be obtained from Dr. Delcher, 38, Rue Stévia, Brussels.

THE seventeenth congress of the Italian Phreniatric Society will be held at Trieste, under the presidency of Dr. G. Pastorich, from September 24th to 27th, when the following papers will be read: Constitution in psychiatry, by Drs. M. Kobliasky and G. Vidoni of Genoa; psychiatry and psychoanalysis, by Dr. E. Weiss of Trieste; treatment of general paralysis, by Drs. N. de Paoli and Moadini of Ancona.

THE sixth congress of the Far Eastern Association of Tropical Medicine will be held at Tokyo from October 18th to November 7th. October 18th to 25th will be devoted to scientific meetings, and the 26th to sight-seeing in Tokyo. On the 27th there will be an excursion to Kamakura, from the 28th to November 1st to Nikko, Hakone, and Kyoto, and from the 1st to the 7th to Nara and Osaka. Further information can be obtained from the general secretary, Dr. O. Beggelen, Wettevreden.

THE second German Congress of Orthopaedics will be held at Hanover, under the presidency of Dr. Bade of Hanover, from September 14th to 16th, and will be followed by a visit to the watering places on the North Sea. The chief subjects for discussion at the congress are: development of bone, by Dr. Stoffel of Mannheim; disturbances in growth, by Dr. Munk Jensen of Leyden; and the physiology of bone, by Dr. Müller of Munich.

A POST-GRADUATE course will be held in Berlin, with the active participation of the Faculty of Medicine, next October. It will include lectures and demonstrations on general medicine, and a special course for ophthalmologists. Full particulars can be obtained on application to the Office of the International Post-Graduate Courses, Luisenplatz 2-4, Berlin, N.W.6.

A COMMITTEE has been formed to erect a monument to commemorate the late Professor Paul Delbet. Subscriptions should be sent to M. Prunet, 104, Avenue Ledru-Rollin, M. Thomas, 44, Rue Boileau, or M. Bellaager, 2, Rue Pigalle, Paris.

PROFESSOR SABRAZÉS has succeeded the late Professor Bergonié as director of the regional centre of Bordeaux and the south-west of France for combating cancer.

Dr. C. M. CORTEZO of Madrid has been nominated President of the State Council of Spain. This is the first time that this post has been held by a medical man.

DURING the International exhibition at Grenoble in October a medical congress will be held. Dr. Dupuy de Frenelle of Paris has been nominated president of the section of medicine; Dr. Delort of Paris, president of the section of gastro-enterology; and Dr. Roux-Dolmal, president of the section of French and foreign medical journals.

## Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to **THE EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.**

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The address of the Irish Office of the British Medical Association is 15, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 4737 Dublin), and of the Scottish Office, 6, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone: 4361 Central).

## QUERIES AND ANSWERS.

### LARIAL AND CERVICAL WARTS.

Dr. MANASSEN (Friends' Hospital, Brummann, Beyrouth, Syria) asks for advice on the small cauliflower growths, very much like ordinary warts, dotted all over the inner and outer sides of labia minor and majora. The woman is about 60 years of age; the blood gave a negative Wassermann reaction. There is no history of gonorrhoea. The cervix presents one or two of these small warty growths, but is otherwise normal in appearance. He has in turn applied strong nitric acid, acetic acid, thermo-cautery, silver nitrate, carbolic acid, scraping the surface before cauterizing, antiseptic douches, etc., but has not obtained a permanent cure.

### STREPTOCOCCAL INFECTION OF TONGUE.

"PERPLEXED" has a patient who for six months has suffered from chronic streptococcal infection of the tongue, which is furred, dry, and fissured. He asks for advice in treatment. The teeth have been x-rayed and any doubtful ones removed. Other sources of local reinforcement for the infection have been excluded. Autogenous vaccines, mouth-washes, and antiseptic lozenges have been persevered with. Great attention has been paid to the general health and special care has been taken to avoid any irritating article of diet.

### INCOME TAX.

#### Replacement of Car and Change of Practice.

"V. F." made a claim in respect of the cost of replacing his car and "received one-third of the rebate this year." He has now left that practice and is told that he must lose the remaining two-thirds of the rebate allowed him.

The cost of replacing a car is deductible as a professional expense—that is, it falls to be treated in the same way as, for instance, the payment of a locum tenens. The result is to reduce the profits of the year in which the expense is incurred. Where the practitioner remains in the same practice during the three following years he receives a full allowance, spread out, so to speak, over that period. If, however, he leaves the practice, the benefit of the deduction accrues to the practitioner who takes it over, for that part of the three years which is still affected by the profits of the year which were reduced by the deduction. The result is perhaps not equitable as between the vendor of a practice and the purchaser, but is only more marked in degree than normally happens in connexion with other fluctuating

receipts and expenses whenever a business or practice changes hands. It is a consequence of the principle that the three years' average adheres to the business or practice, and not to the earnings of the individual.

## LETTERS, NOTES, ETC.

## A LONG SOJOURN.

Mr. V. P. NORMAN, F.R.C.S. (Bradford), writes: The following case of foreign body in the rectum is of some interest on account of the long time (seven months) before it was expelled, and the absence of any discomfort for several months. A married woman, aged 33, was operated on for a uterine fibroid in October, 1924. She was discharged from hospital on November 1st perfectly well, and remained so until last March, when she began to have increasing constipation and a sensation of fullness in the rectum. The constipation increased until, on May 19th, her bowels ceased to act, in spite of large doses of castor oil and Epsom salts. Feeling something protruding from the anus, she grasped it with her fingers and with difficulty removed a sodden inspissated piece of gauze, 8 in. long, 4 in. wide, and about 1 in. thick.

## SPUTUM EXAMINATION BY THE COLOUR BLIND.

Dr. E. W. BOWELL (South Norwood) writes: Dr. Constance Steelo (BRITISH MEDICAL JOURNAL, June 6th, p. 1064) recommends a special method of staining sputum slides in order to make the tubercle bacilli evident to a colour-blind observer. This may, however, be managed more simply if the slide is stained in the ordinary way and examined with a suitable colour screen. The Wratten No. 45 shows (to a normal observer) the fuchsin-stained organisms of a deep black colour, while the prominence of the other (blue-stained) structures is diminished. The colour-blind observer will probably see exactly the same. The colour screen may be obtained enclosed between circular glasses of a size which will fit the substage diaphragm carrier. To try the effect a piece of the coloured gelatine (to be obtained for a few pence) will serve quite well. No glass screen that I have tried has so good an effect; the reason for this is evident when the glass and the coloured gelatine are examined with a hand spectroscopic. I refrain from further details, as the No. 45 screen is easily obtainable and answers the purpose.

## MULTIPLE INFECTION BY TAENIA.

Dr. W. FIFFE DOWARD (St. Luke's Hospital, Haffa) writes: On January 6th, 1925, a Bedouin, aged 40, attended the outpatient department complaining of epigastric pains and constipation. He stated that he had had slight intermittent pains in the stomach for several years, always worst during the night, but only recently had they become severe. For several weeks the pain had recurred frequently, and, when severe, spread upwards into the chest. He had occasional attacks of heartburn, and on several days previously had induced vomiting to relieve it. The bowels were opened with difficulty every second day. The patient was a sparely built man, 5 ft. 6 in. in height, and weighed (clothed) 8 st. 2 lb. He was very thin and slightly jaundiced. The tongue, large and flabby, was indented and coated with yellow fur. The spleen was much enlarged (2½ fingerbreadths below the costal margin) and the liver slightly (1 fingerbreadth below the normal lower level). Peristalsis was very active and readily seen through the thin abdominal walls. Palpation revealed indistinct soft masses, evidently faecal accumulations. Further questioning secured the information (withheld previously as too common to mention) that he had had chronic malaria for years, and had frequently observed tapeworm in his stools. He was admitted that day and treated with ext. filicis liq. next day. The worm passed looked unusually large, and on careful search sixteen heads of *Taenia mediocanellata* were found. Unfortunately the total length of worms passed was not measured, as the patient refused to swallow the medicine. The following day the patient was much improved, and was so completely free from pain, that he refused to stay longer in hospital, so that it was impossible to observe whether the gastro-intestinal symptoms were permanently relieved or not.

## SLEEPLESSNESS.

"F. G. G." writes to express the view that many cases of insomnia at and after middle age are due to the increased blood pressure associated with advancing years, and states that he has frequently found a dose of calomel (2-3 grains), followed by a saline aperient next morning before breakfast, to bring about a cessation of the trouble, at any rate for a time, by reducing blood pressure. The dose can be repeated—if and when required. I never, he adds, think of hypnotic drugs in these cases.

LIEUT.-COLONEL E. O. C. MAUNSELL, I.M.S. (ret.) (Ealing), writes: Lieut.-Colonel Reinhold, I.M.S. (June 6th, p. 1064), refers to the same time in a coffee-growing district in India, and among the planters and their wives I found some, like myself, who were unable to drink coffee at night, black or otherwise, on account of a certain amount of insomnia produced. There no question of adulteration arose; it was the berry, and nothing more than the berry.

## OVERCLOTHING OF CHILDREN.

Dr. MARION E. MACKENZIE (Leeds) writes: With regard to the influence of clothing on health, I was interested to find, in judging a "health competition" for children recently, the marked effect of overclothing, apparently resulting in poorly developed chests and very feeble breathing. Where the chests were badly developed but the clothing light, it seemed to me that the breathing was not nearly so feeble. According to Sir Robert Philip's teaching, poor expansion with feeble breathing is a very serious matter in predisposing to phthisis, and therefore it is important that school children should not be overclothed. Most of the girls examined wore "Liberty bodices," originally designed to give greater freedom by serving the place of braces and discarding the voluminous skirts. These, however, in most girls, except some of the babies and toddlers (who, by the way, were much more sensibly dressed), were still used, the "Liberty" bodice being only an added encumbrance. Most of the children had splendidly developed legs but poorly developed chests. I was particularly struck with one beautiful child till I saw her chest: her teeth excellent, legs perfectly moulded and firm, but her breathing was so feeble I had to disqualify her. She had seven layers of clothes! The good development of the legs I put down to their freedom from clothes; all the children wore socks, not long stockings. What has been proved good in the sunlight treatment of tuberculosis should surely be good in its prevention, and with all due deference to Dr. Poynton (JOURNAL, June 6th, p. 1059) I can hardly support his view that because some girls get cynosed legs all girls should be "stuffy old Victorians," any more than it is reasonable to doubt the healthfulness of cold bath because some people cannot stand it. But I understand he does not expect us to be reasonable. "I can give you an argument, but I cannot give you an understanding," he says in effect! May I dare to criticize men's clothing, especially on a hot June day? Is it reasonable? Might not medical men reform it if only for the sake of the discomfort it gives us to look at them in this weather?

## SYNCHYSIS SCINTILLANS.

Dr. J. BARKER SMITH, L.R.C.P. (Louden, S.E.), writes: As I am able to watch the cholesterol particles in my eyes experiencing the degeneration of the vitreous humour associated with the above condition, I think I am able to confirm the fact of cholesterol taking on other properties when exposed to forms of light; also to contribute a link with respect to the equivalent of stimulation acting upon cholesterol particles. In a short letter which appeared in the BRITISH MEDICAL JOURNAL, April 5th, 1924 (p. 652), dealing with this subject of scintillating particles (cholesterol) in the eyes, I described two movements—one, movements in the lymph, floating movements; the other, darting movements—the latter determined by certain stimulants, notably ten, also by exercises in the open sunlight, and by a rod of nrc carbon held in the hand. The effects of the nrc carbon on my electric incanescences were also determined by a galvanometer run by from electric installations, before and whilst holding such rod of nrc carbon. I would suggest, then, that what I am witnessing in the eye is taking place throughout my whole body, and that the luminous particles which Mr. C. H. Collings described, and which ultramicroscopists have found in all vegetable and animal cells, may be cholesterol, and that cholesterol, with its high percentage of carbon (more than 80 per cent.), may act as the rod of nrc carbon in our economy. I mean by equivalents of stimulation, such as you have discussed in your leading article May 30th, 1925, with respect to antirachitic factors.

## MEDICAL GOLF.

A MATCH was held at Moor Park Club, Rickmansworth, on June 2nd, between the Medical Golfing Society "A" team and the British Dental Association Golfing Society "A" team. The match was keenly contested and ended in favour of the Dental Golfing Society, who won by 10½ points to 9½. The outstanding feature of the match was the morning round played by Mr. H. E. Warren Williams against Dr. H. A. Watney. Mr. Warren Williams went round in 73 (38 out and 35 home), the bogey for the course being 78.

THE summer meeting of the Shropshire Medical Golf Association was held on the Church Stretton links on June 7th. The following are the results:

*Captain's Prize* (presented by Dr. George Higginson, Church Stretton), *eighteen holes medal play*.—Dr. Beckett, 87-13=74; Dr. Urwick, 90-15=75; Dr. Richardson, 89-12=77; Dr. Crofton, 93-16=77; Dr. Ireland, 88-10=78; Mr. Bradford, 91-13=78; Dr. Elliott, 88-9=79; Dr. Lawrence, 91-12=79.

*Foursomes v. Bogey*.—Drs. Hayden and Clarke=1 down. Drs. Anderson and Urwick=2 down. Drs. Higginson and Elliott=4 down. (Twenty-six entries.)

## VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 35, 36, 37, 40, and 41 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 38 and 39. A short summary of vacant posts notified in the advertisement columns appears in the Supplement at page 225.

THE  
**British Medical Journal.**

THE JOURNAL OF THE BRITISH MEDICAL ASSOCIATION.

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OF

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#### 1. Diagnosis of Meningitis by Fluorescein.

O. JERVELL (*Acta Med. Scand.*, Supplement VII, 1924, p. 115) describes a test which depends on the fact that the permeability of the meninges is increased when they are inflamed. There are, in fact, several substances which pass from the blood through the meninges into the cerebro-spinal fluid only under abnormal conditions. The substance which the author has tested in a hospital in Christiania is uranin, or sodium fluorescein, the fluorescence of which does not disappear in a solution till diluted to 1 in 10,000,000. The procedure adopted was to give 2 grams by the mouth, or by the intramuscular injection of a 20 per cent. solution when the patients were unconscious. Three hours later lumbar puncture was performed, and if the cerebro-spinal fluid was cloudy it was centrifugalized. By adding water to the cerebro-spinal fluid till fluorescence disappeared the amount of uranin in the cerebro-spinal fluid could be estimated. Of the 74 patients thus examined, 18 were suffering from various forms of meningitis. In 8 of the 56 cases representing diseases other than meningitis there was no fluorescence, although there was a dirty green colour. In 10 other cases belonging to this group the cerebro-spinal fluid was faintly fluorescent. In the remaining 38 non-meningitis cases the cerebro-spinal fluid was perfectly clear. In all the 18 cases of meningitis fluorescence was demonstrable, and with the exception of three cases this fluorescence was intense. The author claims that the test described is a simple and rapid means of distinguishing between meningitis and other diseases which may simulate it clinically. The test does not, however, distinguish between the different forms of meningitis.

#### 2. Spontaneous Immunization to Diphtheria.

P. LEREBoullet and P. JOANNON (*Paris méd.*, October 25th, 1924, p. 325) state that the acquiring of spontaneous immunity to the Klebs-Loeffler bacillus without a previous attack of clinical diphtheria has long been recognized. The earlier writers such as Tronssenc and Peter had discovered this by clinical observation and the negative results of attempts at inoculation. The present authors, as the result of observations on 113 children in a surgical pavilion at the Hôpital des Enfants Malades in Paris, found a relatively low percentage with positive Schick reactions—namely, 22 per cent. Another unexpected result was that there were more negative reactions among children aged from 2 to 5 than among those aged from 5 to 6. Most of the cases with a negative Schick reaction were to be found among children who had been in hospital for the longest period, and not among the oldest patients. There was not a single positive reaction obtained among children who had been in hospital for more than a year. In no instance was a negative reaction replaced by a positive one, but, on the contrary, three out of sixteen children with a positive reaction subsequently became negative. The six cases of clinical diphtheria which occurred in the pavilion in the course of seven years were found among children whose stay in the hospital had been relatively short—namely, one to four months. Immunization does not always take place in a latent manner, but is sometimes preceded by a slight and transient indisposition, associated with febricula, dysphagia, and redness of the throat with or without specks of deposit, all the symptoms subsiding in a few days without a bacteriological examination being made. The authors think, therefore, that an attenuated attack of diphtheria is one of the factors producing immunity to the disease.

#### 3. Insulin and Diabetes Mellitus.

P. J. CAMMIDGE (*Journ. Amer. Med. Assoc.*, November 1st, 1924, p. 1423) regards diabetes as a symptom-complex originating in a variety of ways, and eventually causing a progressive deficiency of the internal pancreatic secretions if the primary cause is not removed or controlled. Although the pancreas plays an important part in its pathology, it is held that the disease is not of constant etiology or pathology; it is not invariably due to a pancreatitis, but may arise from other causes. Probably disease of the pancreas, with absolute deficiency of its internal secretion, is the essential cause of the rapidly developing form of diabetes most common in young people. In the more slowly developing diabetes of later years, in which an intermittent glycosuria becomes persistent, with the gradual development of metabolic disturbances, absolute deficiency of the internal secretion is

secondary, and occurs in the later stages either as a result of continued relative deficiency, or as a consequence of slowly progressing interlobular sclerosis. Cammidge adds that the exact etiology in each case must be determined; in many instances in which insulin would otherwise have been indefinitely continued the discovery and successful treatment of the primary cause of the carbohydrate metabolic defects enabled it to be discontinued, or avoided altogether.

#### 4. Multiple Whitlows in Epidemic Encephalitis.

O. SCHIRMER (*Schweiz. med. Woch.*, October 23rd, 1924, p. 984) records a case of epidemic encephalitis in a man, aged 33, complicated by multiple whitlows, which involved first the fifth, fourth, and third fingers successively of the left hand, in which the tremors and motor deficiency were most pronounced, and then the fifth and fourth fingers of the right hand. The condition was probably due to a trophic change like that present in syringomyelia and Morvan's disease; but while in these two disorders anaesthesia is sufficient to explain the condition, in the present case there was no sensory disturbance, nor was there any vasomotor change. The rapid recovery, in spite of the considerable loss of tissue, was in favour of a trophic origin, as a purely exogenous infection would not have cleared up in so short a time and almost without reaction. The situation of the nervous lesion was probably the cerebral centre of the hypothetical trophic nerve fibres and not the peripheral nerves.

#### 5. Pituitary Deficiency.

J. PERKINS (*Boston Med. and Surg. Journ.*, November 20th, 1924, p. 973) has made a clinical study of 31 cases of deficient functioning of the anterior part of the pituitary in women. He calls attention to the changes which occur in the skin, the tendencies to sterility or miscarriage, the menstrual and visual disturbances, headaches, and dreams. In all the cases dilated blood vessels were present on the thighs, and nearly all the patients had irregular deposits of fat, pendulous breasts, tendency to bruising and free perspiration, terror dreams, and headaches. Only by following up histories over a long period could the primary cause be discovered, since the symptoms primarily due to endocrine dysfunctioning were often the same as those produced by other causes. Visual disturbances, unrelieved by glasses, were relieved by administering the gland extract, as also were the symptoms of dizziness and staggering gait. Perkins adds that cases presenting some or all of the above features suggest the existence of a symptom-complex caused by anterior pituitary deficiency for which treatment by anterior pituitary extract is indicated, since in the cases recorded improvement followed its administration.

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#### 6. Operative Treatment of Chronic Ascites.

F. PARKES WEBER (*International Clinics*, vol. 1, Series 34, p. 87) urges the value of treating selected cases of chronic ascites by omentopexy, and maintains that the unpopularity of the Talma-Morison operation is traceable to the fact that its good results are often considerably delayed. He remarks that the diagnosis of the cause of chronic ascites is sometimes difficult: hepatic disease may be syphilitic and not alcoholic; tuberculous or cancerous conditions have also to be considered in this respect. The author argues that the part played by alcohol in hepatic cirrhosis has been exaggerated, but that it is probable that alcohol lessens the resistance of the hepatic cells to microbic infections and to toxins derived from the alimentary canal. He adds that the cirrhosis in many cases represents a reactionary or regenerative process, and describes two processes in typical cases of nodular cirrhosis: (1) attacks of acute parenchymatous necrosis; and (2) intestinal fibrosis, with nodular regenerative growth of gland tissue. He believes that a certain amount of chronic localized peritonitis is often present in hepatic cirrhosis, favouring the development of peritoneal adhesions and new vascular channels, as does a successful Talma-Morison operation. He adds that the collateral venous circulation in hepatic cirrhosis is by the oesophageal veins, and that a successful omentopexy operation should assist nature, the formation of veins in the artificially produced omental adhesions removing the necessity for excessive dilatation of oesophageal veins, which might later on cause fatal haematemesis. He gives detailed accounts of several



cases which he has observed, and concludes that usually repeated paracentesis will be required after the operation of omentopexy, even though the final result of the operation is good.

#### 7. Fractures of the Shaft of the Femur.

W. C. CAMPBELL and J. S. SPEED (*Surg., Gynecol. and Obstet.*, November, 1924, p. 642) find that the results of treatment of fractured femur are far from satisfactory in many cases. They consider that the two best methods of treatment are gradual reduction by suspension and traction with the Balkan frame, and immediate reduction and plaster fixation. When properly used the plaster cast is considered the most reliable method of fixation; the authors have used it in 153 cases of fracture of the shaft of the femur. A plaster cast can, they think, be put on with safety at once. The greatest objection to its use is that the ankle and knee joints are immobilized for a long period. In children the resulting stiffness clears up in a few days; in adults the fixation may cause permanent limitation of motion, but satisfactory reduction and union should not be endangered on this account. This treatment of fractures in children gives excellent results, and young growing bones can correct even a marked deformity. They add that in adults better results are probably obtained by the plaster cast than by any other method; non-union in these cases is due chiefly to malposition.

#### 8. The Urochromogen Reaction in Surgical Tuberculosis.

M. GELDMACHER (*Deut. Zeit. f. Chir.*, October, 1924, 5 bis, 6 Hft, p. 399) has employed Weiss's urochromogen reaction in 50 cases of surgical tuberculosis at the Cologne University surgical clinic during the last fifteen months, and has come to the conclusion that it is only of value when the observations of the reaction are continued over a long period. When employed in association with other prognostic methods the test gives some indication as to the powers of systemic resistance, and is therefore of undoubted prognostic value. If the reaction is constantly positive it shows that the disease is of considerable severity, and it is a warning sign, even in cases where the tuberculous process is apparently not progressive. It is possible, however, that the reaction may become negative and the patient may improve even after it has been positive for six months. The disease may be regarded as completely cured when urochromogen can no longer be found in the urine. With a persistently negative reaction, bone and joint tuberculosis should be treated by conservative methods, including minor operations, such as sequestrectomy, which do not interfere with the function of the limb involved. A radical operation in such cases is a blunder. Even with a persistently positive reaction, amputation and disarticulation are only indicated when the other prognostic signs point to an unfavourable issue. In amyloid disease of the kidneys urochromogen is not excreted, which indicates extreme renal insufficiency, and is therefore a very unfavourable sign. Goldmacher recommends that Weiss's test should be used in out-patient practice as well as in patients confined to bed.

#### 9. Urethrolithiasis.

C. C. MAPES (*Urol. and Cut. Rev.*, September, 1924, p. 517) employs this term to denote the presence of a calculus within the urethra irrespective of its original site. In accordance with the nomenclature proposed by Suter the calculus may be described as antechthonous, heterochthonous, or amphichthonous, according as it is formed within the urethra, formed wholly outside it, or originates outside the urethra but increases in volume by deposition of new layers after reaching the urethral lumen. Urethroliths may be massive or diminutive, simple or multiple. In about one-third of the cases on record multiple calculi were found. Karajew removed 85 from a sac proximal to the prostate, and 415 more were removed from the urethra. The commonest types being lozenge-shaped, one flat surface of the individual discs articulating with each other. In 405 cases collected by English the calculi were found impacted in the urethral lumen or in associated diverticula. Five of the patients were under 1 year, twenty-three under 2 years, ninety-two under 10, thirty-five between 10 and 15, twenty-two between 16 and 20, forty-one between 20 and 30, and thirty-nine between 30 and 40, while in the rest the age was not stated. The anatomical sites were: membranous urethra 42 per cent., penile urethra 58 per cent., of which the pendulous portion, 13.7 per cent. were scrotal, and may be acute or chronic; they usually depend to a greater or less extent upon (a) the size, location, and conformation of the urethroliths, (b) primary or secondary formation, (c) the presence or absence of urethral stenosis, (d) whether or not infection has supervened. In infants and young children

there is evidence of intense urethralgia, urethral spasm, and dysuria, with more or less dribbling of urine, and unless the condition is relieved, urethral rupture, extravasation of urine, and death may ensue. In adults there is an acute type in which the urethral lumen becomes suddenly obstructed, and a chronic type in which more or less uro-genital disturbances have been previously noted in the form of attacks of pyuria and haematuria, urethral spasm, and uroecytic irritation. Urethroliths distal to the prostatic portion are easily detected by external palpation, but the diagnosis should be confirmed by urethroscopy, cystoscopy, and x-ray examination. Treatment is exclusively surgical. Meatotomy should be performed as a preliminary measure, followed by lithotomy or litholapaxy, except in complicated cases, or when the urethrolith is lodging in the prostatic or membranous portion, when external urethrotomy is indicated.

## Therapeutics.

#### 10. Intravenous Injection of Antirabic Vaccine.

J. MORISON (*Indian Journ. Med. Research*, October, 1924, p. 333) has treated persons severely bitten by animals proved to be rabid, or whose behaviour suggested rabies, by intravenous injections of antirabic vaccine. At first one dose of 2 to 3 c.cm. was given at the end of the usual fourteen days' treatment. Later the course of treatment was begun with one, still later with three, intravenous injections. After 59 cases had been treated, with three failures, the number of doses was increased to five. Fifty-nine more cases were treated with five doses before a failure occurred, when the course was increased to seven. Up to date 96 cases have been treated with five to seven doses intravenously, with one death. The vaccine is the ordinary 1 per cent. brain and cord emulsion of carbolized fixed virus. The rate of injection should not exceed 0.5 c.cm. a minute, and the dose is 2 c.cm. The patient may complain of tingling in the hands and feet as well as headache during injection of the first 0.5 c.cm., but the symptoms pass off before 1 c.cm. has been administered. No local or general symptoms have followed intravenous injection, which is preferred by many patients to the subcutaneous method. It is too early to estimate the value of the method, but as 720 intravenous injections have been given to 169 persons without a single accident or any alarming symptoms, the treatment may, according to Morison, be regarded as safe.

#### 11. Treatment of Varicose Ulcers.

L. DE GAETANO (*Rif. Med.*, October 27th, 1924, p. 1009) speaks very favourably of the following method of treating chronic varicose ulcers. Cleansing and disinfection of the skin is obtained by the use of rectified benzine and acidified alcohol (acetic acid 20 m., alcohol 100), and a suitable anti-eczema ointment is applied. This preliminary preparation lasts three to ten days. The leg is then elevated and a layer of sterilized gauze placed over the ulcers; strips of diachylon plaster are applied from the toes up to the knee, and a firm bandage fixed over all. This is left on for eight days; when it is removed there is usually a free collection of pus, but beneath it healthy granulations appear. The author suggests that in the process of skin maceration which goes on under the dressing absorption of auto-vaccines takes place. Patients are encouraged to walk about whilst under this treatment, and the results are said to be better than with rest in bed and immobilization of the limb.

#### 12. Vaccination against Whooping-cough.

A. H. MEYER, M. KRISTENSEN, and E. SÖRENSEN (*Acta Paediatrica*, October 25th, 1924, p. 21) review the literature and record the results obtained with a vaccine containing 10,000 million Bordet-Gengou bacilli per cubic centimetre. The cases were divided into three groups. The first group consisted of 198 hospital cases in which the vaccine was used as a prophylactic. Twenty-two children contracted whooping-cough, but in nearly all these cases the attack was slight or developed before the vaccination had been completed. The authors are of opinion that the vaccine was of prophylactic value, although means of control were lacking. The second group consisted of 127 cases in children's homes, where 37 contracted the disease. In this group also the results confirmed the prophylactic value of the vaccine, but there was also a lack of control cases. The third group consisted of cases reported by general practitioners, especially in the Faroe Islands, who had used the vaccine both in prophylaxis and treatment. All the Faroe Island practitioners reported that the vaccine, which they had used at 2,100 cases, as the vaccinated less severely than the unvaccinated. The opinions were divided as to its prophylactic value. The

vaccine was given subcutaneously three times, with four days' interval between each injection, the first dose consisting of 0.5 c.cm., the second of 0.7 c.cm., and the third of 1 c.cm. Smaller doses were used in some very young patients. At the Blegdams Hospital intramuscular injections were given daily in doses of 0.1, 0.2, 0.4, 0.8, and 1 c.cm. on five successive days.

### 13. Treatment of Diabetes Mellitus with Protein Substances.

G. SINGER (*Klin. Woch.*, October 28th, 1924, p. 1935) records his experience of treating diabetes mellitus with intramuscular injections of proteins. Caseosan was the protein usually employed. The injections were given twice daily, half an hour or an hour before the chief meals, every day, or every two days. Very small doses of caseosan were injected at first (1/2 c.cm.); and only gradually the dose was increased to 5, 8, or 10 c.cm. From his observations the author concludes that in cases of diabetes of medium severity, and also in severe cases, by the continued administration of non-irritating protein substances, together with dietetic restrictions, the excretion of sugar and ketones can be checked, or at least the glycosuria can be considerably reduced. In successful cases, after the rapid cessation of glycosuria and the diminution of blood sugar, a gradual increase of the carbohydrate tolerance was obtained; and the protein injections seemed to aid in increasing the tolerance. Singer found also, in less successful cases, that better results could be obtained by the combination of protein injections with a restricted diet than by diet restriction alone. The author draws attention especially to the rapid healing of many complications under the protein treatment. Strikingly good results are claimed in diabetic gangrene and cellulitis. Particularly noteworthy was the permanence of the good effect of the protein injections after the treatment had been discontinued. The good effect continued for many weeks.

## Radiology and Electrology.

### 14. Actino-therapy in Children's Diseases.

P. FONTYNE (*Le Scalpel*, November 1st, 1924, p. 1153) reports the results of a year's treatment of a number of children with a 1,000 candle-power quartz and mercury-vapour lamp. He concludes that ultra-violet rays have (1) a specific curative action in infantile tetany, rickets, and craniotabes, and (2) a beneficial general action on children's nutrition. One of his four cases of infantile tetany was a boy, aged 8 months, who had had frequent and alarming convulsions for five and a half months after admission to hospital, in spite of medicinal treatment. This was discontinued when the light treatment was started, and the child was cured completely in fifteen days. In spite of the fact that two of the other three patients returned to deplorable home conditions, they all did well. Two of these children had lost a brother or sister recently from convulsions. Fontyne's other patients made rapid recoveries, and he concludes that the treatment is absolutely safe, that the application is quite simple, and that it should prove most useful in the treatment of many of the diseases of children.

### 15. Ultra-violet Ray Treatment of Tuberculosis.

H. J. GERSTENBERGER and S. A. WAHL (*Journ. Amer. Med. Assoc.*, November 22nd, 1924, p. 1631) review the treatment of peritoneal and glandular tuberculosis in children by ultra-violet rays during the last few years. They think that since these rays penetrate only to a depth of from 0.5 to 1 mm. the principal action must be indirect, except in cutaneous tuberculosis. This indirect action has been confirmed by Hulschinsky's observation, the bones of one arm of a rachitic patient, after exposure to ultra-violet rays, becoming normal in outline. Jesionek cured a case of lupus by exposing to the rays the entire body, except the inguinal area. Rollier suggested that the pigmented epidermal cells converted these ultra-violet rays into longer rays with greater penetrative power. Kisch has shown, however, that bone tuberculosis can be improved by exposure to an intense light, such as reflected light from an acetylene-oxygen burner, which contains no ultra-violet rays. Some believe that the curative effect of the universal light bath is due to the luminous rays heating an appreciable portion of the total blood volume to a hyperpyrexial temperature, without causing an appreciable rise of body temperature. Balderrey finds that sunlight penetrates the human body to a depth of 10 inches, and that pigmentation is not merely protective: it lessens reflection and increases absorption of light. Gerstenberger and Wahl give their schedule of gradually increasing exposures, and details of ten cases of children

suffering from tuberculous adenitis, dactylitis, and peritonitis. Of these patients three died (two from tuberculous meningitis and one from miliary tuberculosis), two were improved, and five were apparently cured. A negress, aged 6, with peritonitis was successfully treated as an out-patient. They conclude that: (1) The sole use of ultra-violet rays has been of decided value in the treatment of peritoneal, glandular, and osseous tuberculosis. (2) Mesenteric glandular tuberculosis is the most rapidly improved; next comes mediastinal, and lastly peripheral glandular tuberculosis. (3) Pulmonary miliary tuberculosis, even in its early stage, is unaffected by ultra-violet ray therapy.

### 16. X-Ray Examination of the Spinal Cord.

H. PEIPER and H. KLOSE (*Klin. Woch.*, December 2nd, 1924, p. 2227) describe the methods employed to detect compression of the spinal cord by the injection into the cerebro-spinal fluid of substances which give a shadow on x-ray examination. Sclard and Forester introduced the method of injecting Iliodol, which, owing to its greater specific gravity, sinks in the cerebro-spinal fluid within the spinal dura mater, unless arrested by tumour or adhesions. The Iliodol can then be recognized, on x-ray examination, at the seat of the lesion. In place of Iliodol Peiper and Klose have used a special iodipin preparation made by Merck, 0.2 c.cm. of which was injected usually suboccipitally. Normally the injected iodipin sinks immediately to the end of the spinal dorsal sac. If arrested permanently at one point this point may be located by x-ray examination, and compression of the spinal cord by a tumour or the presence of meningeal adhesions is indicated. This method is also of service in the diagnosis of fractures of the vertebrae with compression of the spinal cord by bony splinters, and in the diagnosis of compression of the cord in tuberculous disease of the vertebrae. From their own observations (in fourteen cases) the authors conclude that a positive result with Sclard's procedure indicates definitely tumour, compression, or adhesions. In numerous cases also a negative result has proved correct in excluding compression. The x-ray examination after the injection of iodipin may give definite evidence of compression before the nervous symptoms are conclusive. Experiments on rabbits showed that the injection of iodipin might cause injurious effects on the spinal cord unless the quantity injected was very small. In man 2 c.cm. of 20 per cent. iodipin may be injected, according to the authors, without injury to the cord. They add that the new iodipin preparation of Merck should be employed since it is less irritating than other substances. They think that this method of diagnosis should only be carried out in large hospitals on the recommendation of a neurologist, and give a strong warning against its use in general practice, or by those who are inexperienced in such methods.

## Obstetrics and Gynaecology.

### 17. Treatment of Uterine Myomata.

BÉGOUIN (*Journ. de Méd. de Bordeaux*, November 25th, 1924, p. 903) discusses the scope of surgical treatment and of radio-therapy as applied to uterine fibromyomata. Certain of these tumours, he remarks, do not require either treatment. In illustration he quotes the cases of (1) a woman, aged 45, having a myoma the size of the foetal head; (2) a patient, aged 38, with a somewhat smaller tumour. The first patient was treated expectantly; during a laparotomy five years later the complete disappearance of the myoma was verified. The second tumour, although discovered accidentally and not causing symptoms, was treated radio-therapeutically. A few months later the myoma was found to be little diminished in size, but the patient developed distressing symptoms of a premature menopause. Béguin thinks that, especially towards the menopause, myomata which are not increasing in size and are not causing trouble require observation rather than treatment. Active therapy, on the contrary, is required for those which show progressive increase in size or lead to acute complications. Torsion, gangrene, suppuration, haemorrhage, or intestinal obstruction renders surgical intervention imperative; but when treatment is required by reason of increasing size or chronic symptoms, the problem of treatment by operation or radiation must be discussed. The latter stops haemorrhage at the price of castration, without destroying (although perhaps rendering smaller) the neoplasm, and with a negligible mortality risk; the former has a mortality of 3 to 5 per cent. (586 deaths among 12,833 operations in collected statistics presented to the October Congrès français de Chirurgie), but permits in some cases deliberately conservative measures. Between the two treatments, in some cases in which diagnosis is certain and no peculiarities of site or development afford special indications, the doctor

and the patient may choose according to their preferences—as, for example, in the case of a large interstitial myoma. In young women surgical treatment is in general preferable, as permitting ablation of the tumour and possibly the avoidance of castration, with preservation (in myomectomy operations) of the uterus. In aged patients also, Bégonin considers surgery prudent, for in them myomata which are not “silent” are to be suspected of malignant changes. He believes that at present there is too great a tendency among doctors, radiologists, and the laity to demand that myomata should first at any rate, as a trial, receive x-ray or radium treatment. With the improvement of radiological treatment there is now more than ever great need of careful diagnosis, not only between myoma and other morbid conditions, but also of the various alterations and complications of myomata. He concludes that the only cases in which radiological treatment is justified are those of myomata which towards the menopause increase progressively in size, lead to hæmorrhage, and are interstitial.

#### 18. Interscapular Pain in Interrupted Tubal Gestation.

C. MATHIEU and J. GUIBAL (*Bull. Soc. d'Obstét. et de Gynéc. de Paris*, 1924, 8, p. 661) describe the case of a 2-para, aged 27, who suffered from transitory abdominal pain and faintness a fortnight after missing a menstrual period; the pain recurred five days later and became increasingly severe. On the third day there was profound pallor, with asthenia; complaint was made of intense pain between the shoulder-blades. There was no vaginal hæmorrhage. Palpation of the right iliac region caused a recurrence of the interscapular pain. A ruptured tubal pregnancy was found with extensive intraperitoneal hæmorrhage. Pain between the shoulders has been noted by the authors in another similar case, and, like that in rupture of hollow viscera, such as the stomach, may be ascribed to sensory stimulation of the peritoneum, possibly in the region of the diaphragm.

#### 19. Pregnancy and Utero-adnexal Tuberculosis.

A. FRUHNHOLZ and P. FEVILLADE (*Gynéc. et Obstét.*, 1924, x, 5, p. 306) have been led by the following three cases to make a study of the relations between tuberculous disease of the uterus and appendages and the puerperal state: (1) bilateral tuberculous tubo-ovarian disease treated by conservative operation and followed by two abortions and a third gestation terminating in the birth of a nine months' healthy child; (2) pyrexia and adnexal inflammation occurring post partum, and thought to be due to ascending gonorrhoeal infection, but proved at operation twelve months later to be due to tubo-ovarian tuberculosis; (3) fever appearing within a day or two of labour, with gradual transition to the clinical appearances of tuberculous peritonitis. From their own observations and a study of the literature they conclude that the development of pregnancy is compatible with the existence of tuberculosis of the genital organs, even of the uterus; more usually the tuberculous disease precedes conception. Utero-adnexal tuberculosis and gestation may develop side by side, with or without affecting each other; in the former case the bacillary lesions may evolve with purely local signs suggesting ordinary inflammatory conditions, or be generalized (miliary tubercle). Genital tuberculosis may appear immediately or shortly after labour, taking an acute or chronic course, with or without eventual generalization; it is apt to be regarded as due to pyogenic bacilli or the gonococcus. At least six cases are recorded in which conservative, surgical, or medical treatment of utero-adnexal tuberculosis has been followed by pregnancy.

### Pathology.

#### 20. Production of Humoral Antibodies by Cutaneous Vaccination.

C. GERNEZ (*Ann. de l'Inst. Pasteur*, October, 1924, p. 892) has attempted to ascertain whether the inoculation of an antigen into the skin is able to give rise to immune bodies in the blood. His procedure was to inject red cells of the goat or human red cells into the skin of the rabbit, or alternatively to rub them into the epidermis, and then to ascertain the hæmolytic titre of the animal's serum after varying periods of time. In some cases single inoculations were made, in others repeated ones, but the principle was the same in each. The titre of the serum was determined by using a fixed dose of guinea-pig's complement, and varying the dilutions of the titre represented the minimal quantity of serum requisite to produce complete hæmolysis. Carried out on normal rabbits it was found that the serum contained a certain amount of hæmolysin for goat red cells, but none for human red cells.

The effect of injecting a single dose of goat red cells into the skin of the rabbit was to increase the titre of the serum from 7 to 30 times; repeated injections raised it from 25 to 120 times its initial value. The injection of human red cells led to the appearance of hæmolysins in the serum, but the quantity produced was not as great as when goat red cells were employed. In each case the greatest antibody production followed injection *en nappe*—a method whereby several doses of antigen are given simultaneously. When red cells were applied as a dressing to the shaved skin, thus inoculating the epidermis, the results were not so good. With goat cells the titre rose only 5 to 20 times, while in the case of human cells no hæmolysins were produced. Having shown that either the intradermal or the epidermal method of inoculation sufficed to give rise to the production of antibodies in the serum, he next proceeded to inoculate rabbits by the epidermal method and to remove the skin around the site of inoculation after varying periods of time. In this way he was able to show—using goat cells—that in order to prevent the appearance of antibodies it was necessary to remove the skin half an hour after the inoculation. He considers these results very conclusive; they are in direct opposition to those of Besredka, who claimed that cutaneous vaccination produced a local and not a humoral immunity. The author claims to have shown, in fact, that, whatever part these antibodies may play in skin immunity, there is no doubt about their appearance after cutaneous vaccination.

#### 21.

##### Bruck's Test for Syphilis.

M. MATSUO (*Dermatol. Woch.*, November 22nd, 1924, p. 1519) describes his modification of Bruck's flocculation test for syphilis. Matsuo uses two different extracts of human heart muscle in the proportion of 0.1 c.cm. dilute extract to 0.2 c.cm. serum, having found that an excess of extract is liable to vitiate the results in weakly positive cases. He examined 375 specimens of serum from 123 cases of definite syphilis, 78 cases of suspected syphilis, and 174 negative cases, and compared the results with those obtained by the Wassermann and Sachs-Georgi tests. The most definite agreement between the three sets of results occurred in the case of cerebrospinal fluid taken from patients with general paralysis; in tabes and cerebral syphilis the results were more variable. Matsuo concludes that: (1) In human serum the results of the three tests agree in the majority of cases, but Bruck's test often fails when the patient is undergoing a course of treatment. (2) In testing rabbit serum Bruck's test is more reliable than the other two tests, especially in known negative cases. (3) In human body fluids generally Bruck's test is less sensitive than the other two.

#### 22.

##### Protection against Anaphylactic Shock.

THE danger of injecting foreign serum into an animal which has been sensitized by a former dose are well known, and several methods of obviating it have been recommended. FERNBACH (*Monats. f. Kinderheilk.*, November, 1924, p. 27) questions whether results obtained with small laboratory animals are applicable to man, and reports a series of “desensitizing” experiments in children. Neufeld and Wedermann found that if a guinea-pig previously sensitized was given a very small (“desensitizing”) dose hypodermically it could endure, after an interval of three hours, the intravenous injection of a larger quantity of serum which would otherwise have been fatal; Besredka obtained the same result by a series of small graduated intraperitoneal doses. The human subject, as regards liability to anaphylactic shock, is second only to the guinea-pig, and both the single small dose and a graduated series of small doses have been recommended and used clinically as methods of desensitization. Ten children who were healthy, so far as could be determined, were sensitized by the injection of 0.1 c.cm. of horse or sheep serum intracutaneously; after an interval of eight or nine days the first secondary injection of 0.1 c.cm. intracutaneously produced in every case a distinct and typical local reaction. Secondary injections of the same amount were given intracutaneously every day, and when about the seventeenth day the local reaction seemed to have reached a maximum desensitization was attempted. Each child was given four “desensitizing” doses (0.1, 0.3, 0.5, and 1.0 c.cm.) at intervals of four hours, and the intracutaneous reaction tested as before for several days. In no case was any diminution of sensitivity found. Fernbach considers that these results show that the subcutaneous injection of small doses, recommended by Neufeld, Besredka, and others, does not bring about any “anti-anaphylaxis,” and affords no protection against the danger of a larger subsequent dose. Its only value is that in sensitized patients a local reaction will be seen which should put the physician on his guard; if any sensitivity exists intravenous injection must in all circumstances be avoided; carefully graduated doses may be given intramuscularly or subcutaneously.

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### Medicine.

#### 23. Infectivity of the Saliva of Tuberculous Patients.

OWING to the comparatively small number of systematic examinations which have been made of the saliva of patients suffering from tuberculosis of the lung, R. HOLLMANN (*Zeit. f. Tuberkulose*, 1924, 41, p. 127) has undertaken an investigation of the content of tubercle bacilli in the saliva of 74 patients. Swabs were taken from the lips, teeth, oral mucosa, tonsils, throat, and carious teeth at various times of the day; they were then spread out on slides and stained by Ziehl's method and sometimes by a modified Spengler method as well. No animal injections were made. He found that in 5 instances only (6.7 per cent.) of patients suffering from pulmonary tuberculosis were tubercle bacilli present in the mouth in sufficient quantities to be detected by a simple staining process. Of these 74 patients, 63 were relatively strong; in these bacilli were demonstrated only once—that is, in 1.5 per cent. On the other hand, in the remaining 6 patients, who were nearly moribund, they could be demonstrated four times—that is, in 67 per cent. It was shown, however, that this was due to the presence in the mouth of unexpected portions of sputum, which the patients were too weak to get rid of. Tests were also made of the tubercle bacillus content of droplets expectorated during coughing; in 13 out of 27 patients tubercle bacilli were found. In 50 patients he removed and examined the tonsils; in 7 instances they were found to contain tubercle bacilli, which were situated in the depths of the crypts, inaccessible to the saliva. Summing up, he concludes that since tubercle bacilli are only present in 1.5 per cent. of fairly strong and vigorous patients, and then only in small numbers, the saliva is of very little importance in the spread of tuberculosis. On the other hand, tubercle bacilli were found in about 50 per cent. of cases in which the cough spray was examined. This, then, would appear to be the most dangerous channel for infective material to take, and he concludes that it is against this source of infection that the most active measures should be directed.

#### 24. Pneumococcal Endocarditis.

E. A. LOCKE (*Boston Med. and Surg. Journ.*, November 13th, 1924, p. 913) thinks it probable that true pneumococcal endocarditis is a much rarer complication of pneumonia than has been generally supposed. Out of 11,243 cases of pneumonia collected by Probie, endocarditis occurred in 126 cases (1.1 per cent.). Locke has collected records of 835 fatal cases of pneumonia, 30 of which (3.6 per cent.) showed acute endocardial lesions, but in only 14 cases was the pneumococcus recovered from the vegetations. The incidence of pneumococcal endocarditis in this series was 1.7 per cent. Locke reports four typical cases; the patients were men in middle life, their ages being 45, 31, 51, and 34. The four cases terminated fatally in periods of thirty-one to fifty-three days, and in each case a pure culture of pneumococcus (Type I) was recovered from the valvular lesions. Each patient had a pseudo-crisis without there being physical signs of commencing resolution of pulmonary consolidation. In two cases no cardiac bruits were heard, in the others loud apical systolic murmurs were present. Locke adds that the endocarditis was of the proliferative or vegetative type, with less tendency to ulceration and destruction of valve cusps than is found in streptococcal or staphylococcal endocarditis. All the patients showed symptoms of a severe blood infection; in one case there was a localized pneumococcal meningitis, and in another case a large empyema developed, from which a pure culture of the pneumococcus was obtained. The meningococcal patient was treated systematically with anti-pneumococcal serum without any benefit.

#### 25. Renal Disease in Chronic Alcoholism.

F. VOGELIUS (*Acta Med. Scand.*, Supplement VII, 1924, p. 309) discusses the association of renal disease with chronic alcoholism and the difficulty of ascertaining whether this association is anything more than accidental. He has examined in hospital 42 patients, all of whom were confirmed alcoholics, and mostly admitted for treatment of their alcoholism. Strauss's functional test was carried out in the usual manner, two preliminary diet days being allowed before the test day, when 1,000 c.cm. of water were given in the morning, and only dry food was given for the rest of the day. The quantity, specific gravity, and salt excretion of each sample of urine collected every hour for the first part of the

day, and at longer intervals for the remainder of the twenty-four hours, were investigated. In 11 cases the action of the kidneys was normal. In 20 cases the quantity of urine excreted during the first four hours was very small, and the total excretion in the twenty-four hours was below normal, while the concentration of the urine was normal. The salt excretion ran parallel with the water excretion, and remained at about the same height throughout the twenty-four hours. In 11 cases certain other functional disturbances of the kidneys were observed. In several cases in which the test showed functional defects at the time of admission to hospital a repetition of the test after prolonged residence in hospital showed a restoration to normal of the action of the kidneys. In a few cases this return to normal persisted for years during which there was no abuse of alcohol. The author concludes that in most cases of chronic alcoholism the functional capacity of the kidneys is impaired, and that in a certain proportion of cases their functional capacity may be restored by reducing or abolishing the consumption of alcohol.

#### Syphilitic Aortitis.

B. KRÜGER (*Dermat. Woch.*, September 27th, 1924, p. 1141) states that syphilitic aortitis differs from atheroma in that the latter is chiefly a disease of old age and attacks men more frequently than women. Among 150 cases of atheroma treated in 1923 at the Port Hospital in Hamburg the largest number of cases were found in the sixth and seventh decades, whereas among 142 cases of syphilitic aortitis verified by post-mortem examination at the same hospital the majority were in the fifth and sixth decades, and cases in the fourth decade were more numerous than those in the seventh. The female sex was little affected by either form of aortic disease, but women were more frequently attacked by syphilitic aortitis than by atheroma. Difficulty in diagnosis sometimes arose, as atheroma not infrequently occurred in an aorta which had undergone syphilitic changes, being present in 49 out of the 142 cases. In contrast with atheroma syphilitic aortitis is circumscribed. It always begins in the thoracic aorta and usually above the aortic valves. In most cases the lesions extend to the diaphragm and then abruptly cease. In 27 cases syphilitic aortitis was complicated by aortic aneurysm, which in 9 instances was the cause of death by perforation. Syphilitic aortitis is a disease of the media, and in typical cases may assume one of two forms. Usually small-celled diffuse or focal infiltrations are found in the media, causing necrosis of the elastic fibres, and the adventitia and intima are secondarily affected. Less frequently nodular areas of infiltration, consisting of round cells, epithelioid cells, spindle cells, and giant cells, are present in the media and adventitia. It is only rarely that *Treponema pallidum* has been found in the aortic lesions.

#### 27. Intestinal Complications of Pulmonary Tuberculosis.

LAWRASON BROWN and H. L. SAMPSON (*Ann. de Méd.*, November, 1924, p. 381) point out that the commonest complication of pulmonary tuberculosis is intestinal tuberculosis, evidence of the latter condition being found in 50 to 80 per cent. or more of the autopsies held in cases of pulmonary tuberculosis. In the advanced stage the clinical signs are: Persistent diarrhoea, abdominal pain, tender points in the abdomen with or without rigidity of the abdominal wall, and the absence of symptoms suggesting acute abdominal trouble. The presence of the tubercle bacillus in the stools is of no diagnostic value, since 85 to 95 per cent. of these patients have the bacillus in the sputum. Diagnosis in the early stages is difficult. Digestive disturbances, especially constipation, or alternating diarrhoea and constipation, lack of improvement in the pulmonary condition, sometimes an amelioration of the pulmonary symptoms when the patient is obviously not doing well, irregular temperature, and considerable mental depression point to early intestinal tuberculosis. The only certain method of diagnosis is x-ray examination after a barium meal. A general irritability of the large intestine is evident, evacuation being complete, or nearly so, in twenty-four hours. The caecum and ascending colon empty themselves very rapidly, there is segmentation and dilatation of the coils of the small intestine, delay at the ileum, and gastric retention. These signs only indicate an intestinal ulceration, but when they complicate a case of pulmonary tuberculosis the diagnosis of intestinal tuberculosis can be accepted. The authors state that in the absence of diarrhoea medical measures are not indicated, but small doses of creosote in capsules with 1/4 grain of



Iodoform after food may be tried. In the later stages they recommend that cachets of salol and morphine, 2.5 grains of each, be given every four hours, and they find that calcium chloride, injected intravenously, is very effective in checking the diarrhoea. In the early stages excision is said to be the operation of choice, but the short-circuit operation is contra-indicated in advanced cases. They think that the best operation in the majority of cases is to fix the extremities of the affected portion of the gut to the abdominal wall so as to form two fistulae, thus regaining a healthy alimentary tract. Ultra-violet rays and heliotherapy are said to be of often value. Careful radiation of the intestinal tract with x rays may be tried.

28.

#### Hyalitis in Cerebro-spinal Fever.

R. METZ-KLOK (*Nederl. Tijdschr. v. Geneesk.*, October 25th, 1924, p. 2110), who records an illustrative case, states that hyalitis, or inflammation of the vitreous humour, is not infrequent in cerebro-spinal fever, its incidence ranging from 3 to 6 per cent. according to various observers. Meningo-coccic hyalitis differs but little from hyalitis found in pyaemic conditions, such as puerperal fever, endocarditis, and pneumococcal septicaemia. According to Uthoff, hyalitis in cerebro-spinal fever is usually unilateral; in only three out of twelve cases seen by him was it present in both eyes. The starting-point of the process is sometimes in the retina and sometimes in the choroid. Hyalitis in cerebro-spinal fever is metastatic and is not caused by spread of infection along the optic nerve. Metz-Klok's case occurred in a male infant of 4 months, who died after about a fortnight's illness. The right eye, which showed masses of greyish exudation in the vitreous, was enucleated after death, when a large thrombus was found in the central vein of the retina. The optic nerve anterior to the lamina cribrosa presented considerable oedema and slight diffuse cellular infiltration, but behind the lamina cribrosa the nerve showed little or no evidence of infection.

### Surgery.

#### Congenital Perineal Testicle.

S. G. SONNELAND (*Annals of Surgery*, November, 1924, p. 716) points out that the presence of a testis within the boundaries of the male perineum at birth is a rare occurrence. There are four classical varieties of congenital ectopia of the testis: (1) perineal, (2) interstitial, (3) penile, (4) femoral. The last of these is distinct from the others and extremely rare. In the perineal variety there is usually an accompanying abnormality of the corresponding vaginal process of peritoneum. No instance is known in which the vaginal process found its way into the scrotum while the testis went into the perineum. In most cases of perineal testis there is a predisposition to inguinal hernia, even if a congenital hernia does not already exist. With regard to the functional capacity of perineal testes, it appears that during early life, whatever their position, they have little influence on the development or general health of the individual. The reverse is true from the period of puberty onward, since they then assume the dual duty of forming the spermatozoa and elaborating the internal secretion. The treatment in view of this is extremely important. If the testis is allowed to remain in its abnormal position it will not undergo the cycle of changes incident to adolescence, and its procreative power will be lost; measures to correct the abnormal position should therefore be undertaken. At the age of 10 years, in the absence of complications requiring earlier operation, the testis should be brought into the scrotum. The author records in detail a case illustrating this rare anomaly.

30.

#### Non-gonorrhoeal Urethritis.

K. EDEL (*Nederl. Tijdschr. v. Geneesk.*, October 25th, 1924, p. 1966), who states that Boekhart in 1883 was one of the first to show that urethritis might be caused by organisms other than the gonococcus—such as streptococci—classifies non-gonorrhoeal urethritis into the following groups: (1) Cases in which no gonococci are found, but only streptococci or streptococci, if the patient denies having had gonorrhoea, and there is also no history of gonorrhoea and no gonococci are found, but the infection lasts several months; (2) cases in which no gonococci are found, but the condition has previously suffered from gonorrhoea, and the condition clears up in a short time; (3) cases without gonococci but with a previous history of gonorrhoea, in which the condition persists for several months; (4) cases which at first appear to be examples of non-gonorrhoeal urethritis, but in which gonococci are subsequently found. In the first two groups the appearances are quite distinct from those of true gonorrhoea.

The urethral discharge is not thick and creamy, but only slightly turbid and granular. There is usually little or no pain, and swelling of the urethral mucous membrane, oedema of the prepuce, and dorsal lymphangitis are absent. Complications, however, such as cystitis and epididymitis may occur, and the prognosis is not always favourable. As a general rule it may be said that when the symptoms do not clear up within a month the chance of recovery is doubtful. Edel found 12 cases of non-gonorrhoeal urethritis in a series of 169 cases of urethritis, so that the incidence of non-gonorrhoeal urethritis was 7 per cent.

31.

#### Surgical Treatment of Angina Pectoris.

P. K. BROWN and W. P. COFFEY (*Arch. Intern. Med.*, October, 1924, p. 417) describe the method adopted by them to relieve the pain of angina pectoris. Jonnesco's original operation consisted in removal of the left cervical sympathetic tract with its three ganglia and the first dorsal ganglion. They found that cutting the main trunk below the ganglion relieved the one causing death. In a few cases which was apparently the one causing death. Jonnesco only referred pains were not entirely relieved. The authors considered that this may be necessary in some cases where the symptoms are not completely relieved. Brown and Coffey believe that the main cause of angina is primarily a spasm of the thoracic, and perhaps also of the coronary arteries. The operation removes the cause of the anginal attack, and cutting it prevents the spasm. They suggest that their modified operation removes the cause of the anginal attack; to secure complete relief the operation may have to be bilateral. Sixteen cases are recorded of removal of the superior ganglion; in fourteen relief of the main symptoms was obtained, whilst two patients died.

32.

#### Myositis Infectiosa.

G. HOLM (*Acta Chir. Scand.*, October 10th, 1924, p. 415) gives an account of seven cases of infectious myositis treated in a surgical hospital in Upsala. He notes that it is difficult to draw a hard and fast line between the myositis infectiosa represented by "primary" acute purulent inflammation of a muscle and the metastatic myositis which represents a more or less generalized infection. The author prefers the definition, given to myositis infectiosa, of an acute purulent inflammation situated solely or primarily in a muscle. There may be a small insignificant non-pustular responsible for this rise to symptoms. Staphylococci were found in three cases, streptococci in one, a mixture of staphylococci and streptococci in one, and no organisms in one. There was also one case in which the abscess was spontaneously absorbed. With regard to the examination and diagnosis of such cases, the author stresses the misleading behaviour of the muscles in the neighbourhood of the abscess; by their contraction they may almost hide the existence of a large abscess, and it may only be when a general anaesthetic is given that complete relaxation of the muscles is effected and the true state of affairs ascertainable.

33.

#### The Etiology of Volvulus.

B. WEKSNER (*Zentralbl. f. Chir.*, September 27th, 1924, p. 2129) states that, in the academic year 1921-22, 12 cases of volvulus, in 5 of which the small intestine was involved, were seen at the surgical clinic at Yokaterinoslav, Russia. Such a large number is unusual even in big clinics. Rubinitis in the course of ten years saw only 10 cases of volvulus of the sigmoid at Prague, Ranzi in three years' experience in Eiselsberg's clinic in Vienna saw only 1 case, and Finsterer saw only 4 cases in ten years in the Russian clinics. The figures from the small intestine, which include cases of Martynoff's clinic at Moscow only one case occurred in the years 1908-9, and the same applies to Bobrow's clinic. Weksner attributes the frequency of volvulus at Yokaterinoslav to starvation. General loss of fat led to the abdominal wall becoming lax, the abdominal cavity contracted as well as the loss of fat in the mesentery. These were the cause of the intestine being extraordinarily movable. Moreover, the coarse quality of the food, to which many were not accustomed, gave rise to an increase in intestinal disease. The indigestible food, often taken in large quantities, produced a violent peristalsis, and, owing to the increased freedom of movement of the gut, volvulus readily ensued. Flatulence, which has recently been an almost universal disorder in Russia, was another factor in the production of volvulus.



## 34. Perforative Peritonitis in Paratyphoid Fever.

E. CORNILLIS (*Deut. Zeit. f. Chir.*, October, 1924, 5 bis, 6 Heft, p. 423) records an illustrative case of perforative peritonitis in paratyphoid fever, and has collected eight others from the literature, to which may be added that recently recorded by A. E. Mortimer Woolf (*ERITOME*, August 4th, 1923, No. 98). While as a general rule perforative peritonitis is a very serious condition in typhoid fever, and is usually fatal in spite of laparotomy, six of the ten cases of perforative peritonitis in paratyphoid have ended in recovery, although a comparatively long period has sometimes elapsed between the perforation and operation—such as forty hours in Chevrier's case. This difference between the two diseases is to be explained first by the better general condition in paratyphoid; secondly, by the smaller size of the perforation; and thirdly, by the lesser degree of virulence of paratyphoid bacilli for the peritoneum. Cornillis's case occurred in a man aged 35, admitted to hospital with the diagnosis of appendicitis, owing to the sudden onset of pain in the right iliac region, nausea, and vomiting. He had been feeling tired and feverish for eight days, but had continued his work until the day of admission. On laparotomy purulent peritonitis was found, but the appendix, apart from a slight catarrh, was normal. Numerous ulcers, three of which had perforated, were seen in the ileum. The corresponding mesenteric glands were enlarged and soft. Owing to the danger of further perforations 12 cm. of the affected gut was resected and an end-to-end anastomosis was performed. Subsequent recovery was uneventful. Bacteriological examination showed that the case was one of paratyphoid fever B.

## 35. Surgical Value of the Red Corpuscles Sedimentation Test.

SONNTAG (*Zentralbl. f. Chir.*, October 25th, 1924, p. 2383) records his observations on sedimentation of the red corpuscles in surgery in a paper based on 500 patients aged from 10 to 75, who had been examined by Linzenmeyer's method in the surgical polyclinic of Leipzig University during the last year. The method is exceedingly simple as regards removal of blood, apparatus, technique, and estimation of results. A positive result is obtained as a rule in absorption of products of decomposition, including inflammation and malignant growths. He urges caution, however, since the reaction is always positive in menstruation, pregnancy, operations, wounds, fractures, anaesthesia, protein therapy, and intense inflammatory disorders. An absolute diagnosis naturally cannot be made by this means between certain diseases which give a positive reaction, such as mastitis and mammary cancer, or tuberculosis and syphilis of the lymphatic glands. The test, however, is of value for distinguishing between inflammatory diseases, especially syphilis, tuberculosis, and malignant growths, on the one hand, and a variety of diseases on the other. It is, therefore, particularly useful in diseases of the bones and joints and abdominal organs—as, for example, in the diagnosis between tuberculous arthritis and a loose body in the joint, between morbus coxae and Perthes's disease, flat-foot and tuberculous disease of the foot, renal tuberculosis and tumour and calculus, prostatic hypertrophy and prostatic tumour, oesophageal cancer and oesophageal diverticula, thyroid carcinoma and enlargement of the thyroid. The reaction is also of value in differentiating between inflammatory and functional diseases, such as hysteria and simulation. Apart from diagnosis it is of prognostic value in the diseases mentioned above, such as tuberculosis and syphilis, as well as in malignant growths, in which it indicates ulceration, metastases, or recurrences. Finally, the method can be employed for detecting latent infection before an intended operation. Although the reaction is not specific or constant, Sonntag finds it useful as an objective sign, especially as the normal values are constant and differ widely from the findings in pathological conditions.

## Therapeutics.

## 36. Hydnocarpus Esters in Leprosy.

E. MUIR (*Indian Journ. Med. Research*, October, 1924, p. 221) recommends the use of esters of hydnocarpus oil derived from *Hydnocarpus wightiana*, which is the commonest species of hydnocarpus in India, in the treatment of leprosy. Esters of hydnocarpus oil mixed with an equal quantity of pure olive oil are used, the dose ranging from 0.5 c.cm. to 10 c.cm. If the patient can stand 10 c.cm. without pain, the oil may be omitted and 5 c.cm. of the pure esters given. The injections are given either intramuscularly or subcutaneously. Intravenous injections, though they have the advantage of being almost painless, not infrequently produce unpleasant fits of coughing and sometimes are followed by considerable pain in the chest. The intramuscular injections are given into the

gluteal region and smaller doses into the deltoid. Subcutaneous injections may be given by infiltration under the skin or under the skin of the extensor surface of the limbs. The infiltrated area should be gently massaged, so as to distribute the mixture and hasten absorption. It is advisable to begin with small doses in patients who are in the second or third stage of leprosy, 1 c.cm. being given at first and the amount increased by 1/2 c.cm. at each dose. The injections are given twice a week. A patient in the second or third stage may tolerate injections of large doses for a long period without showing any reaction, and then the injection may be followed by a violent reaction manifested by pyrexia, swelling, erythema of quiescent lesions, and sometimes the appearance of fresh sores. The fever and other symptoms may subside in a few days, but whereas formerly large injections failed to produce a reaction, now even small doses are sufficient to produce one. Unless the reactions are too frequent and severe, this sensitization is probably beneficial, as repeated reactions lead to resolution of the lesions and new permanent lesions are not formed. The reactions, however, should be controlled by keeping a careful record of the temperature, as the first sign of sensitization is an increasing tendency for the temperature to rise and remain up after injection. If the temperature rises to 100° F. and remains up for more than twenty-four hours, the indication is that an excessive dose has been given, and the next dose should be less. But if the temperature returns to normal in twenty-four hours, the same dose may be continued. Muir adds that the therapeutic effect of the esters is enhanced by adding either creosote or thymol to the solution. The most satisfactory results are to be obtained in early cases. The length of treatment in different cases varies according to circumstances.

## 37. Treatment of Pseudarthrosis.

L. IMBERT (*Arch. de méd., cir. et esp.*, October 4th, 1924, p. 5) holds that when a bone is broken the site of the fracture acquires an important though transient function—namely, that of detaining the lime salts circulating in the blood and probably of elaborating them and thus forming a callus. The site of the fracture thus becomes converted into a focus of assimilation, transformation, and also elimination, so as to form a sort of new gland the function of which is to make a callus. If a fracture in a person without obvious taint does not become consolidated, the endocrine glands or the fracture itself cannot have supplied the necessary secretion. The indication in such cases is to correct this deficiency by injecting blood or serum from another person with a fracture in which consolidation is taking place normally. In contrast with the prophylactic use of serum in measles, in which the serum is taken from a convalescent patient, the blood is supplied by a person in whom the condition is still active, and contains what is probably not found in convalescent blood—namely, ferments necessary for the formation of callus. Hitherto Imbert has only used serum in these cases, because its employment is most convenient, but he is of opinion that whole blood should be used. The dose depends on the amount that can be obtained from a patient—namely, from 10 to 20 c.cm. The donor should not be suffering from any infectious disease, and should give a negative Wassermann reaction. It is best that he should not be either a child or an elderly person. At first Imbert used to give the injections in any part of the body, but his results improved as soon as he gave them near the fracture or into the actual site of the fracture. The injections should be repeated two or three times. The author states that a result may be observed during the first week, but if none occurs the injections should be continued and the donor changed if possible. No bad effects were ever observed from the use of the serum in these cases.

## 38. Treatment of Pericarditis.

F. KÜLES and H. SCHÜRMEYER (*Klin. Woch.*, November 11th, 1924, p. 2104) give a concise account of the treatment of pericarditis. Restriction of fluids sometimes aids in checking pericardial effusion. Cold applications locally are often agreeable to the patient, and local abstraction of blood (by leeches or cupping) is advised. Subjective cardiac symptoms may be relieved by salicylates, but morphine or opium is often required: morphine should be given by mouth or as a suppository, and not hypodermically. Digitalis is recommended by the authors in all cases—in large doses when symptoms of cardiac failure are marked, in small doses if such symptoms are absent. In pericardial effusion the question of paracentesis pericardii should be considered. It is justified when dyspnoea, cyanosis, small and intermittent pulse, and collapse indicate danger to life. These symptoms often develop suddenly, but may rapidly subside after a few cubic centimetres of fluid have been removed. Paracentesis is also indicated when a definite effusion is not being absorbed or is only slowly absorbed. The authors suggest that in

certain difficult cases paracentesis may be of service in deciding the diagnosis between pericardial effusion and a dilated heart. It is usually performed only after much hesitation, and often too late. They think that Curschmann's method is the best, the left fifth or sixth intercostal space being punctured, in the nipple line, or outside it. If the paracentesis reveals pus, pericardiotomy should be performed and the pus evacuated. The lowest lying part of the pericardium should be opened and the sac drained. They report that very good results are often obtained. They add that in mediastino-pericarditis, adhesions of the pericardial surfaces usually cause no trouble; but adhesion of the heart to the bony anterior thorax wall causes functional disturbances. In such cases cardiomyolysis (with removal of pieces of the fourth, fifth, and sixth ribs) may be of definite service.

### 39. Treatment of Neurasthenia by Manganese Cacodylate.

G. LEMOINE (*Bull. Soc. de Théor.*, November 12th, 1924, p. 274), who has studied the action of manganese for several years, states that manganese cacodylate is easily prepared by saturating pure cacodylic acid with very pure manganese hydrate. The salt thus obtained is readily soluble and can be injected subcutaneously. Lemoine has employed it in cases of anaemia, asthonia following acute disease, and nervous depression, with gratifying results. Examination of the blood showed that the drug usually caused an increase in the number of polymorphonuclear cells as well as of the eosinophils, and a much more rapid rise in the haemoglobin value and number of red corpuscles than under treatment by iron salts. Neurasthenic subjects, who in other circumstances would have required a much longer treatment, showed a complete transformation in four to six weeks. The injections were painless and the preparation was absorbed very quickly. When the doses had been repeated for a certain time the following results were observed: (1) An increase in muscular strength, as shown by the dynamometer, at first very transient, but later more persistent, and finally permanent. (2) Rise of the blood pressure, which is almost always low in neurasthenics. The rise varied, but as a rule it amounted to 1 to 3 cm. Hg in four to five weeks' treatment. (3) The appetite increased, the digestive function improved, the tongue became cleaner, and there was a very distinct gain in weight. (4) Examination of the urine showed an increase in the amount of urea excreted, probably owing to the improvement in nutrition, and diminution of the sulpho-conjugate ethers and indican. (5) Diminution of psychical and physical asthenia, which was replaced by a sense of well-being. Lemoine attributes the successful results to the oxidizing action of manganese on the organic refuse accumulated, which interferes with the proper working of the nervous system.

### 40. Treatment of Rickets by Ultra-violet Rays.

LESNÉ and DE GENNES (*Paris Méd.*, December 20th, 1924, p. 520) discuss the treatment of rickets by ultra-violet rays, and point out that beneficial results have been reported both from experiments on animals and also from clinical experience, with the latter of which they deal more particularly. The moderate degree of anaemia characteristic of rickets is, they find, greatly benefited by this treatment, the red corpuscle count rising rapidly to the normal. They have observed pseudo-leukaemic conditions, however, which have been unaltered, even though rapid healing was observable in the bones. It is possible that such graver forms of anaemia are to be attributed to multiple infection in these children. Good results were reported in the metabolism of phosphorus and calcium, and still more outstanding improvement was observable by radiological examination of the bones, even of the most advanced cases. As early as the fifth exposure to ultra-violet rays active calcification could be discerned, and radiographs showed that this process continued steadily until, after forty exposures, the cure was radiologically complete. Running parallel with these changes a definite and marked influence on the general health was demonstrable; the children ceased to be peevish, recovered their appetites, gained in weight, began to walk, and delayed teeth made their appearance. The authors suggest that the explanation of the action of ultra-violet rays may be found in their influence on the circulating blood in the capillary networks or on the cutaneous nerve endings. They suggest also that possibly there may be some intermediate action on the sympathetic system and the endocrine glands related to the improved metabolism of phosphorus and calcium. They conclude that ultra-violet rays are the most active and the most powerful treatment available for rickets in early childhood, and they suggest that the rays may be employed preventively, especially during the winter, in the case of children who show signs of a rickety tendency.

### 41.

#### Peptone Treatment.

E. BULMER (*Edin. Med. Journ.*, January, 1925, p. 31) reports the treatment by peptone therapy of twenty patients suffering from asthma, rheumatic conditions, or sciatica. A sterilized solution of peptone was used, a primary dose of 0.4 gram for a healthy man, and 0.3 gram for a woman, being given by the intragluteal route, with subsequent injections, at five or six day intervals, of twice the preceding dose. No more than three or four injections were usually required for cure. The dosage was regulated to obtain a reaction temperature of about 101° F. The intravenous route was tried, but seemed to be dangerous. Bulmer found that the best results were obtained in rheumatic or fibrositic conditions, and in certain toxic states such as urticaria. In view of the feeling of physical well-being that followed the reaction the treatment was tried in chronic mild melancholia, but without success. Details of the cases are given, and Bulmer reports that the contraindications for this treatment are marked debility, tuberculosis, diabetes, and advanced cardio-vascular disease, in the last case owing to the profound fall in arterial pressure during the negative phase.

## Diseases of Children.

### 42.

#### Hepato-splenic Disease in Children.

HANAU (*Monatschr. f. Kinderheilk.*, October, 1924, p. 54) describes four cases of cirrhosis of the liver with enlargement of the spleen in children, and discusses their etiology. The first case was that of a male child 2 months old, admitted to hospital on account of vomiting after meals and passing mucus and blood-stained stools. The abdomen was much enlarged and the liver and spleen were palpable; the child died a fortnight later from bronchopneumonia. The autopsy revealed no cause for the enlargement of the liver and spleen beyond the fact that the liver on section showed pronounced cirrhosis of the Laennec type. The second case was that of a female child, aged 1½ years, in whom an enlarged liver and spleen had been detected in the first month of life, and who had had jaundice for the first three months. When the child was admitted to hospital the liver and spleen were palpable and there were dilated veins on the surface of the abdomen. At the autopsy a week later the liver was found to have a bossed surface and a thickened capsule, and the spleen was much enlarged; the larger bile passages were normally patent. Microscopic examination of cirrhosis with fatty infiltration and cells. The third patient was a girl 6 with pallor and lassitude, and ended fatally two years later with paralysis of all four limbs. The blood picture was that of a moderately severe anaemia of the secondary type, and the urine contained much urobilin. The liver was markedly cirrhotic, and the bile passages were much thickened. The fourth child was a boy of 1½, who was known to have had an enlarged abdomen since he was 8 months old. The liver and spleen were palpable, the white blood cells were reduced to 2,000 per cubic millimetre, of which about 50 per cent. were myelocytes. Considering the etiology of these cases, in three of which hepatic and splenic enlargement appears to have come on during the first few months of life, Hanau discusses the following conditions: (1) Icterus neonatorum—never known to leave such enlargements; (2) Icterus catarrhalis—very rare in infants and having a very favourable prognosis; (3) Icterus gravis, which differs from these cases in being familial; (4) septic infection; (5) syphilis; (6) tuberculosis—all the tests performed were negative in each case; (7) congenital biliary obstruction—no evidence of this was found after death in three of the cases; (8) Banti's disease—to which the course of these cases did not correspond; (9) acholic jaundice—but jaundice and anaemia were not present together; (10) Wilson's disease—distinguished by the character of its nervous symptoms; (11) alcoholic cirrhosis—a diagnosis not supported by the history in any of the cases; (12) leukaemia—negated by the blood counts. He concludes that toxic and infectious causes cannot explain all cases of liver cirrhosis or hepato-splenic disease in children, but that there must be, apart from any definite malformation, a disease of the hepato-splenic system which is congenital.

### 43.

#### Buttermilk in the Feeding of Infants.

A. B. MARFAN, R. TURQUET, and ARIS (*Paris méd.*, November 1st, 1924, p. 353) advocate buttermilk in the treatment of debilitated infants who cannot be fed at the breast. Buttermilk is cow's milk deprived of the greater part of its butter fat and containing lactic acid due to the fermentation of lactose. The authors hold that lactic acid favours digestion and assimilation by stimulating alimentary secretion, particularly that of the pancreatic gland, increasing diastatic activity, lessening putrefaction, and regulating

intestinal peristalsis. This may be disputed, but it is generally accepted that lactic acid helps in the predigestion of casein. The authors add that buttermilk should be prepared with scrupulous cleanliness, have a total acidity, in terms of lactic acid, of less than 7 grams per litre, and be fairly constant in composition. They use concentrated buttermilk, which keeps well in sealed bottles. It is prepared by the addition of 40 grams of cane sugar and 10 grams of rice flour or wheat flour to the litre of buttermilk reduced to half that volume. The cane sugar and starch are added to increase its nutritive value and to make it more palatable. Its food value is stated as 500 calories per litre. The addition of an equal quantity of water makes it of the strength of ordinary buttermilk, but the authors find it an advantage to dilute it even further with lime water. They give a detailed schedule of feeding. When the debilitated infant has survived a month, and especially when its weight exceeds 6½ lb., ordinary milk, condensed milk, or dried milk is gradually introduced into the diet. On any sign of digestive disturbance buttermilk should again be exclusively used. The authors classify debility among newly born infants into three groups: 1st degree, slight, where the weight lies between 6½ and 5½ lb.; 2nd degree, serious—5½ to 4½ lb.; 3rd degree, grave—below 4½ lb. The mortality among the infants fed on buttermilk is in each group approximately 20 per cent. less than in the case of condensed milk.

#### 33. A Negative Wassermann Reaction in Syphilitic Infants.

G. ARDIAN (*Hygiene*, October 31st, 1924, p. 725) draws attention to the not uncommon association of a persistently negative Wassermann reaction with clinically active syphilis in babies. Since the beginning of 1916 he has systematically made serological examinations in all his cases of congenital syphilis, even when there could be no doubt of the diagnosis made on the clinical evidence. There were some cases in which the negative Wassermann reaction was only temporary; after an interval it was found to be positive, even though specific treatment had been instituted during this interval. It again became negative after treatment had been continued for some time. In these cases the negative Wassermann reaction first observed might have been the result of faulty technique, but this explanation was not applicable to the cases in which the reaction was persistently negative while the clinical evidence indicated activity of the disease. The author records seven such cases, in none of which could there be any doubt, from the clinical point of view, of the existence of syphilis in both mother and child. These 7 cases form part of a total of 73 cases of congenital syphilis, with clinical signs of activity, treated in hospital and private practice. The author refers to recent observations by French and German pathologists, who have found that the blood and cerebro-spinal fluid of newborn infants with obvious clinical signs of syphilis often give a negative Wassermann reaction. But these authorities have found that this negative reaction soon becomes positive. The point on which the author insists is that this negative reaction may remain so for a long time.

## Obstetrics and Gynaecology.

#### 35. Dysmenorrhoea.

D. H. WESSELS (*South African Med. Record*, November 22nd, 1924, p. 524) classifies dysmenorrhoea according to its etiology as (1) inflammatory, including the majority of cases, and (2) non-inflammatory, embracing congenital and acquired cervical atresia, polyp, and backward or downward uterine displacements. He considers prophylaxis to be important, and urges that *in vivo* vaginitis in children should be treated seriously; leucorrhoeal discharges before and after puberty should be regarded as pathological, and attention be paid to general hygienic conditions. Sedentary occupations should be avoided and early marriage encouraged, dysmenorrhoea being described as Nature's protest against the restrictions and social handicaps of modern civilization. Relief may be obtained by internal and external heat and sedatives, but early removal of the cause should be the main object of treatment, with a view to preventing extension of fibrosis and the development of chronicity. Thyroid and ovarian extracts may be useful, but are not curative. The author finds that the best results by dilatation and curettage are obtained by early operation, when inflammation has ceased, and when there is only a moderate amount of fibrosis. The unsatisfactory cases are those in which inflammatory irritation with fibrosis is still progressing or is advanced. Dilatation and packing with iodoform gauze or bipp, or ionization in early cases, is said to give the best results. In severe intractable cases radium, to stop menstruation, was found better than treatment by x rays or hysterectomy.

#### 46. Prophylactic Episiotomy.

D. DEUTSCHMAN (*Med. Journ. and Record*, November 19th, 1924, p. cl) for the prevention of perineal lacerations advocates a modified prophylactic episiotomy, which avoids mutilation of the perineal muscles and obviates rectoceles and cystoceles, which may occur after normal deliveries without any visible tears in the perineum. The operation should be performed as a prophylactic and not as an emergency measure, the incision being under control, and not in consequence of pressure of protruding parts or mechanical interference. Preceding the incision, and as soon as bulging of the perineum commences, three long loose sutures on a long curved needle are introduced about one-third of an inch apart through all the layers of skin, subcutaneous tissue, bulbo-cavernosus, levator muscle, and vaginal wall, beginning from the edge of the vulva, and following a semicircular course with the convexity upward, outward, and downward, in the direction of the fibres of the vaginal portion of the levator muscle. The sutures should be left loose so as not to tear during the perineal distension. As soon as the distension has reached a reasonable amount a curved incision is made, commencing at the edge of the vulval orifice at a point about half an inch above the fusion of the labia majora and minora, and directed upward, outward, and downward between the sutures to follow the course of the fibres of the vaginal portion of the levator muscle, thus causing it least injury and preventing rectoceles. Deutschman claims that such a round incision avoids the ill effects which may result from either a posterior longitudinal or anterior oblique incision; it should be unilateral on the side which is undergoing the greatest amount of pressure.

#### 47. The Early Diagnosis of Pregnancy.

X. BRONNICOFF (*Zentralbl. f. Gynäk.*, November 8th, 1924, p. 2474) has carefully investigated the phloridzin test in connection with the early diagnosis of pregnancy. It consists of administering a minute dose of phloridzin (0.002 gram intramuscularly) on an empty stomach. The patient then drinks some water and three examinations of the urine are made at half-hourly intervals. Sugar should appear in the urine only in the case of a pregnant woman. The author quotes many statistics indicating that a positive reaction may be expected in 90 per cent. of the cases. He then quotes his own figures, which are as follows: women pregnant less than two months, 74 per cent. positive; non-pregnant women, 4 per cent. positive. He found that menstruation sometimes altered the reaction; in one case the test became positive from four days before till ten days after the period. In eight cases of amenorrhoea (not due to pregnancy) he found five positive. He also made tests on men, and here he got positive results in 72 per cent. of cases. He also gives figures for cases of complete and incomplete abortion and in women after the menopause. Accordingly Bronnicoff comes to the conclusion that the phloridzin test is not reliable, and that the problem of the early diagnosis of pregnancy remains yet to be solved.

#### 48. Incomplete Abortion.

J. A. VAN DONGEN (*Nederl. Tijdschr. v. Geneesk.*, November 15th, 1924, p. 2465) states that in a series of more than 2,000 cases of abortion during the last eight years 110 patients were examples of incomplete abortion complicated by infection of the adnexa, parametrium, peritoneum of Douglas's pouch, or diffuse peritonitis. In some patients the infection was present in several foci. Salpingo-oophoritis was found in 50, parametritis in 60, pelvic peritonitis in 27, and diffuse peritonitis in 26; 86, or 78.2 per cent., had an axillary temperature above 100.4°, and 24, or 21.8 per cent., below that level, as compared with 24.8 per cent. febrile and 75.2 per cent. afebrile cases in a series of uncomplicated abortions; 32 cases, or 29 per cent., were examples of criminal abortion by their own confession, though undoubtedly the real number of such cases was considerably higher, as even in the uncomplicated cases a history of this kind was obtained in 8.3 per cent. The duration of treatment till the patient's discharge or death ranged from one day to three months, the average being about five weeks, as compared with an average of 11.25 days in uncomplicated cases. The mortality was 23.6 per cent. (26 deaths), as compared with a mortality of 0.4 per cent. in uncomplicated cases without fever and 1.09 per cent. in uncomplicated febrile cases. In 56 cases curetting was performed. In 25 of these cases there had been bleeding, which in some instances had been very severe; in 23 remains of the placenta could be felt by the finger inserted through the cervix; and in 6 curetting was performed at the same time as posterior colpotomy. In some cases there was no haemorrhage, remains of the placenta could not be felt, and curetting was carried out as a last resort. In 34 cases a considerable quantity of placental residues was removed, and in 21 little or none. In 20 cases a surgical operation was carried out,

posterior colpotomy being performed for abscess in the pouch of Douglas, pyosalpinx, or abscess in the parametrium in 16 cases, and in 4 cases an encapsulated intraperitoneal abscess or parametric abscess was opened. The mortality in the non-febrile cases which were curetted and the non-febrile cases which were not curetted was nil, showing that the mortality was not connected with the operation but with the severity of the case. The mortality of the febrile cases which were curetted (32 per cent.) was somewhat higher than that of the febrile cases which were not curetted (27.8 per cent.). The author concludes that curetting should with few exceptions be carried out whenever there is reason to suppose that any portions of the placenta are left behind.

## Pathology.

### 49. Titration of Antidiphtherial Serum.

A. SORDELLI and R. SERPA (*C. R. Soc. de Biologie*, November 14th, 1924, p. 1043) have made a comparative study of the titration of antidiphtherial serum by Ramon's and by Ehrlich's methods. In the former case the method was slightly modified, the amount of toxin used being reduced to 5 c.cm. The antitoxin was diluted 1 in 10 with saline, and placed in varying amounts in a series of tubes. To each tube 5 c.cm. of toxin were added and incubation carried out in a water-bath at 37° C. The tubes were examined at short intervals, and the first which showed flocculation was taken as the index of neutralization. In their first experiments they tested two antisera against two toxins, and found that in each case the first flocculation always appeared in the tube containing 0.7 c.cm. of serum, in spite of the difference in the antitoxic titre of the two serums. It was expected to find flocculation occurring first in those tubes in which the quantity of serum multiplied by the antitoxic titre would have given the same figure; this, however, was not the case. Their results were not improved when, instead of taking the first tube in which flocculation appeared as their index, they estimated the limit of flocculation. They found also a difference in the antitoxic titre of the serum depending on which toxin was used for estimation; with one toxin the results were higher than with another. They consider that the use of Ramon's method should be deferred till it is possible to standardize the reagents.

### 50. Excretion of Tubercle Bacilli by the Bile.

TUBERCLE bacilli have often been demonstrated in the bile of men and animals, but the proportion of cases in which they may be found and the mechanism of their excretion by this channel are still subjects of debate. T. KOIZUMI (*Zeit. f. Tuberk.*, 1924, 41, p. 173) has investigated the bile in 50 human cases, examining it for tubercle bacilli microscopically and by cultural and animal tests. In all cases the bile appears to have been obtained at autopsy by opening the gall bladder, sucking out the bile, and adding to it the scrapings of the walls. For microscopical examination the bile was centrifuged and the deposit stained by the Ziehl-Neelsen method. In only one of the 50 specimens was the tubercle bacillus found. The author supposes, therefore, that the bile acts as a protective colloid, preventing the stain from being absorbed by the organisms. Cultures were made by the deposit with 15 per cent. sulphuric acid for thirty minutes, centrifuging, washing well, and planting in potato. In only one out of the 20 specimens examined by this method was the tubercle bacillus found. For animal experiment the centrifuged deposit was washed carefully and injected subcutaneously into the animal, presumably the guinea-pig. Out of the 50 specimens tested 23 gave rise to tuberculosis. It was noted that the bile of those patients whose liver appeared normal to the naked eye proved virulent more often than the bile of those patients who were affected with miliary tuberculosis—54.6 per cent. as against 40 per cent. In 12 cases the livers of patients of the first class were examined histologically, and lesions were found in no fewer than 11 of them. This observation gives strong support to Loewenstein's belief that towards the later stages of tuberculous disease the blood stream is invaded by tubercle bacilli, and that every death from tuberculosis is accompanied by a true bacillæmia.

51. Manganese and the Production of Immunity.  
C. E. PICO (*C. R. Soc. de Biologie*, November 14th, 1924, p. 1049) has attempted to confirm the report of Walbaum and March of an increase in the antibody production of animals injected with manganese chloride. After immunizing a horse with

diphtheria toxin, he waited a week and then injected manganese chloride on three consecutive days. The titre of the serum in antitoxin was estimated before and after the injection. The average increase in titre brought about by the manganese was 17 per cent. With tetanus antitoxin the manganese injections proved to be useless. In the case of antimeningococcal serum he found that the manganese had no effect on the agglutinin titre, but it increased the antibody production as tested by the fixation of complement. His results with precipitating serums were negative. The injection of manganese appeared to have some value in protecting sensitized guinea-pigs against anaphylactic shock. His conclusions are that while manganese chloride is able to raise the antitoxin titre of horses immunized to diphtheria toxin, it has no effect on those immunized with tetanus toxin, nor on the serum of animals containing precipitins, agglutinins, or haemolysins.

### 52. Tissue Resistance and Permanent Immunity.

EXPERIMENTS have been conducted by S. NUKADA and T. MATSUZAKI (*Journ. Exper. Med.*, November, 1924, p. 651) to determine the nature of the tissue alterations during the acquisition of immunity. They point out that there are two groups of diseases: (1) those to which a permanent immunity can be obtained either by an attack of the disease or by vaccination, such diseases being small-pox, scarlet fever, and typhoid; and (2) those to which no lasting immunity can be obtained; such diseases are influenza, gonorrhoea, and pneumonia. They remark that it is generally held that the development of permanent immunity is due to the presence of antibodies which have a specific effect on the causative organism of the disease, but they doubt this explanation, on the twofold ground that no strict relationship is demonstrable between the degree of immunity and the quantity of antibodies existing in the blood, and that immunity can often be shown to be present in the entire absence of circulating antibodies. They therefore directed their attention towards the tissues. The action of a solution containing the toxic products of the typhoid bacillus was tested on the heart of a normal rabbit—isolated from the body and perfused with Locke-Ringer fluid—and on the heart of a rabbit which had been immunized by several doses of a typhoid vaccine. They found that the immune rabbit heart continued to beat for considerably longer than the normal rabbit heart. Having demonstrated the increased resistance of the former, they proceeded to ascertain whether this was specific. For this purpose they tested the effect of the typhoid toxin on the hearts of animals immunized to other organisms, such as *B. coli*, *B. influenzae*, *B. pestis*, and others. Their results showed that the hearts of these animals were not specially resistant, and it was concluded that the resistance of the hearts of animals immunized against *B. typhosus* must be specific in its nature. This specificity might be due to the presence in the heart substance of a definite antitoxin to the typhoid bacillus, or it might be the result of a specific biological alteration of the tissue cells. Failing in further aim any evidence in favour of the first, they consider that the second must be correct. Therefore, is that permanent acquired in typhoid—is due, not to the presence of a definite and specific change in the tissue cells resulting in an increase of the resistance of the tissue to the toxic products elaborated by the causative organism.

### 53. Estimation of Sugar in the Blood.

A SIMPLE method of estimating sugar in the blood, eminently suitable for use by medical practitioners, has been described by E. G. B. CALVERT (*Biochem. Journ.*, 1924, xviii, No. 5, p. 839). It consists in withdrawing 0.16 c.cm. of blood from the thumb by means of a specially graduated pipette, mixing it with 7.3 c.cm. of distilled water, and adding a 10 per cent. solution of sodium tungstate followed by sulphuric acid. The total volume reaches 8 c.cm. As soon as the proteins are coagulated the fluid is filtered through paper, and 5 c.cm. of the filtrate are used for the subsequent examination. To this 5 c.cm. are added 2 c.cm. of an alkaline copper tartrate solution, and the mixture is placed in a boiling water-bath for six minutes; it is then withdrawn and treated with 2 c.cm. of phosphomolybdic acid solution, which produces a blue colour. A standard sugar solution is treated in the same way so as to serve as a comparison. Both solutions are allowed to stand for four minutes, cooled, and made up to 12.5 c.cm. with distilled water. The colours are then compared in a colorimeter, and from the readings obtained the calculation. The method is stated to be quite simple, and the author is satisfied of its accuracy.



# EPITOME OF CURRENT MEDICAL LITERATURE.

## Medicine.

### 54. Complete Remissions of Pernicious Anaemia.

O. LINDBOM (*Acta Med. Scand.*, Supplement VII, 1924, p. 339) has followed the blood changes during a year in about 50 cases of pernicious anaemia sent him for examination by medical practitioners. He usually found no difficulty in demonstrating the characteristic blood changes even when the clinical improvement was such as to deserve the description of a remission. Even in the cases in which the number of erythrocytes rose to 4 or 4½ million, a raised colour index and definite megalocytosis were demonstrable. There were, however, three cases in which the examination of the blood, as well as the clinical examination, temporarily showed a perfectly normal condition. One of these patients was a married woman, aged 59, who was first examined by the author in March, 1922, when she had suffered for a year from characteristic symptoms of pernicious anaemia. The haemoglobin was 65 per cent., the erythrocytes numbered 2,450,000 per cubic millimetre, the colour index was 1.3, and there was marked megalocytosis, leucopenia, neutropenia, and thrombopenia. The spleen was palpable, and there was a marked urobilin reaction. Under dieting, rest in bed, and treatment with arsenic, she improved rapidly, and in May and June she not only felt perfectly well, but the haemoglobin was between 85 and 100 per cent., the erythrocytes numbered from 4,250,000 to 4,830,000, and the colour index was between 0.9 and 1; none of the morbid cells indicative of pernicious anaemia could be found. The disease, with its characteristic blood picture, soon returned, however, and death occurred in August, 1922.

### 55. Second Attacks of Measles.

Loos (*Wien. Klin. Woch.*, September 26th, 1924, p. 981) discusses the possibility of second attacks of measles, and records the following three cases which came under his observation. In the first case the child was brought to hospital with undoubted measles, the mother stating that the child had had a previous attack in the same hospital six months before. On consulting the notes, however, it was found that the first attack was rubella. The second case was in a member of a family of nine children who contracted measles at the same time. A year later one of the children, aged 8, developed measles. It was at first thought that this was a second attack, but on careful inquiry it was found that this was the only child who had escaped in the family epidemic in the previous year. The third case was in one of Loos's assistants, who had had an undoubted attack of measles in childhood at the same time as his sister. The eruption on the second occasion, which was at first supposed to be measles, was probably only a drug eruption occurring in influenza. Loos therefore, without denying the possibility of second attacks of measles, has not yet seen an undoubted example, and maintains that all supposed cases require critical investigation.

56. H. W. BERINSON (*Nederl. Tijdschr. v. Geneesk.*, October 11th, 1924, p. 1864) states that in a series of 903 cases of measles in his practice only 16 (1.7 per cent.) gave a history of a previous attack. Of these, 4 were in the first year of life, 7 were between 1 and 3, and 5 between 3 and 7. A second attack of measles would therefore appear to be most frequent in the first year of life, although the incidence of the disease is lowest at that age, only 80 of the 903 cases being under 1 year. The interval between the first and second attacks varied in different cases.

### 57. Cardiac Effects of Atropine.

R. D. RUDOLF and F. M. R. BULMER (*Amer. Journ. Med. Sci.*, November, 1924, p. 641), from a study of some of the cardiac effects of atropine, point out that a small dose acts in an opposite way to a large dose. Small doses slow the heart rate through stimulation of the vagal centres, whereas large doses, by paralyzing the vagal cardiac endings, cause acceleration. Single doses of 1/100 grain cause slowing of the pulse rate together with lowered blood pressure, the effect lasting for several hours. In a few cases such a dose caused little or no slowing, or even hastening, but the subsequent administration in such individuals of a still smaller dose always produced slowing. Heart-block, due to digitalis or other causes, was found to be increased by small doses of atropine, but large doses tended to remove it. In average

doses no change in the rate occurs, since the two effects of stimulation of the vagal centres and partial paralysis of the cardiac nerve endings neutralize each other. The authors found that individuals varied considerably in their reaction to atropine, but in most adults 1/100 grain would as a rule only slow the heart.

### 58. The Dick Test in Scarlet Fever.

A. ZINGHER (*New York State Journ. Med.*, November, 1924, p. 915), who has made trial of the Dick test in over 7,000 cases, has come to the following conclusions: (1) It is a reliable method for determining susceptibility and immunity to scarlet fever. There were only eight positive reactors, and none of the negative reactors developed scarlet fever. (2) The test indicates susceptible persons who need immediate passive immunization with scarlet fever antitoxin. The rapid appearance of the reaction in eight to twelve hours is of great value for this purpose. (3) The test helps in the diagnosis of doubtful cases. A strongly positive reaction early in the disease and again later in convalescence contraindicates the diagnosis of scarlet fever. A definitely negative reaction during the first two days of the rash is also against this diagnosis. (4) Active immunization with scarlet fever toxin is safe, and is not accompanied by constitutional symptoms if the dose of toxin is gradually increased. The skin test dose is a convenient method of measuring the amount of toxin. For children under 3 years the doses are 100, 250, and 500 skin test doses. Over 3 years and up to 12 years the third dose is gradually increased up to 500 skin test doses. For adults the dose may be increased up to 1,000 skin test doses. (5) Purification of the toxin by the sodium chloride and acetic acid precipitation method gives a preparation which is better for the Dick test and for active immunization owing to lesser protein reactions. (6) The use of toxin treated with formaldehyde to make it practically non-toxic and of toxin-antitoxin mixtures represents further steps in the development of active immunization against scarlet fever. (7) The Dick test applied to 232 cases of scarlet fever showed that 91.3 per cent. gave positive reactions during the early stage of the disease and negative reactions in convalescence; 19 patients gave a persistently positive reaction, of whom 2 developed scarlet fever subsequently, and 12 of the remaining 17 did not desquamate. (8) Probably most of the strains of scarlet fever streptococcus produce a single toxin. The few cases which show a positive Dick test in convalescence and yet desquamate point either to an insufficient amount of antitoxin in the patient's blood and tissues to neutralize the action of the toxin in the test or to the production of more than one toxin by a few exceptional strains of the scarlatinal streptococcus. (9) The scarlet fever toxin is neutralized in multiple proportions by the antitoxin.

## Surgery.

### 59. Treatment of Naso-pharyngeal Fibromata.

E. SCHEMPP (*Zentralbl. f. Chir.*, October 11th, 1924, p. 2232) states that the surgical treatment of naso-pharyngeal fibromata entails considerable disadvantages and dangers. Not only is an extensive operation required to reach the base of the tumour, but owing to its rich blood supply its removal is usually associated with severe haemorrhage, which in a number of cases has proved fatal. If plugging the naso-pharynx is required to check the haemorrhage, hearing may be impaired, and even after the tumour has been successfully removed recurrences are extremely frequent. For these reasons, and also because naso-pharyngeal fibromata tend to disappear spontaneously after the body has ceased to grow, treatment has been more conservative of recent years. Attempts have been made to reduce the size of the growth by partial operation or to make it shrink by canterization, diathermy, or electrolysis, but these methods are not very satisfactory. In partial operations haemorrhage always has to be considered, while electrolysis requires considerable time and patience on the part of both the doctor and the patient. Since 1918 all the patients with naso-pharyngeal fibromata attending the surgical clinic of Professor Perthes and the oto-rhino-laryngological clinic of Professor Albrecht at Tübingen have been treated with x rays. In 7 out of 9 cases the results were excellent, so that the patients became more or less completely free from symptoms; one patient was lost sight of after considerable improvement, and



in one case the improvement was less striking but nevertheless definite. Diminution in size of the growth began in one or two weeks, and as a rule became quite distinct at the end of four weeks. The shrinkage still continued for some months after the last application of x-rays, and in no instance was an increase in size observed, even a long time after the applications had ceased. No serious bad effects were observed. In only the first case did slight atrophy of the skin result; in other cases there were a transient dryness of the skin and loss of hair, but telangiectases never occurred. There were no bad effects from irradiation of the hypophysis, which was inevitable in these cases. He adds that the only drawback of x-ray treatment is that the good effect always takes a little time to appear, but this delay is compensated by the advantages of the method, which can be recommended as the one of choice for dealing with nasopharyngeal fibromata.

#### 60. Cholecystectomy for Typhoid Carriers.

J. A. VOSS (*Acta Med. Scand.*, Supplement VII, 1924, p. 360) gives an account of four cases in which cholecystectomy was performed, and the removal of the gall bladder, found to be infected with typhoid or paratyphoid bacilli, was followed by sterilization of the stools so far as these organisms were concerned. In two cases, however, typhoid or paratyphoid bacilli had not been demonstrated in the stools before the operation; in both these cases the operation was performed because there had been attacks of bilious colic, and in one case there was not even a history of typhoid fever. Yet a bacteriological examination revealed paratyphoid bacilli in one case and typhoid bacilli in the other. In the other two cases, also, cholecystectomy was performed because the patients were suffering from cholecystitis and not because they were carriers of typhoid or paratyphoid bacilli. The author admits that he had been sceptical as to the value of attempting to sterilize carriers by removing the gall bladder, but his more or less accidental experiences in this matter, together with a study of the literature of the subject, have converted him to the view that this procedure may be justifiable in carefully selected cases. His summary of the literature includes seventy-three cases, in about three-quarters of which success was achieved with cholecystectomy or cholecystostomy, or the one operation followed by the other. About half of the cases of paratyphoid carriers were thus treated with success, whereas four out of every five typhoid carriers were effectively cured. Cholecystectomy or cholecystostomy, in this series of seventy-three cases than did cholecystostomy. Voss has no hesitation in recommending early operative treatment when a patient with a history of typhoid or paratyphoid fever shows the smallest signs of cholecystitis; for the cases in which there is no such evidence he notes that the dangers of cholecystectomy without inflammation are no greater than those in the case of appendectomy.

#### 61. Cancer of the Oesophagus.

H. J. J. BLADWIKIP (*Nederl. Tijdschr. v. Geneesk.*, August 30th, 1924, p. 1131) records his observations on 125 cases of cancer of the oesophagus which occurred at the municipal hospital in Amsterdam; 112 were in males and 13 in females. Their ages ranged from 30 to 90, but 91 cases occurred between 50 and 70. Examples have been reported by Guisoz at 14, 22, and 24. The distribution of the lesions was as follows: Upper third of oesophagus, 28 cases; middle third, 51 cases; lower third, 44 cases; doubtful, 1 case; upper and lower third, 1 case. In 13 metastases of various sizes were found in the wall of the oesophagus. They were usually situated beneath the mucous membrane in the neighbourhood of the primary tumour, but sometimes 15 cm. distant from it. In one case the primary growth was at the level of the cricoid, and the metastasis was just above the cardiac orifice. In 4 cases metastases were found in the wall of the stomach. Metastases in the liver were found in 3 of the cancers in the middle third, and in 17 of those of the lower third. In 69 cases the oesophageal growth had perforated or become adherent with neighbouring organs. In 80 cases metastases were found in remote organs, and in 59 there were metastases in the lymphatic glands. In 49 cases, or about one-third of all the patients, the process remained localized on naked-eye examination.

#### 62. Chauffeur's Fracture.

J. GROSSMAN (*Amer. Journ. of Surg.*, November, 1924, p. 261) considers the term "chauffeur's fracture" should be discontinued, being a misnomer which does not indicate the type of fracture present. No definite type of fracture results from trauma indicated while cranking an automobile; the term merely indicates the manner in which the fracture has been sustained. Fracture may result from indirect violence due

to "kick-back" from the handle at the height of compression, so that the ball of the thumb is jammed backwards, or from direct violence, the rotating handle striking the forearm. He records fourteen cases illustrating various kinds of fractures. These include different varieties of fracture of the lower end of the radius; in three there was an associated fracture of the ulnar styloid process. In others there was a fracture of the base of the thumb metacarpal. Grossman concludes that in spite of self-starters fractures resulting from cranking motors are not at all uncommon.

## Therapeutics.

#### 63. Radium and Mesothorium in Graves's Disease.

F. GUDZENT (*Klin. Woch.*, December 16th, 1924, p. 2329) records that between 1910 and 1914 he treated patients with Graves's disease with small doses of radium and obtained striking results. At first the condition became worse, then marked improvement followed. Other investigators published good results subsequently, but the author thinks sufficient attention was not paid to the small dose of the radium rays required. He now records his results during the last four years in 35 cases, 10 of which presented marked signs of Graves's disease, but in 25 early signs only were present. After the treatment 19 cases were traced, and short notes are given. In 13 of these cases one radium exposure caused the symptoms to disappear; in 6 the symptoms recurred after two to three months, but after a second exposure permanent good results were obtained in 4. In 2 cases a third radium exposure was required, the final results of which cannot yet be stated. The author concludes that Graves's disease and hyperthyroidism can be successfully treated with relatively small doses of the gamma rays (radium and mesothorium). These small doses cause no severe reaction, and the patient may return to his occupation at once. He finds the treatment free from danger, convenient, and inexpensive: it was especially suitable when operation was refused or when it was inadvisable on account of the cardiac condition. He thinks that only those cases must be excluded from the treatment in which signs of compression of the trachea are present, owing to the large size of the goitre. In such cases reactionary swelling of the goitre after the radium treatment might cause suffocation; and, in consequence of connective tissue changes, reduction of the size of the large goitre cannot always be satisfactorily obtained.

#### 64. Heliotherapy in the Treatment of Genito-urinary Tuberculosis.

N. A. MYLL (*Journ. Amer. Med. Assoc.*, December 6th, 1924, p. 1834) describes the treatment of fourteen cases of genito-urinary tuberculosis by means of heliotherapy on the lines advocated by Rollier. The genito-urinary lesions are regarded by Myll as being only local expressions of a generalized tuberculous infection. The patient is warned that the treatment will last for two years, so that he need not worry if immediate amelioration is not observable. Although the patients were confined to bed various occupations were encouraged, such as courses of study, typewriting, leatherwork, and basket-weaving. On the first day of treatment sunlight was applied for ten minutes; the feet and ankles were radiated, five minutes on the anterior and five on the posterior aspect. On the second day the exposure was lengthened to twenty minutes. Successive increases in time and in the body area exposed continued until the total time so occupied was two hours in summer and three in winter, the whole of the body, except the head, being finally treated in this way. The genitalia were intensively radiated, and special attention was paid to the sites of active inflammation. On sunny days artificial light was used; no burning of the skin was permitted. As a routine treatment, 5 c.cm. of a 5 per cent. solution of calcium chloride was injected intravenously, which relaxed the spasm of non-striated muscle and reduced the bladder irritability. The results were very encouraging. The general health and appetite were much improved; insomnia gave place to deep and restful sleep, and the previous irritability disappeared. The skin became evenly browned, and there was a stimulant effect on the hairs and on the sebaceous and sweat glands. Reactions occurred in superficial lesions, and these quickly commenced to heal under the tests and serotum were sometimes increased temporarily before drying up. Deeper lesions in the prostate and seminal vesicles yielded to treatment more slowly. In the case of less spectacular. Myll is convinced that heliotherapy is specially valuable in the treatment of genito-urinary tuberculosis.

## Dermatology.

## 65. Cutaneous Lymphadenosis.

A. GROSGLIK (*Dermat. Woch.*, November 8th, 1924, p. 1460) records a case of lymphadenosis cutis in a man, aged 38, which presented the following peculiarities: (1) The leukæmic growths were for a long time exclusively confined to the legs, which even at a late stage were their principal situation, whereas usually the face is the area of predilection for these tumours. (2) There was a pronounced spontaneous regression of some of the tumours. During the first year of the disease, according to Walther, leukæmic tumours as a rule show no tendency to subside. Felix Pinkus states that considerable absorption of the growths without degenerative changes only occurs in cases of acute leukæmia or in cases where septicæmia or other febrile diseases cause a complete change in the blood picture. In the present case there was a complete absorption of some of the tumours without any symptoms of acute leukæmia, septicæmia, or changes in the blood picture. (3) The blood picture was normal, the relation of the lymphocytes to the polymorphonuclear cells varied within normal limits, and there was not even a relative lymphocytosis. The case would best be described as one of leukæmic lymphadenosis of the skin. (4) The rapid cachexia which developed after intravenous injection of neosalvarsan and later after deep x-ray treatment, and the condition preceding death indicated, in spite of the absence of an autopsy, the presence of internal growths, which, like the skin tumours, rapidly increased in size and surrounded the large abdominal vessels. The clinical symptoms suggested necrosis of the internal tumours with involvement of a large vessel, death being due to internal hæmorrhage.

## 66. Erythema Nodosum and Tuberculosis.

H. J. VETTESSEN (*Norsk Mag.*, 1924, p. 947) discusses the as a precursor of tuberculosis insurance societies. A scrutiny of his records in the period 1905-22 of applicants for life insurance showed that there were 72 (38 males and 34 females) who gave a history of erythema nodosum. In 26 of these 72 cases no contract was signed between the applicant and the society, but of the remaining 46 persons as many as 10 developed tuberculosis after insurance was effected. The author does not claim that these figures are large enough to warrant general conclusions, but in the light of numerous other investigations indicating that active tuberculosis often develops soon after the outbreak of erythema nodosum he has advised the society not to accept applicants for insurance if they have suffered from erythema nodosum within four years of the time of application. He urges other life insurance societies to scrutinize the ultimate fate of those of their members who at some time or other have suffered from erythema nodosum.

## 67. Lupus and Syphilis.

MAX POPPER (*Dermatol. Woch.*, November 29th, 1924, p. 1545) observes that cases of a congenital combination of lupus and syphilis are more common than has generally been supposed. A differential diagnosis can often be made only after the discovery of spirochaetes or tubercle bacilli in sections of the infected skin. In some cases where the pathological conclusions are doubtful the diagnosis may be deduced from the results of antisyphilitic treatment or the Wassermann and von Pirquet tests. The site of the initial lesion may be of great diagnostic value, and also its appearance. Soft pulpy granulations or tubercles may be present; the "tubercloid" picture with the changes indicative of lupus will be seen in the majority of cases. Jadassohn was the first to recognize "lupoid" types in syphilis. Nikolaus and Favre have described typical cases of tertiary syphilis with actual tubercles or lupus granulations, in which each disease is indistinguishable clinically from the other. Popper arrives at the following conclusions: (1) Success in the treatment of "tubercloid" forms of syphilis depends largely on the presence of a high degree of skin resistance or of attenuation of the specific virus. These conditions may develop after the failure of previous antisyphilitic treatment or in any syphilitic infection occurring at the same time as an infection by tubercle bacilli. (2) "Tubercloid" syphilis is found in those sites where skin infections by tubercle bacilli commonly occur. (3) The differential diagnosis of tertiary syphilis and lupus can seldom be determined by clinical observation alone. (4) The histological findings, which before treatment show characteristic "tubercloid" tissue changes, later yield evidence of lowering of the abnormally high allergic condition; subsequent histological sections resemble those of tertiary syphilitic lesions.

## Obstetrics and Gynaecology.

## 68. Bradycardia in the Puerperium.

A. LANHARDT (*Schwed. med. Woch.*, December 11th, 1924, p. 1141) draws attention to the statement, to be found in almost every textbook of midwifery, that bradycardia is common in the puerperium; indeed, it is often mentioned as characteristic thereof. The author has made a study of the pulse rate during the puerperium of 5,000 women treated in his maternity hospital in the period 1917-21. The temperature of these women was always below 100° F., and there were no complications. In only 2 women was the pulse rate uniformly so slow as 60 or slower; only 15 women had a pulse rate uniformly below 70; and there were only 45, or less than 1 per cent. of the total, whose pulse rate was uniformly below 72. Even the number of women whose pulse rate was occasionally as low as 60 or less was small (334). It was found that a slow pulse rate was more frequent in the first ten days of the puerperium. On the evidence of these figures the author dismisses as fictitious the assertion that a pulse rate uniformly below 60 is a characteristic feature of the puerperium. He suggests that the presence of this statement in most textbooks is an example of the tendency of textbook writers to transcribe statements without checking their accuracy.

## 69. Milk Injections in Gynaecology.

G. GELLHORN (*Amer. Journ. of Obstet. and Gynecol.*, November, 1924, p. 535) affirms that protein injections stimulate fatigued cells, enabling them to renew their struggle against invading organisms; thus the affected organ or tissue may rid itself of disease. The simplest method of giving such injections is the injection of 5 c.cm. of sterilized milk into the gluteal region as a primary dose; when the patient is weak or has high fever a smaller dose should be given. The standard dose of 10 c.cm. is reached at the second or third injection, the injections being given at an interval of three to five days, according to the intensity of the reaction. The cases in which the injections were of the greatest use were those of acute and chronic salpingitis and of puerperal sepsis. In mild cases two injections sufficed, but in severe many more were required, the author's average being six. He warns that too many injections must not be given lest protein cachexia develop; this condition, however, has only been detected as yet in animal experiments. A general reaction occurred usually in from six to eight hours after treatment, the temperature rising as a rule to 100°-101°; the general condition was affected for only twenty-four hours at the most, after which time the patient felt much better and the appetite improved. A hyperleucocytosis of 20,000 to 25,000 was usually noted the day after the injection. In pelvic infection, especially when due to the gonococcus, the results were particularly good; adnexal tumours diminished steadily in size and might even eventually disappear. The tubes, uterus, and probably the bladder, were most favourably influenced by milk injections, whereas the ovaries were refractory. Exudates were absorbed, but adhesions were not affected. Gonococcal cervicitis, urethritis, and proctitis were not affected by the injections as a rule. Gellhorn considers that in obstetrics the injections may be of the greatest value in cases of sepsis; he adds that treatment should be begun early to give a full chance of success, though cases of severe and generalized sepsis are quoted which have yielded to the treatment. The injections are also recommended in puerperal pyelitis, and some investigators have recommended a prophylactic injection in all cases where a febrile puerperium is anticipated. Contraindications to this method of treatment include cardiac decompensation, diabetes, and alcoholism; Gellhorn is uncertain whether pregnancy should not also be included. Great caution should be exercised in cases of asthma, angioneurotic oedema, urticaria, epilepsy, or other grave nervous instability. He concludes by stating that milk injections must not be regarded as a panacea; indiscriminate use invites disaster, and is liable to bring discredit on a valuable method of treatment.

## 70. Combined Treatment of Cancer of the Breast.

M. DE BEULE (*La Gynécologie*, September, 1924, p. 517) does not accept the conclusions of Regaud and Perthes that the addition of radiotherapeutic measures to surgical ablation of cancer of the breast is useless or harmful. He admits that some early applications of radium were disastrous, but since 1921, in twenty-one cases in which the outlook appeared grave, he has used a combined x-ray, surgical, and radium treatment, which he thinks likely to lead eventually to good results. Pre-operative x-ray applications are directed to the breast, the supraclavicular and infraclavicular fossae, the internal paramammary region as far as the middle line, the inframammary region as far as the costal margin, and

the back as far as the middle line. From five to eight areas receive an erythema dose of 3,000 to 4,000 R. successively in six or seven days. The operation is performed about fifteen days later and the radium is applied at the same time. Through an incision 0.5 cm. above the clavicle the inferior third of the posterior triangle is cleared of glands and connective tissue; and four cartouches each containing 3.33 mg. of radium element, filtered through 0.5 mm. of platinum and 1.5 mm. of gold, are inserted (enclosed in a 3 mm. rubber tube of which the anterior end is placed between the scalene muscles and the posterior beneath the omohyoid). At the completion of the radical operation two rubber tubes, each containing half as much radium again as that in the supraclavicular tube, are left in—one hollow the clavicle parallel to the vessels, and the other along the serratus magnus at the border of the latissimus dorsi. The tubes are drawn out by attached threads after fifty hours. Post-operative x-ray applications are made twenty to twenty-eight days later. This technique is designed to expose to cross-fire radiation the axillary and subscapular fossae and the retroclavicular communications between the gland, above and below the clavicle—the two regions of the centripetal lymph flow which experience has shown to be most frequently the site of recurrences. Healing of the wounds has been little retarded, and the immediate operative results were satisfactory. The author agrees that it is too early to estimate the final results.

#### 71. Tubal Rupture.

H. O. NEUMANN (*Zentralbl. f. Gynäk.*, October 25th, 1924, p. 2378) questions the accuracy of exploratory puncture in diagnosing tubal rupture. Owing to the difficulties of diagnosis in these cases puncture through the posterior vaginal fornix has come to be trusted for the provision of final proof. The author quotes a case of a multipara in whom haemorrhage accompanied many of the early symptoms of pregnancy. By vaginal examination the uterus was found to be enlarged and a soft swelling was detected near the left ovary. A leucocytosis of 36,000 per cubic millimetre was present. By an exploratory puncture dark altered fluid blood was obtained, and as this seemed to clinch the diagnosis laparotomy was performed. No free blood was found in the abdomen, and the tubes were not inflamed, but the uterus was slightly enlarged, and posterior to it there was a retroperitoneal haematoma. The author refers to two cases of tubal rupture in which exploratory puncture produced clear fluid. He concludes, therefore, that the test is not infallible, and does not always provide the conclusive proof desired.

## Pathology.

#### 72. Fermentative Reactions of the Diphtheria Bacillus.

C. C. O'KELL and E. M. BAXTER (*Journ. Path. and Bact.*, October, 1924, p. 439) have carried out an extensive investigation on the fermentative properties of the diphtheria bacillus. The cultures chosen for examination numbered 430, of which 200 were virulent to the guinea-pig and 230 avirulent. All were derived from the throat, nose, or ear of cases of diphtheria or of carriers. The medium used was nutrient broth, containing 1.5 per cent. of peptone, to which the sugars to be tested were added in a proportion of 0.5 or 1 per cent. The nutrient broth basis was made up in double strength; the sugars were dissolved in distilled water, filtered through a Pasteur-Chamberland filter, and added in equal quantity to the broth. The tubes, after inoculation, were examined on the first, fifth, and tenth days of growth at 37° C., and sometimes after fourteen and twenty-one days. All cultures used were derived from single colonies, obtained by plating, often repeatedly. The results were surprisingly consistent. The 200 virulent strains without exception fermented glucose with the production of acid, and failed to ferment sucrose. Of the 230 avirulent strains 200 fermented glucose but not sucrose, 4 belonged to the Hoffmann group, fermenting neither sugar, and 26 belonged to the *aerosis* group, fermenting both sugars. From these results they consider it justifiable to define the avirulent *B. diphtheriae* as an organism morphologically virulent *B. diphtheriae* which ferment sucrose, and which produce toxin either *in vivo* or *in vitro*.

This point was settled they proceeded to an examination of other sugars, using a rather smaller number of strains. They found that maltose, galactose, dextrin, and laevulose were fermented, and that lactose and salicin were never only slightly. Glycerol was likewise fermented, though often as the virulent strains gave the same reactions as the avirulent strains, except that they occasionally failed to ferment dextrin. For practical purposes they conclude that

the only sugars which are of real value in differentiating the diphtheria from the diphtheroid bacilli are glucose and sucrose. The fermentation of the former and the non-fermentation of the latter is absolutely constant for both the virulent and the avirulent diphtheria bacilli, as is shown by repeated tests of the same organisms at intervals of several months.

#### 73. The Blood Picture in Post-operative Tetany.

A. SCHLOSSER (*Zentralbl. f. Chir.*, November 8th, 1924, p. 2476) remarks how little attention has been paid to the blood picture in totany following injury to or removal of the parathyroids. Haas alone reports a case of post-operative totany in which there was a fall of the polymorphonuclear leucocytes from 75 to 60 per cent. in six days with a rise of the lymphocytes to 31 per cent. and of the eosinophils to 5 per cent. How far the administration of parathyroid tablets was responsible for this change could not be determined. Haas, however, concluded that post-operative tetany has a considerable effect upon the blood-forming organs. Schlosser has recently had the opportunity of studying the blood picture in two cases of totany which developed five days after thyroidectomy. In one case transplantation of the parathyroid was performed under the rectus abdominis, but without having any effect on the tetany. In neither case was there any characteristic change in the blood picture, either during the attack of tetany or in the intervals between the attacks.

#### 74. The Influence of Fats on Tar Cancer in the Mouse.

J. LECLOUX (*C. R. Soc. de Biologie*, November 28th, 1924, p. 1155) reports some experiments dealing with the influence of fats on the development of tar cancer in the mouse. Other workers had succeeded in rendering the mouse refractory to cancer grafts by injections of unsaturated fatty acids; in rabbits the effect appeared to be different, the animals becoming more susceptible. In the present experiments 8 control mice were treated by rubbing the skin with tar every four days; in all, forty mice were made during a period of 5 of the mice before the 135th day, and all the mice had developed definite cancerous tumours by the 200th day. These tumours were very large; some were accompanied by lymphatic and pulmonary metastases, and in all cases they were preceded in their development by papillomata. By the 255th day 6 out of the 8 mice were dead. At the same time as those controls 9 experimental mice were treated with tar in the same way, but in addition they were rubbed with a 20 per cent. solution of sodium oleate, which was applied to the same area as that to which the tar had been applied; the injections were interpolated between those of the tar. The first mouse to develop a papilloma showed a lesion on the 166th day, at a time when 7 of the control series were affected. Not till the 255th day, when 6 of the control mice were dead, had cancer appeared in all the animals. Subsequently 4 of the mice died, but none of them had such extensive tumours as had the control animals. The two points emphasized are the delay in the appearance of the papillomata in the experimental series—a delay of thirty to fifty days—and the smaller size to which they attained. The author considers that the active radical in the sodium oleate is the oleic fraction, not the metallic ion. Whether it acts upon the general system or whether its action is local, confined to the area in which the cancer is formed, he is unable to say; experiments are in progress with a view to solving this point.

#### 75. A New Method of Staining Spirochaetes.

J. SCHUMACHER (*Dermatol. Woch.*, November 22nd, 1924, p. 1514) refers to Mühlfordt's experiments with "Victoria blue" as a stain for *B. leprae*; he states that this stain has a definite affinity for lipoids and that it is now recognized that spirochaetes have lipid envelopes. Schumacher has modified Mühlfordt's original formula, and now uses a stock solution, prepared as follows: Victoria blue (2 parts) dissolved in 50 per cent. absolute alcohol, mixed with an equal quantity of 4 per cent. aqueous solution of carbollic acid, to this being added a 10 per cent. aqueous solution of glycerin. Though exposed to diffuse sunlight, such a solution has remained quite active and free from precipitate for more than two and a half years. Schumacher's method is as follows: the smear containing spirochaetes is fixed with alcohol; the Victoria blue solution is then poured over the slide and is heated for fifteen seconds, as when staining tubercle bacilli by the Ziehl-Neelsen method. The preparation may be heated more slowly for thirty seconds, or it may be stained by immersion in the cold solution for three minutes.

# EPITOME OF CURRENT MEDICAL LITERATURE.

## Medicine.

### 76. Organic Disease prolonged by Morphineism.

P. SOLLIER and D. MORAT (*Presse Méd.*, November 29th, 1924, p. 948) advocate rapid deprivation of heroin or morphine in cases in which the drug was prescribed originally for pain due to chronic organic disease. In their experience it happens very often that the original disease for which morphine was being prescribed clears up and the patient's health becomes very much better. The authors give a list of most diverse diseases cured or greatly relieved by deprivation of the drug. Their theory is that recovery from chronic organic disease is often prevented by the fact that the tissues of the body contain so much morphine that protoplasmic activity is inhibited to a great extent. They cite four cases. (1) A surgeon contracted septicaemia during an operation and eventually became a helpless invalid. Many deeply seated abscesses were opened, and chronic septic osteitis of the lower dorsal vertebrae developed, two fistulae discharging pus freely. Heroin had been prescribed for relief of pain, and the patient was receiving daily 1 gram of heroin hypodermically. When the injections were discontinued there was a definite increase of pus which continued for nearly four weeks. The patient's general health improved greatly, and later only a slight scrous discharge remained. Then a sudden lighting up of the inflammation occurred, abundant discharge of pus returned, and a sequestrum—a portion of a splinous process—presented at one of the fistulae. After its removal recovery was rapid and uninterrupted, and the patient returned to his practice. (2) A physician had resorted to heroin for the relief of the intolerable pain and discomfort due to dermatitis herpeticiformis, which had been treated for more than two years by many French and German specialists. He was emaciated and almost cachectic. During the fifteen days in which the daily dose of heroin was reduced and finally stopped, retention of urine required repeated catheterization; but there was a progressive improvement in the skin condition in spite of relapses accompanied by the appearance of eosinophilia in the blood and also in the serum of the vesicles. Radiotherapy of the spleen and vertebrae accelerated his recovery, which was eventually complete. (3) A patient with psoriasis who was taking by the mouth 0.6 to 0.8 gram of heroin daily was cured by deprivation of morphine. (4) A married woman had chronic peritonitis after her second confinement. She developed large doughy masses in the abdomen which were believed to be tuberculous, and became a helpless invalid. Morphine and heroin had been prescribed and injected regularly for several years. Spahlinger's serum and sanatorium treatment gave no relief, but she made a rapid recovery when heroin and morphine were discontinued.

### 77. The Gastric Juice in Old Age.

L. DEDICHER (*Acta Med. Scand.*, Supplement VII, 1924, p. 345) has investigated the acidity of the gastric juice of 110 elderly people, in apparently good health, in an infirmary in Oslo (Christiania). Out of 102 persons, whose ages were between 67 and 92, 3 had cancer of the stomach, and were therefore not suitable for this investigation. There remained 99, of whom only 36 were men. Absence of acidity was found in 66, being demonstrable in 80 per cent. of the men and 53.7 per cent. of the women. By classifying these persons in age groups it was found that the frequency of the absence of acidity increased with age. As many as 76 showed signs of gastritis due to diminution or absence of acidity, indicated by the amount of mucus in the stomach and other evidence. Only 14 of these suffered from mild dyspepsia; the others had good appetites and tolerated their food well. Most of these 93 persons were entirely toothless. An investigation of the haemoglobin of 94 cases, in 63 of which there was no gastric acidity, frequently showed a mild degree of anaemia, as many as 26 having a haemoglobin percentage between 60 and 80. This anaemia was slightly more common in the abnormal cases than in those with normal acidity of the gastric juice. In 24 cases the number of the erythrocytes was between 2.9 and 4 millions. The author concludes that deficient acidity of the gastric juice is very common in old persons, is dependent on a mild gastritis, is usually without symptoms, and is probably caused by a combination of exogenous factors. In several cases of this condition in the aged the blood picture somewhat resembles that of pernicious anaemia, and is associated with urobilinuria.

### Meningitis in Varicella.

G. DE TONI (*Il Policlinico*, Sez. Prat., November 3rd, 1924, p. 1434) records the case of a girl, aged 3, who in the desclatous stage of varicella developed convergent strabismus, slight nuchal rigidity, Brudzinski's two signs, Babinski's sign on the left side, and marked cutaneous hyperaesthesia. The cerebro-spinal fluid escaped under pressure; it was xanthochromic, and not quite clear. The cells numbered 78 per cubic millimetre; 56 per cent. were lymphocytes, 14 per cent. polymorphs, and 30 per cent. ependymal cells. The albumin was 0.58 per cent. There was a slight deficiency of sugar in the cerebro-spinal fluid. The Pandy, Boveri, Nonne-Apert, and Welschbrodt reactions in the fluid were positive, and the Wassermann reaction . . . . . bacilli were found in the deposit, . . . . . the guinea-pig inoculation tests were . . . . . of the ears, blood, and urine was also negative. A provisional diagnosis of tuberculous meningitis was made, but apart from left internal and external ophthalmoplegia complete recovery took place. In the absence of any other cause, de Toni regarded varicella as responsible for the meningitis in this case. Only four other examples of meningitis due to varicella are on record, reported by Myn, Koplik (two cases), and Lenoble and Thielement respectively. Koplik's patients recovered, while the others died.

### A New Vascular Sign of Death.

M. H. KAHN (*Amer. Journ. Med. Sci.*, December, 1924, p. 890) describes certain changes in the appearance of the small blood vessels, especially the veins, throughout the body at death; transverse interruptions occur in the red colour of the vessels, giving an appearance of division or striction of the blood column. He finds that these changes are best seen in the fundus of the eye. They are accentuated by pressure upon the eyeball, the interruptions becoming altered in size up to the first three hours after death, after which manipulation and pressure fails to have any effect. At death the blood flow in the smaller vessels and capillaries ceases, clumping of the corpuscles occurs, and a forward movement commences in the capillaries and slowly proceeds towards the larger vessels. The degree of emptying of the vessels varies in different cases. Kahn states that this segmentation of the venules and arterioles has not hitherto been described, but he maintains that it is a definite sign which should rank with the other clinical signs of death.

### Statistics of Cholelithiasis.

T. W. TALLQVIST (*Finska Läkarsällskapets Handlingar*, September-October, 1924, p. 759) has investigated 206 cases of gall stones in which the duration of the disease was one to thirty years. In 110 cases information was obtained about the patient's subsequent fate. It was found that the average age at the onset of symptoms was 44 for women and 49 for men. Still greater differences between the age incidence at onset of disease in men and women were found when the women and men were grouped in decades: the age of greatest frequency for women was between 30 and 40, while the highest incidence for men was two decades later. About 66 per cent. of all the patients complained of dyspeptic disturbances, and of the 116 whose gastric juice was analysed 59.2 per cent. showed achylia or marked hypochylia, 3 per cent. heterochylia, 28.5 per cent. normal secretion, and 9.3 per cent. hyperacidity, which was not, as a rule, marked. Only in 2 cases was there evidence of gastric or duodenal ulcer. With regard to the expectation of life, it was found that 17 of the 110 patients who could be traced were dead. The comparatively high death rate among the men should be associated with the fact that they were, on the average, much older when the disease began. Only 9 of the 17 deaths were caused by the gall stones, and thus the mortality directly due to gall stones may be put at 8 per cent. In about 14 per cent. of all the cases the author found evidence of anomalous conditions of the endocrine system.

### 81. Spirochaetosis Icterohaemorrhagica and Bathing.

G. RAILLIET (*Bull. et mém. soc. méd. hôp. de Paris*, November 13th, 1924, p. 1502) records a case which he had seen in August, 1923, of severe jaundice accompanied by haemorrhages and anaemia, which ended fatally on the tenth day, in a man, aged 30, in whom the disease set in directly after a water polo match. The diagnosis of spirochaetosis icterohaemorrhagica was made, although the serum test could not be performed. During the same month Railliet saw four cases of less severe icterohaemorrhagic spirochaetosis, all of



which occurred in the course of ten days among young persons aged from 19 to 32 who had been enthusiastic bathers in the river Vesle. Examination of the mud and water by Auguste Petit showed a spirochaeta morphologically resembling *Spirochaeta icterohaemorrhagiae*, but without any pathogenic action on guinea-pigs, so that the etiology of the outbreak could not be determined. About six weeks later an epidemic of mild catarrhal jaundice broke out in the valleys of the Vesle, Aisne, and Marne, and lasted from October, 1923, to February, 1924. The serum tests on this occasion were positive. M. GARNIER (*ibid.*, November 27th, p. 1591), commenting on Raillet's paper, alludes to similar cases in the literature. In addition to the examples of infective jaundice recorded by Keisch and attributed by him to baths taken in rivers with polluted water, as in the epidemic of Magdeburg in 1874, Uffenhuth and Fromme had more recently incriminated swimming baths in the etiology of spirochaetosis icterohaemorrhagica; and Garnier himself and Relifly had found that many of the patients with spirochaetosis icterohaemorrhagica in the Paris hospitals had taken a bath in the Seine eight to ten days before the appearance of their symptoms. Examination of Seine water, however, 700 c.cm. of which was centrifugized and the clot injected into guinea-pigs, was negative. As regards the relation of spirochaetosis icterohaemorrhagica with catarrhal jaundice, Garnier adds that during an epidemic of spirochaetosis some cases might not differ clinically in any respect from ordinary catarrhal jaundice, but he does not think that an epidemic of spirochaetosis has been recorded in which all the cases presented the appearances of ordinary catarrhal jaundice. In some cases at least the disease assumed the ordinary type of infective jaundice with febrile relapses.

## 82. Etiology of the Stokes-Adams Syndrome.

G. BICKEL (*Arch. des Mal. du Cœur, des Vaisseaux et du Sang*, December, 1924, p. 744) agrees with Lian that a permanently slow pulse, not associated with the Stokes-Adams syndrome, indicates syphilis as the cause. Permanent bradycardia is one of that important group of endo-vascular diseases which has recently been attributed to syphilis; the others are aortic aneurysm, aortic regurgitation, and angina pectoris. There can be no question regarding the syphilitic etiology of the two former, but the relation of angina pectoris to syphilis is not so certain. Gallavardin has shown that two-thirds of his cases of angina pectoris are non-specific. Bickel claims that the question of the syphilitic origin of the Stokes-Adams syndrome also requires revision. Gallavardin (1910) wrote that "the time is not far distant when nearly half of the cases of the Stokes-Adams syndrome will be recognized as of syphilitic origin." That opinion has been confirmed by reports of some cases of permanently slow pulse cured by antisyphilitic treatment. Evoli (1922) stated that syphilis should be suspected in the great majority of cases, even in the absence of a syphilitic history and a positive Wassermann reaction. Bickel has collected seven cases of typical Stokes-Adams syndrome, admitted to the Medical Clinic, Geneva, between 1917 and 1924. Only one of these patients had a positive Wassermann reaction, but, with the exception of the lesion of the bundle of His, there was no personal or familial evidence of syphilis. The other six patients had negative Wassermann reactions and no sign of syphilis. In two cases, autopsy revealed advanced cardiac atheroma with calcareous plaques in the membranous septum and invasion of the bundle of His. In the third case, there was very advanced coronary arterio-sclerosis, which had obliterated some of the branches, with consequent necrosis of the adjacent bundle of His.

82. suffered from generalized of the valves, and the other from obesity with advanced cardiac hypertrophy and myocardial degeneration. Bickel claims that these observations suffice to show that syphilis is a far less important agent in the etiology of the Stokes-Adams syndrome than has been supposed. He adds that it has been forgotten that the usual lesions of arterio-sclerosis and of atheroma are much more common than are syphilitic lesions in the neighbourhood of the bundle of His. Goodall (1920) has recorded twenty cases of total heart-block, in only one of which was there a history of syphilis and a positive Wassermann reaction.

## Surgery.

### 83. Pruritus Ani.

J. F. MONTAGUE (*Journ. Amer. Med. Assoc.*, November 29th, 1924, p. 1747) argues that the itching of pruritus ani signifies the existence of disease, just as does pain of any kind. Although purely palliative treatment of pain is unscientific, and therefore generally condemned, yet too often local treatment of pruritus is undertaken without

search being made for the underlying cause. Chronic visceral disease is often found associated with a local pruritus, and the author suggests, with the aid of diagrams, that the itching is due to a transference of afferent sensory impulses from the diseased viscera through the posterior spinal ganglia and spinal cord to the somatic afferent nerves. Pruritus is therefore to be considered a possible symptom of visceral disease, and in all cases pelvic and abdominal examination should be made. Carcinoma of the sigmoid and rectum should be especially borne in mind. The author describes cases in his own practice where this symptom led to the detection of visceral disease, the removal of which cured the pruritus, no local treatment being necessary.

### 84. Surgical Treatment of Obstinate Pruritus Ani.

L. FRANKENTHAL (*Zentralbl. f. Chir.*, November 8th, 1924, p. 2484) states that the operation for idiopathic pruritus ani should consist of three parts, the first being excision of the affected skin area, the second nerve resection or neurectomy, and the third plastic repair of the skin defect. He records an illustrative case in a man, aged 27, whose pruritus originated from an attack of pediculosis during the war; it had since resisted every form of medical treatment, including the application of x rays, so that he threatened to commit suicide unless he could obtain relief. The perineum showed a thickened, pigmented, and excoriated area of skin measuring  $4\frac{1}{2}$  by  $1\frac{1}{2}$  inches, extending from the anal mucous membrane forward over the root of the scrotum for three fingerbreadths. The sphincter was dilated under general anaesthesia, the affected skin area excised, and the pudendal nerve dissected out to its exit from the ischio-rectal fossa. On one side the perineal nerve was completely resected, while on the other it was retained, especially the branch to the labius urethrae. The fine branches, including the posterior scrotal nerves, were removed on both sides, while the vessels were preserved. Recovery was uneventful. After the operation the patient felt no more pruritus and became sound in mind. Histological examination of the excised piece of skin showed the changes characteristic of chronic eczema, but the excised nerves did not present any special lesions.

### 85. Tetanus Originating from a Gastric Ulcer.

P. SCHMUZIGER (*Deut. Zeit. f. Chir.*, Bd. 188, November, 1924, p. 161) states that though any injury to the surface of the body as well as damage to the buccal mucosa or a carious tooth may serve as an entrance for tetanus infection, only a few cases have been recorded in which the infection originated from a varicose ulcer. Andrews and Horder recorded in 1917 an example of this kind with recovery, but since that date Schmuiziger has been unable to find any further instances in the literature. He now reports a case which he had observed at the Zürich Surgical Clinic in a woman with a varicose ulcer in the middle of her right calf the size of a 5-franc piece. The duration of the incubation period and the source of infection could not be determined, but the incubation period was probably short, as is the rule in severe cases. In spite of serum, chloral, and morphine the attacks increased in number and extent, and the temperature, which was  $101.2^{\circ}$  on admission, rose to  $107.6^{\circ}$  on the following day three-quarters of an hour before death, which took place after a spasm of the diaphragm. Four white mice which were inoculated with material from the ulcer on the patient's admission died of tetanus in eighteen hours. The ulcer was then swabbed vigorously with iodine and some more mice inoculated, which did not succumb until twenty-four hours later.

### 86. Non-perforating Gastric and Duodenal Ulcers.

J. E. BRIGGS (*Boston Med. and Surg. Journ.*, December 11th, 1924, p. 1101), from a series of 38 cases (12 gastric and 26 duodenal) of non-perforating ulcers treated by surgical operations, points out the frequent association of carious and defective teeth with infections of the alimentary tract, and urges that special attention should be paid to cleansing the teeth and mouth several days prior to operation. Such symptoms as epigastric pain, loss of weight, vomiting, pyrexia, and haemorrhage are, he finds, the most constant in order of frequency; the clinical history and x-ray examination are the main diagnostic factors; duodenal ulcers occurring twice as often as the gastric kind. He believes that acute ulcers should be treated medically, and chronic indurating ulcers surgically; the ideal operation is gastro-enterostomy with excision of the ulcer in gastric cases, and destruction with the cauter in duodenal cases, especially when haemorrhage has occurred, and in order to obtain a radical cure. The early post-operative vomiting, indicative of dilatation of the stomach, should be treated by gastric lavage; if protracted, it points to the existence of intestinal obstruction necessitating further operation. He advises that during the operation the gall bladder and



appendix should be systematically examined; they should be removed if found to be diseased unless this step is contra-indicated. He concludes by pleading for re-examination of these patients three months after operation in order to obtain more full and accurate knowledge about their ultimate condition.

#### 87. Septic Meningitis.

W. E. DANDY (*Surg., Gynecol. and Obstet.*, December, 1924, p. 761) points out that the operative treatment of septic meningitis has gained little favour with the passing years. Despite the fact that the operative possibilities almost seem to have been exhausted, no impression has been made on the high mortality of the disease. Three types of treatment have been tried—repeated lumbar puncture, continuous drainage, and irrigations of the subarachnoid space. None of these methods has demonstrated any outstanding superiority over the results obtained when the case is untreated. Dandy advocates early continuous drainage of the cisterna magna in the treatment of meningitis in which the infecting organism is the staphylococcus or streptococcus. Three out of four cases so treated survived. This method is not urged in other cases as it is felt that the character of the would probably make drainage laceration is made over the occiput and a circular area of bone removed. The dura is opened and a small catheter fixed into the cisterna magna. Drainage is remarkably effective, and no noticeable effect followed the continuous loss of cerebro-spinal fluid. The author points out that drainage alone cannot cure meningitis; the body must also be able to combat the infection. It is not to be expected, therefore, that any operative method will do more than reduce the present high mortality rate.

#### 88. Death following Gastroscopy.

F. SAUERBRUCH (*Zentralbl. f. Chir.*, September 20th, 1924, p. 2071), who records an illustrative case, states that it is not the only example of the kind, as several fatalities following gastroscopy have been reported by Schindler and Sternberg. Gastroscopy, therefore, should not be regarded as a harmless procedure, since it is decidedly more dangerous than exploratory laparotomy. In Sauerbruch's case the gastroscopy was undertaken by Sternberg with the patient in the knee-elbow

patient developed symptoms of severe mediastinitis, for which Sauerbruch had to expose the oesophagus and drain the mediastinal cavity. Intense purulent retro-oesophageal cellulitis was found extending from the level of the pharynx to the mediastinum. After slight improvement the patient died the following day. The autopsy showed that the musculature in a circumscribed area in the upper segment of the oesophagus was lacerated, while the mucous membrane was intact. The tonsils also showed some ecchymoses which had been caused by introduction of the gastroscopy tube.

#### 89. Staphylococcal Septicaemia.

A. MOYA (*Arch. de med., cir. y esp.*, November 22nd, 1924, p. 349) states that in view of the rarity of staphylococcal septicaemia the following case justifies publication. The patient was a man, aged 25, in whom high fever and a typhoid state at first suggested typhoid fever, but this diagnosis was excluded by the rapid pulse, absence of abdominal symptoms and rose spots, an area of lymphangitis on the inner side of the left thigh, and a leucocytosis of 24,000 cells, of which 79 per cent. were polymorphonuclears, 17 per cent. lymphocytes, 2 per cent. large mononuclears, and 2 per cent. transitional cells. The probability of streptococcal septicaemia was considered, especially as streptococci were cultivated from an abrasion on the leg from which the lymphangitis originated. Blood cultures, however, which were at first negative, yielded a pure growth of *Staphylococcus pyogenes aureus*. In spite of injections of sensitized anti-staphylococcal vaccine the temperature remained high and irregular, and the wound became gangrenous. Death took place before amputation could be performed. The autopsy confirmed the diagnosis by showing the slight degree of local and general changes characteristic of every form of septicaemia. No metastatic foci were present. The most interesting feature of the case was the fact that an apparently insignificant portal of entry should have admitted a fatal septicaemia. At the present time most bacteriologists, following Jochmann, Schottmüller, and others, hold, in opposition to Wassermann and Kollo, that septicaemia does not arise by multiplication of the organisms in the blood, but by continual passage of the organisms into the circulation from the original locus, which may be the wound itself or, much more frequently, the inflamed veins or lymphatics in the neighbourhood of the wound.

#### 90.

#### Melanoma of the Nail-bed.

T. B. JONES (*Annals of Surgery*, December, 1924, p. 839), in discussing melanoma of the nail-bed, remarks that this condition has been called "melanotic whitlow" because of its resemblance to a whitlow. In many of these cases trauma of the nail antedates the subsequent development of the lesion. It is, however, doubtful whether this is a coincidence or a stimulus to growth of a pre-existing lesion. The disease develops usually in persons over 50 years of age. Clinically at first it resembles a small haematoma beneath the nail, and the lesion appears as a paronychia, which gradually increases in size, ulcerates, and destroys the nail. Small areas of black pigment are seen to be scattered through the lesion. It progresses rapidly, extensive metastases occurring throughout the body. The chief difficulty in these cases is early diagnosis, to which the presence of black specks or a black border to the initial lesion is usually the key. In some cases, however, no pigment may show till relatively late in the disease. Chronic ulcerative lesions in the nail-bed of elderly persons which do not respond to treatment should always be regarded with suspicion; in such cases excision and microscopical examination of a small piece of tissue is indicated. The treatment advised is amputation of the digit and complete resection of the regional glands as a minimum; x-rays and radium appear to be ineffective. The prognosis depends on early diagnosis; it is usually very poor when the lesion is finally recognized, and hopeless when metastases have occurred. Three cases are described by the author, all of which were hopeless owing to general metastases.

#### 91.

#### Etiology of Cancer of the Oesophagus.

W. FISCHER (*Klin. Woch.*, December 9th, 1924, p. 2288) considers the statements which have been made respecting the frequency of cancer of the oesophagus amongst the Chinese, and the view that it is due to the eating of hot rice. This view he rejects. He then considers what little is known respecting the etiology of cancer of the oesophagus, and points out that there are many facts in favour of the view that it is excited by chronic irritation. The disease occasionally develops in an old stricture due to injury by the oesophageal sound, or following the pressure of an aneurysm, or an exostosis from the body of a vertebra. He adds that cancer is most liable to develop at the three points where the oesophagus is narrowest. The disease is much more common in men than in women. The influence of alcoholic excess has been much disputed. In Argentina the disease has been regarded as the result of drinking very hot "maté"; in China the drinking of hot arrack has been regarded as an exciting cause. The author thinks that alcoholism is a possible exciting cause; and in hot arrack and hot "maté" both chemical and thermal irritation may act as exciting factors. Other factors, as regards diet and other irritation, possibly play an important part in the etiology.

## Therapeutics.

#### 92. Desiccated Red Bone Marrow in the Treatment of Anaemia.

W. THALHIMER (*Journ. Lab. and Clin. Med.*, November, 1924, p. 129) has confirmed the investigations of Leake, who found that desiccated red bone marrow and spleen, combined in equal proportions by weight, caused a rapid and marked increase in the number of circulating red cells, with a rather less marked increase in haemoglobin. Thalhimier has administered this remedy in three daily doses, each of 5 grains, to forty-six patients with anaemia secondary to such conditions as tuberclosis, haemorrhage, pleurisy, and cardiac disease. He considers the good response of the patients with pulmonary tuberculosis to be of considerable interest, but in four patients with pernicious anaemia a fall in haemoglobin and the red cell count resulted. Out of his forty-six patients with secondary anaemia forty-one showed a very definite improvement. He believes that this treatment requires to be continued for six or eight weeks in order for the benefit to be permanent.

#### 93.

#### Mercurochrome Treatment of Erysipelas.

J. A. JACKSON and C. L. JOHNSTON (*Therapeutic Gazette*, December 15th, 1924, p. 843) have investigated the use of mercurochrome in the treatment of erysipelas. Intravenous injections of a 1 per cent. solution of mercurochrome in freshly distilled water were given, the doses ranging from 20 to 40 c.cm., according to the weight of the patient; twenty-four hours later a second dose was usually given. In most cases a sharp rise of the temperature curve was noticed, followed by a fall. In all primary cases of erysipelas there was a secondary rise, but rarely so high as the initial rise.

In recurring cases the temperature in every case fell to the normal after the initial rise, and there was no secondary rise. In most cases the local inflammation became less and its extension was stopped, this being more especially marked in the recurring cases. Untoward symptoms reported were diarrhoea and stomatitis, the first occurring in all cases except two. In one case there was severe haemorrhage from the bowel four days after the injection of mercurochrome. Stomatitis was noted in three out of seventeen cases, one case being very severe. Two patients died, and the autopsy brought to light pronounced inflammatory changes in the kidneys. The authors conclude that in mercurochrome may be used with advantage in selected able-bodied patients who have no kidney involvement, in recurring cases, and in severe cases with blebs and vesicles. They suggest that a kidney function test should precede its administration. Clinical details of the seventeen cases treated are supplied.

94.

## Treatment of Tetanus.

G. SMITH and W. E. LEIGHTON (*Amer. Journ. Med. Sci.*, December, 1924, p. 852) discuss the treatment of tetanus, with special reference to the use of magnesium sulphate. Administered in a sterilized 25 per cent. solution either subcutaneously, intramuscularly, intraspinally, or in a 6 per cent. solution intravenously, its action is sedative, controlling the spasms, and preventing death from exhaustion or asphyxia, thus assisting the patient to eliminate the toxin. The only serious danger reported is the possibility of respiratory effect can be relieved by calcium this respiratory action. A 2.5 per cent. calcium chloride in normal saline given slowly intravenously in severe cases usually restores the spasms within thirty seconds, but in less severe conditions 10 to 15 c.cm. of a 2.5 per cent. solution given intramuscularly more gradually neutralizes the unfavourable effect without causing a recurrence of the tetanic spasms. As a routine method prophylactic antitoxin subcutaneously is advised in all suspicious cases. During a tetanic attack it should be given intravenously, or intraspinally in severe cases, the spasms being controlled by the subcutaneous injection of magnesium sulphate, with recourse to the intraspinal or intravenous route if urgent symptoms arise, and the addition of morphine injections if necessary. The infected wound should be opened and treated with tincture of iodine, serum being injected locally. Fluids, nourishment, and careful nursing are essential, and an intramuscular or subcutaneous injection of serum should be given on the eighth or ninth day to maintain prophylaxis. The two authors contribute details of several cases in which this treatment was employed, and a bibliography of fifty-nine references is appended.

## 95. Another Arsenical Spirochaeticide and Trypanocide.

A. ALBERT (*Klin. Woch.*, November 25th, 1924, p. 2184) considers it improbable that further progress in reducing the toxicity of the salvarsan group will be made. Ehrlich himself recognized that although in the majority of cases the fullest therapeutic effect could be attained by means of the arsenobenzol series, their unstable composition must always render them dangerous in certain cases. In spite of all precautions, and of every improvement in technique, the presence of a small excess of  $\text{CO}_2$  or of oxydases in the blood, may when  $\text{CO}_2$  or oxydation products in the tissues are in contact with the arsenobenzol molecule. The critical point in the theory of the chemical action of the salvarsan group is that the hydroxyl groups of the arsenobenzol molecule—the hydroxyl and amido groups—may be the active agents in the production of arsenic activity. This suggests that the phenol-hydroxyl, the carboxylic and salicylic acid, and the N-basis quinolin groups, in conjunction with the arsenic molecule, may produce a series of compounds which will be as powerful as the salvarsan group in their action on protozoal parasites, but without the instability of the arsenobenzol series. Albert states that an oxydation product, which he terms "proxyphenylarsenoxide," is a powerful protozoal poison which is without the disadvantages and dangers of arsenobenzol. The aqueous solutions of this substance ("Albert 102") are alkaline in reaction and do not undergo oxydation. Albert adds that in the interest of the patent rights he refrains from giving the constitution formula.

95. F. KALBERLAH (*ibid.*, p. 2185) gives a brief outline of the experimental work carried out by Gail and himself with the new arsenical preparation "Albert 102." It was injected into 400 rabbits infected with experimental syphilis, rabbit spirochaetosis, or trypanosomiasis; it was also administered to more than 4,000 mice and rats infected with trypanosomiasis. "Albert 102" is an amorphous powder, faintly alkaline to phenolphthalein. It forms a colloidal solution in

water and, like salvarsan, is also soluble in glycerin, glycol, and other liquids. According to Kalberlah's tables it contains the same quantity of arsenic (20 per cent.) as neosalvarsan, as compared with the 34 per cent. of "old" salvarsan. The toleration dose employed in each case was much smaller than that of the arsenobenzols. According to Kalberlah the curative dose was also smaller than in the salvarsan group. The author has used "Albert 102" in nine cases of general paralysis. Of these three were not improved, two were much improved, one died "of a relapsing type of paralysis, such as we are familiar with in connexion with salvarsan." He has also treated eleven cases of tabes; ataxia and pain were much relieved after ten to fifteen injections. An old case of cerebral syphilis was greatly improved. In seven cases of multiple sclerosis four were much improved objectively and subjectively. Schuster (Budapest) has also reported a similar result in this disease.

97.

## The Physiology of Massage.

R. PEMBERTON, F. A. CAJORI, and O. Y. CROUTER (*Journ. Amer. Med. Assoc.*, November 29th, 1924, p. 1761) have investigated the influence of massage on the chemistry of the fixed and fluid tissues of the human body. Five patients suffering from arthritis were selected, and various estimations were made before and after massage treatment. It was found that massage, however rigorous, was not accompanied by the production of lactic acid and acidosis, differing thus substantially from voluntary exercise. There was also no evidence of loss of acid or alkalosis, as occurs when the body is exposed to heat. They consider, therefore, that the benefits of massage in arthritis must be derived from circulatory changes, and point to the existence in this disease of some circulatory defect, possibly in the capillary areas. They add that massage can be used as a partial substitute for active exercise in many conditions, but that its value depends on some mechanism other than that concerned in the production of chemical changes in the tissues.

## Anaesthetics.

## 98. Methylene Chloride as a General Anaesthetic.

MENSCH (*Deut. med. Woch.*, November 21st, 1924, p. 1607) gives an account of the anaesthesia induced in more than 500 cases at his hospital during the past year with methylene chloride prepared by the firm of Meister, Lucius, and Brinck, Höchst, and sold as "solisthlin." It is obtained by the purification of commercial dichloromethane, and it contains 1 per cent. of alcohol added as a preservative. It is a clear colourless fluid, smelling rather like chloroform. It is dropped slowly on to a folded piece of muslin or used with a Schimmelbusch mask, one or two drops being added every second. Only in two cases did the drug prove unsatisfactory; too much had been given and great excitement was provoked. The drug was not used to induce complete relaxation with anaesthesia, as in major operations, but only for the minor painful operations in the out-patient department, such as incisions, setting fractures, reducing dislocations, and making painful examinations. Pain was never felt while the patients were under the influence of the drug, and they usually recovered consciousness a few minutes after they ceased to inhale it; this recovery of consciousness took a little longer than in the case with ethyl chloride, but it was never sudden and frightening. Unpleasant after-effects were rare and transitory, and no ill effects of long duration were observed. The ages of the patients were from 1 to 70 years. The author concludes that this drug is more effective than ether and less dangerous than ethyl chloride; it is easy to administer, its dosage can be controlled without difficulty, it is comparatively cheap, and is not inflammable. It does not give rise to bronchitis, and such sequelae as vomiting and headache are rare. He believes that it may be administered for a long period with impunity, but no fixed opinion should, of course, be formed as to its value until it has been used in many thousands of cases.

99.

## Obstetrical Anaesthesia.

L. CLEISZ (*Presse Méd.*, December 17th, 1924, p. 1001) remarks that of the various means by which it has been sought to obtain obstetrical anaesthesia chloroform and ether are impracticable, sufficiently prolonged administration being impossible; nitrous oxide is dangerous, analgesics are ineffective, and scopalamine and morphine are both dangerous and ineffective. He advocates the use of diethylamid diethylallylisopropylbarbiturate (sommifène), which was first given intravenously during childbirth by R. Perlis and himself. The present paper is based on forty cases, in thirty-seven of which the pains of labour were completely

suppressed. The dose recommended is from 6 to 11 c.c.m. injected slowly; occasionally a second dose has been necessary. Coincident injections of morphine are not recommended, but in about half the cases pituitary extract was given, and appeared to accelerate parturition considerably. The suppression of pain was such as to suggest general anaesthesia rather than analgesia. A few drops of chloroform were given in almost every case with the sole object of producing muscular relaxation. There was no evidence that the injections led to increased foetal mortality, or to inattention of the foetus in the uterus or of the newly born infant. In multiparae the injections were given as soon as labour had commenced, as indicated by modification of the cervix; in primiparae after thinning of the cervix and with the commencement of dilatation. The patients slept for some hours after labour was ended.

#### 100. Sacral Anaesthesia in Rectal Operations.

L. E. MOON (*Amer. Jour. of Surg.*, November, 1924, p. 267) points out that in sacral anaesthesia the anaesthetic solution is injected into the space between the dura and the inner walls of the sacrum, the injection being made through the sacral hiatus. The anaesthetic penetrates and diffuses through the dorsal nerve sheaths, so producing a block anaesthesia in the five sacral nerves. He considers it the method of choice for rectal operations because convalescence is shortened, the post-operative complications are lessened, and the depth of anaesthesia makes the operation less difficult. Pain after the operation is diminished, and the absence of urinary trouble is very noticeable; it is seldom necessary to catheterize patients after operation. He adds that post-operative haemorrhage is reduced, since sacral anaesthesia produces better haemostasis during the operation. The chances of infection are materially decreased because there are no injection punctures in the perineal region. Moon thinks that with careful technique there should be few fatalities, whilst pneumonia, acute dilatation of the stomach, or acidosis will not occur; further, the sphincter muscle is completely relaxed, and the patient is usually unaware of the act of dilatation. He concludes that a 1 or 2 per cent. solution of novocain as the anaesthetic probably gives the most satisfactory results.

#### 101. Ethylene Anaesthesia.

H. O. OBERHELMAN and HATTIE A. DYNEWICZ (*Journ. Amer. Med. Assoc.*, December 20th, 1924, p. 2012) discuss the metabolic changes associated with ethylene anaesthesia. Favourable reports on the use of ethylene-oxygen have been received from many anaesthetists, and in our issue of September 27th, 1924 (*Epitome*, para. 234), we referred to a report by J. S. Lindy based on the treatment of 2,000 patients. Oberhelman and Dynewicz examined twenty-four patients between the ages of 17 and 64, before and after ethylene-oxygen anaesthesia. The operations performed were for inguinal hernia, haemorrhoids, acute osteomyelitis. They found the decrease in alkali reserve were less with this anaesthetic than with ethylene, chloroform, or nitrous oxide. At no time in uncomplicated conditions did the blood sugar change or alkali reserve approach a dangerous level. Two patients were examined with reference to ethylene-ether anaesthesia, and the indications were that the metabolic changes were more marked than with ethylene-oxygen anaesthesia. No significant changes in the non-protein nitrogenous constituents of the blood were observed. The authors add that the changes in blood pressure produced by ethylene-oxygen anaesthesia resemble more closely those of normal sleep than was the case when ether, chloroform, or nitrous oxide was the anaesthetic used.

## Obstetrics and Gynaecology.

#### 102. Renal Tuberculosis during Pregnancy.

W. E. STEVENS (*Surg., Gynecol. and Obstet.*, December, 1924, p. 750) considers that many cases of renal tuberculosis during pregnancy escape detection because morbid urinary symptoms are then comparatively common and because no thorough examination of the urine is made. He records the case of a woman, aged 22, who complained of frequent micturition during the fifth month of gestation. Investigation showed that the urine from the left kidney was normal, but pus cells and tubercle bacilli were found in the urine coming from the imperfectly functioning right kidney. Operation was refused until after birth of the child, which died at 8 months of tuberculous meningitis. The mother was quite well twenty months after nephrectomy had been performed. Stevens considers that if the tuberculous infection affects one

kidney only, nephrectomy is advisable without delay, irrespective of the pregnancy. The extra strain thus placed on the sound organ is more than counterbalanced by the removal of the source of infection and irritation. Nephrectomy during pregnancy is comparatively well borne; in an analysis of 34 cases in which the renal lesion was non-tuberculous Stevens has found that only 2 patients died, and one suffered from a uraemic attack, whilst the pregnancy continued to term in half of the cases. Of 12 pregnant patients in whom, according to the literature, nephrectomy was performed for renal tuberculosis, all recovered; normal children were delivered at term in 6 cases. After operation tuberculin treatment is advocated; a second pregnancy is said to be permissible if the remaining kidney is functionally normal and free from tuberculosis after two or three years. In bilateral cases Stevens prefers tuberculin and general treatment to induction of abortion, which, at best, prolongs the mother's life for only a short period.

#### 103.

#### Puerperal Infection.

P. DELMAS (*Bull. Soc. d'Obstét. et de Gynéc. de Paris*, 1924, 9, p. 762) advocates local treatment of puerperal infection both by surgical methods and the application of vaccines. He argues that if signs of infection appear during the first week after delivery, it is as logical to empty the uterus as to open and drain an abscess in osteomyelitis. The operation should be done under spinal anaesthesia. Loose fragments of placental cotyledons can be removed with the finger; retained placental portions by the curette; remnants of the ovarian membranes by the blunt scraper. The three procedures have often to be combined. To minimize the risk of bacterial dissemination leucocompresses are placed on the hypogastrium and ergot is administered. Delmas thinks that it is no longer justifiable to attempt to destroy pathogenic micro-organisms left in the uterus either by applications of strong antiseptics or by intermittent injection of Dakin's solution. After simple uterine lavage with 1.8 per cent. magnesium chloride solution, a drainage tube wrapped in gauze moistened with polyvalent serum is left in the womb. Subsequently similar local applications are made of vaccines on the lines suggested by Besredka. Stock vaccines are used until the lochia have been investigated bacteriologically, and later an auto-vaccine, which Delmas thinks, is possibly more effective by reason rather of its freshness than its specificity. General treatment includes injections of hexamethylene tetramine, production of a fixation abscess, and protein therapy. Delmas adds that operative clearing of the uterus must never be repeated, but in certain cases, if the uterus is found to be empty, vaginal hysterectomy may be indicated.

#### 104. Expectant Treatment in Ectopic Gestation.

K. GENTSCH (*Zentralbl. f. Gynäk.*, November 1st, 1924, p. 2440) mentions the case of a 2-para, aged 34, in whom an ectopic pregnancy continued to term. A living child was delivered by abdominal section, and four years later Gentsch found him to be healthy and well developed, weighing 3 st. The mother was operated on for gall stones, and no trace was visible of adhesions resulting from the extrauterine pregnancy. The case is quoted as supporting the school of treatment which advocates that after the fifth month ectopic pregnancy with living foetus should be allowed to continue until near term. Expectant measures have been rejected on the grounds that the maternal life may be endangered by internal haemorrhage, and that the foetus, if alive, is likely to be weakly and to show malformations. Mallowsky, however, from an analysis of nearly 200 cases of extrauterine pregnancy with living foetus, concluded that to allow gestation to continue involved the mother in no special danger, and that the most favourable time for operation was the thirty-eighth week of pregnancy.

#### 105. Adenomyoma of the Recto-vaginal Septum.

L. HERLY (*Surg., Gynecol. and Obstet.*, November, 1924, p. 626) records the case of a woman, aged 28, who four years after a high forceps delivery suffered from dyspareunia and bleeding after coitus, followed by a brown intermenstrual vaginal discharge. Later there was much pelvic pain, aggravated by exertion or defaecation. A small tender nodule was found in the right portion of the upper end of the recto-vaginal septum; it had respected the rectal mucosa, but had ulcerated into the vaginal fornix as a series of papillomatous excrescences, blood-red in colour, and bleeding on palpation. Removal per vaginam under general anaesthesia could not be completed and led to considerable bleeding. Microscopical examination showed cystic spaces lined with cylindrical epithelium surrounded by lymphoid tissue and embedded in plain muscle and fibrous tissue. The pain was relieved and the nodules disappeared one month after hard tubes of radium emanation had been buried in the tumours. A few months later, the patient having become pregnant, the

nodules recurred in their old sites and the symptoms returned. After therapeutic induction of abortion the radium treatment was repeated and the symptoms and signs disappeared. Another pregnancy soon followed; the patient was delivered at term by Caesarean section, the growths having in the meantime again recurred. Three years later the patient was free from morbid symptoms, and the site of the adenomyomatous nodules was occupied by telangiectases. Several observers have reported that during pregnancy the cellular stroma around gland tissue in an adenomyoma may take on decidal changes.

## Pathology.

### 106. Sedimentation Test in Congenital Syphilis.

G. GJELBERG-HANSEN (*Ugeskrift for Læger*, December 18th, 1924, p. 1011) suggests that the Fåhræus test (the rate of sedimentation of the erythrocytes) may be of use in deciding whether or not an infant suffers from congenital syphilis at a time when the Wassermann reaction is still negative and there are no clinical manifestations of syphilis. He points out that in the healthy infant the rate of sedimentation differs considerably from that of adults. This rate is very slow at birth (blood taken from the umbilical cord), and during the first weeks of life it is more rapid, though still considerably slower than in the adult. It increases gradually till, at the age of 2 months, the adult rate is reached. From the age of 2 to 12 months this rate is much faster than in the adult, and during childhood there is a gradual change of this rate towards the normal for an adult. At the hospital to which the author is attached many infants remain under observation because their mothers were syphilitic; in these infants he has carried out a series of Fåhræus tests, which invariably showed that, when the infants were syphilitic, the rate of sedimentation was greater than normal. It gradually returned to normal under the influence of specific treatment. A male infant, the offspring of a mother with a positive Wassermann reaction and papules on the genitals, showed no signs of syphilis; the Wassermann reaction was negative, and a microscopic examination of the umbilical cord showed no abnormality. When a week old the infant's rate of sedimentation was normal. But when 2 weeks old an abnormally rapid rate of sedimentation was observed, although the Wassermann reaction was still negative. It was not till a fortnight later that the Wassermann reaction became positive and the infant developed a purulent coryza. The value of the Fåhræus test in eliminating the diagnosis of syphilis was demonstrated in another case. The infant's mother had been treated for syphilis some time before, but not during pregnancy. At the time of birth neither the mother nor the infant gave a positive Wassermann reaction. When the infant was 17 days old an extensive eruption appeared, and syphilis was suspected. The rate of sedimentation was normal, however, and the conclusion was drawn that the eruption was not syphilitic.

### 107. Thyroid Administration and the Arneth Count.

E. PONDER (*Quart. Journ. Exper. Physiol.*, October, 1924, p. 327) has investigated the effect of thyroid treatment on the Arneth count in rabbits, which is normally very similar to that in man. Lim, Sarkar, and Graham Brown had shown that thyroid extract stimulates the marrow to produce polymorphonuclear cells. Ponder reports that it caused a percentage increase of those cells with the simple type of nucleus, constituting thus a fall in the Arneth count. The normal condition returned when the treatment was discontinued. The rabbits lost weight while the test was in progress. Ponder deduces that thyroid injection will cause a fall in the opsonic index similarly, and proposes to consider this point more fully in a subsequent paper.

### 108. Immunity of the Yellow Races to Scarlet Fever.

C. ZOELLER (*C. R. Soc. de Biologie*, December 19th, 1924, p. 1315) records how frequently he has treated Annamese workmen for diphtheria and mumps, but has never yet seen a case of scarlet fever amongst them. He has performed the Dick intradermal test for scarlatina on 50 Annamese and 125 white subjects living in the same neighbourhood, with the result that whereas there were 38 positive reactions amongst the latter group, there was not a single definite reaction amongst the former. In 4 Annamese there was a very feeble reaction at the point of injection and tissue perceptible only on the surface, given by the white patients with definite infiltration. If the generally accepted interpretation

of the Dick test be correct, then it must be concluded that the yellow races are much more resistant to scarlet fever than the white races. Zoeller asks if this immunity depends on the presence of antitoxin in the blood, or is some other factor responsible for it? To determine this point he examined the blood serum of 10 Annamese, mixing it with a streptococcal toxin, and injecting the mixture into the skin of a susceptible person. In 4 of the mixtures positive reactions were obtained; in 4 a pseudo-reaction—a slight reaction not appearing till two days after the injection—and with the remaining 2 no reaction at all. From these results he deduces that the immunity in the case of some subjects may rest on the existence of antitoxin in the blood, but that in others it must depend on some other factor, such as an insusceptibility of the tissues to the scarlatinal toxin, or on some local process of defence. Zoeller adds that the Dick test indicates that the threshold of immunity to scarlet fever is higher in the yellow than in the white races.

### 109. Kolmer Complement Fixation Test for Syphilis.

J. A. KOLMER and E. STEINFELD (*Journ. of Lab. and Clin. Med.*, October, 1924, p. 1) claim that this new method when properly conducted possesses three outstanding properties—namely, a very high degree of specific sensitiveness, an almost complete absence of non-specific reactions, and very few anticomplementary reactions. They attribute these results to four factors: (1) The employment of a new antigen in a dose some thirty to fifty times less than the anticomplementary unit. (2) A primary incubation of eighteen to twenty hours at 6° to 8° C., followed by ten minutes at 38° C., which greatly favours the fixation of complement by the syphilitic "reagin" in the serum and this extract while maintaining the degree of fixation by serum alone and extract alone. (3) A haemolytic system including small amounts of guinea-pig complement and rabbit-sheep serum, thereby reducing to a minimum the amount of various serum constituents capable of interfering with specific complement fixation. (4) The use of varying amounts of patient's serum which in a small but appreciable percentage of cases increases the specific sensitiveness of the test. Except in cases of trambosia or yaws, they hold that positive reactions are due to syphilis alone. Negative reactions were obtained with the serums of rats, guinea-pigs, and rabbits infected with *Trypanosoma equiperdum*. In 159 cases of leprosy no positive reactions occurred with this method. The authors claim similar results in tuberculosis, pregnancy, diabetes mellitus, malaria, nephritis, leteris, pneumonia, and scarlet fever. They quote the serological study by Rockwood and Sanford of 501 cases of diabetes in which only one apparently false negative reaction and two apparently false positives were obtained by the Kolmer method.

### 110. The Action of the Parathyroid Glands.

W. G. MACCALLUM (*Journ. Amer. Med. Assoc.*, December 6th, 1924, p. 1846) summarizes the results obtained during the last few years from investigations of the parathyroid glands and their relation to disease. It has been shown that extirpation of the glands is especially characterized by an electrical and mechanical hyperexcitability of the nerves, so that minimal impulses give rise to muscular twitchings and spasms. This effect appears to be derived from some change in the circulating blood, since anastomosis of the vessels of a normal animal with those of an animal in violent tetany will reduce the tetanic limb to normal quiescence and restore normal excitability to the nerves concerned. The calcium content of the blood in this tetany has been found to be reduced by about 50 per cent., as was also the case in the spontaneous tetany of infants suffering from rickets. The symptoms of tetany have been cured by intravenous injection of calcium salts, and animals have been kept alive indefinitely after parathyroid extirpation by the addition of calcium to the food. Whether parathyroid extirpation produces an alkalosis is still considered to be uncertain, but it has been asserted that an alkalotic tendency is demonstrable. It has been shown, however, that in parathyroid tetany an excess of phosphates is retained in the body. The tetany due to parathyroid insufficiency has been found to be associated with changes in the teeth and in calcific deposits in the body. He believes that there is no single use of parathyroid therapy rests on a scientific proof, except the use of transplanted glands in tetanic parathyreopriva.



# EPITOME OF CURRENT MEDICAL LITERATURE.

## Medicine.

### 111. Blood Transfusion in Scarlet Fever.

R. J. WEISSENBACH (*Bull. et Mem. Soc. Méd. des Hôp. de Paris*, December 11th, 1924, p. 1686) describes the case of a boy of 14 who for ten years had had symptoms of chronic nephritis, including persistent albuminuria, increase of blood urea (averaging 18 grams per litre), and high blood pressure (maximum 150 mm. and minimum 110 mm.). He had been under treatment for a year when he contracted a severe attack of scarlet fever, with typical pharyngitis and tonsillitis, accompanied by petechial eruption. The urine was scanty and contained 10 eg. of albumin per litre. His mother had just recovered from scarlet fever which had commenced seven weeks earlier, and as the boy's condition was very grave 25 c.cm. of his mother's blood was withdrawn, diluted with 2.5 c.cm. of 10 per cent. sodium citrate solution, and injected hypodermically into his thigh. This single injection sufficed to produce marked improvement; the temperature and pulse rate fell rapidly, and the albuminuria was reduced by 50 per cent. The patient was kept in bed on a light diet, for five weeks, and afterwards resumed his low-protein, chloride-free diet. The blood urea ratio then fell to 0.075 gram per litre, the renal condition being better after the attack of scarlet fever. Weissenbach attributes this unexpected result to the prolonged rest in bed and the strict dietary. He thinks this case shows that the specific virus of scarlet fever does not possess that selective action on the kidney which has been attributed to it. Six months after the attack it was found that the patient had grown nearly 1 inch in height and had gained 4½ lb. in weight. The blood pressure had fallen to a maximum of 130 mm. and a minimum of 80 mm. The rapid improvement that followed the injection of the maternal blood confirms numerous other observations recorded in the last few years.

### 112. Peristolic (Perisystolic) Function of the Stomach.

J. L. ROGATZ (*Amer. Journ. Dis. Children*, November, 1924, p. 582) regards the "peristolic" function of the stomach (concentric contraction) as of practical significance in cases of pylorospasm and habitual vomiting, which condition has been effectively treated by feeding the patients with thick cereals or other concentrated foods of thick consistency. By radiological studies Rogatz has shown that simultaneously with the peristaltic action set up by the ingestion of food peristalsis occurs, the muscular walls of the stomach appearing to surround and grasp its contents. If these are fluid they tend to travel away from the source of pressure and are vomited or regurgitated, but if they are thick and less mobile they are grasped by the gastric musculature and carried towards the pylorus. A definite mechanical relation appears to exist between the infant's stomach wall and its food contents, the ingested food stimulating the muscle wall to surround and grasp it. Just as the vomiting in pylorospasm and habitual vomiting can be explained mechanically on the basis of muscular wall contraction acting upon fluid food, so the vomiting can be controlled by stimulating this peristolic function in its action upon thicker semisolid food. Two cases are recorded to illustrate the striking result obtained with thick cereal feedings (thick milk gruel or mashed potato) in cases of persistent vomiting.

### 113. Acute Empyema and Pulmonary Tuberculosis.

E. SALTZMAN and O. SIEVERS (*Finska Läkarsällskapets Handlingar*, September-October, 1924, p. 781) remark that some life insurance societies assume definitely that an acute empyema predisposes to pulmonary tuberculosis, and class persons who have recovered from an acute empyema with those who have had an attack of pleurisy with a serous effusion. To throw further light on this matter the authors have investigated the after-histories of 324 patients treated for purulent pleurisy in two surgical hospitals in Helsingfors in the period 1902-12. The subsequent observation period ranged from ten to twenty years, and during this interval the fate of 128 was ascertained. It transpired that 19 had died, the cause of death being known to be tuberculosis in 3 cases, and suspected to be so in one other. But as 550 of the 2,078 deaths in Helsingfors in 1916 were due to tuberculosis, the authors do not consider 4 tuberculosis deaths out of a total of 19 deaths as evidence that an acute empyema predisposes to tuberculosis. They found, however, that the mortality from all causes among these 128 persons, who had been discharged from hospital as completely cured after an attack of purulent

pleurisy, was about 20 per cent. above the calculated mortality for the total population at the same ages. The authors find confirmation of their hypothesis, that an acute non-tuberculous empyema does not predispose to pulmonary tuberculosis, in another series of investigations conducted in a sanatorium where they scrutinized the records of 3,557 patients suffering from pulmonary tuberculosis. In only 9 cases could they find a record of empyema, and in as many as 5 of these the empyema had developed after pulmonary tuberculosis had been diagnosed.

### 114.

### Rubella.

G. LINDBERG (*Acta Paediatrica*, October 25th, 1924, p. 1) records his observations on the study of about a thousand cases of rubella, some of which were sporadic, while the rest occurred in a large epidemic at Norrköping (Sweden) during the first months in 1924. The incubation period ranged between seventeen and twenty days. In most cases there were no definite prodromes, the initial symptoms being the characteristic eruption and the glandular swellings. In contrast with measles there was very frequently a complete absence of any feeling of illness. There were, however, occasional exceptions to this rule, especially among adults. The duration of the eruption was usually two or three days. During the epidemic Lindberg found that vasomotor symptoms were pronounced, such as redness of the face and urticaria. The tongue, which was thickly coated with whitish-grey fur, subsequently peeled, and presented an appearance closely resembling that observed in scarlet fever. Definite swelling of the cervical glands was not constant in the epidemic, but was found in 75 per cent. In some cases it was primary, and in one instance the only symptom of rubella. The temperature was not characteristic; although sporadic cases were usually afebrile, in the recent epidemic a temperature of 102° or 104° was not uncommon. Considerable importance has recently been attached to the blood picture in rubella by Naegeli, Feer, and Stöck. At the onset there is a leucopenia which may persist throughout the disease or be converted into a leucocytosis. Plasma cells are very frequently present, and may sometimes form as much as 30 per cent. of all the leucocytes. Lindberg did not observe any complications in the sporadic cases, but during the epidemic he saw six cases of polyarthritis (three in children and three in adults), two cases of stomatitis, and two of protracted pyrexia.

## Surgery.

### 115. Cervical Sympathectomy in Angina Pectoris.

W. S. LEWIS (*Zentralbl. f. Chir.*, November 15th, 1924, p. 2529) records the case of a man, aged 49, the subject of angina pectoris for four years, whose pains had recently become so intense that he had contemplated suicide. The patient was a heavy smoker, but denied syphilitic infection or alcoholism. He spent most of the day in bed, so as to avoid any movement likely to produce an attack of pain. The heart was enlarged in all its diameters. The blood pressure was 198 to 200 mm. Hg (Riva-Rocci), and there was a systolic murmur at the apex. The sympathetic cervical ganglion and stellate ganglion on the left side were removed, and a fortnight later the patient was able to walk about the corridor of the hospital quite comfortably. Twenty-five days after the operation he had a severe psychical trauma, but did not feel any pain in the cardiac region, whereas previously even the slightest emotion had brought on an attack. Three months after the operation there was a general increase in size of the heart, and the patient complained of dyspnoea after a long walk, and also showed some oedema of the face, legs, and lumbar region, especially in the morning. After rest in bed the oedema subsided, and the patient felt well again. When seen three months later the patient stated that he had had no pain since the operation six months previously, but had some dyspnoea on walking, and frequently had oedema, which was cured by lying in bed. The operation had thus relieved the patient from the attacks of pain, but had caused a deterioration of the heart's action. The heart had now been deprived of its regulator or automatic brake in the form of pain conducted along the sympathetic nerve fibres, so that the patient walked or moved faster than the reserve power of his heart allowed. Lewis adds that the surgical treatment of angina pectoris can therefore only be regarded as a palliative operation, the object of which is to relieve the attacks of pain.



**116. Elephantiasis treated by Sympathectomy.**

R. LERICHE (*Lyon Chir.*, November-December, 1924, p. 795), in considering the etiology of elephantiasis, points out that, far from following the usual description given in textbooks, the condition often appears to be spontaneous in origin. Originally it was believed to follow recurrent attacks of lymphangitis, which produce obstruction to the main lymphatic channels, but Leriche doubts whether this is really the case. He asks why the superficial lymphatics are alone affected and the disease localized to the subcutaneous tissues. Below the superficial aponeurosis there is usually no sign of any trouble, and there is frequently no evidence of lymphangitis having been present. In a number of cases he has treated the oedema has often appeared spontaneously and has been found in men or young women. In a case recorded the patient was a woman aged 27; when 16 years of age she had a severe shock, from which the condition appeared to start; this was the only etiological factor to be discovered. It is suggested that a shock causing arrest of the heart's action, and producing an attack of syncope, might be able to originate elephantiasis. This case was treated by femoral sympathectomy, and within two days the circumference of the leg and thigh showed marked diminution. It is possible that the operation produced a communication between the superficial and the deep lymphatics, but it is doubtful if the result would have appeared so rapidly. It has been shown that when dilatation of the superficial arteries is produced experimentally the superficial lymphatics are likewise affected. Leriche thinks that it is probable that the improvement was the result of the division of the sympathetic fibres which control both the arteries and the superficial lymphatic channels.

**117. Myositis Ossificans.**

T. P. NOBLE (*Surg., Gynecol. and Obstet.*, December, 1924, p. 795) reports a group of 18 cases of myositis ossificans, and points out that the traumatic type is important because of its similarity to sarcoma and the danger of mistakes in diagnosis. Three types of the disease are described: (a) when it occurs in early life; (b) following repeated injuries, as in "rider's bone"; and (c) when localized to one site of the body and following a single trauma. The commonest sites of this last group are in the quadriceps and brachialis anticus muscles. The great bulk of the cases occur in males and in early adult life. The condition may follow a blow or, in the arm, result from a posterior dislocation of the elbow-joint. A swelling occurs at the site, resembling a haematoma and causing limitation of movement. It becomes increasingly hard, and can be diagnosed by x-rays. The shadow appears to be separated from the diaphysis by a zone of light which is very constant. In sarcoma it is not present, and, moreover, the shaft of the bone is affected. A sarcoma may feel soft, whereas myositis ossificans is uniformly hard. The situation on the bone is important, for sarcoma occurs more commonly near the epiphyses. Noble adds that the natural tendency of myositis ossificans is towards cessation of growth after some weeks and a variable degree of reabsorption. The treatment is therefore rest at first, and, when the process has ceased, massage and exercise. Operation is only to be considered after six months, and if distinct functional disability exists.

**118. Descending Abscesses in the Neck.**

F. E. PALMER (*Journ. Amer. Med. Assoc.*, December 27th, 1924, p. 2067) remarks that occasionally abscesses in the neck show a tendency to penetrate into the loose collateral tissues and to extend into the mediastinum, thus endangering the life of the patient unless this descending process is recognized early and stopped. He considers that laryngoscopic examination is the only trustworthy means of obtaining an early diagnosis. In the absence of oedema and bulging of the larynx the abscess can usually be opened locally and drained, but Palmer adds that if little or no improvement follows in twelve to thirty-six hours it is necessary to open the mediastinum and seal the spaces by iodoform gauze strips. The author describes this operation in detail and records five illustrative cases.

**119. Left-sided Abdominal Abscess in Appendicitis.**

K. NATHER and A. OCHSNER (*Deut. Zeit. f. Chir.*, November, 1924, p. 114) state that during the last four years nine examples of left-sided abdominal abscesses have occurred among about 700 cases of acute appendicitis at the Zürich University Surgical Clinic. A characteristic feature of the condition is its occurrence in early life, as is exemplified by the fact that four of the nine cases were under 12 years of age. The first symptom is pain in the left side of the abdomen, without anything objective being found on physical examination. Soon, however, definite signs, such as rise of temperature and leucocytosis, make their appearance and indicate the presence of a suppurative process in the abdomen. As the abscess extends it becomes palpable, and local oedema of

the skin of the abdominal wall finally appears. Apart from the risk of septicaemia associated with the presence of chronic suppuration, there are other dangers connected with the condition. A circumscribed abscess may perforate into the abdominal cavity and set up diffuse peritonitis, or the abdominal wall may be so weakened by persistent contact with the pus that after incision of the abscess an intestinal fistula may be formed and persist for an indefinite period. Treatment consists in rest in bed and warm applications. Under such measures the abscess may be completely absorbed, as in two cases recorded by the authors. If conservative treatment fails an incision should be made at the level of the tumour.

**Therapeutics.****120. Treatment of Boils and Carbuncles.**

F. BERNDT (*Zentralbl. f. Chir.*, December 6th, 1924, p. 2583) states that though undoubtedly recovery takes place in a certain number of boils and carbuncles after injection of the patient's own blood, as recently recommended by Löwen, it is uncertain whether this treatment is responsible for the cure, as incisions are made at the same time. Berndt has never employed the method himself, as he regards injections in the neighbourhood of an acute inflammatory focus as a mistake, and quotes a case in which a severe attack of erysipelas followed injection of novocain behind the pinna for a boil in the external auditory meatus. He thinks that the simplest method of treating boils of the face is by application of x-rays, as recommended by Heidenhain at the last German Surgical Congress. Berndt records four illustrative cases, three of which were severe and one mild, successfully treated by this method. For the last thirty years he has employed the following method for treating carbuncles on the back of the neck. A long transverse incision is made over the middle of the carbuncle, followed by a number of perpendicular incisions beginning and ending in healthy skin. A dressing is applied and left on for eight days, when, if necessary, a skin graft is made.

**121. Chicken Serum in Pneumonia.**

FROM experiments on animals H. C. BERGER and J. G. MONTGOMERY (*Arch. Intern. Med.*, December, 1924, p. 667) concluded that chickens tolerated large doses of pneumococci intraperitoneally, and that in normal chicken serum a protective substance against the pneumococcus of Types 1, 2, and 3 was present. This substance deteriorated with time. These results encouraged them to test the value of chicken serum in pneumonia in children. In preparing the serum used the chicken blood was collected in half-gallon jars containing a measured quantity of sodium citrate solution. The serum was removed without pressing the clot. The citrate was removed with calcium and the serum passed through Berkefeld filters. To this fluid, after tests for sterility, was added tricresol, and it was then placed in 100 c.c.m. containers with rubber caps. The report deals with 63 consecutive patients with pneumonia, of whom 41 were treated with the blood or serum of chickens, and 22 received the usual pneumonia treatment but no chicken blood or serum. The authors have now abandoned the use of whole blood because they found that the serum was safer, easier to administer, always available, more comfortable to the patient, and could be administered in larger dosage. The dose of serum employed varied from 50 to 60 c.c.m. intravenously to 350 to 400 c.c.m. intravenously or intramuscularly. The mortality in the cases treated with chicken blood or serum was 12 per cent., against 36 per cent. in the others. They add that the temperature, pulse, and respiration returned to the normal in the first group in one-fourth to one-fifth of the time taken in the second group.

**122. Alcohol Injections into the Gasserian Ganglion.**

G. M. DORRANCE (*Journ. Amer. Med. Assoc.*, November 22nd, 1924, p. 1678) records the results of injections of 85 to 95 per cent. alcohol in eleven cases of trigeminal neuralgia that had been treated during the period February, 1916, to June, 1923. Experiments on dogs had confirmed the opinion that alcohol destroyed many ganglion cells, which were replaced by fibrous tissue, but a large number escaped. He considers that the treatment of these eleven patients has proved conclusively that pain will not return in the majority of cases if anaesthesia in the entire distribution of the fifth nerve persists for a month. Even though sensation returned in several cases, pain did not always follow. Injection of the divisions of the fifth nerve has been much less satisfactory. Dorrance, while still advocating this operation, no longer regards it as a minor one, and considers Frazier's operation of partial or complete division of the posterior root is the operation of choice in true

to douloureux. Alcohol injection, he thinks, is definitely indicated for patients who have had radium treatment for cancer of the face; some of these patients suffer from severe pain, which is completely relieved by injection, provided that the fifth nerve only is involved. Two patients among these eleven cases developed corneal ulcers shortly after alcohol injection, but these healed under treatment. In two cases transient paralysis of the third, fourth, and sixth nerves followed the injection. Dorrance concludes: (1) This treatment usually gives permanent relief, if enough alcohol be injected. (2) The absolute indication is carcinoma of the maxilla or of the tongue. (3) In injection of the nerve trunks or of the ganglion, prognosis may be made in four weeks; anaesthesia which persists for a month is likely to remain. (4) Transient paralysis of the ocular muscles occurs occasionally; it always clears up. (5) Eye complications occur in approximately the same proportion as in division of the root by any other method.

## Radiology and Electrolgy.

### 123. X-ray Diagnosis in Endocrine Diseases.

W. ENGELBACH and A. McMAHON (*Radiological Review*, September-October, 1924, p. 3) state that radiological examinations have not often been made in endocrine disease. Beyond observations of the retarded bone growth in hypothyroidism there has been but little study of the bony changes in other endocrine diseases. The authors have examined over two thousand cases of endocrine disease, and report striking differences in osseous development, both general and local. They find that in uniglandular endocrine deficiencies there are definite variations from the normal bone development sufficiently clear to enable a definite diagnosis to be made in a large percentage of cases. In pluriglandular disturbances they state that it is more difficult to determine the influence of the absence or reduction of two or more hormones. They describe in detail the effects of disease of the various endocrine glands on bony development, and conclude by emphasizing the necessity of further investigation of changes in bone development in pluriglandular syndromes.

### 124. Radium Treatment of Myelogenous Leukaemia.

M. M. STRUMIA (*Journ. of Lab. and Clin. Med.*, November, 1924, p. 106) has studied the effect on the morphology of the blood of radium applied over the long bones in two cases of myelogenous leukaemia. Many investigators believe that radium is the best therapeutic agent in this disease. Strumia applied radium emanations, using the method of pack, the radiating tubes being at a distance of 6 inches from the skin and filtered so as to allow free passage to the penetrating gamma rays. He thinks that it is apparently of little moment where the radium is applied, because the entire body receives a large amount of penetrant rays; of greater importance is the quality of the radiations. In addition to its local effect on leukaemic foci radium appeared to induce a general reaction in the blood. It is suggested that leucotoxic material may be liberated from leucocytes directly affected by radium, or radium emanations, and may be carried into the blood stream by the plasma or blood cells. Radium at first seemed to act as a stimulant for both leucocytes and erythrocytes, particularly if applied in small doses. Following the period of stimulation it manifested destructive action especially on the leucocytes, the order of their disappearance being directly related to their degree of immaturity. The platelets were also greatly reduced by radium, and the coagulation time was proportionately lengthened. Haemocytoblasts or primordial cells (Pappenheim's lymphoidocytes) readily disappeared from the blood. The immature cells of the granulocytic series—myeloblasts, promyelocytes, myelocytes, and metamyelocytes—were more readily and decidedly affected than the immature cells of the lymphocytic series—prolymphocytes and lymphoblasts; the latter acted like mature cells and were considerably more resistant to radium action. Strumia thinks that this probably explains the less effective results obtained in chronic lymphatic leukaemia when treated with radiations. In their reappearance in the blood stream the immature cells followed exactly the opposite order of their disappearance, the most immature forms being the last to reappear.

### 125. Radioscopy in the Diagnosis of Heart Disease.

L. F. BISHOP (*Cuore e Circolazione*, November, 1924, p. 429) states that for some years he has submitted all his patients to x-ray examination. Radioscopy enables one to observe the relative activity of the different cardiac cavities and the pulsation of the large vessels, while radiography leaves a permanent record. Many persons, however, cannot avail themselves of the benefit of radiography owing to the trouble

and expense which it entails. On the other hand, Bishop believes that there is nothing to take the place of radioscopy as a rapid means of diagnosis of heart disease. Care, however, must be taken that it does not lead the observer astray, and it must always be accompanied by other methods of clinical investigation. In exploring cardiac lesions of secondary importance radioscopy is, he thinks, far superior to the stethoscope, and in combination with the electrocardiograph this method can detect at least 30 per cent. of the conditions which would otherwise escape notice. There are numerous examples in daily practice of trained observers pronouncing a heart to be normal when radioscopic examination reveals enlargement or deformity of the cardiac image. Many persons with cardiac lesions of secondary importance are conscious that everything is not right with them and refuse to accept an assurance to the contrary, whereas if the cardiac defect is recognized and explained they feel relieved and are able to tolerate the condition patiently, which was impossible when the nature of their disorder was obscure. Bishop maintains that it should be the duty of all large institutions to employ radioscopy as a routine method, since it will reveal a large number of unsuspected lesions and will thus save a great amount of trouble. It will also occasionally detect conditions in the abdomen or chest which may require prompt surgical intervention to save life. Combined radioscopy, radiographic, and orthodiagraphic examination of morbid conditions will reveal the nature of the affection by the changes shown (a) in the character of the pulsations, (b) in the position of the heart, and (c) in the measurement and form of its borders.

## Obstetrics and Gynaecology.

### 126. Treatment of Pelvic Cancer.

H. SCHMITZ (*Surg., Gynecol. and Obstet.*, December, 1924, p. 775) publishes the five-year results of treatment of 180 cases of primary carcinoma of the female pelvic organs. The grouping "operable" and "inoperable" is abandoned, being too dependent on subjective considerations, and the following groups are distinguished: (1) Cases of clearly localized single growths, without surrounding oedema or infiltration—cases in which diagnosis of malignancy is established by the microscope only. Surgical treatment is here indicated. (2) Cases in which there is doubt of the exact site of the growth, as in cervical cancer and cases where the paravesical tissues are oedematous or doughy. Here the treatment recommended in most instances is x-ray and radium applications with subsequent radical surgical excision. (3) Cases of multiple growths, infiltration of adjacent tissues, fixation of organs; or involvement of regional lymph glands. These require treatment by radium and x-rays. (4) Cases of extensive ulceration and necrosis, with distant metastases, and cases with advanced cachexia. Here radiation is useless, and treatment should be symptomatic. Cases of cervical carcinoma in the second group were treated by radiation without subsequent surgical excision. Of 37 patients in groups (1) and (2), 46 per cent. were living and well after five years; in group (3), comprising 56 patients, 10 per cent. were well; and in group (4) of 47 none had survived. The absolute curability in 180 cases of all groups was 15 per cent. Schmitz concludes that if the percentage of cases suitable or unsuitable for operation is taken into account, the results of radiation compare favourably with those of surgical treatment.

### 127. Myoma and Sarcoma Uteri.

O. FRANKL (*Arch. f. Gynäk.*, October 13th, 1924, p. 554) states that in a period of about fifteen years 1,878 cases of uterine myoma were included among operation specimens in the Pelham clinic in Vienna; during the same time there were 38 cases of sarcoma of the uterus, and 8 cases showing both a sarcoma and a carcinoma of the uterus. Among the 38 cases of sarcoma there were 17 cases in which a pre-existing myoma or myomata could be demonstrated, and 5 in which this pre-existence was probable; in 15 cases there was no evidence of pre-existing myoma. The patients of the second group were older than those of the first, and in general had passed through a larger number of pregnancies. Interstitial myomata appeared to have become sarcomatous more often than subserous or submucous. Sarcomata arising independently presented within the cavity of the uterus in the great majority of cases as tuberos, irregular, or grape formations. Microscopical examination appeared to indicate that in 14 of the 15 cases in which no preceding myoma was present curetting would give material sufficiently characteristic to establish a diagnosis of sarcoma. With one exception this group of cases was characterized clinically by irregular bleeding, which was absent in more than one-quarter of the cases in which a myoma had become sarcomatous.

## 122. Treatment of Puerperal Infection.

H. ROULLAND (*La Gynécologie*, October, 1924, p. 577) discusses current views as to the utility and modes of administration of serum and vaccines in puerperal infections. The effects of serotherapy, he says, are inconstant. Serums should be administered, preferably by the intravenous route, in the earliest stages of infection—that is, at the onset of pyrexia. Since there is no time for preparation of autoserums, polyvalent stock serums must be used. In order to prevent acclimatization of the infective organisms, large doses must be given for a limited period (60 to 100 c.cm. during the first three or four days), and the treatment be then suspended for a while, to be resumed later if necessary. Local applications of serum should also be made, either by introducing each day 50 c.cm. into the uterine cavity, or by leaving there for eight to ten hours a piece of gauze steeped in serum. In cases taking a comparatively benign course Roulland considers vaccines preferable to serums; they have the advantage of not inducing a state of anaphylaxis. Vaccine therapy is useless, and may be dangerous, in states of profound general depression and asthenia, in very acute septicæmias, or when there is cardiac, renal, or adrenal deficiency. At the best antibodies will not be produced for about eight days; recent endeavours to detect the presence of antibodies in the serum of patients who have had antistreptococcal vaccination have been disappointing. In general vaccines are most useful in attenuated infections or in the terminal phases of acute ones. The dose is still largely empirical, but the author prefers to begin with small ones, which are progressively increased. Roulland adds that possibly future vaccine therapy will be local, in accordance with the teaching of Be-rezka, but the value of this method has not yet been established.

## 123. Pituitary Extract in the Third Stage of Labour.

D. GUGGINO (*Rivista d'Obst. e Ginecol. Pratica*, November, 1924, p. 572) describes a case which shows that the injection of pituitary extract at the beginning of the third stage of labour is not always devoid of untoward consequences, though an American observer, using this method in 100 cases, encountered no case of consequent uterine tetanus; he had previously recommended its routine employment before the manual extraction of the placenta. Guggino's patient, a 2-para aged 28, showed some degree of uterine inertia towards the end of the second stage of labour, but gave birth, three hours after administration of a small dose of quinine hydrochloride, to a live child presenting in the second vertex position. Half an hour later, uterine contraction being deficient and Credé's method of expressing the placenta having failed, 1 c.cm. of pituitary extract was injected. Two and a half hours later the placenta was still retained, and the uterus was so firmly retracted as to make manual extraction impossible. Eventually the placenta was removed under morphine and chloroform narcosis.

## Pathology.

## 129. Normal Movements of the Stomach.

E. D. MCCREA, B. A. MCSWINEY, J. W. MORISON, and J. S. B. HALDANE (*Quart. Journ. Exper. Physiol.*, October, 1924, p. 379) have studied the anatomy and physiology of the normal human stomach and describe it as being J-shaped in the upright posture. It consists of two divisions: (1) a fundus and the proximal portion of the corpus—the quiescent reservoir; (2) the distal part of the corpus and pyloric antrum—the active portion. In the erect position air is found under the fundus dome. The incisura angularis is the dividing line between these two physiologically separate portions. The authors found also that active movements begin almost immediately after food has entered the stomach, and some liquid leaves it within the first few minutes of gastric digestion. Peristalsis begins with a series of constrictions encircling the viscus at about the incisura; from this point waves, increasing in depth, travel towards the pylorus—shown on the fluorescent screen as waves over the lesser and greater curvatures. Food which has reached the antrum and is not immediately discharged into the duodenum may be retained for a long time in the now spherical pyloric sac, being often completely cut off from the corpus. In this sac rhythmic concentric contractions begin, diminishing at intervals its capacity and forcing out its contents. Where the contents may not pass into the duodenum, but some may be returned to the corpus. In this case fine waves may be seen on the antrum. The authors term this condition a "two-rabbit" type of stomach; it is found also in the dog and antrum may be either in the position of systole or diastole.

The number of peristaltic contractions present at one time varies from three to four. The time taken to complete one wave was found to be approximately twenty seconds.

## 131. Spontaneous Immunization against Diphtheria.

P. LERIBOLLET and JOANNON (*Paris Méd.*, December 27th, 1924, p. 533) discuss their observation of the spontaneous acquisition of immunity to diphtheria in a children's hospital. It was found that during their stay in hospital children who on admission were susceptible to diphtheria had gradually developed an immunity to this disease. The longer the stay the more likely was this immunity to develop. Many of the children suffered from a mild angina, which the authors suspect was a very slight form of diphtheria, and they think that this was responsible for stimulating the formation of antitoxin in the blood. Children whose beds were situated in the corners of the wards where the amount of light and air was less than in other portions did not develop immunity so frequently. The authors point out that these observations are similar in many respects to those of Dudley, who found that during an epidemic of diphtheria amongst the boys at the Royal Naval College at Greenwich a large number of contacts developed an immunity to the disease without actually suffering from it clinically, and that the longer the stay in the College the greater was the proportion of Schick negatives. They accept Dudley's conclusion that whether infection does or does not occur depends on two main factors—the frequency of the dosage and the intensity of reaction of the individual. They add that there appears to be little doubt that in such diseases as diphtheria and scarlatina, to which our susceptibility is not very high, a spontaneous process of immunization can occur by the inhalation of small, subinfective doses of bacteria.

## 132. Diagnosis of Tuberculosis in Cattle.

RENEWED interest is being shown in the agglutination test as a method for the diagnosis of tuberculosis. P. KARMIAN (*Centralbl. f. Bakt.*, November 15th, 1924, p. 358) publishes some results which he has obtained by comparing the titres of the serums of normal with those of tuberculous cattle. Altogether nine healthy control animals were used and eleven tuberculous ones. All except one of the latter were carefully examined after death to ascertain the extent of the disease; the remaining animal was in a veterinary clinic suffering from open tuberculosis with the bacilli in the sputum. The controls were also examined thoroughly in the slaughterhouse, where the blood was taken. For the agglutination test Fornet's antigen was employed, prepared by mechanical treatment of the bacilli, assisted by extraction of the fatty envelope in an ether vapour bath. The serums were diluted with the antigen itself, dilutions being put up from 1 in 40 to 1 in 5,120. Incubation was maintained for twelve hours and the results read after fifteen minutes at room temperature. The serums of the healthy animals showed an agglutination titre varying from 1 in 40 to 1 in 640; of the tuberculous animals the titres ranged from 1 in 80 to 1 in 5,120, but only four of them showed a higher titre than the highest given by the normals. No relationship was observed between the extent of the lesion and the titre.

... for the diagnosis

## 133. Production of a Staphylococcal Exotoxin.

J. T. PARKER (*Journ. Exper. Med.*, December, 1924, p. 761) has been successful in obtaining a toxic substance from the *Staphylococcus aureus* which has a selective action on the skin of rabbits. It is prepared by growing the organism in a 4 per cent. peptone broth medium, buffered with phosphate, and containing not more than a minimal amount of sugar. After four to six days' growth the culture is filtered through a Berkefeld candle and tested for sterility. Not all strains of *Staphylococcus aureus* were found to produce a toxin; in fact, only four of the twenty-one strains tested did so. When injected intracutaneously into rabbits it gave rise to a circumscribed dark bluish-purple area about 2 to 5 cm. in diameter, which on the following day assumed a yellow colour, and was then surrounded by an additional zone of deep red, about 0.5 to 3 cm. in diameter. On the fifth day the yellow gave place to a brown coloration, and by the twentieth day it was replaced by a dark brown dry scab, which eventually—in four to eight weeks' time—fell off, leaving an ulcer. Curiously enough there was but little evidence of systemic poisoning, and intravenous injections made to determine this point more fully gave rise to variable results. Parker adds that the toxin is extremely labile, being destroyed by heat at 55°C. in one hour. After intracutaneous injection he believes that an antibody is formed in the blood which has a neutralizing effect on the toxin, depriving it of its power to produce the typical skin lesions. So far as could be ascertained the toxins formed by the different strains were identical. The author considers this toxin to be a true exotoxin.

# EPITOME OF CURRENT MEDICAL LITERATURE.

## Medicine.

### 134. Pernicious Anaemia in Typhoid Fever.

M. STANZANI (*Rif. med.*, November 10th, 1924, p. 1063) states that while much study has been devoted within the last ten years to changes in the leucocytes in typhoid fever, comparatively little has been published about the changes which the red corpuscles undergo in this disease. He has collected from the literature five cases of pernicious anaemia, including one of his own which occurred at the height of typhoid fever. Four were in women and one in a man. The ages ranged from 19 to 48. There was usually no family history, and the personal antecedents were of little importance, except that one patient had had jaundice, another malaria, and a third dysmenorrhoea. In all five cases the onset of the disease occurred in September or October. The anaemia developed in the second or third week of typhoid fever, and was characterized by a rapidly progressive yellow coloration of the face. Different types of temperature were seen—namely, high continued fever, marked daily remissions, irregular pyrexia, and an afebrile stage preceding death. Rose spots were usually absent, whereas vomiting of bile and various haemorrhages, such as epistaxis, gingival bleeding, haematuria, haemat- emesis, and intestinal haemorrhages, were frequent. Three patients recovered and two died. The strain of organism isolated did not show any morphological or biological features to distinguish it from the typical typhoid bacillus. Stanzani's patient was a woman, aged 40, who was admitted to hospital on the thirtieth day of typhoid fever, which she had contracted from nursing her daughter suffering from the disease. The skin and sclerotics were subicteric, and the mucous membranes were anaemic. The urine was scanty, and contained much urobilinogen and traces of indican. Examination of the blood yielded the following results: haemoglobin percentage 28, red cells 1,250,000 per cubic millimetre, leucocytes 2,900. There was intense anisocytosis, and a few megaloblasts and normoblasts were present. The blood serum had a golden yellow colour, which in the course of a few hours assumed a greenish tinge. Naegeli, who had also observed this phenomenon in a case of pernicious anaemia, attributed it to the presence of urobilinogen. The Wassermann reaction was negative. Cultivation of the bile yielded a pure growth of typhoid bacilli, and the Widal reaction was positive. Examination of the gastric juice showed achlorhydria. Gradual recovery took place in the course of the next five months.

### 135. Anginal Attacks in Epidemic Encephalitis.

C. LAUBRY (*Bull. et Mém. Soc. Méd. Hôp. de Paris*, November 27th, 1924, p. 1588), who reports a case in a man aged 60, states that anginal attacks are exceptional in epidemic encephalitis, although pains in the viscera, especially of the abdomen, are frequent. Rectal, peritoneal, and appendicular crises have been recorded, in some cases so severe as to require operation. Anginal attacks appear to be of the same character. They probably indicate involvement of the vago-sympathetic in the encephalitic process. In the subsequent discussion Netter (*Ibid.*, p. 1590), who alluded to the frequency of the abdominal forms of epidemic encephalitis simulating appendicitis or intestinal obstruction, stated that he remembered only one example of anginal attacks, the patient being a man aged 62.

### 136. Gastric Achylia and Anaemia.

K. FABER and H. C. GRAM (*Arch. Intern. Med.*, November, 1924, p. 659) record extensive observations on the relationship between gastric achylia and simple and pernicious anaemia. Fenwick first demonstrated gastric achylia in pernicious anaemia, but he emphasized the atrophy of the gastric mucosa. Faber in 1913 put forward the hypothesis that anaemia, simple and pernicious, was secondary to gastric achylia; A. F. Hurst has supported this view. Of 51 cases of pernicious anaemia Faber and Gram have found gastric achylia in 47; but in 4 cases free hydrochloric acid was found in the gastric juice. The authors consider that these exceptions do not settle the question whether achylia, when found, is of pathogenic importance in regard to the anaemia; they merely show that there must be other possible causes, which at present are obscure. In 4 cases recorded gastric achylia and a normal percentage of haemoglobin were demonstrated twelve years before the onset of pernicious anaemia; achylia was therefore not the result of the pernicious anaemia. Hartman also has recorded pernicious anaemia two or three

years after complete gastrectomy. This would tend to show, according to Faber and Gram, that the cause of the anaemia is to be sought in the intestines, the contents of which are affected by the lack of gastric digestion, whether brought about by achylia or complete gastrectomy. The authors record the results of blood examinations in 90 cases of gastric achylia. The haemoglobin was below normal in 41 per cent. of these cases and in 36.5 per cent. of 63 uncomplicated achylia cases. The anaemia was simple in type, resembling that of chlorosis. The most successful treatment in these cases appeared to be large doses of reduced iron three times a day. The anaemia occurred in both sexes and at all ages; it showed a tendency to recur.

### 137.

### Reinfection in Syphilis.

J. R. DRIVER (*Journ. Amer. Med. Assoc.*, November 29th, 1924, p. 1728), from a study of thirteen cases, concludes that with modern therapy syphilitic reinfection occurs more often than is generally suspected. He asserts that in order to establish a diagnosis of reinfection *Spirochaeta pallida* must have been found in the lesion of the first attack and also in the chancre of the second attack, which must appear at a different site from the first. The blood examined shortly after the appearance of the second chancre, and before the reaction has had time to become positive, shows a negative Wassermann reaction. The interval between the first and second infections in Driver's cases averaged fifteen months, with extremes of from one month to ten years, indicating that the first infection does not confer immunity for any definite period, and that as soon as the first infection is cured a second infection is possible. Driver adds that syphilis is curable provided that an early diagnosis is made and arsenphenamin and mercury injections are immediately started. He considers that in the differential diagnosis of reinfection the presence of spirochaetes with a negative Wassermann reaction eliminates all other possibilities, such as superinfection, auto-inoculation, mucous patch, chancre redux, gumma, and chancreoid. This group of thirteen cases of reinfection in about 5,000 syphilitic patients approximates to the figures of White, who reported 28 in 10,000 cases.

## Surgery.

### 138. Syncope with Convulsions after Operations on the Nose and Throat.

F. J. COLLET (*Arch. Intern. de Laryngol., Otol. et Rhinol.*, December, 1924, p. 1149) records five cases where the not uncommon phenomenon of syncope following operation on the upper air passages was accompanied by the much less usual circumstance of convulsions. The first case was in a man, aged 50, during an operation under cocaine anaesthesia for resection of the septum. Towards the end of the operation there was sudden syncope and convulsions of the muscles of the head, neck, and upper extremities. The attack lasted only about a minute and passed away completely. The second case was in a nervous young woman upon whom electrolysis was being performed for a septal spur. A current of only 2 milliamperes was being used, but the patient fainted and had convulsions of the head, neck, and arms; these lasted only a few seconds, but the syncope lasted several hours. She had previously had a prolonged attack of syncope after witnessing an accident, and was subject to emotional disturbances. A third case was that of a girl, aged 12, who, following a second operation for removal of adenoids, had a certain amount of haemorrhage. On being placed in the sitting position for examination she fainted, and later, after packing the nasopharynx, she fainted again and had similar convulsions to the previous cases. The fourth case was that of a man, aged 32, upon whom, under cocaine anaesthesia, morcellation of the tonsils was performed. Several minutes after the end of the operation the patient became pale, unconscious, with stertorous breathing, followed by violent spasms of the trunk, arms, and legs. These symptoms lasted about five minutes, but the patient remained in a state of shock for several hours, and only gradually returned to full consciousness. In the fifth case, after enucleation of adenoids in a child under ethyl chlorid anaesthesia, there was sudden cessation of respiration followed by convulsions. These and the apnoea lasted less than a minute, but full consciousness was long delayed. It would appear that in the first four cases the convulsions were due to anaemia due to fainting, and in the fifth case to anaemia following cessation of



breathing due either to falling back of the tongue or to the anaesthetic. The author asks why, of the many cases of syncope, so few are associated with convulsions. In his five cases the first and fourth might be due to cocaine, the third to haemorrhage, the second to neither of these; all the patients had undergone a certain amount of emotional disturbance. He thinks that there is some emotional susceptibility in all these cases, and that any indication of this in the history ought to be carefully noted. He thinks it advisable to employ general anaesthesia with preliminary administration of bromides before operating on such individuals.

### 139. Post-operative Acidosis.

F. SCHULZE (*Zentralbl. f. Chir.*, December 6th, 1924, p. 2638), from observations on 150 cases at Bier's clinic in Berlin, found that acidosis occurred in 67 per cent. of all cases after general anaesthesia (ether), in 40 per cent. after lumbar anaesthesia, and in 85 per cent. after local anaesthesia. The incidence of 67 per cent. after general anaesthesia agrees with the figure given in 1895 by Becker, who was the first to draw attention to acidosis following anaesthesia. As acidosis occurs after any operation, irrespective of whether it is performed under general, local, or lumbar anaesthesia, Schulze prefers the term "post-operative" to "post-anaesthetic" acidosis. His experience has shown that no serious importance is to be attached to post-operative acidosis, and therefore it is unnecessary to undertake special preventive measures against it, such as intravenous injection of glucose, which has been warmly recommended. Schulze has recently seen a case in which the intravenous injection of glucose as a cardiac stimulant did not prevent the appearance of acidosis. Acidosis following operation, and its clinical expression, acetonaemia, depend on the patient's age, sex, and constitution, as has been demonstrated by pediatricists in the case of acetonaemia in children. In all probability the acidosis is an indication of a reaction to the shock of the operation. The high incidence of acetonaemia following local anaesthesia (85 per cent.) is in striking contrast to the figure given by Gramen at Stockholm, who found acetonaemia in only 9 per cent. of his cases in which local anaesthesia had been used. The relative infrequency of acetonaemia after operations under lumbar anaesthesia is of practical significance. This method of anaesthesia should be employed for all cases in which there have previously been any signs of acidosis, especially as a pre-existing acetonaemia is increased and prolonged by an operation.

### 140. Biliary Tract Disease.

A. BLALOCK (*Journ. Amer. Med. Assoc.*, December 27th, 1924, p. 2057) reports a clinical study of 735 cases of benign biliary tract disease, with special reference to the presence, position of, or absence of stones. He found that the white races were affected much more frequently than the coloured, and females than males. Pain and indigestion were the most common symptoms, and jaundice was present in 39 per cent. of the cases. In the bacteriological examination positive cultures were obtained in 58 per cent. of the cases, *B. coli* and *B. typhosus* predominating. Cholecystectomy resulted in a shorter stay in hospital and a better condition on discharge than was the case with those in whom the gall bladder had only been drained. More than one operation was needed in 11 per cent. of the cases, and in 89 per cent. of these drainage of the gall bladder had been the first operation. The gall bladder was removed in 49 per cent. of the cases and drained in 51 per cent. of the cases. Of cured and improved patients after cholecystectomy, 39 per cent. of cured and improved patients after drainage, and 79 per cent. of those in whom symptoms recurred had had the gall bladder drained at the original operation. Blalock concludes that the gall bladder should be removed whenever it is definitely diseased, provided that the lengthened anaesthesia is not a contra-indication.

### 141. Epithelioma of the Lip in a Youth.

C. M. RAMIREZ (*Rev. Med. Cubana*, December, 1924, p. 1021) records the case of a youth, aged 17, who six months previously had noticed a slight crack on the right half of the lower lip. The crack gradually became converted into an ulcer and increased in size. A thermo-cautery was then applied, but the ulcer continued to grow more rapidly than before. Antisyphilitic treatment was next instituted, but without any effect. On admission to hospital the ulcer involved the whole of the lower lip and extended to the gums. The regional glands were not affected. The patient was a non-smoker. Microscopical examination showed that the lesion was a squamous-celled epithelioma. The issue of a biopsy has not been recorded. Ramirez is of opinion that if a biopsy had been performed earlier a correct diagnosis with radiotherapy would have offered some prospect of success. When seen by him the growth was inoperable.

## Therapeutics.

### 142. Treatment of Acute Osteomyelitis.

CHARRIER (*Bull. et Mém. Soc. Nat. de Chir.*, December 13th, 1924, p. 1100) records the result of giving vaccines in the treatment of two cases of acute osteomyelitis. In the first case the condition appeared to originate in the lesser trochanter of the femur with oedema, pain, swelling, and loss of movement in the hip-joint; whilst in the second case the disease originated in the lower end of the femur. In both cases the disease was treated with injections of antistaphylococcal vaccine, with immediate relief of the symptoms. The injections were given daily, starting with a dose of 1/2 c.cm. The improvement was so marked and so quickly obtained that operation was found unnecessary; the success of the treatment, therefore, was entirely due to the vaccine. The author insists that if the condition does not improve operative treatment should not be withheld; the sign on which he relied in these cases was diminution of pain. In severe cases, he thinks, the use of vaccine therapy combined with surgical treatment is worthy of trial.

### 143. Salicylate Injections for Psoriasis.

J. F. SMITH (*Brit. Journ. Dermatol. and Syph.*, January, 1925, p. 33) records an experience of fifty-seven cases of psoriasis treated with intravenous injections of sodium salicylate. In order to test the value of the method no local treatment was given, though its use in combination with the injections is advocated. The intravenous administration of 10 c.cm. (with a maximum of 12 c.cm.) of a 20 per cent. solution three times a week for about four or five weeks is the procedure advised. No unpleasant effect was noted so long as the dose did not exceed 3 grams; no symptoms of salicylism occurred, and although exfoliative dermatitis ensued in 6 per cent. of the cases its connexion with the treatment is uncertain. In 16 per cent. of the cases the eruption entirely disappeared, and in 18 per cent. there was an almost complete disappearance, with a distinct improvement in 14 per cent. of the patients; 52 per cent. were either unimproved or worse, but several difficult cases, including one which had resisted a variety of measures, were cleared up by the treatment. The high percentage of failures and the necessity for frequent attendance renders the method unsuitable as a routine treatment, but in selected difficult cases it appears to be of definite value.

### 144. Ovarian and Mammary Preparations.

E. NOVAK (*Journ. Amer. Med. Assoc.*, December 20th, 1924, p. 2016) contributes a brilliant and rather pessimistic discussion of the value of ovarian therapy. In functional amenorrhoea he considers that, though the indications are theoretically good, the results have not been very striking, even when ovarian therapy has been combined with the use of thyroid and pituitary extracts. He believes that ovarian therapy should not be used until such conditions as incipient tuberculosis, anaemia, or other systemic diseases have been definitely excluded. In treating the vasomotor symptoms associated with the menopause better results have been obtained by using corpus luteum extracts, rather than those derived from the whole ovary. Some relief has been reported from the hot flushes, the vertigo, and headache, but occasionally no good results have been obtained. In dysmenorrhoea, sterility, and the vomiting of pregnancy, he finds that, with few exceptions, very little benefit has been reported. Novak concludes that, though there is little doubt as to the future importance of ovarian therapy, its present value is debatable. In the same issue (p. 2018) W. A. PUCKNER expresses the opinion that there is no definite evidence that the administration of mammary gland preparation is of any value. Inquiries were addressed to gynaecologists, obstetricians, and others who might have been expected to have information with regard to mammary gland preparations, but in no case was a favourable report received.

### 145. Protein Therapy of Infantile Tuberculosis.

E. SUÑER (*La Medicina Ibera*, January 10th, 1925, p. 34) states that he has employed this method since the article by Czerny and Eliasberg on this subject in 1920. The best results were obtained by the use of normal horse serum, and no advantages were observed by reinforcing its action by peptone. As a rule, the injections should start with 1/2 c.cm. daily, and when the tolerance of the individual has been determined the dose should be increased to 1 c.cm., which should be continued until 80 to 100 injections have been given, as recommended by Czerny and Eliasberg. The results were very satisfactory. Suñer differs from Czerny, who considers that tuberculous cachexia is the best indication for protein therapy, and maintains that better results can be obtained by employing the treatment at an earlier stage of the disease.



140. **A Urinary Antiseptic.**

V. LEONARD (*Journ. Amer. Med. Assoc.*, December 20th, 1924, p. 2035) has investigated the value of oral administration of alkyl derivatives of resorcinol in producing bactericidal urine and disinfection of the urinary tract. He concludes that hexyl resorcinol possesses properties entitling it to be considered an ideal internal urinary antiseptic. He asserts that it is chemically stable, non-toxic, and non-irritating; and that it is excreted unchanged in sufficient concentration to render the urine actively bactericidal in any reaction, though the administration of sodium bicarbonate prevents the secretion of bactericidal urine. Infections due to *Staphylococcus albus* and *aureus*, the streptococcus, and *B. pyocyaneus* yielded promptly and completely to oral administration. Similar results occurred in *B. coli* infections, but persistent treatment is often necessary, as cases with high bacterial counts are extremely resistant and may require local treatment in addition. Failure in complete disinfection may point to the existence of pyelonephritis. Improvement of symptoms may result even with doses too small for thorough disinfection. As the result of standardization (phenyl coefficient) it is claimed that hexyl resorcinol is the most powerful germicide for its degree of non-toxicity yet known.

## Laryngology and Otology.

147. **Naso-pharyngeal Growths.**

SIR W. MILLIGAN (*Journ. of Laryngol. and Otol.*, October, 1924, p. 537) discusses the tumours found in the post-nasal space. Naso-pharyngeal fibromata are rare and almost always occur in young males. They are benign histologically and do not produce metastases, but they pursue what is clinically a malignant course in many cases, infiltrating and extending into neighbouring structures. They may arise from any part of the space except from its posterior wall, and the more anterior the point of origin the softer and more polypoid they are. They may be sessile or pedunculated, and they tend to be extremely vascular. For removal the author recommends a preliminary embedding of tubes of radium emanation, followed by separation of the attachment by a long, highly tempered chisel, passed either through the nares or through a lateral rhinotomy. The great danger in such removal is that of haemorrhage, which may be very profuse, but is much decreased by the preliminary exposure to radium. Diathermy is in some cases a very valuable method of attack. Angiomata are very rare; they do not infiltrate or invade neighbouring structures, and though surgical removal is difficult, yet they respond to radium treatment. Sarcomata appear as extensive growths which invade the neighbouring sinuses, but not the glands until a very late stage. They do not tend to ulcerate, but give rise to profuse haemorrhages. Operative removal is difficult and uncertain, but radium treatment has been followed by almost miraculous disappearance of the tumour in a few days. Endotheliomata, in distinction from sarcomata, are of very slow growth, and may gradually recur time after time following removal. These growths consist mainly of vascular tissue with very little stroma, and are therefore very sensitive to radium treatment, which, followed in some cases by diathermy, is the most satisfactory method of dealing with them. Carcinomata are most disappointing; they are usually diagnosed late, tend to ulcerate quickly, and rapidly become secondarily infected. Three signs point to cancer of the nasopharynx—recurring spontaneous haemorrhage, recurring sero-mucous catarrh of the middle ear, and persistent otitic pain without signs of inflammation—especially when the three signs appear in conjunction. Any operative treatment usually aggravates the condition, and basal therapy has been disappointing. The columnar and basal celled carcinomata are more amenable to radiation, but the resistant squamous-celled carcinoma is most commonly met with. The results of radium and diathermy have been less disappointing than those of surgical measures, and the author believes that in them lies probably the hope of successful treatment of naso-pharyngeal neoplasms.

148. **Peritonsillar Fistula.**

SPALAIKOVITCH of Bordeaux (*Rev. de Laryngol., Rhinol. et Otol.*, September 30th, 1924, p. 589) compares the acute abscess in the lateral pharyngeal wall which may arise from the palatine tonsils, from the retropharyngeal glands, from congenital cysts, or from syphilitic or actinomycotic infections, with the slow, cold production of an abscess cavity and a fistula. The latter is rare and may follow any of the lesions mentioned, or may arise in connexion with dental or alveolar sepsis. The author relates the case of a young woman who had noticed a bad taste in the month, and after anterior had been

canterized and closed for a few days, during which a swelling appeared below the right mandible; this disappeared when the fistula reopened and the discharge of pus recommenced. Later the wisdom tooth of the lower jaw was removed, but was found to be healthy. After eighteen months the fistula was patent with no other abnormal condition in the month. A swelling was felt behind and below the angle of the mandible, and when this was pressed pus in fair quantity was forced out of the fistula. A probe was passed into the fistula and entered a cavity of apparently considerable dimensions. An x-ray photograph showed no abnormality in this region. The fistula was injected with iodoform, and a further x-ray photograph showed a large irregular cavity in contact with the inner face of the mandible. Three days later the fistula closed and has remained so for some considerable time. A further x-ray photograph showed the cavity filled with the opaque liquid and unaltered. The origin of the fistula was doubtful, but syphilis was eliminated; there was no sign of any dental or maxillary lesion, and no previous history of congenital cyst. The author's conclusion is that the fistula arose from chronic tuberculous infection of a gland, one of the group lying against the inner face of the lower jaw; the fistula of an abscess in the submaxillary gland would open through the skin. The author draws attention to the value of iodoform in such cases: it is opaque to x-rays, is entirely non-irritating, and, judging by this case reported, it has some curative action on chronic tuberculous conditions.

149. **Vasomotor Rhinitis.**

R. SONNENSCHNIG and S. J. PEARLMAN (*Journ. Amer. Med. Assoc.*, December 20th, 1924, p. 1973) contribute a summary of current views about the relationship of the parathyroid glands and calcium metabolism to vasomotor rhinitis. They point out that in this disease the patient gives a history of frequent colds in the head, accompanied by persistent sneezing, and a large amount of thin serous secretion. The nasal mucous membrane is pale and oedematous, and the middle turbinates appear as though fluid is about to exude from them. Some writers have suggested that this disturbance is a form of anaphylaxis due to protein sensitization of one form or another, but in a certain number of cases no such sensitization has been demonstrated. Another cause suggested is irritation by dust, chemical fumes, or feathers, and deficiency in vitamin A has also been suspected. More recently emphasis has been placed on deficiency of the calcium content of the blood as being primarily concerned. The authors doubt whether this calcium content is the only essential factor in vasomotor rhinitis, since in none of their cases was a definite deficiency regularly observed. They find that calcium given intravenously acts probably as a sedative, but that its action when given by the mouth is uncertain. They find little evidence that parathyroid treatment is of any value, but the ultra-violet rays may be beneficial. They urge the importance of further research, using only one therapeutic measure at a time, in order to arrive at more definite conclusions with regard to the value of the various medicaments suggested.

## Obstetrics and Gynaecology.

150. **Prognosis of Pyelitis in Pregnancy.**

H. NAUJOKS (*Zentralbl. f. Gynäk.*, November 22nd, 1924, p. 2581) has been able to trace the subsequent history in 37 of a series of 100 cases of pyelitis of pregnancy, 21 patients being clinically examined two to twenty years after their illness; 23 appeared to have been cured, 8 presented morbid clinical and bacteriological signs, and one had died from recurrence. Every patient with *B. coli* pyelitis examined after three years appeared healthy, both clinically and as regards bacteriological findings; but since they had had recurrences (in some cases at intervals of some years) it seemed that absence of *B. coli* from the urine could not be taken as indicating lasting cure. Of the 23 cured patients, 15 had never experienced a recurrence, although nearly all had undergone subsequent pregnancies. Two of the four who had not become pregnant again had had second attacks of pyelitis, and several of the others had kept well during their pregnancies but had had attacks in between them. From analysis of the history of a small number of cases of renal calculus and pyonephrosis in women, the author is inclined to believe that pyelitis of pregnancy plays an appreciable part in the genesis of these conditions. Although pyelitis is rarely fatal, and not necessarily recurrent, there must be some reserve in the ultimate prognosis. Concerning treatment, it is stated that active measures, such as ureteral catheterization and lavage of the renal pelvis, have been rarely employed, and then without benefit.

## 151. Operative Treatment of Uterine Fibroids.

ROUFFART (*Gynéc. et Obstét.*, No. 6, Tome X, 1924, p. 410) contrasts the treatment of fibroid tumours of the uterus by radiation and by surgery. According to him surgery is the chief method of treatment, and it is advocated even in cases of neurasthenia associated with such tumours, several cases being described to illustrate its efficiency. Radiation, he thinks, is only of use in cases in which the bleeding is ovarian in origin, which may be diagnosed by its periodicity. Irregular or almost continuous bleeding is rarely helped by radiation, the bleeding in these cases being due perhaps to mechanical irritation of the uterine mucosa, alteration in the endometrium, or muscular inertia. According to this reasoning, radiation is of no use after the menopause, and operation is the only course likely to prove beneficial. Surgery is also specially indicated if pain is associated with the tumour, since this usually means some adnexal or appendicular trouble. Other indications for operation include great size of tumour, multifoliation, a sessile submucous tumour accompanied by fetid discharge, tumours likely to cause pressure symptoms, those associated with ascites or rapidly growing and suggesting malignancy, and lastly, some cases where nervous or circulatory disturbances are associated with a fibroid. The prognosis for hysterectomy, in the author's opinion, is so good—the mortality being scarcely 2 per cent.—that he concludes by advising operation in many cases of circulatory, nervous, or urinary disturbances associated with fibroid tumours of the uterus.

## 152. Spontaneous Delivery of a Living Ectopic Foetus at Term.

R. VAUDESAL (*Bull. Soc. d'Obstét. et de Gynéc. de Paris*, 1924, 10, p. 785) records a very unusual termination of ectopic pregnancy. The patient sought admission to a lying-in home for the birth of her first child, being then far on in labour. The foetal head, covered with a thin membrane, was found to project between the posterior vaginal wall and perineum at each "pain." No cervix uteri, dilated or undilated, was detected. The case being regarded as one of cervical atresia, the membrane covering the head was incised, and as an immediate sequel the foetal head was expelled in the occipito-posterior position. The living child weighed 6 lb. On account of slight persistent bleeding, placental extraction was attempted, first by injection of the umbilical cord, then manually. At this moment the body of the uterus was recognized at the side of and independent of the gestation sac. The ectopic nature of the pregnancy was verified at laparotomy. Copious haemorrhage led to ligation of the utero-ovarian pedicles and hysterectomy. The patient died two hours later. Spontaneous vaginal delivery of an ectopic foetus is not very rare, but the cases hitherto recorded have been those of dead foetuses, usually after suppuration in the gestation sac.

## 153. Traumatic Haemorrhage into the Amniotic Fluid.

M. NICCOLÒ (*Rivista d'Obstét. e Ginecol. Pratica*, November, 1924, p. 569) records the case of a robust woman, aged 20, who threw herself about with extreme violence during the pains of the first and second stages of labour. Vaginal examination was first made after twenty-four hours, and the examining finger was stained with viscous chocolate-coloured liquid. The foetus was dead, and no liquor amnii appeared to have escaped spontaneously. Delivery was effected by forceps, and was followed by evacuation of 18 ounces of thick haemorrhagic fluid. The author concludes that the repeated trauma had caused haemorrhage into the liquor amnii, the augmented viscosity of which had increased the dystocia and destroyed the foetus.

## Pathology.

## 154. Immunization against Tuberculosis.

B. WEILL-HALLÉ and R. TURPIN (*Paris Méd.*, January 3rd, 1925, p. 20) summarize the attempts which have been made in the past to produce immunity to tuberculosis, and proceed to describe the method of vaccination which has recently been elaborated by Calmette and Guérin. After a long course of study Calmette has come to the conclusion that in order for anti-tuberculosis immunization to be successful it is absolutely essential to make use of living organisms. No method which involves such a profound alteration in the physico-chemical constitution of the tubercle bacillus as is entailed by treatment with heat, florides, orolecithin, light, ferments, or other means, has, he thinks, any chance of success; these and numerous other ways have been tried, and all have resulted in failure. Calmette observed that tubercle bacilli were altered in certain ways by their passage through the alimentary canal. Proceeding from this observation he tried the effect of cultivating them in a medium to which ox-bile had been added—a medium which is very alkaline and contains a high percentage of lipoids. After 230 subcultures

during a period of thirteen years he has succeeded in so modifying the bacillus that, when injected into animals, it is incapable of giving rise to disease, though its power of producing tuberculosis appears to be unaltered. When injected intravenously into calves in a dose of 100 mg. it gave rise to a typhoid-like condition, from which the animal recovers spontaneously in two to three weeks; no follicular lesions were produced. Such calves were able during the following year or eighteen months to withstand the intravenous injection of 5 mg. of living virulent bacilli without developing tuberculosis, whereas unvaccinated calves died of an acute generalized tuberculosis in twenty-eight to thirty-five days. The living avirulent organisms introduced in the vaccine remained alive in the lymphatic tissue in a latent state without giving rise to tubercles, and the authors believe that this vaccine confers a real immunity. They add that it is of importance to realize that it can be applied only to animals which have never been infected with the tubercle bacillus, since otherwise a serious reaction, similar to Koch's phenomenon, might result. This method is now being applied to infants. On three alternate days during the first week of life the babies are given a centigram of the vaccine by the mouth. Since 1922 more than 300 infants have been vaccinated without any apparent mishaps. As the method is still in the experimental stage it is applied only to those infants who are condemned to live with tuberculous parents. So far it has not been possible to determine what degree of immunity will result, but the authors hope that it will be sufficient to tide the children over the dangerous period of infection, inevitable under our present conditions, and enable them to build up an active immunity to tuberculosis.

## 155. The Relation of Blood Sugar to Starch in Normal Persons.

K. KJØR (*Acta Med. Scand.*, 26, xi, 1924, p. 159) has performed several experiments to determine the relation of the rise in the blood sugar to the ingestion of starch. It has been shown, for instance, that after a meal of glucose, no matter how great the quantity that is given, the blood sugar does not rise beyond a percentage of 0.18; further, the extent of this rise appears to be largely independent of the actual size of the dose given, provided that it be over 20 grams—that is to say, much the same rise occurs after a meal of 20 grams as after one of 400 grams of glucose. Does the same apply to starch? This is the question the author sets out to answer. His tests were made on three young healthy men and on a lad of 19 who was suffering from neurasthenia. For sugar estimations the capillary blood from the ear was chosen and the technique of Hagedorn and Norman Jensen employed. Tests were made every five minutes during the first hour after the test meal, and every ten minutes later on. Starch was given in the form of either white bread, oatmeal, or potatoes. It was first found that a meal of over 10 grams of starch gave rise to an increase in the blood sugar, which showed an absolute increment of 0.012 per cent. Working with larger doses Kjør found that the increase in blood sugar caused by a meal of 20 grams was practically the same as that caused by a meal of 100 grams—a finding in agreement with that recorded in the case of glucose. The average increment in the blood sugar after a dose of 100 grams of starch was 0.055 per cent. It was thought that, though there was no difference in the amount of the rise caused by different doses of starch, there might be a difference in the time of the rise. Here, again, experimental results differed from those expected; the rise was no more rapid after a dose of 100 grams than after one of 14 grams. It was found, however, that there was some relation between the size of the dose and the time during which the sugar curve remained above normal. Thus after doses of less than 50 grams the mean duration of the rise was fifty-four minutes, whereas after doses greater than 50 grams it was seventy minutes. Lastly, by comparing starch—in the form of potatoes—with pure glucose it was found that the rise in the blood sugar was approximately equal for the two substances.

## 156. Pernicious Anaemia and Renal Insufficiency.

R. H. MAJOR (*Johns Hopkins Hospital Bulletin*, December, 1924, p. 390) refers to the work of previous observers on the renal functions in pernicious anaemia; their conclusions varied considerably. In a recent small series of patients the author found that the examination of the urine showed such a low excretion of chlorides as to suggest retention. These patients were given salol-coated sodium chloride tablets in doses varying from 6 to 20 grams daily. In three cases of undoubted pernicious anaemia the addition of large amounts of sodium chloride to a constant diet produced no increase in the excretion of chlorides, though the patients gave no evidence of renal disease. Major thinks that possibly this retention of chlorides in pernicious anaemia is not due to renal disease but to some other cause—something in the nature of a protective mechanism.

# EPITOME OF CURRENT MEDICAL LITERATURE.

## Medicine.

### 157. Diabetes complicated by Scarlet Fever and Diphtheria.

P. NOBECOURT and L. LEBE (Paris *med.*, November 1st, 1924, p. 360) state that when a diabetic patient contracts an acute infectious disease the two affections may have a reciprocal action upon one another, depending on the character and intensity of the infectious disease, the type of diabetes, and the condition of the patient before the superposition of the acute infection. They record the case of a girl, aged 14, suffering from diabetes mellitus, who first contracted scarlet fever and then diphtheria without the acute infectious appearing to have any effect on the diabetes or the diabetes modifying the acute infections. They allude to a case reported by Lereboullet of a girl, aged 11, suffering from diabetes, who contracted measles without the course of the diabetes being affected by the intercurrent disease. On the other hand, cases are on record of diabetic children contracting mumps, varicella, and measles, by which the diabetes was aggravated, the acute infection being rendered remarkably severe.

### 158. Syphilis and Tuberculosis.

G. POGGIO (*Clin. Med. Italiana*, September-October, 1924, p. 162), as the result of a careful analysis of twenty-four cases of combined syphilis and tuberculosis (tuberculous subjects who became infected with syphilis and vice versa), says that syphilitic lesions may be found in tuberculous lungs, but that their diagnosis, clinical and radiological, is very difficult, especially where there is much pulmonary fibrosis. Tuberculosis and syphilis may occur as a combined lesion or side by side. Syphilis superimposed on tuberculosis aggravates the tuberculous process. Pulmonary tuberculosis developing in a syphilitic patient runs a different course, depending on the degree of the resistance to the bacillary infection and the activity of the two infections. Poggio adds that the pulmonary fibrosis seen in old syphilitics is not due to the sclerogenic action of the syphilitic virus, but to the action against tubercle. An old syphilitic may in the anatomical progress of the disease gain benefit from increased resistance to tuberculosis.

### 159. Syphilis of the Stomach.

R. BENSANDE and L. RIVET (*Journ. de Méd. et de Chir. Prat.*, December 10th, 1924, p. 845) review the literature of this subject and quote Fournier's observation that gastric syphilis, although very rare, is less uncommon than has been thought. Chiari made 243 autopsies (143 cases of congenital syphilis and 98 of acquired syphilis) and found only 3 cases of definitely specific lesions—2 cases of gumma and 1 of diffuse infiltration. Some authors believe that many gastric ulcers originate as gummata. Extensive syphilitic ulceration may result in "bour-glass stomach," through cicatricial contraction. In other cases pyloric stenosis may produce achlorhydria, progressive emaciation, and other symptoms of carcinoma. Hayem, Hemminger, and Stokes have recorded cases in which the diagnosis of syphilis was made only after histological examination of a surgical specimen. Several authors have found gastric ulcers (sometimes associated with haematemesis and melæna) in cases in which the pain had been attributed to the gastric crises of tabes, from which the patients were suffering. Syphilitic gastritis may occur in cases of congenital syphilis, accompanied by intractable diarrhoea or melæna: the great majority of these patients succumb, but in some cases mercurialunctions are very beneficial. Mariano and Castex have described typical gastric ulcers which were due to congenital syphilis. Gastritis occurs also in the course of both secondary and tertiary syphilis. The latter has been well described by Fournier, who has found that the typical symptoms—pain, vomiting, anaemia, and progressive emaciation—subside quickly when mercury and iodides are given, although other drugs may not be tolerated. The clinical signs of gastric syphilis are essentially polymorphic, and the diagnosis is consequently difficult unless careful investigations of the previous history and the blood serum, together with radiocopy of the stomach, are made. The rapid improvement under antisyphilitic treatment will confirm the diagnosis, as in the case described in our issue of December 13th, 1924 (*Epitome*, para. 467). Prognosis is very grave in congenital syphilitic gastritis, and in all cases in which early diagnosis has not been made, especially in the tertiary stage. Treatment by mercury and iodides by the mouth is usually successful; but if not tolerated, mercurial

unctions or arsouchenzol should be prescribed. Bismuth is useful in many cases, both as a gastric sedative and as an antisyphilitic. Surgical treatment may be required in cases of perforation or fistula or in dense fibrous stenosis which does not yield to medicinal treatment.

### 160. Relation of Catarrhal to Salvarsan Jaundice.

E. GUNDERSEN (*Norsk. Mag. f. Laegevidenskaben*, November, 1924, p. 938) draws attention to the great variations from time to time in the incidence of both catarrhal jaundice and jaundice in the subjects of syphilis. He records one case in which there was a definite causal relationship between salvarsan medication and the development of jaundice in a syphilitic patient, but he is very sceptical as to the culpability of salvarsan in many cases of jaundice in these patients. He has collected the records of the patients treated for syphilis in the skin department of the Rikshospital in Oslo (Christiania) during the period 1877-1923. Of more than 6,000 treated in this period, 36 suffered from jaundice. In the period 1877-84 (1,545 cases) there was only one case of jaundice. In the period 1885-1900 (2,572 cases) there were 22 cases of jaundice. In the period 1901-15 (1,300 cases) there was not a single case of jaundice. In the period 1916-23 (669 cases) there were 13 cases of jaundice. A study of the notifications of catarrhal jaundice in the general population in Oslo showed similar variations, which variations corresponded roughly with those observed in the case of syphilitic patients suffering from jaundice. Hence he concludes that the jaundice of syphilitics may often be independent of their syphilis.

### 161. Perforating Ulcer of the Foot after Encephalitis Lethargica.

N. SAMAJA (*Clin. Med. Italiana*, September-October, 1924, p. 128) reports the case of a man, aged 44, who had been under his care for three years with symptoms of encephalitis lethargica, mental confusion, Parkinsonian syndrome, and perforating ulcer of the left plantar region. After reviewing the various causes of perforating ulcer the author concludes that in this case the cause of the ulcer was the encephalitis. Some cases of perforating ulcer have been recorded in association with paralysis agitans, and cases of encephalitis with trophic lesions have also been described. The author supplies an extensive bibliographical appendix.

## Surgery.

### 162. Genito-urinary Tuberculosis in the Male.

J. WELFELD (*Urol. and Cut. Review*, December, 1924, p. 708) states that genito-urinary tuberculosis in the male is most frequent in adult life. It is rare in old age, but occurs to some extent in infancy and childhood. Most of the cases are found between 25 and 50. The mode of infection of the genital organs by the tubercle bacillus may be in one of the four following ways: (1) The infection may spread by the blood, the bacilli coming from any focus in the organism. (2) The bacillus may gain entrance from without, travel up the urethra as far as the verumontanum, and then invade the vas deferens. (3) The infection may have a urinary origin, the bacilli descending from the kidneys into the bladder, from the bladder to the urethra, and thence to the genital organs. (4) The bacilli primarily developed in one of the glands of the spermatic system, the prostate, or seminal vesicles, follow a retrograde route to reach the testicle. Tuberculosis of the genitals evolves like tuberculosis elsewhere, passing successively through the follicular and tubercle stages to terminate by fibrous regression or caseous degeneration with suppuration and fistulae. Scrotal lesions do not appear until the tuberculous evolution is well advanced. If the primary genital lesion is in the epididymis propagation to the testicle takes place through the body of Highmore. The vas deferens, vesiculae seminales, and prostate are almost constantly infiltrated with tubercles in the course of genital tuberculosis. The vesiculae seminales are particularly attacked by tuberculosis of the massive and infiltrated nodular type. In the prostate there are either tuberculous granulations around the excretory canals or large conglomerate tubercles. Of 125 cases of genital tuberculosis recently observed by Schultz among 14,086 autopsies the prostate was involved in 83.2 per cent., the vesiculae seminales in 64.4 per cent., and the epididymis in 52.8 per cent. In 28 per cent. the prostate was

the only genital organ affected, and in 18.4 per cent. it was the only organ attacked in the whole genito-urinary system. The clinical course of genital tuberculosis is essentially chronic, and terminates in suppuration or fibrous induration. The diagnosis is made by (1) general examination, (2) cystoscopy, (3) search for tubercle bacilli in the urine, (4) x rays, (5) specific reaction tests. Wellfeld adds that genital tuberculosis may be cured without operation in about 50 per cent. of cases as the result of hygiene, rest, climate, and heliotherapy, but such treatment is tedious and expensive, whereas surgical intervention is the rational method of treatment in established genital tuberculosis. Conservative procedures consist in partial operations, interstitial or peripheral injections, curetting, or deep cauterizations. The radical methods are epididymectomy and complete removal of the genital tract.

#### 163. Haematoma of the Abdominal Wall in Advanced Life.

K. BLOND (*Deut. f. Chir.*, December, 1924, p. 372) states that there is no uniform nomenclature for rupture of the rectus abdominis and the epigastric artery or its branches. Wohlgenuth was able to collect 127 cases of rupture of the rectus abdominis from the literature down to 1923: 107 of these occurred in young and vigorous men who were mostly gymnasts, soldiers, and riders, who ruptured their rectus during their occupations. Such cases do not present any etiological or clinical difficulties, and, as Hilgenreiner points out, are not really spontaneous ruptures. True spontaneous ruptures are found in typhoid fever and other infectious diseases, as well as in burns, frost-bites, labour, the puerperium, and in advanced life. While obstetrical trauma offers a sufficiently plausible explanation of the ruptures occurring in labour or the puerperium, the etiology of haematoma in advanced life, of which Hilgenreiner in 1923 could find only seven instances on record, is obscure. In none of those seven cases, nor in one reported by Hilgenreiner himself and one by Reuner in 1924, was the condition diagnosed correctly before operation. The violence of the onset simulated intestinal obstruction in one case (Lambrechtson), in three cases torsion of an ovarian tumour (Wohlgenuth, Ehrenfest, and so choelithiasis (Körte), in one case a case in a woman, aged 73, which

was remarkable for the fact that the onset was not sudden but gradual, with the formation of a tumour the size of a child's head in the left hypochondrium. Operation under local anaesthesia showed that its contents were blood-clot and partially organized blood. Complete recovery took place. Blood maintains that spontaneous rupture of the rectus abdominis and epigastric artery occurs much more frequently than is supposed, and that probably many patients do not seek advice when the symptoms are not violent, as the haematoma is usually absorbed spontaneously. The question whether the rupture of the muscle or that of the artery is primary is still undecided. Blood suggests that rupture of the elastic fibres in the vessel wall is the primary lesion, in view of the fact that damage to the elastic fibres in the skin is frequent in typhoid fever and arterio-sclerosis.

#### 164. Perigastritis.

P. ZANDER (*Zentralbl. f. Chir.*, November 29th, 1924, p. 2632), who refers to the recent paper on this subject by Doberer (*Epitome*, December 6th, 1924, para. 445), states that during recent years he has always found the same type of lesions as this observer—namely, adhesions affecting not only the gall bladder but also the stomach, and frequently associated with thickening of the pylorus. As the gastric symptoms predominated in seven out of thirty-three cases of so-called pericholecystitis and perigastritis, resection of the pyloric portion of the stomach was performed. Histological examination in these cases showed the picture of chronic gastritis described by Konjetzny. The findings in the gall bladder were microscopically and bacteriologically negative. The adhesions were always more marked on the posterior surface than on the anterior surface of the stomach. In many cases the whole of the bursa omentalis was obliterated. A number of the milder cases on histological examination showed only very slight changes in the stomach wall and no lesions whatever in the gall bladder, so that it occurred to Zander that the extensive adhesions were not primarily due to the gall bladder or stomach but to the pancreas. Zander maintains that the pancreas is much more frequently the seat of disease than is supposed. Although surgeons and the form of fatty necrosis, this is merely the end-result, and little is known of mild attacks of pancreatitis. Zander suggests that an inflammatory disease of the pancreas in the form of serous pancreatitis is responsible for perigastritis, though it cannot be determined at present whether the pancreatitis is primary or caused by a previous infection of the

gall bladder or stomach. In many cases this hypothesis of pancreatic disease explains the distribution of the adhesions on the posterior surface of the stomach. Zander records an illustrative case of perigastritis in a woman, aged 44, in whom laparotomy showed evidence of a mild attack of acute pancreatitis without any signs of pancreatic necrosis.

## Therapeutics.

#### 165. Treatment of Shock by Glucose and Insulin.

D. FISHER and M. SNELL (*Journ. Amer. Med. Assoc.*, December 13th, 1924, p. 1906) report the treatment of three cases of surgical shock by subcutaneous injections of insulin, glucose being administered intravenously. A more rapid cessation of the symptoms followed than had been obtained by any other method of treatment. The authors discuss the mechanism of shock, with especial reference to the thyroid gland, suprarenals, the brain, liver, and the muscles. Other investigators have shown that a correlation exists between the blood sugar level and the physical condition. Runners in a Marathon race were examined, and it was found that those with a normal blood sugar content showed no symptoms or signs of shock, whereas in the case of four runners who were markedly prostrated there was a pronounced degree of hypoglycaemia. Fisher and Snell, arguing from these investigations, have devised a method whereby the body can be furnished with a substance that will give rise to an improved supply of energy, maintaining it so long as may be necessary. They had previously tried glucose intravenously, but they now find that the combined use of glucose and insulin is far superior. Their procedure included the gradual intravenous administration of 1,000 c.cm. of a 10 per cent. solution of glucose, and five minutes after the introduction started 15 units of U-20 insulin were given subcutaneously. The injection of glucose was regulated to take one hour for the complete flow, and at the end of this time another 15 units of insulin were given. The patients began to react within an hour, and a few hours later were completely free from any sign of shock.

#### 166. Danger of Indiscriminate Thyroid Medication.

E. MOSLER (*Deut. med. Woch.*, December 12th, 1924, p. 1752) gives an account of six cases in which the administration of thyroid preparations for the cure of obesity caused alarming symptoms. These consisted of great restlessness and mental instability, excessive perspiration, palpitation of the heart, with a rapid pulse, dyspnoea, and cyanosis. He had known all the patients for years and had not ventured to give them thyroid extracts, which they subsequently obtained elsewhere. The author points out the danger of using thyroid medication rather than strict dieting as a means of rapidly reducing weight. Though it is more difficult to teach overfed patients self-denial at table than to let them give full play to their appetites, using thyroid tablets to reduce their weight, the author expresses profound distrust of the latter procedure, which sooner or later may prove disastrous. He has found that the nervous excitation provoked by thyroid extract may last for weeks.

#### 167. Treatment of Diphtheria Carriers by X Rays.

D. KAHN (*Amer. Journ. Roentgenol.*, October, 1924, p. 343) alludes to his previous paper in which he had reported that of 185 refractory diphtheria carriers subjected to Roentgen radiation 147 were released from quarantine through negative culture findings, while the remaining 38 were released through negative virulence tests. No case required more than four treatments, and the average number of treatments given was 1.4. In the present paper Kahn relates that 152 of the original 185 were recultivated ninety days after release from quarantine, and only 25 showed a positive morphological culture, while not a single one showed a virulent diphtheria organism. In a second series of 23 cases negative results were obtained after one or at most two Roentgen treatments. The patients in the second series were treated with a broad focus Coolidge tube, 10 in. focal skin distance, 7 in. spark-gap, 5 ma. filtered through 3 mm. aluminium. Both tonsils and the post-nasal space were treated at one sitting, which lasted four minutes. The interval between successive treatments varied between ten and fourteen days. Kahn maintains that this method has the following advantages over tonsillectomy in the treatment of diphtheria carriers: (1) The possibility of 100 per cent. cure. (2) It is absolutely painless. (3) It requires no anaesthetic. (4) It takes up the minimum amount of the patient's time and gives him the maximum degree of comfort. (5) The absence of any danger, provided the treatment is given by a competent Roentgen therapist. Kahn does not claim any bactericidal effect for x-rays, but believes the results obtained are due to the fact that the tissues of the



throat and naso-pharynx are altered to such a degree that instead of being a suitable soil for the propagation of bacilli it becomes decidedly unsuitable.

#### 168. Corpus Luteum Therapy.

B. SOLOMONS and J. W. B. GATENBY (*Journ. Obstet. and Gynaecol. of the British Empire*, Winter, 1924, p. 580) make the following statements with regard to treatment of gynaecological conditions by administration of corpus luteum extract. This extract, in common with other glandular extracts, has little effect on menorrhagia or metrorrhagia. In dysmenorrhoea it is occasionally efficacious, given either in doses of gr. v thrice daily throughout the month, or hypodermically during or between the menses. It is an effective therapeutic agent in cases of scanty or absent menstruation. In the unmarried, in whom oligomenorrhoea may be accompanied by obesity, it may be combined with thyroid extract; the hypodermic injection of gr. v daily for fourteen days is recommended in some cases. In cases of scanty menstruation in the married, which is usually associated with sterility, treatment by corpus luteum is of great service; in three-quarters of the cases (cases of organic lesions excluded) pregnancy followed. Five grains are given in a capsule twice daily for a week, then thrice daily. Later the dose is increased two or three fold and the course of treatment lasts six months. At the climacteric corpus luteum therapy is of little avail; but its administration is sometimes successful in preventing abortion or premature birth. Bovine liquor folliculi given by the mouth appears to possess no therapeutic value in women.

### Neurology and Psychology.

#### 169. Neurasthenia and Suprarenal Deficiency.

LÉOPOLD-LÉVI (*La Vie Médicale*, December 19th, 1924, p. 1999) recapitulates the salient points of suprarenal deficiency, both experimental and pathological, with special reference to psycho-neurotic symptoms. He describes in detail 10 cases (8 women and 2 men) who suffered from profound neurasthenia, in some cases amounting to melancholia, with suicidal impulses. One man had contracted malaria in the Dardanelles and had a feebly positive Wassermann reaction after a full course of "grey oil" and arsenobenzol. All the patients improved rapidly after oral or hypodermic administration of powdered suprarenal gland, 0.25 cg. to 1 gram daily. Some of the patients appeared to suffer from congenital suprarenal deficiency (two were sisters), and several other patients presented evidence of latent tuberculosis. In some of the women suprarenal deficiency was associated with ovarian deficiency. In such cases Léopold-Lévi suggests the administration of ovarian extract together with suprarenal powder or extract. Several patients had been ill for a long time—three to seventeen years—but these recovered quickly under treatment.

#### 170. Mongolism.

T. BRUSHFIELD (*Brit. Journ. Child. Dis.*, October-December, 1924, 241), in his Cambridge M.D. thesis, states that 177 cases of mongolism were admitted to the Fountain Mental Hospital from 1914 to 1924—98 were males and 79 females; all were in the first decade of life. In 19 cases there was a neurotic heredity, and in 8 a family history of intemperance. In the remainder nothing abnormal was discovered in the family history. Of 157 in which details were available 29 were first-born, 69 last-born, 33 one of the last three, and 14 were only children. In 64 out of 96 cases the mother's age was 39 and over, and in 75 out of 96 cases the father's age was 40 and over. Ill health, privation, or overwork of the mothers was noted in 34 per cent. of the 177 cases. The average number of admissions during the war years was 14, as compared with an average of 5 during the period 1901-21, excluding the war years. Mongols, like other varieties of aments, can be divided into the three groups of idiots, imbeciles, and feeble-minded, the degree of amentia being proportional to the number of mongolian characteristics. As regards the prognosis Brushfield emphasizes the following points: (1) The large number of deaths associated with inflammation of the mucous membranes. (2) The high incidence of congenital malformation of the heart. (3) The lack of response to any therapeutic measures. (4) The general clumsiness of the body and limbs which prevents a mongol taking part in the healthy exercises normal to the child. The average age at death was 7 years among 24 males, and 6 years among 20 females. D. M. BERRY (*ibid.*, p. 259), from a study of 50 cases of mongolian imbecility at the Hospital for Sick Children, Great Ormond Street, comes to the conclusion that there is very little to support the pre-war theory that mongolism is due to the mother reaching the end of the child-bearing period, as over half the cases were first and

second children. On the other hand, much evidence was obtained that the father was sexually impaired, as in two-thirds of the cases he had served in the army or navy, and in nearly a half he had suffered from shell shock, while the mothers were young and healthy.

#### 171. Tabes Diabetica.

R. H. MAJOR (*Journ. Amer. Med. Assoc.*, December 20th, 1924, p. 2007) reports a case of the rare condition termed "tabes diabetica." Sandmeyer and Williamson have shown that in diabetes mellitus a degeneration of the posterior columns may occur, which resembles closely the lesion found in tabes dorsalis. In the case reported there was the initial difficulty of deciding whether the patient had diabetes mellitus, complicated by tabes dorsalis, or whether he had tabes diabetica. The patient, aged 50, was admitted with the diagnosis of diabetes; he had been treated for diabetes six years previously, and four years after commencing treatment he became unsteady in gait and lost control of his legs when walking in the dark or downstairs. Tingling of the arms and legs developed and sharp lightning pains in the legs also. He became very irritable; attacks of mental depression occurred, and there was almost complete loss of sexual power. The knee-jerks were slightly exaggerated on both sides and ankle clonus was present; Westphal's sign was negative, whereas Romberg's sign was markedly positive. Over the chest, abdomen, thighs, shoulders, back, tips of the fingers, and soles of the feet there were areas of diminished sensation to touch and pain. Under treatment by doting and insulin he improved rapidly, the ataxia disappeared, and he was able to walk normally. The pupils, which had previously reacted very sluggishly to light, but more actively to accommodation, became more normal, and the areas of sensory disturbance disappeared. Major finds it difficult to believe that this patient could have had as much degeneration of the posterior columns as described by Sandmeyer and Williamson and have recovered so promptly from his tabetic symptoms under simple diabetic and insulin treatment.

### Obstetrics and Gynaecology.

#### 172. Tumours containing Ectopic Müllerian Elements.

K. V. BAILEY (*Journ. Obstet. and Gynaecol. of the British Empire*, Winter, 1924, p. 539), in a paper based on a study of twenty cases of "adenomyoma" found in the female pelvis elsewhere than in the uterine mucosa, deals with the etiology, classification, and life-history of the tumours described by Sampson and others as containing endometrial menstruating tissue and giving rise to perforating, haemorrhagic, or "chocolate" cysts. Examples of such tumours have been described as "adenomyoma of the recto-vaginal septum"; before Sampson's report of their endometrial inclusions they had been regarded as due to serosal ingrowths or to congenital Müllerian relics. Blair Bell has suggested the name "endometrioma." Bailey points out that the aberrant epithelial inclusions are of two types—"endometrial" and "Fallopian"—which are histologically distinguishable; he describes the life-history of each. The genesis of both types lies in an abnormal retrograde passage of menstrual blood along the Fallopian tubes into the pelvic cavity, so that either (1) endometrial epithelial cells or (2) Fallopian tube epithelial cells are deposited on the surface of the pelvic organs. The epithelial cells penetrate the organs and erode them, menstruating concurrently with the uterine endometrium. The resultant tumour is of Bailey's first or second type, according to the origin of the epithelial inclusions; the second, or Fallopian tube, type reacts less to menstruation and is less invasive than the endometrial or first type. As a result of histological study Bailey reports six successive stages in the development of the endometrial type of tumour. In the first stage small endometrial gland spaces, partially surrounded by a fibrin matrix containing clumps of cells like those of endometrial stroma, are deposited over the ovarian surface. Subsequently excavation and erosion of the organ leads to the production of a chocolate-coloured seam extending from the surface to the interior. Later part of this seam becomes distended by the products of menstruation, and finally the organ may be transformed into a sac filled with chocolate-like or tarry fluid. In the Fallopian tube type penetration is less and cyst formation is absent, being replaced by diffuse haemorrhagic surface erosion with adhesions. Unlike the former type, this type has not been found to penetrate the corpus uteri from without. Bailey is unable to agree with Sampson that the affected ovary acts as a hot-bed or incubator when other pelvic organs are secondarily attacked by the tumour. He believes that each pelvic invasion occurs at approximately the same time, and



that adhesions are formed at a much earlier stage than that of perforation of a chocolate cyst. He suggests the name of "ectopic müllerianoma" as embracing both the oömetrial and Fallopian tube types of tumour. His description of retrograde passage of menstrual blood along the oviducts is supported by his microscopical examinations of unclamped specimens removed at operation, by observations of Sampson, Minard, and others at operation, and by the earlier microscopical work of Czystowicz.

#### 173. The Operative Treatment of Fibromyomata.

J. HALBAN (*Zentralbl. f. Gynäk.*, December 6th, 1924, p. 2674) discusses the question of the type of operation preferable in myomatous conditions of the uterus. Of supravaginal hysterectomy, vaginal hysterectomy, and total extirpation by the abdominal route, the author favours one or other of the first two, and only uses the third method in complicated cases. He gives statistics to show that the mortality by the third method is much greater. He lays stress on the value of vaginal hysterectomy, for which he claims a mortality of nil in 254 cases. He points out the short duration, the lesser degree of shock necessitated, and the easy technique of this operation; he therefore recommends it in the majority of cases.

#### 174. Scopolamine-Morphine in Obstetrics.

MARGARET H. D. LIN (*National Med. Journ. of China*, December, 1924, p. 377) gives an account of the use of scopolamine-morphine in seven years' practice in China, covering more than 500 cases. She has encountered no ill effects, and refers particularly to the avoidance of perineal tears owing to the slow delivery of the head. Other advantages reported include the prevention of post-partum shock, stimulation of the maternal and foetal circulations, and the absence of any post-anaesthetic reaction. A warning is issued against the use of impure scopolamine containing atropine. A table of the antagonistic action of morphine and atropine is appended.

#### 175. Acute Hydramnios.

ACCORDING TO L. M. RANDALL (*Amer. Journ. Obstet. and Gynecol.*, December, 1924, p. 766), acute hydramnios is frequently associated with some foetal anomaly or with multiple pregnancy (especially uniovular), or with both. For the mother the prognosis is uniformly good, but for the foetus bad. Krabul found that of the infants in 291 cases 103 were born dead, 11 lived, and only 3 were healthy. The case is recorded of a 2-para, aged 23, who in the sixth month of pregnancy had hydramnios, which increased so considerably within ten days as to necessitate rupture of the membranes. About 10 ounces of clear fluid escaped, and a foetus weighing 1½ lb. was delivered. A similar amount of liquor amni escaped after rupture of a second sac, and the second foetus weighed about the same. A third and tensor sac was now ruptured, giving issue to more than 10 pints of fluid, and a third male infant was born. The mother manifested a considerable degree of shock, although the flow of liquor amni was rendered as slow as possible by keeping a hand in the vagina. The triplets were attached to a single placenta.

### Pathology.

#### 176. The Absorption of Bacteriophage by Bacteria.

GERTRUD MEISZNER (*Zentralbl. f. Bakt.*, December 30th, 1924, p. 489) has been engaged in a quantitative study of the absorption capacity of bacteria for the bacteriophage. Three lysins were used—one active against *Shiga*, and the third against cholera. In mixing a loopful of culture with 3 to 5 c.c.m. of lysin, allowing absorption to proceed for twenty-four hours in the cold—at a temperature of 0° to 8° C.—centrifuging for twenty minutes at high speed, and estimating the lytic strength of the supernatant fluid by plating out on agar a mixture of 0.1 c.c.m., diluted or not as the case might require, and 2 drops of a freshly prepared suspension of the susceptible homologous organisms in broth. Briefly, it was found that no organism other than the one against which the bacteriophage was active could remove the bacteriophage; thus a Flexner bacteriophage was not absorbed by a cholera vibrio, though it was completely absorbed by its homologous organism. Still more striking, however, was the fact that only the susceptible strain of the homologous organism was able to absorb it; the complete absence of absorption by the resistant strain, but after treatment with it the bacteriophage was even stronger untreated bacteriophage was 185; after absorption with the susceptible strain it had been reduced to 8, whereas after absorption with the resistant strain it had increased to 2,850.

These observations were made upon both the Flexner and the Shiga lysins; in the case of the cholera one the results were not so distinct, mostly owing to the weakness of the lysin. The bacteria were still able to absorb the lysin after being heated to 100° C. for one hour, and not till they had been autoclaved at 120° C. for the same time was this power destroyed. The combining activity of the susceptible bacteria was very strong; this was tested by allowing absorption to proceed in the usual way, centrifuging the bacteria, adding to them another quantum of lysin, centrifuging again after a day, adding fresh lysin, and so on, till the bacteria were unable to absorb any more. Even after nine successive additions of lysin they were found to be still capable of absorbing the active principle. By repeating the experiment with 0.1 of a loopful of culture instead of with a whole loopful, it was found that after seven treatments with lysin their absorption capacity became exhausted. Bacterial extracts were found to be unable to absorb lysin. From these results the author concludes that the absorption of the lysin is due to the presence of specific receptors in the bacteria, that these receptors are present in the lysin-susceptible bacteria and absent in the lysin-resistant ones, and that the reaction is a chemical one, closely analogous with that of the absorption of agglutinins.

#### 177. Basal Metabolism and the Emotions.

L. H. ZIEGLER and B. S. LEVINE (*Amer. Journ. Med. Sci.*, January, 1925, p. 68), having observed that the basal metabolism readings of neurotic patients without goitre were sometimes high, investigated the effect of emotions on the basal metabolism. The Tissot-Haldane method of determining the basal metabolic rate was applied to individuals who were known to be free from thyroid disease, but to have had past emotional disturbances. The conclusions reached were as follows. The metabolic rate was increased when the attention of the patients was directed to emotion-producing events connected with the past. The most frequent responses to such stimuli were small changes in the colour of the skin, slight alterations in the rate and amplitude of respiration, and fine tremors. In some patients increase in metabolism without objective reactions was not accompanied by any emotional disturbance. Lysal still in bed was shown to be not applicable as a criterion of rest. The authors believe that cases of ophthalmic goitre in which the etiology is uncertain should be investigated in order to determine what symptoms are due to thyroid secretion and what are referable to a lowered threshold of emotional activity. Two cases are described in detail, a table of the investigations is published, and the metabolism readings for the group of cases examined are set out in a chart.

#### 178. Streptococci in Scarlet Fever.

C. ZOLLER (*Bull. et Mém. Soc. Méd. des Hôp. de Paris*, December 18th, 1924, p. 1696) states that the American authors Dick and Zingher agree with Borgé's theory (1895) that the specific cause of scarlet fever is a haemolytic streptococcus, hypodermic injections of the dilute streptococcal toxin demonstrating the susceptibility or immunity to scarlet fever. Zoller finds that the exact dilution of the toxin could not be determined by animal experiment, as rabbits react only slightly and guinea-pigs do not react at all. He has given 0.2 c.c.m. hypodermically to various white and coloured patients. Among 125 whites he found 38 "receptives." All of these patients had recovered recently from otitis media, sore throat, rubella, erysipelas, diphtheria, or from non-contagious diseases; the reaction has also been tested in a few healthy persons. It appears to be from twenty-two to twenty-four hours as a small red patch, described as feebly positive, positive, or strongly positive, in proportion to the size and degree of infiltration of the area involved. It disappears in two or three days; in some cases, slight pigmentation persists. Zoller remarks that occasionally there is slight itching at the moment that the reaction occurs, apparently analogous to the pruritus that sometimes accompanies a scarlatinous eruption. After twenty-four hours, when the reaction is fading, it may be restored by rubbing the area with an alcohol-ether mixture. Whatever may be the significance of the reaction, it is often difficult among a rural population to determine certainly who has or has not had scarlet fever. In 3 cases it was ascertained that a second attack occurred in (a) seventeen years, in (b) nine months, and in (c) four months after the original attacks; in (a) and (b) Dick's reaction was negative, in (c) feebly positive. In a case of scarlet fever a positive reaction was observed on the third day, which became negative on the eighth day. It would appear that there is no difference between the strains of scarlatinous streptococci in France and overseas. In 6 patients convalescent from erysipelas, four negative and two definitely positive reactions were obtained: 2 of these patients had received large doses of antistreptococcal serum, but this did not prevent the occurrence of Dick's reaction.

# EPITOME OF CURRENT MEDICAL LITERATURE.

## Medicine.

### 179. The Diagnosis of Scarlet Fever.

J. COMBY (*Bull. et Mém. Soc. Méd. des Hôp. de Paris*, December 25th, 1924, p. 1723) remarks that the diagnosis of scarlet fever is occasionally very difficult, a point of importance in connexion with the question of recurrence of the disease. Scarlet fever, like rubella, is believed to recur very rarely, but Comby has seen several examples of recurrence. In three cases scarlet fever recurred after intervals of five, six, and ten years. A girl of 18 had had a definite attack at the age of 8. Comby saw her and her brother ten years later; both had a generalized eruption and follicular tonsillitis, and extensive desquamation followed. Comby has also published cases of relapse after two or three weeks, both in scarlet fever and in rubella; he considers that one of the most valuable diagnostic signs is desquamation of the tongue. He describes the cases of twin sisters, aged 8, whose initial symptoms resembled those of scarlet fever so strongly that he treated them as such; however, there was no lingual desquamation, and only slight scaly desquamation of the cheeks—none elsewhere; the disease proved to be rubella. In another case, in a girl of 8, there was moderate fever, sore throat with whitish patches, and a pale, indolent eruption. About the fourteenth or fifteenth day lingual desquamation occurred—the classic “strawberry tongue”—followed by typical “glove-finger” desquamation. The presence or absence of lingual desquamation is, according to Comby, a vital point in the diagnosis of scarlet fever; Hallé maintains, however, that slight or moderate lingual desquamation, complete by the sixth day, is not reliable. He observes also that in malignant scarlet fever the tongue is dry and red, but there is not time for desquamation to occur. Néter states that lingual desquamation, although a valuable sign, does not occur until the end of the first week, and that it is rarely possible for the diagnosis to be made at an earlier date than this.

### 180. Recurrent Tuberculous Meningitis.

C. LOTTI (*Il Policlinico*, Sez. Med., November 1st, 1924, p. 593) records the case of a woman with the following history. At the age of 20 months she had had a febrile attack accompanied by nuchal rigidity and hyperaesthesia. Apart from an attack of menses in the same year she remained in good health until the age of 10 years, when she had a severe attack of meningitis, from which she recovered completely except for dystrophy of the retina and choroid on the right side. After an interval of fifteen years, during which she remained in good health, the meningitis recurred in attacks of more or less intensity at intervals of varying duration, and manifested by symptoms of intracranial hypertension, hemiparesis, and homianesthesia on the left side, and transient nystagmus. This condition persisted for three years. Although tubercle bacilli were not found in the cerebro-spinal fluid and the inoculation of guinea-pigs was negative, Lotti regarded the meningitis as tuberculous, and traced it to caries of the body of a vertebra, for the following reasons. The cerebro-spinal fluid showed all the cytological and clinical features of tuberculous meningitis—namely, slight xanthochromia, considerable excess of albumin with increase of globulin, loss of reducing power, and well developed pleocytosis, with a mixed polymorphonuclear and lymphocytic formula. Syphilis could be excluded, as the Wassermann reaction was negative in the blood and cerebro-spinal fluid. The case resembled that of relapsing tuberculous pleurisy described by Piery in 1910 in its relatively mild character and tendency to recurrence. Relapsing tuberculous meningitis is not exceptional in the adult, as cases have been recorded by Riebold, Perronne, Lutet, and many others. A striking feature, however, in Lotti's case was the absence of any tendency for the disease to progress, although the condition could not be described as cured.

### 181. Atypical Forms of Epidemic Encephalitis.

A. V. NEEL (*Ugeskrift for Læger*, December 18th, 1924, p. 1013) draws attention to the frequency of obscure conditions the relation of which to epidemic encephalitis would not be suspected unless a careful study were made of the history of the case. The development, at a comparatively late stage, of after-effects similar to those following an attack of epidemic encephalitis is significant. In 1923 the author examined forty patients three to six months after they had suffered from one or more attacks of severe hiccups, and in 80 per cent. he was able to demonstrate more or less definite

clinical signs of epidemic encephalitis. The fact that the rise in the number of cases of this disease synchronized with the rise in the number of cases of epidemic hiccups further stressed the likelihood of an etiological connexion between the two. The author publishes details of ten cases observed late in 1924, and of interest because of their suspected relationship to well defined epidemic encephalitis. In two of these cases an attack of persistent hiccups recurred, the interval in one case between the two attacks being about three years, and in the other case almost four years. In both cases there were attacks of giddiness and the ocular symptoms which are common in epidemic encephalitis. In one case there was paresis of the right arm. In a third case there was persistent hiccups day and night for three and a half days, associated with a sensation of feverishness; but there were no signs of coryza, and there was no previous history of hiccups. This patient, who was a man aged 49, had contracted “Influenza” in the summer of 1918, with much drowsiness. At the same time one of the seven children at home also fell ill. Since then he had had disturbances of vision, and Neel believes that ever since the summer of 1918 this patient had been suffering from a mild and abortive form of epidemic encephalitis which, in December, 1924, flared up in the form of epidemic hiccups.

### 182. Anginal Attacks caused by Pain in the Left Arm.

G. D. ARONOWITZ (*Klin. Woch.*, January 15th, 1925, p. 117) records a case which is of much interest, with respect to Mackenzie's views on angina pectoris of the viscerosomatic reflex. A man, aged 29, suffered from a gunshot wound of the left arm and amputation was performed a little above the elbow. Amputation neuromata developed later in the stump, and caused great neuralgic pain. Two neuromata were removed, but a haematoma developed after the operation, and persistent severe pain in the arm followed, with repeated attacks of cardiac pain and other symptoms simulating those of angina pectoris. No signs of heart disease could be detected, but the cardiac region of the chest and the left brachial plexus were hyperaesthetic. After twelve days the haematoma was punctured and blood removed. The anginal attacks and pain ceased, and the patient returned to his occupation. No further anginal attacks have occurred. Since primary cardiac and vascular disease can be excluded, the author considers that this case shows that attacks simulating angina pectoris may develop through severe neuralgic pain in the left brachial plexus (senso-visceral cardiac reflex).

## Surgery.

### 183. Operative Treatment of Cholecystitis.

H. BARDY (*Finska Läkarsällskapets Handlingar*, November-December, 1924, p. 891) has compared the immediate and late after-histories of the patients who were treated in his hospital since 1902 for cholecystitis, and who were given either operative or conservative treatment. Of the total of 223 patients, 105 were operated on, and 118 were given conservative treatment because they were unfit for an operation or refused to submit to it. The ratio of women to men was 179 to 44. Of the 105 patients operated on, 90 were women, and the age of 82 of them was between 31 and 60 years. Jaundice was present in 40 cases and fever in 41. There were 6 deaths following the operation, but it should be noted that in 2 of these cases peritonitis had already developed before an operation was performed. In as many as 96 cases the operation performed was cholecystectomy; in the remaining 9 cases it was cholecystostomy. Only in 9 cases was the operation wound closed at once; in 11 cases the biliary passages were drained, and in 80 cases a cigarette drain was passed down towards the foramen of Winslow. In 93 cases stones were found. Inquiries as to the subsequent fate of these 105 patients were unsuccessful in 16 cases; of the 89 patients who were traced and re-examined 79 had gall stones present at the time of the operation, and of these 79 as many as 76 had remained perfectly well after the operation, except for an occasional slight attack of dyspepsia in some cases after a too-fat meal. Of the remaining 10 patients, in whom gall stones had not been found at the operation, 6 had remained perfectly well after it, and 4 were still subject to nervous disturbances. With regard to the patients given conservative treatment, 75 of the 118 were subsequently traced, and it was found that 49 had suffered from relapses, 3 had died of disease of the biliary system, and 5 had subsequently undergone an

operation. The author concludes from those experiences that operative treatment is the best when cholecystitis is hyperacute, and the biliary colic is complicated by events threatening life. If possible, an operation should be performed in a free interval and not during an acute attack; when the patient is old and weak the advantages of operative and conservative treatment should be very carefully weighed the one against the other.

#### 184. Gastro-duodenal Ulcer.

G. ALBERGO (*Clin. Med. Italiana*, September-October, 1924, p. 106), after a brief historical reference, discusses the etiology and pathogenesis of gastric ulcer. Of the various hypotheses put forward he believes that of auto-digestion comes nearest to the truth. The treatment may be medical or surgical. He thinks that there is no general specific remedy, and that each case must be treated on its merits; one method of treatment (the medico-dietetic) does not exclude the other (surgical). Of the surgical methods the author believes that gastrotomy (partial or subtotal) gives better results than gastro-entrostomy. An appendix of sixty-three references to recent literature on the subject is provided.

#### 185. Injury of the Musculo-spiral Nerve.

W. R. MACAUSLAND and A. R. MACAUSLAND (*Amer. Journ. Med. Sci.*, January, 1925, p. 1) review the literature relating to injuries of the musculo-spiral nerve, and describe three cases that they have themselves encountered of the more severe type of these injuries. They divide the injuries into three groups: those in which the nerve trunk is crushed without damage to the sheath; complete division of the nerve; and loss of power through involvement of the nerve in scar tissue or callus. They emphasize the importance of early recognition and treatment of nerve injuries in connexion with fractures and other severe wounds, since immediate suture of the nerve usually gives rise to very good results. The chances of success appear to be lessened after the occurrence of a long period of paralysis. In some cases simple freeing of the nerve was the only procedure necessary to relieve the condition. When this, or nerve suture, proved to be ineffective, and such procedures as manual stretching, neurotomy, or nerve grafting had failed, tendon transplantation often gave satisfactory results. The authors find that in cases of nerve suture the functioning power developed in the same manner as in spontaneous healing; in secondary suture sensibility returned early. Muscle control usually appeared in the course of two to four months, and was complete in six to nine months, depending upon the site of the nerve injury.

#### 186. Suppurative Arthritis of the Knee-Joint.

H. GAUDIER (*Bull. et Mém. Soc. Nat. de Chir.*, December 27th, 1924, p. 1168) describes a method of treating acute pyogenic infection of the knee-joint. He records the case of a man, aged 35, who was in a graye condition as the result of an injury to the knee ten days previously. The joint was flexed, swollen, and acutely painful; it was therefore opened by dividing the patella transversely. The joint cavity was found full of pus and acutely inflamed; it was washed out with serum and then exposed for six minutes to the ultra-violet rays. The patella was then sutured and the wound closed. The pus was found to contain streptococci. Fourteen further exposures of the knee to the ultra-violet rays followed, one each day, and the patient ultimately recovered with full movements in the joint. Gaudier considers that the light treatment played an important part in the cure of the condition. He further emphasizes the point that antiseptics are usually of no value in these cases when applied by themselves.

#### 187. Auto-transfusion.

L. H. APPLEBY (*Canadian Med. Assoc. Journ.*, January, 1925, p. 36) reports the use of auto-transfusion in nine cases of ruptured ectopic pregnancy, and suggests that this treatment should be equally applicable in many other conditions with extensive haemorrhage into the serous cavities, such as in cases of ruptured spleen, liver, uterus, or lung. He believes that the procedure is comparatively safe, and has not encountered any fatality or unpleasant reaction. His technique is as follows. While the abdomen is being opened an assistant inserts a cannula into a vein in the arm and begins to introduce normal saline solution. Fluid blood in the abdomen is collected, filtered through gauze, moistened with saline solution, and allowed to run into a beaker containing more which the saline is already running into the vein through the cannula. The author's nine patients recovered, and the amount of fluid reintroduced ranged from 160 to 420 c.cm., in addition to about 200 c.cm. used as a vehicle.

## Therapeutics.

#### 188. The Therapeutic Value of Tetrophan.

O. FOERSTER (*Klin. Woch.*, January 8th, 1925, p. 55) records his experience of tetrophan in the treatment of nervous diseases. This drug, introduced into therapeutics by Pohl, is allied to strychnine in its action on animals; it has a marked physiological action, but little toxic effect. The author considers it to be a valuable drug, though its action is only palliative. Since the drug increases the reflexes considerably in animals, Foerster thinks its chief value in therapeutics is in those affections in which the reflexes are lost or diminished. He has found it of most use in tabes dorsalis. The effect of the drug which is of greatest practical importance in this disease is the marked improvement which it produces in the gait, by diminution of the ataxia. As tetrophan excites the sensory centres, it is not surprising that large doses, and long-continued administration, are followed by hyperaesthesia and paraesthesia in this disease. The drug is contraindicated in cases of gastric, laryngeal, bladder, and intestinal crises in tabes. No good results were obtained by the use of the drug in disseminated sclerosis, except in two cases which presented symptoms of cerebellar ataxia; in these it was of distinct service. Good results were obtained also in myasthenia; and in Parkinson's syndrome following encephalitis. The dose of tetrophan recommended by the author is 0.1 gram twice daily in cases of tabes. This dose, he finds, may be continued for weeks or months without bad effects; but if given in doses of 0.2 gram twice daily, toxic symptoms sooner or later occur. In affections other than tabes smaller doses were given. The action of the drug is palliative; when it is discontinued the beneficial effects soon cease.

#### 189. Treatment of Pyelocystitis.

H. F. HELMHOLTZ and FRANCES MILLIKIN (*Amer. Journ. Dis. Children*, December, 1924, p. 700) record a series of cases illustrating the value of hexamile in chronic pyelitis. They conclude that this drug has valuable therapeutic powers apart from its high concentration of formaldehyde. Definite improvement occurred before this concentration reached the point usually deemed essential for good results. The authors further consider that calcium chloride is of considerable value in rendering the urine acid, being better in this respect than hydrochloric acid and benzoic acid. They give doses of 15 to 45 grains of calcium chloride, four times a day at six-hourly intervals. In this way they obtained a hydrogen ion concentration of 5 or lower, which would be effective in inhibiting growth in staphylococcal infections. They further show, from experimental work on rabbits, that alkali administration definitely increases the output of urine.

#### 190. Antispasmodic Treatment of Involuntary Muscle.

BENZYL BENZOATE and "Akineton," the monobenzyl amide of phthalic acid, both exert an inhibitory action on unstripped muscle fibre by virtue of their benzyl radical. M. ROCH and S. KATZENELBOGEN (*Rev. Méd. de la Suisse Romande*, December, 1924, p. 785) have obtained identical results from the exhibition of these two drugs, and since benzyl benzoate has an unpleasant taste and is difficult to administer they now use the latter exclusively, the calcium salt being given in 50 cc. tablets four or five times a day by the mouth, and the sodium salt in 25 per cent. solution hypodermically. The pharmacological action of these drugs is similar to that of papaverine—namely, inhibition of peristalsis, diminution of tone, and relaxation of spasm of unstripped muscle fibre. Like papaverine they affect the muscle cells directly, and not the peripheral nerve terminations. Dilatation of the peripheral blood vessels occurs with fall of blood pressure, but there is no appreciable action on the vasomotor centre, heart, central nervous system, respiration, or kidneys. Benzyl benzoate in doses of 20 to 30 drops in alcoholic solution has been used by several clinicians, quoted by the authors, in a variety of diseases, all of which, however, had this point in common—that there was an exaggerated contraction and spasm of unstripped muscle. Good results have been obtained in such cases as spasm of the intestine, of the biliary ducts, urethra, bladder, sphincters, angiospasm, bronchial asthma, dysmenorrhoea, and in whooping-cough in children, who tolerate the drug well. Considerable improvement in subjective symptoms, such as headache, vertigo, and nervous crises, has been noted in cases of high blood pressure. The authors report favourable results in three groups of cases: (1) Affections of the alimentary tract, such as cardiospasm, dysphagia with aphonia, nervous dyspepsia associated with a sensation of weight and cramp in the epigastrium after food, dyspepsia with abdominal pain, and pyloric spasm with no organic lesion. (2) Such conditions of spasm as asthma, formication, and intermittent claudication of the lower limbs.

(3) Cases of high blood pressure. In this last group the authors found that no improvement was obtained in cases of chronic nephritis with high tension, there was an appreciable fall of pressure in arterio-sclerosis without renal disease, but the best results were obtained in cases of angio-spasm. The authors also quote unfavourable results that have been reported by some observers; but conclude that unsuitable cases were selected for the administration of the drug.

## Ophthalmology.

### 191. Hydatid Cysts of the Orbit.

D. J. WOOD (*Brit. Journ. Ophthalmol.*, January, 1925, p. 4) describes three cases of hydatid cysts of the orbit. These cysts fall into two classes—those situated within the cone of muscles and those without. In the former case the eye is likely to become blind, whereas in the latter this is much less probable. Even when blindness has occurred there are usually no morbid signs to be detected in the fundus. Diagnosis may be very difficult; proptosis with the absence of a palpable tumour, a negative Wassermann reaction, and no signs of inflammation are suggestive if the patient lives in a land, such as South Africa, where hydatid disease occurs. Aspiration may be very helpful in diagnosis. In Wood's three cases operations were performed; in one case the eye was removed, in the others the orbit was explored with success. The exploration was rendered particularly difficult by the intraorbital fat. A striking fact in the two successful cases was the speedy return of vision after the operation, the eyes having been previously blind for four months and six months respectively.

### 192. Epithelial Cells in Conjunctival Infections.

H. J. HOWARD (*Amer. Journ. Ophthalmol.*, December, 1924, p. 909) describes the methods devised and used by Lindner in Vienna for the study of the micro-organisms of the conjunctiva and cornea. He confirms Lindner's conclusions. He finds that certain micro-organisms (*gonococci*, *pneumococci*, *Koeb-Weeks*, *diphtheria*, and *influenza bacilli*) are parasites of the epithelial cells, proliferating on the surface of the cell and drawing nutriment from it. The exotoxins of these bacteria cause dissolution of the intercellular and interlamellar cement substance of the cells, allowing the bacteria to penetrate more deeply. This does not usually happen in the case of the superficial cornified corneal cells, but is the rule with the superficial conjunctival epithelial cells. Epithelial cell phagocytosis and digestion of the parasitic bacteria occur. Leucocyte phagocytosis seems to play no part in the fight between the epithelial cells and the invading bacteria. Certain bacteria have the power of becoming parasites of the cytoplasm of the living epithelial cells which ingest but do not kill them; this accounts for the so-called inclusion bodies. A fact of importance which Howard believes to be definitely established is that the presence of bacteria in smears from the conjunctival secretion, and the result of cultures made from such smears, do not in themselves establish the etiology of an inflammation of the conjunctiva or cornea. He emphasizes the point that it is necessary to take a scraping of the superficial cells, since this is where the infective organisms will be found.

### 193. The Clinical Value of Slit-lamp Findings.

B. GRAVES (*Trans. Ophthalm. Soc.*, vol. xlv, 1924, p. 197), who is carrying on investigations to correlate slit-lamp and histological findings, reports the case of a simple pigmented mole, or innocent melanoma, occurring at the sclero-corneal margin of a boy, aged 10. The greater part of the tumour was composed of round cells arranged in a definitely alveolar manner, the alveoli being irregular in form, with intercommunication of adjacent spaces. The deep aspect of the tumour was sharply defined from the underlying tissues, which were free from infiltration. Graves gives an account of the slit-lamp findings, including the important indication of the absence of cellular infiltration of the surrounding tissues. He draws attention to some new phenomena in slit-lamp examination, including the observation of fluid-containing spaces, the study of the four reflecting anatomical surfaces of the cornea and lens, and the recognition of the epithelial impact line. He acknowledges the assistance afforded by the grant of a science research scholarship by the British Medical Association.

### 194. Defective Vision and Neurosis.

L. K. LUNT and R. A. FOX RIGGS (*Journ. Amer. Med. Assoc.*, December 20th, 1924, p. 1968) draw attention to some functional nervous disorders which are important in ophthalmological examination. Refraction errors, especially when requiring

repeated correction, should give rise to suspicion that some neurasthenic factor may be concerned. Hysterical amblyopia may occur in young girls, aged about 12, in early school life, and involve functional contraction of the field of vision. At about 20 in both sexes some difficulty in the use of the eyes is not infrequently reported and found to be associated with nervous symptoms. Muscular anomalies which imply errors of convergence may be more important than refractive errors. The authors urge that in such cases particular attention should be paid to observing whether other evidence of neurasthenia is obtainable, in order that correct treatment may be started; they utter a warning against the prescription of glasses for persons below the age of 20 without great care being taken to exclude such existence of neurosis. They think that a conservative estimate of patients so affected amounts to 20 to 30 per cent. of applicants for ophthalmological treatment, and that, therefore, more attention should be paid to this condition.

## Obstetrics and Gynaecology.

### 195. Diabetes and Pregnancy.

A. SPRINGER (*Zentralbl. f. Gynäk.*, November 29th, 1924, p. 2642) summarizes the literature relating to diabetes in pregnancy. He finds that conception only occurs in about 5 per cent. of diabetic women, because (1) the disease is rare during the fertile years of life, and when it does occur is rapidly fatal; (2) the disturbances of genital function due to diabetic amenorrhoea, dysmenorrhoea, atrophy of the genitalia, premature menopause, and pruritus are unfavourable to the occurrence of pregnancy. When it does occur it is followed in 50 per cent. of cases by premature confluence or stillbirths; but in the other 50 per cent. of cases the infants are remarkably well developed. Gigantism may occur. Figures are given to show that the outlook is bad for the mother chiefly because diabetes in young patients is more rapidly fatal, and for the child because difficulties in delivery frequently occur. The author holds that diabetes is an etiological factor in cases of gigantism; but admits the difficulty of explaining why the presence of sugar in the maternal blood should in some cases produce abortion and in others increased growth. He suggests that when the foetus has a well functioning pancreas of its own the rich sugar-containing blood is a stimulus to active growth, but that when the foetal pancreatic secretion is faulty or absent then the high maternal blood sugar is not only useless but is directly inhibitory to growth. In the first type of case one would expect the progress of the disease to be checked during pregnancy, and in the second type to be accelerated. Experiments on animals gave the following results. Extirpation of the pancreas during the last weeks of pregnancy did not result in symptoms of diabetes, though these appeared promptly in the puerperium, showing that the foetal pancreatic secretion could influence the maternal tissues. Another experiment on guinea-pigs demonstrated that the foetal pancreatic secretion was independent of the maternal—that the blood sugar in the foetus was at first very low and only approximated the maternal figure towards the end of pregnancy. Springer concludes that from the practitioner's point of view it must be borne in mind (1) that a diabetic mother may have an abnormally large child, and that difficulties may occur during labour, which should therefore be induced at a suitable time—Caesarean section is not advisable; (2) that when gigantism is diagnosed the possibility of diabetes in the mother should be thought of, and not be dismissed even if an examination of the urine during the puerperium be negative.

### 196. Gas Gangrene of the Uterus.

W. LEHMANN and E. FRAENKEL (*Arch. f. Gynäk.*, October 13th, 1924, p. 692) state that gas gangrene of the uterus, due to infection by Fraenkel's bacillus, is almost invariably accompanied by extensive haemolytic changes leading to yellowish-brown pigmentation of the skin, a burgundy tinting of the serum, and dark red colouring of the urine; haemoglobin, methaemoglobin, and haematin are to be found in both blood and urine. At the same time the patient, whose malady nearly always follows an attempt to induce abortion mechanically, manifests considerable cyanosis and dyspnoea. The prognosis is extremely grave, but Brütt has recorded two recoveries after hysterectomy. The authors point out that it is of great importance to ascertain, if possible, by clinical examination whether the infection has spread from the endometrium to the myometrium. Haemolytic phenomena with colouring of the skin, serum, and urine may occasionally occur in cases without this passage, and such cases may eventually do well. As an example they record two haemolytic cases in which Fraenkel's bacillus



was present in the blood and urine; bimanual examination failed to reveal gas cysts in the uterus, and the patients recovered after curtting. In a third case, which showed the caution necessary in prognosis, the initial findings were similar, but an attempt to curette brought to light two uterine perforations, and the gas bacillus was found in the peritoneal exudate at autopsy. In a fourth case the haemolytic manifestations cleared up after curtting, but the patient died eventually after some days' anuria. Diagnosis of this infection is most speedily made by finding the gas bacillus in the cervical fluid and the urinary sediment; blood cultures are not always positive. Lehmann and Fraenkel state that the bacillus was found in the cervix in no fewer than 106 of 580 abortions treated in a Hamburg clinic during 1923; in none of these cases, however, did the infection pass to the myometrium or parametrial vessels. In some of these cases Fraenkel's bacillus was recovered from the blood stream, but even then the occurrence of a rigor was exceptional.

#### 197. The Menopause and Arthritis.

R. L. CECIL and B. H. ARCHER (*Journ. Amer. Med. Assoc.*, January 10th, 1925, p. 75) consider that there is a delusio clinical syndrome which may be termed "arthritis of the menopause." This is described as being a chronic poly-arthritis of obese middle-aged women, occurring at, or soon after, the menopause, and characterized by persistent stiffness and pain in the joints. It appears to be non-infectious in origin, and to be dependent on some endocrine condition which has not yet been determined. In their series of 60 cases the average age was 52½ years—the youngest patient was 42 and the oldest 66. Married women supplied 90 per cent. of the cases. No typical examples of this form of arthritis were encountered in men, and Cecil and Archer believe that the symptom-complex of arthritis in middle-aged men differs considerably from that associated with arthritis of the menopause. The authors add that the disease runs a mild chronic course, and that under treatment with iodides, physiotherapy, and a low caloric diet the majority of the patients were definitely benefited, though none were completely cured.

### Pathology.

#### 198. The Pathogenesis of Tetany.

O. TEZNER (*Monats. f. Kinderheilk.*, December, 1924, p. 207) discusses the pathogenesis of the infantile and hyperpuoic forms of tetany. The theory of excessive alkalinity of the blood and consequent deionization of the blood calcium has stimulated much experimental work, but the experimental findings have been contradictory, and the fact, which is emerging from them now is that alkalosis is not the all-sufficient cause of every form of tetany. It is known that a deficiency of calcium produces a hyperexcitability of the nervous system, and that in most cases of tetany the total blood calcium is reduced; the supporters of the theory of alkalosis say that, as it is only the ionized calcium that is active, it is sufficient to correct the alkalinity, because in that way more calcium will be ionized and so rendered effective. Tezner, in a series of thirteen cases, has endeavoured to compare the effects of (1) giving ammonium chloride only, thus correcting any alkalosis and not increasing the total calcium; and (2) giving calcium only and in a non-ionizable form (calcium lactate), leaving the alkalinity of the blood unchanged. The ammonium chloride and calcium lactate were given at different times to the same children, and their effect on the illness was judged by the symptoms, the disappearance or persistence of Chvostek's, Hoffmann's, and Trousseau's signs, and the electrical excitability of the muscles. It was found that ammonium chloride acted more quickly and energetically, but that calcium lactate also had a pronounced beneficial effect, and cured some cases which did not respond to ammonium chloride. This effect of calcium lactate suggests that the administration of any form of calcium leads to an increase in the amount of ionized calcium in the blood even when the pH is unchanged; it follows that the non-ionized portion of the blood calcium has an effect in preventing tetany. The pH of the blood was estimated in every case, but it was found that there was no constant difference between its value in children with tetany and its value in healthy children; neither did the total acidity of the urine show any constant change. Tezner considers that all these findings go to show that alkalosis cannot at any rate be the only factor in causing infantile tetany. As regards hyperpuoic tetany, it was from the investigation of this condition that the theory of alkalosis be brought about in the same person by the same degree of

alkalosis, however produced. The author, by forced breathing for twenty minutes, caused tetany in himself; a sample of blood taken then was found to have a pH of 7.49. On another occasion the pH was raised to 7.51 by the intravenous injection of 500 c.c.m. of a 4 per cent. solution of sodium bicarbonate, but no signs of tetany occurred. Alkalosis cannot therefore be the only factor in causing hyperpuoic tetany. Tezner suggests that the hypertonic state of the blood following the injection of such a strong solution may have had a counteracting effect.

#### 199. Serological Relations between Streptococci and Pneumococci.

In a previous paper C. H. HITCHCOCK, using the precipitin test, had reported that the haemolytic streptococci, the non-haemolytic streptococci, and the pneumococci formed three serologically distinct and non-related groups; it was further ascertained that whereas the haemolytic streptococci formed a practically homogeneous group, the non-haemolytic streptococci were decidedly heterogeneous. He has now (*Journ. Exper. Med.*, January, 1925, p. 13) continued his study, replacing, however, the precipitin by the complement fixation test. A series of 3 haemolytic streptococci, of 16 non-haemolytic streptococci, and of 14 pneumococci, mostly isolated from cases of human disease, was collected; against each strain an antiserum was prepared by injecting the killed organisms intravenously into rabbits. The bacterial antigens for the complement fixation reaction were prepared by centrifuging the organisms in a twenty-four-hour glucose broth culture, washing them in saline, drying them *in vacuo* over phosphoric anhydride, dissolving the resulting powder in 4 per cent. antiformalin, neutralizing with acid, and adding sodium thiosulphate to remove the excess of chlorides. For the actual test the usual rabbit-sheep combination was used, the complement being kept constant and the immune serum varied. The results showed that each of the three serums prepared against the haemolytic streptococci was able to fix complement in the presence of antigens of all groups. The non-haemolytic streptococcal serums fell roughly into two main groups: one of these reacted with its own group of non-haemolytic streptococci and with the haemolytic streptococci; the other reacted with its own group and with the pneumococci. With regard to the pneumococcal serums they reacted fairly well with all types of pneumococci, though there was a rather closer relation between the Type IV and the Type II strains than between the others, and with one group of the non-haemolytic group streptococci. From these results it appears that the non-haemolytic streptococci may be divided into two groups—one related to the haemolytic streptococci and one related to the pneumococci. These relations are not associated with the precipitable substances, but are probably dependent on the properties of the protein or lipid fraction of the bacterial cell.

#### 200. The Leucocytes in Osteitis Deformans.

A. PINEX (*Journ. Path. and Bact.*, January, 1925, p. 122) has examined the blood of five cases of osteitis deformans in order to ascertain whether any changes are present as a result of lesions in the bone marrow. In none of the cases was there any anaemia, nor was there any alteration in the total number of circulating leucocytes. A differential count of the white cells showed an increase in the basophil cells, which varied in the different cases from 1.7 to 4 per cent., and an increase in the eosinophils, which varied from 6.8 to 10 per cent. The other cells were present in more or less normal proportions.

#### 201. The Cerebro-spinal Fluid in Tetanus.

J. SABRAZÉS, P. F. SAINTE-MARIE, and R. DE GRAILLY (*C. R. Soc. de Biologie*, December 27th, 1924, p. 1407) have searched through the notes of patients admitted to hospital during the years 1910-24 suffering from tetanus in order to ascertain the reaction of the cerebro-spinal fluid in this disease. Altogether they have collected 28 cases suitable for this purpose. Briefly they find that the albumin content is only slightly raised, if at all; that the urea is practically normal; that there is no increase in the number of cells; that the few cells found are all lymphocytes; and finally—the sole definite abnormality—that there is a rise in the percentage of glucose. Since, however, this estimation was made in only five cases, of the series, and as one of these five had previously received an intraspinal injection of antitetanic serum, it was doubtful whether this rise was definitely demonstrated. The authors consider that it is probably related to the excessive increase in the temperature of the patient, as Mestrozat has found that hyperthermia in general causes a rise in the glucose content of the fluid. From a diagnostic point of view they consider that the absence of increase in urea might serve to distinguish tetanus from convulsive uraemia resembling tetanus.



# EPITOME OF CURRENT MEDICAL LITERATURE.

## Medicine.

### 202. Congenital Achondroplasia.

CASES in which the typical features of achondroplasia—namely, dwarfism, macrocephaly, disproportion in the length of the limbs, trident hand, lordosis, sinking of the bridge of the nose—are only present in a slight degree are designated "hypochondroplasia" by A. LÉRY and Mlle LIXOSSIER (*Bull. et Mem. Soc. Méd. des Hôp. de Paris*, January 1st, 1925, p. 1780). They describe the condition in a mother and daughter, and say that these cases can readily be distinguished from cases of rickets by the symmetrical nature of the deformities and the absence of spinal distortion. The daughter, aged 21, had suffered from violent paroxysmal headaches for five years. Her condition was not immediately diagnosed, for, though she was only 4 ft. 11 in. in height, her trunk and limbs were well proportioned. She had lordosis, with a prominent abdomen, her nose was depressed at the root, and her head was 23 inches in circumference. Her fingers were podgy and clubbed, but did not present the characteristic trident formation. The fourth metacarpal was almost half an inch shorter than the adjoining ones, with consequent apparent shortening of the ring finger. The fourth metatarsal showed a similar deformity, and hallux valgus was also noted. In spite of a negative Wassermann reaction and absence of a family history suggestive of syphilis, antisyphilitic treatment was tried, to which the headaches rapidly yielded. The mother, 4 ft. 10 in. in height, presented the same deformities as her daughter, as did also the mother's father. The husband was of normal stature and a second girl was normal.

### 203. Acute Pulmonary Oedema Associated with Epilepsy.

L. LANGERON (*Presse Méd.*, January 17th, 1925, p. 65) reports an unusual case of true acute pulmonary oedema immediately following attacks of epilepsy. The author observes that in this case he was dealing with a true acute oedema and not merely the cyanosis and frothy expectoration which often follows an epileptic fit, and is of naso-pharyngeal or glossal origin. The patient, a woman aged 42, had been married twice and showed signs of syphilis. In early life she suffered from chorea and one attack of rheumatism which left no trace of cardiac affection. At 20 she had a febrile attack which may have been typhoid fever, after which the chorea ceased, but was followed every month by vague nervous symptoms. After an attack of mumps, two years ago, she developed regular epileptic fits; after the fit she became very cyanosed, intensely dyspnoeic, and brought up quantities of frothy blood-stained sputum, while râles were heard throughout the chest. Relief followed copious bleeding. A similar attack of oedema was noted after another epileptic fit. Cases of true pulmonary oedema are rare—the author has only been able to collect 17 (10 women, 7 men), of whom 9 died. With one exception there was no cardiac or renal affection; in another case the thymus was enlarged. After discussing the pathogeny he suggests that his case was a visceral epilepsy comparable with migraine, angina, or sweating, and due to a spread of the irritation in the motor cortex to the bulbocordular areas.

### 204. The Stokes-Adams Syndrome and Neosalvarsan Treatment.

GEORGES BICKEL (*Arch. des Mal. du Cœur, des Vaisseaux et du Sang*, January, 1925, p. 39) combats the "erroneous theory" that the majority of cases of complete heart-block are due to syphilis; he remarks that the routine employment of arsenobenzol in these cases is not free from danger, although it may produce good results in a small number of cases. Bickel insists that the Stokes-Adams syndrome is in no sense a definite entity; the same clinical result may be determined by a series of different processes, among which syphilis must take a far less important position than that which it has occupied during the last twenty years. Bickel records the following case as an indication of the danger of prescribing "test courses" of neosalvarsan when no clinical or pathological evidence of syphilis has been found. The patient, a very obese but otherwise healthy man, aged 48, had been subject for two years to frequent transient syncope attacks, sometimes preceded by dyspnoea and retrosternal pain. There was marked bradycardia, and the pulse rate was only about 30 a minute, regular and strong. The radial pulses were synchronous and the venous pulse was three or four times as rapid as that of the arteries. The systolic

blood pressure was 180 mm. and the diastolic was 70 mm. Electro-cardiograms and tracings showed complete auriculo-ventricular dissociation. In spite of the absence of any evidence of syphilis, a series of injections of neosalvarsan was given, the total quantity of the drug injected being 4.95 grams. After the third injection there was a serious aggravation of bradycardia, the pulse rate falling to 16-18 a minute, this being accompanied by transitory attacks of vertigo and grave malaise. In spite of further injections there was no improvement; the patient was discharged after three months' treatment, and was sent into the country. The attacks of syncope persisted, and he died suddenly a few weeks later. Bickel discusses the electro-cardiograms and the features of the case in detail, pointing out that the aggravation of symptoms cannot be regarded as a form of Herxholmer's reaction; if it were, further treatment would have produced improvement. The syndrome would appear to be produced by fatty infiltration of the heart, due to generalized obesity. Several authors have recorded severe damage to the bundle of His resulting from this cause; moreover, the bundle of His is extremely sensitive to toxic agents of all kinds. It would appear that neosalvarsan, acting on a damaged myocardium, can derange the function of the auriculo-ventricular bundle. It has long been known (Ehrlich, Martins) that salvarsan and its derivatives must not be administered to patients suffering from heart disease without great care. Bickel, while fully convinced of the value of arsenobenzol in many syphilitic cases of heart disease, records this case as an instance of the failure of a very valuable remedy.

### 205. Epidemic Dropsy and Beri-beri.

H. W. ACTON and R. N. CHOPRA (*Indian Med. Gazette*, January, 1925, p. 1) conclude that epidemic dropsy and beri-beri are different clinical aspects of a toxic syndrome caused, in the vast majority of instances, by the ingestion of poisonous bases found in rice. Similar poisons, however, may occur in tinned foods and dried fish. The disease in the rice is caused by a spore-forming protozoic bacillus, and the differences in the signs of the two diseases are due to its action upon two different grades of rice. Acton and Chopra find that the poisons in the rice causing epidemic dropsy are water-soluble, while the neurotoxin causing beri-beri is soluble in alcohol only. Individual susceptibility is important when the amount of ingested poison is small, and suprarenal or thyroid insufficiency increases the susceptibility. The authors add that rice polishings contain bases antagonistic to the bases in diseased rice. Bacterial invasion of the grain is prevented by the pericarp and by the protective layer of bacteria living under it. They conclude that polished parboiled rice is the most dangerous, and can only be made innocuous by preservatives and proper storage. Intramuscular injections of adrenalin, 2 minims twice a day, relieves the oedema by diminishing cell permeability; it also antagonizes the action of the water-soluble bases.

## Surgery.

### 206. Thyroglossal Cysts and Fistulae.

H. BAILEY (*British Journ. Surg.*, January, 1925, p. 579) considers the surgical aspects of a series of thyroglossal cysts and fistulae collected from the records of the London Hospital. He states that the diagnosis of a cyst is usually simple except when inflamed; it is then liable to be taken for a tuberculous gland. A useful sign is that a cyst moves upwards on fully protruding the tongue. Rarely it may be the only thyroid tissue present; this must be remembered in considering its removal. The commonest site is the subhyoid, and the cyst may disappear behind the hyoid bone when the patient swallows. Thyroglossal cysts occur most commonly in babies, while branchial cysts generally appear in the second decade of life. Thyroglossal fistulae are said to be rarely if ever congenital, and are usually the result of rupture of a thyroglossal cyst. Suppuration in a cyst plays the chief part in the formation of a fistula. The secretion from a fistula varies in amount: it may be thin, watery, and copious, whilst in other cases it is intermittent. The fistula is often below the cricoid cartilage, and is usually surrounded by scar-like tissue due to uneven growth of the tract and the rest of the neck. Treatment, unless complete is apt to be followed by recurrence, and it is necessary to extirpate all the cysts and every vestige of the tract. The difficult

part of the operation is near the hyoid bone. Sistrunk advises operation by a transverso incision: the central portion of the hyoid bone is removed and the tissues round the tract are "eored out" up to the foramen caecum of the tongue. This dissection removes all the tract completely.

207.

**Pseudo-coxalgia.**

T. P. NOBLE (*Journ. Bone and Joint Surg.*, January, 1925, p. 70) remarks that Legg, who first described pseudo-coxalgia in 1909, regarded trauma as the etiological factor. The disease appears to be by no means rare, and is usually unilateral. Most cases appear during the second half of the first decade of life. The onset of the disease is insidious, and a limp is the first symptom, though, as a rule, there is no pain. Limitation of abduction and internal rotation is found at the hip-joint, whilst in some cases all movements are restricted owing to nunsular spasm. A slight degree of real shortening is usually present, and minor degrees of flexion and adduction appear; the great trochanter becomes elevated above Néaton's line and appears broader than normal. Wasting of the hip muscles is usually present, and Trendelenburg's sign is commonly found. Fragmentation occurs during the course of the disease, and the head of the femur usually breaks up into three pieces. Later the head regenerates, and becomes flattened and enlarged. Osteoarthritic changes are common in later life. There are three hypotheses as to the causation of the disease. Some believe it to be a congenital malformation of the head, others regard it as an infectious condition of haematogenous origin, whilst the traumatic hypothesis has much to support it; with this latter may be associated a congenital weakness of the epiphyseal line. The condition tends to undergo spontaneous cure, and treatment by fixation in a spica cast in slight abduction for six months appears to be all that is necessary.

208.

**Acute Pancreatitis.**

L. ARNSPERGER (*Deut. Zeit. f. Chir.*, December, 1924, p. 189) records his observations on 20 cases of acute pancreatitis which had been treated at St. Vincent's Hospital in Karlsruhe since 1920. Eleven were examples of acute pancreatitis or necrosis of the pancreas, of which 5 recovered and 6 died; 3 were cases of subacute pancreatitis and pancreatic abscess, all of which recovered after operation; 4 were cases of fat necrosis in the abdominal cavity without obvious acute pancreatitis, all of which also recovered after operation; 2 were cases of acute pancreatitis which recovered without operation. Of the 18 cases in which operation was performed 6 died—a mortality of 33 per cent. The best results were obtained by early operation, as had been emphasized by previous observers. The prognosis is also favourable even in late cases in which there is an encapsulated peripancratic abscess. The prognosis is worst in cases in the intermediate stage between intoxication and peritonitis. Three of Arnsperger's cases, however, which belonged to this group, were saved by operation. Arnsperger maintains that acute pancreatitis is no longer a hopeless disease, but that, by early operation and suitable technique, as good results can be obtained as in operations on other severe abdominal affections.

209.

**Surgical Treatment of Thyroid Disease.**

T. L. DEAVOR (*Amer. Journ. of Surg.*, December, 1924, p. 296) considers that the lowest possible death rate in thyroid surgery may be attained only by adhering to three main principles. These are: the preliminary preparation of the patient and selection of the proper time to operate, careful anaesthesia with control of haemorrhage, and after-care. The critical time is the first twelve hours; patients who survive this period generally recover. A bloodless operation should be the objective, since many accidents are due to excessive loss of blood. Deavor finds that all toxic cases do better during the cooler periods of the year. Morphine may be administered after the operation and water is given freely from the start. Signs of toxæmia are treated by ice-bags applied to both sides of the lower extremities, the front and sides of the abdomen, the forehead, vertex, and back of the neck; the good effect of cold in these cases is often most striking. The use of iodine in exophthalmic cases was found most valuable, particularly when toxæmia was marked. Drainage must always be free, especially in toxic and exophthalmic cases, and retained serum allowed to escape. Collapse of the trachea and grave secondary haemorrhage are the chief tragedies of thyroid surgery. The author adds that if haemorrhage produces cyanosis the wound must be opened up and the bleeding point ligatured. He considers that the advanced exophthalmic patients with fixed complications cannot be completely cured. Every case must be seen under observation till the best possible results have been reached.

436 B

**Therapeutics.****210. Gentian Violet in Subacute Infective Endocarditis.**

R. H. MAJOR (*Journ. Amer. Med. Assoc.*, January 24th, 1925, p. 278) reports a case of recovery from subacute infective endocarditis following intravenous injection of gentian violet. The patient, a woman aged 25, was very anaemic, the red corpuscle count being 3,320,000 per c.mm., and the white corpuscle count 3,650; the temperature was 100°F., and a non-haemolytic streptococcus of the *S. viridans* type was recovered in a pure culture. The temperature fell to normal after the intravenous injection of 5 mg. of gentian violet per kilogram of body weight, in a 1 in 5:0 aqueous solution. The blood culture subsequently was found to be sterile, and a second injection of gentian violet was given forty-eight hours later. In all, four intravenous injections were given, and no blood cultures after the beginning of treatment contained streptococci. The patient was discharged much improved: the red blood corpuscles had increased to 4,500,000 per c.mm., and the white corpuscles to 7,000 per c.mm. Seven months after discharge from hospital the patient was in good health, although a loud systolic murmur was still audible at the cardiac apex. During one of the injections the gentian violet was extravasated into the tissues and set up a necrosis with sloughing, which caused considerable discomfort to the patient; this cleared up, however, without any severe complications. Major suggests that the success in his case might well induce the further trial of gentian violet in patients with a more malignant type of the disease.

**211. Intracardiac Injections of Adrenaline in Heart Failure.**

P. MASOTTI (*Il Policlinico*, January 5th, 1925, p. 9) reports a case of heart failure during spinal anaesthesia cured by intracardiac injection of adrenaline. The patient, 63 years old, suffered from strangulated hernia. Spinal anaesthesia was induced with 8 cc. novocain and 1 c.cm. adrenaline (1 in 1,000). Heart failure occurred at the beginning of the operation and was not relieved by caffeine and other injections, nor by inhalation of oxygen and artificial respiration. As the patient became worse 10 c.cm. of 1 in 1,000 adrenaline was injected into the left ventricle at the level of the fourth intercostal space. As the needle was observed to oscillate almost immediately, it was removed and artificial respiration resumed. Twenty minutes after the adrenaline injection the patient was so much better that it was possible to complete the operation, and the subsequent post-operation course was normal. Before injection of adrenaline the pulse and cardiac beat were imperceptible.

212.

**Insulin in Chronic Rheumatism.**

LÉVY-FRANCKEL, JUSTER, and LACROIX (*Bull. Soc. de Thé.*, December 10th, 1924, p. 301) have treated five cases of chronic rheumatism by injections of insulin with encouraging results, and record in detail the histories of three cases. The first was in a woman, aged 40, suffering from psoriasis, and chronic rheumatism of the ankles, wrists, and metacarpophalangeal joints; the second was an example of morbus coxae scilicet in a man, aged 56; and the third one of vertebral rheumatism in a man of 54. In each case the injection of insulin had a favourable effect on the pain and loss of power. But whereas in the first patient the effect was only transient, in the third case the improvement was sufficiently pronounced to be regarded as a cure. Without advancing any hypothesis to explain the action of insulin in these cases, the authors remark that the occurrence of chronic rheumatism has been attributed by some authorities to disturbance of certain endocrine glands, especially the thyroid, while others regard a tropho-neurotic origin as more probable. None of the patients was diabetic, so that the blood sugar was not estimated.

213.

**Stovarsol in Yaws and Protozoal Diseases.**

CH. MASSIAS (*Gaz. Hebdom. des Sci. Méd. de Bordeaux*, January 11th, 1925, p. 21) states that stovarsol ("190" Fournier) has given remarkable results in the prophylaxis of syphilis and in the cure of experimental syphilis in the rabbit (Lévaditi and Navarro-Martin). When given by the mouth to rabbits, monkeys, or men it is reported to be quickly efficacious and less toxic than "606" or "914." Lévaditi, Navarro-Martin, and A. Marie found that administration of 2 to 4 grams to a man from two and a half to five hours after "massive" inoculation with syphilitic virus prevented infection. L. Fournier and Guénou gave daily doses of 1 to 1.5 grams (total quantity = 4 to 7 grams) to women definitely infected by their husbands; general infection has been prevented nearly three weeks after intercourse. L. Fournier, R. Dupétié, and J. Sabrazès have obtained rapid improvement in cases of

(a) secondary syphilis, (b) infantile congenital syphilis, and (c) gumma. Sézary and Pomaret advise, however, that novarsenobenzol and bismuth should not be abandoned in favour of stovarsol, as their action persists for a longer period; stovarsol had no effect on the Wassermann reaction. Massias has had remarkable success in the treatment of yaws among the scattered aborigines of Cochín-Chilua. These people will not submit to intravenous medication, nor will they enter a hospital, but they return willingly for further administration of stovarsol. Massias gives large doses in tablet form—for example, to adults 1 gram per diem for three or four days, or even larger doses when the granulomata are very numerous. To children of 10 to 15 years Massias gives half the adult dose, and to younger children proportionately smaller doses. Stovarsol was found to be well tolerated; no digestive disturbances occurred. The effect was rapid; the lesions began to dry up on the third day, and clearing occurred in from ten to fifteen days. Visceral leishmaniasis has not been observed. Massias has obtained good results from giving stovarsol in amoebic dysentery (two or three tablets every day for four or five days, then one every two days for several weeks). Marchoux, Cado, Garib, and Pontanel recorded similar results (1924), and Delanoe of Morocco confirmed this. Garin and Massias have found stovarsol efficacious in lamblolosis and trichomoniasis.

## Diseases of Children.

### 215. Post-operative Acidosis in Children.

P. C. JEANS and K. H. TALLERMAN (*Brit. Journ. Child. Dis.*, October-December, 1924, p. 268) record their observations on fourteen cases of post-operative acidosis in children. The blood and urine were examined before and after operation, and those substances which might be causative factors were estimated. It was found that the lowering of the alkali reserve was due in but small measure to acetone bodies or to lactic acid accumulation. Phosphate retention was obviously not the cause of any acidosis that might exist. In fact phosphate excretion constituted a compensatory mechanism, the phosphates of the blood falling with a lowered alkali reserve, and the phosphate excretion being increased coincidentally. The organic acids excreted increased, and in those cases showing a more marked lowering of the blood  $\text{CO}_2$  were in excess of both acetone bodies and lactic acid. It was therefore presumed that some as yet unidentified factor was responsible for the lowered alkali reserve. The fall of the  $\text{CO}_2$  appeared proportional to the drop in blood pressure. It was observed also that qualitative tests for acetone bodies in the urine gave but a poor indication of the degree of acidosis present if compared with the variation in alkali reserve.

### 215. Epidemic Encephalitis in Infancy.

C. DE LANGE (*Nederl. Tijdschr. v. Geneesk.*, November 29th, 1924, p. 2696), who records two new cases of infantile encephalitis with a review of the literature, remarks that one of the peculiarities of infancy is that cerebral symptoms may occur in all infections and intoxications at this age. As an acute attack of epidemic encephalitis in young children is accompanied by convulsions, tonic contractions, motor restlessness or apathy, unconsciousness, vomiting, and fever, which do not form a characteristic group of symptoms, de Lange thinks that it may be assumed with great probability that a number of cases pass unrecognized, while, on the other hand, it is likely that an incorrect diagnosis of epidemic encephalitis is often made in young children. De Lange's first case was an infant aged 13 months, who in addition to lethargy, myoclonic movements, and exaggeration of the reflexes, showed a remarkable pallor, probably due to changes in the sympathetic centres, and an insatiable appetite, which was attributed to a process in the hypothalamus. A complete change in the child's character also took place. The second case, which occurred in a child of 7 months, was characterized by convulsions, exophthalmos, intermittent rigidity, exaggerated reflexes, bulimia, and a respiratory syndrome resembling whooping-cough. Finally, complete recovery took place.

### 216. Tuberculin Tests in Children.

H. SÖDERSTRÖM (*Finska Läkaresällskapets Handlingar*, November-December, 1924, p. 879) reviews his experiences of von Pirquet tests in children admitted to his hospital in the period 1914-23. Undiluted old tuberculin was used, and altogether 1,476 children up to the age of 10 years were tested. Only 23 per cent. of the children in the first year of life gave a positive reaction, whereas this was obtained in 63.6 per cent. of the children in the tenth year. A positive reaction was obtained in 37.2 per cent. of all the children.

When the children who showed no clinical sign of tuberculosis were grouped by themselves it was found that in this group a positive reaction was obtained only in 21 per cent.; the reaction was positive in 7 per cent. of the children in the youngest group, and in 53 per cent. of the children in the age group 8-10 years. All the children with scrofula gave a positive reaction, and 93 per cent. of the children suffering from idiopathic exudative pleurisy—suggesting that this form of pleurisy should be regarded as a manifestation of tuberculosis. Of the 134 children suffering from pulmonary tuberculosis 10 gave a negative reaction, and 5 of these 10 were less than 6 months old. Among the 66 cases of tuberculous meningitis and miliary tuberculosis there were 12 giving a negative reaction. Of the 285 children showing definite or suspicious signs of tuberculosis only 9.1 per cent. failed to give a positive reaction. The author concludes that his findings are confirmatory of earlier observations in this field, and that they show only too plainly how saturated with tuberculosis are the working classes of Helsingfors.

### 217. Enteric Fever in Children.

H. BISCHOFF (*Arch. f. Kinderheilk.*, December 24th, 1924, p. 83) reviews the literature, and records his observations on 100 cases of typhoid fever in children at the Rostock University Children's Clinic, his conclusions being as follows: (1) The disease occurred chiefly in the summer and autumn, its curve corresponding with that of infantile mortality. (2) The incidence rose with advance in age, 11 per cent. of the cases occurring in the first year, 22 per cent. in the second year, 33 per cent. in young school children, and 34 per cent. in older children. (3) The average mortality was 10 per cent., but was higher in the female sex (14 per cent.) than in the male (6 per cent.). (4) The most important diagnostic symptoms were enlargement of the spleen (44 per cent.), rose spots (63 per cent.), Widal's reaction (88 per cent.), diazo-reaction (73.4 per cent.), presence of typhoid bacilli in the blood (71.8 per cent.), leucopenia (71 per cent.), diarrhoea (52 per cent.), and typical temperature in only 17 per cent. (5) The course of the disease was mild in 38 per cent., moderately severe in 20 per cent., and severe in 20 per cent., the latter being mainly cases complicated by bronchopneumonia, pleurisy, or relapses. (6) The duration of the disease ranged between two and six weeks. Relapses occurred in 8 per cent. One child had four relapses. (7) Bacteriological examination of the stools and urine was rarely positive, the bacilli being found in the stools in only 13 per cent., and in the urine in 2.3 per cent. (8) Treatment was mainly expectant and dietetic. The course of two cases in which vaccine therapy was employed did not differ from that of the others.

## Obstetrics and Gynaecology.

### 218. Carbohydrate Metabolism during Pregnancy.

H. EHRENFEST (*Amer. Journ. Obstet. and Gynecol.*, December, 1924, p. 685) reviews the contributions during the last five years to our knowledge of the modifications of carbohydrate metabolism in pregnancy. With regard to the fairly common disturbance at this time—namely, glycosuria after administration during fasting of 100 grams of glucose, or after small injections of adrenaline or phloridzin—he draws the following conclusions. The condition is not a renal diabetes or glycosuria, for (1) although it appears with a blood sugar concentration which may be as low as 0.082, and has an average level of 0.141, it is preceded by hyperglycaemia; (2) altered endocrine and nervous conditions are present during pregnancy, and the absence of such, as well as of toxic influences, is an essential feature of renal diabetes as clinically understood; (3) the pregnancy glycosurias are not lasting, but take a transient course after artificial provocation. It may not correctly be called an alimentary glycosuria, because this term denotes a condition associated with diminished ability to metabolize carbohydrates, whereas in pregnancy this ability is physiologically increased. Pregnancy glycosuria shows weakness in sugar metabolism only in a lowered ability to deal with one large ingested dose of glucose, laevulose, or even starch. Ehrenfest regards pregnancy glycosuria as due to a lowered renal threshold required as a protective measure in face of greatly accelerated sugar mobilization due to foetal needs. Endocrine changes noted during pregnancy—namely, increased activity of thyroid, adrenals, and the pituitary body—are of a nature to indicate hyperactivity in sugar assimilation. In pregnancy in women whose pancreatic (insular) function before conception is only barely sufficient, or is defective, pregnancy with its changes in sugar metabolism and endocrine function, and with its associated toxic conditions, may lead to a true diabetes. It seems probable that, as in a case of this kind recorded by the author, the use of insulin will eliminate the consequent danger to both mother

and child. Ehrenfest utters a word of caution with regard to the alimentary test. Since one large load of glucose may start a continued glycosuria, transforming a potential into a true diabetes, it is dangerous and reprehensible to give 100 or 200 grams of glucose in the fasting condition unless a preliminary determination has been made of the blood sugar during fasting.

#### 219. Cerebral Metastases in Chorion-epithelioma.

J. S. GREEN (*Med. Journ. of Australia*, November, 1924, p. 498) reports a case of cerebral metastases occurring in chorion-epithelioma in a woman aged 23. She had previously given birth to one stillborn child and to twins who died shortly after delivery. After antisyphilitic treatment she gave birth to an apparently healthy baby six weeks before she was admitted to hospital with vaginal bleeding. She was encephalitic, but no notice was taken of the nature of the curettings. She was subsequently readmitted with pyrexia, and what appeared to be placental tissue was removed; again no examination of the scrapings was made. Haemorrhage continued and hysterectomy was considered. The patient, however, developed cerebral symptoms and rapidly became comatose; respiratory difficulty supervened and death ensued. At the autopsy a large necrotic cavity was found in the right frontal lobe, a solid tumour half an inch in diameter was present in the occipital lobe, and there were five small scattered dark haemorrhagic growths. The uterus was enlarged and its cavity was clean. There was an intramural tumour about the size of a golf ball in its posterior wall, a pedunculated growth in the region of the right cornu, and a third small mass along the length of the right tube. No ovarian cystomata were present and no secondary growths in the vagina. In the lungs a few small secondary growths, half an inch in diameter, were found. All these growths showed the typical structure of chorion-epitheliomata. The author emphasizes the importance of a microscopical examination of curettings, and draws attention to the characteristic history in this case of recurrent haemorrhage associated with pregnancy. The report is illustrated with microphotographs.

#### 220. Ovarian Carcinoma with Uterine Myoma in the Aged.

ACCORDING to L. TIXIER and E. POLLOSSON (*Gynéc. et Obstét.*, 1925, xi, 1, p. 1), the formation of malignant ovarian tumours in elderly women who for many years have had uterine myomata is not uncommon and is associated with considerable diagnostic difficulty. Occasional attacks of abdominal pain are attributed by such patients to their myoma; and the same explanation is apt to be assumed—both by patient and surgeon—to hold good when one day a severe "attack" occurs, followed by loss of weight, deterioration of general health, pyrexia, ascites, and vesical or rectal symptoms. The myoma is found to have undergone no change in size or consistence, so that malignant transformation of the old tumour can probably be excluded. The absence of haemorrhage and offensive vaginal discharge as well as examination of the cervix serve to exclude cancer of the uterine body or neck. At the same time the fever suggests an inflammatory condition, a diagnosis which is apparently confirmed by the detection of soft, fixed, and tender swellings in the region of the adnexa. Malignant disease of the ovary is not suspected, or suspected too late, being discovered, at a laparotomy, usually in the form of an irregular tumour with vegetations and metastases. Such cases supply yet another confirmation of the view that all myomatous symptoms after the menopause should arouse grave suspicion. In these elderly subjects it is usually wiser, in operable cases, to deal with the ovarian tumour only and to avoid hysterectomy. Seven illustrative cases are recorded, with three recoveries.

## Pathology.

#### 221. The Intradermal Reaction in Typhoid Fever.

S. COSTA, L. BOYER, and E. GIRAUD (*C. R. Soc. de Biologie*, January 23rd, 1925, p. 93) have been investigating the response of patients suffering from typhoid fever to the intradermal injection of small quantities of a filtered typhoid culture. The *B. typhosus* was grown in broth for three weeks at 37° C., filtered through a Chamberland L3 candle, and heated to boiling point for twenty minutes. The injection was made in a dose of 0.1 to 0.3 c.cm. of the pure, or the diluted, filtrate on the anterior aspect of the forearm or the thigh. In the case of a negative reaction there was no more than a slight transient redness without oedema or pain, lasting not longer than twenty-four hours, and presumably due to the proteins

of the broth. On the other hand, in the case of a positive reaction there was a severe local response characterized by the formation of a large, red, oval, oedematous elevated patch extending over practically the whole of the forearm or over about half of the anterior aspect of the thigh, accompanied by a considerable amount of pain—sufficient in some cases to necessitate the protection of the skin from the pressure of the bedclothes. In addition to this local reaction there was a marked constitutional effect manifested by fever and sometimes by vomiting. When the diluted filtrate was employed the local reaction was generally less pronounced, and consisted in a small central elevated papule surrounded by a zone of redness of the size of a one- to two-shilling piece; the lesion was painful and it was noticed that this pain did not subside till after the erythema and oedema had disappeared. As regards the results obtained by the use of this method it was found that in fifteen cases of typhoid fever the reaction was negative, whereas in twelve cases in the convalescent or cured stage the reaction was strongly positive. In eleven patients suffering from diseases other than typhoid fever it was positive; it was likewise positive in a normal individual. The authors conclude from this that during the febrile stage of typhoid the intradermal reaction is negative, but that as soon as convalescence sets in and the patient becomes convalescent it changes to positive. Only two exceptions were noted—a positive reaction in a case of typhoid and a negative one in a homipleptic patient 72 years of age. Those results are different in many respects from those found in other diseases, and the authors realize that more confirmation must be obtained before they can be accepted.

#### 222.

#### Vitamins in Cow's Milk.

ETHEL M. LUCE (*Biochem. Journ.*, No. 6, 1924, p. 1279) finds that the diet of a cow is the principal factor in determining both the growth-promoting value and the antirachitic value of her milk. When the diet is deficient in fat-soluble vitamins, sunlight, of summer intensity in this country, has no appreciable effect in raising the growth-promoting value of the milk, though it appears to have some small influence over the antirachitic value. The converse of this has also been shown to occur, for when a cow was fed upon fresh green food in the absence of light, an increased "growth value" of the milk was observed, without corresponding improvement in the antirachitic value.

#### 223.

#### A Filterable Virus in Rabbits.

C. P. MILLER, C. H. ANDREWES, and H. F. SWIFT (*Journ. Exper. Med.*, December 1st, 1924, p. 773) report the discovery of a filterable virus infection of rabbits, communicable from one animal to another; the rabbits after such inoculation eventually become immune. The authors discovered this virus while studying rheumatic fever and using rabbits as experimental animals. In collaboration with Rivers and Tillett they found that the virus was identical with that described by these two authors as Virus III, which was discovered by Tillett when investigating experimental chicken-pox in rabbits; it was found eventually that it was not the cause of this disease. The discovery of this virus, the authors add, is of importance now that so much attention is being directed to filterable viruses in such diseases as encephalitis lethargica, since it will be necessary to immunize the rabbits to it before the investigation is commenced. The authors consider that such immunization is easily practicable, and that, after it, confusion in virus research is unlikely. They found also that the use of benzene did not appreciably increase susceptibility to the virus. They believe that the virus is probably present in apparently normal rabbits, but up to the present the ordinary course of the infection has not been brought to light.

#### 224.

#### Scurvy and the Ultra-violet Rays.

JANET H. CLARK (*Science*, January 9th, 1925, p. 45) calls attention to Lind's *Treatise on Scurvy*, written in 1757, in which it appeared to be indicated that the lack of sunlight, rather than the presence of moisture, might have been the cause of outbreaks of scurvy which occurred during the rainy season. She then reports three experiments in which groups of guinea-pigs were fed on different diets, all deficient in the antiscorbutic vitamin; these experiments showed that ultra-violet radiation was entirely ineffective in preventing or postponing scurvy. With diets in which other factors besides the antiscorbutic vitamin were lacking, ultra-violet light appeared indeed to hasten the loss of weight and subsequent death, and even to prevent recovery after the addition of vitamins to the diet. This, however, did not occur when a diet was employed in which the antiscorbutic vitamin alone was lacking.



# EPITOME OF CURRENT MEDICAL LITERATURE.

## Medicine.

### 225. Syphilis of the Liver.

L. BLUM (*Journ. de Méd. et de Chir. Prat.*, December 10th, 1924, p. 837), discussing the frequency of syphilitic infection of the liver, remarks that while some authors consider that the great majority of those diseases of the liver which are not due to any obvious cause are due to syphilis, others think that the importance assigned to this disease has been exaggerated. Blum believes it is incontestable that the number of cases of syphilis of the liver tends to increase, but suggests that this may be due to greater accuracy of clinical and serological diagnosis. The liver may be attacked by syphilis in its secondary and tertiary stages. In the former jaundice appears early, at first simulating the catarrhal type, but persisting for an unusually long time, or assuming the haemolytic type with consequent anaemia. No clinical sign distinguishes this syphilitic hepatitis from those forms due to some other toxic agent. In the tertiary stage the liver may be large, painless, and irregularly bossed; there may be ascites and symptoms of atrophy or hypertrophic cirrhosis; but single or multiple gummata are very rare. Syphilis and alcoholism are frequently associated, and in many cases a history of a chancre or a positive Wassermann reaction shows that syphilis is a modifying agent in an apparently common type of hepatic cirrhosis. A large gumma or massive hypertrophy of the liver may simulate primary or secondary carcinoma; or, again, a gumma in process of breaking down may be mistaken for hepatic abscess, more especially since it is usually accompanied by fever and pain. Another form of syphilis of the liver is characterized by pain in the hepatic and splenic regions, associated with a very definite peritoneal "rub." Blum adds that the diagnosis of hepatic syphilis is often difficult: there is always the possibility that an obscure hepatic disease may be syphilitic in spite of the absence of clinical and serological signs; or, again, a syphilitic patient may suffer from some concurrent hepatic disease such as catarrhal jaundice. In all obscure cases, especially those in which surgical intervention is contemplated, every method of diagnosis of syphilis should be employed, including (if necessary) the test of treatment. Blum considers that this is the most valuable means of diagnosis in obscure cases, but he states that all hepatic cases do not tolerate treatment well, especially if large doses are employed. These patients are particularly sensitive to arsenical preparations, which should be given cautiously; and it is advisable to prescribe mercury, iodides, and bismuth by the mouth before having recourse to intravenous injections of any arsenical preparations.

### 226. Glycaemia in Parkinsonian Syndromes and Paralysis Agitans.

U. DE GIACOMO (*Rif. med.*, January 5th, 1925, p. 1) studied the blood sugar in eight cases of the Parkinsonian syndrome following epidemic encephalitis and in five cases of typical paralysis agitans, with the following results. In patients with the post-encephalitic Parkinsonian syndrome hyperglycaemia was constant. The phenomenon could be attributed either to anatomical lesions in the higher nerve centres, especially the cortex, or to a special hepatic change which several observers have found in this disease. On the other hand, in patients with typical paralysis agitans hyperglycaemia was slight and inconstant. De Giacomo thinks that in all probability the hyperglycaemia in these cases was not connected with the disease itself, but with extrinsic factors, especially scintillia and cerebral arterio-sclerosis.

### 227. Concurrent Malaria and Paratyphoid Fever.

J. L. VAN BODEGOM (*Nederl. Tijdschr. v. Geneesk.*, December 27th, 1924, p. 3251) remarks that malaria is often a dormant infection which needs some factor, severe fatigue, childbirth, or even a psychical trauma such as fright, to rouse it into activity. He records the case of a lad, aged 19, who was suddenly taken ill with a temperature of 103.1° and epistaxis. The third day he complained of pain in the left hypochondrium and upper part of the back. The tongue was coated and the spleen palpable. Examination of the blood showed numerous malarial parasites. A gram of quinine was given daily for nine consecutive days, and the temperature showed some tendency to fall, but after the tenth day the quinine did not appear to have any effect, and the temperature rose rapidly. On the eleventh day the association of a pulse rate of 84 with a temperature of 102.4° F. suggested

the possibility of typhoid fever, but the blood culture and serum test were negative. On the fifteenth day rose spots appeared on the abdomen, chest, and inner side of the right arm, and on the seventeenth day the serum test was positive for paratyphoid B (1 in 500) though the blood culture remained sterile.

### 228. Leucocytosis in Vaccinia.

K. KATO (*Amer. Journ. Dis. Child.*, December, 1924, p. 710) made a study of the nature of the leucocytosis following vaccination in 153 children under 18 months of age, and found that there was always a definite leucocytosis, which was both primary and secondary. The primary leucocytosis began on the third day after vaccination, and represented the general reaction of the organism to the invading virus. The total white count in primary leucocytosis was not so high as that of secondary leucocytosis, being about 13,300 per c.mm. Primary leucocytosis lasted about four days, reaching its maximum on the fifth day after vaccination. The secondary leucocytosis, the true leucocytosis of vaccination, began on the twelfth day and lasted seven to ten days, the average count being 19,140 per c.mm. The total white count was at its maximum on the fourteenth day after inoculation. The differential count, examined at various intervals after inoculation, showed no significant variations from the normal.

### 229. Infectious Diseases with Identical Course in Twins.

P. LERBOULLET, F. SAINT-GIRONS, and DENOYELLE (*Le Nourrisson*, November, 1924, p. 392) report the following cases in which infectious diseases in twins ran an almost identical course. The first pair of twins were sisters, aged 16 months, suffering from bronchopneumonia, which was treated by antipneumococcal serum. Both twins developed the serum rash at the same time. Both died within twenty-six hours of one another, and the autopsy showed identical pulmonary lesions in both cases. The second pair were sisters, aged 9, who contracted a severe attack of diphtheria within one day of each other. In both the serum eruption and paralysis of accommodation occurred at the same time, but one of the two developed strabismus as well. Both had paralysis of the palate, which occurred in one child forty-eight hours later than in the other, and both had difficulty in walking.

### 230. Epidemiology of Diabetes Mellitus.

H. EMERSON and LOUISE D. LARIMORE (*Arch. Intern. Med.*, November, 1924, p. 585), from a survey of numerous mortality statistics, conclude that the increase in the incidence and death rate of diabetes in the United States, and in New York especially, has been more rapid than that of any other disease recorded during the last fifty years. The highest death rate was among Jews, the lowest among the negro race in the United States. The relative rarity of diabetes amongst rural workers and those engaged in hard manual labour or trades would appear important; but lack of a satisfactory basis for calculating death rates according to occupation deprived the statistics of much of their value. The authors remark that, as regards geographical distribution in the United States, high death rates were found where there was a high proportion of the population in the later decades of life, after 45, where there were many Jews, and where individual wealth was prominent. Changes in food habits in the United States had probably contributed to the increase of diabetes, the higher carbohydrate element and greater abundance, or overalimentation, being believed to be a cause of overfatiguing the function of sugar tolerance. The question of the well established relationship between the increase of diabetes and the increased sugar consumption is discussed, but the latter is regarded as a sign of the tendency to excess of food of all kinds. The authors urge the importance of informing the public of the necessity of adjusting the food intake to exercise, and vice versa.

### 231. Orthostatic Albuminuria.

H. UYEDA (*Mittell. a. d. med. Fac. d. Kais. Univ. z. Tokyo*, November 4th, 1924, p. 247), who reviews the literature and records his observations on thirteen typical cases of orthostatic albuminuria in adult males, found that albuminuria following lordosis in the erect posture was greater than in recumbent lordosis. A very few casts, mostly hyaline and occasionally granular, red cells, and renal epithelium were to be seen in the urine after erect and recumbent lordosis. Chondroinuria was usually increased after both forms of lordosis, and there



was at the same time an increase in the acidity of the urine. As a rule it required about an hour for a recumbent kyphosis to cause the albuminuria to disappear. In exceptional cases a longer period, sometimes as much as eight hours, was needed. Although many individuals with orthostatic albuminuria showed a special sensitiveness for atropine, orthostatic albuminuria is not associated with any particular constitution. Of the signs indicating unstable equilibrium of the sympathetic nervous system the oculo-cardiac reflex was most often present in orthostatic albuminuria, respiratory arrhythmia was less frequent, and dermatographism was rarest of all. In some cases, in spite of the kyphotic position, albuminuria could rarely be produced by injection of adrenaline and pilocarpine. In such cases there was usually a lack of sensitiveness to these drugs. Suppression of albuminuria caused by erect or recumbent lordosis could usually be effected by injection of atropine, adrenaline, or pilocarpine. The majority of cases of orthostatic albuminuria react very distinctly to atropine. The suppression of erect or lordotic albuminuria by atropine shows that orthostatic albuminuria is not to be explained merely by renal congestion.

### 232. Complications in Diabetes.

M. ROSENBERG (*Klin. Woch.*, January 22nd, 1925, p. 159) draws attention to the remarkable fact that, whilst most complications of diabetes (especially septic complications) diminish the sugar tolerance and increase the risk of coma, certain complications cause the glycosuria to subside. In mild diabetes with increasing arterio-sclerosis in the heart and kidneys the glycosuria may disappear and only the hypoglycaemia may remain. Also in cirrhosis of the liver complicating diabetes the glycosuria may disappear; and the same disappearance of glycosuria has been often recorded in diabetes complicated by phthisis. Many instances of such diminution or disappearance of glycosuria in diabetes have been recorded and different explanations have been advanced. Rosenberg records four cases of severe diabetes in which remarkable increase of the carbohydrate tolerance and diminution of the acidosis occurred. In one case complete disappearance of the glycosuria and acidosis was observed on an almost normal diet, when complications developed. In three of the cases the complication was pulmonary tuberculosis; in one case bronchitis and empyema. Such a complete change in the metabolism has been attributed by some authors to marked diminution of the body tissue. Rosenberg considers that in his cases this view was not tenable, and that there must be some other cause for the pronounced increase in carbohydrate metabolism.

## Surgery.

### 233. Conversion of a Pelvic Sarcoma Into an Osteoma.

H. WACHTEL (*Journ. de Radiol. et d'Electrol.*, December, 1924, p. 543) describes the case of a girl of 18 who had suffered from pain in the right hip for two years. A tumour as large as a child's head developed and caused pain in walking; for some months progressive cachexia was present. A skiagram showed extensive decalcification and destruction of the right iliac crest, with some decalcification of all the pelvic bones. The deep abdominal glands were palpable and tender. In September, 1922, one of these glands and a small portion of the tumour were excised and the wound closed; both showed a sarcomatous condition with giant cells. The patient's weight was only 7 st. Above the left iliac fossa a chain of partly adherent glands, varying in size from that of a filbert to that of an apple, could be felt. Five daily applications of x rays, each of twenty-five minutes' duration, were made over the anterior surface of the tumour; 10 Holtzknicht units with a current of 1.5 milliamperes with a 2 mm. aluminium filter and skin-focus = 24 cm. The results were surprising; the circumference of the body at the tumour level was reduced from 35 to 32 inches, and the area of the projecting portion of the tumour was reduced by 2 inches. During the next five days similar doses were applied to the posterior wall of the pelvis. The patient gained 5½ lb. in seventy-two days. The treatment was continued at intervals of two months. The only effect on the skin was the production of slight erythema with subsequent pigmentation. In February, 1923, the glands on the left iliac crest were slightly smaller and painless, and skiagrams showed extensive recalcification of the pelvic bones. The patient continued to gain in weight; menstruation had been absent for some months prior to the commencement of treatment, but in June, 1924, it had become regular and the patient weighed 9½ st. As the patient made such rapid progress it had been decided to discontinue irradiation after the third series, which commenced on January 23rd, 1923. At the time of reporting the "reconstructed" bone was thickened and irregular, presenting the appearance of a series of exostoses, while the original osteo-

sarcoma appeared to have been converted into an osteoma. The patient was still under periodical observation on account of the well known fact that sarcomata, apparently cured by irradiation, may recur locally or by metastasis.

### 234. Perinephritic Abscess.

V. C. HUNT (*Journ. Amer. Med. Assoc.*, December 27th, 1924, p. 2070), from a review of the literature and consideration of 106 cases of perinephritic abscess in the Mayo Clinic, concludes that there is no instance in which primary infection of the perirenal tissues resulted in abscess formation independent of primary renal or extrarenal infection. Such abscesses may be of renal origin, resulting from pyonephrosis, lithiasis, tuberculosis, or traumatism; of extrarenal or metastatic origin; or may be produced by direct extension. He concludes that early drainage with primary or secondary nephrectomy gives the best results, simple primary drainage frequently reducing the risk of a later nephrectomy. An abscess secondary to lithiasis, and with little renal damage, generally responds to removal of the stone and simple drainage. Metastatic abscesses or those secondary to single cortical abscesses seldom require more than simple drainage. N. F. OCKERBLAD (*ibid.*, p. 2074) reports ten cases of perinephritic abscess in which a careful urological examination was made. Diagnosis of the condition rests mainly upon pain, loin tenderness or swelling, remittent fever, and a high leucocyte count. It is pointed out that in all the cases the urological examination of each kidney gave findings which determined the line of treatment. Seven of the abscesses were right-sided and three left-sided; five patients were treated by nephrectomy and drainage, and five by drainage alone. Early operation based upon a complete urological examination is advocated.

### 235. Ostitis after Dental Extractions.

M. MELCHIOR (*Ugeskrift for Læger*, January 8th, 1925, p. 23) gives an account of fourteen patients who, long after a dental extraction, suffered from a chronic destructive ostitis, with the formation of a cavity, as small as a pea or as large as a walnut, in the jaw. Such cases, he thinks, cannot be very rare, as these fourteen patients were seen within a period of three years. Nearly all of them had been previously treated without the correct diagnosis being made, and it would seem that ignorance of the existence of this condition is the chief reason for its being neglected. In six cases there was an interval of two to fifteen years between the dental extraction and the diagnosis of the ostitis. Chronic periodontitis being very common, the author asks why the extraction of the offending tooth so seldom gives rise to the chronic ostitis he describes, and he suggests that the development of this condition may depend on several factors, such as advanced inflammatory disease at the time of the extraction, the existence of a granuloma which is not wholly removed when a tooth is extracted, and severe injury to the bony structures at the time of the extraction. The bony cavity always communicates with the mouth by one or more fistulae, and in many cases the symptoms may be absent or only slight, such as a little local tenderness. But there may be severe pain and tenderness, as well as trigeminal neuralgia. In addition to the local discomfort and pain, there is always the possibility of a more generalized infection, and for this reason, and because there is no prospect of spontaneous recovery, radical operative treatment is required.

### 236. The Surgical Treatment of Angina Pectoris.

D. DANIELOPOLU (*Bull. et Mém. Soc. Méd. des Hôpitaux de Bucarest*, October, 1924, p. 193) repeats his assertion that the ideal surgical treatment of angina pectoris is the removal of the largest number of cardio-aortic sensory fibres with the least possible injury to the efferent fibres, the division of the latter being likely to produce serious results. He condemns Jonnesco's operation (cervico-thoracic sympathetomy), which fulfils the first condition but ignores the second. The latter is the more important condition, since when the division of the cardio-aortic sensory fibres is incomplete the operation may not relieve the patient, but when the cardiac motor fibres are divided there is great danger of death from acute myocardial failure or from acute pulmonary oedema. At a congress in Vienna in March, 1924, Brünning alone recommended cervico-thoracic sympathetomy, having had one successful case; but in all cases so far recorded the fatalities outnumber the successes. Daniélopou adds that surgical intervention in angina pectoris is made more difficult by its anatomical variations of the cervical sympathetic and its branches, and that some authors make a mistake in not recognizing the depressor nerve as a cardio-aortic sensory nerve. He believes that there are two groups of sensory fibres—ascending and lateral. The former pass upwards from the cervical spinal nerves, cervical sympathetic, and vagus; the latter run in the rami communicantes which connect the first thoracic and inferior cervical ganglia with

the eighth cervical and first four dorsal spinal nerves. The author considers it probable that the cervical sympathetic contains the greater number of the cardio-aortic sensory fibres, and states that there is little danger in excising the superior ganglion, the middle ganglion (when present), and the sympathetic trunk to a point just above the inferior cervical ganglion. The cardio motor fibres run chiefly through the inferior cervical and first thoracic ganglia; any motor fibres contained in the branches of the sympathetic above this point may, he adds, be divided without risk, provided that the inferior cervical and first thoracic ganglia are not damaged. Danićopolu remarks that it cannot be repeated too often that it is never necessary to touch the inferior cervical and first thoracic ganglia, as the extirpation of the cervical sympathetic must terminate at a point above the former. As the left side of the heart is the chief site of pain during an anginal attack, it is advisable to operate first on the left cervical sympathetic. It is probable that in the majority of cases an operation on the left side only will suffice.

### 237. Blind-end Circular Suture of Intestine.

W. F. REXNORTH, junior (*Bull. Johns Hopkins Hosp.*, January, 1925, p. 81), reports a case of sigmoid carcinoma treated by Halsted's method of blind-end circular suture of the intestine. The bowel was clamped 2½ inches above and below the growth, and four purse-string sutures were inserted, between each pair of which the bowel was divided with the cautery. Two mattress sutures were placed on both sides of and immediately in the mesentery, one in the anterior mesenteric border and one on each side of the lateral borders of the intestine. Others were placed about one-tenth of an inch apart and reinforced by interrupted sutures, making about sixteen sutures in all. A cork-tipped knife was inserted per rectum to the point of anastomosis, and, after removal of the tip, was passed through its centre, cutting the purse-string suture. After its withdrawal a bougie was passed to dilate the opening further. It is stated that the advantages of the operation are that there is no soiling, and post-operative adhesions are avoided. It is claimed that it can be more rapidly executed than open anastomosis, necessitates less handling of the bowel, provides ideal peritoneal apposition, and, by permitting the insertion of a rectal tube beyond the line of anastomosis, obviates the necessity for a colostomy, so preventing post-operative discomfort and distension. The author advocates its performance in selected cases, especially those in which the growth is localized and the performance of a lateral anastomosis would necessitate undue stretching and subsequent tension.

### 238. Afebrile Erysipelas.

A. TATA (*Studium*, January 20th, 1925, p. 22) reviews the literature, and records the case of a boy, aged 10, who presented all the characteristic features of facial erysipelas, but without any rise of temperature or any cerebral symptoms due to the action of streptococcal toxins on the brain, such as delirium, loss of consciousness, or headache. Complete recovery followed in the course of ten days after treatment by local applications of guaiacol oil and injections of colloidal preparations. Tata quotes other examples of afebrile erysipelas from the textbooks of Mohr and Stachelln, Fecr, Rummo, Leube, and Zagari, and regards such cases as an expression of an infection attenuated by the systemic defences of the individual.

### 239. Peptic Ulcer after Gastro-enterostomy.

D. MARIO and F. RICCIO (*Arch. Ital. di Chir.*, December, 1924, p. 821), in view of the various opinions as to the cause of this ulcer, have carried out a series of experiments on dogs to elucidate the problem. They first discuss some of the explanations hitherto advanced, such as the traumatic, peptic, vascular, infective, and diathetic theories. They then describe their experiments on twenty-six dogs, divided into six groups according to the nature of the operation—gastro-enterostomy, duodenal exclusion, pyloric resection, with various types of anastomosis. With one exception none of these operations was followed by ulcer, and the authors conclude that if useless traumatism, sepsis, and the use of non-absorbable sutures in the mucous and muscular layers are avoided no ulcer will follow. One source of ulcer may be interference with the nerve ganglia in ampie resections, coupled with the toxic power of stagnant duodenal contents and a concentration of digestive juices. Silk sutures, they add, should be avoided except for the sero-muscular coats, and as far as possible clamps should not be used. Sutures should not perforate the mucosa. It is important to secure that the new stoma should function properly. Removal of the pyloric part does not seem to increase the peptic power of the gastric juice, and Mario and Riccio agree that the healthy jejunal mucosa is absolutely indifferent to the gastric secretion.

## Therapeutics.

### 240. An Internal Urinary Antiseptic.

V. LEONARD (*Journ. of Urology*, December, 1924, p. 585) reports the discovery of an internal urinary antiseptic which is non-toxic and a most powerful germicide. He found that by increasing the molecular weight of the alkyl chain in alkyl resorcinols a pronounced increase in bactericidal quality was obtained with a coincident diminution in toxicity to laboratory animals. Thus, whereas the phenol coefficient of resorcinol was 0.3, in the case of isobutyl resorcinol it was 15.2, and in hexyl resorcinol 45. The bulk of each oral dose given is excreted as an inert compound; therefore a dose of 0.3 to 0.6 gram three times a day is necessary to ensure a practically continuous flow of bactericidal urine. The substance appears to be inert in its passage through renal epithelium, and is therefore of little, if any, value in the case of infections which have invaded the parenchyma of the kidney. Urinary infections due to Gram-positive cocci were found usually to clear up quickly and permanently after oral administration of hexyl resorcinol, and *B. coli* infections were similarly cured if the bacterial count in the urine was low. But with the usual high count of *B. coli* infections the mass action of the free hexyl resorcinol excreted in the urine was insufficient to complete the disinfection until the count was reduced by local treatment. Persistent treatment for from thirty to sixty days was generally necessary in these cases. Prolonged administration appeared to result in no injury to the kidney or irritation of the urinary tract. The bactericidal action was unaffected by changes in the reaction of the urine. Leonard recommends that hexyl resorcinol should be administered in capsules or pills coated with salol to prevent or retard their disintegration in the stomach. He finds that it forms a very soluble non-irritating salt in the alkaline intestinal fluids.

### 241. Treatment of Anginal Attacks.

L. STEIN (*Med. Klin.*, January 18th, 1925, p. 95) specially recommends nitroglycerin in the treatment of angina pectoris. Though it was strongly recommended by Nothnagel, and though its action is everywhere recognized, it is relatively seldom used in Austria. Nitroglycerin can be taken for long periods without bad effects; the author mentions a patient who was ordered daily two tablets, each containing 1/2 mg. of the drug, for a time, but instead of following these instructions he took four or five tablets daily continuously for twenty years, until his death from pneumonia at the age of 85. The author also advises morphine (which many fear to give). It relieves the pain and the spasm of the coronary vessels, and often saves life. Dry warm local applications are of service. By permanently diminishing the blood pressure the frequency and intensity of the attacks are reduced. Stein adds that though different views are held as to the mode of origin of anginal attacks, it is certain that they occur only when the blood pressure is high. The indication for checking the attacks of angina (in addition to other treatment) is the diminution of the blood pressure by suitable diet and by the administration of theobromin and diuretin for many years.

### 242. Autoserums in Chorea.

J. DINER (*Med. Journ. and Record*, January 21st, 1925, p. 91) reports fifty-nine cases of chorea minor treated successfully by intraspinal injections of the serum of the patient. Only one had a recurrence of choreiform movements two and a half years later, and these subsided after a week in hospital. Although the suspicion of a focal infection cannot always be substantiated many patients give a history of previous infection, and the author claims that the autoserum treatment has been so successful as to warrant further investigation. He believes that the passage of substances from the sub-arachnoid spaces to the blood takes place more easily than in the opposite direction, especially when there is an increased intraspinal pressure. Assuming chorea to be an infection in the cord, he thinks that the antigen reaching the circulation stimulates the production of antibodies which cannot get back into the spinal fluid owing to the lower pressure in the circulation and the obstacle of the choroid plexus. The introduction of the patient's serum rich in antibodies direct into the spinal space overcomes the infection. Diner gives notes of a case of a boy, aged 16, with the mentality of a boy aged 8, who had had several attacks of chorea variously treated without relief, in whom autoserum treatment caused cessation of the choreic movements within six days. For some time he was given anterior lobe pituitary gland extract, and two and a half years later he had improved mentally, and physically "beyond recognition" and was giving satisfaction as a clerk in an office.

## 243. Treatment of Typhoid Fever.

J. CHALIER and A. TOUR (*Lyon méd.*, December 21st, 1924, p. 781) have treated forty-four cases of typhoid fever by intravenous injections of hexamethylene tetramine associated with baths at a temperature of 82.4° F. The patients received daily doses of 10 c.cm. of a 20 per cent. solution, which was equivalent to 2 grams of the drug, and the treatment was continued until the temperature became normal, which required from two or three to four or five days. When the injections were carried out correctly there was no local reaction or pain at the site of injection, and the veins remained indefinitely permeable. The injections were well borne as a rule. No pruritus, eruption, circulatory disturbance, vomiting, or dysuria were observed. Shock was exceptional; it was noted in only five or six cases, and with one exception was slight, consisting in shivering and some rise of temperature. Although hexamine given by mouth gives rise to haematuria in from 7 to 12 per cent. of all cases of typhoid fever owing to the occurrence of vesical congestion, it was not found in any of the authors' cases in which the drug was given intravenously. With few exceptions the injections were followed by a diminution of delirium, stupor, fever, and diarrhoea, an increase of diuresis, and a general improvement. In no case did intestinal haemorrhage occur. Four patients died—a mortality of 9 per cent.—but one of the fatal cases was associated with a polycystic kidney, and the others were examples of typhoid fever following consumption of oysters; the gravity of these cases is well known.

## 244. Treatment of Tuberculosis by Ethyl Morrhuate.

A. GRIGAUT and A. TARDIEU (*Bull. Soc. de Thér.*, December 10th, 1924, p. 324) review the literature, especially the papers by Leonard Rogers (*BRITISH MEDICAL JOURNAL*, February 8th, 1920, and December 29th, 1923) on the treatment of leprosy and tuberculosis by sodium morrhuate, and remark that the drug has serious drawbacks which prevent its being widely used. In the first place it is an unstable product and can only be injected in a freshly prepared solution. Secondly, it often gives rise to a febrile reaction and swelling and redness at the site of injection, and is particularly liable to cause violent reactions in tuberculous foci. Thirdly, it is only soluble in water and quite insoluble in oil, so that it can only be used in subcutaneous or intravenous injection, while the tracheal route, which is the ideal method for treatment of pulmonary lesions, is impossible. To remedy these defects the authors have prepared the ethylic ether of morrhuate acid, or ethyl morrhuate, which is a stable body, insoluble in water, but soluble in oil, and only very slightly toxic, as shown by experiments on dogs. It has a pronounced cardiotonic action and is therefore of special value in phthisical patients, who frequently show tachycardia and signs of cardiac failure. The authors employ 5 to 10 per cent. solutions of ethyl morrhuate in olive oil for tracheal injections in pulmonary tuberculosis, but their observations have been too recent to justify any opinion as to the efficiency of the treatment. In subcutaneous injection ethyl morrhuate does not give rise to any local or general reaction in doses of under 1 c.cm., but when this dose is reached a slightly painful induration occurs at the site of injection at the end of twelve to twenty-four hours, and is only slowly absorbed.

## Dermatology.

## 245. Scrofuloderma Gummosum.

H. S. MICHELSON (*Arch. Derm. and Syph.*, November, 1924, p. 565), who records three illustrative cases, gives the name of "scrofuloderma gummosum" or "tuberculosis colligativa" to a distinct type of cutaneous tuberculosis, which does not necessarily arise from tuberculous glands or bones but may begin in the cutis or subcutaneous tissues. The condition is most frequent in children, in whom the skin overlying tuberculous glands, bones, or joints is likely to be affected. In adults the face, neck, and areas over bony projections and epiphyseal regions are most often invaded. The onset is usually insidious with an indolent infiltration of the skin or subcutaneous tissue. There may be a solitary node, a group of several nodes, or a conglomerate mass which may remain unchanged for weeks, causing no pain. A slight inflammatory zone then develops about these areas, and considerable pain arises. The overlying skin becomes discoloured and the central portion softens. The onset gives issue to only a small amount of fluid, but on incision perforation takes place several small openings may form simultaneously with slow elimination of their contents. Superficial tracks may develop along the lines of the lymphatics forming the so-called tubular scrofuloderma. After perforation fistulae, abscesses, and ulcers result, and may remain unaltered for a long time. The edges of the ulcers are thin, frayed out, and undermined, sometimes

sorapigulous. The base is granular, and the discharge consists of a tenacious pus. The condition is most likely to be confused with a syphilitic gumma. In the nodular stage clinical differentiation is sometimes almost impossible, but after ulceration the distinction may be somewhat easier. When the lesion is over a projecting bone the conditions are almost identical and the diagnosis must depend on the serological and bacteriological findings. Age is of some help in that tuberculosis is commoner in childhood and adolescence, especially in the cervical region. The evolution is as a rule more rapid in tuberculosis. Scars when present are a help: the syphilitic scar is thin, glistening, and almost transparent, with a pigmented areola, while in tuberculosis there is a thick heavy keloid-like scar which may cause distortion of the part. Sporotrichosis is differentiated by the arrangement of the lesions along the lymphatics, the acute onset, crateriform, superficial elevated lesions, and the results of cultures. The prognosis depends on the strength of the individual. There is usually a marked tendency to spontaneous healing, but local recurrences are common. There is no specific therapy, but x rays, heliotherapy, and tuberculin have been recommended. General treatment is the same as in any form of tuberculosis.

## 246. Treatment of Hypertrichosis.

T. KATZ (*Dermat. Woch.*, November 15th, 1924, p. 1492) states that epilation for hypertrichosis has always been disappointing hitherto. The use of x rays has not fulfilled previous expectations, the risk of damage to the skin even with filtered rays far outweighing the prospects of success. The most practical method hitherto employed, rendering the hairs invisible by bleaching them, is only suitable when the individual hairs are fine, since thick and bristly hairs are as unsightly when bleached as when they are dark. Electrolysis of each individual hair demands much time and care from the practitioner and causes considerable pain to the patient, with little prospect of success. Katz has recently obtained excellent results in the treatment of hypertrichosis by diathermy. The hair papilla is destroyed by heat with a relatively weak current in one to two seconds. The pain caused by this method is comparatively slight, being much less than that produced by electrolysis. He adds that after treatment by diathermy the hairs are easily removed by forceps. Necrosis and scars are not more frequent than after electrolysis, and are best prevented by using a current which does not cause more than a slight feeling of heat.

## 247. Urticaria Pigmentosa.

M. G. HANNAY (*Brit. Journ. Derm. and Syph.*, January, 1925, p. 1) reports an experience of over seventy cases of urticaria pigmentosa occurring in adults over 15 years of age. He sees no reason for separating cases of chronic pigmentary urticaria from urticaria pigmentosa, either on grounds of age incidence, clinical characteristics, or absence of mast cells. Although a certain type of infantile urticaria pigmentosa may be rare in adults, the clinical features usually occurring in adults are often seen in children and do not constitute a distinct adult type. All degrees of mast-cell infiltration occur in both types, and cases clinically resembling urticaria pigmentosa occur in which mast cells are absent. Mast cells may be more constantly present in infantile cases, but their absence does not appear to be dependent upon the age either of the patient, or of the onset, or of the lesion. No definite clinical characteristic, such as the degree of urticarial reaction, or the size, colour, or type of the lesion, distinguishes mast-cell-free cases from others.

## 248. Tuberculosis of the Face simulating Oriental Boli.

A. LOUSTE, L. LOUET, and J. DARQUIER (*Bull. Soc. Française de Derm. et de Syph.*, December, 1924) report the case of an Armenian boy, aged 15, in whom a small nodule, the size of a lentil, appeared on the left cheek shortly after his arrival in France in May, 1924. It was cauterized with silver nitrate, but continued to grow until, on admission to hospital in November, it was as large as a 5-franc piece, and projected 1 cm. above the surrounding tissues. The peripheral portion was slightly nodular and of a reddish-violet colour; the centre was ulcerated and covered with yellowish-brown scaly crusts; the ulcer was deep red, without granulations, and did not suppurate or bleed. The tumour was somewhat soft and rested on an indurated, though slightly infiltrated, base. At the periphery the inflamed lymphatics could be rolled under the finger, and at the angle of the jaw an inflamed lymph node as large as a hazel nut could be felt. All the internal organs were normal. The clinical appearances and the histological findings suggested the diagnosis of Oriental Boli. The analysis of the blood and serum from the ulcer gave negative results. A section showed many giant cells in which the Ziehl-Neelsen stain showed numerous tubercle bacilli; these were also found in certain areas in which caseation was proceeding. It was thus recognized as

being a typical tuberculous lesion undergoing degeneration without fibrosis. Jeansolino, discussing the case, observed that, whilst it was possible to mistake cutaneous tuberculosis for Oriental boil, the converse error occurred more frequently. He related the case of a medical officer from a region of the Sahara in which Oriental boil was endemic. The whole of the left cheek and ear were covered by a lupoid dermatitis which disappeared spontaneously three weeks after the patient's return to France. A similar case was that of a priest who had been to Palestine; he had numerous sluggishly-ulcerating areas in the presternal region which were thought to be tuberculous. They healed spontaneously. It is added that the presence of giant cells does not settle the question; Leishman-Donovan parasites and tubercle bacilli must be sought in the tissues, since the pus may be sterile.

## Obstetrics and Gynaecology.

### 249. Operative Treatment of Contracted Pelvis.

G. FOSSATI (*Ann. di Ostet. e Ginecol.*, December 31st, 1924, p. 611) discusses the scope and results of operations designed to secure permanent enlargement of contracted—especially flat—pelves. These operations are: (1) the Rotter-Mauglagalli resection of the sacro-vertebral angle; (2) Costa's partial superior symphysiotomy, in which a wedge-shaped portion of the postero-superior part of the pubes is removed, extending between the two pubic spines (1920); (3) a combination of these two operations. Recently one or other of these methods has been combined with Caesarean section. The immediate maternal prognosis has been uniformly good; with regard to the foetal prognosis, Costa reports one foetal death only in twenty-three cases, but in the present paper Fossati records seven cases of Costa's operation with only four survivals of the infant. As proof of the benefit conferred by the permanent lengthening of the pelvic conjugate Schmid has recorded six instances (in two patients) of live and, as a rule, spontaneous birth in pregnancies occurring subsequently to excision of the sacro-vertebral angle; Fossati has seen two similar results after the same operation; and Fraenkel witnessed an equally gratifying sequel after resecting the promontory in a flat pelvis with a true conjugate of 6.5 cm. Three cases have already been reported, and Fossati cites another, of spontaneous delivery of a live child at term in pregnancies following Costa's operation. Turning to technique, Fossati recommends that in resection of the sacral promontory a collar of periosteum should be removed around the excision of bone, to avoid production of spurious bony upgrowths, as reported by Schmid; rather than excise two bulky portions from this region it is better to combine the operation with Costa's procedure. Symphysiotomy is recommended in cases of true conjugates down to 8 cm.; the combined operation for conjugates of 8 to 7 cm. In spite of Fraenkel's successful case, already quoted, the advisability of extending the operations to pelvis having a conjugate of less than 7 cm. is questionable. Fossati points out that there is much to be said for combining Costa's operation with Caesarean section in cases seen at a stage when the latter is possible. If labour is terminated naturally after symphysiotomy the foetal life is to some extent endangered by uterine inertia and the effect of narcotics. He is convinced that at the operation of Caesarean section for dystocia due to pelvic contraction only it is correct to carry out one or other of the procedures which permanently enlarge the pelvis; if this is done there is a good prospect of spontaneous termination of subsequent pregnancies and second Caesarean operations will become rare.

### 250. Caesarean Operation in Two Stages.

L. CLEIZ (*Bull. Soc. d'Ostet. et de Gynecol. de Paris*, 1924, 9, p. 725) records four cases of Caesarean section followed by temporary "exteriorization" of the uterus, which was restored to the pelvis at a subsequent operation. This two-stage operation was first performed by Portes (*Epitome*, December 6th, 1924, para. 454). The first patient, a primipara aged 42, suffered from mitral disease, with failing compensation towards term. Twenty-one hours after the beginning of labour, and thirty-seven hours after rupture of the membranes, the head was not engaged, the liquor amnii was infected, and the maternal condition was grave. A living hydrocephalic infant weighing 3,700 grams was extracted. The second operation was performed thirty-three days later; drainage was not required. The second patient, a primipara aged 29, had a contracted pelvis; the first operation was performed forty-one hours after the beginning of labour, and the second twenty-eight days later. The third patient, whose uterus was myomatous, had been in labour sixty-eight hours; the uterine sutures gave way and a haematoma larger than the uterus formed in the broad ligament, but the patient

made a good recovery, hysterectomy being performed on the thirty-fifth day. The fourth patient came to operation with a temperature of 101.8°; general peritonitis ensued, and she died after hysterectomy on the fifth day, but the infant was saved. P. GUTHRIE (*ibid.*, p. 725) describes a successful two-stage operation in a case of impacted shoulder presentation. At the second operation on the forty-fifth day the uterus had disappeared beneath the integument and only the adnexa were still external to the skin. Six weeks later the uterus was of normal size and mobility.

### 251. Spontaneous Delivery of Hydrocephalus.

G. VAN DEN BERG (*Nederl. Tijdschr. v. Geneesk.*, December 20th, 1924, p. 3137) records the case of a primipara, aged 23, who had been pregnant twenty-eight weeks and in labour fourteen hours, in whom spontaneous delivery of a hydrocephalic child took place by head presentation. When the umbilical cord, which was coiled round the neck, was divided the rest of the child was easily born. The head was nearly twice the normal size, and the face was very asymmetrical. There were a spina bifida with much kyphosis and bilateral club-foot. The child gave no sign of life, although it did not show any cyanosis. Artificial respiration in a warm bath had no effect, which was probably due to the fact that the cranial cavity merely contained fluid, without any active respiratory centre.

### Chronic Cervicitis.

B. Z. CASHMAN (*Amer. Journ. of Obstet. and Gynecol.*, November, 1924, p. 628) doubts whether the problem of cancer of the cervix will ever be attacked with any degree of success until the precancerous condition of chronic cervicitis is extensively treated. He insists that chronic cervicitis can only be effectively dealt with by eradication or destruction of the deep glands of the cervix, and recommends cauterization of the cervical canal followed by careful after-treatment so that stenosis may be prevented. Cashman believes that cauterization may be conveniently performed during such an operation as appendectomy under general anaesthesia if any cervical lesions are present. After dilatation of the cervical canal to its full extent the whole of the cervical canal to a depth of one-eighth of an inch should be cauterized with the electro-cautery knife. At the external os six or eight radial incisions are made a quarter of an inch in depth and prolonged well on to the vaginal portion of the cervix. The treatment is concluded by a second thorough and complete dilatation of the cervix being made. Cashman remarks that this procedure constitutes a major operation and should not be considered as out-patient treatment.

### 253. Pregnancy and Heart Disease.

K. BJERRING (*Egeskrift for Læger*, January 29th, 1925, p. 95) finds, from a study of the literature on this subject that the view generally accepted during the latter part of the last century, that pregnancy exerts a most sinister influence on heart disease, is no longer held. It has given place to the conviction that the seriousness of the complication of heart disease has been much overrated. The author's own material consists of 9,800 women confined at a maternity hospital in Denmark. Among them there were 87 who suffered from heart disease, and as some of them were confined more than once there was a total of 107 confinements complicated by heart disease. After comparing his own statistics with those of others, the author concludes that from 1 to 2 per cent. of all confinements are complicated by heart disease. In his own material there were 48 cases of mitral regurgitation, and 21 of mitral regurgitation with mitral stenosis; there was not a single case of aortic regurgitation. The ratio of primiparae to multiparae was as 38 to 49, and the ages ranged from 17 to 44 years. In 60 per cent. there was a history of rheumatic fever, and in 25 per cent. there was no history of any infection which might have caused the heart disease; in the remainder there was a history of such diseases as diphtheria and scarletina which might have been responsible for the heart disease. Of the 107 pregnancies, as many as 53 were unassociated with any cardiac symptoms. In 23 cases the slight cardiac symptoms existing before pregnancy did not become worse while it lasted. In some other cases there was a slight aggravation of the symptoms during pregnancy, and there were only 11 cases in which severe and alarming symptoms complicated pregnancy; among these there were 6 cases terminating fatally soon after confinement. But the confinement could not be held responsible for all these deaths, and the author concludes that the risk of confinement killing a patient because she suffers from heart disease is less than 1 per cent. The risk, he finds, is greatest for elderly multiparae, and he is very sceptical as to the necessity for terminating pregnancy in most cases of even serious heart disease, although he admits that on very rare occasions the artificial interruption of pregnancy may be justifiable.



## Pathology.

### 254. Primary Thrombo-phlebitic Splenomegaly.

C. FRUGONI (*Arch. di Patolog. e Clin. Med.*, December, 1924, p. 574) describes five cases of thrombo-phlebitic splenomegaly. He points out that this disease is of a primary nature and must be distinguished from cases in which the thrombo-phlebitis is secondary to morbid processes in the vicinity of the spleen. Of the five cases three occurred in children and two in adult males. The course of the disease was extremely variable; one child, for instance, died in two years from the start, another died after the disease had lasted for thirty-seven years, and another was still alive after twelve years. The symptoms, too, varied to a certain extent, but the general picture was a splenomegaly accompanied by anaemia of the secondary type with leucopenia, followed later by repeated haematemesis and melæna, fever, and ascites. The enlargement of the spleen was very marked, but it varied in degree from time to time. The anaemia was not absolutely constant; it was particularly noticeable after haematemeses, when the red cells fell to between one and three million per cubic millimetre, with a colour index of about 0.5; the white cells were generally between one and three thousand per cubic millimetre, and this leucopenia was not infrequently accompanied by a relative lymphocytosis. One of the most surprising symptoms was the haematemesis, which increased in degree as the disease progressed. After each haematemesis the spleen diminished considerably in size, while a few days later an irregular fever set in accompanied by ascites, the fluid of which had the properties of a transudate. This sudden decrease in the size of the spleen following each haematemesis, with the subsequent fever and ascites, formed a very striking syndrome. Pathologically the essential lesion was a thrombo-phlebitis of the splenic vein and of the other branches of the left part of the portal system. Consequent on this there was dilatation of the smaller anastomotic vessels between the spleen and the stomach, the rupture of which gave rise to the haematemeses. The spleen itself was not only enlarged but showed an increase in the fibrous reticulum. As regards the etiology of the disease there does not appear to be any definite knowledge. The author discusses the differential diagnosis from cirrhosis of the liver and from Banti's disease; he concludes that this primary thrombo-phlebitic splenomegaly is probably more common than is generally supposed.

### 255. Histology of Duodenal Ulcer.

W. C. MACCARTY (*Journ. Amer. Med. Assoc.*, December 13th, 1924, p. 1894) discusses the pathology of duodenal and gastric ulcers, basing his conclusions on the examination of 522 specimens. Both gastric and duodenal ulcers, he states, are not infrequently multiple. The gastric ulcer tends to be larger than the duodenal ulcer, and to have a deeper crater; duodenal ulcers show less scarring and there is no hypertrophied mucosa overhanging the crater, as occurs in gastric ulcer. The duodenal lesion was usually found on the anterior wall of the duodenum, whereas gastric ulceration occurred most commonly on the posterior wall of the lesser curvature. The histological changes in duodenal ulcer were never suggestive of a pre-neoplastic condition, and the author encountered no pre-neoplastic condition in 425 specimens of this condition. In gastric ulcer, however, there were usually cytological changes suggesting early malignancy, and the author considers his observations to be in accordance with the clinical fact that gastric ulcer is frequently associated with malignant disease. There is, he states, a definite biological difference in their reaction to destructive agents of these two similar and closely related tissues which are so nearly adjacent. The author notes that in inflammatory conditions of the duodenum it may be difficult at an operation to tell if an ulcer is present or not. He considers that local congestion and stippling of the serosa is probably an indication of the presence of small round or elongated ulcers.

### 256. How Salt Preserves.

THE inhibiting effect of sodium chloride on bacterial growth has frequently been ascribed to its ability to dehydrate protein. Not content with this explanation, G. E. ROCKWELL and E. G. EBERTZ (*Journ. Infec. Dis.*, December, 1924, p. 573) have performed a number of experiments to determine the actual factors involved. Comparing the effect of sodium chloride and magnesium sulphate on the growth of *Staphylococcus aureus*, they found that the former salt had a more powerful inhibitory action than the latter, in spite of the fact that magnesium sulphate has a greater ability to dehydrate protein. Using the same organism, they then tested the effect of sodium chloride, sodium bromide, sodium

sulphate, sodium eltrate, magnesium chloride, magnesium sulphate, and magnesium eltrate, and found that the two eltrate salts had the greatest inhibitory effect on growth, followed by the chlorides, the bromides, and the sulphates—that is to say, the chlorine ion had a definitely noxious action on bacteria. Their next experiment was to compare the growth of *S. aureus* in broth containing various concentrations of sodium chloride, through one series of which oxygen had been bubbled and carbon dioxide through the other. The result was very striking. In the broth through which carbon dioxide had been passed the limiting concentration of sodium chloride was 2 per cent.; in the broth through which oxygen had been passed the limiting concentration was 16 per cent. Now it is known that sodium chloride is a poor solvent for oxygen, and the authors therefore infer that it interferes with bacterial growth partly through its ability to exclude oxygen and partly through its sensitizing capacity with regard to carbon dioxide. Finally, using *B. proteus*, it was found that 3 per cent. salt was the highest concentration which permitted the organism to liquefy blood serum, though its growth was not prevented till a concentration of 11 per cent. was attained. They think, therefore, that it is clear that sodium chloride interferes with the action of proteolytic enzymes. In conclusion, they say that there are at least four factors involved in the preserving action of salt on proteins—namely, its dehydrating effect, the direct effect of the chlorine ion, its removal of oxygen and sensitization to carbon dioxide, and its interference with the action of proteolytic enzymes.

### 257. Influence of the Parental Diet in Rats on their Offspring.

V. KORENCHESKY and MARJORIE CARR (*Biochem. Journ.*, No. 6, 1924, p. 1308) have previously shown that feeding a male rat on a diet deficient in the fat-soluble factor had no influence whatever upon the number, weight, and chemical composition of its offspring. Continuing their investigations upon the litter at the day of weaning and later, the authors have come to the following further conclusions. (1) If the diet of the adult males had been deficient in the fat-soluble factor a higher percentage of matings was unproductive. (2) The litter also seemed to be weaker. (3) No difference was noted in the weight of the young nor in the calcium composition of their skeletons. In their earlier experiments the authors found that if the diet of the mothers before conception and during pregnancy contained an excess of fat-soluble factor and calcium the litters were larger in number than those borne by mothers on the usual or fat-soluble deficient diets. They also found that a deficiency of fat-soluble factor in the mother's diet would be remedied by a sacrifice of her own tissues to her offspring, the chemical composition of the litter thus remaining normal. In the present series of investigations the effect of a diet deficient in fat-soluble factor on the mothers during lactation and the young after weaning in the first group were noted, and the following observations were made. When the mother's normal diet during pregnancy was enriched with an excess of the fat-soluble factor there was a marked decrease in the disorders of the general nutrition and in the rachitic changes in the skeleton produced in the young by a diet deficient in fat-soluble factor, even when the mother was also kept on the same insufficient diet during lactation. This effect was not produced by giving an excess of calcium during pregnancy, provided that the mother's "normal" diet already contained an adequate amount of calcium.

### 258. A New Test for Pernicious Anaemia.

O. TÖGEL and P. CERANKE (*Wien. Arch. f. inn. Med.*, December 10th, 1924, p. 301) record their results of the examination of the blood in pernicious anaemia and other diseases with respect to its power of decomposing hydrogen peroxide. The amount of hydrogen peroxide which can be decomposed by 1 c.cm. of blood in the course of two hours is regarded as its "katalase" or "peroxidase" value. Just as the colour index of the blood is the relation of the percentage of haemoglobin to the percentage of red corpuscles, so the katalase index is the relation of the katalase figure to the red corpuscle figure. A high katalase index was found by van Thienen only in pernicious anaemia; in other diseases it was normal or below normal. Tögel and Ceranke have examined 29 cases of pernicious anaemia; in 16 cases the diagnosis was confirmed by autopsy; in 13 the patient is still living. In agreement with the results of van Thienen, they found an increase of the katalase index over 7 only in pernicious anaemia, and they regard it as pathognomonic in this condition, but they did not find it present in all cases. The katalase index might vary considerably within a short space of time in a patient. No prognostic importance could be assigned to the test.



# EPITOME OF CURRENT MEDICAL LITERATURE.

## Medicine.

### 259. Rare Manifestations of Epidemic Encephalitis.

E. TRÖMNER (*Deut. med. Woch.*, January 16th, 1925, p. 99) has observed about sixty cases of epidemic encephalitis in his hospital during the past three years, and among them there were fifteen with symptoms which have hitherto been seldom or never described. In one case there was a bright red scarlatiniform rash over the chest and back at the height of the attack, when the temperature was 106° F., and the patient was breathing very rapidly. Death occurred early in this case. In another, that of a lad aged 16, the symptoms began with loss of appetite, restlessness, pain in the throat, and diplopia. Delirium ensued, and during convalescence a small-sealed desquamation of the hands and forearm occurred. In another case, that of a man aged 40, the first symptoms were insomnia, slight fever, and diplopia. He was unconscious for three weeks; some time after he had recovered consciousness he was drowsy even by day, and physically and mentally lacking in adaptability. Afterwards his weight increased, and both hands became swollen, the swelling being suggestive of Quincke's oedema. This condition seemed to be permanent and refractory to treatment. The author's list of unusual sequels to epidemic encephalitis includes, in addition to myxoedema of the hands, hominotrophy of the tongue, hemiataxia, and hemiplegia resembling Jacksonian epilepsy. The author records also three cases of epidemic encephalitis with symptoms, including delirium, of a most fulminating character.

### 260. Syphilitic Meningo-myelitis.

B. R. ARIAS (*Rev. med. de Barcelona*, December, 1924, p. 526), who reports a case in a man aged 38, states that syphilitic meningo-myelitis is much more frequent than is generally supposed. As a general rule 10 per cent. of all cases of spinal syphilis run their course in a more or less acute manner. The polymorphous character of spinal syphilis, both in its anatomical and clinical aspects, is so pronounced that there is no diffuse or localized spinal syndrome that it cannot reproduce—such as spinal compression, ascending paralysis, haematomyelia, Erb's paralysis, radiculitis, and disseminated sclerosis. Although syphilis is a frequent cause of paraplegia, being responsible, according to Bazin, for 65 per cent. of all cases of paraplegia, it is very rare to find distinct prodromal symptoms such as backache, more pronounced at night, intermittent claudication, sphincter disturbance, and cerebral symptoms. In the present case there was a sudden onset with loss of power in the legs, accompanied by formation, muscular rigidity, radiating pains in the upper limbs, and slight fever. A diagnosis of syphilitic meningo-myelitis was made, and under treatment by potassium iodide internally in doses of 30 to 60 grains daily and salvarsan intravenously rapid recovery took place. When seen eighteen months later the patient was still in good health.

### 261. Complicated Septic Interlobar Pleurisy.

E. RIST and E. COULAUD (*Bull. et Mem. Soc. Méd. des Hôp. de Paris*, December 25th, 1924, p. 1726) report the case of a girl, aged 18, who was quite healthy until she was knocked down by a taxicab and received scalp wounds on May 18th, 1924. While in hospital she began to cough and to expectorate quantities of fetid pus; no tubercle bacilli were found. A skiagram showed a small hydro-pneumothorax, as large as a mandarin orange, in the middle portion of the left lung. The diagnosis made was septic interlobar pleurisy discharging by a minute communication into a bronchiole. The patient was discharged in three weeks much improved, but six weeks later she returned with a severe cough and pronounced lassitude. The right lung was infiltrated, and the sputum contained tubercle bacilli. In the left interlobar region a faint shadow only was seen in a skiagram. Three weeks later there was a left interlobar fibrosis and infiltration of the upper two-thirds of the right lung; diminished resonance was present and vesicular murmurs accompanied by moist crepitations. The sputum was abundant, without fetor, and there was some fever. The left interlobar fibrosis resulting from the old pleurisy seemed negligible; the principal danger was from the extensive and rapidly spreading tuberculous process in the right lung. Three and a half months after the initial accident a right artificial pneumothorax was performed with complete and immediate relief. Nine days later a skiagram showed real pneumonia of the left interlobar opacity and nine days subsequently this had much

increased. A month later it occupied the middle third of the left lung, there being a central hydro-pneumothorax of 4 cm. diameter. The temperature again rose, and the fetor of the sputum increased. The right pneumothorax and the tubercle bacilli began to disappear rapidly. The danger of leaving the pulmonary tuberculosis to itself while operating on the left interlobar empyema was evident. In view of the fact that the latter had discharged spontaneously it was decided to await further events. Twelve days later all fetor had disappeared, the temperature had fallen, and the patient had gained 7½ lb. The condition steadily improved and only a small opaque triangle in the region of the left hilum remained. The authors inquire whether the interlobar pleurisy has been cured. Tubercle bacilli were no longer found in the sputum, and the patient's condition has remained entirely satisfactory. They add that it is remarkable that at no period of her illness was there any dyspnoea or cyanosis, although respiration was possible only with the left lung, the centre of which was occupied by a septic pleurisy.

### 262. Oedema of the Eyelids in Graves's Disease.

E. ENROTH (*Finska Läkarsällskapets Handlingar*, November-December, 1924, p. 835) refers to oedema of the eyelids as an early and hitherto hardly noticed sign of Graves's disease. It may, indeed, be the earliest sign of this disease, and at first the oedema may be limited to the upper eyelids. Though it is hard and firm its degree varies with the time of day, and it is usually most marked in the morning. It differs considerably from the flaccid oedema of the lower eyelids observed in the subjects of nephritis and heart disease. Although this swelling of the eyelids in Graves's disease is, at any rate to some extent, a true oedema, it may depend partly on an increase of the subcutaneous fatty tissue. The oedema of the eyelids often observed in women during menstruation may, perhaps, depend on factors identical with those concerned in Graves's disease—in other words, the oedema of the eyelids during menstruation may be caused by functional disturbances of the thyroid gland. The author gives details of four cases of exophthalmic goitre in women in which this oedema of the eyelids was demonstrable.

### 263. Lymphangitis following Cutaneous Tuberculin Tests.

IN the course of routine von Pirquet tests with tuberculin in children F. EBERSON (*Amer. Journ. Dis. Children*, January, 1925, p. 29) observed that lymphangitis developed in certain instances. This local manifestation varied in severity and extent and was accompanied by constitutional reactions. Bovine and human tuberculins were used primarily, and in a number of patients tests were made with some of the derivatives of tuberculin: "acetyl O.T." and "ether-insoluble X" substance. Within from twenty-four to forty-eight hours after the cutaneous test a local streak of lymphangitis developed as an extension along the lymph channels of the forearm. The red streak measured from 1 to 5 inches or more in length, and ranged from a limited lateral or medial extension of an indurated and erythematous area to an infiltrated lymphogenous band, which extended upwards on the forearm and beyond the antecubital space to the axilla. Adjacent lymph glands became indurated and definitely palpable, and a rise in temperature of one or more degrees accompanied the reaction. The lymphangitis faded usually within seventy-two hours, and disappeared without treatment after from forty-eight to ninety-six hours. These reactions reappeared when the tests were repeated subsequently in the same patients. The number of children studied was 133; of these, 18 reacted with an associated lymphangitis to cutaneous tuberculin tests; all the 18 had a definite history of exposure to tuberculosis. The symptoms were typical of juvenile tuberculosis; a history of lassitude, loss of weight or failure to gain, chronic "colds," cough or hoarseness, irritability, lack of appetite, profuse sweating of unknown origin, and pyrexial periods otherwise unexplained. Hilum tuberculosis was diagnosed clinically in 12, and tuberculous adenitis with hilum involvement in 4 cases. One patient of the former group developed pulmonary tuberculosis a few months later. In one child an old tuberculous empyema with residual pleurisy was present, and in another Pott's disease was diagnosed. Radiograms demonstrated in every case tuberculous foci in the hilum or intrapulmonary glands. The author suggests that lymphangitis occurring with cutaneous tuberculin tests in children is pathognomonic of tuberculosis with an active focus of glandular origin. In a series of cases of adult tuberculosis the relation of this reaction to focal tuberculosis was similarly confirmed.

264. **Amoebiasis Cutis.**  
L. F. HEIMBURGER (*Arch. Derm. and Syph.*, January, 1925, p. 49) describes a case of amoebic infection of the skin occurring in a Chinaman, aged 39. In the right loin was a large painful ulcerated area, freely discharging brownish putrid-smelling pus. For seven years he had suffered annually from attacks of dysentery. The condition had arisen as an infection of the skin due to the discharge from a sinus leading into a liver abscess, the pus from which contained amoebae. Under daily hypodermic injections of emetino hydrochloride with pulverized ipecacuanha locally for a week recovery rapidly occurred, though previous drastic antiseptic treatment with formaldehyde had not affected the amoebae. Since other cases of amoebic infection of the skin have been reported Heimburger urges that prophylactic measures should be taken after operative treatment of amoebic abscess of the liver.

### Anterior Dislocation of Shoulder.

253. **Anterior Dislocation of Shoulder.**  
W. W. PLUMMER and F. N. POTTS (*Journ. Bone and Joint Surg.*, January, 1925, p. 190) describe an operation for recurrent anterior dislocation of the shoulder. Anterior internal slipping of the head of the humerus is prevented by fascial transplants to the anterior and external aspect of the joint in order to increase the rigidity of the capsule. Two narrow six-inch strips of fascia lata from the thigh are threaded at each end on to a full curved needle. Through an incision from the top of the acromion to below the surgical neck of the humerus the capsule is bared; the needle on one end of the first strip is passed through all the layers down to the bone at the base of the greater tuberosity, and is then directed upwards toward the anterior tip of the acromion, where it is passed through a drill hole in the edge of the acromion so as to bring the edge of the fascial strip upon the upper surface. The needle on the other end is inserted at the base of the greater trochanter a little external to the first suture and brought up through the acromion, where the two ends are drawn tight and sewn together. The second fascial strip is similarly implanted external to the first, thus producing two fascial transplants to the capsule in the form of two double mattress sutures. Excellent results have followed this operation in two cases, and it is recommended for its simplicity and for the useful range of motion resulting.

266. Gonorrhoeal vesiculitis.  
E. ROUCAÏROL (*Journ. d'Urol.*, December, 1924, p. 466) points out that infection of the vesiculæ seminales during an attack of gonorrhoea is not at all uncommon. It may appear spontaneously, or follow injections or urethral lavage. The acute form with pain and frequency is only transitory and yields to medical treatment, but the gonococcus itself remains in the vesiculæ and frequently indicates its presence by causing discharge. Many different methods of treatment have been adopted, with uncertain results. It appears that the gonococcus, as in other parts of the urethra, does not remain on the surface but burrows into the crypts, where it has to be followed if it is to be effectively destroyed. Roucaïrol has successfully treated by diathermy several cases which had resisted other forms of treatment. The urethral electrode is maintained in position for twenty minutes at a temperature of 45°C. Where the patient cannot tolerate this a rectal electrode is used; this is usually borne more satisfactorily. Fourteen cases successfully treated by this method are recorded; the number of treatments ranged from about four to fifteen to obtain certainty of a cure.

267. *Surgical Treatment of Exophthalmic Goiter.*  
D. PRAT (*Bull. et Mém. Soc. Nat. de Chir.*, January 17th, 1925, p. 17) describes the results obtained in the treatment of exophthalmic goitre in the clinic of Professor Lamas. Medical treatment is first tried, including rest combined with sedatives, cardiac tonics, and appropriate feeding. If the symptoms are improved this method is continued. In the majority of cases, however, the patients are in an advanced state of the disease, and medical treatment is employed simply to improve their chances at operation. In cases exhibiting the typical syndrome with enlargement of the thyroid, exophthalmos, tremors, and tachycardia, a hemithyroidectomy is usually performed. If this does not prove sufficient, the superior thyroid artery to the remaining lobe is ligatured. In cases with marked symptoms sympathetomy is advised, and perhaps also ligature of one or more of the thyroid arteries. Regional anaesthesia is always employed, using 1/2 per cent. novocain and adrenaline, and Kocher's collar incision is found the most satisfactory. When performing the operation of sympathetomy both the superior

and inferior cervical ganglia are removed with the intervening chain. In a series of thirty-two cases treated by the different operations outlined above there was one death—a mortality of 3 per cent. One case was treated by radium. The conclusions reached are that medical treatment combined with x rays may be tried for three to six months. If the condition does not improve no time should be wasted and the patient should then be transferred to the surgeon whilst in good condition for operation.

263. **Adenitis in Gastric and Duodenal Ulcer.**  
H. FLÖRCKEN (*Zentralbl. f. Chir.*, January 3rd, 1925, p. 13), who in June, 1923, drew attention to the significance of enlarged lymphatic glands in the region of the stomach in the diagnosis of gastric ulcer, states that from January 1st, 1923, to October 1st, 1924, 196 undoubted cases of gastric and duodenal ulcer were operated on in the surgical clinic of St. Mary's Hospital, Frankfurt, and that 118, or 57.8 per cent., had shown enlargement of the glands in the gastric area. The adenitis was commonest in cases of ulcer of the lesser curvature, in which it was present in 71.2 per cent., and least frequent in duodenal ulcer, in which it was found in only 48.6 per cent. The involvement of the glands is, he thinks, to be attributed either to inflammation directly connected with the ulcer or to gastritis accompanying the ulcer. The absence of adenitis in gastric or duodenal ulcer may be due to absence of inflammation in the region of the ulcer, as in the case of a cicatrix, or to the absence of an associated gastritis. But as this gastritis occurs in 100 per cent. of all cases, according to the investigations of the Tübingen Pathological Institute, it would be more correct to make constitutional factors responsible for the absence of adenitis. Flörcken points out that enlarged glands in the region of the stomach do not always indicate gastric disease. Apart from general infectious, such as syphilis, which frequently cause glandular enlargement, cholecistitis often gives rise to adenitis of the gastric glands without anything abnormal being found in the stomach. Flörcken concludes that if enlarged glands in the gastric area are found in a patient with a history suggestive of gastric ulcer resection is advisable in the absence of any other cause for the adenitis, especially if there has been any considerable haemorrhage.

269. **The Surgery of Jaundice.** p. 287) polts  
J. B. DEEVER (*Annals of Surgery*, January, 1925, p. 287) polts  
out that many cases of jaundice are not medical conditions,  
and that their relief can only be obtained by surgical means.  
The surgeon may recognize three pathogenic types of jaundice:  
one due to obstruction, the second to excess and perverted  
haemolysis, and the third, or post-operative type, due to  
infection or operative trauma. It may also be divided into  
two clinical groups—painful and painless jaundice. The  
common types of jaundice are due to gall stones, cancer of  
the head of the pancreas, and cholangitis. Deaver tilks  
that in jaundice due to cholangitis, and not to calculous  
obstruction, anastomosis of the gall bladder to the duodenum  
is perhaps the best operative procedure. Where there is a  
non-traumatic stricture of the common duct he prefers dilata-  
tion of the stricture and the introduction of a T-tube. He  
adds that in cases of bile-duct injury the upper end of the  
duct must be exposed by careful dissection. When the ends  
of the duct cannot be brought into apposition it is best to  
anastomose the proximal end with the duodenum, either  
with or without the aid of an introduced catheter. The  
post-operative dangers to the jaundiced patient are hepatic  
insufficiency and bleeding. The latter can be controlled by  
calcium chloride injections, but the former may prove fatal in  
spite of fluids and glucose. The author gives a warning that  
no operation should be performed if the urine contains  
acetone and diacetic acid. When the common duct is cut  
across, it is best repaired at once and sutured over a T-tube;  
this gives satisfactory bile drainage. In a case of jaundice,  
Deaver remarks, the surgeon can never be called too early,  
but he can be called too late. The operative treatment  
depends finally upon the cause of the jaundice, and may  
consist of drainage of the gall bladder or the common duct;  
if an anastomosis is indicated the author thinks that  
cholecysto-duodenostomy is probably the best procedure.

276. **Post-operative Pneumonia.**  
H. FEATHERSTONE (*Brit. Journ. of Surgery*, January, 1925, p. 487) comments on the frequency of post-operative pneumonia, and the importance of care in selecting an anaesthetic and in its administration. He dismisses considerations of age and sex as being of minor importance, but emphasizes the fact that the general health and any prior disease of the lungs are matters of moment. Attention is drawn to the fact that post-operative pneumonia is often not recognized if the attack is mild or abortive. The paths of infection are stated as the blood stream, aspiration, and lymphatic infection through the right half of the diaphragm. Apart from cases

of acute sepsis, post-operative pneumonia usually follows operations on the abdomen, especially its upper segments. Pain in the abdomen, he finds, is a contributing factor, causing rigidity of the abdominal wall and a reflex inhibition of the diaphragm and intercostal muscles. This interferes with lung expansion and favours collapse.

#### 271. Ureteral Stricture.

G. L. HUNTER (*Amer. Journ. Obstet. and Gynecol.*, January, 1925, p. 47) states that stricture of the ureter is much more frequent than is commonly supposed, both in males and females, and is often overlooked as a cause of chronic or recurrent abdominal pain. He accepts as the chief etiological factor infection from distant foci in teeth, sinuses, tonsils, cervix uteri, appendix, gall bladder, or elsewhere. He believes that as a result of acute inflammation or congestion an old-standing stricture may quite suddenly become narrower and lead to severe colic, and denies that stricture is necessarily accompanied by gross dilatation above, or that gross changes in the urinary tract due to stricture need cause symptoms. Ureteral stricture is usually bilateral. Bladder symptoms occur in two-thirds of the cases and in one-third rank as the chief complaints. The urine contains pus in 20 per cent. of cases (pyelitis, infected hydronephrosis, or pyococcirosis); in 50 per cent. suspicious signs occur, such as a trace of albumin, an occasional cast, a few leucocytes, or erythrocytes. Severe haematuria is not very common. Usually there is renal tenderness and undue sensitiveness of the ureter either as it crosses the pelvic brim one inch to the side and below the navel or near the entry to the bladder. The diagnosis is clinched by the passage of a wax-built catheter along the ureter or by radioscopic examination.

### Therapeutics.

#### 272. Autoserum Therapy by Cantharides Vesication.

THIS old but little used method has been revived by PAOLO IACCHIA (*La Pediatria*, January 15th, 1925, p. 89). The technique is simple and easy. The skin is cleaned with alcohol and a cantharides blister, 1½ to 2 inches wide, is applied and left for twenty-four to thirty-six hours. The blister is then emptied by aspiration with a sterile syringe and the contents injected subcutaneously. In children the site of vesication should be the front of the chest or thighs so as to avoid losing fluid if the blister be torn, otherwise it is preferable in the vicinity of the most acute lesion so as to take advantage of the local action of the cantharides. Twenty-one children, of ages 6 to 7 years, were treated by this method. Iacchia concludes that its effect is immediate and striking in rheumatic infections with effusions (polyserositis, polyarthritis, etc.), but does not prevent the onset of endocarditis. It is useless in tuberculous lesions, and of transitory or doubtful benefit in other conditions such as arthritis of unknown origin, osteitis probably gonococcal, and prurigo. The experiments were performed in the absence of other specific treatment. When the autoserum was effective Iacchia found that the results were most marked; he recommends, however, simultaneous treatment by salicylates if there is any suspicion of the onset of endocarditis. He thinks that the autoserum acts partly through a protein reaction, partly by bacterial vaccination, and partly by its serum effects, with a possibly stimulating action of the cantharides on the production of antibodies. He has not observed any ill effects on the kidney.

#### 273. Sodium Citrate as a Haemostatic.

ENCOURAGED by the success of Hofmeister and Nenbauer in the treatment of haemophilia by intramuscular injections of sodium citrate, M. RENAUD (*Journ. de Thérap. Française*, December, 1924, p. 185) has used this salt in a variety of haemorrhagic conditions. Cases are reported of cancer of the rectum, cancer of the pharynx, early and late tuberculosis, menorrhagia, and metrorrhagia, where one injection generally secured relief from haemorrhage for some weeks or months. The action of the citrate was most marked in the case of neoplasms. The author recommends the intravenous injection of 15 to 30 c.c.m. of a 30 per cent. solution in water of the citrate. The solution is not stable, and should be freshly prepared at the time of injection. The injection causes a certain intoxication, as evidenced by a sensation of distress and malaise, pallor, rapid and weak pulse, headache, and pyrexia. This reaction was always transitory, and never of such a degree as to cause the slightest anxiety; it may be lessened by the simultaneous injection of cardiac tonics, such as sparteine and quinidine.

#### 274. Malarial Treatment of Progressive Paralysis.

S. DONNER (*Finska Läkarsällskapets Handlingar*, January, 1925, p. 8) gives an account of 40 cases of progressive paralysis treated with malaria in the course of a year in an asylum in Finland. It was found that though this treatment was most suited for early cases some patients responded very well to it, although the disease had lasted more than a year. While patients likely to die in a few months in the natural course of events were not, as a rule, considered suitable for this treatment, the necessity for keeping the succession of malaria parasites unbroken was such that reserving this treatment for early cases was not always feasible. From 2 to 5 c.c.m. of defibrinated blood was injected subcutaneously, and though the original strain of parasite was tertian its subsequent behaviour was in several cases that of quotidian fever. In certain cases the disease behaved like tertian and later like quotidian fever in the same patient. The longest incubation period was twenty-one days and the shortest five days, the usual period being one of six to twelve days. The temperature often exceeded 104° and in most cases was over 102°. In a few cases there was an afebrile interval between the attacks, and in 2 cases the malarial infection died out spontaneously. In order to make the treatment as thorough as possible the infection was not terminated by the administration of quinine till there had been several bouts of fever; in more than half the total number of cases over ten bouts of fever, each exceeding 102°, were allowed to run their course before quinine was given. In 10 cases from twelve to sixteen bouts of fever were permitted. The bouts soon ceased after the exhibition of quinine, and there were no relapses of the malaria. Of the 30 patients whose treatment dated far enough back to warrant drawing conclusions as to its efficiency, 9 were restored to complete working capacity, 4 were able to resume light work, and 5 were well enough to return to their homes or to take up light work in the asylum. There remained 9 who were not improved, and 3 who died, the causes of death being cancer in one case, an intradural haemorrhage in the second, and rapid progress of the paralysis in the third. The author's opinion of the value of this treatment is definitely favourable.

#### 275. Manganese Cacodylate in Neurasthenia.

G. LEMOINE (*Journ. de Thérap. Française*, December, 1924, p. 177) places on record the favourable results he has had with manganese cacodylate in the treatment of that vague group of symptoms termed neurasthenia. He does not claim to have found a specific remedy, but asserts that he gets hotter results more rapidly than with any other therapeutic agents. Such results were rise in blood pressure, increase in motor power, return of appetite, and improvement in digestion, leucocytosis, particularly of eosinophil cells, increase of urea excretion, and diminution of ethereal sulphates and indican in the urine. The sensation of mental and physical weakness progressively diminished and the patient began to feel better and to take again a healthy interest in life. The author has used the drug in five cases of melancholia with similarly favourable results. Manganese cacodylate, prepared by saturating pure cacodylic acid with pure manganese hydrate, is soluble and is administered hypodermically. The dose is not stated.

#### 276. Antiseptic Dyes in Surgery.

W. TÜRSMID (*Zentralbl. f. Chir.*, February 14th, 1925, p. 352) states that during the last two decades the idea of the utilization of the so-called dye antiseptics has received considerable attention in surgical literature; Banmann, Römer, Hoffmann, and others have published the results of their experimental work. In 1917 Banmann published the statistics of the use of two aniline dyestuffs as antiseptics in over 1,000 cases in Payr's clinic at Leipzig and Kirschner's clinic at Königsberg. The results were surprisingly good, but the best were obtained by the use of methylene blue, and subsequently of methyl violet (pyocyanin ceruleum, Merck). This was employed in three forms: (1) crystalline powder, (2) aqueous or alcoholic solutions, (3) gauze impregnated with the dyestuff. The results obtained were most satisfactory. Stilling and Wortmann in their bacteriological investigations drew attention to the high antiseptic value of these dyestuffs. Römer, Gebb, and Lohlein, by means of experiments extending over many years, investigated the bactericidal power (*in vitro*) of fifty-eight aniline dyestuffs, testing their action on pyogenic micro-organisms and other pathogenic bacteria. Some of these dyestuffs, though possessed of distinct bactericidal power, were definitely injurious to tissue cells, and in certain cases produced extensive necrosis. Türsmid has used pyocyanin 10 600 cases; the results were very satisfactory, often even astonishing. He first employed a 10 per cent. aqueous solution of pyocyanin, then Römer's Greifswald dyestuff mixture, and latterly 10 per cent. and

5 per cent. alcoholic solution of pyocetanin, for painting the wound, in the form of bandages, as an instillation in deep wounds, or by the use of dressings of gauze previously saturated in the dyestuff solution. All these preparations were equally successful in the treatment of compound fractures, abrasions, lacerations, and contusions, and also as dressings after surgical operations. In two cases of erysipelas a fall of temperature and rapid healing followed the application of the solution of pyocetanin to the inflamed area. In furunculosis and paronychia the results were equally satisfactory.

#### 277. Protein Therapy in Venereal Diseases.

L.-M. BONNET and PÉTOURAUD (*Lyon Méd.*, January 11th, 1925, p. 29) refer to Bonnet's former articles on the injection of boiled milk in the treatment of buboes and of gonorrhoeal orchitis. In addition to ordinary milk, some writers have recommended milk more or less modified, and also solutions of casein, but there is no evidence that those preparations are superior to ordinary milk. The authors have, however, experimented with them because, although ordinary milk is very active, it has certain disadvantages. A marked general reaction occurs frequently; there is usually some amount of painful swelling at the site of injection; and finally, there is the trouble of preparation (filtration and boiling). During the last six months they have treated all suitable cases by casein injections; the number of patients was 18 and they received in all 62 injections. The preparation selected was a 10 per cent. solution of casein peptone (soluprotine). The authors give clinical details of their 18 cases (17 males and 1 female). Of the males 15 had acute epididymitis or orchitis, which was unilateral in 14; in 2 cases, after apparent cure, the other testis became inflamed, but the inflammation subsided quickly after a second course of injections. The female patient had Bartholinitis and painful inflammation of the adnexa: two injections (each of 1 c.cm. of soluprotine) relieved the pain rapidly. The remaining male patients (2) had: (a) Soft sores on penis and scrotum accompanied by a large red, but not suppurating, hubo. After two injections of 1 c.cm. of soluprotine, the adenitis disappeared in eight days. In (b) there were multiple syphilitic chancre with severe bilateral inguinal lymphadenitis. After the first injection (1 c.cm. of soluprotine) there was a marked reaction—rigors, sweating, and pyrexia of 103° F. In two days pain had disappeared, and the swelling was much diminished; four days after the first injection all inflammation had disappeared, the adenitis was typically syphilitic, and the patient commenced a course of neosalvarsan. The authors employed hypodermic or intramuscular injections, as the intravenous method appeared to be unnecessary. At first they used only 0.25 c.cm., but now they give 1 c.cm. at the first injection and 2 c.cm. at the second; they recommend that these be given on alternate days. Some patients received only two injections; the majority had four or five. The injections were usually well tolerated; two patients had evening temperatures after their first injection, but this did not recur after the second injection. One patient had six injections for orchitis without reaction; orchitis then developed on the other side thirty-eight days after the first injection; he had rigors, profuse sweating, and a temperature of 103° F. after an injection of 1 c.cm. of soluprotine. This was apparently due to sensitization by the first series of injections and subsequent anaphylaxis.

## Anaesthetics.

#### 278. Acetylene Anaesthesia.

H. WIELAND (*Brit. Journ. Anaesthesia*, January, 1925, p. 142) considers that acetylene-oxygen anaesthesia is likely to supersede chloroform and ethyl chloride-ether anaesthesia in many operations, as it has the advantage of greater safety. It is administered through an airtight mask from an apparatus specially designed to permit accurate percentages of acetylene and oxygen mixture being given. Commencing with a mixture of 70 to 80 per cent. of acetylene with 30 to 20 per cent. of oxygen, sensation to pain disappears after a few breaths have been taken, and consciousness is lost in from one to five minutes; the concentration of acetylene should then be diminished and be continued at 40 to 50 per cent., or even less, throughout the operation. Consciousness is regained in about two minutes after removal of the mask. Retching and vomiting are said to be rare, and the subjective sense of comfort afterwards may be marked, patients frequently asking for food within a quarter of an hour of recovery. No serious

sequoia appear to have occurred, and the method is of wide application even in conditions in which other general anaesthetics are contraindicated. Its disadvantages are its inflammability and liability to explosion, though only the former is to be feared if a special anaesthetizing apparatus is used; open fires and electric sparks must be avoided, and the electro-cautery should not be used near the mask. Abdominal rigidity cannot always be overcome, and the addition of small amounts of ether may be necessary. Other observers have reported that in low concentrations of about 10 per cent. labour pains are eliminated without loss of consciousness or diminution of the force of the uterine contractions.

#### 279. Regional and Field Block Anaesthesia.

C. F. EKENBARY and M. LANGWORTHY (*Journ. Bone and Joint Surg.*, January, 1925, p. 47) consider that the value of regional or field block anaesthesia in operations on the limbs is not sufficiently appreciated. They point out that whereas extensive bone operations are very liable to cause shock, in none of the cases treated by such anaesthesia did any shock occur. Novocain was used exclusively and was administered by the methods of Braun, Labat, and others; Ekenbary and Langworthy claim that it is effective and may be safely given to patients of all ages (except young children) for whom a general anaesthetic might be risky. Their report of 164 regional anaesthetics covers almost every type of operation on the extremities. Out of 38 brachial plexus blocks the anaesthesia was perfect in 37, one only requiring gas during fracture manipulation; and of 51 sciatic and internal saphenous blocks the anaesthesia was perfect in 48. Four combined sciatic, external femoral cutaneous, anterior crural, and obturator blocks were all perfect, while in 71 field blocks 70 were perfect as regards anaesthesia. It is not claimed that this method should supplant other anaesthesia, but merely that it has a definite usefulness in many cases.

#### 280. Syphilis as a Complication in Anaesthesia.

E. R. LECOUNT and H. A. SINGER (*Journ. Amer. Med. Assoc.*, January 31st, 1925, p. 358) record two cases in which syphilis of the brain appears to have been the cause of death in connexion with general anaesthesia. They suggest that the evidence indicated that the anaesthetic and the operative shock were insufficient to explain death, and that syphilitic changes in the brain rendered both patients susceptible to sublethal doses of morphine and ether. They recall the conclusion of Lillie that the essential feature of the change produced in narcosis or anaesthesia of the normal individual is reversibility, the cells of the body regaining their normal properties and functions at the conclusion of the anaesthesia, regardless of the depth of unconsciousness produced. Concentration of the anaesthetic agent beyond a certain degree caused cytolytic or irreversible changes and consequent death. The present authors suggest that a decrease in the limits of reversible change is observable in several conditions, including the atherosclerosis of diabetes and states of lethargy or coma. They believe that such a limitation occurs in cerebral syphilis, and that therefore, when any symptoms or signs are present suggesting some morbid condition of the cerebral nervous system, a thorough examination to exclude syphilis ought to precede any surgical operation.

#### 281. Spinal Anaesthesia.

D. A. ORTH (*Amer. Journ. Surg.*, Anaesthetics Supplement, January, 1925, p. 2) considers spinal anaesthesia to be of distinct value for operations below the costal arch. By administering apothecary with adrenaline and giving a subcutaneous injection of 3 grains of caffeine citrate one hour before the operation, followed by 1 grain every hour for six doses after the administration, circulatory and respiratory depressions are anticipated and avoided. The method is best tolerated by old people and should, according to Orth, cause no more discomfort than a hypodermic injection. Since no preliminary preparations are necessary he thinks it is an ideal anaesthetic in emergencies, while the production of anoci-association renders it of value in operations likely to produce much shock. Orth points out that in intestinal surgery spinal anaesthesia has the advantage of producing complete relaxation of the abdominal wall while the involuntary muscles of the intestines are contracted. He adds that haemorrhage is noticeably less, and that post-operative retching and straining are absent. In a small number of cases it may be necessary to supplement with ether, but the author says that when such is the case only a small amount of ether is required, and that the relaxation is more complete than in general anaesthesia.



## Obstetrics and Gynaecology.

### 182. Tubal Rupture and Abortion.

ACCORDING to A. RIOTTE (*Bull. Soc. d'Obstét. et de Gynéc.*, 1925, 1, p. 120), there are exceptions to the rule that in ectopic pregnancy tubal abortion generally leads to gradual hæmorrhage with formation of a pelvic hæmatocoele, while rupture of the tube generally gives rise to profuse bleeding extending to the general abdominal cavity and producing acute anaemia and collapse. Apart from the cases in which the secondary rupture of a hæmatocoele leads to peritoneal innudation, or a tubal abortion is accompanied by a concealed rupture, cases occur in which at operation for acute hæmorrhagic peritoneal innudation the gravid tube is found unruptured, but either empty as result of abortion through the osium abdominale, or with the ovum in process of extrusion there. Three illustrative cases are related, in two of which the tube was found empty and notably flaccid at the site of implantation of the gestation sac. The explanation of the acute hæmorrhage in these cases is thought to lie in a situation of the ovum at the extreme outer end of the tube, so that the tube wall is unable to limit for a time the bleeding.

### 233. Hemiplegia in the Puerperium.

A. FRUHNSHOLZ and A. FRANÇAIS (*Gynéc.*, 1925, xi, 1, p. 13) distinguish the following forms of hemiplegia and aphasia occurring after childbirth. (1) Hemiplegias due to a morbid condition, whether organic or functional, not connected with childbirth, such as those occurring in syphilitic, arterio-sclerotic, or hysterical subjects. (2) Hemiplegias associated with morbid conditions connected with pregnancy or labour—as, for example, in eclampsia, or endocarditis following puerperal sepsis. (3) A special clinical type, the "hémipégie des accouchées." Of the last-named type, as the result of a study of twelve cases, the following description is given. It is more common in young and in primiparous patients, and almost without exception there has been some abnormality of pregnancy, or labour, or both—toxaemia, instrumental delivery, or precliptate birth. It may appear as early as the third day or as late as the third week. The onset is sudden, and in the large majority of cases the right side is affected. Jacksonian epileptic attacks are relatively common; sensory symptoms are less prominent than motor. The prognosis is good, a fatal termination being quite exceptional; complete functional recovery is the rule. Many cases have been regarded as hysterical, but the authors believe the pathological explanation to be the deposit in the brain of small emboli derived from the pelvic veins. They suggest that persons having a patent foramen ovale may be particularly prone to this accident, and refer to such a finding made at autopsy after cerebral and pulmonary emboli in the puerperium. Crural phlebitis occurred in two of their cases.

### 284. Urinary Incontinence in Women.

F. K. TE WATER NAUDE (*South African Med. Record*, December 13th, 1924, p. 536) discusses the etiology and treatment of urinary incontinence occurring during pregnancy or labour. He considers that that form which occurs towards the end of pregnancy is caused by the drawing upwards of the region of the trigone while the urethra and neck of the bladder remain stationary, thus causing overstretching and consequent inefficiency of the sphincter muscle. As preventive measures he advocates pushing back the anterior vaginal wall and the vulval portion lying immediately below the symphysis during and throughout each expulsive pain, with, if necessary, an episiotomy to ease tension. During the early puerperium regular two-hourly micturition should be insisted upon in order that the over-stretched parts may recover their tone. If the condition still persists at the end of six weeks resort to operation is advised to narrow the cross-section of the urethra, either by manipulating the tube itself (Albarran's method), by a purse-string suture, or by an operation aiming at restoration of the fascial sling. In very recalcitrant cases the operation devised by Göbel and Stoeckel, in the author's experience, gives the best results.

### 285. X-ray Treatment of Cancer of the Uterus.

H. WINTZ (*Deut. med. Woch.*, January 2nd, 1924, p. 19) prefaces a long statistical paper with the remark that during the past eight years there have been improvements every year in the technique of the x-ray treatment of carcinoma of the uterus at Erlangen. His statistics deal with 800 cases, which are classified according as the disease involved the upper or the lower segment of the uterus and was operable

or inoperable on admission to hospital. With regard to the injurious effects of x-ray treatment, there were only 6 cases, observed in the period 1915-23, in which the fatal issue could be traced to the treatment; with improvement in technique such fatal incidents should, he thinks, become very rare. Of the 18 cases of carcinoma of the lower segment of the uterus treated in 1915 (operable and inoperable cases) only one passed the test of survival five years later, whereas this was the case with 22 of the 97 cases treated in 1920. This improvement was the more significant as the proportion of operable cases coming for treatment had been greatly reduced since 1915. In this year 57 per cent. of all the cases were operable, whereas in 1920 only 10.5 per cent. were so. With regard to the patients treated in the operable stage, it was found that of those treated in 19.0 75 per cent. of the patients who suffered from carcinoma of the lower segment of the uterus were still well in December, 1924, and this percentage was as high as 88.8 for the patients who in 1920 had suffered from carcinoma of the body of the uterus. As for the inoperable cases, 15.3 per cent. of the patients suffering from carcinoma of the lower segment of the uterus were still well at the end of 1924 after a five-year observation period. When the moribund were excluded from the inoperable cases, the percentage of recoveries after a five-year interval was 19.6. The author concludes that x-ray treatment may fall completely in 15 to 20 per cent., even in cases seeming to be early and favorable, and in spite of carefully graduated treatment; he admits that some of the defences of the body against carcinoma are still unknown.

### 286. Radium Treatment of Carcinoma of the Cervix.

J. HEYMAN (*Surg., Gynecol. and Obstet.*, February, 1925, p. 161) reviews the results obtained at Stockholm between 1914 and 1921 of radium treatment of cervical carcinoma. Three treatments with radium salt were given in each case, the second one a week after the first, and the third three weeks after the second. At each treatment radium was introduced into the uterine cavity and packed against the tumour surface in the vagina for about twenty-two hours. The sum of the three treatments was about 2,400 milligram element hours in the uterus and 4,500 in the vagina. A heavy filtration was used equivalent to 2 mm. of lead in the uterus, and 3 to 4 mm. in the vagina. The combined use of x rays and radium has been abandoned, it being found that better results were obtained from the use of radium only. The mortality due to peritonitis or sepsis was only 6 in 505 cases. Of 181 inoperable cases clinical healing resulted in 30, and persisted for at least five years. Of the remaining inoperable cases nearly 20 per cent. were free from symptoms three years after beginning the treatment. In the majority of patients treated, even though complete cessation of symptoms was not obtained, a more or less lasting improvement resulted. Heyman points out the importance of realizing the limitations of this form of treatment and of employing a carefully planned technique. He remarks that in the hands of the inexperienced radium treatment involves great risks without any chance of securing results comparable with those of surgical operations.

### 287. Torsion of a Normal Fallopian Tube.

P. R. MICHAËL (*Nederl. Tijdschr. v. Geneesk.*, December 6th, 1924, p. 2828) records a case in a married woman, aged 47, the mother of one child, in whom torsion of an otherwise normal Fallopian tube with a long mesosalpinx was mistaken for acute appendicitis, the true diagnosis being only established by laparotomy. Menstruation took place on the third day after operation. Michaël remarks that cases of this kind are exceedingly rare, and that it is much more frequent for torsion to arise in connexion with adnexa which have been infected or are the site of new growths. The only other examples of torsion of an undoubtedly normal Fallopian tube known to Michaël are two cases reported by Smith and Butler in 1921, in both of which there was also a distinct connexion with menstruation. In one case there were always attacks of pain in the hypogastrium one or two days after cessation of menstruation, while in the other a violent attack of abdominal pain preceded menstruation by five days, and after slight diminution became aggravated on the appearance of the monthly period. On operation the mesosalpinx of the left Fallopian tube, which had undergone torsion, was twice as long as that on the right side. Histological examination of the Fallopian tubes in both cases showed nothing abnormal. As there were no adhesions, tumour formation, hernia, or any external cause for torsion in Michaël's case, but only an abnormal mobility of the tube due to a long mesosalpinx and circulatory disturbances caused by premenstrual hyperaemia, Michaël is of opinion that the conditions for torsion required by Payr's haemodynamic torsion theory were fulfilled.



## Pathology.

### 288. The Cause of Dyspnoea.

J. MEAKINS (*Canadian Med. Assoc. Journ.*, January, 1925, p. 2) discusses the different modes of production of dyspnoea, and stresses its value in diagnosis, prognosis, and treatment. Accepting the definition of dyspnoea as "the consciousness of the necessity for increased respiratory efforts," he remarks that although this consciousness is always referred to pulmonary function, yet the cause of dyspnoea may be situated actually in some far distant part of the body. It is necessary, therefore, to distinguish between pulmonary and coelular respiration, either or both of which may be concerned in dyspnoea. Meakins points out that the chemical regulation of pulmonary respiration depends upon the hydrogen-ion concentration in the tissues. If this is increased pulmonary action will be augmented, and vice versa; this is due to change in the relative acidity or alkalinity of the arterial blood and the tissues, which depends mainly on the carbon dioxide content. The hyperpnoea of exercise is due to increased metabolism, and in conditions where such increase occurs during rest—as in fever and increased thyroid activity—the point at which dyspnoea is produced is reached at a much earlier stage than in health. The incomplete elimination of acid ions in renal insufficiency disturbs the acid-base balance and gives rise to hyperpnoea, soon followed by dyspnoea. Treating the renal disturbance will cure the dyspnoea, and temporary improvement in respiratory distress follows the introduction of hydroxyl ions in the form of sodium phosphate or sodium bicarbonate. Interference with the elimination of carbon dioxide causes a somewhat analogous dyspnoea, which may be due to a chronic structural abnormality such as emphysema, tumour of the lung, or thickened pleura, or to some acute lesion such as pulmonary oedema or the early stage of pneumonia. In such conditions as emphysema the carbon dioxide partial pressure of the inspired air is greatly increased; this is compensated by an increase in the alkali reserve and by polycythæmia, which prevent the hydrogen-ion concentration of the blood and tissues from being much altered. The tissues can also accustom themselves to diminished partial pressure of oxygen, and so a moderate amount of work can be performed in such a disease as acute oedema. Meakins points out also that if the partial pressure of oxygen of the inspired air is sufficiently increased the oxygen will penetrate any alveolar exudate present and so reach the blood. He strongly urges, therefore, the use of oxygen in the early stages of pneumonia with a view to helping the patient through the subsequent period of consolidation, when the bacterial toxæmia becomes so important. He discusses the dyspnoea occurring in other conditions, including cardio-vascular disease, when the degree of dyspnoea is directly related to the severity of circulatory insufficiency, the probable cause of the dyspnoea being the relative slowness of the circulation through the tissues in proportion to the metabolism. He adds that it has been found that a decrease in the vital capacity of the lungs occurs in circulatory failure, as a result probably of the decreased expansibility of these organs owing to their capillary engorgement.

### 289. Essential High Blood Pressure and Kidney Function.

F. KISCH (*Wien. Arch. f. inn. Med.*, October 15th, 1924, p. 30) records his observations on renal function tests in 90 cases of paroxysmal high blood pressure in women at the climacteric period, in 7 cases in men, and in many cases of permanent high pressure. He emphasizes the importance of estimating the indican in the blood in this connexion. In cases of pronounced paroxysmal high pressure he found usually that the renal functions were normal; but in some chronic cases changes in the renal functions were detected. In permanent high pressure he always found impairment of the renal functions. W. Falta and his colleagues have asserted that in cases of permanent high pressure, pathological changes in kidney arterioles and in the glomeruli are always found. Kisch concludes that under certain constitutional conditions paroxysmal increase, or marked fluctuation of blood pressure may occur unassociated with any kidney lesion—for example, in the climacteric period in women. From paroxysmal high pressure, especially when long persisting or pronounced, kidney lesions may develop before the pressure becomes permanently high; the resulting impairment of the renal function is usually unimportant. He adds that paroxysmal high pressure passes very often into permanent high pressure and that in cases of permanent high arterial pressure a marked degree of impairment of the kidney functions is almost always found. This may not be very marked, but it can be detected by careful investigation. In agreement with the conclusions of W. Falta and G. Herzheimer, permanent essential high pressure is regarded by Kisch as an indication of a lesion of the arterioles of the kidney.

### 290. Classification of the Haemolytic Streptococci.

P. DURAND and P. SÉDALLIAN (*C. R. Soc. de Biologie*, January 30th, 1925, p. 157) report the results which they have obtained in their endeavour to classify the haemolytic streptococci by means of agglutination and the absorption of agglutinins. Dealing first with direct agglutination, they find that the test is frequently impossible to perform owing to the difficulty of obtaining a homogeneous suspension of the organisms. In about half the cases in which it is possible to perform the reaction the results obtained were similar to those given by the absorption test; in the other half the results were such as to preclude their use for purposes of classification. The agglutinability of the streptococci is liable to great variation; for no apparent cause a given strain which has previously been agglutinated to a high titre by a given serum will become inagglutinable—even in cases in which the serum has been prepared from the strain in question. Moreover, of two strains of streptococci isolated from the same patient, the one will be constantly agglutinated, the other will refuse to agglutinate. There are certain strains which the authors describe as "madly agglutinable"; they are characterized by their tendency to react with several serums of quite different types. Such vagaries as these falsify any classification based on direct agglutination, which gives results sometimes incomplete, sometimes doubtful, and sometimes apparently contradictory. On the other hand, they find that the absorption of agglutinins is a much more precise method, enabling the type of the organism to be ascertained with a considerable degree of certainty. In the case of the "madly agglutinable" organisms it gave quite clear-cut results; these strains, though agglutinated by numerous serums of diverse types, can absorb the agglutinins from the serums of only one type. Using this method they were able to classify 84 strains out of 130 into six types, comprising respectively 36, 23, 9, 6, 6, and 4 strains. Within any one type they found a variation between the different members; some seemed to possess a more complicated antigenic structure than others. Serums prepared against these complex strains could be absorbed by only a few strains, whereas serums prepared against strains of simple antigenic structure were absorbed by a large number of strains. The criterion they adopt for the delineation of their types is the existence in common by all the members of it of some antigenic constituent. In rare cases they found certain strains which contained antigens common to two types; these strains were able to absorb the agglutinins from serums of both types. Somewhat at variance with their classification into six types, they conclude by saying that the streptococci may be arranged, according to the structure of their antigen, in the form of a genealogical tree with confused branches, whose nodes are occupied by the strains possessing the most complex structure.

### 291. Vaccination against Scarlet Fever.

C. ZOELLER (*C. R. Soc. de Biologie*, February 6th, 1925, p. 242) has tested the possibility of rendering susceptible subjects immune to scarlet fever by vaccinating them with a filtered broth culture of *Streptococcus scarlatinae*. The ten individuals on whom the tests were made were first given an injection of toxin in a dose of 0.3 c.c.m.; after eight days a second injection was made of 0.6 c.c.m.; the third injection of 1.2 c.c.m. was given after a similar interval. These doses of toxin corresponded roughly to 150, 300, and 600 Dick doses—the term he uses for the minimal reacting dose as determined by intradermal injection into a susceptible subject. After two injections of toxin two of the subjects had become Dick-negative. After three injections on seven subjects, two had become Dick-negative, one gave a doubtful reaction, and the remaining four were still strongly positive. From these results it is seen that though the injections of toxin gave rise to no ill effects, their efficacy in producing an active immunity in the subjects tested was quite irregular. In another paper in the same journal (p. 244) the author records his attempts to produce an anatoxin—that is, a modified toxin retaining its antigenic immunizing properties, but devoid of toxicity—similar to the one prepared by Ramon in the case of diphtheria toxin. A plain peptone broth culture filtrate was used; to it varying quantities of formal were added, and it was then placed in the incubator at 38° C. for thirty days. After different periods it was tested for toxicity by intradermal injection into susceptible subjects. Briefly, it was found that a concentration of formal of 0.25 per cent. produced no effect, that one of 0.5 per cent. had an attenuating action, and that one of 1 per cent. so diminished the toxicity that even when injected in a dilution of 1 in 10 it failed to give rise to a local reaction. By the use of this last preparation it would be possible for immunizing purposes to inject as many as 1,500 to 2,000 Dick doses, but whether it would exert the desired immunizing action—whether, in fact, it is a true anatoxin—has not yet been determined.

# EPITOME OF CURRENT MEDICAL LITERATURE.

## Medicine.

### 292. The Normal and Pathological Venous Pulse.

L. BARD (*Journ. de Méd. de Lyon*, January 20th, 1925, p. 31) believes that the venous pulse, which first attracted attention about the middle of the last century, is destined to hold a much more important position in future cardio-vascular pathology. He points out that it is the only source of information about the progress of the returning blood and the conditions under which it enters the right auricle and ventricle. Grapho tracings show changes in volume which produce five principal waves, of which two are negative: these indicate an acceleration due to auricular and venous diastole. The three positive waves are due to transient stasis ("succussion waves"), and, in exceptional cases, entirely to a true regurgitation. The first positive (presystolic) wave is due to auricular contraction; the second (systolic) shows the convection of a succussion due to closure of the auriculo-ventricular valve; the third (according to some writers systolic, to others diastolic) is actually complex. The first part—late systolic—arises entirely from the conduction of secondary waves from the ventricular wall and from the conditions under which the auricle is filled. The second part—early diastolic—is caused by the sudden elevation of the interauriculo-ventricular septum, which occurs immediately the ventricle relaxes. A small intersystolic wave and supplementary diastolic waves may be seen. In the various arrhythmias the timing of the several waves together with the length of the intervals indicate on the tracings sinus arrhythmia, extra-systoles, heart-block, and other abnormalities. Moreover, in bradycardia, an examination of the tracings suffices to indicate the origin of the greater part of the arrhythmias, thanks to the abrupt rise of the auricular wave of the venous pulse, also of the superposition of auricular and ventricular systoles. Enfeebled contraction of the right side of the heart, whether due or not to tricuspid incompetence, is indicated by systolic stasis followed by prediastolic collapse. In severe anaemias there is an exceptional intensity of the venous pulse, which extends to the inferior vena cava, and occasionally to the femoral veins. The volume of the diastolic wave produces an oscillation of the jugular veins comparable to that of the carotids in aortic regurgitation. Hypertrophy of the left ventricle of renal origin is shown by the accentuation and prolongation of the presystolic wave, which reveals the "crossed-hypertrophy" of the left ventricle and right auricle. Bard adds that our knowledge of the diastolic waves is still incomplete, and hitherto the electrocardiograph has thrown but little light upon this aspect of cardiology.

### 293. Ulcerative Bronchitis due to Vincent's Organisms.

CHEVALIER JACKSON (*Journ. Amer. Med. Assoc.*, December 6th, 1924, p. 1845) records two cases which are remarkable for the fact that they are the first on record in which the bronchial lesion of infection with Vincent's organisms has been observed with the bronchoscope. The first patient was a girl, aged 18, in whom Vincent's angina, at first mistaken for diphtheria, had persisted for nearly a month. The correct diagnosis was made by finding Vincent's bacilli and spirilla, and under local application of tincture of iodine, silver nitrate, and other agents, the faucial lesion entirely disappeared in a few weeks. The temperature, however, remained high and there was a slight leucocytosis. A cough developed, with offensive and blood-stained sputum. A great variety of râles were heard on both sides of the chest, and the percussion note was impaired at the bases. Bronchoscopy showed ulceration of the mucous membrane of the right and left bronchi. Specimens of pus and shreds of whitish material were taken with forceps, and on examination showed numerous Vincent's organisms. Applications of 20 per cent. silver nitrate were made on six subsequent bronchoscopies at weekly intervals, and complete recovery took place. The second case occurred in a man, aged 22, who had been sent to Jackson's Bronchoscopic Clinic with the diagnosis of abscess of the left lung, due to aspiration of a tooth. The sputum, though scanty, was very foul. Physical examination showed diminished expansion of the left chest, and numerous râles, especially on the left side, with an impaired percussion note over the lower lobe. No foreign body was found on bronchoscopy, but tube-shaped casts were removed from the left bronchus, leaving ulcerated surfaces of the mucous membrane. Examination of the casts showed a predominance of Vincent's organisms,

in addition to streptococci, pneumococci, and saprophytes. The patient did not return for treatment, but the condition cleared up in about a month's time after he had gone to sea.

### 294. Diabetic Coma complicated by Renal Insufficiency.

In reviewing the literature on diabetic coma E. WARBURG (*Acta Med. Scand.*, Fasc. iv-v, 1925, p. 301) draws attention to the three clinical groups into which cases are placed according as coma, heart failure, or respiratory peculiarities predominate. He adds a fourth group, with renal insufficiency, and describes four cases in which the patients were admitted into hospital in deep coma, had high blood sugar, relatively low glycosuria, no ketones in the urine, albuminuria absent or in small degree only, and marked urea concentration. In two cases the respirations were not typically hyperpnoeic, the diuresis at first was small but increased under treatment, and the patients recovered. In the other two cases the respirations were of the typical Kussmaul variety; 1,000 to 2,000 c.cm. of urine was passed in the first twenty-four hours, but gradually the diuresis entirely failed. The autopsies in these two cases showed an acute parenchymatous nephritis in one case and macroscopic evidence of acute kidney degeneration in the other. All four cases were treated on the same lines—injections of "diasulin" (stated by the makers to contain in one unit three Toronto units), subcutaneous injections of physiological salt solution, and of stimulants such as camphor and caffeine. The author has collected several cases in the literature that belong to this group, and stresses the importance of treating coma cases early and energetically with heart tonics and diuretics in order to avoid cardiac and renal complications.

### 295. Prognosis in Treated Congenital Syphilis.

E. LENSTRUP (*Ugeskrift for Læger*, January 29th, 1925, p. 104) traces the careers of the first 100 infants treated for congenital syphilis in a Weiland Home in Denmark. This institution was opened in the summer of 1916, and has already received 167 syphilitic infants. The treatment consisted of repeated courses of mercurial inunction, each of thirty applications, such courses being separated by intervals of two months. Some of the patients were also given salvarsan. They were kept in this institution for many years, and of the first 100 admitted it was found that 22 had died, 13 were imbecile, 28 were backward in various ways, and only 37 could be regarded as normal in every respect. Many of the deaths were due to influenza and its complications, and in no fewer than 18 cases death was due to bronchopneumonia. All the deaths occurred under the age of 3 years, and as many as 13 under the age of 1 year. Of the 18 infants whose mothers had been given specific treatment before they were confined, as many as 12 were normal, while there were only 3 backward children—1 who was imbecile and 2 who died. Lenstrup adds that these figures clearly show that the intrauterine treatment of an infant suffering from syphilis is of great importance. He suggests that considerable improvement would be effected if this Weiland Home could accommodate the infants' mothers for half a year in order that breast-feeding might obviate the perils of artificial feeding.

## Surgery.

### 296. Phlebäarteriectasia.

F. SONNTAG (*Zentralbl. f. Chir.*, January 10th, 1925, p. 66), who records an illustrative case in a man aged 51, defines phlebäarteriectasia as a progressive dilatation of an arterial area, including the capillaries and veins. Its origin is apparently spontaneous. It is probably congenital at first and due to defective development of the vascular region concerned. The increase in size usually takes place slowly, though it varies somewhat in different cases. The condition is rather uncommon as Sonntag has found only about a dozen cases on record, and has seen only two other cases besides the present one—in a man aged 49 and a girl aged 16. Of eight cases collected by Bockenheimer half were between the ages of 40 and 50. Males are more frequently affected than females, in the proportion of 5 to 1. Both sides are involved with equal frequency, and the arms are more frequently the site of the lesion than the legs. The condition usually first develops in the hand and then spreads upwards. The most striking feature is the dilatation of the arteries,

and to a less extent of the veins. Other symptoms which have been noted in the literature and were present in Sonntag's case were: (1) A telangiectasis in the form of a small bluish-red patch on the back of the hand. (2) Cutaneous anomalies, including bluish discoloration, hypertrichosis, and hyperhidrosis. (3) Increase in circumference of the arm. (4) Distinct rise of local temperature. (5) Elongation of the forearm by 3 cm. (6) Slowing of the pulse by 18 beats through compression of the artery. Complications such as ulceration, infection, haemorrhage, and necrosis were absent in the present case. In some cases, including Sonntag's patient, the prognosis is favourable, but in others the course of the disease is rapid, and may lead to destruction of the limb and death of the individual. Treatment in most cases should be conservative at first. Many patients suffer little inconvenience for several years, so that they do not seek medical advice. When the lesion increases in size, and the skin becomes thinned, so that there is a danger of haemorrhage or infection, operation is advisable. Little can be expected from ligature or electrolysis, and resection of the dilated vessels is usually required, as in Sonntag's case, in which a good result was obtained. Amputation of the upper arm has had to be performed in several cases owing to severe pain, haemorrhage, or necrosis.

### 297. Arterio-sclerotic and Thrombo-angitic Gangrene.

L. ELOESSER (*Deut. Zeit. f. Chir.*, December, 1924, p. 95) states that gangrene of the lower extremities, especially of the toes, is a more frequent cause of admission to hospital in San Francisco than in Germany, as is shown by the fact that there were 77 examples of this kind among about 3,000 surgical cases admitted to the surgical department of Stanford University in the period 1920-24. The gangrene in these cases was usually due to one of three causes: (1) senile arterio-sclerosis, (2) juvenile arterio-sclerosis, (3) thrombo-angitis or Buerger's disease. Eloesser maintains that in all three forms of gangrene expectant treatment is best, disarticulation of the toes being performed if necessary. If conservative treatment fails, disarticulation should be performed at the knee-joint, especially in senile gangrene and the progressive form of thrombo-angitis. Periarterial sympathectomy, which was carried out in 10 cases of vascular disease of various kinds, had no effect.

### 298. Recurrent Dislocation of the Shoulder.

G. VALTANCOLI (*La chir. degli org. di movim.*, December, 1924, p. 131) states that next to the lower jaw the shoulder-joint is most subject to recurrent dislocation. The condition, which is not very uncommon, was known to Hippocrates and Paulus Aegineta. Seidel in 1918 collected 117 cases in which operation had been performed, and estimated that about 30 cases had been reported which did not undergo operation. Valtancoli gives the following statistics of 16 cases observed among 15 patients at the Rizzoli Orthopaedic Institute of Bologna University from 1900 to October, 1923, among 140 traumatic dislocations of the shoulder-joint. In 14 patients the dislocation was unilateral and in only one bilateral, though not always so, as the dislocation on the right side after that on the left. As is the rule in the male sex is much the most frequently affected, only one of the 15 cases being in a woman. In like manner, of 83 cases collected by Seidel in which the sex was stated, 66 were males and only 17 females. The condition is most frequent in early adult life: 11 of the 15 cases occurred between 21 and 25, and the remaining 4 at 17, 18, 30, and 39; none occurred in childhood. Of 76 cases reported by Seidel, 41 were between 21 and 30, and none was under 17. In 10 of Valtancoli's cases the condition set in after a traumatic dislocation, and the first recurrence took place in a time varying from a few days to six months. In 2 cases the condition developed during an epileptic attack, and in the remaining 3 the trauma, if it could be regarded as such, was insignificant. In every case the recurrence of dislocation was extremely frequent on the slightest effort. One patient had as many as seventy dislocations in the course of three months, and in another dislocation of the posterior type could be performed at the patient's will without causing him much pain. In 15 cases the dislocation was anterior, and in only one posterior (of the subacromial type). The anatomical lesions in recurrent dislocation of the shoulder have been classified by Seidel as follows: (1) rupture of the capsule, either alone or in association with other changes in the joint (the most frequent lesion); (2) rupture of the muscles, especially the external rotators (a not uncommon lesion); (3) detachment and fracture of the head of the humerus; (4) fracture of the glenoid cavity, either alone or in conjunction of the head of the humerus or glenoid cavity. Of Valtancoli's 15 patients 13 were treated surgically, while 2 refused operation and were provided with a protective

apparatus. The type of operation in each case was capsulorraphy preceded by arthrotomy. No immediate bad results were obtained in any case. In 9 cases which were followed up 6 made a complete recovery, one sustained another dislocation six months after operation as the result of an injury, in one the operation was a failure, as the patient had several recurrent dislocations in the course of the year, and in the last case no recurrence took place for seven years, when, as the result of injuries received in the war, repeated dislocations occurred.

## Therapeutics.

### 299. Sequelae of Neo-arsphenamin Treatment.

C. M. SMITH (*Arch. Derm. and Syph.*, February, 1925, p. 237) reports a case of severe bleeding and purpura following the administration of neo-arsphenamin. A man, aged 44, received two courses of arsphenamin intravenously with mercury intramuscularly—twenty-four injections in all. After the twenty-third injection saltness occurred together with bleeding from the nose and gums and purpuric spots in several places; these conditions quickly disappeared. Profound collapse, cyanosis, and general weakness followed the twenty-fourth injection, with more severe bleeding from the nose, gums, rectum, and the intramuscular needle puncture. The bleeding lasted for three or four days, and the purpura which followed lasted for two weeks. The patient was not haemophilic. On the sixth or seventh day the blood picture was essentially normal. Some areas of periostitis on the right tibia and radius improved under iodide and mercury, and his general health improved with iron citrate and quinine. His Wassermann reaction remained positive, and he developed ulcerative lesions on the tonsils and at the base of the tongue. Treatment was directed towards improving his general health prior to a resumption of antisyphilitic treatment.

### 300. Subarachnoid Injections in Neuro-syphilis.

G. MARINESCO and S. DRAGANESCO (*Presse méd.*, January 31st, 1925, p. 130) observe that although some writers have reported a certain improvement in a few cases of tabes dorsalis and of general paralysis of the insane after intravenous or intramuscular injections of arsenobenzol, mercury, or bismuth, it must be admitted that generally the results of treatment of neuro-syphilis by these methods have been disappointing. It is now recognized that the anatomical arrangement of the cerebro-spinal blood vessels renders the introduction of more than an infinitesimal quantity of any therapeutic agent very difficult. Sieard hoped to overcome this difficulty by the administration of small repeated doses, but Akatsu and Noguchi have proved that the tolerance of the spirochaete towards salvarsan and mercury increases rapidly under the administration of progressive doses of either drug. Gennerich believes that ordinary antisyphilitic treatment, in arresting the process of generalized infection, diminishes the progress of immunization and permits the spirochaetes to invade the meninges and the cerebro-spinal fluid, where they escape from the action of medicaments carried in the general blood stream. Inflammatory processes lessen the permeability of the pia mater and the cerebro-spinal fluid penetrates the subjacent parenchyma of the brain or spinal cord, carrying with it the spirochaetes. In general paralysis spirochaetes are very numerous and penetrate to the deeper layers of the cortex, but they are absent from the membranes and meningeal vessels. The failure of ordinary antisyphilitic treatment is shown conclusively by the fact that while minute quantities of arsenic have been recovered after death from the cortical grey matter, neither mercury nor bismuth has been found there nor in the cerebro-spinal fluid, and many other writers have shown that the subarachnoid injection of salvarsanized cerebro-spinal fluid. In three cases of general paralysis a remission of symptoms persisted for more than a year. Gennerich has introduced an ingenious modification of the technique of subarachnoid injection. He abstracts a large quantity (50 to 120 c.cm.) of cerebro-spinal fluid, to which neosalvarsan is added. In this way he obtains a very high dilution of salvarsan, which is not irritant to the cord, and, also, elevation of the burette containing the salvarsanized cerebro-spinal fluid carries the fluid upwards towards the brain. Gennerich also performs a double lumbar puncture in other cases—(a) at the level of the interval between the first and second lumbar vertebrae; and (b) between the fourth and fifth lumbar vertebrae. The patient is placed on the table, lying on his side. Two needles, rubber tubes, and burettes are employed in the double puncture. Through the lower needle 50 to 90 or 100 c.cm. of fluid is drawn off into the attached burette. The salvarsanized fluid is prepared and is reintroduced through

the upper needle, which is then withdrawn and the patient's head and shoulders are depressed below the level of his feet. In this position the burette attached to the lower needle is elevated, and at least one-half of the cerebrospinal fluid contained in this burette is permitted to re-enter the spinal canal. By this manoeuvre the concentrated salvarsanized fluid is carried towards the brain and is at the same time diluted by the larger quantity of fluid reintroduced through the lower needle. Either of these methods may be employed repeatedly. The results hitherto recorded have been far more satisfactory than with the older methods: lymphocytosis disappeared and in several cases the Wassermann reaction became and remained negative. In a group of 17 general paralytics, 6 returned to their employment, 5 showed a satisfactory improvement, 2 have had a short remission of symptoms, followed by a serious relapse, and in the remaining 4 cases the result of intracranial injection was almost nil. Among the 6 patients who returned to work, 4 were able to remain at work, 2 were capable of some useful work, but all showed signs of mental deterioration. Of 2 tabetic patients one improved greatly, the clinical symptoms disappeared, and the Wassermann reaction became negative. In 3 tabetics with incontinent optic atrophy, marked improvement occurred in one case, but in the others, which were of longer duration, there was little improvement.

### 301. Sodium Salicylate in Epidemic Encephalitis.

R. BENARD, MARCHAL, and Y. BUREAU (*Bull. et Mém. Soc. Méd. Hôp. de Paris*, January 16th, 1925, p. 61) record a case of epidemic encephalitis in a woman, aged 23, which assumed the form of severe febrile chorea with ptosis, paralysis of convergence, salivorrhoea, ties of respiration and expectoration, and albumin and excess of sugar in the cerebro-spinal fluid. No effect being obtained by intravenous administration of urotropine, intravenous injections of sodium salicylate in 10 per cent. solution of glucose were employed. After the first injection of 0.50 gram of salicylate the temperature fell from 102.4° to 98.6° F. without any other change being noted. Subsequently a daily injection of 1 c.cm. was given without any effect until the fifth day, when improvement set in and rapid recovery took place.

## Radiology and Electrology.

### 302. X-ray Examination of the Spinal Cord.

J. BERBERICH and S. HINSCH (*Klin. Woch.*, January 1st, 1925, p. 14) describe the method of x-ray examination of the spinal cord which they have employed during the last eighteen months. Lumbar puncture is performed with the patient in the lateral position. After measuring the pressure, 5 to 10 c.cm. (or more if the pressure is high) of the cerebrospinal fluid is allowed to flow away. Then 4 to 6 c.cm. of Merck's iodipin solution is introduced under very slight pressure. The opening of the cannula is directed towards the patient's head, the lateral position of the patient being maintained, and raising the pelvis is recommended. The x-ray photograph may be taken at convenience afterwards; but raising of the pelvis is necessary for some time previously. By this method the heavy iodipin solution gravitates within the spinal dura mater and the whole extent of the spinal cord is indicated in the photograph. To overcome certain technical difficulties two modifications are made. For the detection of changes in the upper part of the spinal cord suboccipital injections are employed. A second modification is the combination of the injection of iodipin and air. After lumbar puncture and removal of a little cerebro-spinal fluid as already described, only 2 c.cm. of iodipin is injected at first, and then under slight pressure 15 to 30 c.cm. of air is injected, and finally the rest of the iodipin. In this way, if the horizontal position of the body be maintained, a column of air is seen in the x-ray photograph, limited by iodipin, both at the end towards the cervical region and also at the end towards the sacrum. By this method meningeal tumours, carious bone invasion, localized meningitis, etc., may be detected. In twenty cases this method has been employed and no bad effects have followed.

### 303. Dangers of Large Doses of X Rays at Short Intervals.

A. GUNSETT (*Journ. de Radiol. et d'Électrol.*, November, 1924, p. 481) thinks that it is now generally recognized that the three German axioms—(1) employment of deeply penetrating rays and of a zinc filter of at least 0.5 mm. in thickness; (2) application of the "causticide" dose (*Karsinomedosis*) based on the erythema dose; and (3) application of this dose at one sitting—are impracticable, since the erythema dose cannot be determined accurately. The theory of a "cancer-

indling" dose is described as biological nonsense, and the dose is said to be ineffectual in the majority of cases. German authorities, with few exceptions, still endeavour to give a maximal dose at one sitting, but Gunsett states that even in Germany the expected results do not appear to have been obtained. The French practice has been to spread the treatment over a period of eight days. Gunsett also criticizes the practice of giving small doses, and suggests that they may have a harmful effect and stimulate the growth of a tumour. Laborde states that if large doses of x rays can cause degeneration and death of cells, feeble irradiation can, on the contrary, produce a stimulation of nuclear division, which has been observed in experiments on the lower animals, on plants, and also in man and the smaller mammals. Gunsett gives details of many of these experiments on germinating seeds, eggs of protozoa, frogs, and hens, as well as observations on the effect of large and small doses on tumours in men and animals. He concludes: (1) The dangerous effects of large doses given at short intervals are indisputable and are admitted generally even by those who practise that method. These dangers are both local (on the tumour) and general (on the patient's system). (2) The stimulating effects of small doses of x rays have not been proved definitely, either in plants, on animals, in normal tissues, or in experimental cancer or in human cancer. The observations that seem to prove this stimulating effect on human cancer are capable of another interpretation.

### 304. Diathermy in Pharyngeal Cancer.

D. MCKENZIE (*Brit. Journ. Radiol.*, January, 1925, p. 9) advocates diathermy in the treatment of both eradicable and inoperable pharyngeal cancer. Its value lies in its double action—upon the diseased tissues, and upon the surrounding tissues. In dealing with the primary deposit should be removed by diathermy and the lymphatic glands by combined dissection and diathermy, the intervening tissues being treated by diathermy puncture. While this can be done at one sitting McKenzie thinks it is better to divide it into two separate operations. In inoperable conditions bold and wide diathermy of tissue will prolong life, and the glands after diathermy puncture may shrivel and disappear. Although it must be admitted that diathermy may encourage malignant growth, yet the fact that its action is both destructive and actively germicidal renders such a result less likely than after treatment by other methods. In post-ericoid carcinoma diathermy may be applied by means of a blunt terminal, but since it is difficult to estimate the depth of the charring produced McKenzie considers that radium is to be preferred as a palliative.

## Obstetrics and Gynaecology.

### 305. Treatment of Placenta Praevia.

ON account of the numerous articles which have appeared lately in obstetrical literature regarding the value of the various treatments of placenta praevia, and especially the position of Caesarean section in such cases, G. CONRAD (*Zentralbl. f. Gynäk.*, January 31st, 1925, p. 275) discusses fully the statistics of 203 cases of placenta praevia treated at the Virchow Hospital during the years 1905-24. It is noted that primiparae were far more liable to the condition than is generally supposed—20.2 per cent. of the cases being first pregnancies. Nearly 60 per cent. of cases occurred in the first, second, or third pregnancy. In regard to age, 53.2 per cent. occurred between the ages of 30 and 40, it being as common in the late thirties as in the early; 58.6 per cent. of the cases were partial or lateral in type and 41.3 central. The total foetal mortality at birth and within fourteen days of birth was 54 per cent., 48.3 per cent. being stillborn, and of these 44.1 were premature. The proportion of viable to non-viable children was 159 to 50. The maternal mortality was 2.8 per cent. (18 cases), the cause of death being anaemia from bleeding in 10 cases; the other causes were sepsis 3, peritonitis 3, and pulmonary embolism 2. The classical Caesarean section was performed 51 times, with a maternal death rate of 5 (9.8 per cent.) and a foetal mortality also of 5; one foetus was premature. In 5 cases the lower uterine segment method was employed with no maternal or foetal deaths. In 43 cases mifeuerynters were used, followed by version and extraction, with a maternal death rate of 5 (11.6 per cent.), but with a mature foetal death rate of only 16.3 per cent. Bipolar version was performed in 40 cases, with only 3 maternal deaths (7.5 per cent.), but the foetal mortality was 50 per cent. There was pyrexia in the puerperium of 18.2 per cent., and in 11.3 per cent. the placenta was adherent. In his summary up Conrad recommends the lower uterine segment Caesarean section because it seems to



give a small maternal mortality; in support of this he quotes other statistics. There is also said to be less likelihood of a morbid puerperium, but he qualifies this recommendation by saying that before Caesarean section the condition of the mother, the viability and health of the child, the position of the placenta, and the cleanness of the case must all be taken into account. In the cases not suited for such treatment bipolar version is advised as being the best treatment for the mother. Conrad concludes by saying that the right place for the treatment of a placenta praevia is the hospital.

305. VON MIKULICZ-RADECKI (*Arch. f. Gynäk.*, December 15th, 1924, p. 245) describes the treatment at Kiel during twelve years of 168 cases of placenta praevia. A sharp distinction is drawn between the lines on which it is desirable to treat cases in private practice and in hospital. In private practice, it is stated, the object of therapy must be to save the maternal life with little regard to that of the child. The private practitioner is only concerned, therefore, with (1) rupture of the membranes, in cases of vertex presentation with partial placenta praevia and uterine contractions present; (2) version when the os admits two fingers; (3) cervical dilatation when the os is smaller. In the subsequent stages of labour he should renounce measures which are in the interest of the child alone, such as the Smellie-Velt grip, which entails danger of a torn and infected cervix. In a hospital, on the other hand, other principles must regulate the treatment, and the foetal life must be considered as well as that of the mother; active means of accelerating birth are therefore permissible and desirable. Version and the insertion of dilating bags have in this clinic been associated with high foetal mortality, and since 1918 have been largely replaced by Caesarean section, with a striking improvement in the foetal mortality and no increase of maternal deaths. It is concluded that Caesarean section is the method of choice for delivery in cases in which the child is living, the placental insertion completely or almost completely covers the os, and no infection appears to be present.

307. Testing Patency of Fallopian Tubes.  
I. C. RUBIN (*Journ. Amer. Med. Assoc.*, February 14th, 1925, p. 486), as the result of the investigation of 1,000 consecutive transuterine insufflations to test tubal patency, considers that the most suitable time for the test is the fourth to the seventh day after the cessation of the last regular menstrual period. He finds that the endometrium is then relatively quiet and the mucosa is at its thinnest, offering the least obstruction to the introduction of the uterine cannula. No risk of there being a uterine or extrauterine pregnancy is incurred, and the theoretical possibility of endometrial dislocation or gas embolism is eliminated. Rubin remarks that clinical and experimental observations indicate that a pressure of 200 to 250 mm. of mercury should not be exceeded in the test, though higher pressures may be employed by experienced hands in order to open tubes that have been previously demonstrated to be closed.

## Pathology.

308. The Pathogenesis of Cancer.  
L. W. SANBON (*Journ. Trop. Med. and Hygiene*, February 2nd, 1925, p. 39) advances evidence in support of a parasitological cause for cancer, and quotes the discovery by Börrer that the larval form of the thick-necked tapeworm in the cat could originate sarcoma in the liver of the rat. Fibiger of Copenhagen later associated sarcoma of the stomach of the rat with a round, striated muscle of the larva of which he named "necplasticum," the parasite among the striated muscles of the rat in a Danish sugar refinery. He adduces a considerable amount of other evidence on these lines, and is convinced that parasitic worms have some definite connexion with the production of malignant disease, but that the actual essential cause is some ubiquitous organism—probably a filter-passer—which only thrives in tissues of lowered resistance. In support of his views incriminating cockroaches he gives a detailed account of his epidemiological and parasitological investigations in Iceland and Italy.

309. A Method of Diagnosing Whooping-cough.  
E. BEST (*Arch. f. Kinderheilk.*, December 24th, 1924, p. 93) has recently employed the method adopted by Chiewitz and Meyer at the Copenhagen Serum Institute for the early diagnosis of whooping-cough by growing the Bordet-Gengou bacillus on a medium composed of glycerin-potato agar and defibrinated blood. She found, however, that it was not only

an extremely laborious and lengthy method, but was by no means reliable when the results were negative. She also emphasizes the fact that the naked-eye appearance of the colonies is by no means sufficient for the diagnosis of *B. pertussis*. In the cases of suspected whooping-cough suddenly developing in a clinic the practical value of this method will be limited even in the most favourable circumstances, since the preparation of fresh media and the growth of the colonies require several days.

## 310. Gonococcal Infectivity.

J. F. HOGAN (*Journ. Amer. Med. Assoc.*, January 17th, 1925, p. 194) urges the need of a more systematic attempt to prevent gonorrhoeal patients from being released from treatment until cure is established. He lays stress on the value of cultural tests in this connexion. The medium he recommends for obtaining gonococcal cultures is testicular agar, to which gentian violet has been added in the proportion of 1 in 200,000 to 1 in 500,000 parts. In this way gonococcal colonies were protected from being overwhelmed by staphylococcal growth. After massage of the prostate and vesicles the first drops of prostatic secretion were ignored and a later drop collected in a glass pipette introduced into the meatus; the secretion is then expelled on to the warm agar slant. Pinpoint colonies of gonococci were obtained in some cases after forty-eight hours, but it was frequently necessary to allow a week or more to elapse. He records ten cases in which this method was satisfactorily employed, even though in some cases the discharge was scanty and smears appeared to contain no gonococci. He therefore points out that the examination of smears ought not to be considered as establishing a cure in chronic gonorrhoea. The infectivity in this disease is, he thinks, of longer duration than previously believed, the organisms having been found in some cases as long as three or four years after an acute attack. He considers three negative cultural examinations essential before releasing the patient, each taken at intervals of a month, during which no treatment has been given.

## 311. Pseudo-valvular Formations in the Heart.

A. FABRIS (*Chore e Circolazione*, December, 1924, p. 441), who records three illustrative cases, states that two distinct types of pseudo-valvular formations may be found in the human heart. The first is found on the left surface of the inter-ventricular septum or between the trabeculae of the apex. The second type is found on the endocardium, and should be regarded as due to a hyperplastic reaction of the serous membrane to the mechanical stimulus of the blood stream, and perhaps also as the result of local endocarditis. In the author's first case, in which death was due to asphyxia from laryngeal stenosis, the autopsy showed a fibrous pocket, with its opening below like a swallow's nest, on the left surface of the inter-ventricular septum. The subjacent endocardium showed a slight uniform thickening. In the second case, which occurred in a child aged 1 year who had died of bronchopneumonia, a small pocket was also found on the left surface of the inter-ventricular septum one-fifth of an inch from the aortic orifice. In the third case, which occurred in a man aged 20 who had died of mitral incompetence, multiple pseudo-valvular formations were found in the left auricle.

## 312. Experimental Epilepsy.

W. E. DANDY and R. ELMAN (*Bull. Johns Hopkins Hosp.*, January, 1925, p. 40) endeavoured to determine whether localized traumatism of the brain rendered cats more susceptible to convulsions and whether the site of the injury had any important bearing on the production of the convulsions. A 10 per cent. emulsion of wormwood oil (of which absinth is the active principle) was administered through a stomach tube several weeks after a brain lesion had been produced by cortical and subcortical extirpation, simple incisions into the brain substance, or the embedding of a small foreign body locally below the cortex. The authors found that one-third to one-seventh of the dose of absinth required to produce convulsions in normal cats would excite attacks when the motor cortex had been injured several weeks previously. Injuries to the cerebellar and occipital lobes were found to be much less effective in producing susceptibility to convulsions than were injuries to the motor cortex. A minimal convulsive dose produced unilateral convulsions without loss of consciousness, and with a stimulant of just the right dosage the seizure remained focal as in petit mal, but an increase in the stimulant caused general convulsions. In normal cats restlessness and irritability preceded the convulsions, but in those with healed motor defects such preliminary irritability was absent.



# EPITOME OF CURRENT MEDICAL LITERATURE.

## Medicine.

### 313. The Peripheral Forms of Epidemic Encephalitis.

L. BÉRIEL and A. DEVIC (*Lyon méd.*, January 25th, 1925, p. 112) describe a new form of epidemic encephalitis which does not appear to have been isolated before, and does not in any way resemble the ordinary forms of the disease. The virus in these cases seems to attack exclusively or principally the peripheral motor and sensory neurons, and the affection appears to correspond to a meningo-radiculo-neuritic process. The onset may be sudden, the patient becoming paralytic within a few hours, or it may take a few days to develop. Painful symptoms may occur at this stage. At the height of the disease the affection presents the ordinary phenomena of polyneuritis, but the most striking feature is the widespread character of the paralysis, which often involves the sphincters, upper limbs, and sometimes even the face, although this distribution bears no relation to the intensity of the motor defect. Pressure on the nerves and muscles is generally painful. On the other hand, no anaesthesia was ever noted. Lumbar puncture shows that a meningeal reaction is almost constant. The course of the disease was always favourable, and the patients recovered completely without any paralysis or atrophy. The authors remark that this is a very important fact, because the great difficulty in diagnosis is to eliminate the painful forms of acute poliomyelitis. At the onset the diagnosis will depend partly on the intensity of the general symptoms, which is usually less in polyneuritis than in poliomyelitis, although there is no absolute rule. The most important element, however, in the diagnosis is the much wider diffusion of the paralysis in polyneuritis and especially the persistence of this widespread paralysis. Whereas in poliomyelitis certain groups of muscles rapidly recover their normal function, while others undergo a rapid atrophy, in polyneuritis there are only slight differences in the impairment of the various muscle groups affected and the atrophy is always the same—late in development and of very slight degree. The diagnosis is nevertheless usually difficult at first, and the authors have often had to wait several weeks until a localized atrophy or complete recovery decided the nature of the case.

### 314. "Illness of Infection" in Measles.

E. W. GOODALL (*Clin. Journ.*, February 11th, 1925, p. 69) states that during the thirty-two years that he has been medical superintendent of a fever hospital he has seen seven or eight examples, of which he records four, in which a child exposed to the infection of measles a few hours earlier has developed symptoms strongly suggestive of an attack of measles, such as slight rise of temperature, sneezing, conjunctival injection, and even a morbilliform rash, but the symptoms have disappeared in a few hours or a day or two. At the end, however, of a period within the limits of the incubation stage of measles the patient developed an undoubted attack of the disease. Goodall is of opinion that the first symptoms may have been due to the process of infection. The only other disease in which he has seen such a condition is enteric fever, but the enteric cases may be explained by a double simultaneous infection. Goodall finds it difficult, however, to accept the explanation that such a double infection occurs in measles producing the symptoms described, because the symptoms are those of measles and not of measles together with some other disease.

### 315. The Blood Picture in Small-pox.

G. PANTASIS (*Schweiz. med. Woch.*, December 25th, 1924, p. 1189) records his observations on the blood picture in small-pox during an epidemic at Berne in the years 1921-23. His conclusions are as follows: (1) In the prodromal stage there is a leucopenia; in severe cases during the eruptive stage and later there is a leucocytosis of about 10,000. In a certain number of cases during the pre-eruptive stage there is a leucopenia which gradually becomes replaced by normal values or even leucocytosis as the eruption develops. In some cases the leucopenia persists in the eruptive stage and is not converted into leucocytosis until the stage of desquamation. (2) Leucopenia in the prodromal stage is due to diminution in the absolute number of the polymorphonuclear cells, while there is an absolute increase in the number of lymphocytes. (3) Leucocytosis in the eruptive stage is due to an absolute increase in the number of the lymphocytes, while the polymorphonuclear cells show subnormal or barely normal values. In severe cases the absolute number of the

polymorphonuclear cells in the stage of suppuration may exceed that of the lymphocytes. (4) While, apart from toxic changes in the nuclei, the polymorphonuclear leucocytes show no special morbid forms, large lymphocytes and irritation forms appear and at the end of the prodromal stage constitute 20 per cent. of the total number of leucocytes. They are numerous in the eruptive stage and are still present in the stage of desquamation. (5) Large mononuclears and transitional forms are reduced in number absolutely and relatively during the early stage, but later may be normal in amount. (6) The eosinophils are reduced in number at the onset, especially in severe cases, but in a later stage are normal in amount, and in mild cases may even be increased. (7) The red corpuscles show no changes worth mentioning. (8) Pantasis's observations essentially agree with those of all other writers who have studied the blood picture in classical small-pox. (9) According to Pantasis's experience the blood picture in mild small-pox is the same as in severe small-pox and varicella, so that examination of the blood is of no value in distinguishing variola from varioloid or varicella. (10) On the other hand, the blood picture may be of some value in differentiating small-pox in the prodromal stage, and even in the eruptive period, from other infectious diseases, especially as hardly any other disease is characterized by the early appearance of a lymphocytosis.

### 316. Late Serum Immunization in Measles.

J. C. REGAN (*Journ. Amer. Med. Assoc.*, November 29th, 1924, p. 1763) records his observations on fifteen children in whom the course of measles was modified by injection of convalescent's serum late in the incubation period—namely, between the sixth and ninth days—in doses from 8 to 10 c.c.m. The modifications in the disease were as follows: (1) The incubation period showed a definite tendency to be longer. (2) The invasion was shortened. (3) Coryza was either absent or mild. (4) Koplik's spots were usually absent. (5) The exanthem was lacking. (6) Prodromal rashes occurred with greater frequency. (7) The eruption was altered in being either scanty or atypical, and in most instances by becoming ecchymotic as it faded. (8) The temperature curve was distinctly lower. (9) The constitutional reaction was decidedly less pronounced. (10) Complications were practically lacking. Regan believes that with the exception of institutional cases and of children under 2 years of age or older children suffering from debilitating diseases, the late immunization of susceptibles is by far the most logical procedure.

## Surgery.

### 317. Patchy Post-traumatic Atrophy of the Bones of the Knee.

G. M. F. SINDING-LARSEN (*Tidsskrift, d. Norske Lægeforening*, February 1st, 1925, p. 128) records the following case as a warning to surgeons who are apt to resect a knee-joint on the assumption that it is tuberculous, and without employing such diagnostic methods as the x rays and tuberculin tests. The patient was a steward, aged 40, whose sister had died of pulmonary tuberculosis; he had bad good health till June, 1922, when the inner side of the right knee was struck by a barrel. The knee at once became swollen and gradually stiffened. Tuberculosis being diagnosed, immobilization in plaster and treatment with sunlight were prescribed. When first seen by the author in May, 1923, he limped with a stick, the circumference of the right knee was 1 inch more than that of its fellow, the range of movement was 20 degrees, and the muscles of the thigh were atrophied. Clinically, the case seemed to be one of fibrotic fungoid inflammation. But the x rays showed a curious patchy atrophy of the femur, tibia, and patella, associated in some places with sclerotic changes surrounding the atrophic patches. The interpretations of the skiagrams by various authorities differed greatly, and the author was about to resect the joint on the assumption that it was tuberculous, and that this was the shortest way to recovery, when, as a precautionary measure, he decided to test with tuberculin. A Pirquet test and successive subcutaneous injections of tuberculin, up to a dose of 2.5 cc., proved completely negative. Chronic arthritis with patchy atrophy of the bone was now diagnosed, and treatment with diathermy, massage, and careful active movements was instituted. The patient recovered rapidly and was able to return to work in September, 1923. A year later he was again examined, and the knee was found to be normal. There was no

pain or limitation of movement, and skiagrams showed hardly a trace of patchy atrophy. The thigh muscles were again well developed, and he stated that during the past year he had been perfectly well. The author appends reproductions of the skiagrams and a report by Gösta Forssell thereon.

### 318. Mycetoma of the Foot in Europe.

F. PUTZU (*Arch. Ital. di Chir.*, November, 1924, p. 585), who records an illustrative case, states that mycetoma of the foot, which is very prevalent in the East Indies, where it is known as madura foot, as well as in the Malay States, the Philippines, and other districts in Africa and America, is uncommon in temperate climates. In Europe only ten cases have been recorded, almost all of which occurred in Italy. Putzu's case was in a boy, aged 16, a native of Cagliari in Sardinia, in whom the disease started at the age of 9, without any apparent cause, in the form of a small swelling on the sole of the size and shape of a kidney bean. Within the last two years its growth had been rapid and considerable as the result of an injury. The foot was much swollen and covered with numerous pustules from which there was a blood-stained discharge containing yellowish granules. Apart from a feeling of weight the condition did not cause the patient any inconvenience. The organism isolated was identical in its morphological, cultural, and experimental features with actinomyces. Putzu points out that this is the second case in Europe—the first having been reported by Tusini in 1900—and the first in Sardinia in which the diagnosis of mycetoma of the foot has been established by bacteriological examination. This case also shows that mycetoma of the foot is not always due to a single species of fungus—namely, *Monosporium apio-spermum*—as previous publications would suggest. Mycetoma of the foot as observed in temperate climates, like that seen in the tropics, has a varied etiology, although the cases closely resemble each other clinically and anatomically. In treatment of mycetoma of the foot all methods except operation are absolutely useless. Administration of large doses of iodine, either by mouth in the form of iodides or subcutaneously, sea-bathing, and heliotherapy, which are so valuable in tuberculous affections, did not have any effect in Putzu's cases. The same may be said of radiotherapy, which may be of some value in cervical actinomycosis. In Putzu's case a supramalleolar amputation was performed. The subsequent history of the case is not recorded.

### 319. Pseudo-cholelithiasis.

L. SCHAAP (*Nederl. Tijdschr. v. Geneesk.*, December 13th, 1924, p. 2991), who records two illustrative cases, refers to the condition simulating cholelithiasis first described by Keen in 1833, and since by Kerto and Riedel in Germany in 1902 and 1903, and by Taylor, Bond, Stuart, Nairne, Porter, and Ricketts in England and the United States, and by Terrillon, Longuet, and Semolaigne in France. Non-calculous cholecystitis appears to be more frequent than is generally supposed. While Henkel, from statistics at Göttingen, found only 7 examples in a series of 100 cases of chronic cholecystitis, the recent statistics of Smithies show that among 1,000 cases calculi could be excluded in no less than half. In most cases a clinical distinction is impossible. Examination with the duodenal tube may be of assistance in that the presence of stones may sometimes be recognized by the size of the cholesterol crystals in the duodenal fluid removed. Only a positive result, however, is of any value in such cases. The practical importance of this subject is that in treating patients who present the clinical picture of cholelithiasis the possibility of calculi being absent should be taken into consideration, so as to avoid a surprise on finding the gall bladder empty on laparotomy.

### 320. Intestinal Obstruction due to Inspissated Mucus.

J. EXALTO (*Deut. Zeit. f. Chir.*, December, 1924, p. 52), who records an illustrative case, points out that in intestinal obstruction in the newborn the possibility of inspissated plugs of mucus and epithelium should be considered as a factor as well as such causes as atresia, intussusception, volvulus, or strangulation by bands. There are three possible explanations of intestinal obstruction in the newborn by inspissated mucus—namely, (1) delay in secretion of bile, (2) defective secretion of bile, (3) some disturbance in the bile ducts or intestine, so that little or no bile enters the intestine. As a result there is a formation of firm plugs consisting of mucus, epithelial cells, and calcareous concretions, greyish-white in colour owing to the absence of bile. In some of these cases the plugs are situated in the rectum and are evacuated spontaneously or as the result of an enema. In other cases they become lodged higher up in the intestine and cause complete obstruction, which always ends fatally. Cases of this kind are extremely rare. Apparently the only cases reported in English literature are those by Ballou and Brennan (*Journ. Amer. Med. Assoc.*, 1919, lxxiii, p. 1832) and

Hughes (*Brit. Journ. Child. Dis.*, 1922, xix, p. 32). Exalto's case occurred in a female infant, aged 3 days, who was admitted to hospital because it had not passed any meconium, but had been constantly vomiting. The abdomen was tense. Passage of a sound 25 cm. up the anus was followed by the discharge of a white slimy mass 8 cm. long, but no meconium. A diagnosis of intestinal atresia was made, and laparotomy was performed without the nature of the stenosis being discovered. Death took place five days later. The autopsy showed that the ileum was obstructed by a number of plugs consisting of mucus, epithelial cells, and calcium carbonate.

## Therapeutics.

### 321. Carbon Tetrachloride as an Anthelmintic.

A. C. CHANDLER and A. K. MUKERJI (*Indian Med. Gazette*, February, 1925, p. 61) give notes on carbon tetrachloride as an anthelmintic considered from the points of view of safety, effectiveness, simplicity, cheapness, and lack of unpleasantness in administration. They conclude that a single dose of from 45 to 75 minims (for an adult) of chemically pure carbon tetrachloride is safer than any other anthelmintic, provided that a saline purge is administered, that the patient is well nourished, has a normal liver, abstains from alcohol before and after treatment, and receives a diet rich in carbohydrates and poor in fats. They are of opinion that one such treatment will cure from 70 to 90 per cent. of necator infections and about 30 to 40 per cent. of ancylostome infections. As to simplicity of administration, the fact that one dose is sufficient renders it superior for mass treatment. Although the after-effects may be slight giddiness and drowsiness, patients are unanimous in preferring it to chenopodium and thymol, and it has the further advantage of being much cheaper. As regards administration, a 70 minim dose in skimmed milk is recommended. Chandler and Mukerji add that carbon tetrachloride has a distinct ascaricidal action, but is more effective when combined with chenopodium. Given orally it had a more decided action on oxyurias than any other anthelmintic tried. Good results have followed its administration rectally in warm milk, and the authors consider this method, combined with a dose by mouth, worthy of further trial.

### 322. Diathermy in Gonococcal Infection.

E. P. CUMBERBATCH and C. A. ROBINSON (*Brit. Journ. Ven. Dis.*, vol. i, No. 1, January, 1925, p. 23), recognizing that the gonococcus can be destroyed by a temperature insufficient to harm living tissues, treated over 150 gonococcal infections by diathermy. By this means the temperature of the tissues can be raised *en masse*, the heat being generated in the tissues themselves and produced faster than it can be removed by convection. With currents oscillating a million or more times a second the tissues can be heated to 114°F. with only a sensation of heat resulting, but above this temperature pain is produced, and the authors consider it unsafe to increase the current to a strength at which pain is felt. Diathermy appears to act (1) directly by diminishing the vitality of the gonococci and destroying them in certain situations where a high temperature can be safely attained, and (2) indirectly by increasing the power of the tissues to remove infecting organisms. In the treatment of infections in women the authors applied diathermy first to the urethra and then to the cervix uteri by means of bougie electrodes, the current being gradually increased until the sensation of heat gave place to pain; the current was then reduced until the pain disappeared, and was maintained at that strength for ten minutes. This method of treatment was present or not. The treatment was repeated twice weekly for from three to five sessions. Cumberbatch and Robinson remark that in cases where a vaginal speculum cannot be introduced the current can be applied for twenty minutes through an electrode in the rectum. In children high temperatures were not attempted, but the exposure was prolonged. The authors claim that gonococcal infection in both sexes can be cured or arrested by the application of diathermy to the primary foci of infection.

### 323. Intraspinal Injections of Gentian Violet.

B. I. GOLDBERG (*Boston Med. and Surg. Journ.*, February 19th, 1925, p. 359) discusses the value of frequent drainage and intraspinal injections of gentian violet in meningial infections with Gram-positive organisms. Notes of two cases of meningitis are recorded in which intraspinal injections of gentian violet, diluted 1 in 250,000, were given two or three times a day, preceded by removal of from 50 to 60 c.cm. of cerebrospinal fluid. Although the cerebrospinal fluid in both cases

was purulent, no growth was obtainable on culture. One of the cases ended fatally, but in the other which had shown a typical temperature swinging daily from 99° to 104° for five and a half weeks there was a dramatic fall to the normal with complete recovery. Goldberg is uncertain to what extent this was due to the injection, since the removal of cerebro-spinal fluid before each injection may have contributed to the cure. The author's object is to call attention to the innocuousness of such intraspinal injections and their possible value in an otherwise hopeless condition.

## Laryngology and Otolaryngology.

### 324. Laryngeal Tuberculosis.

E. CURECHOD of Lausanne (*Arch. Intern. de Laryngol., d'Otol. et de Rhinol.*, November, 1924, p. 1028) describes the case of a woman, aged 40, who was a worker in wool; after six years in this occupation she developed a hard dry cough. On examination there was found pronounced deflection of the nasal septum with consequent mouth-breathing. The larynx showed a swelling of the anterior two-thirds of the left ventricular band, which reached almost to the middle line and hid the corresponding part of the vocal cord; there was also a thickening in the interarytenoid space. A section of the swelling was found to be strongly indicative of tuberculous disease. The condition cleared up under rest, galvanocautery treatment, and the application of lactic acid with some x-ray therapy. Curechod points out that the dust in a wool factory is considerable, and the condition of mouth-breathing tends to an irritation of the larynx and thus to a predisposition to tuberculous disease. He has ascertained that both the morbidity and the mortality from pulmonary diseases is greater in workers in dusty occupations than in other types of labour. This is notably the case with woollen workers, and is equally true in the case of phthisis and in other pulmonary diseases. Similar precise figures are not available in the case of laryngeal tuberculosis, and such data as are available are complicated by reference to the alcohol, tobacco, and other habits of the patients. Figures collected by Lamb, however, indicate that the proportion of pulmonary to laryngeal tuberculosis varies according to the type of dust in which the patient works. In the case of metallic dust the number of cases of laryngeal disease outnumber the pulmonary by 50 per cent. In the case of vegetable and mineral dust the cases of pulmonary phthisis outnumber those of laryngeal disease by about 30 per cent. The mode of inoculation of the laryngeal mucosa by the tubercle bacillus is still under discussion. It is suggested that the bacillus is carried by the particles of dust, of which wool would be a very ready carrier, and implanted on the laryngeal mucosa. This appears to be a possibility, and it has been confirmed by animal experiment; but the objection to it is that tubercles are often found in the deeper tissues without any trace of superficial change. It has been suggested that the infection is lymphatic, through the glands of the neck, a primary lesion existing in the lungs, or in the throat—especially the tonsils; this has not been proved by experiment. A suggestion that the infection is by the blood stream is not favoured by Curechod; he states that it is not confirmed by experiment on animals. He suggests that, though all these theories have very weak points, it is possible that the various routes may be concerned at different times and under different conditions.

325. J. SAFRANEK (*Med. Klin.*, February 1st, 1925, p. 157) reviews the pathology and treatment of laryngeal tuberculosis and records his own experience. It is, he finds, very rarely the first and only manifestation of tuberculosis: usually it results from infection by sputum in pulmonary disease. One-third of the cases of pulmonary tuberculosis present laryngeal symptoms. Climatic and local treatment should be combined with rest for the larynx obtained by "silence" treatment, in which even whispering is forbidden. In favourable cases of laryngeal tuberculosis the production of artificial pneumothorax is recommended. Local applications to the larynx are, he thinks, of little value, though a 10 to 20 per cent. menthol solution is much used. When local anaesthetics fail to relieve dysphagia the injection of alcohol into the superior laryngeal nerve, and in extreme cases section of this nerve, has been reported to be beneficial. Sfraneck considers that in every case of laryngeal tuberculosis, when the general and pulmonary conditions are favourable surgical removal of infected tissue from the larynx should be undertaken. He prefers galvanocautery and diathermy, but attaches great importance to tracheotomy: in numerous cases he has seen subsidence of laryngeal changes, as well as cessation of symptoms of stenosis, after tracheotomy. He therefore recommends tracheotomy in every case of laryngeal tuberculosis with commencing stenosis, and urges that this opera-

tion should not be delayed until symptoms of stenosis become severe. The great value of complete rest has led to the recent treatment of laryngeal tuberculosis by paralyzing the recurrent laryngeal nerve, either by surgical division or by the injection of alcohol. Sfraneck thinks that total extirpation of the larynx is only indicated in extremely rare cases, when the general and pulmonary conditions are favourable, and the tuberculosis has become diffused, extending to the cartilaginous wall of the larynx. He adds that, excluding very severe cases, laryngeal tuberculosis can be favourably influenced by suitable treatment, and in many cases definitely cured; pessimistic views as to cure should no longer be held.

### 326. Auditory Re-education in Middle-ear Catarrh.

J. RATEAU (*Rev. de Laryngol., d'Otol. et de Rhinol.*, December 31st, 1924, p. 806) describes the dry fibro-adhesive catarrh which follows catarrh with exudation. This condition commonly arises as a sequela of acute attacks of influenza, and also following disease of the accessory sinuses of the nose and of the nasal mucosa. It is more common in the city worker with a sedentary indoor occupation than in the outdoor worker of the country, and is often associated with alcoholism. An existing arterio-sclerosis or a chronic arthritis seems to predispose to middle-ear catarrh. The author describes at length the case of a professor who developed this condition after a very acute and severe attack of influenza. Tests showed middle-ear deafness with an ankylosed stapes, and indicated certain areas on the scale of sounds where hearing was still comparatively acute; the conversational voice was only heard very close to the ears. Treatment consisted in regular disinfection of the nasopharynx, digital massage of the muscles of the ear, electro-vibratory massage of the concha, and pneumatic massage of the tympanic membrane. Re-education to sound is effected by conveying to the patient musical notes from a mouth-organ which are conducted to the ear by means of Tiltot's tube. For the higher notes a flute is used and for the lower a piano, against which the patient is instructed to press his head; transconductors as well as aerial conduction is thus employed. Sessions of this treatment are given twice daily, and exercises with the voice through Tiltot's tube are added after a short time. In the case described by the author the hearing of conversational voice was increased in the two ears from 20 and 10 cm. to 50 and 20 cm. respectively, with a corresponding increase in the comfort of the patient. The progress of the patient is very carefully watched throughout, and tested by the Rinne and Swabach tests before and after inflation of the tympanum. If the time of these tests diminishes, and the difference between the hearing before and after inflation also diminishes, the condition of the ear is deteriorating, but so long as these periods are increasing progress is being made. By means of this procedure the interest of the patient is maintained, and the diminution of perception which follows diminution of transmission is prevented or retarded. Failing this the patient is prone to retire into himself, ceasing to make any attempt to take part in the conversation and doings of others.

## Obstetrics and Gynaecology.

### 327. Caesarean Operations in Two Stages.

R. VAUDESAL (*Bull. Soc. d'Obstét. et de Gynéc. de Paris*, 1924, 10, p. 787) records another successful instance of Portes's operation of Caesarean section followed by temporary exteriorization of the uterus. The patient had been in labour eighty hours and showed general contraction of the pelvis. The suture of the abdominal wall in preparation for hysterectomy was done in one layer, with bronze wire. The uterus was returned to the abdomen thirty-eight days later. The following contraindications for Portes's operation are tabulated: (1) death of the foetus—here embryotomy is preferable; (2) pelvic contraction permitting symphysiotomy or pubiotomy; (3) dystocia from pelvic tumour, unless the tumour can be removed at the same operation; (4) urgent maternal indications for rapid delivery—here vaginal Caesarean section will usually be preferable. J.-L. FAURE (*ibid.*, p. 792) believes that after abdominal Caesarean section in infected cases the insertion for about ten days of a Mikulicz drain (extending along the anterior surface of the uterus) will render exteriorization of the uterus unnecessary. P. GUÉNIOT (*ibid.*, p. 790), in support of this suggestion, recalls that Zarate in Buenos Aires had used a similar device, leaving a gauze drain of smaller size along the uterine wound for forty-eight hours: his four patients were discharged from hospital in about three weeks. Guéniot holds nevertheless that Portes's operation has a definite therapeutic place: it has the advantage of permitting continuous observation of the uterine scar and its secondary suture if necessary, so that in a later pregnancy there may be no risk of its rupture.

## 328. Pyelitis in Pregnancy.

G. TRIOLO (*Riv. d'Ostet. e Ginecol. Prat.*, December, 1924, p. 615) accepts the view that the pyelitis of pregnancy is very often due to a *B. coli* infection ascending from the bladder. Most commonly commencing in the sixth month, the onset of symptoms may be slow or acute. In the former case, typhoid or paratyphoid fever, malaria, or other pyrexial diseases may be suspected; in the latter, especially if the ureter be tender near McBurney's point, acute appendicitis may be simulated. Usually, however, urinary symptoms are present, and in any case the diagnosis is established by examination of the urine. Macroscopically there is usually nothing more than slight diffuse cloudiness to be noted; the reaction is acid. Microscopically numerous leucocytes, *B. coli*, and epithelial cells from the renal pelvis or bladder are to be found. Cystoscopy and ureteral catheterization are diagnostic methods which are not generally required. The prognosis is good, although recurrences in subsequent pregnancies are not uncommon. Treatment consists in rest, and the abundant ingestion of alkaline mineral waters, or water to which sodium bicarbonate has been added. In cases resisting this treatment resical lavage with silver nitrate (1/2 per cent.) or protargol (2 to 10 per cent.) is recommended, and may be combined with vaccine treatment. Exceptionally ureteral catheterization or lavage of the pelvis with silver preparations may be required. Triolo thinks that the artificial termination of pregnancy is very rarely necessary, and that it is of doubtful therapeutic utility.

## 329. Treatment of Abortion.

J. DE TORRE BLANCO (*Arch. de med., cir. y esp.*, December 27th, 1924, p. 633) in the treatment of non-infected abortion deprecates the method recommended by Polak and Becerro de Bengoa, which consists in the introduction of a slip of sterile gauze into the cervix, plugging the vagina, and administration of large doses of ergot, on the ground that introduction of the gauze may reactivate pre-existing inflammation of the adnexa, while plugging of the vagina may facilitate the development of infection. Of 159 cases of non-years in hospital and private practice, which were treated by curetting, in 137 there was not the slightest complication, while the rest had only a slight rise of temperature of two or three days' duration. In the case of infected incomplete abortion active intervention shortened the course of the disease. Blanco thinks that the best time to empty the uterus is at the onset of infection, before the disease has spread beyond the uterus. Evacuation of the uterus should be instrumental, not digital, as the digital method can never be complete. If the cervix is not dilated and is not competent, a hysterotomy should be performed, as is not infrequently the case. The cervix favours the development of a postabortal infection. After the uterus has been emptied it should be painted with iodine. In most cases no plugging is necessary apart from haemorrhage.

## Pathology.

## 330. The Value of Anatoxins.

G. RAMON (*Ann. de l'Inst. Pasteur*, January, 1925, p. 1) records a number of experiments which have been made to estimate the value of anatoxins, most of the work being performed on diphtheritic anatoxin. We referred to his previous work on anatoxin in our issue of March 22nd, 1924 (*Epitome*, para. 247). He has now found that a single subcutaneous injection of 25 c.c.m. into horses stimulated the production of antitoxin to such an extent that after ten days the serum contained 100 units, sometimes 200, and exceptionally even 300 units per cubic centimetre. For the preparation of diphtheritic anatoxin his usual method is to give a total of 1,030 c.c.m. of anatoxin spaced over nine injections made twice weekly; the horse is bled thirty-five days after the commencement. A more rapid method is to give 1,075 c.c.m. spaced over six injections, so that the first bleeding can be performed twenty-five days after the commencement. From fifty horses injected with the same batch of anatoxin the average yield of antitoxin was 525 units per cubic centimetre; this is better than in the old method, where only 400 units were obtained. He considers, therefore, that the method of immunization by the use of anatoxin has considerable advantages over the former method, in which crude toxin was employed; not only does it result in a better antitoxin, but it is much more rapid, and it entails no risks for the animals. He finds that the immunizing power of the anatoxin depends not so much on the dosage in which it is given as on the quality of the anatoxin. The higher the flocculating power the higher

is the immunizing power. By a series of tests he has found that there is a close correlation between these two powers; so much so that he proposes to introduce a new term for the measurement of the antigenic power of the anatoxin. This antigenic power he estimates as the number of units of antitoxin which are required to cause flocculation in 1 c.c.m. of anatoxin. An anatoxin, therefore, which is flocculated by 10 units of antitoxin is said to have a value of 10 anatoxic units. This unit is a relative one, as the immunizing power of a given anatoxin of course depends to a certain extent on the individual reaction of the animal employed. He finds that whereas crude diphtheritic toxin is destroyed by a temperature of 65° to 70° C. for one hour anatoxin is not so destroyed; not till a temperature of 72° C. is reached does the anatoxin become attenuated. It is therefore possible to sterilize it by Tyndall's method of repeated heating at low temperatures. Besides diphtheritic anatoxin other toxins have now been modified by formal and heat with the production of anatoxins; in practice these have proved of great value. They comprise tetanus, botulinus, and gas gangrene anatoxins. Lastly, he has found that certain other poisons, such as abrin and the venins, can be so modified, and that the anatoxins so obtained are able to give rise, on injection into animals, to the formation of antitoxins.

## 331. Symbolism of Diphtheria Bacilli.

AEIRA ADACHI (*Ichij. Journ. Exper. Med.*, December 20th, 1924, p. 1) states that, in spite of numerous investigations into the structure and life-history of the diphtheria bacillus, our knowledge is still very incomplete; many questions require further investigation, and in particular the type of diphtheria bacillus in a given case, and whether present in pure culture or mixed with pathogenic or saprophytic bacteria. The determination of the relative virulence of a given infection or culture by animal experiment has received considerable attention during recent years, but much remains to be done. Nicolai instituted extensive researches, adding other bacteria to cultures of *B. diphtheriae* with a view to determining whether the latter organisms grow more or less luxuriantly when so mixed, and whether any alteration was produced in their virulence, as determined by experiments on animals. Adachi describes various similar researches carried out during the last few years, and thinks that it is possible to draw the following conclusions: (1) The production of acid and spores by diphtheria bacilli was not affected by the presence of *li*, Friedländer's bacillus, nor observation did not disclose any increased virulence of *B. diphtheriae* in mixed culture. (2) Bacteriological diagnosis of diphtheria was rendered more difficult by the presence of staphylococci and of Friedländer's bacillus, but when streptococci or *O. albicans* were present they did not interfere. (3) The "suppression treatment" of diphtheria carriers by *B. coli* and *B. acid lactici* has been objected to on biological grounds, as the antagonistic influence of these bacilli on *B. diphtheriae* has not been definitely proved. It seemed more probable that spraying with cultures of staphylococci and pneumobacilli would be successful in the treatment of "carriers."

## 332. Local Effects of Intramuscular Injections.

H. W. ACTON and R. N. CHOPRA (*Indian Journ. Med. Res.*, October, 1924, p. 251), as the result of experiments on rabbits with intragastric injections of 20 mg. of sodium and potassium tartar emetic, 16 mg. of eucetino hydrochloride, and 80 mg. of quinine dihydrochloride, have come to the following conclusions: (1) Antimony, emetine, and quinine, when injected intramuscularly for the treatment of kala-azar, amoebiasis, and malaria respectively, all produce local effects upon the tissues. (2) Antimony causes oedema, irritation, and pain, emetine produces local haemorrhages and bruising, and quinine oedema and necrosis. (3) Quinine dihydrochloride exerts its effects on the tissues in two ways: (a) the liberation of the acid radicle causes oedema, irritation, and pain; (b) the base, acting as a protoplasmic poison, causes death of the surrounding tissues. (4) The salts of the four main alkaloids of cinchona bark all cause oedema, irritation, and necrosis of the tissues. (5) Cinchonine hydrochloride, when injected into the tissues, produces necrosis and oedema, and is the weakest alkaloid therapeutically. (6) The injection of these alkaloidal salts into the muscles of man should never be undertaken, since human muscle tissue is unable to live in the presence of these bases at a high concentration—namely, 1 in 2,000—and there is also a slight danger of tetanus, due to introduction of tetanus spores owing to imperfect sterilization, the necrosed area forming a suitable nidus. (7) There is only one method of administering cinchona alkaloids, and that is by the mouth. Very immediate action is required, quinine bases should be injected intravenously.



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G. MACCIOTTA (*Il Policlinico*, Sez. Prat., January 16th, 1925, p. 116) states that while almost all textbooks are agreed as to the possibility of relapses and second attacks of measles, such an occurrence is regarded as exceptional. Macciotta, however, records eight cases of relapse and three of second attacks, all of which were observed in the same epidemic during the spring of 1924, and occurred in about 1 per cent. of all cases of measles. Relapses appeared in children aged from 1 to 7 years within a few weeks of the primary attack, while the second attacks were in persons aged from 15 to 27 who had suffered from measles in infancy. Macciotta attributes the occurrence of relapses and second attacks to an exaltation of the virulence of the causal organism of measles on the one hand, and a diminution of organic resistance on the other. The two predominant factors in his cases were the familial and the tuberculous. Four of the patients were two pairs of brothers, and two were cousins. Five of the relapse cases were tuberculous, and tuberculous could not be excluded in the remainder. Of the three patients with second attacks, one subsequently died of pre-existing tuberculous and another showed signs of phthisis.

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S. TRENTINI (*Rif. Med.*, January 12th, 1925, p. 24), who records an illustrative case of paratyphoid B infection in a woman, aged 26, together with the autopsy findings, states that while in some cases the clinical picture and pathological changes, on both naked-eye and microscopical examination, are the same in paratyphoid B infection as in typhoid, yet in other cases a distinction can be made. Several writers have described the following anatomical changes as characterizing paratyphoid infection: (1) The diphtheritic character of the intestinal lesions. (2) The ulcers are few in number and are only rarely found in connexion with Peyer's patches or the solitary follicles. (3) The ulcers are found in the upper part of the intestinal canal as well as in the colon down to the rectum. Some writers, such as Burchhardt and Huchschmann, regard ulcers in the colon as typical of paratyphoid infection. (4) There is generally no change in the lymphatic system of the intestine, mesenteric glands, and spleen, which in typhoid show the typical enlargement. Trentini's case, like 42 of the 75 cases of paratyphoid diagnosed bacteriologically by Sternberg, showed changes identical with those of typhoid. This confirms the conclusion recently reached by Suzuki, who, after studying 69 cases of paratyphoid fever, was convinced that in this condition intestinal lesions predominated in the form of follicular enteritis, but cases of paratyphoid were not infrequently found in which the lesions of the intestine, spleen, and lymphatic glands corresponded exactly with those of typhoid fever.

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R. MELCHIOR (*Paris Méd.*, January 10th, 1925, p. 47), who records two illustrative cases, states that three groups of post-typhoid osteo-periostitis can be distinguished bacteriologically. The first group consists of cases due either to *B. typhosus* only or *B. paratyphosus* B only; the second group consists of cases due to staphylococci only; while in the third group staphylococci are associated with typhoid bacilli. Melchior thinks that vaccine therapy is indicated in the last two groups, and may be of service in the first group when the course is chronic. The group to which the case belongs is determined by bacteriological examination, if possible, while in other cases clinical methods will decide. The author adds that a post-typhoid complication, which is not relieved by rest and is associated with the persistence of general symptoms, is not due to the typhoid bacillus, which is only slightly virulent and is easily rendered harmless by the antibodies accumulated in the organism.

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LOUSTE, CAILLIAU, and DARQUIER (*Bull. Soc. Française de Derm. et de Syph.*, January, 1925, p. 10) refer to their case of hypertrophic tuberculosis of the face simulating Oriental sore (see BRITISH MEDICAL JOURNAL, March 7th, 1925, *Epitome*, para. 248), and now record another unusual case of tuberculosis in a man aged 25. At the beginning of October, 1924, he noticed a small erosion, the size of a lentil, on the left side of the labio-preputial groove, slightly painful, with marked

preputial oedema. The ulcer was treated with silver nitrate and fomentations were applied. A month later a mass of inflamed glands in the left groin rendered walking painful. At the beginning of December there was a nodule as large as a pea at the site of the original ulcer, slightly mobile, and almost painless on pressure. On its apex there was a small sinus from which a little yellowish purulent fluid exuded. The induration was limited and all oedema had disappeared. The mass of inflamed lymph glands in the left groin was as large as an egg, hard, painful on pressure, and adherent to the superficial and deep fascia. Both the Wassermann and Hecht reactions were negative. The diagnosis was a suppurating cyst of a preputial gland. The nodule was excised twelve days after admission; the operation wound healed in six days. On January 4th the inguinal bubo opened and discharged a small quantity of whitish pus which did not contain tubercle bacilli. Sections of tissue removed at the operation showed dense infiltration with giant cells, mononuclears, and plasma cells. Some sections contained acid-fast bacilli, which did not, however, stain well. Louste observes that the sections showed a typical picture of a tuberculous nodule. Radioscopy of the lungs gave no evidence of tuberculosis.

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E. S. McDOWELL (*New York State Journ. of Med.*, January, 1925, p. 19), who records an illustrative case, remarks that many outbreaks of infectious jaundice have been reported in widely separated parts of New York State, but the cases have been mild, the onset of the disease insidious, and the organisms had disappeared by the time the nature of the disease was suspected. McDowell's case was in a man, aged 43, who had been working and sleeping in a kitchen infested with rats, but with no history of a rat bite. He suddenly became ill, with a temperature of 103°, and severe pains in the joints, back, and abdomen. Three days later he had complete anuria, became deeply jaundiced with haematemesis and melæna, and died about one week after the onset. The Wassermann reaction was negative. *Post mortem* the kidneys were large and swollen, and there were petechial haemorrhages throughout the gastro-intestinal tract. Microscopical examination showed acute glomerulo-nephritis, extensive destruction of the liver cells, and spirochaetes in the liver and kidneys. Inoculation of the blood of one of the rats on the premises into a guinea-pig produced all the symptoms of Weil's disease. Spirochaetes were obtained from the blood stream of the animal, reinjected into another guinea-pig, and the disease reproduced.

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F. STARLINGER (*Deut. Zeit. f. Chir.*, January, 1925, p. 408), who records a case in a man, aged 37, the father of a healthy child, in whom the growth had been present for eighteen years, states that the first example of a tumour of the vas deferens was reported in 1819 by Cloquet, the growth in his case being a lipoma. Since then 118 authentic cases have been recorded. In about 50 per cent. there was a history of trauma. The majority were lipomas, which were often of peritoneal origin, and sometimes showed a diffuse infiltrating growth, frequently relapsed, and occasionally formed metastases. The growths in this region in order of frequency are lipomas, dermoids, mixed tumours, fibromas, lymphangiomas, myomas, myxomas, and carcinomas. Starlinger's case is the third on record of a benign tumour of the vas deferens with a mainly myxomatous composition. The typical feature of a benign tumour of the vas deferens is its long duration, the growth dating back to puberty without there being any causal connexion with that epoch, and it is not until after the lapse of many years that the patients seek medical advice owing to increase in size of the tumour. Actual neuralgia in the vas deferens is not complained of, but only dragging pains of varying intensity. Clinical differentiation from the much more frequent condition of hydrocele is often impossible without exploratory puncture, especially as myxomatous tumours are translucent, a feature formerly supposed to be peculiar to hydrocele. The more frequent situation of the tumours on the left side is probably of no significance in view of the small number of cases observed.



## 339. Treatment of Burns.

1. S. RAYDIN and L. K. FERGUSON (*Ann. Surg.*, February, 1925, p. 439) remark that the mortality of severely burned patients is so high that it is equalled by but few conditions which the surgeon has to treat. They adopted the following lines of treatment in a series of cases, with satisfactory results. After admission the patient was placed in bed with an electric cabinet over him containing lamps to keep a temperature of 100° F. The burned area was covered with gauze soaked in 1/2 per cent. novocain solution to which had been added 1 in 1,000 adrenaline in the proportion of 10 minims to each fluid ounce of novocain; this anesthetized the burned area and allowed the removal of the burned skin and also the opening of the blebs. Fluid was given by mouth or intravenously. On removal of the gauze the area was sprayed three-hourly with a freshly prepared 2 per cent. solution of dichloramin T. If toxemia developed the removal of blood followed by transfusion was attended with considerable success. Skin grafts were applied later. The urine was examined in all cases and showed no evidence of nephritis. In fifteen recorded cases only one death occurred, and this was due to gastro-enteritis, probably secondary to the burn. The authors discuss in some detail the occurrence and treatment of toxæmia and acidosis.

340. A. M. WILLIS (*Journ. Amer. Med. Assoc.*, February 28th, 1925, p. 655) reports several cases of the treatment of burns by the surgical removal of the destroyed tissues, thus preventing or diminishing the occurrence of secondary traumatic shock. The points emphasized are the relief from pain that is thus obtained, the rapid subsidence of pyrexia, slowing of the pulse rate, and acceleration of the healing process. As the result of experimental investigation it was found that in burns, as in traumatic shock, there occurred an increased concentration of the blood corpuscle count and blood nitrogen, while the alkali reserve was not much affected until later; with these changes there was a gradual fall in the blood pressure. When, however, excision of the burnt areas was practised the blood changes were absent or very slight, and no evidence of structural damage was detected in those organs which, in the absence of this treatment, showed such changes.

## 341. Duodenal Dilatation caused by Omental Adhesions.

M. BAUMGARTNER (*Bull. et Mém. Soc. Nat. de Chir.*, January 24th, 1925, p. 35) discusses an interesting case reported by G. Pilven of a woman who suffered from severe abdominal pain and vomiting commencing two or three hours after every meal. General examination revealed nothing abnormal, but the radiologist reported that the food collected in the second and third parts of the duodenum. When this occurred the patient complained of pain. At the operation the stomach and duodenum were found to be normal except for marked dilatation of the duodenum. This was due to the omentum being firmly bound down by old adhesions, probably tuberculous, producing partial occlusion of the termination of the duodenum. The adhesions were divided and the compression was thereby relieved. In the absence of any other organic lesion the transverse colon and the hepatic flexure were fixed to the parietal peritoneum to prevent any further trouble. The patient was completely relieved, and a subsequent radiographic examination demonstrated that the dilatation of the duodenum had disappeared.

## 342. Sarcoma Statistics.

H. SCHOENECKE (*Deut. Zeit. f. Chir.*, January, 1925, p. 420) gives the following statistics of 102 cases of sarcoma which had been treated at the first surgical department of the Hamburg University Clinic in the General Hospital at Eppendorf from 1901 to 1921: 72 were sarcomas of bone, and in the remaining 30 glands or muscles were mainly affected. The following bones were affected in order of frequency: femur (20), pelvis (15), superior maxilla (10), leg (8), upper arm (5), scapula, knee, foot, forearm (3 cases each), clavicle and inferior maxilla (1 case each). In 17, or 23.6 per cent. of the 72 cases, there was a history of trauma. Of the 102 cases, 73, or 71.57 per cent., were males and 29, or 28.43 per cent., females. The average age was 36.6 years. Surgical operations were performed in the case of 57 patients, 14 received irradiation treatment, and 7 were curetted and had irradiation as well. Among 32 in whom a radical operation or resection was performed there were 5 deaths, a mortality of 15.6 per cent. The mortality among those curetted was 24 per cent., and among those treated by irradiation 35.6 per cent. Of the 7 treated by curetting and irradiation 1 died. The total mortality during the stay in hospital was 33.1 per cent.

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## Therapeutics.

## 343. Theocine Treatment of Hypertension.

F. CASTELLOTTI (*Cuore e circolazione*, January, 1925, p. 22) studied the action of theocine, which is also known as theophylline or dimethyl-xanthine, with the Riva-Rocci sphygmomanometer in 11 cases of arterial hypertension, 3 of which were of cardio-renal origin, and 1 case of angina pectoris. Pure theocine was given, because there are some differences of opinion as to the value of theocine sodium acetate. The drug was given in fractional doses, starting with 20 cg. the first day and gradually increasing the dose according to the more or less pronounced fall of blood pressure obtained. No other drugs were given at the same time. The blood pressure was taken at 10 a.m., as long as possible after sleep, and at 5 p.m., as long as possible after food. Castellotti's conclusions are as follows: (1) Theocine is an excellent hypotensive drug, but should be used with caution. Each dose should consist of 20 cg., and the total amount daily be ranged from 60 to 80 cg. (2) The drug may be well tolerated even in small doses; it is therefore advisable to proceed to its prolonged administration by minute doses for three or four days. (3) The fall of blood pressure may be considerable—namely, 30–40 mm. Hg for the diastolic and 100 mm. Hg for the systolic pressure. (4) The diastolic pressure usually shows a more marked and persistent fall than the systolic. (5) Theocine causes an abundant initial diuresis at the same time as the fall of blood pressure, but while the latter gradually becomes less marked the diuresis tends to remain constant.

## 344. Mandragora in Whooping-cough.

H. DECLERCQ (*Bull. Soc. de Théor.*, January 14th, 1925, p. 18) remarks that, though in the Middle Ages mandragora was an important narcotic, it has long been absent from the *Pharmacopœia*. The only medical practitioners who have been in favour of restoring it were Alchea in 1854, and Benjamin Ward Richardson in 1888. The latter obtained from a decoction of mandragora root effects similar to those produced by chloral, and characterized by symptoms of local and general anaesthesia. Mandragora has recently been the object of chemical research, which appears to confirm the ancient view of its pharmacodynamical effects. Ahrens, in 1890, isolated from the root an alkaloid with mydriatic properties and isomeric with atropine, hyoscyamine, and hyoscyne; he named this mandragorine. A few years later Thoms showed that mandragorine was chiefly composed of hyoscyamine and scopolamine. Hesse extracted from the root a mixture of alkaloids in which hyoscyamine predominated, and hyoscyne, pseudo-hyoscyamine, and mandragorine were also found. The presence of these principles explained the inhibitory action of mandragora on the nerve centres, and its power to abolish the reflexes more or less completely. According to Declercq, the principal indications for mandragora are the pain of gastric ulcer, spasms associated with enterocolitis, tenesmus caused by anal fissure and piles, hepatic and renal colic, and dysmenorrhœa; but it is chiefly as a sedative of the cough in pertussis that it is found of the greatest value. A 5 per cent. tincture of mandragora root is given in doses of half a drop in children less than 1 year old, and in doses of 1 to 10 drops in older children, aged 2 to 8, every three hours. The paroxysms diminished in frequency and intensity, the whoops were reduced in number and often disappeared entirely, the vomiting became less frequent, and the bronchial secretion less profuse. In most of the children so treated the symptoms were decreased and the duration of the disease was distinctly shortened.

## 345. Bulbocapnine in Tremors.

A RESEARCH carried on in the Norvo Clinic of the University of Amsterdam, which is under the direction of Professor B. Brouwer at the Binnevestigingshuis, to determine the therapeutic action of bulbocapnine in diseases associated with tremors, forms the subject of a communication in English by H. DE JONG and G. SCHALTENBRAND (*Neurotherapie*, Nos. 1 and 2, January–April, 1925). This communication contains observations on eight new cases and on six cases already published at the end of 1924 in the *Klinische Wochenschrift und Neurotherapie*, vol. vi, 1924—namely, eleven cases of paralysis agitans, one of cerebellar tumour, one of tremor essentialis, and one of tromoparalysis tabiformis. The authors claim to have shown that neither the daily variations of tremors nor the results of treatment by suggestion were comparable with the effects of injecting bulbocapnine. Of seven cases of hyperkinesia two were uninfluenced by this drug: the amplitude of the tremors was often reduced almost to zero, while the frequency was never altered. On the other hand, in athetosis and in choreiform movements there was a clear reduction of the frequency of the movements, while the lessening of the amplitude was

less marked. Clonns and tremors were harder to arouse after administration of bulbocepinine; they disappeared more easily, were reduced in amplitude, and occasionally were entirely eliminated. The authors also compare the effects of bulbocepinine and scopalamine on seven cases of paralysis agitans. It was found that in general scopalamine acted more intensely than bulbocepinine, and its effect lasted longer. They add that bulbocepinine has probably the advantage of a constant effect, the absence of habit formation, and of the need of increasing dosage to produce an effect; no unfavourable symptoms followed the cessation of treatment. Scopalamine therapy long continued had all these drawbacks. From this they conclude that both drugs have a place in the treatment of tremor.

## Diseases of Children.

### 336. Rectal Prolapse in Children.

I. EKEHORN (*Acta Chir. Scand.*, January 21st, 1925, p. 397) reviews the results obtained in two Swedish hospitals with the operation which he devised in 1909 for the radical cure of prolapse of the rectum in children. The operation consists in anchoring the pelvic portion of the rectum to the lower portion of the sacrum by means of a ligature, passing through the posterior wall of the rectum, and penetrating its lumen. In 27 cases the age of the oldest patient was 9 years, and of the youngest 1 year. There were no deaths, and the operation was attended by so little discomfort that the patients were able to defecate at once in the normal manner. Investigations in July, 1924, of the ultimate results failed to disclose the whereabouts of 7; of the remaining 20, of whom 15 had been operated on more than five years earlier, it was found that without exception the prolapse was permanently cured, and there were no longer any symptoms. There were, indeed, 3 cases in which, immediately after discharge, there had been a slight recurrence of the prolapse, but this was only transitory. Discussing the possibility that the passing of a ligature through the whole thickness of the gut in two places might lead to a phlegmonous inflammation of the retrorectal tissues, the author finds that this mishap does not occur.

### 347. Milk Acidification in Infant Feeding.

THE buffer value of cow's milk is considerably above that of human milk, and it neutralizes a larger amount of the hydrochloric acid of the stomach. To counteract this excess of buffer salts, and thus bring the digestibility of cow's milk nearer that of human milk, BERNAN S. DUNHAM (*Amer. Journ. Dis. Child.*, February, 1925, p. 200) has used in infant feeding a mixture of 1 oz. of apple elder vinegar, of an acidity of 5 to 6 per cent. acetic acid, to 15 oz. cow's milk, or one teaspoonful of vinegar to 3 oz. milk. This ratio was used until about the tenth month of age, after which in healthy infants the vinegar milk was gradually replaced by sweet milk, and the vinegar was entirely omitted by the end of the first year. The amount of vinegar milk prescribed for each infant was about  $2\frac{1}{2}$  to  $2\frac{3}{4}$  oz. per pound of body weight for those weighing under 14 lb. The vinegar milk was given undiluted, except to infants younger than 2 months, who received 4 oz. water or gruel in the total daily feeding. Corn syrup previously diluted with an equal amount of water was added in the proportion of 1 oz. of the dilute syrup to 16 oz. of vinegar milk, the total daily addition seldom exceeding  $1\frac{1}{2}$  oz., and this was reduced after cereal feeds were commenced. Feeds were given at four-hour intervals. Spoon feeds of 3 oz. or more of 6 per cent. cereal gruel were given to healthy babies twice daily, before milk, after the third month, and half that quantity of vegetable mash once daily, also before milk, after the fifth month. Extra water was offered between meals. Orange juice and cod-liver oil were given as a routine as soon as the digestive condition permitted. Disturbance of the digestion was a rare occurrence and was corrected by a temporary reduction of the sugar and fat elements of the food. Dunham claims to have had good results in boarded-out babies, infantile atrophy, pylorospasm, syphilis, rickets, and parenteral infections.

### 348. Pneumonia in Newborn Infants.

W. C. JOHNSON and J. R. MEYER (*Amer. Journ. Obstet. and Gyn.*, February, 1925, p. 151) report that in a series of 500 autopsies on stillborn and newborn babies no fewer than 97, or 19.4 per cent., showed evidence of pneumonia. They agree with Browne (*BRITISH MEDICAL JOURNAL*, March 25th, 1922, p. 469) that diagnosis of pneumonia is difficult in the newborn subject, and in the absence of microscopic examination impossible at autopsy. The symptoms and signs are meagre and inconstant, and most cases are practically afebrile. After death the lungs may sink or float,

according to the degree of atelectasis present; they are fleshy rather than consolidated, and pleuritis is rare. Many of the lungs showed a uniformly diffused inflammatory process, which might affect equally all the alveoli of a lung. The intra-alveolar exudate contained a small number of polymorphs, a few mononuclear cells, and a variable number of erythrocytes, with little or no fibrin. According to the authors only about one-fifth of the deaths from pneumonia follow post-natal infections, and of these the great majority are in premature infants. Of the 97 deaths from pneumonia 68 were attributed to ante-natal or intra-partum infection brought about by aspiration of infected fluid from the amniotic sac; the evidence of such aspiration was the presence within the alveoli of cornified epidermal cells and fat from the vernix caseosa. Another sign pointing to infection of the amniotic sac as the cause of pneumonia was acute inflammation of the placenta and membranes which was present in the great majority of the cases examined. It is added that mothers with infection of the amniotic sac during dry labour show few septic manifestations, and that the danger appears to be disproportionately greater for the child. A frequent cause of post-natal infection leading to pneumonia in premature infants was aspiration of food.

### 349. Sarcoma of the Uterus in Childhood.

F. VIGI (*Bull. della sci. med.*, November-December, 1924, p. 750) records a case of uterine sarcoma in an infant aged 26 months, and has collected twenty others from the literature occurring in children aged from a few months to 17 years. The commonest form of sarcoma of the uterus in childhood is that affecting the cervix, in which the growth has almost always the appearance of a roundish irregular polypoid mass resembling the sarcoma of the cervix in the adult known by the name of Pfannenstiel's sarcoma. When the sarcoma attains a considerable size it often produces dilatation of the vagina and protrudes from the vulvar orifice in the form of a fleshy readily bleeding growth, especially when there is a rapid increase of abdominal pressure as in crying, micturition, etc. As a rule the first sign of the disease is vaginal haemorrhage. The loss of blood, which is sometimes scanty and occurs only at intervals, may suddenly become very severe and recur at brief intervals so as to cause profound anaemia. In some cases there is not merely a flow of blood but a thick or extremely fetid puriform discharge due to disintegration of the growth. Occasionally the discharge may cease and the temperature rise simultaneously. On vaginal examination there is a sudden escape of pus mingled with fragments of necrotic tissue, but this is rather the exception than the rule. Disturbance of micturition is a very common early symptom, and is due to invasion of the uterovesical space by the growth. Dilatation of the bladder rapidly ensues owing to prolonged and painful efforts to pass urine. Cystitis develops, and finally pyelonephritis. All observers are agreed that the rectum is hardly ever involved. In exceptional cases the sarcoma arises from the body of the uterus, either from the endometrium or less frequently from the connective tissue of the walls or fundus.

## Obstetrics and Gynaecology.

### 350. Interstitial Pregnancy.

J. C. LITZENBERG (*Amer. Journ. Obstet. and Gyn.*, January, 1925, p. 22) describes the microscopical examination by serial sections of a uterus removed for an interstitial pregnancy of not more than three weeks' duration; the operation was performed twelve days after a missed menstruation and before the onset of pain or internal haemorrhage. He found the uterine muscle hypertrophied, especially on the side of the pregnancy; true decidual formation had occurred within the uterus, but it was absent from the pregnant tube. Both tubes contained "decidua-like" cells in islets; these cells are regarded as being of trophoblastic origin. According to the author the structure of the tube and uterine wall favours early rupture of the tube and late rupture of the ovum capsule; the unusual haemorrhage following the latter is explained by the large size of the vessels, which may be eroded at the cornu of the uterus. W. E. LEVY (*ibid.*, p. 93) states that diagnosis of interstitial pregnancy is rarely made before rupture; it should be suspected, however, when the signs and symptoms of early pregnancy are supplemented by the usual symptoms of ectopic pregnancy. Pain usually occurs at an early stage, before death of the ovum has taken place. Objectively the sessile enlargement at one cornu of the uterus is somewhat characteristic. Owing to the likelihood of severe bleeding the prognosis is grave; reports from the literature give an average mortality of 1 in 7.

351. **Puerperal Infection treated by "914."**  
FAVREAU (*La Vie Médicale*, December 26th, 1924, p. 2059) describes the treatment of puerperal infection at the obstetrical clinic of the Bordeaux Faculty of Medicine. In every puerperal case in which there is a considerable rise of temperature a routine intravenous injection is given of 0.15 cg. of "914," repeated the following day if the temperature is still raised, and subsequently on alternate days. Local treatment consists in intravaginal injections of solutions of iodine or Dakin's solution. No bad effects were ever observed apart from symptoms of suffocation, such as shivering, cyanosis, and a feeling of slight shock, which were rapidly dispersed by intramuscular or subcutaneous injection of adrenaline. All the patients made a good recovery. The rationale of treatment by "914" is outlined as follows: (1) it has a powerful bactericidal action, whatever the organism may be; (2) it has a remarkable tonic action on the system; (3) the beneficial result may possibly be due to shock therapy. The treatment should not be employed when the kidneys are much affected.

febrils. The rabbit's cornea inoculated with the virus zoster is not immune to subsequent inoculation with the virus febrilis (Mariani). (6) Herpes febrilis does not confer immunity against varicella, whereas zoster confers immunity against varicella and is very probably identical with it etiologically. (7) The Bordet-Gengou reaction with antigen is negative with the serum of herpes febrilis (Netter), whereas the Bordet-Gengou reaction with antigen from zoster and varicella sera is positive with zoster and varicella sera (Netter).

### 355. The Blood Platelets in Goltre before and after Operation.

B. N. ROSENBAUM (*Zentralbl. f. Chir.*, November 22nd, 1924, p. 2580) examined the blood platelets in eight patients with goltre who were healthy apart from goltre at the time of operation. Whereas the normal blood-platelet count according to Fenton is 350,000-200,000, after operation the count in the eight cases ranged from 75,750 to 176,800. The following morphological changes were observed—namely, round, oval, long, caudate, small, moderate-sized, and large. Here and there giant forms were seen, characterized by a basophil protoplasm with granules in the centre. This polymorphism persisted after the operation. The thrombopenia was often accompanied by a premature onset of the menstrual flow, which was excessive in amount. The occurrence of menorrhagia after thyroidectomy, which had also been noted by Knäus, is explained as follows. Under normal conditions there is an equilibrium between the thyroid, spleen, ovary, and bone marrow, as is shown by a normal blood-platelet content of the blood. When this equilibrium is upset by damage to the spleen or thyroid, a deficiency of blood platelets occurs as well as menorrhagia.

### 356. Isolation of Typhoid and Paratyphoid Bacilli.

V. DE DOMINICIS (*Rif. med.*, December 8th, 1924, p. 1155) recommends the following rapid method for isolation of *B. typhosus*, *B. paratyphosus* A, *B. paratyphosus* B, and *B. coli* from the blood. About 20 c.c.m. of a medium consisting of 100 c.c.m. of bile, 1 g. of peptone, and 1 g. of stein is poured into each of three large test tubes. Sterilization is carried out for one hour at 100°C. for three consecutive days. In Koch's autoclave, and the tubes when needed are placed in a water-bath at 37°C. for three hours. The blood is drawn from the patient's elbow vein and distributed among the three test tubes, 2 c.c.m. being put in the first, 3 c.c.m. in the second, and 5 c.c.m. in the third. The inoculated tubes are then placed in the thermostat at 37°C., and at the end of twenty-four hours, if growth has occurred, the development of gas is studied as well as the motility of the organisms in a hanging drop and its staining properties. At the same time tubes of milk, lactose, gelatin, and agar are inoculated. To the culture medium 5 drops of antityphoid serum are then added, and at the end of two hours agglutination tests are employed. A similar method is adopted for the study of paratyphoid A and B bacilli and *B. coli*.

### 357. Elimination of Sulphuretted Hydrogen after Administration of Colloidal Sulphur.

C. MALOSSI (*Biochim. et exp. therap. speriment.*, December 31st, 1924, p. 513), as the result of tests on himself with his colleagues as controls, came to the following conclusions: (1) Colloidal sulphur given by mouth is eliminated in the proportion of one-tenth by the broncho-pulmonary system in the form of sulphuretted hydrogen. (2) The elimination by the respiratory tract is very rapid, beginning five minutes after administration of the colloidal sulphur and continuing for half an hour. (3) The elimination occurring during the first half-hour represents two-thirds of the total quantity excreted. (4) Sodium bicarbonate has a slight influence on the transformation of colloidal sulphur, inasmuch as it gives rise to a slight increase in dose of colloidal sulphur required to produce the reaction of sulphuretted hydrogen in the expired air. (5) The minimum dose of colloidal sulphur required to produce the reaction of sulphuretted hydrogen in the expired air is 5 cg., as compared with 80 cg. of precipitated sulphur; the time required by the same reaction is obtained, though in a much less degree, by precipitated sulphur. (6) The therapeutic conclusions to be drawn from these laboratory tests are two—namely, (i) a constant current of sulphuretted hydrogen through the respiratory tract should result from the repeated small doses of colloidal sulphur; (ii) this method should be employed in cases in which treatment by sulphuretted hydrogen has to be protracted, such as whooping-cough, bronchial asthma, and chronic disorders of the bronchial mucous membrane.

### 352. Hydatid Mole, Normal Pregnancy, and Chorion-epithelioma.

C. H. HERMANIDES (*Nederl. Tijdsch. v. Geneesk.*, January 10th, 1925, p. 152) remarks that the likelihood of chorion-epithelioma is much greater after a mole than after normal pregnancy, as is shown by the following statistics. According to van Dongen, in 1924, 40 per cent. of the cases of chorion-epithelioma are preceded by a mole, 25 per cent. by a normal confinement, 32 per cent. by abortion, and 3 per cent. by extrauterine pregnancy. Marchand, in 1895, reported that confinement was preceded in 46.4 per cent. by a mole, in 28.6 per cent. by normal confinement, in 21.4 per cent. by abortion, and in 3.6 per cent. by extrauterine pregnancy. Van der Hoeven estimates that chorion-epithelioma occurs once in every six thousand confinements, and a hydatid mole in every two or three thousand pregnancies. Usually some months elapse between the confinement and the development of chorion-epithelioma, but sometimes only fourteen to thirty days on the one hand, or as long as two or three years on the other, may intervene. Hermanides records a case in a woman, aged 35, the mother of five children, who, about a year after removal of a hydatid mole, gave birth to a living child, with a normal placenta; about five months later she developed the first signs of metastasis from chorion-epithelioma, the diagnosis of which was confirmed by the autopsy.

### A Case of Protracted Pregnancy.

C. J. ALOUS (*Nederl. Tijdsch. v. Geneesk.*, December 13th, 1924, p. 3011), who remarks (in confirmation of the generally accepted view) that pregnancies lasting more than 300 days are exceptional, records a case in which pregnancy lasted as long as 322 days. The patient was the mother of nine children, the last two of whom had been twins. Labour was normal, although the child was of unusually large size, its weight being over 12 lb. and its length 20 in.

## Pathology.

### 354. The Relation of Herpes Zoster to Herpes Febrilis.

B. LIPSCHÜTZ (*Wien. klin. Woch.*, January 15th, 1925, p. 89) summarizes the difference between the virus of herpes febrilis and that of zoster as follows: (1) The rabbit's cornea is remarkably susceptible to the virus of herpes febrilis, but only slightly so to that of herpes zoster. (2) Herpes febrilis is inoculable on the human skin after a short incubation period, and the lesion remains localized, while zoster is only inoculable on the skin of children within the first years of life after a long incubation period (nine to twelve days). In some cases after formation of the local lesion a generalized varicelliform eruption appears with typical nuclear inclusions. (3) Histologically herpes zoster is situated superficially in the skin, and healing takes place without scar formation, whereas the situation of herpes zoster is deeper, and later marked inflammation and suppuration occur, followed by coagulation, necrosis, and cicatrization. (4) Cytologically "herpes corpuscles" (Lipschütz) are abundant in the epithelium, but scanty in the corium in herpes febrilis, while in herpes zoster there is an abundance of "zoster corpuscles" in the epithelium, corium, and nuclei of the endothelium of the blood vessels. (5) Repeated attacks of herpes febrilis do not confer any immunity to herpes febrilis or zoster, but the rabbit's cornea inoculated with the virus of herpes febrilis acquires immunity to subsequent inoculation with herpes febrilis. On the other hand, an attack of herpes zoster confers immunity against zoster, but not against herpes

# EPITOME OF CURRENT MEDICAL LITERATURE.

## Medicine.

### 358. Herpes Zoster and Varicella.

LESNÉ and DE GENNES (*Bull. et Mém. Soc. Méd. des Hôp. de Paris*, February 19th, 1925, p. 221), opposing the view that herpes zoster and varicella have a common identity, draw attention to the following facts. Although varicella and herpes may be seen in the same person at short intervals or in the same family, the coexistence of varicella with measles or scarlet fever is still more common, but leads to no assertion that these diseases are identical. Many of the coincidences may be due to an abortive attack of varicella which has been overlooked and yet acts as a contagium. Varicella attacks infants, herpes very rarely; the varicella eruption is generalized, that of herpes is localized. Varicella never relapses; it confers a definite immunity against itself but not against herpes. The biological reactions are different; in varicella there is leukopenia with mononucleosis and the spinal fluid is normal, whereas, according to Sicard, there is a lymphocytic reaction in herpes. Herpes is not inoculable, varicella often is. On the other hand, many cases of varicella and herpes occurring in the same family have been recorded.

359. A. NETTER (*Bull. et Mém. Soc. Méd. des Hôp. de Paris*, February 26th, 1925, p. 249) refers to Kaudratitz's experiments (Vienna, 1922), in which four children who had not had chicken-pox were inoculated with the clear serum from herpetic vesicles. In three cases the inoculation was intradermal, in the other subcutaneous. Two of the former children developed, on the twelfth day, numerous transparent vesicles in the centre of red plaques (15 mm. in diameter) in the vicinity of the inoculation. These vesicles persisted for two or three days, then they dried. The fourth child four days after inoculation developed a local cellulitis which lasted for several days. All four children were then placed in a chicken-pox ward, sleeping and playing with the patients. The three successfully inoculated children did not contract varicella, while the fourth child (whose inoculation had failed) developed chicken-pox. Leiner reported that at the same time some children who had had herpes without having contracted varicella were also placed with the other patients in the chicken-pox ward and remained free. Netter attaches great importance to the investigation of complement deviation in the serum of herpes patients, in the presence of varicella antigen; the reaction was positive in 78 out of 80 cases. Lesné maintains, however, that the identity of varicella and of zona has not been proved; the plasma and cerebro-spinal fluid do not give identical reactions in the two diseases, and one disease does not confer immunity to the other. Huber has reported a case of two little girls who slept together. One developed varicella, and about a fortnight later her sister had a typical zona without any coexistent varicella vesicles; this child had not had varicella. Netter has collected several cases which appear to support his contention that herpes and varicella are identical.

360. SICARD and PARAF (*Bull. et Mém. Soc. Méd. des Hôp. de Paris*, March 5th, 1925, p. 301) state that the objections to considering varicella and herpes zoster identical are as follows: (1) Varicella confers immunity to varicella but not to zoster; varicella never relapses, whereas zoster may occur in persons who have had varicella. (2) Varicella can be produced in children by inoculation of the serum of varicella vesicles, whereas inoculation intradermally or subcutaneously of the fluid from zoster vesicles is not followed by a local or general reaction. (3) Spinal lymphocytosis, which Brissaud and Sicard found in zoster, does not occur in varicella. (4) Scarification of a rabbit's cornea with serum from a varicella vesicle produces keratitis, whereas inoculation with fluid from a zoster vesicle does not cause any corneal irritation. (5) In two cases recently observed by the authors inoculation of the serum of a zoster patient did not protect children exposed to varicella.

### 361. Primary Carcinoma of the Lungs.

B. M. FRIED (*Arch. Intern. Med.*, January 15th, 1925, p. 1) describes a series of ten cases of primary lung carcinoma, and maintains that the condition is much more frequent than is commonly believed. One characteristic of the disease is early metastasis, in the bones or brain very frequently, and the prominent symptoms may be caused by these metastases, so obscuring the primary lesion. Clinically, there are therefore two groups: typical—with the chief indications relating

to the chest organs; and atypical—with symptoms due to metastatic involvement. In typical cases the onset is usually gradual, a sharp, stabbing pain in the chest, due to early involvement of the pleura, being one of the most characteristic signs. The persistent absence of tubercle bacilli in the sputum, in the presence of persistent lung symptoms (cough, pain in the chest, and blood-streaked sputum), especially when there has been a gradually downward course of the case, should always suggest malignancy. Fried adds that the presence of tuberculosis does not necessarily exclude malignancy. McMahon, Carman, and Thomas and Farmer assert that a radiogram will enable a diagnosis to be made even in the early stages of the neoplasm.

### 362. The Sex Incidence of Rheumatic Diseases.

A. TANBERG (*Norsk Mag. f. Lægevidenskaben*, February, 1925, p. 139) quotes statistics from Norwegian sources to show that while the incidence of tonsillitis and rheumatic fever or acute rheumatism is the same for the two sexes, chronic rheumatic infections, apart from those of the muscles and nerves, are much more common in women than in men. Thus, in the ten-year period 1913-22 there were 6,453 cases of tonsillitis in men and 6,030 in women notified in Oslo. In the same period the notifications of rheumatic fever were 828 for men and 815 for women. But during a recent three-year period at the Sandefjord Hydro there was a marked preponderance of women over men among the patients suffering from chronic rheumatism, and 79 per cent. of the patients suffering from primary polyarthritis were women. The conclusion which the author feels justified in drawing is that, though acute rheumatism may be a microbial disease, chronic rheumatism is a condition largely influenced by the constitutional factor, the disease resembling in this respect Graves's disease and gout, which afflict the sexes most unequally. Though primary polyarthritis has been called "arthritis pauperum" because of the predilection it shows for the poorest classes in the community, the author is sceptical about the influence of such a factor as exposure to inclement atmospheric conditions, for the Norwegian fishermen and foresters seldom develop this disease, although they are much exposed to bad weather. On the other hand, the wives of such men often suffer from primary polyarthritis, though they spend most of their lives at home. As a further example of the influence of sex on the localization of rheumatic diseases, the author notes that approximately 60 per cent. of all patients suffering from sciatica are males.

## Surgery.

### 363. Acute Dilatation of the Stomach.

G. ROBERTSON (*Surg., Gyn. and Obstet.*, February, 1925, p. 206) points out that acute dilatations of the gastro-intestinal canal are affections of great interest to the surgeon, but that their etiology and pathology are somewhat obscure. The important features of the condition during life seen in a case recorded in detail were its rapid onset and swiftly fatal termination, the almost complete absence of vomiting until just before death, when it was severe, and the absence of any apparent exciting cause and of evidence of previous post-operative disturbances of the stomach. Three theories have been advanced to explain these conditions in the absence of any apparent cause. First, derangement of the nervous mechanism of the stomach causing a paralytic ileus; secondly, an altered secretory activity of the mucosa of the viscera involved; and, lastly, a mechanical ileus, the point of constriction being that where the superior mesenteric vessels cross the duodenum. In a second group of cases of this nature some definite lesion may be found after death, such as pneumonia or septic peritonitis, the latter condition leading to paresis of the whole intestinal canal. Next, there is the type in which dilatation follows some surgical operation. In such cases a general anaesthetic has been employed, and Robertson suggests that this may act deleteriously upon the nervous system. He thinks that it is by no means proved in these cases that the mesenteric vessels cause mechanical obstruction of the duodenum. Lastly, there is the group in which dilatation follows some injury, such as fracture of the cervical spine; it may be the result of paralysis of the abdominal muscles, or be due to oedema spreading up the cord and involving the vagus nucleus in the medulla. Discussing the possibility of the superior mesenteric vessels



causing mechanical obstruction, Robertson thinks that this theory will soon be abandoned. Moreover, it is not his experience that chronic duodenal ileus is cured by duodenoduodenostomy, as it should be if the symptoms were really the result of mechanical obstruction.

### 364. Cartilaginous Tumours of the Larynx.

STCLAIR THOMSON (*Journ. of Laryngol. and Otol.*, January, 1925, p. 1) describes two cases of echondrosis of the larynx. The first was in a woman, aged 53, who gave a history of five years' hoarseness. At that time there was a greyish tumour just appearing below the left cord and oedematous about half the airway. Eight years later there was delatate stridor, and a considerable increase in the size of the tumour. Twelve days later the tumour was removed. The growth on the thyroid cartilage, which proved to be a pure cartilaginous tumour, was removed after dividing the cricoid and two uppermost rings of the trachea, which, with the thyroid cartilage, were partly eroded by the growth. The patient made a perfect recovery and had no further laryngeal symptoms. His second case showed a growth on the posterior aspect of the larynx which was for a time mistaken for tuberculous disease. It was incompletely removed by another surgeon and was shown to consist of cartilage. This patient died some years later after tracheotomy for a very low obstruction of the trachea—apparently some form of recurrence. The author points out that the difficulty in diagnosing these tumours is due to their being almost always subglottic, and in that position difficult of investigation; they are very rare, but they may recur and simulate malignant disease. The author refers to a case reported by Waggett which was at first thought to be syphilis but later proved to be a large chondroma. There was complete immobility of the vocal cord, but no trace of malignancy, showing that a fixed cord may exist in the absence of malignant disease. Another case in StClair Thomson's experience occurred in a woman, aged 45, who had a fixed left cord with a hard, though smaller tumour projecting from below it. A similar cord on that side proved to be perfectly movable. The tumour gave a distinct impression of cartilage, but operation showed it to be a carcinoma, and it was radically removed. E. B. WAGGETT (*ibid.*, p. 27) adds a note on his case mentioned above. When the growth was removed in 1923 the capsule was left intact. Three years later the larynx was entirely filled by a second cartilaginous tumour; when removed it was found to be the size of a hen's egg, and was a true recurrence.

### 365. Acute Primary Typhilitis.

W. A. BRAMS and K. A. MEYER (*Journ. Amer. Med. Assoc.*, February 7th, 1925, p. 436) report two cases of acute typhilitis arising as a primary disease and without being secondary to disease of the appendix or adjacent structures. Though apparently indistinguishable clinically from appendicitis, its recognition after the abdomen is opened is important. In the two cases reported the appendix was found free and healthy, with pns in the right iliac fossa, and a careful search resulted in finding gangrenous and necrotic areas in the caecum. One of the cases three perforated ulcers were found. The authors remark that since immediate operation is essential in either acute appendicitis or acute primary typhilitis, no time should be lost in attempting to establish a differential diagnosis clinically, which, with our present methods of examination, is impossible.

### 366. Surgical Trauma and Syphilis.

W. H. GOECKERMAN (*Surg., Gyn. and Obstet.*, January, 1925, p. 77) discusses the effect of surgical trauma on syphilitic patients with special reference to the healing of the operation wound. Of his 78 cases 50 had received some treatment for syphilis and 28 had not been treated. Only one of the patients in the former group showed any delay in the healing of the wound. The case was one of cancer of the breast in which extensive resection had been performed. The infection was obviously pyogenic, the patient's general resistance was low, and healing was not stimulated by antiseptic treatment. Three patients in the treated group died shortly after operation, but without syphilis being obviously responsible for the fatal issue. In the second group, in which antisyphilitic treatment had not been adopted for various reasons, five patients showed distinct delay in the healing of their wounds, but in three of these a gamma had been included under the mistaken belief that the lesion was an abscess. Goeckerman is of opinion that a considerable number of syphilitic patients are operated on without the surgeon being aware of the infection, and considers that the operative risk could be reduced to a minimum by a routine Wassermann test and proper treatment in certain cases.

722 B.

## Therapeutics.

### 367. Protein Treatment of Coeliac Disease.

L. W. SANER (*Amer. Journ. Dis. Child.*, February, 1925, p. 155) claims to have had excellent results in six consecutive patients with powdered protea milk as the essential diet for many months. He advocates three stages in the dietary treatment. The initial twenty-four hour diet should consist of several level packed tablespoons of powdered protein milk lower than the number of pounds the child weighs. The powdered milk is mixed with a quart of warm sterilized water, and sweetened with 1/4 to 1 gram of saccharine. The mixture passed several times through a fine sieve. The food, gently warmed before serving, is given at four-hourly intervals between 6 a.m. and 6 p.m. The amount of protein tablespoons every five or seven days, regardless of the quality of the stools. The food should thus be gradually increased until the number of tablespoons approximates the number of pounds the child should weigh for his height, or, in stunted, older children, the number of pounds the child should weigh at that age. If there is diarrhoea or tetany Ringer's solution is recommended in place of the plain water in preparation of the food. For the anaemia iron citrate (1 or more grains) may be given intramuscularly twice or three times a week for a month. Precipitated chalk (10 grains to a feed) seems to lessen intestinal fermentation and abdominal distension. This first phase of treatment is continued until the stools, distension, and appetite show distinct improvement. It should never be less than two weeks, and in chronic cases two or three months may be necessary. During the second phase protein milk is supplemented with almost pure protein foods, such as curds of buttermilk or of machine-skimmed milk, scraped lean beef, tongue, and eggs, the increase in the powdered protein milk continuing automatically as outlined in the first phase; this diet should be maintained until the weight approximates to or exceeds the theoretical weight for height. During the third phase carbohydrates are cautiously added, dextrinized flours, arrowroot, crackers, and toasted white bread. This change in diet should never be attempted within the first six weeks of treatment; in severe cases about the third or even the fourth month is usually early enough. If abnormal stools, anorexia, distension of the abdomen, or loss of weight recur, the carbohydrates should be omitted for several weeks or months longer; that is, the diet should revert to the second phase, or if necessary to the first phase, until the alimentary tolerance for carbohydrates has improved.

### 368. Treatment of Whooping-cough.

J. TAILLEUS (*Rev. med. Suisse romande*, January 25th, 1925, p. 3), professor of children's diseases in the University of Lausanne, as the result of over twenty years' experience, comes to the following conclusions: (1) Antiwhooping-cough vaccine does not possess any certain therapeutic value. (2) Adrenalin has no effect in whooping-cough. (3) Sulphuric ether in intramuscular injection is painful, and cannot therefore be employed widely and systematically. Its action is uncertain, sometimes no benefit results, and the relief is at the best only transient. (4) Tailleus recommends bromoforn, which if properly administered has no drawbacks, but is, on the contrary, very constant in its action. He adds that it is easy to give and is always well borne. Not only does it rapidly reduce the number and intensity of the paroxysms, but it increases the appetite and thereby improves the general condition.

### 369. Blood Transfusion in Premature Infants.

P. GUENOT and SEGUX (*Gynecol. et Obstet.*, 1925, xi, 2, p. 111) have had encouraging results from transfusion of blood into five feeble premature infants of from seven to seven and a half months' gestation, with weights of less than 2 kg. and lasting hypothermia, with stationary or diminishing weight. Two of the infants treated were triplets, the third having died the day after birth. Another infant had been born of a moribund phthisical mother and one had melæna. The blood was taken from a donor of the same blood group (usually the mother) and after being citrated was injected slowly (that is, during at least two minutes) into the superior longitudinal sinus at the posterior angle of the anterior fontanelle. In each case the injection was followed by permanent improvement in the body temperature and by progressive increase in weight. The amount injected was 10 to 20 c.c.m., which was calculated to increase the volume of the infant's blood by one-sixth or even more. The other advantages claimed for the treatment are that it increases the leucocytes, which (especially the polymorphs) are present in much smaller proportions in the newborn than in the adult and that certain endocrine substances may be conveyed in the injections.



## Neurology and Psychology.

### 370. Tobacco and the Cerebral Functions.

LÉON BINET (*Presse méd.*, January 31st, 1925, p. 134) observes that recent experiments seem to show that the tobacco smoker absorbs some nicotine. W. Straub states that after smoking one cigar definite traces of nicotine may be found in the urine during an average period of eight hours. Binet states that injections of nicotine produce (1) cerebral congestion, (2) damage to cortical nerve cells, (3) disturbances of memory in animals intoxicated by tobacco smoke. Wertheimer has proved that nicotine is a most powerful cerebral stimulant and produces definite increase in the volume of the brain; in this process the acceleration of the heart's action is an important factor. Georges Guillaud and A. Gy found that a rabbit suffering from chronic tobacco poisoning showed signs of extensive cellular lesions in the liver and cerebral cortex, without vascular, meningeal, or neuroglial injury. P. Matthieu and L. Morklen constructed a labyrinth which white mice had to traverse in order to reach their food or their cage; it was found that normal mice traversed the labyrinth in from twelve to twenty seconds. The animals were intoxicated by being placed in an apparatus through which air circulated at the rate of 1 litre a minute, bringing cigarette smoke from a special burner in which a cigarette was consumed in ten minutes. It was found that after a single stay of ten to fifteen minutes in the apparatus there was no immediate symptom of disturbance. The mouse ate, drank, and traversed the labyrinth as quickly as, or even more quickly than, usual. Later, however, it showed hesitation and made mistakes at the "cross-roads." The animal required a longer time to traverse the accustomed route: after twenty-four to forty-eight hours there was a delay of fifty to a hundred seconds. It did not return to normal until two or three days had passed. Daily repetition of the experiment increased the delay in completing the passage of the labyrinth and prolonged the return to normal conditions. The function of "evocation" appeared to be more disturbed than that of "fixation," as a second passage of the labyrinth was performed in almost normal time immediately after a slow and hesitating passage. Binet considers that these facts indicate that tobacco has a toxic action on the brain.

### 371. Post-encephalitic Parkinsonism.

D. PAULIAN (*Bull. et Mém. Soc. Méd. des Hôp. de Paris*, February 12th, 1925, p. 203) states that from the therapeutic standpoint two forms of post-encephalitic Parkinsonism can be distinguished. The first are those in which immobility and rigidity predominate, while in the second there are excitomotor symptoms in addition to rigidity. Treatment by spinal auto-serotherapy has a favourable and even curative influence on the first group, while it has little or no effect on the second. The treatment consists in removing aseptically 40 to 50 c.cm. of blood by venepuncture, collecting the serum in sterile tubes, inactivating it by a temperature of 56°C., and injecting 10 to 15 c.cm. intraspinally after removing an equal quantity of cerebro-spinal fluid. After the injection the patient should remain in the recumbent position for twenty-four hours without a pillow. An injection is made weekly, and three or four are sufficient. Improvement sometimes occurs after the first injection, the earliest favourable sign being the appearance of automatic movements of the arm and trunk in walking. The patients gradually train themselves, become able to run, and salivation diminishes. Of 21 patients treated by this method 5 made a complete recovery, 13 showed a decided improvement, and 3 were failures, but these did not complete the full treatment. No local or general reaction should follow the injection when it is skilfully performed under aseptic conditions.

### 372. Extramedullary Spinal Tumours.

F. HERZOG (*Méd. Klin.*, February 20th, 1925, p. 275) summarizes the clinical features in eight cases of extramedullary spinal tumour in which the diagnosis was confirmed by laminectomy. The symptoms differed from those regarded as typical of extramedullary tumour. In some cases, in which the posterior nerve roots were compressed by the growth, root pains occurred; in other cases, with the growth in a similar position, root pains were absent. In one case the growth did not extend to the posterior roots, but these pains were present; in another parallel case they were absent. Nerve roots distant from the growth may be injured by oedema, irritation, and inflammation, and thus pains may be produced. In all of the cases the onset of the paraparesis was gradual, and the globulin reaction of the cerebro-spinal fluid was increased. One of the patients died soon after the operation, the other seven were practically cured; slight paresis remained, but did not interfere much with the patient's work. None of the eight patients presented the

typical symptoms of extramedullary spinal tumour. The correct diagnosis was made because, by repeated careful examinations, other diseases could with great probability be excluded. Herzog states that in tumours in the dorsal region the upper limit of the sensory disturbances is important, and he recommends the following method of testing sensation. With a soft camel-hair brush the skin is stroked from above downwards (with the same pressure) and the patient asked to say when the sensation changes, without attempting the difficult task of describing the change. A sensory change is thus detected, when a light touch is still felt, and when no change in the sensation for pain or temperature is revealed. When the upper limit of this slight sensory disturbance remains unchanged for weeks or months, though the intensity of the disturbance often increases, then the compressed segment can be localized. Herzog adds that it is not necessary to wait for marked sensory disturbance. By this method a tumour causing only slight compression may be localized, and thus the prospects of successful operation are improved.

### 373. Diagnosis of Diseases of the Pyramidal Tract.

RIMBAUT and BOULET (*Presse méd.*, March 7th, 1925, p. 237) state that Bechterew (1901) discovered that in certain pathological conditions, percussion of the dorsal surface of the tarsus and base of the metatarsus produced flexion of all the toes, except the great toe. Mendel (1904) described the same sign following percussion of the outer side of the proximal half of the instep. To obtain the reflex the patient should lie on a couch with the knee flexed at 90 degrees and the sole in contact with the bed. Normally there is no response on percussion over the cuboid, but occasionally extension of the four outer toes occurs. Various explanations of this have been given: the authors consider that it is due to percussion of the belly of the short extensor of the toes. In certain pathological states percussion over the cuboid causes flexion of the four outer toes. If the interosseous spaces opposite the necks of the metatarsal bones are percussed, the corresponding toes are flexed and slightly abducted (the flexion being limited to one or two toes); this has been called the "interosseous or predorsal reflex" by Sicard and Cantaloube. Schriijver describes a flexion of the toes as occurring in certain psychopathic states, particularly in dementia praecox, on percussion of the lower part of the tibia. Briefly, when percussion over the cuboid causes flexion of the toes the Bechterew-Mendel reflex is positive. It is generally admitted that the reflex indicates a lesion of the pyramidal tract—that is, it is of similar value to Babinski's sign. The authors give the results of the examination of 58 patients suffering from lesions of the pyramidal tract. In 14 cases of hemiplegia, transverse myelitis, and paraplegia after Pott's disease, both Babinski's sign and the tarso-phalangeal reflexes were positive. In 9 cases the former was negative, the latter positive. In these cases it was certain that there was a lesion of the pyramidal tract. The authors conclude that in lesions of cerebral origin the tarso-phalangeal reflex appears late, occurring when the descending degeneration reaches a region in the medulla which has not yet been determined. Thus, Babinski's sign corresponds to a pyramidal lesion, either cerebral or medullary, while the tarso-phalangeal reflex (in an intramedullary lesion) indicates a lesion of the medullary pyramidal tract.

## Obstetrics and Gynaecology.

### 374. An Early Diagnostic Sign of Ectopic Gestation.

Z. BÄNKI (*Zentralbl. f. Gynäk.*, January 17th, 1925, p. 142) emphasizes the importance of diagnosing extrauterine pregnancy, especially for the practitioner who is not a surgeon. He has for many years searched for an early sign which would enable the patient to be treated before the occurrence of severe rupture had lessened her chances of recovery. Pathologists have shown that before rupture takes place there is a period of oozing of blood, when a diagnostic sign would be of great value; this stage occurs in the early weeks of pregnancy. Villi growing in and around the tube destroy it by such a comparatively slow process that tiny haemorrhages occur in the vicinity of the pouch of Douglas for some time before actual rupture takes place. These small bleedings cause first irritation and later definite adhesions, and it is the symptoms caused by these that constitute the first danger signal of the condition. There is undue tenderness of the uterus when it is moved. With two fingers in the posterior fornix the uterus should be pressed upwards as if to press it against the symphysis. If the adhesions mentioned are present the patient experiences an agonizing sensation, while in a normal person there is no pain at all. Bänki has tested this sign in very early cases, and his resulting diagnosis of

a tubal pregnancy was always justified later. Pain on defaecation may also occur. He claims that this sign supersedes the others now in use in that it can be demonstrated before the peritoneal cavity is full of blood, and that in differential diagnosis between abortion or appendicitis it is also of value. There may, he remarks, be fallacies such as acute or chronic parametritis or an abscess in the pouch of Douglas, but these conditions as a rule produce additional symptoms of their own. One other fallacy is that if there has been a previous infection of the pouch of Douglas the uterus will be fixed and the test cannot therefore be elicited.

### 375. Myosarcoma of the Uterus.

K. IMHÄUSER (*Arch. f. Gynäk.*, December 15th, 1924, p. 12), studying a series of operation specimens of uterine myoma, has found about 5 per cent. of cases in which microscopical examination shows the development of sarcoma, and about 3 per cent. other cases in which such an examination leads to grave suspicion. He names the following clinical signs as pointing to the possibility of a myoma having become sarcomatous: (1) severe haemorrhage in the menopause, although this rarely, if ever, occurs in other than submucous tumours; (2) pain which is independent of menstruation; (3) persistence of symptoms after radiation; (4) a specially soft consistency of the tumour; (5) rapid increase in size of a myoma; and (6) disproportion between the size of the tumour and its local symptoms. Microscopical examination is essential for the sure diagnosis of myosarcoma. The most important criteria are, in his opinion, an increased richness in cells, diminution of intercellular substance, and disappearance of the typical arrangement in bundles, dissimilarity in size and irregularity in form of the cells, and more especially of their nuclei; the presence of mitoses in large numbers, of which some are atypical; the recognition of multinucleate cells; and variation in the intensity of staining of the nuclei. He adds that considerable judgement is required in forming an opinion, and none of the signs enumerated is of itself conclusive.

### 376. Pregnancy and Myeloid Leukaemia.

J. O. BOWER and J. H. CLARK (*Amer. Journ. Obstet. and Gyn.*, February, 1925, p. 207) have traced in the literature fifteen cases of coexisting pregnancy and myeloid leukaemia, and add two new cases. In only four cases did the leukaemia precede pregnancy. They state that the accepted therapeutic procedure of inducing abortion early during pregnancy finds support in the fact that almost every patient who has been allowed to go to term or near it has died within forty hours after delivery. They note that no malformations have been found in the offspring of leukaemic mothers who have had radium applications during pregnancy. The child in their own case had a normal blood picture but died at the age of 3 weeks. Sängner and Askanazy by examination of the blood of the umbilical cord have shown that the erythrocytes of leukaemic mothers do not penetrate through the placenta to the foetus.

### 377. Puerperal Infection by Spirochaetes.

E. PHILIPP (*Arch. f. Gynäk.*, December 15th, 1924, p. 268) states that saprophytic spirochaetes are not infrequently found as part of the vaginal flora; he has found them present in small numbers in about 5 per cent. of recently delivered women. They may be found in the vagina or uterine cavity, and may be especially abundant in the cervical secretion. In exceptional cases the number of spirochaetes found exceeds that of all other organisms, and in three such cases the author has found a somewhat characteristic clinical picture. During the puerperium an oedema of the labia minora is noted and the vaginal wall and portio cervicalis show multiple erosions and superficial necrotic patches; the discharge is very abundant, thin, and watery, without being offensive. There is some pyrexia, with little general disturbance, and the inflammation takes a benign course, resolving spontaneously in four or five days. It is concluded that in certain cases the saprophytic organisms are capable of taking on pathogenic properties.

## Pathology.

### 378. Cutaneous Vaccination against *B. abortus*.

It is well known to laboratory workers that *B. melitensis* is a dangerous organism to work with, and in several cases infection has resulted from the manipulation of cultures. H. VIOLLE (*C. R. Soc. de Biologie*, February 20th, 1925, p. 421) believes this is the result of contamination of the skin with the bacilli. Acting on this idea, he has made experiments with the *B. abortus*, Bang—the organism responsible for epizootic abortion in cattle—which is similar to *B. melitensis*

very closely, to determine whether it is possible to infect guinea-pigs by rubbing the organism into the skin. A three day old culture on agar was scraped off and mixed with lard; this mixture was then rubbed into the depilated but non-scarified skin of the abdomen. Both animals treated in this way died one month after inoculation, having lost considerably in weight. Apart from general emaciation and a slight increase in the size of the liver and spleen, there was no gross pathological change, but bacilli were found in all the organs—liver, spleen, kidneys, brain, testicles—and cultures on agar yielded a pure culture of *B. abortus*, which was agglutinated by a specific antiserum. In another experiment only 1/20 of an agar slope was used for inoculation; of the two guinea-pigs treated, one survived in spite of a loss in weight, whereas the other died in twenty days, and was found at autopsy to contain the specific bacilli in the viscera. An attempt to vaccinate guinea-pigs was then made. An agar slope culture was killed by heating at 60°C. for one hour, mixed with lard, and rubbed into the depilated abdominal skin on three occasions at four days' interval. Inoculation of a living culture of the organism by the same route had no effect; the animals lived for three months without losing weight, and when killed at the end of this time their organs were found to be free from the bacillus. The author claims to have shown that skin infection is possible with this organism, and that cutaneous vaccination with dead cultures is able to protect against living organisms rubbed into the skin.

### 379. Serodiagnostics in Tuberculosis.

F. KLEMPERER and A. SALOMON (*Med. Klin.*, January 25th, 1925, p. 121) review the literature on the subject of serodiagnostics in tuberculosis. During recent years many observers have endeavoured to devise laboratory methods to make the diagnosis of tuberculosis more certain. In particular Wassermann and Besredka have used antigens, while Sachs and Klopstock have described a flocculation (leithin) test. Klemperer and Salomon have made extensive trials with all these methods. They divided the patients into three classes—namely: (1) Definite tuberculosis, including acute infections and cases in which tubercle bacilli had been found. (2) Patients in whom tuberculosis was not suspected—either healthy controls or cases of organic disease, including diseases of the heart, kidneys, liver, or nervous system. (3) Cases of suspected tuberculosis and of surgical tuberculosis, including tuberculous diseases of the eye. The percentage of positive results varied greatly when the methods of Wassermann, Besredka, and of Sachs' and Klopstock were contrasted. Klemperer and Salomon consider that the Wassermann tuberculosis serum reaction is positive in approximately 75 per cent. of cases of tuberculosis. On the other hand, Schlossberger and Hartoch have reported recently that in cases of active tuberculosis they obtained 70.6 per cent. positive results, while among the "negative" controls the positive results were as high as 29.2 per cent. In addition to the divergent results obtained by Klemperer and Salomon they found that the degree of positive reaction bore no relation to the severity of the clinical symptoms. It is possible that further research will lead to greater uniformity in the results obtained with antigens and that the respective merits of antigens and of the flocculation test will be more clearly shown; at present they think that the latter appears to be the more uncertain. The authors conclude by remarking that Wassermann considered that there was an analogy between tuberculosis and syphilis, the brilliant success of his reaction in the latter having led him to anticipate a similar result in tuberculosis. They point out that obviously no true analogy exists, nor do positive reactions in tuberculosis give similar indications in regard to treatment to that given by the Wassermann reaction in syphilis.

### 380. Sterilization with Burning Spirit.

H. MAYSER (*Zentralbl. f. Bakt.*, February 18th, 1925, p. 238) has made some experiments to test the efficacy of the common laboratory procedure of sterilizing objects by pouring spirit over them and then flaming them. The object to be tested was smeared over with some culture from an agar slope, or was immersed in a broth culture and allowed to dry; the organisms used were *B. anthracis* and *B. typhosus*. When dry some spirit was poured on, ignited, and cultures made in bouillon. Mayser found that flat surfaces, such as brass wire, glass rods, and spoons could not be sterilized thus. Hollow articles, on the other hand, varied in accordance with the heat-conducting nature of the material of which they were made. Basins of wood, a substance which has a very low heat-conducting power, were not rendered sterile even after the spirit had been burning for a minute, whereas glass, porcelain, or metal basins of medium and high heat-conducting power were sterilized by this means. These experiments indicated that it was not the flame itself which disinfected, but the heat generated by it.

# EPITOME OF CURRENT MEDICAL LITERATURE.

## Medicine.

### Sciatica.

381. P. SCHUSTER (*Klin. Woch.*, February 12th, 1925, p. 316) holds that the diagnosis of sciatica is justified only when (1) the pain is limited to the distribution of the sciatic nerve, its roots or one of its branches, and (2) when objective results of examination are negative—that is, when no signs of disease of joints, bones, or other parts, or signs of neuritis can be detected. True sciatica is unilateral; bilateral sciatica should awaken suspicions of disease of the spinal cord, cauda equina, or its membranes. In the treatment rest in bed, though always worthy of trial, can usually be secured only in severe cases. Warm applications, such as hot sandbags, may be employed at first, with cupping or treatments which produce hyperaemia of the skin. If these fail diathermy may be useful. Of the electrical methods a constant current of 5 to 10 milliamperes, with stable electrodes, is most likely to be of service. In recent years, Schuster remarks, very good results have been obtained by treatment with high frequency currents, or x-ray treatment of nerve roots, or a combination of these methods with diathermy. The best results have been obtained by injections into the nerve sheath, or by paraneural injections. Substances which may cause bad effects should not be used, and therefore alcohol especially should not be injected. The author has usually obtained good results by the injection of 0.5 to 1 or 2 per cent. solutions of novocain and similar substances. These were injected with a large quantity of fluid (100 or 150 c.c.m.), care being taken that the total amount of novocain or eucaino injected was not too large. The paraneural injection is advised for those who are inexperienced in making injections into the nerve. Antipyretic drugs, codain suppositories, and aspirin or salicylate preparations should also be employed. In all cases, Schuster adds, it is important to obtain a free, easy evacuation of the bowels, and, if possible, dolulant diarrhoea.

382. G. KAHLMEIER (*Hygiea*, January 15th, 1925, p. 1) traces the development of the x-ray treatment of sciatica since Goeth in 1837 gave this treatment with success to an old man who had suffered for ten years from trigeminal neuralgia. Since then this treatment has achieved many successes both in trigeminal neuralgia and in sciatica, but no scientific explanation has yet been given of its action. During the past three years the author has treated 33 cases of sciatica in the x-ray department of the Sabbatsberg Hospital. There were 16 men and 17 women; in 8 cases the disease was bilateral. The duration of symptoms before the institution of this treatment ranged from one month to three years, and most of the cases were severe and had proved refractory to other treatment. Sixteen of the patients had been treated in hospital, 13 had been given injections of saline solution, and only one patient had received no previous treatment. In practically every case the x-ray treatment was not supplemented by other measures apart from anodyne drugs and, in 18 cases, rest in bed. In 12 of the 33 cases, the sciatica was probably of a static-functional character, being associated with such conditions as flat-foot and arthritis of the knee which predispose to, and probably cause, sciatica. After giving an account of the technique of the radiation, and stating that the observation period since the termination of the treatment ranged from half a year to three years, the author reviews his results. In 18 cases the pain ceased within a few weeks of the completion of this treatment and did not recur, although in as many as 10 of these cases the observation period was more than two years. In 10 other cases this treatment was followed by improvement which, in some cases, was succeeded by complete recovery under some other treatment. In 5 cases there was no improvement. The number of successes achieved among the static-functional cases was comparatively small, and the patients whose sciatica had lasted long responded least satisfactorily on the whole. The author's considered verdict on this treatment is favourable.

383. The Diagnosis of Mild Forms of Pancreatitis. G. KATZ (*Klin. Woch.*, February 12th, 1925, p. 289) considers that the diagnosis of pancreatitis depends too much on laboratory methods, and discusses the clinical side of the problem. Apart from the well known signs of acute necrosis of the pancreas, and pancreatic diarrhoea, other symptoms of pancreatic affection are few. Katz believes, however, that pain in the upper part of the abdomen, radiating to the

left side, is always suggestive of pancreatic affection in the absence of definite indications of gastric ulcer, renal stone, and recent infarct in the spleen. Pain due to pancreatic affection extends to the left in the region of the spleen and kidney, and along the arch of the ribs: it is often most severe in the back on the left side and may be permanent or paroxysmal. With pain in this region the special tests for pancreatic disease should be made, with a view to detecting starch in the blood or urine, lipasaemia, fragments of striated muscle fibres in the faeces, dyspancreatic motions, and more rarely glycosuria. In addition to the extension of the pain to the left, in many cases Katz thinks that a very important sign is a left-sided zone of hyperaesthesia of the skin (Head's zone). On examination with a pin a hypersensitive half-segment, or portion thereof, is found. It is often most distinct in the back near the tenth to the twelfth dorsal vertebral spaces and corresponding with the eighth dorsal segment. A similar hypersensitive zone can often be detected anteriorly in the upper part of the abdomen, and in the flank. These left-sided Head's zones are frequent and often very distinct in pancreatitis, more so than in any other disease of the abdominal organs. A region hypersensitive to light percussion may usually be detected also in the upper part of the abdomen, on the left side. Six cases are recorded showing the value of these symptoms as indications of mild forms of pancreatitis.

### 284. Orchitis and Abdominal Pain in Serum Sickness.

E. W. GOODALL (*Brit. Journ. Child. Dis.*, January-March, 1925, p. 39) relates the case of a boy, aged 10, who had been given 33,000 units of diphtheria antitoxin in three doses for a severe attack of faucial and nasal diphtheria. Urticaria appeared on the abdomen at the site of one of the injections six days later, and after another six days he complained of pain in the left iliac fossa, but nothing abnormal could be detected on palpation. The following day he had pain in the knees, elbows, and wrists, and the temperature rose to 100.6°. The next day he complained of pain in both testes, which were slightly swollen and tender; the scrotum was red as if slightly inflamed. The pain in the abdomen and testes gradually disappeared after lasting for twelve days, during which an erythematous rash on the trunk and limbs and irregular pyrexia were present. Similar cases of orchitis and abdominal pain during serum sickness have been reported by French observers, but are very rare. (See *BRITISH MEDICAL JOURNAL*, March 15th, 1924, p. 482.)

## Surgery.

### 385. Spontaneous Perirenal Haematoma.

F. GRECO (*Arch. Ital. di Chir.*, January, 1925, p. 1), who records 61 cases of non-traumatic perirenal haematoma as well as 2 of his own in a man aged 54 and a woman aged 43, states that this condition was first described by Wunderlich in 1856 under the name of "apoplexy of the renal capsule." The male sex is most frequently attacked; of 55 cases in which the sex was stated 35 were males and 20 females. Most cases occur between the ages of 18 and 60. As regards the etiology Coccen has distinguished a primary or essential form due to inflammatory or degenerative lesions of the vessels, haemophilia, nephritis, renal sclerosis, etc., from a secondary form due to tumours, renal tuberculosis, rupture of the vessels of the hilum, etc. The three principal symptoms as described by Wunderlich are sudden and violent pain in the lumbar region, signs of internal haemorrhage, and the rapid formation of a retroperitoneal tumour. This triad of symptoms closely resembles the clinical picture of extrauterine pregnancy, which is the most likely diagnosis to be made if the patient is a woman. Fever is not constant but frequent, ranging from 102.2° to 104°. In some cases, however, the temperature is subnormal owing to a state of shock. Examination of the urine yields different results according to the state of the kidney, the urine being sometimes perfectly normal, while in others there is slight albuminuria or casts. The presence of blood may vary in degree from a few red cells visible on microscopic examination to an actual haematuria. Symptoms of peritonitis, such as vomiting, meteorism, muscular rigidity and constipation are particularly marked in those cases in which there is an effusion of blood into the peritoneal cavity or an extensive retroperitoneal suffusion. Ecchymoses in the lumbar region and abdominal wall are uncommon, their presence being of

399. **Insulin Treatment for Boils.**  
 STÜRMER (*Klin. Woch.*, Moreh 5th, 1925, p. 477) briefly records the result of the treatment of boils with insulin injections. He bases the treatment on the fact that diabetic patients boils and carbuncles heal rapidly under the influence of insulin; and on the fact that staphylococci made worse by the administration of sugar. In diabetic patients the author has tried the insulin treatment with good results. After the first or second injection the patients declared that the throbbing pain and irritation diminished; on the second day, in every case, visible improvement occurred. Even in a case of boils of six months' duration rapid healing followed insulin treatment. Encouraged by these results the author tried the insulin treatment in pyoderma, and in some cases found it of much service.

990. The Indications for Salvarsan Sulphoxylate.

T. H. FABRY (*Urol. and Cut. Rev.*, January, 1925, p. 1) states that salvarsan sulphoxylate was introduced into the therapeutics of syphilis by Ehrlich's successor, Kolle. Its advantages over the older preparations of solverson are said to be that the preparation is put up in convenient form as ampoules, is soluble and ready for immediate use, that it is potent. The caustic action of the sulphoxylate is also less than that of any other solverson preparation. It is commended by Fabry in the following conditions: (1) in subsequent treatment of the following conditions: (1) in syphilis; (2) tertiary syphilis; (3) general paralysis and Wassermann reaction; (4) framboesia and malaria. The dose is two to four weeks after disappearance of symptoms. The dose is 8, 10, or 12 c.c.m., at intervals between the injections should never be less than three weeks in the various stages of syphilis. The course, and there should never be more than four injections, after which there should be a pause of two or three months in the salvarsan treatment. A 5 per cent. solution is used, so that 10 c.c.m. contains 0.5 g. of sulphoxylate in framboesia and malaria the first injection should be given from 0.15 to 3 c.c.m. per kilo of body weight. Infants should be given every fourteen days. The indications for sulphoxylate are the same as for the preparations of salvarsan—namely, pronounced cardiac dilatation, aneurysm, and renal and hepatic disease.

[illegible]

337. **Partial Rupture of the Colon.** (Zentralbl. f. Chir., February 14th, 1925, p. 349) describes the following case: A man, aged 25, while using a lever to raise a heavy stone, felt a sudden severe pain in the abdomen "as though something was torn." Finding that the pain persisted and was increased by walking, he was admitted to hospital five hours after the onset of pain. There was marked rigidity of the whole of the lower part of the abdominal wall, and the lightest pressure was painful. In the left iliac fossa there was an area of absolute dullness. He could urinate spontaneously, but the effort caused hypogastric pain. The urine was normal, the pulse 90, the tongue moist and coated, and the rectal temperature 99.3°F. As the symptoms persisted, and it appeared probable that there was some intra-abdominal injury, median infraumbilical laparotomy was performed one hour after admission. On opening the peritoneum, fresh liquid blood was seen between the coils of intestine. The bladder was uninjured. A linear longitudinal laceration of the serous and mesocolic coats was found in the lower portion of the sigmoid, just above its entrance into the rectum. The tear was 2 inches long, and was opposite the attachment of the mesosigmoid. Notwithstanding its unsupported position, the mucosa was intact, but it bulged through the laceration. Around the laceration a haematoma containing bright red arterial blood, and measuring 2½ by 1½ inches, had formed. The edges of the laceration were adherent and everted. The rent in the serous and muscular coats was closed with sutures and the peritoneal layer of the peritoneum was sutured over the area of the haematoma. The patient was quite well twenty-two weeks



## 391. Potassium Acetate in Post-operative Retention of Urine.

D. GALL (*Zentralbl. f. Chir.*, January 17th, 1925, p. 123) states that Reimer, from observations on 49 cases, came to the conclusion that a solution of potassium acetate acted as a specific in post-operative retention of urine. The simplicity of the method, its experimental basis, and the results obtained by Reimer induced Gall to try it in the surgical clinic of the Medical Institute at Ekaterinoslav, where 31 patients were selected in whom retention of urine set in from ten to fourteen hours after operation under chloroform preceded by injection of morphine for the following conditions: piles 14 cases, inguinal hernia 10 cases, appendicitis 4 cases, gastro-enterostomy 2 cases, nephrectomy 1 case. The results were as follows: Only four patients in whom spontaneous evacuation of the bladder occurred reacted to the drug after two to six doses. All the rest had to be catheterized in spite of administration of the drug every three hours. Gall concludes that potassium acetate cannot be regarded as a specific for post-operative retention, for though Reimer was successful in 100 per cent. of his cases Gall obtained favorable results in only 13 per cent.

## 392. Treatment of Pleural Effusion by Sodium Citrate.

A. COYON and P. MARTY (*Bull. Soc. de Théor.*, January 14th, 1925, p. 13) state that intrapleural injection of sodium citrate, while of little use in the pleural effusion of cardiac disease, may be of value in the treatment of chronic empyema with production of fibrinous clots, as it considerably facilitates escape of the fluid. After radiological estimation of the amount of fluid left in the pleural cavity, 2 to 10 c.cm. of a varnished 10 per cent. solution of sodium citrate is injected. In cases of sero-fibrinous effusion the strength of the solution ranged from 10 to 30 per cent. according to the amount of fluid left behind. The authors suggest that the stagnant effusion in artificial pneumothorax would probably be benefited by injection of the sodium citrate solution, which might also be employed in some cases of pericardial or ascitic effusion with the object of preventing adhesions or obviating the formation of fibrinous deposits.

## Ophthalmology.

## 393. Associated Movements.

E. A. CARMICHAEL and M. CRITCHLEY (*Brit. Journ. Ophthalmol.*, February, 1925, p. 49) in this paper discuss the curious phenomenon of associated movements. The best known example of a movement associated with the contraction of an extrinsic eye or eyelid muscle is the "jaw-winking reflex." The authors have noted six further types of associated movements. The "oculo-aural movement" consists in the helix of each pinna becoming rotated backwards and inwards towards the mastoid when the eyes are fully deviated laterally. The movement is slow and deliberate; it is a bilateral phenomenon, the wider excursion occurring in the contralateral ear. The "oculo-frontalis movement" is the name given to the depression of the contralateral eyebrow and the raising of the homolateral eyebrow on deviating the eyes laterally. The "oculo-lingual movement" implies the tongue pointing to the homolateral side on deviation of the eyes. The "oculo-mandibular movement" is a combined protrusion and deviation of the mandible to the contralateral side if the eyes are rapidly deviated first to one side and then to the other. In the "orbiculo-stapedial movement" there is unilateral blepharospasm with buzzing noises in the homolateral ear. The "oculo-nasal movement" denotes dilatation of the nostrils on extreme deviation of the eyes. The authors suggest that there is a phylogenetic origin for these movements.

## 394. Glioma of the Retina.

CABANNES, MONToux, and GUINAUDAU (*Gaz. hebdom. Sci. méd. de Bordeaux*, March 8th, 1925, p. 153) state that four stages may be distinguished in the course of glioma of the retina. In the first stage there are no symptoms of irritation, but merely a diminution of vision, rapidly ending in blindness. The second stage begins with increase of pressure, the eye becoming injected, painful, and hard. The third stage is that of perforation of the eyeball, the new growth escaping from the eye at various points, especially in the region of the optic nerve and cornea. The fourth stage is that of generalization, the glioma invading the brain by the optic nerve. Metastases sometimes occur in the lymphatic glands and viscera, especially the liver. Death is due to cachexia or invasion of the brain. The authors remark that it is obvious that operation, x-rays, and radium cannot be of any avail in the last stage, which is invariably fatal, but these methods may cause transient

improvement or in rare instances produce a permanent cure when applied during the other three stages. For a long time enucleation and exenteration were the only methods of treatment of glioma of the retina. In favorable cases—that is to say, in the preglaucomatous stage—enucleation, with as complete excision of the optic nerve as possible, has produced some permanent cures. Exenteration of the orbit is indicated in the glaucomatous stage, in which there is some hope of a cure, though recurrences are frequent. They are also the rule in the third stage, when exenteration should also be tried. Of 26 cases of glioma of the retina collected by the authors in which x-ray treatment was used, only 4 were successful. As a rule the method has been employed without previous enucleation. Radium therapy has been used in only 4 cases, reported by Chaso (1910), Foyales (1921), Keys (1922), and Cabannes and Réchon (1925) respectively, in which the results were better, especially when radium was combined with surgical treatment.

## 395. Inflammatory Swellings simulating Dacryocystitis.

J. GREEN, jun. (*Arch. Ophthalmol.*, January, 1925, p. 68) draws attention to the fact that inflammatory swellings over the site of the lacrimal sac are not due necessarily to acute primary inflammation of the sac. In the first place the intimate relation of the anterior ethmoidal cells to the lacrimal fossa, as pointed out by Whitnall, provides a not infrequent route for extension of purulent inflammation of these cells to the surface. There is a group of cases in which inflammation extends from the mucous membrane of the nose to the neighbourhood of the tear sac. In these cases the lacrimal canal is permeable, and the sac is not at first affected, though it usually becomes so later. In some cases the orifices of the sac are closed by pressure from pus externally, the pus coming from an empyema in one of the nasal sinuses. Occasionally purulent collections in the deeper parts of the orbit may gravitate to the region of the sac, simulating a lacrimal abscess. Funnels over the site of the lacrimal sac is, Green thinks, more common than ophthalmologists suppose. A gummatous inflammation at the inner canthus may rarely occur. Finally, it is probable that, on occasion, a localized focus of osteomyelitis of the superior maxilla may give rise to a subperiosteal abscess which may form at the usual site of a lacrimal abscess.

## 396. Ocular Phenomena in Acromegaly.

W. I. LILLIE (*Amer. Journ. Ophthalmol.*, January, 1925, p. 32) discusses the ocular findings and their relation to the sella turcica in 50 cases of acromegaly. In 13 of the 50 cases the sella turcica and ocular findings were normal so far as chiasmal involvement was concerned. In 21 cases x-ray examination showed enlargement of the sella turcica with erosion of the posterior clinoids, but with no ocular changes characteristic of chiasmal involvement. In 16 cases there were definite ocular changes characteristic of chiasmal involvement with enlargement of the sella turcica and erosion of the posterior clinoids. Sixty-eight per cent. of all the cases of this series of acromegalic patients were normal from the ophthalmological point of view so far as any chiasmal changes were concerned.

## Obstetrics and Gynaecology.

## 397.

## Hydatid Mole.

R. REMMELTS (*Nederl. Tijdschr. v. Geneesk.*, November 22nd, 1924, p. 2584) gives the following statistics of 44 cases of hydatid mole which were treated in the Amsterdam University Women's Clinic between 1838 and August, 1924. Since about 1,700 births and some hundred miscarriages occur in this clinic every year the frequency of hydatid mole may be estimated as 1 in every 2,000 pregnancies. The ages of the patients were as follows: under 20, 4; between 20 and 30, 21; between 30 and 40, 9; between 40 and 50, 9; over 50, 1. Eight of the patients were primiparae, and the rest had given birth to from two to twenty children. There was no example in the Amsterdam clinic of one woman having had repeated molar pregnancies, but Fritsch has reported a case of four molar pregnancies in the same woman, and Demaire has recorded an example of a woman who had a molar pregnancy six times in the course of eight years. The relation of molar pregnancy to child-bearing is shown by the following classification of 34 Amsterdam cases in which the data were available: (1) in 15 multiparae the hydatid mole represented the last pregnancy; (2) in 5 cases the molar pregnancy was succeeded by the birth of from one to ten normal children in subsequent labours; (3) in 13 cases the molar pregnancy was both preceded and followed by normal pregnancies; (4) in only one instance did the molar pregnancy represent the only time that the woman had been pregnant.



Hydatid mole is commoner in unusually fertile women, as the 34 patients had given birth to a total of 201 children in addition to miscarriages and molar pregnancies, so that on an average each woman had had at least seven pregnancies. In view of the fact that hydatid mole has been attributed by Lemaire to defective ovarian function the menstrual history of the 44 patients was investigated with the following results: in 25 menstruation was regular and normal in amount; in 5 the periods were regular but scanty; in 5 there was considerable loss of blood; in 3 menstruation was irregular; and in 5 no details were available. The age when menstruation commenced gave no support to Lemaire's theory, as in the great majority of cases menstruation started at the usual age. Out of 28 cases in which the size of the uterus was compared with the duration of pregnancy, in 15, hypomeresis was found to be larger than usual for the period of pregnancy in 19, and smaller in 8 its size corresponded with the duration of pregnancy. In accordance with the experience of other observers the duration of pregnancy in the Amsterdam cases ranged from one to thirteen months. A few cases are on record in which a mole has been retained in the uterus as long as twelve or thirteen months. Toxic symptoms were observed in a large proportion of cases—namely, albuminuria in 15, hypomeresis in 2, and icterus in 1. In 6 cases the presence of an ovarian cyst was diagnosed. Of the 44 cases 35 recovered without any treatment beyond spontaneous or artificial emptying of the uterus. In one case owing to a mistaken diagnosis total hysterectomy was performed. One patient died of puerperal septicaemia and three of diseases unconnected with the mole—namely, placenta praevia, pulmonary tuberculosis, and Bright's disease. The remaining four cases developed chorion-epithelioma malignum. Two of these died without operation, and of two on whom operation was performed one recovered and the other died five days after the operation. Only 17 of the patients had a completely afebrile puerperium; in 5 the temperature was above 104° in 10 between 102.2° and 104°, and in 10 between 100.4° and 102.2°.

398.

#### Treatment of Cancer of the Cervix.

F. DAELS and P. DE BACKER (*Nederl. Tijdschr. v. Geneesk.*, January 17th, 1925, p. 229) state that the number of operable cases of cancer of the cervix varies with different observers from 5 to 45 per cent., the operation mortality from 15 to 35 per cent., and the recovery rate from 5.8 to 47.8 per cent. The authors' treatment is as follows. They first employ x-rays in two or three fields—namely, the abdominal, dorsal, and, if possible, the vaginal—so as to disinfect the cancer lesion. Three or four days later radium is introduced into the cervix and vaginal fornices. If there is no fever and the lesion appears clean, Wertheim's radium method is employed. If, on the other hand, fever is present and the lesion is breaking down, they advise waiting four or five weeks until the fever has subsided and the lesion have become clean before using the Wertheim method. The doses employed ranged from 60 to 70 millicuries.

399.

#### Treatment of Puerperal Uterine Inversion.

L. COURTY (*Bull. Soc. d'Obstet. et de Gynecol. de Paris*, 1925, 2, p. 158) observes that the diversity of opinion regarding treatment of irreducible acute puerperal inversion of the uterus is not remarkable, since few surgeons have treated more than one case of a complication which occurs, according to Ribemont-Dessaignes, in only one labour among 100,000. The operation of Kustner in the deadweight of the uterus is presence of a large friable uterine posterior hysterotomy may cause considerable haemorrhage and leaves a long incision to be sutured. Moreover, the uterus has to be replaced through a small colpotomy opening—a manoeuvre which may take up much time and cause considerable shock. Courty considers this operation inapplicable in cases of recent inversion; if attempt at manual reduction fails, he prefers an expectant course, practising hysterectomy by the vaginal route if severe haemorrhage or infection occurs.

### Pathology.

#### The Heat Resistance of the Tubercle Bacillus.

J.-L. OERSKOV (*C. R. Soc. de Biologie*, February 13th, 1925, p. 400) has made investigations to ascertain the thermal death point of tubercle bacilli in milk. In most work of this kind it is usual to test the survival of the bacilli by injecting the milk, after heating, into guinea-pigs. The results obtained in this manner have generally agreed fairly closely in showing that the organisms are killed by a temperature of 63° C. in twenty minutes. The author questions the value of this method. Not only are guinea-pigs expensive, but there is some evidence that the virulence of bacteria is destroyed by

a lower degree of heat than that necessary to kill them; in this way tubercle bacilli which had received a sublethal application of heat, though still alive, might fail to give rise to disease on injection into susceptible animals. To avoid this possible fallacy he has substituted cultivation in tubercle inoculation. Milk was infected heavily with tubercle bacilli of human type, distributed into glass tubes and heated at a temperature of 63° C. in a water-bath. After varying intervals 7 or 8 drops of the milk were inoculated into cultures of medium, five tubes being used in each case. The cultures were examined for evidence of growth after four, six, and twelve weeks. After four weeks there was growth in tubes which had been inoculated with tubercle bacilli heated for thirty minutes; after six weeks in tubes containing tubercle bacilli heated for forty minutes. These numbers in milk.

#### 401. The Influence of Age on Susceptibility to Infection.

A SERIES of experiments has been made by C. EGUCHI (*Zeit. f. Hyg. u. Infektionskrankh.*, 1925, 104, p. 241) to determine the relative susceptibility of young and adult animals to infection. In the first series young mice from one to five weeks old were placed with their mothers in glass cages, four or six animals in a cage. A similar series of adult mice, varying in weight from 16 to 24 grams, were likewise placed in cages. The animals were then fed by means of a capillary pipette with a saline suspension of *B. typhi murium*, an organism which is naturally pathogenic to mice. Usugasa strain, the Ellinger strain, it was found that the specific death rate amongst the young mice was 69 per cent., whereas that amongst the adult mice was only 33 per cent. With another strain, Topley's strain, the difference was even more marked; in this case the specific mortality amongst twelve young mice was 100 per cent., amongst eighteen adult mice it was nil. Eguchi concludes that there is no doubt from these experiments that young mice are very much more susceptible to this organism than are adult mice. In a second series of experiments guinea-pigs were used, fed with the Ellinger strain. The results were similar to those obtained with mice, though higher doses had to be given to adult animals fed in a like manner not a single one died. This experiment indicates that a species of animal, such as the guinea-pig, which in the fully grown state is comparatively resistant to infection with this organism, is comparatively susceptible when newly born. In a third series of experiments young kittens a few days old were infected with either the vegetative or the oocyst form of dysentery bacillus, and were compared with adult cats similarly infected. Of the kittens 40 per cent. out of a total of twenty-two developed dysentery, whereas of the cats only 8.6 per cent. of a total of twenty-two developed the disease. From these experiments that young animals are more susceptible to alimentary infection than older ones, and that this difference is due to a deficiency in the defence mechanism of the intestinal mucosa in the younger animals.

402.

#### Stimulants to Bacterial Variation.

A. EASTWOOD (*Journ. Hygiene*, December 18th, 1924, p. 317) argues that immunity is not completely explained by antibody reactions since other factors have to be considered, one of which is the influence of stimuli upon the vital capacities of bacteria. Transmissible bacterial variation is apparently due to a stimulus acting upon the growing bacterial cell and resulting in the splitting off of daughter cells which, being non-viable, undergo autolysis. Transmissible autolysis is not, he thinks, due to a stimulus *sui generis*, but is merely an incident in the general phenomenon of bacterial variation. In pure culture the secretions of bacteria, by stimulating, favourably or unfavourably upon their growth, and are to be distinguished from the stimulants of animal origin which act either themselves. Eastwood suggests that one aspect of the difference between natural immunity and susceptible species, he interprets as due to differences in the stimuli inherent in the particular animal species and to consequent differences in their effects upon the particular bacterial species. He explains the acquired immunity of a susceptible animal as being the result of a change in the animal's stimulant action from one favourable to bacterial growth to one which is adverse, and he points out that leucocytes are one of the sources of material cells and an enzyme action on the growth capacities of living and dead cells. A stimulus other than a food cause incorporated as part of the structure of the cell.

# EPITOME OF CURRENT MEDICAL LITERATURE.

## Medicine.

### 403. Erythema Scarlatiniforme in Epidemic Encephalitis Lethargica.

J. SABRAZÈS, FLYE SAINT-MARIE, and RAYLAC (*Gaz. Hebdomadaire de Bordeaux*, February 8th, 1925, p. 84) record the case of a girl, aged 16, in whom an attack of epidemic encephalitis commenced with diplopia. Five days after the onset she developed a scarlatiniform eruption and a painless infection of the fauces. The erythema was transient, no desquamation occurred, and the patient entered the lethargic stage of the disease, which lasted eleven days. In convalescence there was a marked paralysis of accommodation. The patient was treated for a fortnight by daily intravenous injections of sodium salicylate (1 gram daily at first, and later 2 grams), and finally complete recovery occurred. Erythema scarlatiniforme differs haematologically from scarlet fever in that few or no eosinophils are present, and hardly any basophil inclusion bodies are seen in the polymorphonuclear leucocytes. Sometimes the eruption is morbilliform, as in the cases of Buzzard, Lereboullet and Mouzon, Althout, Bédard, and Smith, and suggests measles or rubella. In other cases the rash is papular or purpuric, as in cerebrospinal meningitis (Salntou, Achard, H. Roger). The eruption, accompanied by an exanthem at the onset of epidemic encephalitis, should be compared with the similar eruption noted in epidemic poliomyelitis, which, according to Regan, is found in 10 per cent. of some epidemics.

### 404. Hearing Apparatus for the Deaf.

C. HVIDT (*Ugeskrift for Læger*, February 5th, 1925, p. 127) gives an account of an institution, started in December, 1917, for providing and testing apparatus for the deaf. Four main groups of contrivances have been investigated, the radiophone, the hearing tube, the ear trumpet, and an electrical apparatus including a microphone being characteristic representatives of these groups. Of the 368 patients tested 168 suffered from middle-ear disease, 121 from otosclerosis, and 79 from disease of the internal ear. Of the patients with middle-ear disease 6 per cent. derived no benefit from any apparatus, 5 per cent. obtained most help from hearing tubes, 44 per cent. from trumpets, and 45 per cent. from electrical apparatus. Of the patients suffering from otosclerosis 10 per cent. derived no benefit from any apparatus, 4 per cent. obtained most help from hearing tubes, 46 per cent. from trumpets, and 40 per cent. from electrical apparatus. Of patients with internal-ear disease 14 per cent. derived no benefit from any apparatus, 15 per cent. obtained most help from hearing tubes, 52 per cent. from trumpets, and 19 per cent. from electrical apparatus. It was observed that in most cases of deafness due to old age trumpets and ear tubes were more effective than electrical apparatus, which was of little value; this aid to hearing requires a certain amount of application and practice. The author notes that the high percentage of successes (45 per cent.) achieved by him with electrical apparatus in cases of middle-ear disease does not tally with the experiences of Schriener of Alexander's clinic in Vienna, where, in this class of case, electrical apparatus proved useful in only 15 per cent.

### 405. Etiology and Treatment of Asthma.

DANIÉLOPOLU (*Bull. et Mém. Soc. Méd. des Hôp. de Bucarest*, No. 10, December, 1924) states that, in spite of the great number of publications on this subject, the etiology of asthma is still obscure. As the result of much study of the "vegetative" nervous system, which plays an important part in the production of asthma, he has come to the conclusion that the "vegetative" nerve tone of an organ may be modified by local intravisceral or extravisceral factors, as also by reflex and general factors. The "local" factor is, he thinks, the most important and is often represented by some local visceral lesion, such as a chronic tuberculous focus with accompanying fibrosis, or again fibrosis may result from a penetrating gunshot wound of the lung. Daniélopou believes that these lesions act in two ways—(a) by irritation of the nerve endings (both sensory and motor) in the lung, and (b) by forming "a local anaphylactic focus." The author claims to have demonstrated that the tuberculous lung is in a condition of "local anaphylaxis," not only for the specific toxins of the tubercle bacilli, but also in respect of certain albumins which have been more or less modified by tissue destruction. There is also a "local focus of anaphylaxis of the tissues without obvious lesion." In such cases the

sensitizing agent is inhaled, and in addition to general sensitization there is a predominating local anaphylaxis, as in hay asthma and in Vidal's case, in which asthma was induced by the odour of sheep. A general factor is represented by a "parasympatheticotonia." The atropine test shows that this condition is far from constant in asthma, but it plays an important part in some cases; for example, it explains the occurrence of asthma in Graves's disease. A reflex factor is present in those cases in which asthmatic attacks are provoked by nasal diseases, or by those of the adnexa or of the appendix. There is also a psychic factor: in certain cases emotion induces an attack. Recent physiological research indicates a derangement of the centrifugal and centripetal nerve fibres of the bronchi. The bronchoconstrictor fibres arise in the dorsal nucleus of the vagus and pass downward to the bronchi by the cardiac and pulmonary branches of that nerve. The broncho-dilator fibres arise from the first four dorsal nerves, and reach the bronchi through the stellate ganglion and its cardiac branches. The sensory (centripetal) fibres form (a) an ascending group which follows the vagus and its branches and (b) a lateral group which traverses the stellate ganglion and the first four dorsal roots to reach the cord. It matters not, according to Daniélopou, what may be the factor which determines an attack, the attack can only occur when there is a predominant parasympathetic reflex circle, which is stimulated by the local factor. The resection of the sympathetic or of the vagus trunks has relieved some patients; this can, he thinks, only be explained by the anatomical details given above. Anaphylaxis does not account for every case of asthma. Asthmatic attacks may be prevented by—(a) lessening the excitability of the intrapulmonary motor terminations or of the parasympathetic system, when involved; calcium chloride and potassium iodide are often very useful; (b) prevention of anaphylaxis, when the asthma is due to this cause, auto-serotherapy, auto-haemotherapy, and protein therapy. In severe cases in otherwise healthy young patients, Daniélopou recommends excision of the cervical sympathetic, avoiding the inferior cervical ganglion and the stellate ganglion, with division of the vertebral nerve, the operation recommended by the author in angina pectoris, but in asthma it should be performed on both sides.

### 406. Enuresis and Spina Bifida Occulta.

MOURIQUAND, CHASSARD, and SÉDALLIAN (*Lyon Méd.*, February 15th, 1925, p. 198) state that German authors have claimed that spina bifida occulta is present in 83 per cent. of cases of enuresis, and that where radiological proof of this deformity is lacking a dysplasia of the spinal cord is present. They describe the case of a boy aged 8 who had always suffered from nocturnal enuresis and diurnal frequency of micturition. The x-ray examination showed a spina bifida occulta, with an oblique gap 1 cm. in width in the arch of the first sacral vertebra. In a girl aged 5, whose enuresis ceased on treatment in hospital, a narrower fissure was detected radiologically in the same vertebra, but since cartilaginous islets may persist in this region until the age of 7 the evidence in this case is held to be less convincing.

## Surgery.

### 407. Femoral Aneurysm cured by Excision.

P. DELBET (*Bull. et Mém. Soc. Nat. de Chir.*, February 14th, 1925, p. 154) records the result of an operation for a large aneurysm of the lower end of the femoral artery in a patient aged 65 years. The aneurysm was very large and showed marked pulsation; it had recently been causing pain in the leg and difficulty in locomotion. The swelling was limited below and did not extend into the calf; above it passed into Hunter's canal. As it seemed likely that the aneurysm would rupture unless treated it was decided to try to excise it. The Wassermann reaction proved to be negative. The operation was exceedingly difficult owing to the fixity of the aneurysm to the surrounding structures, whilst the vein was very adherent to its walls. As it does not appear to be necessary to preserve the vein in these cases, and owing to the difficulties present, it was ligatured and divided. The patient recovered completely. Delbet considers that these large aneurysms are suitable for operation, which gives satisfactory results. In another case where it had been proposed to amputate the leg for a similar condition he excised the aneurysm successfully and cured the patient.

## 408. Treatment of Varicose Veins.

D. FISHER and E. H. MENSING (*Journ. Amer. Med. Assoc.*, March 7th, 1925, p. 728) emphasize the importance of carefully investigating the condition of the deep veins of the leg before removing the superficial ones when these are varicose. They report two cases. The first patient, a man aged 32, was admitted for the removal of varicose veins in both legs. Before the operation the legs were raised so as to remove the blood, then a constriction was applied to the saphenous opening and the leg lowered; even after ten minutes the veins had not filled up again, showing that the deep or perforating veins were thrombosed or in a varicose condition. There was a previous history of typhoid fever, and had operation been performed gangrene of the extremities would probably have resulted. In the second case the patient had had varicose veins removed and gangrene of one leg followed. Subsequent examination showed that both the deep and perforating veins were thrombosed.

## 409. Osseous Metastasis from Breast.

G. T. BEATSON (*Brit. Journ. Surg.*, vol. xii, No. 47, 1925, p. 473) reports a case of osseous metastasis from primary carcinoma of the right mamma. He points out the confirmation given by it to the theory of omolism of metastases through the blood, and that it was shown also that lymphatic infection can take place simultaneously. A woman, aged 55, with carcinoma of both upper quadrants of the right breast, developed extensive metastatic involvement of the skin, glands, pleurae, clavicle, skull, and vertebrae through the lymph stream, and of the long bones of all the limbs and the liver, lungs, and kidneys through the blood stream. Fractures of the right clavicle, the left humerus, and the left femur occurred, and Bence-Jones albumin was present; there was a secondary anaemia and a marked leucocytosis, mainly of polymorphs. Skiagrams showed that the cancerous foci were not more frequent in the tendinous and fascial insertions, and large nodules and masses of tumour tissue were demonstrated in the radii, ulnae, tibiae, and iliac, chiefly in the marrow cavities. The main points of interest were the extensive involvement of the distal bones of the limbs, contrary to the rule that the liability of a bone to metastases is greater the nearer it is to the primary growth; the fracture of the femur in the upper third of the shaft and not where the compact bone is thinner; the fracture of the humerus below the deltoid insertion; the unusual feature of the freedom of the sternum from growth, whereas it frequently becomes involved through the lymphatics; and the scarcity of skin nodules although the osseous spread was very diffuse. The author points out that the dictum that "the spread of cancer is invariably by the lymphatics" needs some modification in view of this case, which confirms the conclusions of Piney that metastatic deposits in bones are due to arterial or capillary embolism.

## 410. Staphylococcal Septicaemia.

CABELLO (*La medicina Ibera*, March 7th, 1925, p. 235), who alludes to the case recently reported by Moya (*Epitome*, January 24th, para. 89), records the case of a man, aged 26, in whom the first symptoms of this condition, consisting in a rapid pulse and a temperature of 103°, developed a few hours after operation for femoral hernia. Examination of the blood showed a leucocytosis of 15,200 and a polymorphonuclear percentage of 78. Death followed two days later, there being no thoracic or abdominal signs other than feeble air entry at both pulmonary bases. At the autopsy the operation wound was filled by sero-purulent exudation containing numerous staphylococci. Cultivation of the blood from the left ventricle showed a pure culture of *Staphylococcus pyogenes aureus*. Apart from slight endarteritis of the femoral artery nothing else abnormal was discovered.

## 411. Spontaneous Gangrene of the Testicle.

A. BUSCHKE (*Deut. med. Woch.*, February 6th, 1925, p. 229) does not consider insidious gangrene of the testicle from an unknown cause or causes to be very rare, and he classifies gangrene and abscess formation of the testicle in three main groups, according as the cause is—(1) acute gonorrhoea, (2) chronic gonorrhoea, or (3) unknown. With regard to the authorities that castration should be performed. He has gradually given up castration, having found that in many cases, notably when the onset of the disease was insidious phlogistic treatment led to recovery and the reabsorption of the necrotic tissues. In other cases he limited operative treatment to aspiration of the associated hydrocele and excision of the testicle, the necrotic elements of which were enabled to escape by elongating. One merit of this conservative treatment is that part of the testicle is retained

and is still able to function. Another advantage of not castrating is concerned with the psychology of the patient, on whom this operation is apt to act as a psychic trauma. The author distinguishes this form of gangrene of the testicle from the one following torsion of its pedicle, and while in some cases the onset of the disease is marked by acute symptoms, there are other cases in which the process is gradual and insidious.

## Therapeutics.

## 412. Dangers of Hydrogen Peroxide Irrigation.

J. S. OIESTAD (*Tidsskrift f. d. Norske Lægeforening*, March 1st, 1925, p. 237) records several cases to emphasize his point that it is unwise to encourage the general public to use indiscriminately hydrogen peroxide as a lotion for the ears and a gargle for the throat. Owing to the rapid generation of gas on contact between hydrogen peroxide and pus, pressure within certain cavities of the head may rise to such a point as to cause loss of consciousness and even death. One of the author's patients had used hydrogen peroxide for a sore throat, with the result that severe earache developed on one side, and when he was examined a couple of hours later the tympanum was still bulging much forward, as the result, no doubt, of the escape of oxygen through the Eustachian tube. Another patient, who suffered from nasal catarrh and the formation of crusts, was recommended irrigations with hydrogen peroxide. The first irrigation was immediately followed by swelling and reddening of the nose. This condition lasted several days, and ulcers, which formed just within the nostrils, left depressed scars. Several other patients complained of burning in the throat with more or less severe dysphagia after using hydrogen peroxide as a gargle. In one of these cases the pain was so violent that the patient screamed incessantly for four hours, and when she was examined next day there was still great swelling with tenderness of the throat, and she could not drink even water. The author suggests that in this case the bubbles of gas had forced their way into the tonsillar crypts and between the tonsils and the palatine arches. In another case hydrogen peroxide was introduced into the ear of a girl, aged 10, whose tympanum was subsequently found to be eroded. Directly after the hydrogen peroxide was introduced into the ear, the girl shrieked with pain and continued to do so incessantly for about twenty-four hours. The author does not mention the strength of the solutions used in his cases.

## 413. Treatment of Anasarca due to Cordic Follure.

A. PISANI (*Chiore e circolazione*, February, 1925, p. 71) records five cases in men aged from 54 to 72 suggesting that the commercial preparation, novarsol, which is a combination of sodium oxymercurechlorophenoxy acetate with dimethylmoniluria, and was first employed as an antisyphilitic drug, is of value in the treatment of anasarca due to the failing heart when other remedies such as digitalis and strophanthus have failed. Even in healthy subjects it has a well marked diuretic action, but this effect is still more pronounced in cases of oedema. Novarsol does not stimulate either the heart or the kidneys, but it has the property of mobilizing the oedema fluid, which it drives into the renal filter, giving rise to a copious flow of urine containing the chlorides and other salts which have intoxicated the system. In patients who previously passed 500 to 600 c.cm. of urine in the twenty-four hours the diuresis is increased four-, five-, or ten-fold, with the result that the oedema disappears and the respiration becomes unembarrassed. A subcutaneous injection of 1 c.cm. every two or three days is sufficient. The author mentions only one contraindication—namely, acute or chronic nephritis, owing to the irritation produced in the kidney by the mercury in the preparation.

## 414. Magnesium Sulphate in Eclampsia.

E. M. LAZARD (*Amer. Journ. Obstet. and Gyn.*, February, 1925, p. 178) gives a preliminary report of encouraging results obtained by intravenous injection of magnesium sulphate in eclamptic patients. He believes that, besides controlling the convulsions by its sedative action on the voluntary muscles, the drug has a detoxicating action due to its promoting urinary secretion and also that it diminishes cerebral oedema. Seventeen cases are reported, of which five were examples of post-partum eclampsia: all the patients were comatose on admission. All the mothers except one recovered, and five of the eleven babies delivered after starting magnesium sulphate treatment were living. The injections invariably controlled the convulsions: the dose found best required one or two repetitions. No evidence of respiratory paralysis was detected. In many of the cases the treatment

was combined with administration of morphine and eliminative measures such as phlebotomy, gastric lavage, and colonic flushing. The magnesium sulphate injections appeared to possess the greater efficacy, and the best results were obtained with the least handling of the patient. B. H. ALTON and G. C. LINCOLN (Ibid., p. 167) deal with intraspinal injections of magnesium sulphate solution. The drug appears to have been first given by this route in eclampsia by Einar in 1907, and has been employed occasionally since this time with varying results. It is remarked that there is an analogy between its action in eclampsia and in strychnine and tetanic convulsions. The present authors have injected intrathecally in the lumbar region doses corresponding to 1 c.cm. of 25 per cent. solution to each 25 lb. of body weight. Four patients were given this treatment after the usual eliminative measures had failed. After each injection the convulsions ceased at once, and the minimum time in which the eclamptic convulsions were controlled was eighteen hours. Two of the patients recovered. Animal experiments have shown that overdose leads to respiratory paralysis, to which intravenous injections of 10 c.cm. of 25 per cent. calcium chloride act as an antidote.

## Dermatology.

### 415. Erythroedema.

J. BUTLER (*Arch. Derm. and Syph.*, February, 1925, p. 166) records a case of erythroedema or "pink disease." He considers that it is often wrongly regarded as acrodynia and that the cutaneous manifestations, which are among the first to appear and the last to disappear, are pathognomonic of a definite clinical entity occurring in infants and young children. The child becomes extremely irritable, depressed, and drowsy; it lies face downwards with the head buried in the pillow. Anorexia is associated with profuse sweatings, photophobia, diminished reflexes, and paraesthesia of the extremities. The skin lesions consist of a miliary rash on the body and a typically diagnostic cyanotic red, swollen, scaling condition of the hands and feet. This last is the most constant symptom, commencing about the second week and continuing throughout the disease. Commencing between the ages of 3 months and 7 years, the illness is marked by exacerbations and remissions of varying duration. The prognosis is good, but about 5 per cent. of the patients die, generally from pneumonia. Treatment is symptomatic and forced feeding may be decided. A carbolic calamine lotion for the skin and ultra-violet light therapy of the hands and feet afforded relief. In some patients improvement has followed removal of the tonsils and adenoids and treatment with a vaccine from diplococci found in the lymphatic glands.

### 416. Haemochromatosis.

S. WILSON and F. A. WEISER (*Journ. Amer. Med. Assoc.*, March 14th, 1925, p. 800) report a case of haemochromatosis occurring in a man, aged 37, the diagnosis being made during life and confirmed by necropsy. The prominent signs in this case were a diffuse greyish-blue pigmentation of the skin, with small elevated brownish patches. This pigmentation was marked over the face, neck, and upper part of the chest, and the skin was dry and scaly. Intracellular haemosiderin granules were demonstrated in the skin and in the urinary sediment. The liver was enlarged, and there were hyperglycaemia, glycosuria, acidosis, and cachexia. The onset was rather sudden, the first symptom being a feeling of fullness in the upper abdomen, not accompanied by nausea or vomiting, but soon followed by progressive weakness and loss of weight, together with dryness of the skin. The blood count showed diminution of haemoglobin and red and white cells; the differential count was normal. The blood platelet count was 49,600; reticulated red cells were found in the proportion of 1 to 300, and the fragility test showed—complete, 0.325, and partial, 0.475. The patient subsequently died in a condition of diabetic coma. The authors discuss the diagnosis of the condition, with special reference to the exclusion of cirrhosis of the liver, arsenical poisoning, Addison's disease, and syphilis. They have been able to find only eighty-four cases previously reported in the literature.

### 417. Auto-serotherapy in Dermatology.

P. CASTELLINO (*Rif. Med.*, February 2nd, 1925, p. 57) records 22 cases of skin diseases treated with injection of serum or blood taken from the patient: 14 were cases of chronic eczema, 4 of prurigo, 1 of pemphigus, 1 of ichthyosis, and 2 of leprosy. The best results were obtained in the eczema cases, and in these cases serum was found to be better than blood. Of the 14 eczema cases only 3 showed no good result; the rest were either completely cured or very much improved. The ichthyosis case was improved by haemotherapy; in the

pomphigus case serotherapy gave some benefit. The leprosy cases were not improved at all. The author suggests that the good results are due to an effect on the lymphatic system. The dose of serum given varied from 3 to 7 c.cm., and of blood from 5 to 15 c.cm.; they were injected intramuscularly. The age of the patients varied from 9 to 69 years.

### 418. Treatment of Chronic Skin Diseases.

A. HOLLÄNDER (*Deut. med. Woch.*, March 13th, 1925, p. 439) recommends the prolonged administration of suprarenal extract for obstinate and relapsing weeping eczema and for all the erythrodermias, notably Hebra's pityriasis rubra. He treats with subcutaneous injections, after the month. A few hours after there is a diminution of the previously unbearable itching and sense of heat in the affected area. After two or more injections the moisture and associated urticaria abate appreciably, and when this treatment is supplemented by such mild remedies as zinc ointment cases which have hitherto proved intractable terminate in complete recovery. The technique of the procedure is as follows: Every day, for four or five days, a subcutaneous injection of 1 c.cm. of a 1 in 1,000 solution of adrenaline hydrochloride is given. Then, for the next six to eight weeks, adrenaline is taken by the mouth every two hours, a teaspoonful of Unna's syrup (10 c.cm. of a 1 in 1,000 solution of adrenaline hydrochloride to 100 c.cm. of syrup of orange peel) being given. This treatment, Holländer adds, can be continued for weeks and even months, for eight teaspoonfuls of this syrup contain only 4 mg. of suprarenin, and this is less than the total quantity excreted under normal conditions by the suprarenals every day. The author suggests that the beneficial effect of adrenaline in certain skin diseases depends on its action on the capillaries, and he insists that it is only by giving the extract continuously over a long period that a permanent cure can be expected.

## Obstetrics and Gynaecology.

### 419. Ovarian Activity and Vasomotor Symptoms.

A. BÉCLÈRE (*La Gynécologie*, January, 1925, p. 55) discusses the connexion between ovarian activity on the one hand and menstruation and the vasomotor symptoms of the menopause on the other. Among 700 women whose ovaries had been exposed to x-ray treatment, in 34 the ensuing menopause proved to be temporary only, lasting in the majority of cases from three to seven months. The return of menstruation was preceded invariably by disappearance of the "flushings" which had accompanied the temporary amenorrhoea. The conclusion is drawn that the vasomotor phenomena of the menopause are not due to retention of substances eliminated normally by menstruation. The persistence of "flushings" is incompatible with a reawakening of ovarian activity—a point for which diagnostic importance is claimed. When uterine haemorrhages recur after the natural or an artificially induced menopause, the persistence of vasomotor symptoms indicates that such haemorrhages are probably not menstrual but have some other origin. Thus in three patients who had uterine bleeding after a period of amenorrhoea following x-ray treatment, and in whom well marked "flushings" persisted, submucous polypi were found.

### 420. Lumbar Puncture before Podalic Extraction.

ACCORDING to R. COSTA (*Riv. d'Ostet. e Ginecol. Prat.*, February, 1925, p. 65), lumbar puncture of the foetal spinal canal as a preliminary to extraction in certain breech deliveries has the advantages that—(1) the whole cerebro-spinal axis, including the respiratory and other bulbar centres, is thereby exposed to diminished pressure during delivery; (2) the biparietal diameter may undergo a reduction of as much as 0.5 cm. during passage through the pelvis; (3) the degree of compression of the antero-posterior diameter of the foetal head with lengthening of the vertical diameter is diminished, so that the risk of tearing the tentorium cerebelli becomes less. The procedure has been employed by Costa in ten cases, in eight of which the infant survived, and in three cases by other Italian accoucheurs, with subsequent live-birth. Costa thinks it is indicated whenever extraction of the after-coming head is necessary, whether the dystocia arises in the soft or in the bony maternal parts. The infant's back being flexed, a needle is introduced horizontally between the fourth and fifth lumbar vertebrae, the position of the spine of the former being given by the line joining the two iliac crests. The needle is left in position during extraction of the head, and gives issue to cerebro-spinal fluid under considerable pressure during the passage of the head through the pelvis.



421.

**Pelvic Pain.**

DISCUSSING the place of 'sympathectomy' in gynaecological treatment G. COTTE (*La Presse Médicale*, January 24th, 1925, p. 98) recalls the two operations by which in 1899 Jaboulay divided the connexions of the presacral sympathetic cord with the pelvic plexus. Both patients were relieved of severe pelvic neuralgia and vaginismus. The visceral nerve fibres in the sheath of the internal iliac artery have been divided by Leriche and others in three cases of severe neuralgia and one of kraurosis vulvae. Cotte has performed hypogastric sympathectomy in five cases, of which two date respectively ten and fourteen years back. The first of these patients, a single woman, aged 28, had dysmenorrhoea unimproved by other treatments: after a bilateral operation the pain at the menses ceased, but there was persistent general nervousness. Relief was equally lasting in the second patient, a woman, aged 23, complaining of dyspareunia and exhibiting hyperaesthesia in the region of the utero-sacral ligaments. In this case chronic cellulitis in the parametria was demonstrated at operation. Cotte concludes that operations of this sort are suitable for intractable dysmenorrhoea, pelvic neuralgia, and pelvic hypoaesthesia. He is inclined to prefer to Leriche's operation division of the presacral nerve or its branches, combined in certain cases with partial or complete ovarian resection. He has had encouraging results recently. The abdominal route is considered the better, permitting detection of any morbid organic conditions present.

422. M. H. VIOLET (*Lyon Médical*, January 18th, 1925, p. 61)

states that a certain number of cases of intractable dysmenorrhoea are due to pressure on the nerves of the uterus by inflammatory nodules or massive inflammations in the parametrium which may be detected by rectal examination. In four instances he has treated these patients by effecting a dissociation of the cellular tissue in the base of the broad ligaments. The posterior surface is incised parallel to the ureter, which is separated, and the cellular tissue of the parametrium is torn by means of closed scissors. The results have been good and in one case relief has lasted ten years.

423.

**Myomata and Radiotherapy.**

R. CROUSSE (*Gynéc. et Obstét.*, 1925, xl, 2, p. 135) describes the case of a 3-parous woman, aged 56, who had a myomatous uterus extending to five fingerbreadths above the pubis. The tumour was thought to be interstitial, and was treated by twelve x-ray applications. The haemorrhage decreased for a short time, but reappeared in greater amount. Eighteen months after the x-ray treatment the uterus was of undiminished size and the sound penetrated 5 inches. The myoma was still thought to be interstitial; it was removed by operation, and found to be spherical, sessile, and submucous. Crousse believes that similar errors are not uncommon, and suggests that routine preliminary dilatation of the cervix and exploration of the uterus would negate the use of radiotherapy, which is admitted to be unjustified in cases of submucous myoma. Such a dilatation, Crousse points out, adds no complication to radium treatment, and in contemplated x-ray treatment may allow the extirpation of small myomata.

**Pathology.**

424.

**Early Diagnosis of Poliomyelitis.**

E. C. ROSENOW (*Journ. Amer. Med. Assoc.*, February 7th, 1925, p. 429) describes a specific precipitin reaction in epidemic poliomyelitis obtained by pouring gently a clarified extract of naso-pharyngeal swabbings in sodium chloride solution on to the surface of antistreptococcal horse serum used in the treatment of the disease. In positive cases, he reports, a cloud forms at the line of contact. Two readings are required—the first after incubation for two hours and the second after the tubes have been in the refrigerator overnight. These readings are taken in a darkened room by transmitted light, the tubes being viewed against a black background. Normal horse serum and other immune serums were used as controls. A large number of cases of the disease and of contacts were tested; several control tests were made upon persons suffering from miscellaneous diseases and upon normal persons both inside and outside the epidemic zones. Rosenow found the reaction positive at the onset of the disease before paralysis had developed, and consequently he considers the test of value in early diagnosis, thus enabling serum treatment to be started. Since the reaction usually became negative in from two to three weeks the test should, he adds, be of value in determining quarantine. Similar results obtained in cases of encephalitis and scarlet fever suggested that the corresponding tests might be of value in other diseases.

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425.

**The Action of Insulin.**

V. LAUFBERGER (*Klin. Woch.*, January 25th, 1925, p. 151) remarks that there is still great divergence of opinion on the essential nature of the action of insulin. Most investigators appear to think that it increases carbohydrate excretion, but Laufberger's experiments on rabbits and frogs do not confirm this view. He believes that insulin regulates indirectly the carbohydrate exchange; this control is not exercised, apparently on particular organs, but upon all the tissues of the animal. He is of opinion that insulin has no direct influence on the oxidation of carbohydrates, and considers it more probable that it assists in the building up of the carbohydrate reserve rather than modifying or arresting its exhaustion.

426. **Cultivation of the Bacillus of Soft Chancre.**

As isolation of Ducrey's bacillus is often difficult, J. HADAROT-SALA (*C. R. Soc. de Biologie*, February 27th, 1925, p. 498) gives an account of the method with two media which has proved successful in his hands. The fluid medium consists of a mixture of nutrient broth with Beaudouin's egg medium in the proportion of 1 part to 4; 5 per cent. glycerin is added to the broth—presumably after mixing. The solid medium is made by substituting nutrient agar for the nutrient broth; the melted agar is added aseptically to the egg medium, and tubing is performed without further sterilization. Both of these media are suitable for the growth of meningococci, gonococci, and pneumococci, as well as for the bacillus of soft chancre. For isolation of this bacillus from the tissues some of the fluid from a closed chancre is taken and inoculated on to one or two plates of the solid medium. The resulting colonies of the bacillus are rod-like, transparent, and of a pink mother-of-pearl colour. Subcultures give an abundant, confluent growth in twelve hours, remaining alive at room temperature for more than a month. The identity of the bacillus may be proved, not only by the fact that it is Gram-negative and tends to occur in groups which are difficult to dissociate, but also by agglutination and by the intradermal test on patients who are actually suffering, or who have suffered, from the disease. For preparing a vaccine it is recommended that the bacillus be grown for ten to fifteen days in the fluid medium, in which it gives rise to a light turbidity and a heavy viscous deposit; it is then filtered through an L3 candle, and heated to 60°C. for one hour. The results obtained by vaccine treatment, giving injections every day, are reported as being distinctly favourable.

427.

**Gastric Secretion.**

R. K. S. LIM, A. C. IYI, and J. E. MCCARTHY (*Quart. Jour. Exper. Physiol.*, March, 1925, p. 13), as the result of experimental investigations in men and dogs, have reached the following conclusions with regard to the flow of gastric juice. They find that there is a "basal" or fasting secretion, contrary to the belief of Beaumont and Pavlov. A flow of gastric juice was caused by mechanical stimulation, and was unaffected by removal of the vagi. Increase in intragastric pressure by air or water similarly stimulated secretion, as did local mechanical stimulation. It is suggested that this is due to direct action on the gland cells or to vagal or local reflexes. Certain chemical substances, such as raw meat juices, beta-naphthol, histamine, sodium chloride solution, 50 per cent. glucose, and Liebig's extract, in small quantities, stimulated the flow of juice, whereas starch, cane sugar, and fat were without effect. Water only acted as a stimulant when the viscous was distended by it. Chemical stimulation still occurred when the nerve supply had been severed. Water was absorbed from the stomach of anaesthetized animals if left there for half an hour to an hour. Atropine abolished secretion and annulled mechanical or chemical stimuli. Fat in the intestine inhibited gastric secretion, but fat in the stomach only had a very slight inhibiting influence. All stimuli seemed to act primarily by increasing the supply of blood to the glands; no evidence of the existence of a hormone was detected. The authors found in some cases that gastric secretion was induced by the sight or odour of food after the cortex of the brain had been removed. They also found that gastric juice was secreted after a latent period of from one to three hours, when a mixed meal was introduced directly into the intestine. They call this the "intestinal phase" of gastric digestion and ascribe it to the action of poptones, amines, and amino-acids, since it was not produced by such raw foods as meat, carbohydrates, and neutral fats. Water in the intestine was found to stimulate the gastric secretion, and a non-absorbable substance, such as 0.5 per cent. solution of saponin, was found to stimulate gastric secretion through changes in surface tension. The authors believe that their observations definitely disprove the elaboration of a specific hormone by the pyloric mucous membrane.



# EPIHOME OF CURRENT MEDICAL LITERATURE.

## Medicine.

### 428. Acute Rheumatic Disease of the Heart.

W. S. THAYER (*Bull. Johns Hopkins Hosp.*, February, 1925, p. 99) analyses a series of 25 cases (17 males, 8 females) of acute or subacute endocarditis which appeared to be of indisputably pure rheumatic origin, without any demonstrable complicating bacterial septicaemia. As many as 19 of the cases occurred in the first two decades of life, 22 in the first three. Pre-existing valvular disease was the rule. While the etiological element was not apparent, the sequence of the disease on acute tonsillar or naso-pharyngeal infections was striking. Every patient had had arthritis during the attack or previously, but in a surprisingly large proportion the arthritic symptoms were slight, the disease being one of the heart rather than of the joints. Especially significant was the presence of unaccountably persistent fever in association with chorea or mild atypical arthritis, and a pronounced leucocytosis. Embolic phenomena were absent. Albuminuria was the rule, but no red blood corpuscles were observed in the urinary sediment. These 25 cases of rheumatic heart disease were, almost without exception, a true pancarditis: endocarditis, myocarditis, and pericarditis occurred with almost equal frequency. The one characteristic lesion appeared to be the perivascular Aschoff bodies, which were found not only in the heart muscle, but in the affected pericardium, in the auricular wall, and even occasionally in the affected valves. The myocardial and pericardial changes appeared to be the gravest features of acute rheumatic heart disease, and led, of themselves, to a fatal issue while the endocarditis was yet in an early stage. The endocarditis affected the mitral and aortic valves in the great majority of cases, especially the former, but the tricuspid valve was implicated in 11 cases. Bacteriological studies were negative in every case in which they were made.

### 429. Haemophilic Pseudo-coxalgia.

M. CAMURATI (*Bull. delle Sci. Med.*, January-February, 1925, p. 94) reports a case of arthritis of the hip in a boy, aged 8½, who had been brought to the Rizzoli Orthopaedic Institute at Bologna for pain in the left hip and limping following a slight injury a month previously. There had been no previous illnesses, but ever since the first months of life the boy had shown a tendency to bleeding after the slightest injury. The grandmother on the father's side had probably suffered from haemophilia. Abduction and internal rotation movements of the boy's hip were very limited: a radiogram showed slight atrophy of the upper extremity of the left femur and irregularity of the epiphyseal cartilage. The movements became completely normal again after a few days' rest. Five months later the boy had a slight injury to the right hip followed by pain and limping, a radiogram showing the same appearances as on the previous occasion. The von Pirquet and Wassermann reactions were negative, so that tuberculous and syphilitic hip disease could be excluded. In support of the diagnosis of haemophilic arthritis, of which 18 cases had occurred at the Rizzoli Institute, including 7 examples of polyarthritis, were the following haematological findings: increased coagulation time—eleven minutes more than the control; increased bleeding time—fifty minutes more than the control; much diminished capillary resistance ranging from 8 to 14 cm. Hg.

### 430. Prognosis in Scarlatinal Nephritis.

H. HANSBERG (*Acta Med. Scand.*, February 12th, 1925, p. 570) finds that the prognostic significance attached by various authorities to scarlatinal nephritis differs considerably; he has therefore investigated the condition of the kidneys of such patients from one to ten years after discharge from the Blegdam fever hospital in Copenhagen, where they had been treated for scarlatina complicated by nephritis. In the ten-year period, 1911-20, there were 14,339 cases of scarlatina treated in this hospital, which admitted 75 per cent. of all the cases of scarlatina notified in Copenhagen. Among these patients there were 612 who suffered from haemorrhagic nephritis, which in several cases proved fatal in the acute stage of the disease. Of the surviving 588 as many as 284 were re-examined from one to ten years after discharge, the blood pressure being measured, the heart auscultated, and the urine examined by the ordinary tests for

with a view to determining the presence or absence of orthostatic albuminuria. Of the 284 ex-patients, 23 were found to be suffering from albuminuria of a purely orthostatic character, 1 was suffering from chronic nephritis with characteristics distinguishing it from that of scarlatina, 259 showed no evidence of renal disease, and only 1 suffered from albuminuria which still persisted five years after the onset of the scarlatinal nephritis. The author concludes that the damage inflicted by scarlet fever on the kidneys is almost invariably only temporary, and that the frequency of orthostatic albuminuria is not greater among persons who have suffered from scarlatinal nephritis than it is among other persons.

### 431. Renal Sequelae of Bismuth Administration.

W. ENGELHARDT (*Derm. Woch.*, February 28th, 1925, p. 338) records a large number of cases of albuminuria, accompanied sometimes by the presence of epithelial, granular, or hyaline casts, or even haematuria, following bismuth administration, intravenously or intramuscularly, or in a few instances orally. He thinks it possible that such impurities in bismuth preparations as arsenic, tellurium, and phosphorus are the cause of the kidney lesions; or that some lesions may be syphilitic, the specific action of bismuth stimulating the renal cells and producing transient albuminuria. It is not yet certain whether chemically pure bismuth can damage the renal cells in healthy animals and human subjects. The frequency of albuminuria varies greatly: Escher detected it in 15 per cent. of his cases, Richter in 8 per cent., while Rosenberg and Perdiowitz found only 1 per cent. and that of a mild type. R. Neucendorff has reported that in 43 patients treated with "bismogenol" there was severe kidney damage with granular casts and erythrocytes and considerable permanent functional derangement as shown by impairment of the concentration capacity. Von Folke states that albuminuria preceded any renal degeneration, which he regards as evidence of permanent injury; F. Dietel, on the other hand, does not consider the presence of epithelium in the urine as a serious portend. A. Nadel had one undoubted case of acute nephritis with oedema following two intramuscular injections of a 12 per cent. emulsion of bismuth iodo-oxygallate. Levaditi first employed intravenous injections of liquor bismuthi et ammonii citratis (9 per cent. bismuth citrate): in one case there was definite diuresis, and 3 per cent. albuminuria, with hyaline and granular casts, after one injection. Spack administered bismuth in a case of chronic nephritis, with the result that a serious aggravation of the nephritis occurred and the albumin was increased to 17 per cent. Blum, Kollert, Strasser, and Rosner have administered trepol to 39 patients. In one case it was followed by very severe albuminuria (with epithelial, granular, and hyaline casts).

### 432. Sudden Death after Pleural Puncture.

In reviewing the literature of sudden death after pleural puncture M. LÉON-KINDBERG (*Bull. et Mém. Soc. Méd. des Hôp. de Paris*, February 5th, 1925, p. 150) gives prominence to Cordier's grouping of them into three types—the epileptiform, the hemiplegic, and the syncopal. The author is in agreement with Cordier's theory of a reflex of pleural origin, and is against Brauer's theory of gas embolism. The case is described of a male, aged 23 years, with tuberculosis of the upper left lobe, the right lung appearing to be healthy. Artificial pneumothorax was induced in September, 1923, subsequent to which there was a fall in temperature and considerable general improvement. When the author first saw the patient in January, 1924, he found the man's general condition satisfactory, he felt well, his appetite was good, and he was putting on weight. The local signs were unfavourable, collapse of the lower lobe only had been achieved, the upper lobe being adherent to the parietal pleura. Moist sounds and pectoriloquy were heard below the clavicle and in the subspineous fossa on the left side. A few fine moist sounds were heard over the right lung. The sputum contained many tubercle bacilli. The patient had apparently benefited from the partial pneumothorax, and it was decided to continue the "refills," fortnightly at first, and later once a month. The combination of improvement in general health with persistence of unfavourable local signs continued. At a periodic "refill" on December 1st, 1924, the needle had just been introduced into the pleural cavity and the manometric reading of -4 noted when a look of anguish appeared on the patient's face, there was right facial paralysis, conjugate deviation of the eyes, enlarged fixed pupils, and right-sided hemiplegia. Epileptiform convulsions of the affected

side developed, coma followed, and death supervened in a quarter of an hour in spite of energetic stimulation. The autopsy showed extensive tuberculous infiltration, with cavity formation, of the left upper lobe with a few small tubercles in the lower lobe and on the right side. The left upper lobe was completely adherent to the parietal pleura. The brain showed no trace of haemorrhage, softening, or embolus. There was nothing found in the other organs to account for the sudden death. The author cites another case where on introducing the needle for a periodic "respi," the manometric reading in this case being positive, right-sided hemiplegia, coma, and convulsions supervened. But in a moment these disappeared and two hours later the patient seemed none the worse for his attack. The author thinks it impossible to explain these cases except on the theory that they are due to a reflex of pleural origin.

### 433. Diabetes Mellitus and Pressure on the Pancreas.

J. COTTON (*Journ. de Méd. de Bordeaux et du Sud-Ouest*, March 10th, 1925, p. 184) points out the need of trying to remove the cause of the pancreatic disease in diabetes. He thinks that in many cases careful clinical and radiological examination will lead to the discovery of this cause and to its treatment by appropriate surgical, dietetic, or postural measures. Cotton in 1905 treated a boy suffering from glycosuria who, having heard of the benefits of water drinking, decided to drink a litre of water every evening. The resultant polyuria alarmed his family, and the urine was found to contain 8 per cent. of sugar. In spite of rigorous dieting 5 per cent. of sugar persisted. The boy discontinued his evening water drinking and in fifteen days the glycosuria disappeared. It was found that he always slept on his back. This experience led Cotton in subsequent cases to examine carefully the position of the patients' stomachs when lying in bed. He found that when the patients maintained lateral instead of dorsal decubitus they improved. In 1919 he examined three cases under x rays and each case showed similar relations of the stomach, duodenum, and vertebral column. The patient's condition improved after change of decubitus. A woman, aged 60, had had diabetes for sixteen years and had been confined to bed for three months. In spite of very strict dieting she was emaciated and had ulceration of the lower extremities with 7 per cent. glycosuria. The patient was instructed to lie on her side, sodium phosphate was given each morning, and carbohydrates were added to the diet. The glycosuria diminished and the ulcers healed. During the last eighteen months there had been no glycosuria though the patient was eating ordinary food. Skiagraphs showed that the stomach crossed an unduly prominent lumbar vertebra and that the duodenum again crossed the spinal column at a lower level behind the stomach. It was obvious that the pancreas was subjected to pressure between the stomach, duodenum, and vertebra: this pressure would be increased when the stomach was full. In some cases the duodenum was bound down by an ulcer and secondary adhesions. In these cases and in several others there were symptoms of cholecystitis which was relieved by daily doses of sodium phosphate before breakfast. Cotton suggests that diabetes occurring during pregnancy may also be due to intra-abdominal pressure.

### 434. Artificial Pneumothorax in Pulmonary Tuberculosis.

F. LOUP and L. ZOPPINI (*Schweiz. med. Woch.*, March 5th, 1925, p. 206) record the results of artificial pneumothorax treatment which they prescribed only in twenty-five out of several hundred cases of tuberculosis treated in Geneva. In 45 per cent. the results were good, as shown by a gain of weight, disappearance of tubercle bacilli from the sputum and even of the sputum itself, improvement in the stethoscopic signs, and return to a normal temperature. In 23 per cent. the results were mediocre, the improvement achieved not being permanent. In the remaining 31 per cent. no benefits could be claimed. It was significant that all the patients who derived lasting benefit from this treatment measure were young, and the author considers it a most valuable measure for young patients with progressive unilateral lesions. The earlier it is adopted in such cases, the better the prognosis. In the course of about 400 injections of gas, two accidents were observed. The first was transitory syncope which may have been provoked by mental influences. The second was gas embolism, from which the patient recovered after three days, during part of which there were characteristic signs as amblyopia and partial loss of the fact that a large pneumothorax had already been created, having wounded the lung. The radioscopic evidence suggested that an apical adhesion had given way, the lung being wounded in the process, and torn blood vessels being invaded by a little gas.

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## Surgery.

435.

### Solitary Renal Cyst.

X. DELORÉ and P. MALLET-GUY (*Lyon Chir.*, January-February, 1925, p. 3) describe a somewhat unusual case of a large solitary serous cyst of the kidney removed by partial nephrectomy; only about 100 cases of this kind appear to have been recorded. The patient was a woman, aged 49, who for several years had noticed a movable tumour in the right iliac fossa. The swelling varied in size, was freely mobile, and about the size of an orange. Laparotomy showed that it was a cystic tumour arising from the lower pole of the kidney; it was removed with the surrounding area of renal tissue. The tumour appeared to arise in connexion with the lowermost pyramid at the renal pelvis. The cyst contained a fluid resembling urine, and appeared, morphologically, somewhat similar to a hydronephrosis. This was also supported by the variations in size of the swelling noted before operation. The authors note that in these cases ovarian cyst, mobile kidney, and hydronephrosis have to be excluded. If the diagnosis is uncertain laparotomy is indicated; a lumbar incision can be made afterwards if necessary. In this case the tumour was satisfactorily dealt with by the abdominal route, and this appears easier in large swellings. Partial nephrectomy or enucleation of the cyst is preferable in the absence of infection; total nephrectomy appears to have been more often practised in the past for this condition. The patient made a satisfactory recovery.

436.

### Rupture of the Rectus Muscle.

A. G. J. HERMANS (*Nederl. Tijdschr. v. Geneesk.*, January 31st, 1925, p. 467) remarks that the symptoms of rupture of the rectus muscle vary considerably. In typical cases the onset is characterized by a stabbing pain which is localized in the abdomen. After lasting for some time the pain gradually diminishes and only reappears when the affected muscle is stretched. The haematoma may then appear as a swelling of greater or lesser extent and tender on pressure. When the rupture is "intracapsular" the haemorrhage remains confined to the sheath of the rectus and is limited in a horizontal direction by the insertions tendinae. The overlying skin at first is unaffected. The subsequent course varies in different cases. Small effusions of blood are readily absorbed as a rule. According to Hermans, complaints by patients of abdominal pain with a chronic cough are not infrequently due to rupture of the rectus abdominis. In large extravasations of blood there is more likelihood of infection and abscess formation, especially in infections due to *B. typhi* or *B. coli*. Abscesses so formed may disappear spontaneously, leaving only a thickening of the connective tissue, or rupture externally or internally into the peritoneal cavity. In rare cases ossification may supervene, giving rise to myositis ossificans. Treatment may be conservative, relying on the spontaneous absorption of the extravasated blood, or operative. The advantage of incising the skin and anterior wall of the rectus sheath with removal of the blood clot is the more rapid recovery with less chance of complications such as abscess formation, ossification, and ventral hernia. Hermans's patient was a woman, aged 50, in whom a diagnosis of torsion of an ovarian cyst was made. Laparotomy was performed, when an extensive haematoma was found in the right rectus, as well as a large myomatous uterus. It was probable that a chronic cough was partly responsible for the rupture of the muscle in this case. Recovery followed.

### 437. The After-history of Operations for Gall Stones.

P. SEULBERGER (*Deut. Zeit. f. Chir.*, February, 1925, p. 1) states that from 1912 to 1920, 304 patients were operated on for gall stones in the surgical clinic of Göttingen University. In 217 the subsequent history could be investigated: 11 had died, death in two cases being due to carcinoma of the rectum, in one to mammary cancer, in two to peritonitis apparently not connected with gall stones, in one to pulmonary tuberculosis, and in only one to cholelithiasis. In 4 cases the cause of death was not given. The survivors were placed in three groups—namely, (1) 110 patients who had no further trouble after the operation; (2) 70 patients who complained of pain for a varying period after the operation, but subsequently made a complete recovery; (3) 37 patients who never obtained complete relief from their symptoms. In a certain number of cases information was available as to the patients' previous diseases. Five patients in the first group, three in the second, and one in the third had had typhoid fever from eight months to ten years or more before their attacks of cholelithiasis. There were no essential differences in the three groups as regards sex, previous illnesses, or the influence of pregnancy to account for the different results.

of the operation. Secondary operations were performed in 20 cases, or 9 per cent. The causes of recurrence of symptoms were (a) overlooked stones, (b) adhesions, (c) nervous disturbances, (d) dilated remnants of the gall bladder or cystic duct, (e) post-operative hernias or defects in the scars, (f) chronic pancreatitis. Many who complained of pain had an excess or deficiency of acidity in the gastric juice.

#### 428. Disease of the Tibial Tubercle.

M. M. POMERANZ (*Amer. Journ. Surg.*, February, 1925, p. 17) reports a series of seventeen cases demonstrating lesions of the tibial tubercle of the Osgood-Schlatter type. Most cases occur in patients aged 10 to 15, and usually in males. The commonest symptom is pain over the patella tendon and pretilial tubercle, which may develop some time after an injury. Limitation of extension of the leg is usually present, but flexion is rarely affected. Peritubercular swelling is common, and local pretilial swelling and tenderness are always present. The x-ray picture varies; it may show the apophysis incompletely united to the shaft of the tibia, but in old lesions there is a dense reactive sclerosis. The type of case varies according to the severity of the trauma—from simple strains or avulsions of the peritubercle to complete avulsion of the tubercle of the tibia with fragmentation of this process. The condition is usually readily recognized, but has to be diagnosed from sarcoma of the tibia, tuberculous arthritis, syphilis, and osteomyelitis. As a rule the history, together with a careful clinical and x-ray examination, is sufficient to furnish a reliable diagnosis. The cases are usually traumatic, but two of the inflammatory type are recorded.

#### 439. Haemorrhage after Tonsillar Operations.

W. SMITAL (*Zentralbl. f. Chir.*, February 21st, 1925, p. 408) remarks that it is generally admitted that no certain method of arresting haemorrhage after enucleation of the tonsils has yet been devised. As the result of experimental researches on the cadaver he has therefore employed the following technique in three cases with satisfactory results. The palatine arch was divided at the upper commissure of the facial pillars with a sharp bistoury under local anaesthesia and the upper pole of the tonsil exposed with a raspatory. The capsule was then peeled off until the lower pole was reached, when a pedicle about 1 cm. in width was left, in which was the tonsillar artery. The tonsil was then drawn forward with vulsellum forceps and the pedicle was stretched and seized close to the tonsil with Péan's forceps. The tonsil was excised and the pedicle transfixed by a needle armed with silk in a long curved needle-holder; or the pedicle may be crushed in the jaws of the artery forceps and afterwards twisted two or three times. In some cases the artery enters the tonsil at the upper part and is not included in the pedicle; if a bleeding point is seen it should be seized in Péan's forceps and compressed for a few minutes. When the forceps are taken off all bleeding will usually have ceased. If haemorrhage recurs, traction should be applied to the pedicle in order to bring the bleeding point into view, when it should be secured with another pair of Péan's forceps. Smital adds that in some cases deep sutures to obliterate the site of the tonsil may be required, but in such cases manipulative dexterity and practice in the use of the forehead mirror are necessary.

#### 440. Treatment of Trigeminal Neuralgia.

P. DESCOMPS (*Bull. et Mém. Soc. Nat. de Chir.*, March 21st, 1925, p. 327) reports a case of retro-Gasserian neurotomy of the fifth nerve for trigeminal neuralgia in a married woman, aged 39. The pain had started about fifteen months previously, and affected the inferior maxillary division on the right side of the face, severe crises spreading to the superior maxillary division and the temporal region. After unsuccessful attempts to relieve the pain by injections of alcohol into the superior and inferior maxillary divisions, it was decided to operate under general anaesthesia. The skull was trephined in the right temporal region and the dura mater separated from the base of the skull, the brain being held up by a retractor. Haemorrhage was not very troublesome, and the maxillary divisions of the fifth nerve were fairly easily identified. The root of the ganglion was then defined, and after careful separation on a strabismus hook was divided; during these manipulations the motor root was not seen. The operation resulted in complete anaesthesia in the region supplied by the fifth nerve and entire absence of pain. There was no paralysis of the muscles of mastication and only slight facial paralysis for a few days. Descomps adds that the best method of finding the ganglion appears to be to identify first the superior and inferior maxillary divisions and trace them backwards. The roots of the ganglion are then found and the division performed.

#### 441. Textbook Treatment of Dislocation of the Jaw.

A. KOREN (*Tidsskrift f. d. Norske Lægef.*, March 15th, 1925, p. 293) questions the accuracy of the statement in textbooks that when the lower jaw slips back into place, after having been dislocated, it often does so with a click, so that the teeth snap together, endangering the thumbs of the operator. Protection of the thumbs with metal forclips is accordingly advised, or keeping the thumbs beyond the range of the jaws. A preliminary injection of morphine or of a local anaesthetic, such as novocain, is also recommended in order to relax the muscles concerned. Koren records two cases, both patients being recruits, one of whom had dislocated his jaw while yawning. In both cases the dislocations were easily reduced by the conventional manoeuvre, the bone slipping back into its normal position without any click, and the teeth failing to snap in the approved textbook manner. Koren invited his colleagues to relate their own experiences in this matter, and J. M. HEIDENREICH (*ibid.*, April 1st, 1925, p. 356) records three cases, in none of which did he experience any difficulty in saving his thumbs from the hypothetical snapping of the jaws, the bone falling back into place slowly and without a click. C. WINGARD (*ibid.*) also records a case in which the thumbs of the operator escaped injury.

#### 442. Uræmia and Prostatectomy.

H. OLIVECRONA (*Acta Chir. Scand.*, January 21st, 1925, p. 472) gives reasons for believing that the diagnosis of uræmia in many cases of death supervening on prostatectomy is wrong. Prostatectomy deaths occur from twenty-four to forty-eight hours after the operation, with no other sign of uræmia than oliguria or anuria; these, however, may be produced by other causes, such as severe haemorrhage and shock. Olivecrona adds that true post-operative uræmia takes several days to prove fatal, and that the clinical picture of prostatectomy symptoms and death is fairly well defined. In the evening of the day of the operation the patient is somewhat pale and cyanosed; the skin is cold, and there is nausea with, perhaps, vomiting. As much as 7 to 10 ounces of urine may be passed if the patient had been given a pint or two of fluid subcutaneously immediately before the operation; but next day there is practically complete suppression of urine, the pulse is 110 to 120 and very small, and the patient is very cyanosed and bathed in a cold sweat. He is restless and vomits at once whatever he drinks. Death occurs on the second or, at the latest, on the third day, in spite of the administration of diuretics, cardiac tonics, and the subcutaneous injection of fluid, prescribed on the assumption that the patient suffers from uræmia. The author has observed three such prostatectomy cases, and he gives detailed records of two of them. The first patient died thirty-six hours after the operation. In the second case blood transfusion was performed, and was, in the author's opinion, the means of saving the patient's life, for as much as 10 ounces of urine were secreted during the first four hours following the transfusion. The author concludes that shock, loss of blood, and possibly infection, are the chief causes of death in these cases, and that transfusion of blood is the most rational treatment.

## Therapeutics.

#### 443. Novarschobenzol in Ulcerative Recto-colitis.

G. DURAND (*Bull. Soc. de Thé.*, February 11th, 1925, p. 62) remarks that ulcerative recto-colitis has become much more frequent since the war. The disease is characterized by the evacuation once or several times a day of mucopurulent or haemorrhagic discharges from the bowel, with or without faecal material. It begins insidiously in constipated subjects, or the onset may be violent, simulating acute dysentery. When once established the affection always pursues a chronic course, with or without acute paroxysms of diarrhoea or dysenteriform symptoms. Although the clinical picture is fairly characteristic, endoscopy is indispensable in order to determine the etiology and demonstrate the extent of the disease, as well as to avoid early carcinoma of the rectum or sigmoid being mistaken for congestive or ulcerative enteritis. Amoebic dysentery, which, according to Durand's personal experience, represents one-third of all cases of ulcerative recto-sigmoiditis, can also be excluded by endoscopy. All cases of chronic ulcerative recto-sigmoiditis should be treated by local measures, whether the condition is due to chronic dysentery or the cause is unknown. In the case of dysentery specific treatment by subcutaneous or oral administration of emetine, arsenic, or the double iodide of emetine and bismuth, almost always produces improvement, though rarely a permanent cure. In cryptogenic recto-sigmoiditis local treatment is the only method that should

be employed. In view of the good results obtained by Taillandier from rectal administration of arsenobenzol in the treatment of chronic amoebic dysentery which had proved refractory to ordinary measures, Durand applied this method in 28 cases of cryptogenic ulcerative recto-sigmoiditis or rectocolitis, with the following results: in a quarter of the cases a permanent cure was obtained after one year; in half the cases the ulcers cicatrized after a fortnight's treatment, but relapses occurred, due to erosive or congestive recto-sigmoiditis; and in the remaining quarter improvement, shown by diminution of suppuration and cessation of haemorrhage, was not maintained, so that the same treatment had to be recommenced or other measures had to be employed. The dose of arsenobenzol, which is administered in meringe, is 0.45 cg. at first; it is then rapidly increased to 1 gram, while in particularly severe cases 1 gram may be given from the first. About 20 to 30 drops of laudanum should be added, to enable the arsenobenzol to be retained for at least twelve hours. The injections are given every three days; in most cases five are sufficient.

#### 444. Late Syphilis treated with Cholesterin Compounds.

A. SATTA (*Rassegna di Clin., Ter. e Sci. affir.*, November-December, 1924, p. 234), who records ten illustrative cases, states that Serrero has recently introduced a new anti-syphilitic remedy under the name of "colicosan," each ampoule of 1 c.cm. containing 1 cg. of metallic mercury, 5 cg. of organic iodide, and 4 cg. of cholesterin. Satta's conclusions are as follows: (1) The compound can be substituted with advantage for all the mercurial preparations hitherto employed in the treatment of late syphilis and syphilis of the nervous system. (2) The compound is well tolerated, and does not present the drawbacks of the soluble and insoluble salts of mercury, though possessing all their advantages. (3) Its energetic specific action is combined with a remarkable tonic effect which gives it a special value in those forms of syphilis in which, in addition to the specific infection, there are symptoms of neurasthenia and loss of flesh. (4) The new preparation is of special value in the meningeal and radicular forms of syphilis which resist the ordinary treatment by mercury and arsenobenzol. (5) It exercises a favourable influence upon the Wassermann reaction.

#### 445. Intraperitoneal Injection of Antitoxin.

JOHN A. TOOMEY, OTTO L. GOEHLE, and CARL C. DAUER (*Amer. Journ. Dis. Child.*, February, 1925, p. 214) have treated 168 cases of diphtheria with antitoxin injected intraperitoneally. Commercial antitoxin was used, audited with saline solution. The advantages claimed for this method are: (1) that the antitoxin is absorbed rapidly from the peritoneum, up to seven hours the absorption being about five times that of the intramuscular injection, the membranes disappearing as rapidly with intraperitoneal injections as with intravenous; (2) the avoidance of a severe reaction with chill; 10 per cent. of the patients had a chill after intramuscular injections, 76 per cent. after intravenous, and 12 per cent. after intraperitoneal. The authors maintain that the intraperitoneal method is safe and simple and is the method of choice in severe cases of toxic myocarditis.

#### 446. Intraperitoneal Injection of Blood.

E. KLINGE (*Zentralbl. f. Chir.*, January 31st, 1925, p. 233) states that the action of intraperitoneal injection of blood is not so much due to an increase in the amount of the recipient's blood as to the vigorous chemico-biological stimulus which results from absorption from the extensive peritoneal surface. rise in the haemoglobin content coincides with an increase in the number of the red corpuscles. Klinge regards the method as less indicated in cases of acute anaemia which necessitate filling of the vascular system than in cases of chronic anaemia which are refractory to other methods of treatment, such as pernicious anaemia, leukaemia, cachexia due to malignant growths, malaria, tropical anaemia, ankylostomiasis, syphilis, and chronic tuberculosis, as well as in parenchymatous haemorrhages. Some 10 to 30 c.cm. or more of blood are injected midway between the umbilicus and symphysis pubis, or midway between the umbilicus and left anterior superior iliac spine, after the bladder and rectum have been emptied. Klinge employed the method in two cases of pernicious anaemia with the following results: In the first case, which occurred in a man aged 60, considerable improvement set in within a fortnight after the injection, and lasted for a year; a relapse then occurred and death ensued eight days after another intraperitoneal injection. In the second case, which occurred in a man aged 40, who had been suffering from pernicious anaemia for nine months, transient improvement occurred after intraperitoneal injection of 30 c.cm. of blood, but death took place within a month.

## Radiology.

#### 447. Intrabronchial Injection of Lipiodol.

E. LEURET and H. SECOURSSE (*Gaz. Hebdom. des Sci. Méd. de Bordeaux*, January 11th, 1925, p. 19) discuss certain technical difficulties and complications encountered when using Lipiodol in the skiagraphy of pulmonary diseases. The authors prefer Sicaud's intercrico-thyroid technique because of its simplicity and trustworthiness. They use an ordinary transfusion needle which has a calibre large enough to permit the oil to flow freely, but remark that its large size may increase the difficulty of piercing the crico-thyroid membrane, since the trachea may be displaced laterally by the necessary pressure, especially if the patient has not been warned to resist the tendency to swallow. When in the lumen of the trachea the needle-point is mobile, and on deep breathing or coughing air whistles through it. They use 1 per cent. solutions of novocain and Lipiodol, previously warmed to body temperature. The first few drops of novocain solution may cause slight transient cough; after injecting 8 c.cm. it is necessary to wait for six or eight minutes to obtain anaesthesia. Sicaud uses only 3 c.cm. of novocain solution, but the authors find the larger dose quite safe if the heart has been found to be healthy by careful examination and coffee has been given. During the six or eight minutes' interval the patient is placed in the most suitable position for the descent of the oil to the region that has to be examined. It is inadvisable to inject the whole quantity when the patient is in dorsal decubitus, as there is a partial diffusion throughout both lungs. The authors, when injecting either base, place the patient in a semi-sitting position, leaning towards the side which it is desired to inject. To inject either upper lobe the patient should lie on the affected side with the pelvis and head raised. When the middle lobe is to be injected lateral decubitus is required. For an adult 30 to 40 c.cm. of Lipiodol is used. The patient is instructed to avoid coughing and the head should be raised to prevent flow of the oily solution into the pharynx. To obtain good definition the plate should be placed under the patient as close as possible to the position of the Lipiodol, and the patient should be moved as little as possible. This technique, they find, ensures the best results. There were remarkable variations in the time required in different cases to procure disappearance of the Lipiodol; in one case it had almost disappeared in thirteen days, in others it was plainly visible for periods up to three months. In one case of interlobar empyema the patient's condition improved so greatly that a second "therapeutic" injection was given eight days later. The authors consider that this aspect of the injection is important. Several patients had transient fever, and in one case injection was followed in two days by a scarlatiniform erythema, and abdominal pain; on the fourth day, there was a slight haemoptysis.

#### 448. X-ray Treatment of Prostatic Hypertrophy.

KRABBE (*Zentralbl. f. Chir.*, February 7th, 1925, p. 315) records the good results obtained by his predecessor Longard and himself in the x-ray treatment of enlarged prostate. Since 1914 this method has been employed by them in all cases of this kind. In 23 out of a total of 28 cases x-rays produced a complete freedom from all symptoms for the next five years, and 5 returned with a recurrence, but in two of these repetition of the treatment again caused considerable improvement. Of five other patients who had recently been examined four were completely cured and one had occasionally a return of his old trouble. JANSSEN (*ibid.*) states that he has obtained excellent results from x-ray treatment of enlarged prostate where there was hypertrophy of the glandular part rather than of the connective tissue stroma. MARWEDAL (*ibid.*) also confirms the good results obtained in many cases of treatment of prostatic enlargement by x-rays. It was impossible to say in advance what course would be suitable for x-rays, especially as the nature of the prostatic hypertrophy could not be determined with certainty. Marwedal is in favour of continuing x-ray treatment even at the risk of occasionally overlooking carcinoma of the prostate.

#### 449. The Prognostic Significance of Haudek's Notch.

J. FRANDSEN (Copenhagen) (*Acta Med. Scand.*, February 12th, 1925, p. 481) states that it is now generally accepted that Haudek's notch, which appears in a skiagram as a more or less conical projection from the lesser curvature, varying in size from that of a pea to that of a walnut, is due to a penetrating ulcer. Ghneil (1919) reported 36 cases of gastric ulcer with Haudek's notch demonstrable by x-rays. In 32 of these cases the notch and the subjective symptoms disappeared under medical treatment; in 3 cases the notch became distinctly smaller under treatment, while 1 patient died from



haemorrhage. Fraudsén now reports 6 new cases which confirm Olund's observations; he has found that in duodenal ulcer the characteristic deformity of the duodenum also disappears in favourable cases. He claims that modern medical treatment, with restriction to an egg and milk diet, offers a good prospect of cure, and should receive prolonged trial before submitting the patient to surgical treatment. Repeated examinations by x rays will give very valuable information regarding disappearance of deformities of the lesser curvature or of the duodenum.

#### 450. Radiological Diagnosis of Cancer of the Oesophagus.

A. P. MARSELL (*Rev. med. de Barcelona*, February, 1925, p. 102) states that carcinoma of the oesophagus presents the following radiological appearances which distinguish it from other causes of oesophageal stenosis: (1) A tumour is sometimes seen forming part of the wall of the oesophagus. (2) There is a sudden and irregular termination of the lumen of the oesophagus. (3) The stenosed portion is extremely irregular in outline, there being stenosis and dilatation without a complete obstruction of the lumen of the duct. (4) The dilatation above the lesion is not very marked. (5) The peristaltic wave comes to an end at the stenosed portion.

#### 451. Radium in Hypertrophy of the Prostate.

KOGAN (*Journ. d'Urol.*, January, 1925, p. 23) gives her conclusions on the results of the treatment of simple hypertrophy of the prostate with radium. In 6 cases 3 patients recovered the act of micturition, 1 was markedly improved during a period of three years, and in the remaining 2 the symptoms were somewhat relieved. The radium caused shrinkage of the enlarged gland; in some cases this action was very marked. Another important point mentioned is that radium does not in any way increase the difficulties of the surgical removal of the gland if this should be decided on later. The radium was introduced in a specially constructed type of urethral catheter containing two canals, a lower one for the radium tube and an upper one which allows the urine to escape. It was easily introduced and caused little discomfort to the patients. Applications can also be made from the rectum in a specially constructed bougie; two or more applications are generally necessary before the full effect is obtained. Kogan concludes that in cases unsuitable for operation where a catheter life is necessitated the condition of the patient may be improved by radium treatment.

## Obstetrics and Gynaecology.

#### 452. Uterine Mucosa in the Fallopian Tube.

B. SCHINDLER (*Zentralbl. f. Gynäk.*, March 14th, 1925, p. 582) states that in this abnormality, seldom described hitherto, the tubal epithelium may be partially or completely replaced by a mucosa having a similar structure to that of the uterine cavity. Webster (1896) described the first case. In a tubal pregnancy he found typical uterine mucosa lining the Fallopian tube; there was no evidence of a previous salpingitis. Schridde and Schönholz have reported two similar cases; in one the glandular structure was coextensive with the tube, in the other the uterine mucosa extended only to the isthmus. Schindler refers to three other published cases and describes a new one. An unmarried woman, aged 42, had multiple uterine and tubal adenofibromata, a right haematosalpinx, invasion of the right ovary by heterotopic epithelium with a psammomatous formation, and a right corpus luteum cyst. He illustrates the histological findings with two plates. The characteristic uterine mucosa almost filled the lumen of the tube, which was considerably distended. He adds that this condition is probably a frequent cause of tubal pregnancy.

#### 453. Treatment of Eclampsia.

K. M. WILSON (*Amer. Journ. Obstet. and Gyn.*, February, 1925, p. 189) states that at the Johns Hopkins Obstetrical Clinic much better results have been obtained by conservative than by radical treatment of eclampsia. In a series of 110 cases treated up to 1912 the maternal mortality was 23 per cent. The primary therapeutic objective in these cases was immediate delivery: only two undelivered patients were delivered spontaneously, and instrumental delivery, the vaginal hysterectomy of Dührssen, or abdominal Caesarean section was performed in a large proportion of cases. In 1912 more conservative lines of treatment, with free venesection, were adopted, and in 137 cases treated since then the maternal mortality has been about one-half of that of

the former series. Since 1912 spontaneous labour occurred in about 43 per cent. of cases, and operative intervention was limited to low forceps application or version, and extraction after spontaneous cervical dilatation. Since 1912 conservative treatment has become increasingly the rule. The patient is kept lying quietly on her side in a darkened room and is given hypodermically morphine gr. 1/4, which may be repeated during the next twenty-four hours. Venesection up to 1 litre is performed, while the pulse and blood pressure are watched. Water is given freely during consciousness, and in coma 500 c.cm. of 5 per cent. glucose solution is given intravenously. In the absence of any definite maternal indication other than the eclampsia no attempt at delivery is made unless the cervix has completely dilated. Wilson has divided the cases into mild and severe according to Eden's classification, and finds that conservative treatment has reduced the mortality in severe cases from 39 to 19 per cent. It is to be noted, however, that in the conservatively treated group five women died undelivered. He points out that if stillbirths, deaths within two weeks of birth, and cases of maternal death before delivery be counted the foetal mortality was practically the same in the radically and conservatively treated cases. He concludes that radical operative procedures should have no further place in the treatment of simple eclampsia, and agrees with Eden that in the comparative analyses of therapeutic results it is most important to distinguish between mild and severe cases.

#### 454. Cervical Incisions in Dystocia.

FAVREAU (*Bull. Soc. d'Obstét. et de Gynécol. de Paris*, 1925, II, p. 155) favours making incisions of the vaginal portion of the cervix in certain cases of dystocia, and records two illustrative cases. This operation must only be performed when the obstruction to delivery proceeds from rigidity of the soft parts, since in other cases there is risk of the incision leading to rupture of the lower uterine segment. The indication is based on the degree of effacement rather than of dilatation of the cervix; the incision is useless in a well dilated sleeve-like cervix which has not become thinned out and is not yet exposed to pressure by the presenting part. An oedematous rigid cervix is frequently infected, but according to Favreau infection is not a contraindication to incision. GAUTRET and LAPREVENCE (*ibid.*, p. 150) record a case of cervical rigidity impeding the delivery of a small foetal head treated by anterior and posterior cervical incisions; within a year the patient again became pregnant, and she was delivered without difficulty or complications of a full-time infant presenting by the breech after prematernal rupture of the membranes.

#### 455. Intrauterine Transplantation of the Ovary.

H. HARTMANN (*Gynécol. et Obstét.*, 1925, xi, 1, p. 38) describes the two operations of Tuffier and of Estes for implantation of ovarian tissue into the uterus. In both a portion of the ovary is first resected, and in both the implanted portion is made to retain its original arterial blood supply. No mortality has been recorded from the operation. In all these cases both Fallopian tubes had been excised. Of Tuffier's twenty-nine patients all continued to menstruate, and one subsequently gave birth at term to a living child; of the twenty-seven patients whose after-history Estes was able to trace all save one continued to menstruate, two became pregnant but aborted at the third month, and four carried two pregnancies to a successful termination. Hartmann regards the operation as one which is justifiable, ensures persistence of menstruation, and may permit conception and parturition. The existence of undetected accessory ovaries may be suspected in certain cases, but in one of Tuffier's cases ovulation was demonstrated in the uterine transplant of ovary after its removal at a subsequent operation.

#### 456. The Cause of "After-pains."

MONTUORO (*Rivista d'Obstet. e Gynecol. Prat.*, February, 1925, p. 90) is convinced that if the uterine contractions occurring intermittently during the first few days after labour are associated with severe pain, the cause is not a specially nervous condition of the patient, but the intrauterine retention of ovular remnants, of blood clot, or of a submucous myoma. After-pains, he believes, are always expulsive. Treatment should be directed primarily to emptying the uterus; this may be accomplished in the first hours after labour by manual expression, and in the first three days as a rule by massage and administration of ergot; instrumental clearing out may be required occasionally in a very voluminous uterus. Administration of sedatives is called for, but should not, as it sometimes does, constitute the whole treatment.



## Pathology.

### 457. Diagnosis of Gall Stones.

E. MEULENGRACHT (*Arch. Intern. Med.*, February 15th, 1925, p. 214) stresses the importance of examining the blood for bile pigment and the urine for urobilin, as indications of occult jaundice in the diagnosis of gall stones. The increase of bile pigment in the blood plasma must reach a certain height before jaundice of the skin and sclerotics occurs, and before bile appears in the urine. The bile pigment in the blood plasma is detected by taking 3 c.cm. of blood from a vein and placing it in a small test tube containing two drops of a 3 per cent. solution of sodium oxalate. The tube is inverted a few times, allowed to stand twenty-four hours, and then 0.5 c.cm. of the plasma is pipetted into a graduated tube, and diluted with saline solution until the colour matches a standard. The author advocates routine examination of the blood plasma, when jaundice of the skin, or bile in the urine, is doubtful, in a case of suspected gall stones. The diagnostic value of urobilin in the urine, after an attack of gall stones, has been pointed out by S. Hansen. Gall-stone attacks may occur without jaundice, and jaundice may be due to other causes. What is characteristic of a gall-stone attack is that transient jaundice of short duration occurs in conjunction with pain resembling gall-stone colic. When jaundice is manifest further investigation is unnecessary; but in occult jaundice examination of the blood and urine may be desirable. In private practice blood examination is preferable, since a twenty-four hours' sample of the urine is required for the urobilin test. The examination must be made just after an attack of pain.

### 458. Diagnosis of Spirochaetosis Icterohaemorrhagica.

V. VANNI (*R. Policlinico, Sez. Prat.*, January 19th, 1925, p. 81) states that the methods most frequently used for the diagnosis of spirochaetosis icterohaemorrhagica are: (1) agglutination of the spirochaete of Ido and Inada by the patient's serum; (2) inoculation of the patient's blood or urine into a guinea-pig, and examination of the organs, especially the liver and kidneys, for the spirochaete, after the animal has succumbed to the infection. The agglutination test, however, is not easy to perform owing to the difficulty of obtaining pure cultures and keeping them alive. The inoculation test proves positive in only a limited number of cases, as guinea-pigs resist infection by certain strains of *Spirochaeta icterohaemorrhagica*. Moreover, the death of the guinea-pig is often delayed till after that of the patient. Vanni suggests a more rapid method, which consists in injecting 5 c.cm. of the patient's urine into the peritoneum of a guinea-pig of average weight. Puncture of the heart is made forty-eight hours later, when the blood is examined for the spirochaete, either directly with the ultramicroscope or according to the methods of Fontana, Leishman, or May-Grünwald-Giemsa. Another method, which is less certain and slower, but possesses the advantage of dispensing with guinea-pigs, is cultivation of the urine. About 4 or 5 c.cm. of urine are mixed with an equal quantity of normal horse serum, diluted to one-third with normal saline, and the whole rendered alkaline with sodium bicarbonate in a test tube containing a piece of fresh tissue of a rabbit or guinea-pig, and covered with a layer of about 1 c.cm. of vaseline so as to secure anaerobiosis. Under such conditions the organisms will develop in three to five days.

### 459. The Blood in Typhoid Fever.

J. SABRAZÉS (*Gaz. hebdom. Sci. Méd. de Bordeaux*, January 25th, 1925, p. 51) states that it is only during the first few days of typhoid fever that there is a very slight leucocytosis of twenty-four to forty-eight hours' duration, which is followed by leucopenia in 92 to 95 per cent. of all cases. The number of white cells falls to 5,000, 4,000, or 3,000, and in very severe cases below 1,000. The leucopenia lasts till the fourth week, and then as a rule the number of white cells returns to normal. As regards the differential count the number of neutrophils per cubic millimetre, instead of the normal 4,000, falls to 2,000 and lower with a percentage of 40 to 50. The nuclei of the neutrophil cells show pathological changes in the form of pyknosis, fragmentation, and vacuolization. When the temperature has become normal, the number of neutrophil polymorphonuclears also returns to the normal. At the onset of typhoid fever the eosinophils become much reduced in number and even disappear, but return in the third or fourth week and gradually increase in number, so that in convalescence there is an eosinophilia of 15 to 25 per cent., which persists for some time. In the first two weeks the lymphocytes participate in the general reduction of the white cells, and may fall from 1,200 to 100 per cubic millimetre. At the end of the second week their percentage

rapidly increases, and henceforth the number of lymphocytes exceeds that of the neutrophils per cubic millimetre. In convalescence the lymphocytosis diminishes, but is still fairly well marked. On the other hand, on the occurrence of complications the number of lymphocytes tends to fall, sometimes to a considerable degree. Plasma cells, Türk's irritation cells, and a few myelocytes are sometimes found. The various complications of typhoid, such as peritonitis, haemorrhage, otitis, bronchopneumonia, and cystitis, may modify the blood picture by giving rise to leucocytosis or polymorphonucleosis. If in spite of the existence of a complication such as peritonitis or pneumonia, leucocytosis is absent or small, the prognosis is grave, since this indicates an absence of reaction and an inhibition of cellular regeneration in the bone marrow. Relapse of leucopenia and anaemia is sometimes very marked after antityphoid vaccination is the same as in typhoid fever, being characterized by a persistent leucopenia and lymphocytosis.

### 460. Traumatism and Cancer.

J. THOMAS (*La Vie Médicale*, February 13th, 1925, p. 231) refers to a publication in 1924 by C. Stajano (Monte Video) in which are described the immediate and remote effects of nerve injuries, the clinical effects of peripheral neuritis on the central nervous system, and the influence of traumatism on the development of cancer. Stajano found that in all injuries the nervous system took part in the evolution of the lesion, and it is suggested that lingual leucoplakia, for example, commences as an epithelial dystrophy in response to disturbance of a trophic nerve centre by an irritating agent such as a carious tooth. Stajano's experiments indicated the existence of a nerve factor in the production of leucoplakia and of the cancer which develops in it. The fact that cancer occurs more frequently in certain regions than in others is explained by him as being due to differences of innervation. Thomas thinks that describing cancer as due to cellular anarchy mistakes effect for cause and that it would be better to say that cancer commences as a cellular disorientation. Since all organic functions are regulated by the nervous system, this system ought to be regarded as the origin of all derangements of function. A systemic reaction so profound as that produced by cancer cannot be due to the fact that a group of cells is in a state of anarchy; that must be a consequence only, and the cause must be sought elsewhere. He believes that the part played by syphilis and tuberculosis in originating precancerous dystrophies is the production of fibrotic and destructive changes in the nervous system. He urges, therefore, that traumatism in general and chronic ulceration in particular should be regarded as extending beyond the limits of the organ or of the region and affecting simultaneously all the regional nerve supply.

### 461. Differential Staining of Living and Dead Bacterial Spores.

S. A. KOSER and J. H. MILLS (*Journ. of Bacteriol.*, January, 1925, p. 25) report some experiments made to determine whether it is possible to ascertain the number of living and of dead spores in a bacterial culture by means of their reaction to staining fluids. Working with heated spores of *B. megaterium*, they found that when stained by a modified Ziehl-Neelsen method about 98 per cent. showed the ring type of staining, whereas the remaining 2 per cent. showed the solid type. On the other hand, spores which had been killed for an hour at 100° C. showed uniformly the solid variety. That is to say, dead spores are stained evenly and solidly, whereas living spores stain only round the periphery. That this method was trustworthy in estimating the proportion of living to dead spores was shown by mixing known numbers of the two kinds and counting the proportion of ring to solid forms, when it was found that the actual agreed closely with the calculated results. Experiments with other spore-bearing organisms, such as *B. mesentericus*, *B. subtilis*, *B. cereus*, and *B. ramosus*, gave similar results, but with *B. terminalis* and *B. fusiformis* a marked discrepancy was found. It is clear that not all species of bacterial spores are alike in their reaction to stains, and even amongst the first group minor differences were found in the time and in the temperature which were required to obtain the best results. In a further experiment an old culture of *B. megaterium*, consisting almost entirely of spores, was heated at 90° C., and the number of surviving organisms after varying times was calculated both by the staining method and by plate counts. Up to thirty minutes there was a strong disagreement between the two methods, the plate count showing a much higher percentage of dead organisms; after this time the agreement was perfect. This seems to show that spores are rendered incapable of germination somewhat earlier than they become penetrable by dyes.

# EPITOME OF CURRENT MEDICAL LITERATURE.

## Medicine.

### 462. The Schick Reaction and Passive Immunity to Diphtheria.

G. FRONTALI and M. RASPI (*Riv. di Clin. Ped.*, February, 1925, p. 73) examined the Schick reaction in 413 normal Florence children, aged from 1 month to 12 years, with the following results. (1) 26.1 per cent. were positive—a figure considerably below that found in Vienna and New York children (60 per cent.). (2) The frequency curve commenced with a minimum of 20 per cent. in the first year, reached a maximum of 38.5 per cent. between the second and fifth years, and then gradually fell to 25.7 per cent. between the fifth and eighth years, and to 23 per cent. between the eighth and twelfth years. (3) Among 161 diphtheria patients the reaction, which was intensely positive before treatment, became invariably negative after serum treatment and remained negative until twenty days after the last injection of serum. Intramuscular injection of 3,000 to 5,000 units two to three hours after intradermic injection of toxin had not the power to inhibit the appearance of a positive reaction. It was only when the test was performed after the injection of 3,000 to 5,000 units that the reaction was negative. In two cases intradermic injection of toxin performed simultaneously with intravenous injection of 5,000 units of antitoxin was followed by a negative reaction. When the test was made three to six hours after intramuscular injection of 2,000 to 5,000 units of antitoxin, it was always negative. (4) The reaction remained negative after the appearance of serum eruptions. (5) In diphtherial paralysis the reaction was positive if the patient had had no serum, but was always negative when serum had been given in the acute stage. (6) The frequency of positive reactions was greater in measles (60 per cent.) and in scarlet fever (51.8 per cent.) than in normal children. (7) The repetition in series of the Schick reaction did not have an immunizing effect. (8) Normal horse serum like antidyseric and antineurococcic serum in doses of 30 c.cm. for children weighing 12.2 kilos may inhibit a positive reaction. (9) To obtain the same effect with diphtheria antitoxin 2.5 units per kilo of body weight are sufficient. (10) In guinea-pigs weighing 500 grams 0.5 to 0.6 c.cm. of normal horse serum is needed to make the Schick reaction negative, while the same result is obtained with 0.5 antitoxin units contained in 0.00012 c.cm. of diphtheria antitoxin—that is, in a volume of serum 5,000 times smaller.

### 463. Paroxysmal Oxaluria.

F. LOMMEL (*Med. Klin.*, February 6th, 1925, p. 194) points out that the term "oxaluria" indicates merely that the urine recently passed contains a large quantity of crystals of calcium oxalate; it does not refer to the amount of oxalic acid the urine contains. The author applies the term "paroxysmal oxaluria" to the paroxysmal occurrence of such sediments in the urine, with characteristic symptoms, of which the most important are severe renal pains like those of renal colic. The urine usually contains, in addition to the numerous crystals of calcium oxalate, a small quantity of blood; in the intervals between the attacks both are absent from the urine. The author records in detail the clinical history of one case. He thinks that the attacks possibly depend on altered conditions of solution and precipitation of oxalic acid, and the relation of this to colloid substances in the urine is discussed. If the calcium oxalate is precipitated in the kidney, as is probable, it is easy to understand why haematuria and pain occur. The attacks in many cases cease spontaneously; in other cases they are terminated by a complete change in the mode of life, with diminished strain on the nervous system. The author has not been able to decide if dietetic measures or certain drugs have any beneficial effect.

### 464. Pulmonary Tuberculosis in Childhood.

F. G. CHANDLER and T. W. PRESTON (*Brit. Journ. Child. Dis.*, January-March, 1925, p. 1) record their observations on a study of nearly 300 cases of pulmonary tuberculosis in children during the last twelve years. Although the diagnosis of pulmonary tuberculosis was definitely proved in only 89 by finding tubercle bacilli in the sputum or by autopsy, the rest were probably early cases of pulmonary or possibly hilar tuberculosis. The ages of the 89 patients whose histories are set forth in tabular form ranged from 3 to 14 years. In all the cases the lungs, or perhaps the mediastinal glands, were primarily affected. No examples of

miliary tuberculosis were included, with the exception of three children who were admitted with obvious pulmonary tuberculosis and died of a terminal miliary affection. Of these 89 children 61, or 68 per cent., were females and 28 were males; 39 were 12 years and under, and 22 were 10 years and under. As the result of treatment 35 were improved, 19 were discharged with the condition unchanged, 27 died, and 2 were still in hospital. The authors' conclusions are as follows: Pulmonary tuberculosis does occur in infancy and childhood, and is not extremely rare. It may run a long chronic course, and is not necessarily fatal. The stronghold of the disease is the bifurcation and bronchial glands, and the lungs are probably infected from this source. Before a diagnosis of intrathoracic tuberculosis is made every care should be taken to exclude other chronic infections, but when this has been done there should not be too great a reluctance to diagnose tuberculosis, especially when such symptoms as cough, febrile attacks, and poor nutrition are predominant features.

### 465. Herpes Zoster and Varicella.

B. C. AYIRAGNET, J. HUBER, and DAYRAS (*Bull. et Mém. Soc. Méd. Hép. de Paris*, February 12th, 1925, p. 185) report the case of a girl, aged 14, suffering from concurrent herpes zoster and varicella. The herpes appeared as three distinct patches, the first being in the seventh intercostal space external to the left breast, and the second and third in the tenth and eleventh intercostal spaces respectively. They also describe a case in which typical crural and gluteal zoster in a boy, aged 5, was followed fourteen days later by varicella in his two brothers. The authors conclude that the virus of varicella has a special and sometimes an exclusive affinity for the posterior ganglia. They maintain that some zoster, whether pure or associated with typical varicella, are of the varicella nature, and that the time has come to add to the classical description of varicella two clinical forms of the disease—one zoster-varicella, and the other the pure zoster form of varicella. COMBY (*ibid.*, p. 192), while admitting that varicella may give rise to zoster in the same way that whooping-cough, measles, scarlet fever, typhoid fever, and especially tuberculosis do, disputes the contention that zoster may give rise to varicella, and regards such cases merely as coincidences. A. NETTER (*ibid.*, p. 192) mentions two cases of generalized varicella coinciding with herpes zoster, the eruption being so profuse in one case that the patient was certified as suffering from small-pox. In 76 out of 78 cases of zoster of all kinds Netter and Urbain claim to have established the existence of varicella antibodies. Netter therefore concludes that zoster is not merely a specific infectious disease as Landouzy has maintained, but is usually, if not always, a manifestation of varicella infection.

## Surgery.

### 466. Torsion of the Spermatic Cord.

G. MASSA (*Il Policlinico*, Ann. 32, February 2nd, 1925, p. 164) reports two cases of this uncommon condition. (1) A boy, aged 14, whilst sitting quietly was seized with severe pains in the right testis, which increased in intensity and was accompanied by tenderness. A few hours later the testis was found to be much larger than usual, and movable to a certain extent. There was no history of injury, hernia, or urethral trouble. Under local anaesthesia the swelling was explored and it was found that the spermatic cord was completely twisted on itself in a direction reverse to the ordinary movement of a clock. The testis was engorged and cyanotic, there was an unusually roony tunica vaginalis, and the vessels of the cord were separated into two bundles. The cord was untwisted, and complete recovery followed without any atrophy of the testis. (2) A man aged 26, after a long bicycle ride, noticed pain in the right scrotum. A few days later a condition similar to the first case was seen, and on operation the cord was found to be twisted, the testis cyanotic and engorged, with signs of atrophy. The cord was untwisted, but part of the testis ultimately became necrotic and atrophy developed. The different result in the two cases illustrates the advantage of treating these cases early. In differential diagnosis the chief difficulty is the possibility of hernia, which may coexist. The degree of twisting varies, but even a small twist soon affects the testis, so that early operation is advisable.

## 467. "Red Stomach."

J. SCHOEMAKER (*Surg., Gyn. and Obstet.*, March, 1925, p. 305) remarks that every surgeon has experience of performing laparotomy for gastric or duodenal ulcer and finding neither present. He has noticed that in some of these cases the pyloric portion of the stomach showed a vivid red colour: the stomach was usually normal in size and there were no signs of induration or ulcer. Moynihan described a somewhat similar condition secondary to inflammation elsewhere in the abdomen, generally in the appendix. Schoemaker has some conclusions on 45 cases of this so-called "red stomach." In 17 gastrectomy was performed, and in these cases there was intense hyperaemia of the serosa. The appendix was only affected in 4 cases and so could not be considered to be the cause of the condition. Removal of the appendix in 6 cases did not relieve the symptoms. In 3 cases the gall bladder was found to be diseased and was removed, with good results. Schoemaker thinks that the primary cause may be found in the sympathetic nervous system. The symptoms in such cases are pain after food with periods of latency, nausea, sour eructations, and rarely vomiting. Radiograms show a normal stomach with some retention. He advises that when a red stomach is found on laparotomy the gall bladder should be examined. If it is normal the abdomen may be closed or gastrectomy be performed. Gastrectomy has but a slight risk and is simple in these cases; in 50 per cent. the patients are healed. Therefore the author gives his patients the 50 per cent. chance, and considers the reasons are sufficient for performing a gastrectomy in these cases.

## 468. Secondary Growths of the Bones.

P. DELBET (*Bull. Assoc. Franç. du Cancer*, January, 1925, p. 10) remarks that tumours of the skeleton are often thought to be primary when in reality they are secondary to a growth elsewhere in the body. Operations for their removal are therefore useless. He states that tumours of bone which reveal themselves in the first instance by a spontaneous fracture are usually secondary and are not osteosarcomata; tumours arising in the diaphysis are more often secondary than primary growths, and multiple tumours of bone are usually secondary growths. Spontaneous fracture in an osteosarcoma occurs usually late in the disease and the presence of the tumour has been already recognized. In secondary growths, however, it may be the first manifestation of the condition, even before there is any obvious swelling. Delbet finds that the majority of primary bone tumours, innocent or malignant, start in the epiphysis or juxta-epiphyseal region. Periosteal sarcomata arising in the shaft of the bone are uncommon. He concludes that when a tumour of bone is discovered, either through a spontaneous fracture or arising in the shaft, a very thorough examination is necessary before any operation, since the primary growth may be very small or situated in the viscera and be difficult to discover. Delbet reports a case of carcinoma of the breast in which secondary growths were present in the upper limb and in the pelvis. In another case, after resection of the humerus for a spontaneous fracture of it, secondary deposits were found subsequently in most of the bones and also in the viscera. The primary site in this case could not be discovered.

## 469. Peptic Ulcer of Meckel's Diverticulum.

J. SENEQUE (*Presse Méd.*, February 18th, 1925, p. 221) has collected 8 cases of peptic ulcer of Meckel's diverticulum, including Brasser's case (*Epitome*, December 13th, 1924, para. 465). In 4 cases the lesion was only discovered at autopsy; in the other 4 cases it was found in the course of an exploratory laparotomy, and all these patients recovered. Seneque draws the following conclusion from the published cases. When symptoms of haemorrhage or of peritonitis occur in the course of an exploratory operation without obvious cause it is important to ascertain whether Meckel's diverticulum is diseased. In the 4 cases which recovered, the original diagnosis was incorrect, but a careful search revealed the actual lesion. Thus the class of cases of "primary peritonitis" has been further restricted and it is probable that other cases of this condition will be reported. Until 1913 no case had been reported, while in 1924 three cases occurred. In regard to etiology, all the patients were males; 5 patients were between 6 and 13 years of age. The patient of Hallopeau and Humbert was only 11 months old, while the patient operated upon by Mégeant and Dunant was 28 years of age. Hübbschmann's patient lived for four weeks after a fall of about 5 feet; it is possible that this fall hastened the perforation. Nearly all the ulcers showed macroscopically a more or less definite induration of the surrounding tissues. In 4 cases the ulcer was near the base of the diverticulum, in 3 cases near its apex, and in 1 case near its centre. As a general rule the perforation was lenticular. Gibbal noted the existence of a

band 3 mm. in thickness and 8 cm. in length attached to the caecum and ending in a tumour on the ileum situated about 50 cm. from the ileo-caecal angle. In Brasser's case the apex of Meckel's diverticulum was attached to the appendix without any communication with its lumen. Humbert has proved that in these cases the mucous membrane resembles that of the stomach, and therefore the ulcers are of the true "peptic" type. Seneque adds that haemorrhage is usually abundant and is generally of the melanotic type; hence the condition has been diagnosed as (a) duodenal ulcer, (b) tuberculous ulcer, and (c) polypus. Resection of the diverticulum is the operation indicated, but if on account of the patient's condition this is inadvisable the perforation must be closed, postponing resection of the diverticulum or of the ileum to a later date.

## Therapeutics.

## 470. Sanocrysin Treatment of Tuberculosis.

K. FABER (*Ugeskrift for Læger*, March 26th, 1925, p. 315) has treated 36 cases of pulmonary tuberculosis with sanocrysin between September, 1924, and March, 1925. The dose of the first intravenous injection was 0.5 gram, and the dose of the subsequent injections was usually 1 gram. The intervals between the injections were usually from two to six days, and it was found advisable not to repeat an injection until the febrile reaction from a previous injection had passed off. The disease in every case was more or less chronic, and there were no complications at the commencement of treatment. Of the 36 patients 3 were in desperate straits when the treatment was begun, and their early death could not be ascribed to it. There were two patients whose death was probably caused by the treatment, with which the author had at the time but little experience. Two other patients discontinued the treatment at their own request, although the physical signs indicated that it was beneficial. A patient suffering from pleurisy without signs of pulmonary disease recovered completely. There were also 12 patients who had not yet completed treatment, and who could not, therefore, be regarded as criteria of its efficacy, although all tolerated it well, and the sputum of some had ceased to contain tubercle bacilli. Thus there remained 16 patients who, having completed the treatment, and having been chosen for it as suitable cases, formed a material by which the value of the drug could be judged. The author gives full details of the first 4 patients in this group, and he points out that the remarkable recovery effected within a couple of months was such as is only seen under ordinary treatment continued for a much longer period. All but one of the first 7 patients in this group were freed from the tubercle bacilli in their sputum, and this patient had almost ceased to expectorate. Four other patients, whose pulmonary disease was of a fibrotic character, showed little change in the physical signs, but 3 had ceased to expectorate; they all felt much better, being no longer febrile and weak. The remaining 5 patients did not respond so satisfactorily to the treatment, which in some cases was, however, beneficial up to a certain point. Faber concludes that this treatment marks an important advance, and that it is particularly valuable in comparatively recent cases in which the disease is pneumonic rather than fibrotic. Patients with a high temperature are not as well suited for it—for this reason, among others, that the fever of the untreated disease masks the fever of the sanocrysin reaction, which must have subsided before another injection is given. Again, the severity of sanocrysin shock seems to be proportional to the height of the temperature at the commencement of treatment, and it is therefore well to defer it in febrile cases till the temperature has been reduced by other means. The author is doubtful about the value of intramuscular injections of sanocrysin, and has found that it does not always prevent or cure albuminuria. This he traces to gold poisoning rather than to sanocrysin shock, having found that, while the febrile reaction diminished as the injections proceeded, the albuminuria was apt to become more severe.

471. T. NEUMANN (*Tidsskrift f. d. Norske Læger*, March 15th, 1925, p. 292) reviews the latest experiences of Danish physicians with sanocrysin, the dosage of which has recently been considerably changed from that originally recommended by Moelgaard. The dosage which struck the author as being most safe and promising was that adopted by Bogason of the Søllerød Sanatorium. His aim is to avoid severe reactions and to increase the dosage very gradually. He begins with 0.05 to 0.1 gram by intravenous injection, increasing to 0.125, to 0.15, to 0.2, to 0.25, and so on, with intervals of four days between the injections. When he reaches a dosage of 0.3 gram he distributes the dose over two days, giving 0.2 on one day and 0.1 on the next. The results so far have been satisfactory, the patients being able to be up and about,

following the ordinary sanatorium routine. All the patients felt better, although they were fairly severe cases. In most cases the sputum and the number of tubercle bacilli therein dwindled. There was a gain of appetite and weight, and some of the patients became afebrile. There were no complications apart from slight diarrhoea, which responded readily to tannin enemas. The supplementary use of serum proved unnecessary with this cautious dosage, which has, however, been given a trial only for two months. With regard to the more heroic dosage, some institutions continue to give as large quantities as the patient can tolerate, whereas others do not exceed a dose of 1 gram at a time.

#### 472. Sanocrysin Shock or Gold Poisoning?

O. SCHEEL (*Tidsskrift f. d. Norske Lægef.*, March 15th, 1925, p. 289) records a fatality from sanocrysin, the circumstances of which suggest that death was due rather to gold poisoning than to the "tuberculin shock" which Moelgaard has described. The patient was a woman, aged 27, suffering from severe pulmonary tuberculosis, the prognosis of which, under ordinary treatment, was doubtful or bad. She was given four injections of sanocrysin, the doses being 0.5 gram followed by three doses of 1 gram each. The intervals between the injections were two, four, and seven days respectively. She was also given several injections of serum. During the treatment she suffered from loss of appetite, nausea, vomiting, diarrhoea, albuminuria, biccup, and oliguria. After the last injection there was almost complete suppression of urine, but no oedema. This injection was given on February 11th, and death occurred on February 13th. During the last hours of life there was increasing cyanosis, but no fall of temperature, and no sign of a focal reaction in the lungs. The necropsy showed hyperaemia and oedema of the lungs, hyperaemia of the colon, haemorrhages in the small intestine, and severe degeneration and necrosis of the kidneys. This parenchymatous disease of the kidneys, and the changes found in the intestines, were reminiscent of poisoning with mercury perchloride, and were probably due to direct poisoning with the gold salt. The absence of a fall of temperature, supposed to be characteristic of "tuberculin shock," is also interpreted by the author as indicating gold poisoning rather than a kind of Herxheimer reaction. In further support of this view the author notes that a Herxheimer reaction, due to the liberation of toxins by the action of a chemotherapeutic remedy on micro-organisms in the body, does not damage the kidneys when tuberculin is given to tuberculous guinea-pigs; it is only when such guinea-pigs suffer from tuberculosis of the kidneys themselves that an injection of tuberculin causes hyperaemia of the kidneys in the neighbourhood of the tubercles. Hence the author's conclusion that it is incorrect always to ascribe albuminuria and renal disease to the action of toxins set free by an injection of sanocrysin; they are probably due in the main to direct action of the gold salt on the kidneys.

## Anaesthetics.

#### 473. Prevention of Post-anaesthetic Vomiting.

E. SATTLER (*Deut. Zeit. f. Chir.*, February, 1925, p. 129) states that post-anaesthetic vomiting may be caused by two factors—namely, (1) direct stimulation of the medulla oblongata in the neighbourhood of the respiratory centre; (2) reflexly through the gastric branches of the vagus, and especially through the fibres ending in the neighbourhood of the cardiac orifice. Prevention of post-anaesthetic vomiting is effected by rapid removal of the narcotics stimulating the medulla, and by diminution of the stimulation of the gastric fibres of the vagus. Sattler has found that administration of lobelin was most suited for this purpose in the form of crystalline lobelin hydrochloride. After injection of this preparation the respiratory rate of the anaesthetized patient became twice as quick and also deeper and more intense. Sattler's observations, which were confirmed by Wieland in man and animals, were derived from the study of twenty-six patients, twenty-four of whom received either only and two chloroform as well. Only one patient, who had been operated on for fistula of the bile duct, vomited after the operation, and another suffered from nausea, but none of the other patients vomited or felt sick. The nature of the operations was as follows:—  
 Hicectomy  
 peritonitis  
 2; carcinoma  
 of jaw, 2; and carcinoma of femur, 1. The duration of the operation ranged from thirty-five to ninety minutes, and the

amount of ether used from 350 to 1,200 c.cm. Immediately after termination of the anaesthesia 1 c.cm. of lobelin was injected subcutaneously. Larger doses were never required. Sattler is at present conducting experiments to determine whether the effects of the lobelin are due to stimulation of the respiratory centre or to a direct action on the vomiting centre in the medulla.

#### 474. Headache complicating Spinal Anaesthesia.

CH. DUJARIER (*Bull. et Mém. Soc. Nat. de Chir.*, February 7th, 1925, p. 115) draws attention to the fact that headache is the most frequent complication after spinal anaesthesia. Following the advice of Chaput, he has frequently tried to relieve this by a further puncture to bring about decompression, but he was often unsuccessful and the cerebro-spinal fluid has been found to be under very low pressure. He has noted in some cases a profuse leakage of cerebro-spinal fluid through the skin puncture after injection, whilst in other cases it appeared probable that the fluid had leaked into the subcutaneous tissues; this would naturally result in a fall in pressure of the cerebro-spinal fluid. Dujariere considers that this lowering of tension of the cerebro-spinal fluid may be the cause of the headache, and he has noted the early occurrence of headache in those cases where an excess of fluid had been withdrawn. He therefore advises the use of a very fine needle for the puncture. When headache occurs he has adopted the intravenous injection of 10 c.cm. of distilled water, which usually relieved this symptom completely, either immediately or on the following day.

#### 475. Local Anaesthesia in General Surgery.

A. BERGAMINI (*Il Policlinico, Sez. Chir.*, March 15th, 1925, p. 113) remarks that in cases of strangulated hernia, intestinal obstruction, septic peritonitis, severe anaemia, and, generally speaking, every case in which organic resistance is reduced and the natural defences are paralysed by stercoræmia, septicaemia, or prolongation of the disease, the intoxicating and depressing action of a general anaesthetic is largely responsible for many operative failures, every hour of general anaesthesia by chloroform or ether being equivalent to the loss of a litre of blood. On the other hand, the advantages of local anaesthesia are numerous. Novocain, he thinks, is still the best local anaesthetic; not only is it six times less toxic than cocaine, but it possesses a high anaesthetic power. It is non-irritating and does not cause vaso-dilatation. The only point against it is the short duration of the anaesthesia produced by it, but this may be obviated by the addition of adrenalin, which by its constrictor action considerably increases the degree of anaesthesia, and at the same time prevents a rapid absorption of a large quantity of the anaesthetic. Bergamini uses a freshly prepared watery solution of novocain, its strength ranging from 0.10 to 0.15 per cent., with the addition of 1 mg. of adrenalin. About 50 to 100 c.cm. of the solution is generally sufficient for any operation, since it produces an anaesthesia which lasts about one and a half hours. About forty-five minutes before the operation 1 cg. of morphine is injected. Among 533 cases operated on at the Verona Hospital local anaesthesia alone was used in 62 per cent., and in association with general anaesthesia in another 11 per cent., so that in only 27 per cent. was general anaesthesia alone employed.

#### 476. Delayed Deaths following Chloroform Anaesthesia.

REICHEL (*Zentralbl. f. Chir.*, March 28th, 1925, p. 696) states that from 160 to 180 cases have been recorded in which a characteristic syndrome has developed after chloroform anaesthesia, always ending fatally in from one and a half to five days. The necropsy always shows very severe degeneration of the liver, with the appearance of acute yellow atrophy. A similar clinical picture and anatomical findings can be produced experimentally in animals by intoxication with chloroform. The occurrence of this syndrome is favoured by diseases which cause fatty degeneration of the liver, especially infective processes in the abdominal cavity. The condition has been most frequently observed hitherto after operation for acute appendicitis. Young persons, especially children, are most susceptible. The extreme rarity of this sequel, and the occurrence of several cases in one week, as was recently observed by Reichel, suggest that it is not pure chloroform but its decomposition products, or an impure chloroform, which are really responsible for these cases of intoxication. The practical conclusion to be drawn is that, in spite of its obvious advantages, the use of chloroform should be restricted as far as possible, since every bottle of chloroform cannot be examined before use. In children particularly, Reichel adds, the use of chloroform should be abandoned.



## Obstetrics and Gynaecology.

## 477. Indicaemia in Pregnancy.

J. A. VAN DONGEN (*Nederl. Tijdschr. v. Geneesk.*, February 14th, 1925, p. 738) reviews the literature and records the results of his examinations for indican in the blood of sixty women, who were grouped as follows: (1) Five were non-pregnant women, three of whom were suffering from mortr-rhagia and two from salpingitis. In the latter the indicaemia was above the physiological amount but below the upper limit of the normal (2.24 mg. per litre). (2) Seven were normal pregnant women in whom the blood was examined from a few days to four weeks before delivery. The average indican value among these was 1.46 mg. per litre, or below the average. (3) Twenty-one were normal puerperal women in whom the blood was examined on the first to third day after confinement. In only four cases was there an indican value of 3.2 mg. per litre; in all the others it was below the normal. There was thus no evidence of a physiological excess of indican in the blood as maintained by Rahsiinon. (4) Sixteen were cases of albuminuria and imminent or actual eclampsia. The indican value in these cases was mostly above the physiological quantity, but in only two was it above the upper limit of the normal. No connexion was found between the amount of indican in the blood on the one hand, and the quantity of albumin in the urine, the height of the blood pressure, and the number of eclamptic attacks on the other. The average indican value in this group was 1.89 mg. per litre. (5) Three were cases of other pregnancy intoxications—namely, dermatosis gravidarum, pernicious vomiting, and osteomalacia. In the first two cases the indican value was below the normal and in the third above it (3.2 mg. per litre). (6) Eight were puerperal cases with albuminuria or eclampsia. None of these patients had indican values above the upper limits of the normal and half had a physiological indicaemia.

## 478. Radium Treatment of Cervical Carcinoma.

E. VILLARD and L. MICHON (*Lyon Méd.*, February 15th, 1925, p. 181) conclude that in the present state of knowledge it is unjustifiable to supersede surgical treatment by radium. Radium therapy, they remark, still requires further investigation, and does not yet justify dogmatic statements. The advantages of choosing radium rather than surgical treatment are that it has a selective action on the neoplastic cell, a negligible mortality, and a relatively simple technique. Its disadvantages, they state, are that—(1) the absorption of necrotic tissue may cause grave toxic symptoms; (2) distant metastases may be stimulated; (3) certain normal tissue cells, especially those of the intestine, are not indifferent to radium emanations, and may be adversely affected; (4) the technique of the applications is as yet insufficiently established, and the present-day advocacy of large doses may be regarded as evidence that the good results formerly described were in some cases deceptive; (5) in a certain number of cases fistulas, phlebitis, or severe pain follow the treatment. Surgical treatment removes diseased tissues, instead of involving their resorption. It permits extirpation of metastases which are too distant to be dealt with by radium applications; the mortality is diminishing steadily, especially with the use of the Mikolicz drain. The authors add that statistical comparisons are apt to be fallacious, but if all but five-year cases be excluded the best results described (13 to 21 per cent. of cures) after radium treatment are inferior to those of surgical treatment (26 per cent. and upwards). They hold that at present all operable cases should be treated surgically, but state that when the limits of the cervical neoplasm cannot easily be passed in surgical extirpation radium is preferable to all other modes of treatment.

## 479. Bartholinitis during Pregnancy.

COMMANDEUR and GAUCHERAND (*Bull. Soc. d'Obstét. et de Gynécol. de Paris*, 1925, 2, p. 174) adduce evidence that the prognosis of suppuration in Bartholin's gland during pregnancy is less grave than has sometimes been asserted, with respect to the risks of abortion, premature labour, or post-partum infection. Out of 14 patients with Bartholinitis, of whom the oldest was aged 23, the tumor was incised in 9, and drained in the early or late months of gestation. Labour occurred at term in all cases. Neither in these patients nor in three in whom the inflammatory swelling ruptured during delivery were any grave febrile sequelae noted. Nevertheless the incision of the gland during pregnancy, and concede that operative or manipulative interference with delivery may increase the risk of infection after labour.

## Pathology.

## 480. Cytological Changes in Incubated Blood.

By incubating hanging drops of blood taken by a paraffined pipette either from the heart or from the peripheral circulation MARGARET R. LEWIS (*Amer. Journ. Path.*, January, 1925, p. 91) observed the transformation and growth of the leucocytes into macrophages, epithelioid cells, and giant cells in chick, mammalian, and human blood. So far as could be determined by following the cells in the incubated drops of blood, it seemed to the author that it was the mononuclear type that gave rise to the three kinds of transformed cells; granulocytes were not observed to become transformed. In every kind of blood examined there developed first a large wandering cell, several times larger than any of the normal leucocytes, which was phagocytic for red blood cells, melanin granules, carbon particles, dead granulocytes, and tubercle bacilli. Somewhat later there appeared a cell more like a primitive mesenchyme cell, and still later the epithelioid cell was formed. This cell was sometimes binucleate, and in some instances typical multinucleated giant cells (Langhans's giant cells) were formed. The author stresses the importance of the fact that there could be no possibility of participation in this phenomenon by the endothelium or the connective tissue. The hanging drops of human blood were made from blood taken from the finger. These were usually injured by contact with the glass, and while the cells often lived for two or three days and displayed the beginning of the transformation, they more frequently died before the formation of an epithelioid type of cell, unless the cover-glass was coated with some substance more favourable for their development. The best results were obtained by coating the covers with collodion. In some of these cultures of human blood the white blood cells lived for twenty days; in a few they lived nearly four weeks.

## 481. Carbohydrate Metabolism in the Placenta.

K. V. OETTINGEN (*Zentralbl. f. Gynäk.*, March 21st, 1925, p. 625) has found, in common with Liepmann, that if fresh placenta be perfused with 1 per cent. dextrose solution about one-quarter of the sugar disappears from the perfusing fluid. Since, however, the glycogen of the placenta does not become increased, and since the sugar undergoes a similar diminution during perfusion through a chemically poisoned placenta, it is concluded that the sugar is retained in the oedematous organ, and that the placenta possesses no special property of splitting the sugar molecule or of manufacturing glycogen. In another series of experiments insulin was added to the perfusing dextrose solution. The sugar was then found to be increased up to 10 per cent. This increase did not occur if the vital activity of the placenta had been destroyed and was not accompanied by a diminution of the placental glycogen. It is concluded that insulin possesses the property of increasing sugar catabolism in living tissues.

## 482. Urine Examination in Renal Tuberculosis.

R. GRANDINEAU (*Rev. Méd. de l'Est*, November, 1924, p. 726) contributes the results of urine examinations in a series of cases of renal tuberculosis. The method used was that of Ellermann and Erlundsen—namely, centrifuging, diluting the sediment with sodium carbonate, incubation for twenty-four hours at 37° C., centrifuging again, dilution of the sediment with sodium carbonate, boiling for a few minutes in a water-bath, centrifuging, fixing and staining a small drop of the sediment according to Spengler's method, prolonged treatment with Giell's stain being necessary. These preliminary measures are recompensed by the rapidity with which tubercle bacilli may be found on the slides. Examinations were made of bladder or kidney specimens, or both, kidney specimens being obtained when catheterizing of a ureter was necessitated. Catheter specimens were obtained when possible from the bladder, after careful cleansing of the meatus and the urethra to avoid contamination with the smegma bacillus. In cases where the bladder was irritable specimens passed in the ordinary way were collected during a period of several hours. Grandineau's cases fell into two groups: (1) Cases of calculus, hydronephrosis, etc., no clinical signs of renal tuberculosis being present. The organism was never found in these cases. (2) Definite cases of renal tuberculosis. Examination of bladder specimens alone gave 65 per cent. positive results; combined examination of bladder and kidney specimens resulted in 76 per cent. positive results. The author maintains that the direct examination of the urine for the tubercle bacillus in suspected renal tuberculosis should be a matter of routine, as it is in the case of the sputum in pulmonary disease.



# EPITOME OF CURRENT MEDICAL LITERATURE.

## Medicine.

### Duodenal Intubation.

463. LÉVY-DARRAS (*La vie médicale*, March 6th, 1925, p. 415) states that patients vary greatly in regard to tolerance of duodenal intubation; some swallow the metal bulb like a pill, while others may experience considerable initial discomfort. The patient's head and trunk should be inclined slightly backwards so that the olive-shaped metal bulb may glide downwards over the posterior pharyngeal wall. When 28 inches of the rubber tube has passed the incisor teeth, the bulb will have entered the stomach. The patient should then be turned towards the right side, when the weight of the bulb will carry it into the pylorus. Colourless acid gastric juice drips slowly from the end of the tube, but after an interval varying from thirty minutes to two hours this is replaced by viscid golden yellow alkaline bile, indicating that the duodenum has been reached. In doubtful cases this may be verified by causing the patient to drink a little water; if bile only is then aspirated from the tube it is evident that the bulb lies in the duodenum. The bile thus aspirated may be examined chemically and bacteriologically. The author considers the Meltzer-Lyon test very valuable and performs it as follows. By means of a syringe 30 c.c.m. of a 30 per cent. solution of magnesium sulphate in warm water is introduced into the duodenum. In normal subjects three successive specimens of bile can then be aspirated—(A) yellow bile from the bile ducts; (B) dark brown viscid bile from the gall bladder; and (C) yellow (hepatic) bile. The magnesium sulphate solution produces a contraction of the gall bladder and consequent evacuation of its bile. In the absence of the cystic duct, or pericholecystitis. Duodenal intubation also permits lavage or dila- tion, especially of the bile ducts. In gastric ulcer the patient may be fed by this channel. The sound may, Lévy-Darras finds, remain *in situ* for several weeks without danger.

### 464. Typhoid Septicaemia without Typhoid Ulcers.

W. FLETCHER and J. E. LESSLAR (*Indian Med. Gaz.*, January, 1925, p. 29) review the literature, including the recent cases of Zweig and Rehberg, and record the case of an old Chinese labourer suffering from a septicaemic condition from whose blood two strains of *B. typhosus* were isolated—the one smooth and agglutinable, the other rough and non-agglutinable. The serum agglutinated a stock emulsion of *B. typhosus* in high dilutions. *B. dysenteriae* Flexner, Type X, was isolated from the faeces on each of the four occasions when they were examined. The patient died about six weeks after the commencement of the illness. There was no marked thickening or inflammation of the gall bladder, but an agglutinable strain of *B. typhosus* was cultivated from it. There were two old pigmented scars just above the ileocaecal valve, but there were no typhoid ulcers. It was an open question whether the patient was a chronic carrier and the septicaemia the result of infection from an old focus in the gall bladder, or whether, on the contrary, the gall bladder had become recently infected as the result of the general septicaemia.

### Ocular and Vulvar Diphtheria.

465. CABANNES and GUINADEAU (*Gaz. hebdom. Sci. méd. de Bordeaux*, February 11th, 1925, p. 103), who record an illustrative case, state that ocular diphtheria is usually primary, and that it is exceptional to find it accompanying or following either forms of diphtheria, such as the naso-pharyngeal or laryngeal. Sordille has emphasized the frequency of ocular infection in streptococcal infection, which is relatively frequent to measles, and assumes a grave form owing to the rapid destruction of the eye and the frequency of a fatal termination. Association with staphylococci is the mildest form of concurrent infection. Many authorities regard bacteriological examination alone with suspicion, and Morax declares that he has seen only thirteen cases of undoubted ocular diphtheria, confirmed by inoculation of guinea-pigs, among 145,000 eye cases at the Hôpital Lariboisière in Paris. Cabannes and Guinaudeau, on the contrary, are of opinion that, though the number of cases at the Bordeaux sick children's hospital is considerably less, examples of ocular

diphtheria are relatively frequent, and the clinical and bacteriological signs are sufficient in themselves to render inoculation of guinea-pigs unnecessary. The present case was that of a girl, aged 3, who presented a profuse purulent yellowish discharge from the vulva with two membranous patches on the upper part of the labia majora. The left eye showed a superficial whitish membrane which was most marked in the upper conjunctival fornix. There was some chomosis round the cornea and palpebral oedema. The corresponding preauricular and submaxillary glands were enlarged and painful. The patient received intensive serum treatment, 100 c.c.m. being given on admission and 60 c.c.m. two days later. The affected eye was washed out twice daily with 1 in 10,000 solution of potassium permanganate, and drops of diphtheria antitoxin and argyrol were instilled. The vulvar lesions were treated with a sitz bath and a weak solution of potassium permanganate. Rapid improvement took place after the fourth day of treatment. Cultivation of the ocular membrane showed long diphtheria bacilli associated with staphylococci.

### Eosinophilia in Scarlet Fever.

466. Y. MARKOVITCH and M. GUERATOVITCH (*Presse Méd.*, February 14th, 1925, p. 205) studied the eosinophil cells in thirty cases of scarlet fever at the department for infectious diseases of the Belgrade Military Hospital, and came to the following conclusions: (1) The eosinophil reaction in scarlet fever depends on the clinical form of the disease. Eosinophilia is high and reaches its maximum in mild forms of uncomplicated scarlet fever. In severe and complicated forms eosinophilia is low during the acute stage and in the presence of complications, but as the general state improves there is a rise in the eosinophil curve. In septic forms which end fatally eosinophilia is absent or reduced to its normal level. (2) In obscure forms of scarlet fever eosinophilia is an important diagnostic sign, whether it be found at the onset or in the later stages of the disease. (3) In erythema scarlatiniforme the patient's good general condition and the normal number of eosinophils exclude a diagnosis of scarlet fever.

## Surgery.

### Surgical Treatment of Nephritis.

467. H. KÜMMELL (*Klin. Woch.*, March 5th, 1925, p. 439) describes various surgical operations that have been recommended in nephritis, including (1) nephrotomy, a very severe procedure, which has been largely superseded by (2) decapsulation; (3) nephrectomy, reserved for complete disorganization of the kidney; and (4) sympathectomy or neurectomy. Decapsulation is preferred on account of its relative simplicity and safety. Kümmell describes the immediate results following incision or the removal of the capsule, relief of pressure, and the restoration of the circulation and of the secreting function of the kidney. He states that unilateral decapsulation often relieves the congestion and restores the function of both kidneys; development of a new capsule occurs eventually, though more slowly in human patients than in animals. Ultimately a strong capsule is formed. Edema of the renal pelvis and perirenal vessels occurs frequently. In the exanthemata, and especially in scarlet fever, anuria and threatened anuria are especially in the third week of the disease and persisting for forty-eight hours was relieved by decapsulation, the renal function being restored for fourteen days. The patient, however, died later. Kümmell has performed decapsulation in 5 cases of mercuric chloride poisoning with anuria; one patient recovered. A woman who had taken oxalic acid recovered after decapsulation. In eclampsia, he adds, the operation has been remarkably successful. Sippel records 30 cures in 46 cases of decapsulation, and Poter has had over 60 recoveries in 98 cases. In acute infective (pyaemic) nephritis decapsulation has been very successful, especially in "nephritis apodematosus" with multiple (miliary) abscesses and pyelitis. Kümmell records 30 cases, the patients' ages ranging from 16 to 60; 27 patients recovered and 3 died. He reports a case of infective nephritis secondary to severe acute appendicitis in which decapsulation was performed after appendicectomy; the patient recovered. Chronic nephritis, both interstitial and granular, and interstitial nephritis without albuminuria but (in many cases) with perinephritis, pain, and paroxysmal haematuria, have been treated similarly

with satisfactory results. Out of 62 cases of the latter 53 were cured, 8 improved, 1 died. Of 56 patients with granular nephritis with albuminuria, hypertension, and, in most cases, very contracted kidneys, 24 were cured, 21 improved, 2 not improved, 9 died. In 24 with "nephrosis" 8 were cured, 9 improved, 4 unrelieved, 3 died. In glomerulo-nephritis, of 9 patients 4 were cured and 4 improved. Six patients with orthostatic albuminuria were cured. Of 33 patients with chronic nephritis treated by decapsulation—in 28 cases unilateral and in 5 cases bilateral—12 patients were cured, 8 improved, 3 not improved, 10 died. Among the patients who recovered, 2 remained cured after eighteen years, 1 after twelve years, 2 after five years; 2 patients died ten years after operation, but not from renal disease. Nine nephrotomies were performed: 5 patients were cured, 2 improved, 2 died. Kummell accepts Volhard's theory, that nephritis originates through "some universal arterial spasm," and remarks that the successful results of surgical treatment corroborate Volhard's views. He observes that the operation of decapsulation has not yet become popular, but he looks forward to the time when it will be as common an operation as appendicectomy.

#### 488. Adenoma of the Small Intestine.

J. A. VAN DIJK and A. J. F. OUBENDAL (*Nederl. Tijdschr. v. Geneesk.*, February 28th, 1925, p. 956), who record two illustrative cases, state that adenoma of the small intestine may give rise to a syndrome which may last for a long time, sometimes for years, consisting in sudden attacks at irregular intervals of intussusception, as manifested by symptoms of intestinal obstruction and the appearance of a rounded swelling. When an adenoma of the small intestine is found on laparotomy it is advisable to examine the whole of the small intestine for the presence of more of these growths. In two out of fifteen cases of adenoma of the small intestine collected by Wiedhoff more than one tumour was found in the same patient. In Zachary Cope's case laparotomy had to be performed five times and in Watt's case four times before the patient got rid of all his tumours. The authors' cases were in a brother and sister, aged 16 and 25 respectively, who showed a close physical resemblance to one another as well as similar pigmented marks on the mucous membrane of their lips. In the brother, in whom the adenoma was about the size of a cherry, an intussusception was found about 1 metre above the ileo-caecal valve. About 12 cm. of gut was resected and an end-to-end anastomosis performed. A second operation was necessitated by return of the symptoms three months later, when four adenomas were found and successfully removed. In the sister a tumour the size of a walnut was found about 50 cm. from the ileo-caecal valve; 15 cm. of gut was resected and an end-to-end anastomosis performed. Complete recovery took place. The naked-eye appearance, which was that of a polypus, and the histological structure of the growths were the same in the two cases.

#### 489. The Occurrence of Cancer in Mega-oesophagus.

J. REBATTU and C. PETOURAUD (*Arch. Internat. de Laryngol., Otol. et Rhinol.*, February, 1925, p. 151) state that there are usually no signs or symptoms in the early stages of mega-oesophagus (idiopathic dilatation of the oesophagus), and that this organ is profoundly changed before disturbances of function become obvious. Infective oesophagitis is a not uncommon complication and causes thickening of the walls. Another complication is the appearance of carcinoma in the dilated portion of the viscus; Fleiner puts the onset of cancer as one in fifteen cases of mega-oesophagus. The carcinomatous degeneration is explained in various ways. Dilatation may be followed by infection, and this hyaline-plakia (leucoplakic patches are often seen), which is a precancerous condition. It has also been suggested that certain cells may be included as an inherent part of the malformation and give rise to the cancer. Certain cases appear to be due to intramucine changes, infective rather than developmental. The cancer occurs more commonly in the middle third, but occasionally in the lower third, of the oesophagus. Unlike the ordinary type of cancer it is of very considerable extent, and occupied 12 and 15 cm. of the tube in two cases. In nine cases described the dilatation occurred throughout the tube and could not have been secondary to the cancer. Gnisez has shown that the dilatation following on cancerous conditions of the oesophagus is usually localized and of small extent. In some of the cases dilatation was definitely shown by x rays before there was any indication of malignant infiltration. The short period of survival of malignant patients after the onset of cancer contraindicated cancer being the cause of the extreme dilatation of the gullet, and in another had a diameter of 17 cm. The glandular involvement in the mediastinum is remarkably extensive:

great masses of glands round the oesophagus compress its lumen. Metastases appeared in the liver in a third of the cases. In several cases cancer cells were found in otherwise healthy mucosa at some distance from the main growth. This type of cancer appears usually in comparatively young people (aged 35 to 45) as compared with the ordinary oesophageal cancer. Of the nine cases described eight were male. Syphilis does not appear to be a particularly predisposing factor. The authors are much impressed by the latency of mega-oesophagus and by the extremely rapid progress of carcinoma in it, death occurring usually in a few months. Infection of the pleura and lungs is not uncommon, with abscess and gangrene.

## Therapeutics.

#### 490. Stovarsol in Protozoal Intestinal Infections.

PELZETAKIS (*Presse Méd.*, March 7th, 1925, p. 239) refers to Ravaut's introduction of intravenous injections of arsenobenzol as a remedy for amoebic infections. Several French authorities have obtained satisfactory results with stovarsol. Marchoux states that stovarsol cures amoebic dysentery speedily, but Pelzetakis cannot affirm this absolutely; he has had, however, very satisfactory results in lambliaias and trichomoniasis. He concludes that prolonged administration (oral) of stovarsol is needed to ensure a cure in dysentery, and that it cannot supersede intravenous injections of emetine. It is an excellent remedy for protozoal infections, and doses of 0.5 to 1 gram per diem (adult dose) are, he states, well borne usually. He claims that in infantile dysentery it is very useful, especially in cases in which emetine is not well tolerated. In lambliaias and trichomoniasis it is also very efficacious, and it appears to be valuable in the prophylaxis of amoebic dysentery.

#### 491. Treatment of Chronic Gonorrhoea.

H. SACHS (*Zentralbl. f. Gynäk.*, March 21st, 1925, p. 649) reports 84 per cent. of successful results in the treatment of chronic gonorrhoea by a combination of local applications with the use of a freshly prepared vaccine. The vaccine was made from six or eight strains of gonococci derived from acute cases, and was given intravenously in weekly doses of 1 c.c.m., containing 100 million organisms. The urethra received once or twice daily applications of 1 per cent. silver nitrate or other gonocidal preparations, and the cervix was treated from three to six times weekly with 5 per cent. silver nitrate. The average duration of treatment was three months, and complete bodily rest was regarded as an essential part of it; as a rule, six injections of vaccine sufficed. The cases refractory to this treatment included two of pregnancy and several in which there was evidence of infection of the body of the uterus; the successful cases included ten out of eleven of gonorrhoea in girls aged 14 or less.

#### 492. Vaccine Treatment of Rheumatic Myocarditis.

R. LAUTIER (*Bull. Soc. de Thér.*, February 12th, 1925, p. 69) has employed Bortrand's vaccine, prepared from Achalmé's bacillus, in the treatment of acute and chronic rheumatic myocarditis. The first dose contains 25 million bacilli. The second, which is given forty-eight hours after the first, 50 million bacilli; the third, which is given three days after the second, 75 million bacilli, and so on, each dose being increased by 25 million bacilli, and the interval between them being prolonged by one day. After the second injection the cardiac action becomes steady, the pulse normal, and the functional capacity of the myocardium is entirely restored without any other medication or regimen being required. All external and internal administration of salicyl preparations should be suspended, as they are incompatible with the antirheumatic vaccine. If salicylates have been employed, three days should elapse between their suspension and the institution of vaccine therapy. The vaccine treatment should be continued after apparent recovery and disappearance of all the symptoms owing to the liability of the rheumatic infection to relapse. The vaccine has no toxic action and can be administered over a long period without any ill effects.

#### 493. Treatment of Vincent's Angina.

J. LE GOFF (*Thèse de Paris*, 1925, No. 30) states that local antiseptics is the only treatment required for Vincent's angina. Removal of the primary cause of the bucco-pharyngeal infection, such as a wisdom tooth, is doubtless of importance but is a secondary consideration. Injections of "914" or other preparations should be reserved for very severe cases of bucco-pharyngeal infection, but are not devoid of risk. Three local

antiseptics are particularly useful in the treatment of Vincent's angina—namely, methylceno blue, arsonobenzol and its derivatives, and bismuth and its derivatives. Methylceno blue is an excellent antiseptic when the ulceration is not deep, and is a good means of curing mild forms of the affection. On the other hand, though it has a powerful action on the superficial spirilla, it has very little effect on those situated in the depth of the tissues, and is therefore inadequate in cases in which there is rapid sloughing. Arsonobenzol and bismuth and their derivatives, however, are spirillicides which are active at any depth, for their combinations with the tissues are spirillicidal. Bismuth preparations, though they do not clear up the ulcer so rapidly as arsonobenzol, relieve the pain more quickly, which is a distinct advantage. The author has employed bismuth in the form of 3 per cent. solution of neotropol in olive oil four times a day with good results.

## Diseases of Children.

394.

### Melaena Neonatorum.

ELLEN M. KENT HUGHES and N. E. DAVIS (*Med. Journ. of Australia*, March 7th, 1925, p. 238) report a case of melaena neonatorum in a female baby, 3 days old, the tenth child of a healthy woman. Notwithstanding treatment the loss of blood continued until the child became almost pulseless. The injection of 30 c.cm. of the father's blood into the buttock of the child was followed by cessation of the haemorrhage, which did not recur. With regard to the suggestion that haemorrhage in the newly born is due to some infective condition, the authors note that the mother had a severe attack of mumps during the eighth month of pregnancy, and tonsillitis during the ninth month; a week after her confinement she suffered from a breast abscess. All her previous pregnancies and confinements had been normal. At the age of 2½ months the child was still pale but was making good progress. On the same page A. J. M. PUNCHES reports a case of melaena in an apparently healthy male infant after forceps delivery, there being no evidence of disease of any kind in the mother. The child began to vomit blood thirty-six hours after birth and passed a large motion of pure blood. The haemorrhage continued and was unchecked by adrenalin or serum. The injection of 3 c.cm. of the mother's blood into the flank of the child stopped the bleeding immediately, and recovery, though slow, was continuous for four weeks.

395.

### Hospitalism in Children's Homes.

Z. ERIKSSON (*Acta Paediatrica*, Supplement, February 4th, 1925, p. 1), as the result of investigations in various children's homes at Malmö, came to the following conclusions: (1) Institution children are on the average physically inferior to proletariate children of the same age, as is most clearly seen in their retardation of growth in length and breadth. On the other hand, the increase in weight is delayed only in the younger children, and the growth of the skull is approximately normal. Institution children are mostly pale, flaccid, and less muscular than normal; their disposition is not so cheerful, their mental functions are late in development, and they are slow in acquiring habits of cleanliness. Their sleep, on the other hand, does not appear to be affected. (2) Institution children show a diminished resistance to a number of typical diseases of childhood, such as measles, diphtheria, pneumonia, and acute nutritional disorders, as is manifested by an increased mortality from these diseases. (3) The chief causes of hospitalism in infants is the frequency of infections, the pathogenicity of which is perhaps raised by an increased frequency of infections. Another factor is the frequency of rickets. The frequency of rickets is a cause and partly a consequence of hospitalism.

396.

### Congenital Measles.

J. A. MARIANI (*Thèse de Paris*, 1925, No. 45) states that congenital measles is rare in civilized countries for the following reasons: (1) The disease seldom occurs in adult women, most of whom have had measles in childhood or adolescence. (2) The child is rarely infected. Infection of the child occurs through the placenta, most probably during the period of invasion of the disease in the mother. If the child is born dead or dies shortly after birth it is impossible to say whether it has escaped infection or not. If pregnancy is not interrupted, and the child is born at full term without showing any signs of measles, it is impossible to prove an ante-natal infection. Nevertheless permanent immunity to measles in a child born under such conditions would be an argument in favour of intrauterine infection. If the eruption appears at

birth, or a few days later, the case is obviously one of congenital measles. In rare instances the mother has measles but the child is not infected. In such cases the child sometimes survives too short a time, or is too weak to react. In such circumstances no conclusion is justifiable. On the other hand, if the child is vigorous at birth and develops normally, without presenting any symptoms subsequently, the absence of infection may be asserted. There is no example on record of congenital measles without the disease being present in the mother, as may occur in the case of small-pox. Mariani adds that congenital measles is a serious disease, especially as the child in such cases is very often promaturo. Prophylaxis consists in infection of the mother, and later of the child, with convalescent measles serum, and enforcement of maternal nursing.

397.

### Surgical Treatment of Cleft Palate.

C. N. DOWD (*Annals of Surgery*, March, 1925, p. 573) estimating the incidence of cleft palate and hare-lip, finds that these defects occur once in 1,170 births, and formulates the following principles of treatment: Very early operation is desirable, and it should be performed in several stages; a cleft in the alveolar arch should be corrected before the bones have hardened; early repair of the lip causes useful pressure on the premaxilla; the flexibility and depth of the soft palate must be preserved with the utmost care. Dowd further advises that in restoring the palate iodoform gauze packing and supporting metal plates should be used. The packing supports the flaps and postpones their union to the palate bones; the metal plates, held by silver wire, support the flaps. These procedures greatly aid in obtaining firm union. The hard palate should be repaired a few months after the operation on the lip, and the operation on the soft palate should be postponed until the hard palate has united correctly. The author adds that the Langenbeck operation is generally used with certain modifications. The flaps are approximated with silver wire passed through aluminium plates; these give good support and rarely cause sloughing. The soft palate operation should be performed at the age of 12 or 18 months. Speech instruction should be begun early and continued persistently and carefully under skilful instruction. The problem of the nasal deformity is one of the most difficult, and various plastic operations have been tried. The loosening of the nasal attachment and pulling the ala forwards and to the mid-line by a wire may be helpful.

## Obstetrics and Gynaecology.

498.

### Aneurysm simulating Adnexal Tumour.

H. C. BRUNNEN (*Zentralbl. f. Gynäk.*, March 14th, 1925, p. 603) reports the case of a woman, aged 25, who after an abortion developed pyrexia and a very offensive discharge. The joints were painful and swollen, the temperature was 100° to 102.5°. She had had two previous attacks of articular rheumatism. Splenic swelling was discovered five weeks later, and there was a generalized blood infection. Subsequently she had a sudden severe attack of pain in the right inguinal region with a definite local swelling; this extended subsequently to the whole thigh. When admitted to hospital three weeks later she was very emaciated, anaemic, and slightly jaundiced. In the right hypogastric region there was a definite tumour extending to the umbilical level and to within half an inch of the median line. It filled the right iliac fossa and there was deep fluctuation. No splenic tumour was felt, but the inguinal lymph glands on either side were as large as hazel-nuts. Biannually, the uterus was found to be of normal size, as were the left adnexa. On the right side was a thick-walled tumour extending to the right uterine cornu, the right half of the pouch of Douglas, and the sacrum. No pulsation or thrill could be detected. The possibility of an adnexal abscess, a gravitation, or perilymphatic abscess was dismissed and the tumour considered most probable. The tumour was aspirated through the abdominal wall and dark fluid blood appeared; a second puncture through the posterior part of the vaginal fornix yielded similar drops of blood, and a diagnosis of haematocoele was made. The patient's condition precluded laparotomy, so the pouch of Douglas was opened with the thermocautery, when more than 500 c.cm. of arterial blood escaped. The haemorrhage was arrested by compression of the aorta; but in spite of saline transfusion the patient died in a few minutes. At the necropsy, a saccular aneurysm was found as large as a man's fist, commencing 3 cm. above the origin of the hypogastric from the common iliac artery. The sac was partly lined with organized clot. There was an old incomplete rupture over the psoas sheath which had probably occurred when the sudden attack of pain was felt.

The femoral artery was not involved, but there was complete thrombosis of the femoral vein. The mitral valve was the site of "verruccose" endocarditis, with considerable ventricular hypertrophy. In the spleen there was an embolic infarct.

#### 499. Severe Oedema of the Vulva during Pregnancy.

O. HOEHNE (*Deut. med. Woch.*, January 9th, 1925, p. 57) gives an account of five cases of severe oedema of the vulva complicating pregnancy at a late stage. He distrusts expectant and conservative treatment, as it may lead to spontaneous rupture of the tissues, which become infected and gangrenous. His first case, in which both mother and child died, gives point to this warning. In the second case Caesarean section was followed by the recovery of the mother and the survival of the child. In the third case also an extraperitoneal Caesarean section saved the lives of both mother and child, and an observation made during the operation gave the author a clue to the rational treatment of such cases. While he was incising the fascia above the symphysis much oedema fluid escaped from the wound in the abdominal wall, and by the time the operation was completed the swelling of the vulva was considerably reduced. Accordingly, in his fifth case, the author drained the vulva by a transverse incision to the right of and above the symphysis, the skin and the subcutaneous fat being divided for a distance of 6 cm. Oedema fluid escaped rapidly, and within half an hour the swelling of the vulva had almost completely disappeared. The wound was closed over a rubber drainage tube and the vulva firmly bandaged. The oedema disappeared completely in two days, and did not recur during the final stage of pregnancy. The patient went to term and was delivered of a live infant, weighing 7 lb. Hoehne asserts that an incision in the position indicated is much less likely to become infected than one carried over the vulva itself, and that it is unwise to wait until oedema of the vulva has impaired the vitality of the structures involved.

#### 500. The Sedimentation Test in Gynaecology.

NTSCHMANN (*Deut. med. Woch.*, March 6th, 1925, p. 393) has investigated the rate of sedimentation of the red corpuscles at the University Gynaecological Hospital in K8alsberg, where this test was performed about 600 times in about 200 gynaecological cases. As a rule, this test was supplemented by leucocyte and erythrocyte counts, and a determination of the percentage of haemoglobin. In forty-five cases of inflammatory processes it was found that when the condition was acute the rate of sedimentation was rapid, whereas when it was chronic this rate was normal or only slightly accelerated. The rate ran parallel with the extent of the disease and with the fever and leucocyte curves, but acceleration began before the temperature rose and leucocytosis was demonstrable, and it remained rapid after both fever and leucocytosis had disappeared. The rate of sedimentation would therefore seem to be the most delicate indicator of the three. With regard to the differential diagnosis of tubal pregnancy and diseases of the uterine appendages, it was observed that a normal, or only slightly accelerated, rate more commonly indicated an unruptured tubal pregnancy than inflammatory disease of the appendages. The test proved of little value in the diagnosis and prognosis of febrile abortions. The author considers this test of supplementary value; it should be used with the various other tests.

## Pathology.

#### 501. Transmission of Virus in Polio-encephalo-myelitis.

E. W. GOODPASTURE (*Amer. Journ. Path.*, January, 1925, p. 1) presents experimental evidence to show: (1) that within cells of early lesions experimentally induced in rabbits with herpetic virus there occur characteristic intranuclear inclusions; and (2) that the virus of herpes simplex reaches the central nervous system through the medium of nerves supplying the peripheral areas primarily inoculated. He suggests that a similar route is taken by the virus of human polio-encephalo-myelitis. The intranuclear inclusions were readily obtained by inoculating herpetic virus directly into a corpus luteum of early pregnancy. At the end of twenty-four hours the corpus luteum cells contained well developed inclusions, and the ovary was rich in virus. The herpetic bodies were acidophilic and distinct from nucleoli and chromatin. In the infected tissues the nucleus became enlarged, chromatin particles collected about the nuclear membrane, and an "inclusion" occupied the centre of the nuclear space, often separated from the nuclear membrane by a clear zone. Such intranuclear inclusions, the author suggests, correlate histologically the lesions of three human diseases—herpes simplex, herpes zoster, and varicella.

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They occur in the cells of the cutaneous eruption of each of these infections and have not so far been found in any other human diseases. When a strongly neurotropic strain of the virus of herpes simplex was inoculated upon the scarified cornea of a rabbit it constantly induced herpetic ophthalmitis. The virus reached the central nervous system along the sensory division of the fifth cranial nerve, producing in that root on the side inoculated an acute local herpetic lesion which prosecuted the acidophilic intranuclear inclusions. The virus might also be conveyed along motor or sympathetic nerves, depending upon the innervation of the peripheral site inoculated. Thus, for example, following an injection of the virus into the muscles of the hind leg, an acute myelitis was produced in the lumbar portion of the spinal cord; if the virus was inoculated into an adrenal gland or an ovary an acute myelitis followed, reaching the spinal cord at the point where sympathetic fibres from these organs entered. In contact cases of herpetic ophthalmitis in rabbits the virus reached the central nervous system through the sensory division of the fifth and the ninth cranial nerves. Probably in every case there was an initial herpetic infection in the mucous membrane of the mouth, nose, or throat. Further, the author believes that transmission occurs along axis-cylinders, that the virus grows within the axis-cylinders, propagating itself in this way to their central termination, infecting there the highly susceptible cerebral tissue, and spreading within the brain in a similar fashion. The possibility of the passage of the virus of poliomyelitis, under experimental conditions, from the periphery along nerve fibres to the central nervous system has been demonstrated, the author points out, by the investigations of Floxner and Lewis, and of Levaditi and Laodoliner. A case of polio-encephalo-myelitis is described in a boy, in which medullary lesions were found which appeared to be directly related to the central distribution of the ninth and tenth cranial nerves. The author suggests that this virus may enter the brain through the peripheral nerves, and that the regular route of invasion of the central nervous system is by way of the nerves supplying the mucous membrane of the mouth, nose, and pharynx, as in contact infection with herpes.

#### 502. Glycrophosphates and Rickets.

V. KORENCHESKY and MARJORIE CARR (*Biochem. Journ.*, vol. xix, No. 1, p. 101) conducted 19 experiments on 20 litters containing altogether 148 rats, inspired by Grosser's finding that marked calcium retention occurred in rickets children when this element was introduced subcutaneously in the form of a glycrophosphate. It had previously been shown that a diet deficient in the fat-soluble factor produced rickets in puppies, rats, and pigs, and that an increase in the calcium content of such a diet did not cure this type of rickets. It was also known that human rickets cannot be cured by an increased ingestion of calcium salts. Kahlbaum's pre-war calcium glycrophosphate, containing 14.72 per cent. calcium and 11.34 per cent. phosphorus, was used in 3 per cent. solution, warmed to about 37° C.; 1 to 2 c.c. of this solution, according to the size of the animal, was injected slowly into the subcutaneous tissue four or five times a week, the place of injection being altered each time. Without all these precautions indurations and necroses were produced at the places of injection. These injections considerably increased the degree of calcification of the skeleton of rats kept on a diet deficient in the fat-soluble factor only. There was not, however, the same general improvement as would follow a course of cod-liver oil, for the water content of the bones of these rats was the same as or higher than that of the controls, and only in about 50 per cent. of the rats injected was a slight improvement in the rachitic changes in the skeleton found histologically. The authors suggest that there is a difference in the mechanisms of calcification induced to the skeleton of rats on a diet deficient in the fat-soluble factor by administration of calcium glycrophosphate and of cod-liver oil respectively.

#### 503. Estimation of Pepsin in Gastric Ulcer.

T. ALDAY and R. MENDEZ (*Arch. de med., cir. y esp.*, January 24th, 1925, p. 145) have employed Motte's method for estimating the amount of pepsin in the gastric juice of patients with gastric ulcer, and have always found values above 40 pepsin units. In some cases the units were as high as 100 or more. In patients with hyperchlorhydria without ulcer excess of pepsin was never found, but the number of units ranged from 20 to 40. The highest values were usually obtained in sixty to ninety minutes, the secretion of pepsin sometimes running parallel with that of hydrochloric acid and sometimes not. High pepsin values were found in gastric ulcer with stenosis of the pylorus in the fasting state. No general curve of acidity or pepsin values can be drawn up for patients with gastric ulcer, but this condition should be suspected when more than 40 pepsin units are obtained.



# EPITOME OF CURRENT MEDICAL LITERATURE.

## Medicine.

### 504. Hepatic Lesions in Spirochaetosis Ictero-haemorrhagica.

V. VANNI (*Rif. med.*, March 16th, 1925, p. 244) records his observations on the changes in the liver in two cases of human spirochaetosis and in 100 guinea-pigs infected by the virus. Of the two human patients one was a heavy drinker who died of spirochaetosis ictero-haemorrhagica a few days after the appearance of the jaundice, while in the other the infection was of longer duration. In the first case the lesions were attributable partly to alcohol and partly to the super-added infection, inasmuch as there were diffuse fatty degeneration, cloudy swelling of the liver cells, especially in the central zones of the lobules, considerable increase of connective tissue, and numerous newly formed bile canaliculi. There was also much small-celled interstitial infiltration which was arranged in characteristic nodules consisting mainly of polymorphonuclear cells and lymphocytes. With special staining methods (Volpino, Giemsa) the spirochaetes could be clearly shown, especially within and round the nodules. In the second case there were no marked changes in the liver cells, but small lymphocytic nodules were present consisting of 10 to 15 elements each, and numerous patches of hyaline necrosis containing broken up and pyknotic nuclei, mostly arranged at the periphery, together with numerous spirochaetes, which were almost entirely absent in the rest of the tissue. In the guinea-pig the lesions were of a varied character, the inflammatory predominating over the degenerative. In some cases there were signs of stasis, represented by dilatation of the central vein of the lobule, and dilatation and engorgement of the portal capillaries. These lesions were often accompanied by cloudy swelling of the liver cells, especially in the central part of the lobule. Haemosiderosis was found, especially in those animals which died after a rapid infection with haemorrhages visible to the naked eye; in other cases it was exceptional. Infiltration with glycogen was a constant feature, being found in the form of small masses stained reddish-brown by Langhans's method. The inflammatory changes consisted in diffuse interstitial lymphocytic infiltration, often associated with the formation of millary nodules consisting of polymorphonuclear and mononuclear cells in the interior of the hepatic cells or in the neighbourhood of the central vein. The spirochaetes were grouped in and around these nodules.

### 505. Typhoid and Paratyphoid Thyroiditis.

P. J. A. L. ALAIN (*Thèses de Bordeaux*, 1924-25, No. 55), who records sixteen cases, one of which is original, states that 62 per cent. of patients with typhoid and paratyphoid thyroiditis had already had a goitre before their attack of enteric fever; 19 per cent. came from a country where goitre was endemic, and 19 per cent. had no previous thyroid history. In 75 per cent. thyroiditis occurred in convalescence from typhoid or paratyphoid fever, and in 25 per cent. a long time after the attacks—namely, nine years in one case and twenty-one years in another. In 55 per cent. of the cases a pure culture of *B. typhosus* was obtained, in 6 per cent. of *B. paratyphosus* A, in 13 per cent. of *B. paratyphosus* B, and in 19 per cent. of *B. typhosus* associated with another organism. In 6 per cent. the pus was sterile, and in 6 per cent. one part of the gland was sterile while the other contained virulent micro-organisms. Alain's case was in a girl, aged 15, who had had a goitre for a year. Inflammation of the right lobe of the thyroid developed in the fourth week of typhoid fever and suppuration took place, numerous typhoid bacilli being found in the pus. Signs of dysthyroidism such as tremors of the hands and slight exophthalmos were present. Complete recovery followed evacuation of the abscess.

### 506. Geographical Differences in the Character of Goitres.

J. HOLST (*Tidsskrift f. d. Norske Lægef.*, February 15th, 1925, p. 182) attaches great importance to the differences in the character of goitres in various countries, in some of which iodine therapy may, on the whole, be beneficial as a prophylactic measure, while in others it may do much harm. Even in neighbouring areas, such as Berne and Basle, there are definite morphological differences in the character of the goitres, and in Germany it is agreed that, while the goitres of the lowlands are as a rule small-noduled or diffuse, the goitres of the highlands tend to be large-noduled. There are also

functional as well as structural differences depending on geographical factors. Thus in Norway there is a tendency to hyperfunction and in Switzerland to hypofunction of the diseased thyroid. The Norwegian endemic goitre is often the precursor of a secondary thyrotoxic condition (secondary Graves's disease), whereas this sequence of events is practically unknown with the endemic Swiss goitre. The cases operated on by Kocher were either imported from abroad or were the results of iodine poisoning. Agalnia, cretinism is common in Switzerland, whereas the fully developed cretin is unknown in Norway, and half-cretins and quarter-cretins are very rare. In view of these differences, the author insists that, though iodine prophylaxis may, on the whole, be a wise measure in Switzerland where the endemic goitre is due to an imperfectly functioning structure, such medication in Norway may prove disastrous. Indeed, in Norway the complication of endemic goitre which most often renders the patient unfit for work or forces him to undergo an operation is not the mechanical action of the goitre nor the result of thyroid deficiency, but a secondary thyrotoxic condition, and this is very often provoked by iodine.

### 507. Epidemic Encephalitis in Holland.

L. BOUMAN (*Nederl. Tijdschr. v. Geneesk.*, February 21st, 1925, p. 853) has collected 189 cases of epidemic encephalitis in the acute stage during the period 1918-23 from Dutch literature, the distribution among children and adults being as follows:—Children: 1918, 1; 1919, 4; 1920, 6; 1921, 10; 1922, 6; 1923, 8. Adults: 1918, 7; 1919, 11; 1920, 49; 1921, 39; 1922, 22; 1923, 26. The residual forms amounted to a total of 151 cases, which were distributed as follows:—Children: 1918, 2; 1919, 3; 1920, 5; 1921, 5; 1922, 4; 1923, 7. Adults: 1918, 3; 1919, 1; 1920, 14; 1921, 25; 1922, 48; 1923, 33. During the acute stage the somnolent form predominated, being found in 65.7 per cent. of the cases. The hyperkinetic form occurred in 21.4 per cent., and in some cases was associated with the somnolent form. Occasionally very acute cases were observed, resembling rabies or epilepsy. In 93 cases Parkinsonism, and in 22 cases hyperkinetic conditions were noted among the residual forms. The mortality in the acute stage was reckoned at 27.5 per cent. In only two instances did a relapse occur.

## Surgery.

### 508. Sympathectomy for Epilepsy.

A. WAGNER (*Zentralbl. f. Chir.*, March 21st, 1925, p. 637) alludes to a case recently reported by Witzel of epileptiform convulsions following a gunshot wound of the motor area in which periarterial neurectomy of the carotid gland and excision of the superior cervical ganglion were performed. No further attacks occurred, but Wagner does not know whether this good result was permanent. He now reports a case in which he performed this operation for essential epilepsy on a woman, aged 65, who for the last twenty-five years had undergone every possible treatment without effect. The attacks at first became decidedly fewer and the mental condition improved for about three months. The attacks then became frequent again and progressive mental deterioration occurred. Microscopical examination of the superior cervical ganglion showed a remarkable pigmentation of the ganglion cells, but no inflammatory or degenerative changes. The initial improvement in this case induced Wagner to perform the operation on another woman, aged 24, whose attacks of epilepsy were much less severe. No appreciable change, however, resulted. Microscopical examination of the superior cervical ganglion in this case also showed an abnormal pigmentation of the ganglion cells. The author remarks that it would be interesting to learn, if this pigmentation of the superior cervical ganglion is a typical lesion of epilepsy, what is its significance.

### 509. Staphylococcal Meningitis.

DUPÉRIÉ, ROCHER, and AURIAT (*Journ. de Méd. de Bordeaux et du Sud-Ouest*, March 10th, 1925, p. 260) record the case of a boy, aged 13, who showed symptoms of acute meningitis simultaneously with the development of signs of deep inflammation in the left lumbar region. Low lumbar puncture on the seventh day of the illness released purulent cerebro-spinal fluid containing *Staphylococcus aureus*. On the tenth day the signs of deep lumbar suppuration were



more definite, and resection of the left lamina of the second lumbar vertebra was performed. The bone was found to be deaused of periosteum and bathed in pus. After the resection the dural sac, distended with pus, was opened and drained. The patient's serious condition was further complicated by acute parotitis. An "iodized" autogenous vaccine was given by dural puncture every two days, and intradural injections of colloidal tin were administered *la largo doses*. As the meningitis appeared to shut off the lumbar region a farther resection of the laminae of the first and second lumbar vertebrae was performed, the dural cul-de-sac being incised to the extent of 3 cm. and drained. Pus and cerebrospinal fluid flowed into the dressings, and after a few days the meningial symptoms subsided. The patient recovered except for paralysis of the muscles of the antero-external part of the left leg, and this was improving after three months' electrical treatment.

#### 510. Strangulation of Epigastric Hernia.

L. MASSÉ (*Rev. de Chir.*, No. 2, 1925, p. 126) draws attention to the fact that epigastric hernias are not infrequently found to be irreducible, but that on the other hand it is extremely rare to find them strangulated. This frequent irreducibility is no doubt explained by the contents of the sac being usually omentum, which, as the result of attacks of inflammation, becomes fixed by adhesions. Epigastric hernias have been divided into four groups: (1) those which are simply fatty with no peritoneal sac; (2) fatty hernias with a sac containing omentum; (3) omental hernias without a fatty covering; (4) hernias containing omentum and bowel. The last group is the type least often encountered and which contains the cases liable to strangulation. An investigation of the literature confirms the infrequency of strangulation in this variety of hernia. Massé has collected fourteen cases recorded up to date. As regards the treatment of the condition, he states that it is necessary to relieve the strangulation and to perform a radical cure for the hernia. In these cases the patient's general condition is often poor and local anaesthesia may be advisable. The operative results, however, appear to be satisfactory, as there was only one case which proved fatal. In some cases it has been found necessary to use a filigree of bronze aluminium, and the results have been satisfactory, with no recurrence of the hernia up to date.

#### 511. Benign Gastric Tumours.

P. LECÈNE (*Paris Méd.*, April 4th, 1925, p. 313) states that gastric tumours may be classified into (1) adenomas of the gastric mucosa, single or multiple, sessile or pedunculated; (2) fibromas or lipomas arising usually in the submucous connective tissue; (3) leiomyomas originating in the unstripped muscle fibres; (4) neurofibromas, peripheral gliomas, or neurinomas—rare tumours formerly confused with sarcoma. Usually these tumours are only recognized clinically when they produce haemorrhages or mechanical disturbances due to pyloric obstruction. Lecène recommends that, whenever possible, a gastric tumour should be removed lest it become ulcerated by friction with the stomach walls and dangerous haemorrhages follow. He describes the case of a man, aged 30, who had a sudden attack of abdominal pain suggesting perforation of a gastric ulcer or acute peritonitis. Lecène explored the appendix region twenty hours after the onset and found a large quantity of fluid blood and clots. The appendix was not obviously diseased, and the cause of the intraperitoneal haemorrhage was not found, the patient's condition preventing any extensive exploration. The patient was radiographed after a bismuth meal and the stomach appeared deformed, elongated, and nodular; this was attributed to adhesions, but fourteen months after the operation the patient had severe and repeated melena and became very anaemic. Another skiagram then showed that the deformity was due to a tumour both exogastric and endogastric, and Lecène concluded that the blood came from an ulcer on a benign gastric tumour. The patient had no vomiting or haematemesis, nor could any tumour be felt on palpation. Three months later median laparotomy was performed and a nodular tumour was found in the posterior wall of the pyloric antrum adherent to the pancreas. A segment of the pylorus with the tumour was resected, but it was impossible to remove the other nodules, which were buried in the pancreas; they were evidently non-malignant. The parietal nodular tumour was as large as a mandarin orange with a central ulcer in the gastric mucosa of its inner surface; it was a leiomyoma. The diagnostic skiagram of the stomach recalled a similar case recorded in 1920 by Konjetzny (Kiel), who reported that at the pyloric antrum there was a clear, isolated, and almost circular patch which corresponded with a polypoid fibroma attached to the atrial wall. Lecène considers that such a radiological image is pathognomonic. He emphasizes the importance of determining the benignity of these tumours, which require simple excision only; extensive resection is quite unnecessary.

## Therapeutics.

#### 512. Insulin Treatment of Diabetes.

O. FISCHER (*Med. Klin.*, March 27th, 1925, p. 465) divides cases of diabetes mellitus into three groups, with respect to insulin treatment: (1) Cases in which insulin treatment is absolutely indicated, owing to immediate danger to life. (2) Cases in which, by dietetic treatment alone, the glycosuria cannot be checked, or only ceases when there is considerable undernutrition with acidosis (relative indication). (3) Cases in which a sufficient tolerance can be obtained by the usual dietetic treatment; these require no insulin treatment. In the first group are cases of coma and precomatose conditions. Here insulin should be given in large doses—the author recommends a subcutaneous injection of 50 units. The full effect occurs in three or four hours. If the symptoms have not subsided then, a second and similar dose is given, and this is repeated every three or four hours until the symptoms and the glycosuria are checked and the blood sugar is normal. Usually 100 to 150 units is required altogether. Fischer thinks that repeated blood sugar estimations are not necessary, repeated examinations of the urine being sufficient; so long as a positive reaction with Trommer's test is obtained the blood sugar is over 0.1 per cent. Together with the insulin administration 10 to 15 grams of sugar (saccharose) is given by the mouth thirty to sixty minutes after each injection, if the patient can swallow; in the most severe cases an intravenous injection of grape sugar is given. Strophanthin or digitalisat is also recommended. Three cases are recorded in detail. In two all the symptoms except slight acidosis were checked in twelve hours by 100 units of insulin. In another case the symptoms of coma were checked by insulin, but five days later death occurred from sepsis due to a carbuncle of the neck. Of fifteen patients with diabetic coma treated with insulin only one died, and in this case the treatment was commenced late. One of the patients was rescued from coma twice, and another three; three of the patients are still alive. Fischer states that in the great majority of cases coma was checked by vigorous insulin treatment, but the fate of the patients is little changed unless they remain permanently under careful treatment; finally the disease will prove fatal. He adds that insulin treatment is also of service when an operation is suddenly required in a case of diabetes, and time cannot be allowed for checking the glycosuria.

#### 513. Regulation of Insulin Dosage.

L. JONAS, T. G. MILLER, and IDA TELLER (*Arch. Intern. Med.*, March 15th, 1925, p. 289) record the results of a study of blood sugar curves in 6 non-diabetic and 25 diabetic individuals. These investigations were made in order to determine a more satisfactory method for the administration of insulin. The authors find that with a maintenance diet, equally distributed among the three meals of the day, mild cases of diabetes may be kept within the normal limits of glycaemia by means of a single dose of insulin half an hour before breakfast. More severe cases require also a second dose half an hour before the evening meal; and if these are insufficient a third one at midnight is indicated. When insulin is not being given (the diet factors being the same for each of the three meals) the highest blood sugar concentration was found to occur usually about one hour after breakfast, and the lowest before breakfast. In the study of diabetic patients the authors advise that three blood sugar determinations should be made: one on a specimen taken before breakfast or before the first dose of insulin, one an hour after breakfast, and a final one just before luncheon. In all cases of diabetes the single specimen of urine which is most likely to show sugar is one passed from one to two hours after breakfast.

#### 514. Insulin in General Practice.

R. FITZ (*Boston Med. and Surg. Journ.*, March 19th, 1925, p. 519), considering the possibilities of insulin in general practice, thinks that many of the patients now being sent to hospital for treatment could be as efficiently and more economically dealt with as out-patients or by their local practitioner. Since diabetes is often mild, only about one-third of the patients will require insulin, which is usually indicated only in undernourished young diabetics and those with surgical complications, acidosis, or an acute infection. Insulin rapidly reduces the sugar, and selected cases can be intensively treated satisfactorily in a few hours instead of days or weeks; patients can easily be taught to adjust their diets, to test for sugar, and to administer insulin. Fitz considers that a diagnosis of diabetic coma is justified only in the presence of glycosuria and acidosis. The importance of

early treatment of coma by large doses of insulin, plenty of fluid, and good nursing is urged, and in the absence of a marked infection, shock, or a very high blood sugar concentration, the prognosis is good.

## Neurology and Psychology.

### 515. Neuritis and Pseudo-tabes after Arsenobenzol Infections.

SÉZARY and CHABANIER (*Bull. et Mém. Soc. Hép. de Paris*, February 26th, 1925, p. 279) draw attention to the frequency of neuritis following arsenobenzol treatment, and report in detail several cases. In its early stages the condition resembles that of incipient tabes, as Sicard has shown, but the differential diagnosis is not difficult. The authors have seen two cases of a generalized sensory type, accompanied by ataxia, and resembling the polyneuritic tabes of Leval-piquet. Sézary and Chabanier divide their cases into two classes according to whether there is present a slight sensory neuritis with early pseudo-tabes, or, on the other hand, a generalized sensory neuritis with ataxic pseudo-tabes. One of their cases in the first group occurred in a man, aged 58, who had contracted syphilis when 31, but had had very little treatment. The Wassermann reaction was positive, and the patellar and tendo Achillis reflexes were normal in 1922. During the next two years he received many courses of treatment with arsenobenzol preparations, but the Wassermann reaction remained almost persistently positive. After the first course of "éparséno" he complained of painful tingling in the feet, and in 1924 it was found that the left patellar reflex had disappeared. Pain was felt in the left toe when the foot was placed on the ground; there was anesthesia of the end of the toe and the nail was much thickened, but there was no evidence of tabes or alcoholism, and the cerebro-spinal fluid was normal. This painful tingling in the toes and legs was characteristic of the other cases reported. The second group was illustrated by two cases, one being that of a research chemist, aged 45, who had not contracted syphilis, but had been engaged for three years in the commercial manufacture of arsenobenzol. Arsenical pigmentation of the skin was so intense that the patient was believed to be suffering from Addison's disease. Palmar and plantar hyperkeratosis existed, the gait was uncertain, and there was difficulty in stooping when the eyes were closed; the pupil reflexes were normal. Sézary and Chabanier remark that these cases indicate the possibility of a definite arsenical neuritis occurring when large doses of arsenobenzol are administered for a long time, though individual idiosyncrasy is an important factor. Patients usually recover when the injections are discontinued, and this is a further proof that the ataxia is non-syphilitic. Sicard has pointed out also that for a long period after recovery the tendo Achillis reflex may be absent. The authors add that in any doubtful case a lumbar puncture should be performed, since a normal cerebro-spinal fluid will indicate that the tabetic symptoms are not of syphilitic origin.

### 516. Innervation of Micturition.

F. J. F. BARRINGTON (*Quart. Journ. Exper. Physiol.*, March, 1925, p. 81), as the result of experimental work, has shown that the innervation of the process of micturition in the cat is not solely effected through the spinal cord. Destruction of a region ventral to the internal edge of the superior cerebellar peduncle, from the anterior end of the hind-brain in front to the level of the middle of the motor nucleus of the fifth nerve behind, is followed by permanent inability to empty the bladder if the lesion is bilateral, but not when it is unilateral. Bilateral destruction of the mid-brain from the ventral half of the side of the posterior end of the aqueduct onwards to just beyond the mesencephalic root of the fifth nerve is followed by a permanent loss of consciousness of the need to micturate or defecate, but does not impair the performance of either of these functions. A similar but rather more extensive lesion produces frequency of micturition in addition to the other results.

### 517. Morbid Anatomy of Schizophrenia.

M. PRADOS Y SUCH (*Arch. de med., cir. y esp.*, February 21st, 1925, p. 392) states that the morbid anatomy of schizophrenia is one of the most complicated and least settled problems of the histopathology of the nervous system. Macroscopically no important changes are observed. The lesions are always of a microscopical and parenchymatous character, and may be grouped under the following types: fatty degeneration of the nerve cell with various cellular changes, principally of a sclerotic nature, and changes in the arrangement of the cells in a large number of cases, but not frequent enough to justify the conclusion that schizophrenia is a systematized disease.

The neuroglia shows progressive and retrogressive changes, while the myelin and nerve fibres do not appear to be much affected, especially in recent cases. In no instance was there any sign of the mesodermic elements being affected. As regards the topographical distribution the cornu ammonis is one of the sites of predilection, and in the rest of the cortex the frontal lobe is most frequently involved. Numerous observers, however, have reported cases in which degenerated cells were found in all regions of the brain. Prados y Such has seen them in the basal ganglia, optic thalamus, and medulla oblongata. As regards involvement of the endocrine glands considerable disagreement prevails among the various observers, although the sexual glands appear to be most frequently attacked. Mott has described important changes in the testes and ovaries in the form of complete absence of spermatogenesis, sclerosis of the ovaries, and diminution or complete absence of the ovarian follicles. In conclusion the author maintains that in the present state of our knowledge it is impossible to establish the anatomical diagnosis of the disease with certainty, but only with some degree of probability.

## Obstetrics and Gynaecology.

### 518. Vulvo-vaginitis and Balano-posthitis Oïdo-mycotica as a Conjugal Infection.

T. BENEDEK (*Dermat. Woch.*, March 21st, 1925, p. 435) states that *Oidium albicans* has long been known to be a parasite of the genital mucous membrane, though comparatively few cases have been recorded of isolated involvement of the genitals by this organism. Still rarer are the cases in which both husband and wife become infected. Haumann in 1876 was the first to describe the presence in the vagina of *Oidium albicans*, which he successfully inoculated from the mouth of an infant with thrush. One of the earliest cases of isolated involvement of the vulva by *Oidium albicans* was reported by Giulini (*Zentralbl. f. Gyn.*, 1891, p. 1049). The rarity of the affection is shown by the fact that in the course of six years von Herff saw only 24 examples of acute and subacute colpitis oïdo-mycotica among 15,283 women at the Halle Gynaecological Polyclinic; 20 of these occurred in the summer and only 4 in the winter, whilst 15 were in pregnant women. No case was reported as occurring in virgins or after the climacteric. There is usually a special predisposition to infection by *Oidium albicans* in the form of general cachexia or some systemic disease, especially diabetes mellitus. Benedek records a case in an otherwise healthy and vigorous married woman, aged 28, in whom the internal aspect of the labia majora, labia minora, clitoris, and introitus vaginalis presented a dry greyish appearance without membranous formation, while the vagina showed a greyish-white loosely attached deposit on the columnar ring and in the intervening spaces. The symptoms were burning, itching, vaginal discharge, and greatly increased sexual appetite. The husband, a well developed healthy man, aged 32, a few days after sexual congress developed a greyish membrane on the inner surface of the prepuce, corona, and glans. The lesions in the wife cleared up in a few days after swabbing with a 10 per cent. solution of silver nitrate, and the husband's lesions were rapidly cured by the application of a 2 per cent. resorcin ointment. *Oidium albicans* was recovered from the genital lesions of both husband and wife.

### 519. Treatment of Febrile Abortions and Puerperal Fever.

H. KÜSTNER (*Dent. woch.*, February 6th, 1925, p. 223) discusses the principles adopted at the University Maternity Hospital at Halle in the treatment of abortions and puerperal fever. When an abortion is febrile he considers the only right course is to evacuate the uterus completely and at once, so that there shall be no dead matter within the uterus to afford pabulum to streptococci, whose virulence is apt to increase rapidly under such favourable conditions. When an abortion is febrile and incomplete he gives subcutaneous injections of gynergen, a tartrate preparation of ergot, at intervals of one to two hours, beginning with a dose of 0.2 c.cm. and gradually increasing the dose to 1 c.cm. In abortions from the third to the fifth month he has found that gynergen stimulates the uterus to contract more effectively than other drugs, such as ergot and pituitary extract. Within a few hours of starting this treatment the foetus is expelled, in many cases with the placenta. Even when spontaneous expulsion of the ovum was incomplete, and it was necessary to evacuate the uterus with a finger or instrument, injections of gynergen were helpful. Küstner thinks that it is better to evacuate the uterus at once under a general anaesthetic than to incur the delay entailed by spending twenty-four hours in dilating the cervix with laminaria, for in the interval streptococci already present in the uterus may have grown

more virulent and penetrated to the deeper structures of the uterus. He adds that injections of gynergen are also useful in stimulating the uterus to contract after a normal confinement at term, and that no ill effects have followed its employment. He has found a mixture of mercury perchloride and neosalvarsan beneficial in febrile abortions and puerperal fever. The mixture consists of 0.3 gram of neosalvarsan in 8 c.cm. of sterile water and 2 c.cm. of a 1 per cent. solution of mercury perchloride. This mixture, in which there is a black precipitate from the interaction of the two drugs, is given by intravenous injection, great care being taken to avoid necrosis of the tissues, which may follow the depositing of even a little of the fluid outside a vein. Even in those cases in which there had been several rigors before admission to hospital good results were obtained with this treatment, the efficacy of which was, however, greatest when it was started early. Its effect on the pulse was more rapid than on the temperature, a weak and very rapid pulse soon becoming stronger and slower.

#### 520. Cystoscopy in Cancer of the Cervix.

R. GOUVERNEUR and S. FABRE (*Gynéc. et Obstét.*, 1925, xi, 3, p. 189) have made cystoscopic observations in 200 cases of cancer of the cervix before and after radium treatment. In about one-third of the cases in which the bladder wall had been extensively invaded they found urinary signs and symptoms absent or extremely insignificant, and in a considerable minority of cases frequency of micturition was noted when the bladder wall was free. They conclude, therefore, that cystoscopy is of great value in estimating the operability of different cases. In this series only about 6 per cent. of cases showed neoplastic ulceration of the bladder, usually superficial and in the neighbourhood of the trigone. The other morbid appearances were due chiefly to distortion by the tumour and to inflammatory conditions in the line of its advance; bulging, oedema, and the formation of transverse folds are the chief appearances described. The detection of vesical ulceration is, they think, a grave prognostic sign, contraindicating curative radium therapy, but in such cases small doses such as 30 millicuries for three days were not followed by fistula formation. In cases which clinically seem cured after radium applications, the authors have found that little or no alteration ensues in the cystoscopic appearances of oedema or transverse corrugation.

## Pathology.

#### 521. Combination of Diphtheria Toxin with Living Tissues.

A. T. GLENNY and BARBARA E. HOPKINS (*Journ. Path. and Bact.*, April, 1925, p. 261) have tried to determine the rate at which diphtheria toxin is fixed by the tissues. They first measured the time that must elapse after the intradermal injection of a given dose of toxin into a guinea-pig in order to render ineffective a subsequent intravenous injection of antitoxin. Using a Schick dose of toxin injected into the skin, it was found that not even 10 units of antitoxin—an amount containing 10,000 times the equivalent of the toxin—given intravenously fifteen minutes later, was sufficient to prevent the appearance of a small reaction. If the interval between the injection of the toxin and the injection of the antitoxin was lengthened to three hours there was no neutralization and the normal reaction was produced; in this experiment the amount of antitoxin used was 1,000 units, or an equivalent of 1 million combining doses. The extent of the skin reaction produced by a Schick dose of toxin, when followed by certain doses of antitoxin, was then determined. Varying the size of the dose of toxin, the authors found that the smaller the amount injected, the greater was the proportion fixed in a given time. Thus, whereas only 20 per cent. of the full Schick dose was fixed within three hours, as much as 50 per cent. of a one-tenth Schick dose was fixed in this time. One important point brought out was the difference in the rate of absorption of antitoxin by different routes. Thus, to reduce by one-half the skin reaction caused by a Schick dose of toxin, it was necessary to inject 1,000 units of antitoxin intravenously one and a half hours later, intramuscularly three-quarters of an hour later, or subcutaneously a quarter of an hour earlier. The second method employed for estimating the rate of fixation of toxin was to inject a Schick dose of toxin intracutaneously and a variable dose of antitoxin intravenously some time afterwards, and to measure the amount of antitoxin formed by the animal. In this way it was found that even 1,000 units of antitoxin given three hours later was insufficient to prevent a rise in the antitoxic titre of the serum due to the antigenic effect of the toxin.

#### 522. The Multiplicity of Strains of the Bacteriophage.

E. WOLLMAN and ELISABETH WOLLMAN (*C. R. Soc. de Biologie*, March 7th, 1925, p. 552) possess a strain of anti-Shiga bacteriophage which is sensitive to the action of trypsin; when this ferment is added to it the bacteriophage loses its ability to form plaques on an agar culture of the dysenteriae bacillus. They have also an anti-coli bacteriophage which does not manifest this sensitivity. When equal parts of lytic filtrate and a 1 in 200 solution of trypsin were mixed together and incubated for a day or two the bacteriophage retained its activity completely. Is this difference in regard to trypsin between the two strains dependent upon the bacteriophage itself, or is it a function of the bacterium on which it flourishes? To answer this question they performed the following experiment. A tube of broth was inoculated with *B. dysenteriae* Shiga and a few drops of anti-coli bacteriophage added to it; another tube was inoculated with *B. coli* and a few drops of anti-Shiga bacteriophage added to it. On the next day the two tubes were heated at 60° C. for one hour; some drops from tube 1 were added to a fresh culture of Shiga's bacillus, and some drops of tube 2 to a fresh culture of *B. coli*. This was repeated several times. The result was that the anti-coli bacteriophage, which attacked the Shiga bacillus at the start, became more actively lytic during the successive passages on this organism; the anti-Shiga bacteriophage, which had no action on *B. coli* at the start, gradually acquired a lytic power, which after seven passages was as strong as in the case of its homologous bacillus. When the effect of trypsin on these two strains was tested it was found to be unaltered—that is to say, that neither the adaptation of the anti-coli bacteriophage to the Shiga bacillus nor the adaptation of the anti-Shiga bacteriophage to *B. coli* had altered in any way their susceptibility to the action of trypsin. These facts appear to the authors to be incompatible with the hypothesis which regards the bacteriophage as a product—ferment or pro-enzyme—of the bacillus with which it is associated; in this case, they think, its sensitivity to trypsin should vary with the organism it attacks. This, however, is not so; on the contrary, it appears that each strain of bacteriophage is endowed with certain properties, such as the sensitivity to trypsin, which remain constant during passage on different organisms, whereas other properties, such as the lytic power, are variable.

#### 523. Glandular Puncture in Bubonic Plague.

The usual method of diagnosis in suspected cases of bubonic plague is examination of the fluid aspirated from an enlarged gland. Satisfactory though this may be in the acute stage of the disease, it is, according to L. URIARTE (*C. R. Soc. de Biologie*, March 27th, 1925, p. 901), by no means a trustworthy procedure in the mild or chronic cases. In the former type the puncture is easy to perform, and the juice which is aspirated contains the bacilli in large numbers; but in the latter type, when the glands are hard and small, the process of puncturing is often very painful, and is not always attended by success—that is, no fluid is withdrawn. To avoid this it is advisable to inject a few drops of sterile saline and to suck this up and down within the gland. Even when this method is employed the examination of the tissue juices may fail to reveal the presence of the plague bacillus; in such cases it is difficult to give a definite diagnosis. To ascertain how many of these cases are really plague infections the author examined seven patients in whom simple ganglionic puncture had failed to reveal the plague bacillus. The glands were removed from the groin, cut up with care, inoculated on culture media, and injected into guinea-pigs. In three of them the *B. pestis* was grown in culture, and in the same three the injected animals died of plague. Later, another ten cases were similarly examined; two of them were proved by culture and by minute inoculation to be cases of plague, and one of tuberculosis. Uriarte concludes that it is clear that ganglionic puncture is an uncertain method of diagnosis in all but acute cases of plague, and that it should be replaced where necessary by excision of the gland, and also by a blood culture.

#### 524. Vitamins and Bactericidal Action of Blood.

G. M. FINDLAY and I. MACLEAN (*Biochem. Journ.*, vol. xix, No. 1, p. 63) have found that rats fed on a diet deficient in vitamin A and the antirachitic factor show a reduction in the bactericidal power of the blood only after the onset of keratomalacia or some other infection. Exposure to ultraviolet light during such deficient feeding delayed the onset of bacterial infection and the reduction in the bactericidal power of the blood. When keratomalacia had appeared exposure to ultraviolet light produced no effect. A diet lacking phosphorus and the antirachitic factor, or lacking vitamin B, also produced a reduction in the bactericidal power of the blood.

# EPITOME OF CURRENT MEDICAL LITERATURE.

## Medicine.

### 525. Measles Treated by the Serum of Convalescents.

F. WULFF (*Ugeskrift for Læger*, April 9th, 1925, p. 369) gives an account of numerous experiments conducted in the Blegdams Fever Hospital in Copenhagen. When a child developed a measles rash other children in the ward who had not previously contracted measles were given an intramuscular injection of a mixed serum obtained from patients convalescent from measles. On the first occasion each of the children exposed to infection was given an injection of only 5 c.cm. of filtered serum. Three of them developed measles. On the second occasion, when measles developed in a child in a ward with five other children, the dosage of the serum was increased, 10 c.cm. being given to the youngest child (only 2 months old) and 20 c.cm. to the older children. None of them developed measles, although the potential source of infection was not isolated. On four other occasions the outbreak of measles was the signal for giving prophylactic injection of serum to "contacts." Summarizing his experiences on these six occasions, the author claims that the serum of convalescents is capable of aborting measles in the incubation period. He finds it difficult to determine the minimum effective dose, as it is probable that both the potency of the serum and the reaction of the patients to it vary considerably. The dosage which he adopts for the present is 5 c.cm. for infants under 1 year, 10 c.cm. for children from 1 to 4 years old, and 15 c.cm. for children over 4 years. He prefers unfiltered to filtered serum because filtration implies the loss of a considerable portion of the serum, and because, according to Degkwitz, the potency of filtered serum is less than that of unfiltered serum.

### 526. Prophylaxis of Whooping-cough.

V. GILLOT (*Bull. Acad. de Méd.*, February 10th, 1925, p. 176) holds that while the prophylaxis of whooping-cough by injection of the serum of convalescents is a well recognized method, it cannot be frequently employed owing to the difficulties involved in obtaining the serum and preparing it for use. On this account he has had recourse to a new and very simple method which can be carried out by any practitioner. It consists in subcutaneous injection of whole blood into children who have been exposed to infection. The blood may be taken from a person who has had whooping-cough at some time in his life, or from one of the parents without troubling to inquire if they have had whooping-cough or not. During a severe epidemic of pertussis at Algiers in 1924 Gillet employed this method at the children's clinic with the following results: (1) All the children who were injected before the period of invasion were effectively protected against the disease. (2) Those who were first injected at the onset had only very mild attacks. Only one injection was given, the dose ranging from 2 to 5 c.cm.

### 527. Hodgkin's Disease.

C. STERNBERG (*Klin. Woch.*, March 19th, 1925, p. 529) describes an anatomy of Hodgkin's disease, or considers that the histological pathognomonic, in whatever organs they are found. They consist of granulation tissue rich in cells, in which, between lymphocytes, plasma cells, and leucocytes, lie the characteristic large cells, with one or several large, round, indented or lobulated, darkly stained nuclei; and abundant protoplasm, which is often connected with the connective tissue stroma. The tissue is never composed of these large cells alone; they are intimately mixed with the other forms of cells, and in many cases a large number of eosinophilic leucocytes are present. Examination of the blood, though not conclusive, serves to exclude some other diseases. A high degree of eosinophilia is often found. A peculiar feature is the temperature, periods of thirteen to twenty days of fever alternating with fever-free intervals of varying duration. The disease usually ends fatally within five years; but under x-ray treatment the symptoms may subside and life may be prolonged up to ten years. From the clinical features a diagnosis can be made with great probability. It is made certain by the histological examination of an excised gland when the material is suitable. Sternberg adds that it is now almost generally acknowledged that the affection is a chronic inflammatory process, associated with the development of a peculiar granulation tissue, localized chiefly in lymphatic tissue, and characterized by large cells. He previously put forward the view that the

affection was caused by the tubercle bacillus, but he leaves the question open whether the peculiar histological changes are due to a special reaction, perhaps an increase in the resistance of the organism, or to a diminished virulence of the bacilli. He records the opinions of other observers for and against his view, but considers that the results of more recent observations and experiments appear to be increasingly in its favour.

### 529. The Diet in Typhoid Fever.

V. J. KINSELLA (*Med. Journ. of Australia*, February 21st, 1925, p. 183), in a paper based on the study of 760 typhoid patients treated at the Royal Prince Alfred Hospital, New South Wales, during the last thirteen years, comes to the following conclusions: (1) The old strict diet is deficient in caloric requirements. Such diet consists of a feed every two hours of prepared peptonized or elctrated milk, or whey and albumin water, each feed varying from 2 to 5 fluid ounces. (2) It results in severe wasting in prolonged infections. (3) During convalescence the hunger becomes ravenous. (4) With a diet of adequate caloric value extreme wasting and hunger are not seen. Such a diet consists of 2 pints of milk, 6 ounces of cream, 4 ounces of sugar, 3 or 4 eggs (in flaps, custards, or boiled), 2 ounces of fish, 4 ounces of bread, and 2 ounces of butter, amounting approximately to 3,000 calories. (5) Feasible on a liberal diet (11.5 per cent.) those on a restricted diet (11.6 per cent.) such as haemorrhage and perforation were not more frequent among those on a liberal diet. (7) In spite of the anorexia so common in enteric fever, the 2,000 to 3,000 calories mark is easily reached.

## Surgery.

### 529. Complications of Megacolon.

M. DERRAUX (*Bull. et Mém. Soc. Nat. de Chir.*, March 28th, 1925, p. 356) records two cases of megacolon complicated by intestinal obstruction. In the first, a girl aged 20, who was a vegetarian with a very large appetite, there had been no action of the bowels for seven days. Abdominal exploration showed that the condition was due to a volvulus of the descending colon. The bowel, which appeared to be in good condition, was untwisted and the abdomen closed. The patient made a satisfactory recovery. The second case occurred in a female, aged 35, who had been treated some years previously for symptoms of gastric ulcer with haematemesis and melaena and had been cured by medical means. She had an attack of acute obstruction with distension and severe pain, and, on laparotomy, the large and small gut were found very distended. Careful examination showed that the descending colon, which had a long mesentery, had passed through an opening in the transverse mesocolon. After puncturing the gut the hernia was reduced and the opening in the mesocolon closed, the patient making a good recovery. Derraux thinks that it seems advisable, in view of the complications to which cases of megacolon are liable, that a radical operation should be performed at a later date to prevent their recurrence. He adds that the primary condition is probably of congenital origin, but it is not improbably aggravated by a vegetarian diet and a diet rich in carbohydrate matter.

### 530. The Stomach as a Content of Inguinal Hernia.

J. DRESEN (*Zentralbl. f. Chir.*, February 28th, 1925, p. 457), who records a case of a stomach in the sac of an inguinal hernia, states that the presence of abdominal organs in the hernial sac is an everyday occurrence. According to Kessler's statistics of the Bonn University Clinic (Inang. Diss., Bonn, 1923) the appendix alone was found in 1.09 per cent., the cecum and appendix in 0.72 per cent., and the appendix with other parts of the intestine in 1.37 per cent. The transverse colon, sigmoid, jejunum, and ileum with the mesentery, uterus and oviducts, bladder and omentum are relatively frequently found in the hernial sac. There are only twelve cases, however, on record in which the stomach was found in the sac of an inguinal hernia. In one of these the diagnosis was established by x-ray examination (Rieder). Mention should also be made of three cases reported by O. Keller, Spiegel, and Ahrens respectively in which the stomach was found in a femoral hernia. Dreesen records a case of a hairdresser, aged 62, who had an inguinal hernia for nine years with



gastric symptoms for the last three years, such as anorexia, nausea, and vomiting. The presence of the lower part of the hour-glass shaped stomach in the left half of the scrotum was shown by x rays. Bassini's operation was performed under local anaesthesia and complete recovery took place, the form, situation, and function of the stomach being restored to normal. The cause of the gastric hernia in this case is to be found in a gastropothesis which was aggravated by the occupation of the patient, who had to stand in a stooping position for several hours at a time.

### 531. Surgical Treatment of Typhoid Carriers.

W. H. VOSBURG and ANNA E. PERKINS (*Surg., Gyn. and Obstet.*, March, 1925, p. 404) report in detail seven cases of typhoid carriers treated surgically by the removal of the gall bladder and appendix. Subsequent bacteriological examination of the faeces for typhoid bacilli proved almost invariably negative. In all their cases the appendix gave microscopic evidence of previous inflammation, and the authors draw attention to the importance of removing the appendix as well as the gall bladder when operating for the cure of a typhoid carrier. They find that there is a preponderance of women carriers, which they attribute to the greater liability in women to gall-bladder infections; moreover, in their domestic occupations they tend to infect others more frequently than do males. The authors add that there is reason to suppose that in every community there are more carriers than is generally imagined, and that the examination of faeces should be repeated more often than is the present custom.

### 532. Delayed Operation and Appendicitis Mortality.

S. WIDERÖE (*Tidsskrift f. d. Norske Lægef.*, April 1st, 1925, p. 345) publishes the appendicitis statistics from his hospital in Oslo in the period April 1st, 1919, to January 1st, 1925. With only two exceptions his rule was to operate at once on all cases of acute appendicitis in which the signs indicated progress of the disease. Most of the operations were performed under a general anaesthetic, but appendix abscesses were, as a rule, opened under local anaesthesia, the appendix not being removed unless it presented in the incision. Among the 783 cases operated on, there were 20 deaths—a total mortality of 2.55 per cent. The mortality was 5.26 per cent. for the patients operated on within forty-eight hours of the onset of symptoms; it was 3.6 per cent. for the patients operated on within seventy-two hours; and it was 6.8 per cent. for the patients operated on between the fourth and eighth days. The frequency with which the appendix was found perforated at the operation increased uniformly with the length of the interval between the onset of symptoms and the operation; only 6 per cent. of the appendices of the patients operated on within the first twelve hours were perforated, whereas this was the case with 48 per cent. of the patients operated on between the fourth and eighth days. Of the 20 deaths, 10 were due to peritonitis, 3 to embolism of the lungs, 3 to nephritis, 2 to multiple abscesses of the liver, 1 to intestinal obstruction, and 1 to bronchopneumonia.

## Therapeutics.

### 533. Intra-abdominal Infusion of Ether in Peritonitis.

B. GUTNIKOFF (*Zentralbl. f. Chir.*, March 14th, 1925, p. 574), as the result of experiments on dogs, came to the following conclusions: (1) Ether possesses sufficient disinfectant power to destroy streptococci and *B. coli* at the body temperature. Staphylococci, on the other hand, are not destroyed, but are inhibited in their development by the influence of ether. (2) Ether causes a marked hyperaemia of the peritoneum or abdominal cavity, accompanied by a considerable increase in the absorptive power of the abdominal cavity. (3) Prophylactic infusion of ether into the abdominal cavity has a favourable effect. (4) Favourable results are also obtained by infusion of ether in diffuse purulent inflammation due to pure staphylococcal infection. (5) In processes in which destruction of bacteria takes place as the result of ether infusion, and hyperaemia occurs, the results are unfavourable, owing to the liberation of endotoxins and the increased absorptive power of the hyperaemic peritoneum.

### 534. Vaccine Therapy in Measles.

M. B. SINDONI (*La Pediatria*, February 15th, 1925, p. 173) treated with vaccine 18 children from the beginning of the eruptive stage of measles. The vaccine used was prepared by treating cultures of the serum of convalescent patients according to the method of Sison. Sindoni reports that the vaccine shortened the duration of the disease and lessened the severity of its symptoms. Cure followed with no complications, except in two patients in whom broncho-

pneumonia had already developed when treatment started, and in which the disease pursued a benign course, in contrast to the usual course in such cases. Sindoni adds that when estimating the effect of this specific treatment the following facts must be considered. In measles the majority of cases show a typical development, and yet in these vaccinated cases all were abortive, although from the first examination on the second, third, or fourth day of disease the usual course was to be expected. It is notorious that the mortality and percentage of complications in measles in hospital out-patients is very high; in Sindoni's investigation comparative observations were made at the same time of other patients in the same epidemic who received the usual expectant treatment. There resulted a mortality of 18 per cent. and complications in 20 per cent. Although the small number of observations prohibits drawing general conclusions, the impression remained that early vaccination is undoubtedly beneficial and entirely harmless.

### 535. Value of Chloroform in the Treatment of Tetanus.

H. DUFOUR and DUHAMEL, at the meeting of the Société Médicale des Hôpitaux on March 20th, 1925 (*Presse Méd.*, March 25th, 1925, p. 391), reported the case of a patient, aged 23, who had recovered from a severe attack of tetanus following a small suppurating wound of the foot. The patient received 520 c.cm. of tetanus antitoxin in ten days. On the fourth day of the disease he became suddenly worse, and death appeared to be imminent. It was decided to give a subdural lumbar injection of antitoxin under chloroform anaesthesia on account of the marked opisthotonos; 40 c.cm. of serum was injected, and next day the patient appeared to be almost cured. The authors suggest that the anaesthesia aided the action of the antitoxin on the central nervous system. It was generally admitted that symptoms of tetanus might occur after an intensive course of antitoxin, apparently owing to a spastic reaction produced by the injections. In such cases chloroform will check these spasms and produce a rapid improvement. Lesné suggests that the sudden amelioration in this patient's condition may have been due to the known action of anaesthetics in anaphylaxis.

## Laryngology and Otology.

### 536. Infantile Stenoses of the Oesophagus.

A. SARGON (*Arch. Internat. de Laryngol., d'Otol. et de Rhinol.*, April, 1925, p. 412) points out that there are two forms of congenital infantile stenosis of the oesophagus compatible with life: (1) Infantile membranous stenosis, (2) mega-oesophagus which is essentially infantile. Both are exceedingly rare. He gives the detailed history of three cases, two suffering from the first condition and one from the last, and quotes the histories of a large number of cases which have been collected by Dechaume. In cases of congenital membranous stenosis the symptoms are the same as those caused by ingestion of caustics, but in those cases there is only one stenosis. Of the two cases quoted by the author, one occurred in the cardiac region and the other was subphrenic. Dilatations of the oesophagus in infants give rise to the same symptoms as in adults—namely, easy and abundant regurgitation frequently containing retained food—while a radiographic examination shows a large thoracic pocket in the form of a catfish with a flattening at the level of the diaphragm and a recurring through the diaphragmatic hiatus. Catheterization reveals the lengthening of the oesophagus which causes frequent mistakes. Sometimes the operator thinks that he has entered the stomach when he has not passed the cardio-diaphragmatic region. With the oesophagoscope it is possible to penetrate into a large thoracic pocket having sides which are sometimes white and sometimes highly inflamed. It contains more or less decomposed food, which it is very difficult to remove, and which renders the complete examination of the cardio-diaphragmatic region only rarely possible. Congenital infantile stenosis frequently occurs in infants of less than a year old, while mega-oesophagus usually appears later. Regurgitations in cases of membranous stenosis are immediate, small in quantity, and consist of food which has just been taken. In cases of dilatation of the oesophagus regurgitation is abundant and often fetid; it contains food eaten two or three days before. Catheterization gives quite different results in the two forms. Only fine probes can be passed in cases of congenital membranous stenosis, but in cases of mega-oesophagus large bougies can easily be passed, unless the cardio-diaphragmatic region is in a state of spasm. The treatment of infantile membranous stenosis consists in dilatation of the single stenosis, with or without oesophagoscopy, with small bougies which are for preference retained temporarily; very exceptionally internal oesophagotomy may be performed to permit of dilatation. Gastrostomy should



rarely be practised, but, if it is unavoidable, it will be followed by retrograde dilatations in serious cases. The treatment of infantile mega-oesophagus consists, as in adult cases, in general hygienic precautions—careful diet, washing of the pocket, surgical treatment, dilatations with very large bougies, and, when possible, with an air bongo.

### 537. *Dysphonia in Professional Singers.*

C. BIAGGI (*Arch. Internat. de Laryngol., d'Otol. et de Rhinol.*, January, 1925, p. 5), laryngologist to the Scala Theatre in Milan, has had considerable experience of disturbances in the voice production apparatus amongst the great number of singers who pass through that institution. He divides these troubles into three classes. The first includes the chronic dysphonias which follow acute affections of the larynx. The cords are congested, and the movements are inhibited and lacking in tension owing to formation of fibrous tissue between the mucosa and the musculoepitaxial layer. The second group includes the dysphonias due to overuse of the voice. This group was not found among the really great singers, but among those who are training or who are not quite equal to the parts they are attempting. In these cases the cords are rough, tend to be shiny, and have lost their healthy appearance. They very commonly show the typical nodule on the free edge, or there may be a definite polypus. The author has found that in a large number of these cases the trouble is due to the singer attempting to sing a part the range of which is really outside his register. An example is given of a young soprano who had completed her training successfully and had no trouble with her voice until she began to rehearse *Aida*, when her voice became rough and on her vocal cords appeared small nodules which Biaggi removed. She ceased to sing this part and her voice speedily recovered completely. The author gives several examples of how certain works and the writings of certain composers affect the voice in this way. He has found that the music of the older composers is much less likely to harm the larynx than that of the more modern, and always advises a choice of composers accordingly. A third class of dysphonia is due to incorrect methods of voice production. Biaggi describes three methods of producing the voice. (1) In the "coup de glotte" the glottis is kept closed until the pressure in the chest has been raised considerably, producing an explosive type of note. (2) In the "coup de poitrine" the cords are held closely approximated during the first part of expiration; this manoeuvre gives an indistinct sound with a distinct sibilant. These two methods may be used with great success in certain parts by singers who understand their limitations, but when overdone by the tyro have a very bad effect on the sound and on the larynx. The third method is the safest and the most satisfactory, the cords being completely approximated at the very beginning of expiration. This produces the most pleasing tone and the fewest cases of dysphonia. Another type of dysphonia is due to the failure to close the nasopharynx by the soft palate; in the absence of anatomical changes this can usually be corrected by massage of the soft palate. Biaggi's line of treatment is to remove nodules and polypi, to apply a little local treatment such as sprays or gargles, and to correct the faults in the choice of work and in the method of voice production.

### 538. *Ipiodol in Ear, Nose, and Throat Cases.*

L. REVERCHON and G. WORMS (*Rev. de Laryngol., d'Otol. et de Rhinol.*, March 31st, 1925, p. 139) report that they have used Ipiodol with great success in exploration of the cavities of the face and neck. In cases of otitis media they were able to obtain very good pictures of the Eustachian tube after injection of Ipiodol through the pharyngeal orifice. The injection was followed by no untoward symptoms, but with the instruments at present available the process of injection is difficult. It necessitates considerable pressure, a special syringe must be used, the Ipiodol should be rendered more liquid by heating, and complete anaesthesia of the pharynx is necessary. Although it is usually possible in sinusitis to obtain a complete picture by x-ray examination, Ipiodol is said to show more clearly the degree and nature of the lesions and to be particularly applicable in cases of maxillary sinusitis. In these cases 4 to 5 c.c.m. of Ipiodol should be injected into the cavity. The authors believe that no other method gives such an exact picture of the anatomical connections of dental cysts, and that in oesophageal examinations Ipiodol is preferable to barium or bismuth meals, in view of the possibility of tracheo-bronchial connexions in ulcerating carcinomata. The penetration of milk containing bismuth into the bronchi may have grave consequences which do not occur if Ipiodol is used, and it is possible to follow the course of the oil from the oesophagus into the bronchi. The authors report that Ipiodol is particularly useful where it is desired to obtain a true picture of the degree of displacement of the trachea due to goitre or other tumour of the neck. They think that this method will be exceedingly valuable in

exploring the trachea for foreign bodies and tumours, being more convenient than tracheo-bronchoscopy and giving a more accurate idea of size and position. For tracheal injections of Ipiodol the authors recommend ordinary straight needles adapted to a glass syringe; they have never used any special apparatus. They always use the intertracheal path, which is more direct than the subglottic. Anaesthesia is obtained by the injection of 2 to 3 c.c.m. of 1 per cent. cocaine solution, afterwards injecting the Ipiodol very slowly, about 2 to 3 c.c.m. a minute. If a picture of the lung is required it is necessary to put the patient on his side so that the Ipiodol will flow into the desired lung; 7 to 8 c.c.m. of oil is necessary to inject the bronchial system and the inferior lobes of the lung. The authors used this method with success in two cases of dilatation and one of pulmonary abscess without undesirable results. The anaesthetic causes a slight cough, but if it is complete, which is the case after the lapse of fifteen minutes, the injection of Ipiodol is not followed by any reactions.

## Obstetrics and Gynaecology.

### 539. *Haemorrhoids in Pregnancy.*

C. ROSSER (*Amer. Journ. Surg.*, March, 1925, p. 63) points out that pregnancy tends either to initiate or to aggravate haemorrhoids, a combination of factors acting as the predisposing cause. Pelvic congestion and the pressure of the uterus interfering mechanically with the anal and rectal circulation may produce varicosity or increase any already existing varices and cause external piles. In labour itself the dilatation of the sphincters and the local congestion may result in such complications as fissure, haemorrhage, protrusion of the mucous membrane, granulations, thrombosis, or even gangrene. Palliative and prophylactic measures include the prevention of constipation by diet and exercise, and the production of a soft stool by agar and liquid paraffin rather than by salines and castor. Actnal protrusion may be promptly reduced in the knee-chest position. Rosser considers that a haemorrhoidectomy under local anaesthesia is indicated when haemorrhoids appear early in pregnancy, are aggravated by its continuance, or give rise to excessive haemorrhage and ulceration. When thrombosed external piles are present relief may be obtained by removal of the clot and redundant skin. This operative treatment enables the bowel to function in forty-eight hours, and does not interfere with the continuance of the pregnancy.

### 540. *Diphtherial Vaginitis.*

A. F. LASH (*Surg., Gyn. and Obstet.*, April, 1925, p. 556) reports two cases of diphtherial vaginitis. The first patient, aged 44, was acutely ill and presented a foul sero-sanguineous vaginal discharge, with diphtherial membrane lining the vagina. The second patient, a primipara aged 33, developed fever two days after a normal delivery; diphtherial membrane with foul purulent vaginal discharge appeared on the labia two days later. Both patients recovered under antitoxin treatment. Lash remarks that this condition is rare and is more common in children than adults, though its occurrence in a patient aged 55 has been reported. Diphtherial infection of the vagina occurs more often secondary to throat infection than as a primary infection. The mortality is high since the condition is generally recognized late owing to infrequent vaginal examination, but when diagnosed large doses of antitoxin should be given and precautions taken to prevent secondary infection of other mucous membranes. In each of the cases the diagnosis was confirmed by bacteriological examination.

### 541. *Uterine Hypoplasia and Sterility.*

C. A. CASTAÑO (*Gynecol. et Obstet.*, 1925, xl, 3, p. 207) points out that at birth the length of the uterus is 3 cm., of which 2 cm. corresponds to cervix; arrest of uterine development at this stage leads to amenorrhoea and absolute sterility. From the age of 6 the body grows more than the cervix, so that at 10 the two parts are of equal size; arrest of development at this stage leads to uterine hypoplasia, with relative sterility. In such an infantile uterus, which may be strikingly ante-flexed, the cervix is conical and the sound passes from 4 to 5 cm.; some degree of cervical stenosis is present, but its importance, the author thinks, should not be exaggerated. A cervix which will permit passage of the menstrual discharge or of the uterine sound will allow ingress of spermatic fluid; operations for dilatation are therefore unnecessary. According to Recasens, uterine hypoplasia is concerned in 50 per cent. of cases of sterility in urban inhabitants. Endocrine dysfunction plays an etiological part, but for Castaño the ultimate causative factor is almost always a late manifested congenital syphilis. Therapeutically Spanish and other

547. **Transmission of Herpes to Monkeys.** C. R. Soc. de P. TEISSIER, P. GASTINEL, and J. REILLY (C. R. Soc. de Biologie, April 10th, 1925, p. 1015) report that inoculation of the herpes virus into *Macacus rhesus*, *cynomolgus*, and *sinicus* produced no effect, but with *callithrix* positive results were obtained, the skin inoculation with a virus of human origin into this genus of monkey giving rise to eruptions in four out of the five animals tested. In one case the lesions were vesicular pustules, forming an almost confluent mass, but in the other three they were of papular nature, having crusts on the surface; they appeared on the second day after inoculation. There was no general disturbance noticeable, and never any paralysis, which is so frequent in experiments on infected rabbits. Inoculation on to the cornea failed to cause keratitis. Inoculation into the brain with fluid coming from the vesicles of a human case of herpes was likewise without effect, though the same fluid when injected intracerebrally into a rabbit produced fatal encephalitis. Successive inoculations into the skin of the same animal showed that monkeys rapidly acquire an immunity to the virus; after the second inoculation there were only a few discrete eruptions, and after the third and subsequent injections no reaction occurred. The virus was not altered in its passage through monkeys and gave rise to herpes both in man and in rabbits when taken from the lesions in the monkeys.

# EPITOME OF CURRENT MEDICAL LITERATURE.

## Medicine.

### 558. Persistent Pulse Irregularity and Iodine Hyperthyroidism.

DURING the last five years the iodine treatment of goitre has been extensively used, especially in Switzerland, and O. ROTH (*Wien. Arch. f. inn. Med.*, March 30th, 1925, p. 475) describes eleven cases which he has encountered, in which persistent irregularity of the pulse (arrhythmia perpetua), through auricular fibrillation, was associated with iodine hyperthyroidism. In these cases of long-standing goitre iodine treatment had been employed, and as a result typical symptoms of iodine hyperthyroidism had appeared, with subsequent symptoms of severe cardiac insufficiency. Examination revealed dilatation of the heart, especially of the right side, with a rapid pulse showing the typical persistent irregularity. In seven of these cases the author had examined the heart previously and found no cardiac affection; in two other cases, though a cardiac affection had been detected previously, there had been no persistent pulse irregularity. The connexion of the persistent pulse irregularity with the iodine treatment was shown by the fact that in one case the persistent pulse irregularity was completely and permanently cured by operative treatment, and in two cases by medical treatment. The cases recorded give additional confirmation to the view that persistent pulse irregularity in Graves's disease is a symptom of that affection. They also show that auricular fibrillation in goitre cases, with the so-called idiopathic dilatation of the heart and persistent pulse irregularity, is to be regarded as a condition of thyrotoxic nature. They further demonstrate the danger of iodine treatment.

### 549. Hypertrophic Secondary Syphilide of the Eyelid.

A. LOUSTE and L. LOUET (*Bull. Soc. Française de Derm. et de Syph.*, January, 1925, p. 12) report the case of a woman, aged 36, in whose left inferior palpebral angle there was a painless greyish-pink rounded infiltration, the size of a lentil, projecting from the palpebral margin. It resembled a chancre, and was originally considered to be the primary lesion. Although there was no adenopathy, this hard hypertrophic mucous lesion followed typical cutaneous syphilides. It was found that the patient had had genital and buccal lesions for several months. The primary sore appeared to have been situated in the left tonsil, as the patient had had an "angina" which lasted for three months, accompanied by severe nocturnal headache. She was very anæmic, her skin was covered with hypertrophic syphilides, and the conjunctival lesion was of the same type. The Hecht and Wassermann reactions were positive. Millau had seen similar lesions somewhat frequently when examining the conjunctiva for mucous plaques, but they were seldom so voluminous as in this case.

### 550. Typhoid Peritonitis without Intestinal Perforation.

H. M. GREENWALD and H. ELLISBERG (*Amer. Journ. Dis. Child.*, March, 1925, p. 365), who report a case in an infant, aged 16 months, state that only some fifty cases of peritonitis in typhoid fever without intestinal perforation are on record. With the exception of one in a child, aged 12, reported by Wilson in 1886, the previous cases were all in adults, and the authors' case is the first to be recorded in an infant. Three different opinions are held as to the cause of the condition—namely: (1) that it occurs by direct extension from the lesions in the intestine; (2) that there is a migration of the organisms from some focus in the abdominal cavity, most frequently the small intestine, appendix, and mesenteric glands; and (3) that infarcts in the spleen occur, thus paving the way for the migration of the organisms. The fact that the authors' patient improved rapidly after laparotomy and made an uneventful recovery suggests that neither splenic infarcts nor broken down mesenteric glands were the predisposing factor. As no typhoid bacilli were found in the exudate, the peritonitis probably resulted from direct extension from the inflammatory lesions in the intestinal tract.

### 551. Prophylaxis of Varicella.

Z. VON BARABÁS (*Jahrb. f. Kinderheilk.*, January, 1925, p. 343) employed the following methods of preventing varicella at the Municipal Children's Home at Budapest. (1) Fifty children were inoculated with the contents of fresh vesicles in the skin of the upper arm or subclavicular region. The usual result was local redness and scab formation, lasting one or two days; in only two cases did a few clear vesicles

develop on the scarified skin of the chest on the eighth or ninth day after inoculation, disappearing in three or four days. The author's experience confirms the view that the infectivity of the varicella vesicles is only slight through the skin, and that transmission of the disease probably takes place by droplet infection from the throat. (2) Four cases exposed to infection were injected with serum obtained from a blister produced by blistering plaster, and one developed varicella within twenty-two days. (3) Seven cases were treated by injection of convalescents' serum, and all escaped infection. (4) Forty-two cases were injected with 10 to 15 c.cm. of whole blood from varicella convalescents, and five, or 11.9 per cent., developed varicella—two within ten days, one on the thirteenth, one on the fourteenth, and one on the fifteenth day after the injection of blood. Barabás regards this as the simplest method of prophylaxis, though it is not invariably successful.

### 552. Blood Pressure and Asthma.

W. KERPPOLA (*Acta Med. Scand.*, April 1st, 1925, p. 162) has found that among 200 cases of essential hypertension there were 10 in which characteristic signs of bronchial asthma were present. Most of the asthmatics whose blood pressure he measured were found to have a normal or subnormal blood pressure in the intervals between the attacks. In 20 cases he measured the blood pressure during the attacks of asthma, and in 5 of these he found no appreciable rise of the blood pressure. In the remaining 15 cases there was an appreciable rise of the blood pressure during an attack of asthma, the blood pressure in 12 of those 15 cases having been normal or subnormal before the attack. In these 12 cases the rise of blood pressure ranged from 25 to 100 mm. of mercury; in the remaining 3 cases, in which the blood pressure was abnormally high before an attack, the rise during an attack ranged from only 15 to 25 mm. of mercury. As a rule, the more severe the attack of asthma the greater was the rise of the blood pressure. In 10 cases in which an attack of asthma was stopped by an injection of adrenalin, with or without pituitrin, it was found that the blood pressure began to fall during the first minutes following the injection, the fall being very rapid during the subsequent ten to fifteen minutes. The author suggests that the relief obtained in asthma with adrenalin is due to its paralyzing effect on vaso-constriction, this effect being achieved only when a comparatively large dose of adrenalin, such as 0.5 mg. by intramuscular injection, or 0.1 mg. by intravenous injection, is given.

## Surgery.

### 553. Acute Intussusception in Children.

COMMENTING on 31 cases of acute intussusception admitted to the Children's Hospital in Philadelphia from 1915 to 1924 HENRY P. BROWN, jun. (*Annals of Surgery*, 1925, p. 1064) observes that the mortality toll of this condition is still high. Studying the literature he finds that, with the exception of the good record of Hepsley, surgeons report a mortality of 25 to 60 per cent. In the Philadelphia series there was a general mortality of 20 cases out of 31 (64 per cent.). Of 9 patients on whom operations were performed within twenty-four hours of the apparent onset of the condition—the most favourable time for surgery—3 died; in the forty-eight-hour period 6 out of 9 died. As regards the cause of death in those patients treated early, in whom reduction was easily accomplished, Brown considers that the theory of absorption of toxins from the intestinal tract is the most plausible. He lays stress on the importance of early diagnosis and operation before the stage where reduction is impossible, as the vast majority of cases of resection of intussusception end fatally. The procedure employed in one case is described in detail as worthy of trial in selected irreducible cases when the gut is not obviously gangrenous nor the mesentery thrombosed, only the oedema of the bowel preventing reduction. One blade of a pair of Mayo scissors was inserted in the a-mesenteric border of the bowel, between the intussusciptum and intussuscipium, and the constricted neck of the intussusception cut. After this simple procedure reduction was accomplished with the greatest ease, the 2½ cm. incision in the caecum being easily closed with catgut and a continuous Lambert suture of linen. Brown adds that should reduction still be impossible, and the bowel be found to be, not viable, resection could then be readily performed.

554.

**Thyroglossal Cysts.**

A. P. BERTWISTLE and J. E. FRAZER (*Brit. Journ. Surg.*, January, 1925, p. 561), in a combined paper, discuss the growth and development of the thyroglossal tract, with especial reference to the cysts and fistulae which may develop in it. Frazer, after describing the development of this tract in the embryo, concludes that thyroglossal remnants above the thyroid are few, and, if present, occur usually in the foramen or near the hyoid. Below the hyoid the tract is present completely in many cases and incompletely in others; whether complete or incomplete, the line of the tract extends from the hyoid, usually folded up behind it from below, to the thyroid gland. Any remnants of it may take on further development, especially, perhaps, if a condition of relative hypothyroidism exists. It is possible also that some cells of the tract may separate and lodge below the level of the thyroid; if so, these cells may also be liable to develop further. Cysts lying superficially below and behind the foramen caecum may have a possible origin from the space included between the two halves of the developing hind part of the tongue, and not necessarily be connected with the thyroglossal tract. Bertwistle records details of eleven cases of thyroglossal cysts and fistulae. Their diagnosis is usually easy, but the cysts may be tuberculous, myxoid, or myxoid, which is only rarely the seat of pathological processes. The most common cause of failure in surgical treatment is incomplete removal, but Bertwistle points out that resection of part of the hyoid bone need not be a routine procedure, and that division of the hyoid is rarely necessary if the dissection is continued well behind the bone. He recommends a horizontal incision in the line of the natural crease of the skin of the neck, and believes that no case of carcinoma arising in the tract has yet been reported. He suggests that the thyroglossal fistula is in direct anatomical relation with the thyroid gland, and he agrees that thyroid and parathyroid activities are increased in digestion. He thinks that possibly both the sinus and the thyroid become active concurrently with the salivary glands, having the same nerve supply.

555.

**Pseudarthrosis of the Tibia in Children.**

M. S. HENDERSON (*Journ. Bone and Joint Surg.*, April, 1925, p. 340) describes nineteen cases of pseudarthrosis of the tibia developing in children; in five the fracture was discovered at birth or a few days after; in eight it occurred between the ages of 3 months and 5 years; and in six from 6 to 14 years. The condition, in which there appears to be no attempt at repair, is particularly difficult to treat at any period of life, but in infancy and early childhood it is extremely intractable. Treatment with osteo-periosteal grafts holds out most chance of success, and the later in childhood the fracture occurs the better is the prognosis after operation. Henderson thinks that with fixation and support for one or two years in a walking caliper union might have been maintained in two of his cases in which it had been obtained by operation. He adds, is not justifiable, because the bone becomes more amenable to surgery, and the approach more nearly the percentage of good results that are found in the adult with ordinary pseudarthrosis.

556.

**Polyposis of the Colon.**

J. F. ERDMANN and J. H. MORRIS (*Surg., Gyn. and Obstet.*, April, 1925, p. 460) discuss polyposis of the colon, adenomatous hyperplasia of the intestinal mucous membrane, as distinguished from such polypoid tumours as fibromata, myomata, and lipomata. The condition seems to be a uniform, non-specific reaction to a chronic irritant of a preternaturally varying in size from a split pea to a grape fruit, and having a specific predilection for the lower part of the colon. There are two clinical types: (a) The adolescent type has a tendency to be familial, and in it large numbers of tumours are usually situated in the sigmoid region, and are associated with chronic diarrhoea. (b) The acquired type first appears in adult life; in it the tumours are limited in number, with associated chronic traumatic and inflammatory lesions. Both types show marked predilection for the large bowel and a malignancy incidence of over 40 per cent., with a tendency to chronic unexplained rectal bleeding and diarrhoea, especially when occurring in early life, should arouse suspicion of polyposis of the colon. While the severe haemorrhage, diarrhoea, and high malignancy incidence indicate the need of radical treatment, the inability to predict the extent of the disease renders this difficult, though a radiological examination may be of service. Palliative treatment consists in caecostomy, appendicostomy, irrigations, and radium therapy.

**Therapeutics.****557. Cicatrization of Facial Epithelioma by Formol.**

O. LAURENT (*Le Scalpel*, April 4th, 1925, p. 327) first used formol injections for the treatment of facial epithelioma in 1908, and reports that three of his patients, treated about fourteen years ago, are still alive. In one case the epithelioma had invaded the greater part of the left side of the nose and had extended to the lower eyelid; cicatrization was complete in about three months. In another case a third of the lower eyelid had been destroyed. Cicatrization occurred slowly but completely, after failure of radiotherapy. In two cases seen recently no change was observed after four radiotherapeutic treatments, but in each cicatrization occurred in eight weeks after the commencement of formol injections. Estradéro obtained complete cicatrization in a long series of cases of facial epithelioma. A radiologist who suffered from x-ray dermatitis of the hands with fissures and scabs was much relieved by formol injections, which, however, should not be used in advanced cases with metastases in the cervical lymph nodes; these, Laurent states, require excision and radiotherapy. Under local anaesthesia formol is injected and scattered in droplets at the base of the epithelioma; sometimes it is applied directly to the surface. In early cases one treatment may suffice. Experience enables the operator to limit necrobiosis to the minimum—namely, to a scab covering the ulcer; sometimes cicatrization occurs more rapidly than with x rays. Laurent adds that the success of formol is due to its action (a) as a bactericide, (b) in fixing and hardening protoplasm and especially mitotic nuclei, (c) in restoring deficiency of connective tissue resulting from the malignant growth. He believes that it stimulates the production of connective tissue and also probably of epithelium; it is known to promote new bone formation, and it promotes phagocytosis. He has not observed any well marked difference in its action on the various types of epithelioma and rodent ulcer. He suggests that extensive applications of formol might, in combination with irradiation, enable plastic operations to be performed at an earlier date.

558.

**Calcium Chloride in Nephritis.**

GOUNEAUD (*Journ. de Méd. et de Chir. Prat.*, February 10th, 1925, p. 110) advocates the use of calcium chloride in nephritis even of a subacute character. Two conditions, however, are necessary for success. First, the calcium chloride must be associated with a diet poor in chlorides. Secondly, very large doses, such as 15 to 20 grams per diem, must be given of the anhydrous calcium chloride, which is considerably more than the 50 cg. to 2 grams of the crystallized calcium chloride usually prescribed in nephritis. These high doses in most cases produce an increase of diuresis, a considerable diminution of albumin, an increase in the amount of chloride eliminated, and the rapid disappearance of oedema. They are well tolerated when the renal lesions are not too severe and the circulatory and respiratory systems are acting normally, as is usually the case in recent nephritis and even in the subacute stage. Calcium chloride may be given subcutaneously, by the mouth or by the rectum. Subcutaneously it may be given in a strong solution, as in Lauder Branton's formula of 15 to 20 drops a day of a 1 in 5 solution, or in a weak solution. Calcium chloride is incompatible with the sulphate, boric acid, oxalic acid, sulphuric acid, alkalis, and alkaline carbonates. Its use should not be continued too long, especially in old people and those predisposed to calcium retention, such as subjects of Bright's disease, alcoholism, lead poisoning, and heart failure. In such cases the heart becomes hypertrophied as the result of increase of the arterial tension due to the action of calcium chloride.

559.

**Dosage of Luminal in Epilepsy.**

OSTMANN (*Deut. med. Woch.*, April 10th, 1925, p. 605) has treated 30 cases of epilepsy with luminal, and has arrived at the following conclusions with regard to its dosage in an institution. After the diagnosis of epilepsy has been confirmed by the observation of an attack, 0.15 gram should be given daily in three doses, each of 0.05 gram. If this dosage does not arrest the attacks it should be increased by 0.05 gram until an effect is obtained. When this happens, the same dosage should be continued for four weeks, after which it should be gradually reduced by 0.05 gram at a time until the threshold is found below which the dosage cannot be further reduced without precipitating an attack. Epileptics who have already been for several years in an institution should first discontinue all other drugs and, after the effects of this deprivation have been noted, two doses of luminal, each of 0.05 gram, should be given daily. This dosage is gradually increased, and it may be that the fits will not cease till 0.1 gram is given three times a day. In such cases this dosage should be continued for ten days, and then be



gradually reduced by 0.01 to 0.05 gram. When the minimum effective dose has been found it may be continued for months without ill effects, and it is not necessary to increase the amount. In no case has the author found it necessary to give more than 0.6 gram a day, and when he has not achieved the desired effect with this dose he has often done so by combining the luminal with bromide. Of his 30 patients, 23 responded satisfactorily to luminal alone and the other 2 to luminal supplemented by bromide. In 12 of his cases a certain degree of fitness for work was achieved while the patients were under the action of luminal.

#### 560. Serum Treatment in Scarlet Fever.

K. E. BIRKHAUG (*Bull. Johns Hopkins Hosp.*, February, 1925, p. 134) records the results obtained in thirty-seven cases of scarlet fever treated with convalescent serum, 15 to 85 c.c.m. being injected intramuscularly. While this serum produced consistently a rapid diminution in toxic manifestations, a slight fall in temperature, and increased strengthening of the pulse, it did not affect the duration of the general exanthem, nor shorten convalescence, nor reduce the incidence of septic complications during convalescence. The results obtained with Dochez's scarlatinal antistreptococcal serum in thirty-one cases were strikingly different. A dose of 40 c.c.m. injected intramuscularly during the first three days of the disease caused a prompt disappearance of the toxæmia, a critical fall in the temperature and pulse rate, prompt fading of the general exanthem, rapid reduction in leucocytosis, and rapid disappearance of the glandular enlargement. This dose was sufficient to bring about a clinical cure in moderately severe cases of scarlet fever. Patients treated during the first three days of the disease did not develop complications during their stay in the hospital. The incidence of complications rose rapidly in those admitted after the fourth day of the disease. Dochez prepares his serum by immunizing a horse with strains of the *Streptococcus hæmolyticus* cultivated from the throats or secretions of patients suffering from scarlet fever.

## Ophthalmology.

#### 561. Refraction Changes in Diabetes Mellitus.

W. S. DUKE-ELDER (*Brit. Journ. Ophthalmol.*, April, 1925, p. 167) observes that it is well known that in some cases of diabetes a change of refraction towards myopia occurs, but that it is less well known that a sudden change to hypermetropia may occur. Duke-Elder, from his own cases and from cases collected from other sources, concludes that the change towards myopia can be correlated with an increase in the blood sugar and that the change towards hypermetropia is associated with a decrease in the blood sugar, particularly when the decrease is effected too suddenly. He thinks it probable, therefore, that with the introduction of insulin the occurrence of sudden refractive changes towards hypermetropia will become more marked. He discusses at length various theoretical explanations of the refractive change in the eye itself; he believes the lens is primarily concerned, and suggests that the phenomenon is due to osmotic processes caused by the occurrence of variations of the molecular concentration of the blood and tissue fluids connected with changes in the sugar content. He adds that there is a tendency for the refractive condition to return to the condition prior to the onset of the diabetes in the event of the disease being successfully controlled.

#### 562.

#### Incipient Cataract.

GORDON F. HAWKNESS (*Amer. Journ. Ophthalmol.*, February, 1925, p. 132) describes his trial of milk injections in cases of incipient cataract. He refers to its medical treatment, and discusses such measures as massage, correction of refractive errors, hot applications, diosin drops, sodium iodide drops, fibrolysin, subconjunctival injections of mercuric cyanide, galvanism, and such general measures as Turkish baths, potassium iodide by the mouth, and serological and endocrine therapy. Of his patients treated by milk injections about 50 per cent. showed apparent improvement in vision, but he discounts this result owing to the short space of time during which the cases were watched. It is well known that the vision of patients suffering from cataract may vary from time to time during the progress of the condition which, in the end, reaches maturity. This can be explained partly upon psychological grounds. The author obtained the opinion of forty of the leading American ophthalmic surgeons; of these, twenty stated that they had seen no benefit that could be directly ascribed to medical treatment, and the other twenty had occasionally noticed improvement following medical treatment.

#### 163.

#### Eye Changes in Pregnancy.

J. M. WHEELER (*Med. Journ. and Record*, March 18th, 1925, p. 355), in discussing the eye changes in pregnancy, points out that the enlargement of the pituitary body which often occurs causes a temporary contraction of the visual fields from compression of the chiasma. Central vision is not impaired and the fields do not become sufficiently contracted to interfere with the patient's comfort, nor are there any unfortunate late results. While optic nerve atrophy associated with retinitis may occur late in pregnancy as the result of a toxæmic retrobulbar neuritis the rare possibility of the hypophyseal enlargement becoming great enough to cause pressure atrophy of the chiasma and optic nerves must be borne in mind. Choroiditis may arise as a manifestation of the toxæmia of pregnancy, and prognosis as regards vision is good unless the condition affects the macula, but its occurrence in both eyes, or in a patient's only good eye, might necessitate the induction of labour. Impairment of vision from spasm of accommodation may arise and persist for a few weeks after delivery, but relaxation usually occurs without serious consequences. Haemorrhagic retinitis is always a serious complication, and a prompt termination of the pregnancy is usually necessary since partial or complete blindness in both eyes generally results if the retinitis is allowed to persist. Wheeler also mentions the rarer condition of nraemic amaurosis, when blindness occurs without any abnormal ophthalmoscopic findings, the condition being due to the nraemia acting on the brain cells and not on the optic nerves. Prognosis is good if the patient recovers from the nraemia.

## Obstetrics and Gynaecology.

#### 564. Morbid Conditions of the Endometrium.

W. LAHM (*Zentralbl. f. Gynäk.*, March 28th, 1925, p. 689), by comparison of the results of microscopic examination of endometrial curettings and the clinical histories of the individual patients, feels justified in describing two fairly typical groups of cases. In the first the microscopical appearances suggest an existing or just interrupted early pregnancy, with notable glandular vascular hypertrophy and "slight decidual change"; ovarian fragments or remnants are, however, absent. The patients concerned, 25 to 45 years old, have begun to menstruate comparatively late and continue to do so until they are relatively fecund. Their type of post-menstrual metrorrhagia, and are usually preceded by a period of amenorrhoea. Dysmenorrhoea is quite exceptional, but in many cases the irregular haemorrhages follow a pregnancy or abortion. A persistent corpus luteum is possibly an important etiological factor. The second group includes sterile women whose menstruation is regular, not excessive, but extremely painful, and in whom the uterus is of small or infantile dimensions. The curettings seem to indicate a temporary displacement of the cyclical changes, so that appearances of the premenstrual phase are observed comparatively early after the last menses; the interstitial tissue is, however, thicker and more vascular than usual for the premenstrual phase. Lahm is inclined, like Temesváry, to regard these as cases in which menstrual desquamation of the endometrium has not occurred; such an explanation would bring the microscopical appearances into correspondence with the clinical report of severe dysmenorrhoea.

#### 565.

#### Utero-axnaxal Tuberculosis.

M. REEB (*Bull. Soc. d'Obstét. et de Gynécol. de Paris*, 1925, 3, p. 267) describes the following three cases: (1) A woman, aged 26, five years after the birth of her first baby, suffered from abdominal pain and swelling accompanied by profuse menorrhagia and metrorrhagia. At operation ascites and tuberculous peritonitis were noted, with secondary tuberculosis of the uterus and both Fallopian tubes, which were removed. The patient appeared cured after a year's medical treatment and heliotherapy. (2) The second patient, a nullipara, diagnosed as a case of extrauterine gestation, was operated on ten years after laparotomy for tuberculous peritonitis; recent tubercle formation was seen on the parietal and visceral peritoneum, and secondary tubal infection and early tuberculous infection of the endometrium were noted. Cure followed a radical excision. (3) A sterile patient, aged 53, had hard pelvic and abdominal tumours, an enlarged uterus, and ascites; the preliminary diagnosis made was malignant disease of the ovary, but an operation revealed extensive uterine tuberculosis (the body being filled with caseous debris), cicatrizing tubal tuberculosis, and massive tuberculosis of the right internal iliac glands. Cure followed removal of the diseased parts and heliotherapy. It is noteworthy that fever was absent in all these patients, although



in two acute symptoms were present before the operation; that all bad metrorrhagia and monorrhagia (probably attributable to the uterine disease, for oligomenorrhoea is the rule in adnexal tuberculosis); that in two patients the tuberculous disease of the uterus was not diagnosed before or even during the operation—an argument in favour of radical intervention; and that the ultra-violet rays and exhibition of arsenic were found to be of value.

#### 566. The Abortifacient Action of Lead.

W. BLAIR BELL, B. A. HENDRY, and H. E. ANNETT (*Journ. Obstet. and Gynaecol. of the British Empire*, Spring, 1925, p. 1), from experiments on the pregnant rabbit, conclude that the action of lead as an abortifacient is due to a specific lethal effect on the chorionic epithelium. They find that abortion occurs in all pregnant does which receive intravenously 12.5 c.cm. of 0.1 per cent. lead suspension; the minimum lethal dose to the mother is about twice as great. At the same time there is no evidence of general poisoning and no lesion is found in the wall of the uterus, liver, kidneys, or blood; recovery after abortion is rapid and complete. The earliest pathological change is a coagulation necrosis in the trophoblastic tubules of the foetal placenta; the maternal placenta is affected later and less extensively. The older view that abortion from lead is due to production of placental haemorrhages is stated to be erroneous; the vascular changes following the coagulation necrosis are those of thrombosis. The authors are satisfied that luteo in pregnancy, after the chorionic epithelium has ceased to function, lead may also cause abortion by poisoning the foetus, the death of which leads to emptying of the uterus. The abortion following administration of copper to the doe early in pregnancy is not due to a specific action on the chorion, but to haemorrhage in the uterus; no such specific action is shown by thallium or thorium.

#### 567. The Dangers of the Glass Catheter during Labour.

K. SEYNSCHE (*Deut. med. Woch.*, April 17th, 1925, p. 660) comments on the danger of using the glass catheter during labour. In his own experience catheterization of the bladder in two cases was followed by breaking of the catheter and the retention of part of it in the bladder. In one case a pregnant woman complained of pain in the bladder region which persisted during micturition. The practitioner interpreted this as evidence of catarrh of the bladder, and while using a glass catheter he broke it against the vessel into which the urine was running, part of the catheter remaining in the bladder. A urologist then discovered the head of an infant in the vulva. Labour was completed in hospital, and soon afterwards the bladder was opened and a piece of glass catheter 5 cm. long was removed. Uneventful recovery followed. In the author's hospital in Essen the glass catheter is not used during labour.

## Pathology.

#### 568. Spontaneous Immunization to Diphtheria.

C. ZOELLER (*Rev. d'Hygiène*, February, 1925, p. 103) has introduced a test which reveals the presence or absence of allergy to the diphtheria bacillus. It is performed in the same way as the Schick test, except that the fluid injected intracutaneously is not standardized diphtheria toxin, but a 1 in 100 dilution of Ramon's diphtheria anatoxin. In the case of a positive reaction a diffuse redness develops round the site of inoculation after twenty-four hours, accompanied sometimes by slight infiltration; in a negative reaction there is no change visible. This reaction appears to be due to a sensitization to the antolysed proteins in the anatoxin, and to indicate that the person who gives it has already been in contact with diphtheria. If combined with a Schick-negative reaction, it shows that he is already immune; if a positive anatoxin be combined with a positive Schick reaction, it indicates that he is in the process of becoming immunized. If such a person is infected with the diphtheria bacillus, he will develop a mild form of the disease; and if he is artificially vaccinated, he will become immune more rapidly than a Schick-positive, anatoxin-negative person. By these two tests it is possible to divide a population into four groups: Group 1 is Schick-positive, anatoxin-negative, and is highly susceptible to diphtheria; Group 2 is Schick-positive, anatoxin-positive, and is slightly susceptible to diphtheria; Group 3 is Schick-negative, anatoxin-positive, and is fairly well immunized; Group 4 is Schick-negative, anatoxin-negative, and is thoroughly immunized. Using these two tests the author studied four regiments at Mainz, two of which were badly infected with epidemic diphtheria, and two of which were only mildly affected. Among the first two, Group 1

amounted to 11 and 5 per cent.; among the second two to 22 and 28 per cent. Again, among the first two, Groups 2 and 3 together amounted to 61 and 73 per cent.; among the second two to 57 and 59 per cent. From these figures it appears that those regiments which had been most in contact with diphtheria had become most immune. During the progress of the epidemic there is not only an outbreak of clinical cases of the disease, but a development of latent immunity; while the infection with the Kiebs-Loeffler bacillus causes diphtheria in some persons, it leads to the acquisition of an active immunity in others.

#### 569. Diazo-reaction in Urine.

G. HUNTER (*Biochem. Journ.*, vol. xix, No. 1, p. 25) has attempted to systematize the different types of diazo-reaction in normal and pathological urines. Ehrlich's diazo-reaction consists of two stages—a primary colour reaction in acid solution and, after adding ammonia, a secondary colour reaction, with a red foam on shaking. This secondary reaction in alkaline solution was originally supposed to be diagnostic of typhoid, measles, certain types of tuberculosis, and other disorders. But a positive reaction was found to occur also in a fairly large proportion of normal urines. The primary reaction in acid solution appears to be specific for bilirubin, and this test has recently been used in blood serum to distinguish certain types of jaundice. Hunter has specially concerned himself with the diazo-reaction in alkaline solution, working with the reagent of Koessler and Hanko. To 5 c.cm. of 1.1 per cent. sodium carbonate in a test tube is added 2 c.cm. of the sulphuric acid reagent. The contents are mixed by shaking the tube without inverting it. After about a minute one drop of urine is added. One of two distinct phenomena may occur: (1) In all urines a faint yellow colour is produced, which grows more intense for three or four minutes, not generally exceeding a pale orange tint, but it may show a pink tinge and occasionally quite a marked red. The substances in urine mainly responsible are urobilinazoles, phenols, purines, and probably unknown chromogens. It is of little value as a biochemical test. (2) In the urine of typhoid fever and measles patients a bright orange-red colour appears in the solution immediately the drop of urine is added, but the colour disappears in a few seconds. Thereafter there is an intensification of colour, due to the substances responsible for Type A reaction. Hunter believes that this reaction has not been described previously.

#### 570. Intradermal Vaccination against Anthrax.

E. NICOLAS (*C. R. Soc. de Biologie*, March 13th, 1925, p. 593) reports on the effect of intradermal vaccination against anthrax on 8,912 horses and mules. He injected doses of 0.25 c.cm. of Pasteur's vaccine into three separate places on the skin of one side of the neck; six days later injections were similarly given on the opposite side of the neck. The animals were allowed to rest on the day following each injection. No reaction followed the first dose, but in 2.2 per cent. of animals receiving the second dose a swelling appeared at the site of injection, usually within a fortnight, and resolved spontaneously or after the administration of anti-anthrax serum. In a few cases swellings developed at a point remote from the site of injection; two animals so affected died. Small abscesses or superficial sloughing at the injection site were occasionally encountered. Only four cases of anthrax occurred during the following nine months—an incidence of 0.045 per cent. During the previous four years, when no preventive vaccination was employed, but only sero-vaccination in infected areas, the annual death rate was 0.81 per cent., or nearly twenty times as great.

#### 571. Laboratory Findings in Glandular Fever.

R. GILBERT and M. D. COLEMAN (*Amer. Journ. Hyg.*, January, 1925, p. 35) discuss an epidemic of considerably over one hundred cases of glandular fever which occurred during the late winter of 1923 and the early spring of 1924 in the eastern part of Wayne County and adjacent parts of New York State. The first cases were very mild and were believed to be common colds. More serious cases followed, and were regarded as mumps or influenza, the correct diagnosis being finally reached by the district state officer, who made an epidemiological study of the outbreak. *Streptococcus hemolyticus* was isolated from the pus of an axillary abscess and from four of seven throat cultures. Streptococci producing methaemoglobin were present in all but one of the seven throat cultures. Blood examinations were made in 30 cases: 7, or 23.3 per cent., showed polymorphonucleosis; an increase of eosinophils was seen in 66 per cent.; and 22, or 73.3 per cent., showed an increase of lymphocytes. These observations thus agreed with those made by Longcope in the United States, and by Tidy and Daniel in this country.

# EPITOME OF CURRENT MEDICAL LITERATURE.

## Medicine.

### 572. Fusio-spirillar Pulmonary Gangrene and Military Tuberculosis.

R. DUPÉRIÉ and P. CADENAULE (*Gaz. hebdom. Sci. Méd. de Bordeaux*, March 15th, 1925, p. 163) record a case in a female infant, aged 2 years, admitted to hospital for cough and loss of flesh during the previous six months. On admission dullness, weakness of breath sounds, and subcrepitant râles were found at the right base. Four days after admission the breath became very fetid, and examination of the sputum obtained from the pharynx showed numerous organisms, among which fusiform bacilli and spirilla predominated. Death occurred ten days after admission. The autopsy showed right pyopneumothorax, gangrene of the right lung, and military tuberculosis of the lung and spleen. Fusiform bacilli and spirilla were found in large quantities in the walls of the gangrenous lesions. The lesions found were not those of embolic gangrene, and there was no otitis, appendicitis, or any other affection present liable to give rise to metastatic gangrene. The fusio-spirillar infection probably originated in the bucco-pharyngeal region, and, favoured by pre-existing tuberculosis, spread to the smallest ramifications of the bronchi. The pulmonary lesions were of the bronchopneumonic type, with foci disseminated throughout the lobules.

### 573. Prognosis of Chronic Infective Endocarditis.

ACCORDING to reports in medical literature, chronic infective endocarditis is nearly always fatal; but A. D. BIGGS (*Arch. Intern. Med.*, March 15th, 1925, p. 402) records that of 57 patients with bacterial endocarditis treated at St. Luke's Hospital, Chicago, 24 are living, and many of them seem to have recovered from the heart-valve infection. Biggs states that in order to make the diagnosis certain the clinical indications of the disease need to be supported by demonstrating the presence of bacteria in the blood. Pathogenic bacteria were detected by blood cultures in each of the cases of the disease at St. Luke's Hospital: in 54 of the 57 cases the organism was the *Streptococcus viridans*; in 3 cases haemolytic streptococci were found. Almost all of the 24 patients living are without fever or other signs of infection, and many are able to do light work. One has been well for thirteen years, two for seven years, one for two and a half years; thirteen are in the second year and seven in the first year of clinical observation.

### 574. Erythromelalgia as a Complication of Rubella.

A. GANS (*Nederl. Tijdschr. v. Geneesk.*, April 25th, 1925, p. 1915), who records an illustrative case, states that erythromelalgia is usually an entirely independent condition, though occasionally it may be a manifestation of nervous or vascular disease. Cassirer distinguishes two forms of erythromelalgia. The first occurs in the areas served by definite nerves, and is explained as an irritative condition of the peripheral nerves, especially of the vaso-dilator and secretory fibres. The second form, in which the extremities of the limbs are attacked, is closely related to aeroparaesthesia and Raynaud's disease, in which last condition the vaso-constrictors, and not the vaso-dilators, are affected. Gans's case occurred in his own daughter, aged 8, who during the last days of the incubation period of rubella developed attacks of erythromelalgia in both feet, lasting for about an hour. A few days after disappearance of the rash the attacks ceased. Gans suggests that the swollen lymphatic glands were the cause of the attacks, owing to their pressure on the sympathetic ganglion or peripheral vaso-dilator fibres. This supposition is supported by the fact that the glandular enlargement appeared some days before the eruption, and was still perceptible a day before the last attack of erythromelalgia.

### 575. Vesicular Eruption during Antirabic Treatment.

D. IONESCO (*Bull. et Mém. Soc. Méd. Hôp. de Bucarest*, January 14th, 1925, p. 14) remarks that the most important complication of treatment for rabies is the occurrence of transient paralyses. Various eruptions, such as urticaria and erythema multiforme, may also occur. He reports a case in a boy, aged 14, who on the eighth day of treatment for a bite on the lip developed a generalized papulo-vesicular eruption which lasted six days; it was accompanied by an eosinophilia of 4 per cent, and a generalized enlargement of the lymphatic glands. Ionesco has been unable to find any similar cases on record.

### 576. Association of Diabetes with Tuberculosis.

E. LUNDHOLM (*Acta Med. Scand.*, April 1st, 1925, p. 1) gives an account of fourteen cases of combined diabetes and tuberculosis in which a detailed study was made of the action of insulin and the effect of the tuberculosis on the patient's carbohydrate tolerance. It was found that as the tuberculosis advanced the glycosuria and acetouria regressed, carbohydrate tolerance increased, and the patient's insulin requirements decreased. Further, it was noticed that the patients undergoing insulin treatment were subject to attacks of sudden hypoglycaemia. The ultimate cause of death was tuberculosis in every case, not diabetes. The author believes he has discovered in the tissues of the tuberculous patient a substance reducing the blood sugar. He has not been able to demonstrate this substance, which he calls para-insulin, in tubercle bacilli, in tuberculin, or in the tissues of healthy persons. With regard to the treatment of diabetics suffering from tuberculosis, he advises a régime suitable for both diseases; plenty of food, rich in carbohydrates, should be given, and the dosage of insulin regulated according to the amount of food consumed and the patient's general state of health.

### 577. Infantile Eczema and Food Proteins.

F. J. CORPHER (*Amer. Journ. Dis. Child.*, March, 1925, p. 354) reviews a series of 100 cases of true infantile eczema treated, on the evidence of a positive skin reaction to food proteins, by elimination or reduction of the offending element. Of the 53 infants showing positive skin reactions only 38 were found to be proper subjects for this study. It was noted that positive reactions might be obtained to proteins not included in the dietary. Of the 38 cases recorded improvement occurred in 14, and a definite subsidence of symptoms in 7. Patients sensitive to animal proteins were found more likely to respond to specific treatment than those sensitive to cereals, fruit, and miscellaneous proteins. The author thinks that though positive cutaneous reactions are undoubtedly associated with infantile eczema this relationship should at present only be regarded as a guide to diagnosis and treatment, and as a possible stopping-stone to the discovery of the actual etiology.

## Surgery.

### 578. Treatment of Peptic Ulcers.

A. EISELSBERG (*Acta Chir. Scand.*, March 21st, 1925, p. 71) gives an account of the progress made in the operative treatment of gastric and duodenal ulcer in his hospital in Vienna, where there has of late been a considerable increase in the number of such cases. This increase may, he suggests, be partly due to such influences as the coarse food entailed by the war. Since 1918 about 900 operations have been performed at his hospital, the operation mortality being 4.45 per cent. Some of these operations were performed for stenosis of the stomach. The operations most in favour were Billroth's resections—132 Billroth I and 466 Billroth II operations being performed. Transverse resection was performed in only 41 cases, and gastro-enterostomy in 82 cases. The place of gastro-enterostomy, the most popular operation for some decades, has now been largely taken by resections, but the author doubts whether this vogue will last. It is distasteful to him to resect a large part of the stomach and all of the pylorus when he finds a single small ulcer, and he confesses to feeling horrified when he finds, after resecting the pylorus on the strength of a careful consideration of the symptoms, a positive x-ray examination, and apparent hardness of the pylorus, that there is no sign of ulcer in the parts removed. He foresees a time when it may be possible, by operating on the abdominal sympathetic system, to dispense with resections, but in the meantime these operations are the best—for this reason, among others, that they remove malignant growths in the rare cases in which they simulate ulcers.

579. D. C. BALFOUR (*Minnesota Medicine*, April, 1925, p. 218), reviewing the various methods of treatment of gastric and duodenal ulcers, points out that the kind of treatment depends largely on the site of the lesion. In chronic gastric ulcer prolonged medical treatment is justified only when surgery is absolutely contraindicated by the patient's age or condition, though, as a temporary expedient, medical treatment may be valuable in improving the condition of patients who are exhausted by repeated haemorrhages, extensive

subacute local inflammation, or toxæmia from gastric stasis. On the other hand, in duodenal ulcer the symptoms are usually less severe, and both the disability and the danger of fatal complications are less than in gastric ulcer. Certain forms of duodenal ulcer are relieved by medical treatment; *post-mortem* evidence shows that ulcers may heal spontaneously, and one thorough course of medical treatment of uncomplicated duodenal ulcer is generally considered justifiable before surgical intervention is advised. Cases suitable for medical treatment are: (1) Patients under 25 years of age; (2) patients with mild and recent symptoms; (3) patients in whom ulcer is found incidentally, as in skiagrams; and (4) patients whose age or general condition make operation a greater menace than the ulcer. In the majority of cases, however, surgical treatment is sooner or later required. Balfour states that, in chronic accessible gastric ulcer, excision with gastro-enterostomy gives good results, while for large ulcers partial gastrectomy is the operation of choice. All chronic gastric ulcers are potentially malignant. Gastro-enterostomy alone should be reserved for cases in which it is impossible to remove the lesion. He cites the statistics of the Mayo Clinic for the period 1914-24, when 1,228 operations for chronic gastric ulcer were performed, gastro-enterostomy being employed in 250 (20.3 per cent.) only. In duodenal ulcer, he adds, four operations should be considered: (1) gastro-enterostomy, with or without excision of the ulcer; (2) pyloroplasty or gastro-duodenostomy, with or without excision; (3) excision only; and (4) partial gastrectomy. Balfour recently investigated 1,000 cases of chronic duodenal ulcer in which gastro-enterostomy had been performed more than ten years previously, and found satisfactory results in 88 per cent. In the Mayo Clinic out of 6,665 operations for chronic duodenal ulcer gastro-enterostomy was chosen in 86.35 per cent. The advisability of excision of the ulcer must be determined in each case, but, at the Mayo Clinic, excision of the duodenal ulcer in addition to gastro-enterostomy was practised in only 2.18 per cent. of the cases. Balfour adds that at the Mayo Clinic the results of pyloroplasty have not been as satisfactory as those of gastro-enterostomy. While permitting inspection of the pyloric and duodenal mucosa, it is less effective in reducing gastric hypacidity. In the series of 6,665 cases pyloroplasty and gastro-duodenostomy were performed in only 4.07 per cent. A small non-indurated ulcer in the anterior wall of an easily mobilized duodenum is excised without difficulty, but this does not protect the patient from further ulceration. Partial gastrectomy for duodenal ulcer has been advocated recently, but it is unlikely to be adopted generally, though for gastric ulcer it may be amply justified.

#### 580. Treatment of Cancer of the Bladder.

MARTIN (*Journ. d'Urol.*, March, 1925, p. 232) points out that certain writers have described cases of bladder tumour which have been apparently cured by means of deep x-ray therapy. He himself has never come across such a case, but, on the contrary, records a case in which the treatment has tended to accelerate the course of the growth. The patient in his case was 70 years of age and had had severe hæmaturia for three or four months. Cystoscopy showed a small area of malignant growth in the bladder. Surgical intervention for its removal was refused, and several applications of deep x rays were given. For a few months following this treatment there was a distinct improvement in the symptoms; this was followed by a recurrence of the pain and frequency. Cystoscopy showed that the growth was considerably larger in extent. To relieve the patient's sufferings cystotomy was carried out, but the encephalia was progressive and death soon followed. Martin does not publish this case to discourage others from trying treatment by deep x rays, but he considers it wise that both the good and bad results should be recorded. This case seemed very favourable for treatment by deep x-ray therapy, but, so far from being improved, it appeared that the treatment tended to hasten the fatal termination.

#### 581. The Origin of Prostatic Hypertrophy.

F. REISCHAUER (*Zentralbl. f. Chir.*, March 7th, 1925, p. 517) states that, after many differences in opinion as to the nature of enlargement of the prostate, most investigators have accepted the early view held by Virchow—that it is a tumour formation. The views that it was due to inflammation, arterio-sclerotic changes, or an overgrowth caused by disturbance of the endocrine glands, have met with such frequent and well merited opposition that they need no further consideration. Reischauer, who has examined 130 prostates in the Pathological Institute of the Hamburg-Barmbeck General Hospital, has come to the conclusion that prostatic hypertrophy is much more frequent than clinical examination would suggest. It rarely occurs before 50, invariably physiological, or due to chronic inflammation. After 50 prostatic hypertrophy is very frequent. Typical

formation of nodules in the usual site is found in over 40 per cent. between the ages of 50 and 60, in 75 per cent. between 60 and 70, and at a later age it is almost constant. Senile atrophy therefore cannot be the predisposing cause, as maintained by Simmonds. The autonomous growth of the nodules, the extraordinary size of some of the tumours, by which the weight of the organ is sometimes increased tenfold, their parasitic situation, the readiness with which they can be enucleated, and the frequency of recurrence after extirpation, are all in favour of a tumour formation. Reischauer concludes that the cause of prostatic hypertrophy will only be determined when more is known about the cause of tumour formation in general. The conception, however, of prostatic hypertrophy as a tumour formation does not exclude the etiological importance of the sexual glands.

## Therapeutics.

#### 582. Alpha-Jobelin in Collapse.

KURT PETERS (*Med. Journ. and Record*, March 18th, 1925, p. 346) advocates the specific method of treating collapse by stimulating the respiratory centre with the alkaloid alpha-jobelin. He considers that its value in all forms of partial or complete central respiratory depression has been established by exhaustive tests, the respiratory centre being stimulated directly, and so bringing about an increase in volume and vigorous interchange of gases. Becoming effective immediately after injection, it was operative from half an hour to an hour and a half, and it could be repeated frequently or rendered continuously effective by prolonged infusion, without danger of a cumulative effect. In twelve resuscitation experiments intravenous injection of 0.002 gram of alpha-jobelin produced an immediate increase in the frequency and amplitude of respiration, and saved life after respiration had been partly or wholly stopped by a mixture of carbon monoxide with air. Peters considers that it is indicated in all conditions of apnoea or oligopnoea, but not in dyspnoea, where the centre is already reacting to carbon dioxide stimulus. In collapse, shock, paralysis of the centre by poisoning with ether, chloroform, morphine, or carbon monoxide gas, and in acidosis, asphyxia neonatorum, drowning, and surgical shock its rapid action and convenience of administration offer obvious advantages over artificial respiration, oxygen inhalation, and cardiac stimulants.

#### 583. Dosage of Neosalvarsan in Syphilis.

TEODOSIJEVITS (*Dent. med. Woch.*, April 10th, 1925, p. 608) has found that by giving neosalvarsan in a 10 per cent. solution of calcium chloride it is possible to increase the dose of the former considerably. In about 100 cases thus treated he has found that 0.75 to 0.9 gram of neosalvarsan may be given at one injection, the total quantity of neosalvarsan given thus in one course being 4.5 to 7.2 grams. When he gave the injections to patients in the sitting posture collapse occasionally occurred, and in one case it was necessary to administer caffeine and camphor for six hours. Some of the patients suffered from nausea, vomiting, lassitude, and tooth-chattering for several hours; but when the patients were given the injections in the recumbent posture no ill effects followed. The therapeutic effects with this dosage were much better than those with a smaller quantity and no calcium chloride, and the author has not yet seen a definite case of relapse after this treatment.

#### 584. Ultra-violet Rays in Tuberculosis.

E. MAYER and M. DWORSKI (*Ann. Mod. Report Trudeau Sanatorium*, 1924, p. 146) report the results of using the rays of the mercury-vapour lamp in experimental tuberculosis of the cornea of rabbits, and inhalation tuberculosis in primarily infected and sensitized guinea-pigs; they also investigated their bactericidal action. They conclude that the healing of corneal tubercle in rabbits is definitely influenced by ultra-violet light, but that overexposure may irritate rather than heal. Instillation of a 1 per cent. aqueous solution of cosin during irradiation appeared to assist the healing action, but a saturated aqueous solution of quinine was found too irritating. In inhalation tuberculosis irradiation had no definite action upon the disease, and the skin tests were positive alike in control and treated animals. In sensitized guinea-pigs ultra-violet irradiation appeared to modify the course of infection, as shown by the intracutaneous tests, but in those infected subcutaneously autopsy findings showed no material difference between the exposed animals and controls, so that no conclusive deduction could be made. Exposure of tubercle bacilli for varying periods to the rays indicated that the rays were bactericidal, but that longer exposures were required to destroy the bacilli when mixed with quinine; it is suggested that this is due to the power of quinine to absorb ultra-violet rays.

## Dermatology.

## X-ray Dermatitis.

585. W. DURRENLIH and DAVID CHAUSSÉ (*Ann. de Derm. et de Syph.*, March, 1925, p. 161) remark that the usual division of x-ray dermatitis into acute and chronic requires modification. The dermatitis of x-ray workers is chronic in regard to cause and effect, being due to the prolonged accumulation of small doses and characterized by lesions resembling those produced by prolonged exposure to sunlight—pigmentation, hyperkeratosis, epitheliomata, and ulceration, probably of neuritic origin. The so-called acute dermatitis occurring in patients is only acute in respect to the cause; its effects are often very persistent. It is due to a single excessive irradiation, or to relatively strong and frequently repeated irradiations, having a cumulative effect. The symptoms may be clearly acute, the dermatitis supervening about fifteen days after irradiation, persisting for a few weeks or months, and resulting in a characteristic scar—firm, waxy, streaked with white or brown patches, and numerous telangiectases. These scars are always liable to break down, either spontaneously or as the result of an injury; ulceration resembling in every respect the initial lesion may develop after many years. Darier reports such a case occurring twelve years after a series of mild but numerous irradiations given at short intervals; after twelve years the histological lesions closely resembled those of a dermatitis of five or six months. Arnould has reported the case of a woman treated by radiotherapy in 1918 for uterine fibroma; extensive and severe scars resulted. The fibroma in 1919 required operation, and the incision was carried through the scars. The deeper structures healed normally, but the skin edges ulcerated rapidly, presenting all the signs of an acute x-ray ulcer and not healing for ten months. The present authors record similar cases. They describe in detail the sharply cut circular or oval ulcer, noting that its floor is covered by a thick yellowish-white opaque slough, tough and adherent. This is sometimes perforated here and there by bright red projecting granulations which are part of the healing process. Doubt often arises whether the lesion is an x-ray ulcer or a recurrence of an epithelioma which has been irradiated. Differential diagnosis may be difficult, as an epitheliomatous ulcer may exhibit the cream-coloured slough of an x-ray ulcer, and may be surrounded by a zone of atrophic skin, left by previous irradiations; the diagnosis can only be determined by histological examination. If there be an epithelioma thorough irradiation should cure it, but if there are epitheliomatous masses buried in sclerosed scar tissue the difficulty is great. These x-ray ulcers may persist for months or years without change except for the appearance of the bright red projecting granulations, which gradually extend and absorb the slough. At any time the resultant scar may break down, either without obvious cause or following an insignificant injury or a surgical incision; in such a case the ulcer will exhibit all its original characteristics. The authors describe the histological structure of the scar tissue in their cases in detail.

## 586. Leiomyoma Cutis.

O. S. ORMSBY (*Arch. Derm. and Syph.*, April, 1925, p. 466) reports two cases of leiomyoma cutis and gives brief notes of forty-seven others in the literature. Occurring rather more often in males than in females, the disease is characterized by numerous firm, pink or brown, translucent painful nodules, the size of peas, generally appearing on the extensor surfaces of the extremities, and more rarely on the trunk, face, forehead, neck, and nose. They average in number from twenty to a hundred, and in only four cases was a single lesion present. Though varying in density they all contain interlacing masses of smooth muscle fibres, apparently arising from the arrectores pilorum. The lesions, which may often be painless when small, are painful when they become larger, paroxysms of severe pain being readily induced by pressure, irritation, or exposure to cold. Usually the disease progresses slowly, and in only one case did spontaneous disappearance of the lesions occur. The amount of elastin in the nodules and the compactness of the muscle elements vary; the pain appears to be due to pressure on nerve fibres. The cause is unknown. Treatment consists in excision when practicable, removal by electrolysis, or freezing with carbon dioxide snow.

## 587. Eczemas of Bakers and Confectioners.

R. P. WHITE (*Brit. Journ. Derm. and Syph.*, April, 1925, p. 163), from an experimental and clinical study of the eczemas of bread bakers and confectioners, concludes that there is no eruption specific to, or distinctive of, these industries. The eczematous disorders which occur appear to be incidental to, rather than consequences of, the work. Notes are given of four cases out of over a dozen observed;

all the patients had been officially certified, and were receiving compensation for an occupational skin disease. In White's experimental work a nurse and an orderly wore on the upper arms dressings composed of ingredients used in bread-making, and confined their ordinary work. None of the ingredients in a dry state, even if kept in contact with the skin for many days, caused an eruption; but local, non-recurring eruptions occurred when certain wet pastes, moistened night and morning, were used.

## Obstetrics and Gynaecology.

## 588. External Fistulae of the Uterus and Tubes.

L. PUCCIONI (*Rivista d'Obst. e Gynecol. Prat.*, March, 1925, p. 11) records the cases of two women in whom, two years after Caesarean section, a probe passed through an abdominal fistula in the scar area encountered a sound passed into the uterus per vaginam. In the first case there was a purulent, and in the second a faeco-purulent, abdominal discharge; in both cases this contained blood at the time of menstruation. In the first case subtotal hysterectomy was performed; in the second the fundus uteri communicated with the sigmoid flexure as well as with the exterior, and a good result was obtained from conservative treatment consisting in excision of a wedge of fundus and of one ovary, which was cystic. F. FORMICINI (*Ibid.*, p. 7) describes a case of abdominal fistula three years after external incision for right parametritis; an organized tissue protruded externally, and was recognized as the Fallopian tube by the fact that it bled during menstruation and from microscopical examination of an excised piece. The fistula closed after removal of the tube and ovary of the same side, the peritoneal cavity not being reopened.

## 589. The Treatment of Placenta Praevia.

SALLY HJELT (*Finska Läkaresällskapets Handlingar*, March, 1925, p. 238) publishes an analysis of 118 cases of placenta praevia observed in the period 1910-24 in the University Maternity Hospital in Helsingfors. The incidence of this complication of pregnancy in the hospital was 0.32 per cent., and of the 23 cases of total central placenta praevia only 3 were observed in primiparae. The treatment adopted in most cases consisted of version; in 37 cases the membranes were ruptured intentionally, and in 26 cases Braxton Hicks version was performed. Of the 37 cases treated by simple rupture of the membranes only one terminated in the death of the mother, its cause being sepsis. In as many as 28 of these cases the puerperium was perfectly normal and uncomplicated by fever. Eight of the infants died during labour, and 6 others soon after birth. The results were much worse for the 26 cases treated by Braxton Hicks version, 2 of the mothers dying (one from acute anaemia, the other from sepsis) and 9 suffering from puerperal fever. As many as 23 of the 26 infants died during labour, and one died shortly after birth. It should, however, be noted that 10 of the infants were either dead or dying before this form of version was performed. Only in 8 cases was dilatation of the lower segments of the uterus aided by the introduction of a bag, and none of the women thus treated died. In 7 cases Caesarean section was performed, and in every case the lives of both mother and infant were saved. Comparing treatment by Braxton Hicks version with that by Caesarean section, the author remarks that the popularity of the former is on the wane, whereas that of the latter is still growing, and had it been performed more often instead of version her results would have been much better than they were. She also argues that much better results would be obtained in hospital with cases of placenta praevia if general practitioners and midwives would consider haemorrhages during pregnancy as an indication for sending the expectant mother forthwith to a maternity hospital instead of temporizing, infecting the uterus and vagina by internal examinations, and resorting to such measures as the introduction of tampons, which favour sepsis and render the prospects of a sterile Caesarean section comparatively bad.

590. W. BALLHORN (*Arch. f. Gynäk.*, March 14th, 1925, p. 646) remarks that in the treatment of placenta praevia vaginal tamponage is usually ineffective in arresting haemorrhage and increases the danger of infection; its use by midwives and practitioners should be discouraged. Emphasis is laid on the importance of early admission to hospital of the patient, after the minimum of examination and manipulation. In an institution rupture of the membranes in cases of lateral placenta praevia with head or breech presentation and two fingers' dilatation of the os is to be recommended: in the Mainz clinic about nine out of every ten of the living children born at term in placenta praevia



cases are delivered by this treatment. The disadvantage of Braxton Hicks version lies in the high foetal mortality, which must be set against its certain efficacy in stopping bleeding. The use of the intraovular or extraovular dilating bag is sometimes attended by very considerable haemorrhage, is fraught with the risk of cervical tearing (4 per cent. in the author's series), frequently necessitates version after expulsion of the bag, and is attended by considerable foetal mortality and maternal morbidity and mortality. Internal version as the sole treatment has a very limited place, being justifiable only when there is full cervical dilatation. Probably the greatest improvement in maternal and foetal mortality is to be expected from early admission to hospital and extended employment of Caesarean section, transperitoneal and at the same time cervical.

591.

## Kjelland's Forceps.

BRINDEAU and LANTUEJOL (*Gynéc. et Obstét.*, 1925, xi, 3, p. 199) are unable to agree with those who have reported favourably of the obstetric forceps introduced by Kjelland, which has short handles, no axis tractor, a pronounced cephalic curve, and an articulation permitting a gliding movement of one blade over the other. They find that if it is applied to a foetal head outside the pelvis the diameters of the head and superposed blades, regarded as one, are larger than in the case with other commonly used forceps. With a foetal head placed within a rigid metal model of the pelvis, of 10.5 cm. conjugate, they find delivery more difficult with the Kjelland than with other instruments. The special manoeuvre which Kjelland enjoins for application to the transversely placed head in the brim is described by the authors as fraught with danger of rupturing the uterus. Such clinical trials as they have made have not impressed them favourably with the merits of the instrument. They conclude that the mechanical principles on which the instrument is based are such as were discussed and abandoned some years ago by French obstetricians.

## 592. The Foetus after X-ray Treatment of the Ovary.

E. MEINER (*Zentralbl. f. Gynäk.*, March 28th, 1925, p. 682) records the case of a primipara, aged 34, who complained of amenorrhoea and sterility following the birth of her child twenty months before. At three months' interval two small doses of x rays were directed to the ovaries. Six weeks later menstruation returned, and nineteen months later a living, healthy, and well developed child was born. Meiner remarks that foetal deformities are to be feared only when radiation is carried out after conception. H. NAUJOKS (*ibid.*, April 4th, 1925, p. 776) describes the case of a woman who received massive post-operative x radiations for sarcoma of the ovary, two out of three being given in the early months of an unsuspected gestation: the child, born at term, weighed 7 lb., and at the age of 2 showed clear signs of microcephaly and idiocy. Microcephalic changes in the foetus are also described in two cases in which x-ray applications were given during the second month of pregnancy on account of symptoms due to uterine myoma.

## Pathology.

593.

## Pathogenesis of Tetany.

MACDONALD CRITCHLEY (*Arch. Intern. Med.*, January 15th, 1925, p. 100) defines tetany as a condition of peripheral nervous hyperexcitability, characterized by intermittent spasms of the extremities, without loss of consciousness. It may arise either as a disease *sui generis* (idiopathic tetany) or as a complicating factor in the course of other morbid or physiological states. The author suggests that the precipitating cause in all types of tetany is an alteration in nitrogen metabolism, leading to the appearance in the blood stream of highly toxic nitrogenous by-products which are normally excreted as urea or creatin. These toxic substances are said to be probably guanidin or some of its derivatives. The factors regulating the metabolism of nitrogen are extremely numerous, and interference with any one of these is liable to give rise to tetany. Such interferences are parathyroid removal, auto-intoxications, gross changes in the acid base balance, inadequate or unsuitable dietary, the absorption of poisons, conditions of anaemia or conversely a deficiency in carbon dioxide, vitamin deficiency; and, in the tetany of workman, an acute organismal infection of the parathyroids according to Paton and Findlay. Calcium metabolism operates in the neutralization of circulating toxins either by direct combination with them to form innocuous substances or by rendering the tissues less permeable. The appearance in the circulation of toxic nitrogenous by-products will therefore deplete the calcium reserve. The administration of calcium

salts, the withdrawal of blood, or the dilution of the circulating poisons by saline solution alleviate the symptoms of tetany and tend to break the vicious circle that has been formed.

## 594. Functions of the Thymus and the Palatine Tonsil.

G. SALVADORI (*Arch. Ital. di Otol., Rinol. e Laringol.*, January, 1925, p. 1) remarks that the palatine tonsil is considered by some as being merely one of the great class of lymphatic glands which, owing to its position, filters organisms from the throat. Others consider that, whatever its original function, it now acts as a portal of entry for organisms of disease. The tonsil is also described as a member of the haematopoietic system and concerned chiefly with leucocytes or with erythrocytes. It has also been credited with an internal secretion. The thymus, again, has been credited with an internal secretion, and has been regarded as an intermediate link between the haematopoietic system and the lympho-adenoid system. Experimental removal of the thymus in various young animals had no very grave consequences, but it was reported by some writers that the erythrocytes and total haemoglobin were reduced. Other investigators have found that the removal of the thymus rendered frogs more liable to septicaemia. In cats and rabbits removal caused loss of weight and death. In young dogs it was found that changes took place in the osseous system and in calcium metabolism. In many cases a diminution in lymphocytes was noted in thymectomized animals. Salvadori concludes that the tonsil is chiefly a haematopoietic organ, while the thymus subserves two functions—that of controlling osteogenesis and calcium metabolism and that of a haematopoietic. He found that the removal of the tonsils alone in small dogs only caused a slight diminution in red blood cells and a slight rise in white cells. When the thymus was removed there was a very marked diminution in red cells. He thinks that these two organs are concerned with blood formation, and are erythropoietic rather than producers of white cells. The glands appear to act in concert and the removal of either is followed by the regression and atrophy of the other.

## 595. The Cultivation of Tubercle Bacilli.

M. ISABOLINSKY and W. GITOWITSCH (*Zentralbl. f. Bakt.*, March 10th, 1925, p. 241) report some experiments made to determine the most suitable method for the cultivation of tubercle bacilli. With Besredka's fluid medium they had very little success, finding that, possibly owing to the high alkali and lipid content, the bacilli underwent bacteriolysis and became granular. Petroff's gentian-violet egg medium was satisfactory for old acclimatized cultures, but was unsuitable either for primary isolation or for the subculturing of freshly isolated strains. The case was similar with Zeehnwitzer's medium, an egg mixture to which 20 per cent. of glycerin has been added; this had the advantage, however, over Petroff's medium of not drying so rapidly. Glycerin potato media were soon discarded, as the growth was very scanty and soon died out. They describe a new medium prepared as follows: The testicles of oxen are stripped, minced in a machine, and ground into a mash in an electric mill. To two parts of this mash is added one part of fresh bovine serum; the medium is sloped in tubes and sterilized at 90° C. on the first day, and at 80° to 85° C. for half an hour on the three following days. Growth on this medium was abundant; after two to three weeks there was a layer of yellowish-white nodules, which in the case of the human type of bacilli assumed later a rose tint. It is described as being suitable both for primary cultivation of tubercle bacilli from sputum and for continued culture in the laboratory. There is the further advantage that it is cheaper to prepare than egg media.

## 596. Immunization against Diphtheria by Anatoxin.

E. C. PICO (*C. R. Soc. de Biologie*, March 27th, 1925, p. 899) states that the importance of anatoxin in immunization is becoming more evident daily, but that, hitherto, experiments to prove the curative action of this substance in diphtherial infection in the absence of antitoxin have been unsuccessful. If injected twenty-four to forty-eight hours before experimental diphtherial infection of the conjunctiva of a guinea-pig it does not prevent the development of the disease (Zoeller), nor does it have any action if given in local instillations or injected in doses of 0.5 c.c.m. on three or four consecutive days. Pico's experiments have also been completely negative, and he concludes that antitoxic serum therefore must be employed in the treatment of diphtheria. He adds that the prophylactic methods employed against diphtheria owe their efficacy to their ability to produce antitoxin, which serves as an index of the immunity produced.



# EPITOME OF CURRENT MEDICAL LITERATURE.

## Medicine.

### 597. Cerebro-spinal Fever and Chronic Nephritis.

J. SABRAZÈS and O. MASSIAS (*Gaz. hebdomadaire de Médecine*, April 12th, 1923, p. 225) record the case of a woman, aged 25, suffering from cerebro-spinal fever, who was treated by a series of six intrathecal and intramuscular injections of polyvalent antimeningococcus serum. Suppurative arthritis of the right knee developed, and was considerably benefited by intravenous injection of an autogenous vaccine. A relapse of meningitis, however, occurred after the fifth day of intrathecal treatment. The twenty-fifth day of the disease became worse, polyuria ceased, the urine contained 7 grams of albumin, the blood pressure rose, uncontrollable vomiting set in, and a state of uraemia with azotaemia developed. The headache, vomiting, and bilateral choked disc suggested suppurative ophthalmitis. In spite of intravenous injection of hypertonic glucose solution and bleeding the patient had marked azotaemia and died. The oliguria, haematuria, and albuminuria excluded the diagnosis of ophthalmitis in favour of uraemia. The autopsy showed absence of pyoccephalus, a case of the meningitis, and the presence of renal atrophy, especially of the right kidney. Histological examination confirmed the diagnosis of diffuse interstitial and parenchymatous chronic nephritis, with glomerular and intertubular sclerosis.

### 598. Skin Reactions in Disease.

P. VALLERY-RADOT and P. BLAMOUTIER (*Presse Méd.*, March 25th, 1923, p. 385) describe a method of diagnosis and treatment based on the production of anaphylaxis by repeated skin reactions with a specific antigen in such diseases as asthma, hay fever, migraine, urticaria, and eczema. Their technique is as follows. The flexor surface of the forearm, having been disinfected with 90 per cent. alcohol, is then scarified at intervals without drawing blood. On each scarification of about 2 mm. in diameter a drop of decinormal soda solution is placed; then a very small quantity of the required powdered protein is added to each drop except the last. If the protein is in solution this may be applied without using the soda solution. When the sensitizing substance is unknown, various proteins which are the most frequent causes of anaphylaxis should be applied in turn to the scarifications. After an interval of fifteen minutes the series of scarifications is washed with a tampon of cotton-wool and boiled water.

The last scarification is treated with the others. A urticaria-like patch of by a more or less definite zone of erythema and often accompanied by itching. A simple local erythema is not to be regarded as a positive reaction. The authors describe in detail various methods of extracting specific proteins. In asthma various American and European investigators have reported 40 to 48 per cent. of positive reactions, but in many cases they have included hay fever. When an asthmatic knows the nature of the agent that produces his disease this method serves as a control test; when the agent is unknown, a positive reaction cannot be regarded as strictly specific, for many chronic asthmatics react to several different proteins; one female patient reacted to every protein. A positive reaction is, therefore, not a definite proof of sensitization. The authors point out that only when entire removal of the responsible protein or specific desensitization treatment has abolished the attacks can the differential diagnosis be established. They add that this principle applies also to other anaphylactic states, such as spasmodic coryza and urticaria. Animal products, including hair, feathers, and wool, account for the majority of positive reactions, and the common use of these materials in bedding may explain the frequency of nocturnal crises of asthma. In spasmodic coryza the authors obtained only 3 positive reactions among 17 cases, but most striking results were obtained in hay fever: among 26 patients there were 25 positive reactions to various pollens, all these patients reacting to several pollens of the same species. In urticaria and Quincke's oedema a much smaller percentage of positive results was obtained. Among 17 cases of urticaria the authors obtained only 5 positive results (eggs, barley meal, and potato). They had no success in 5 cases of Quincke's oedema. Schloss records 40 positive reactions to food proteins among 53 children suffering from eczema; Scott O'Keefe obtained 41 per cent. of positive reactions in similar cases. White thinks

that 80 per cent. of cases of chronic eczema are due to alimentary sensitization. The authors conclude that it is often sufficient to remove the source of irritation: when this is impossible they recommend desensitization by repeated injection of minute but increasing doses of the specific protein.

### 599.

### Chronic Nephrosis.

R. H. MAJOR and F. C. HELWIG (*Bull. Johns Hopkins Hosp.*, April, 1923, p. 250) point out that while chronic nephrosis has certain clinical features in common with chronic nephritis it is a definite disease entity. Notes are given of a case in a man, aged 34, suffering from dyspnoea, marked oedema, and albuminuria with hyaline casts. The blood showed a marked lipaemia, and an examination of blood proteins gave the ratio of serum albumin to serum globulin as 1:2 instead of the normal 2:1. Microscopic examination of the kidney showed fat droplets in the tubules, interstitial tissue, and glomeruli, and the liver also showed marked lipid infiltration about the central zone of the liver lobule. This lipid material in both the liver and kidney reacted similarly to the special stains. The authors consider that this type of lipid is not a simple cholesterol ester, but probably belongs to the complex phosphatid group in which cholesterol is loosely bound. Chronic nephrosis appears to be primarily a disturbance of metabolism, and the presence in the liver in the authors' case of an intense lipid infiltration similar to that seen in the kidney supports the theory that it is a metabolic disease.

### 600.

### Prophylaxis of Orchitis in Mumps.

V. DE LAVERGNE and P. FLORENTIN (*Bull. Acad. de Méd.*, March 31st, 1923, p. 362) state that the excellent results obtained in the prophylaxis of measles by injection of convalescent serum induced them to apply this method to mumps, especially as Debré and Joannon had already shown that the development of parotitis might be prevented thereby. During a large epidemic of mumps the present authors employed the method in 113 patients. In uncomplicated cases the blood was taken on the fifteenth to the twenty-fifth day, and in cases complicated by orchitis after the inflammation had subsided. The serum was prepared in the usual way and injected subcutaneously in successive doses of 10 c.cm., 15 c.cm., and 20 c.cm. The results were as follows: Of 107 untreated patients 25 developed orchitis and 9 symptoms of meningitis, whereas of 113 treated patients only 5 developed orchitis and 2 meningitis. Moreover, the five cases of orchitis occurred among 85 patients who had only had 35 c.cm., while the remaining 28, who had been given another 20 c.cm., had no orchitis.

## Surgery.

### 601.

### Fat Necrosis of the Breast.

G. KEYNES (*Brit. Journ. Surg.*, April, 1923, p. 663) describes a case of fat necrosis of the breast. The patient was a stout woman with large breasts; a small painful nodule was present in the upper and outer quadrant of the left breast. The nodule was not well defined, the nipple was not retracted, and no enlarged glands were found in the axilla. A diagnosis of carcinoma was made. The operation incision revealed white areas extending from just below the skin into the mammary gland, and surrounded by a zone of infiltration. A frozen section showed large polyhedral cells apparently lying in alveoli. The cells were not quite characteristic of carcinoma, being even larger than the unshrunk cells seen in fresh sections. The diagnosis was regarded as confirmed, and the operation was performed. Subsequent examination showed necrosis in fatty areas, and infiltration of the necrosed tissue by leucocytes; there were some large polyhedral cells at the periphery, and some embryonic fat cells were present. Scattered through the lesion were multinucleated giant cells, characteristic of the lesion; the nuclei of these were centrally placed. No traces of a haematoma were found, but the author thinks there is little doubt that the condition was due to trauma and comparable with the other cases recorded in which it has been produced by direct infusions. The author regards this as a case of fat necrosis, and emphasizes the diagnostic importance of a history of injury, the naked-eye observation of the chalky white necrosed areas, and the microscopic appearances.

602. **Ligature of the Hypogastric Arteries.**

R. FINALY (*Nederl. Tijdschr. v. Geneesk.*, March 7th, 1925, p. 1115), who records two illustrative cases, states that Nikolsky in 1912 collected 192 cases from the literature of ligature of the hypogastric arteries, the indications being as follows: aneurysm of the gluteal artery (32 cases), injury to the gluteal artery (3 cases), enlarged prostate (7 cases), extirpation of carcinoma of the rectum (22 cases), palliative operation for carcinoma of the uterus (64 cases), and removal of carcinoma of the uterus (64 cases). Nikolsky had also 48 cases of his own, including 45 for removal of cancer of the uterus, in which he had never observed any bad results following ligature of the hypogastric arteries. In a subsequent paper he reported 10 cases of unilateral and 35 of bilateral ligature of the hypogastric artery in which no sequelae had been observed. Flörcken (1916), Wieting (1918), and Brunzel (1919) all recommend ligature of these arteries as an excellent method for controlling haemorrhage from the superior and inferior gluteal arteries, and Tasso Asteriades (1924) has also collected 41 cases from the literature as well as one of his own in which this procedure caused a remarkable and immediate cessation of haemorrhage in inoperable cancer of the uterus. In spite of these favourable reports the method is not free from danger. Meyer's patient, a man of 65, died suddenly from an unknown cause two days after the operation; no autopsy was permitted. Offergeld's patient, a woman aged 57, in whom the arteries had been ligatured for inoperable cancer of the uterus, died of heart failure three days after the operation. The autopsy showed thrombosis of the common iliac artery and fatty degeneration of the myocardium. Finaly's first patient was a man, aged 57, in whom ligature of both hypogastric arteries was performed for carcinoma of the rectum. A few days later gangrene of the scrotum developed and gradually extended over the perineum. Death occurred sixteen days after the operation; there was no autopsy. The second case was that of a woman, aged 74, in whom the arteries were ligatured before Wertheim's operation; necrosis of the vesical mucosa developed, but recovery followed.

603. **Excision of the Rectum.**

E. VILLARD and A. RICARD (*Lyon Chir.*, March-April, 1925, p. 129) describe in detail the technique they have devised for radical removal of the rectum in cases of carcinoma. The essential feature in their operation is the retention of an anus in the natural position, and under voluntary control, by preservation of the sphincter. In the first step of the operation the abdomen is opened by a median incision below the umbilicus. The character of the growth, its fixity, and the condition of the glands are first investigated. If favourable for removal the lower portion of the sigmoid is mobilized, care being taken to preserve the ureters intact. The bowel is freed, the mesentery and vessels being divided, and the mobilized portion of bowel and growth pushed down into the pelvis. After peritonization of all raw surfaces the abdominal incision is closed. The growth is then approached from the rectum. A circular incision is made round the anus, and after dilatation of the sphincter it is carefully separated from the termination of the bowel. Through this space the rectum is easily freed and the mobilized portion brought down through the wound. The bowel is divided well above the growth and the new anus sutured in position by a continuous catgut suture. The anus is packed with gauze for a short time and tubes are placed in the ischio-rectal fossae. In ten patients treated by this method three are dead—an operative mortality of 30 per cent. Three other patients show no evidence of recurrence after three years, the functional result of the operation is excellent, and the sphincter functions normally.

604. **The Predisposing Causes of Renal Calculi.**

P. BULL (*Norsk Mag. f. Laegevidenskab.*, May, 1925, p. 429) gives an account of 53 cases operated on by him for calculi of the kidneys and ureters. In as many as 11 cases the affected kidney was found to be displaced downwards, in 4 cases there was an S-shaped ureter, and in 2 the lower opening of the ureter was abnormally situated. Abnormalities such as these may promote the formation of calculi, not only by facilitating retention of urine in the renal pelvis, but also by facilitating infection of the urinary passages. In 2 cases trauma had evidently played a part in the development of renal calculi by favouring infection. In one of these cases the pelvis had been fractured and the urethra torn, with the result that stenosis and secondary infection of the urinary passages occurred. In the second case severe injuries included rupture of the left kidney, in which, four years later, calculi were found in association with pyonephrosis. In 1 case there was a history of catarrh of the bladder, but renal calculi.

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**Therapeutics.**605. **Vaccine Treatment of Whooping-cough.**

O. A. ALDRICH (*Amer. Journ. Dis. Child.*, April, 1925, p. 4) records his observations on 65 cases of whooping-cough treated with vaccine and the results of vaccine prophylaxis in 17 cases. The prophylactic treatment consisted of three subcutaneous injections on alternate days of a glycerol vaccine containing the Bordet-Gengou bacillus only. The doses were one of two billion and two of four billion bacilli, without regard to the age of the child. Patients with a suggestive cough, especially with a history of exposure to the disease, had three or four injections of the same vaccine on alternate days in doses of two, four, six, or sometimes eight to ten billion. Patients treated after the onset of symptoms had slightly milder and shorter attack than usual. There were no complications except the usual bronchitis, and there was evidence that in some the disease aborted in the catarrhal stage. As regards the prophylactic value of the vaccine there was definite evidence that some cases were prevented, though in the absence of control the percentages could not be estimated. Only four of the seventeen individuals given prophylactic treatment developed pertussis. As regards the course of the disease in the treated cases, the average duration was about six weeks with definite and lasting improvement beginning less than four weeks from the onset. The duration of the disease and the length of time before improvement were approximately the same regardless of the time of treatment, but the patient treated later had slightly severer attacks.

606. F. VAN DER ZANDE (*Nederl. Tijdschr. v. Geneesk.*, April 4th, 1925, p. 1575) states that since June, 1922, he has treated all his cases of pertussis exclusively by vaccine therapy. The treatment consisted in injection of the contents of four ampoules, each holding 1 c.c.m., the first containing 1,000 million bacilli, the second 2,000 million, and the third and fourth 3,000 million. The injections were given subcutaneously at intervals of three days, beginning with the smallest dose. In some cases a fifth injection was given of 1 c.c.m., containing 5 million bacilli. The following criteria were used in estimating the effect of the vaccine: (1) diminution in the number of the paroxysms; (2) diminution in the violence of the attacks; (3) shortening of the duration of the disease. In forty-one cases the results were very good—that is to say that after four injections no definite paroxysm occurred and there was little or no cough. In five patients the results were satisfactory, as shown by diminution in the number of the paroxysms, though the duration of the disease was not shortened nor the violence of the attacks mitigated. In six cases the treatment was a failure. In successful cases considerable improvement was obtained after the second injection; sometimes it was delayed until after the third, but rarely until after the fourth. No bad effects were observed. The injections were well borne, even by very young infants, and no fever, restlessness, or infiltration developed. Failure of vaccine treatment in pertussis is attributed by Luttinger to the use of too old a vaccine or to the injections having been given intramuscularly instead of subcutaneously. Van der Zande, however, is of opinion that the failures are due to there being two groups of pertussis bacilli, and that a vaccine may contain only one group when the disease is due to the bacilli of the other group. In future, therefore, pertussis vaccine should combine both groups of bacilli.

607. **Strophanthus in Heart Disease.**

L. STORDEUR (*Le Scalpel*, March 21st, 1925, p. 253), comparing strophanthus with digitalis, states that although there are differences in their effect in cardiac therapy, these differences have been exaggerated. Strophanthus, especially if given intravenously, acts more quickly on the failing heart than digitalis, and sometimes, as in alternating pulse, will relieve when digitalis is powerless; so also in tachycardia and in cardiac conditions complicated by pyrexia. It may also be used to intensify the action of digitalis and be given either simultaneously or successively. The author then describes in detail the action of strophanthus in various cardiac conditions. It should not be given when serious kidney disease is present for fear of a cumulative effect, nor in cases where a secondary infective endocarditis has supervened on a valvular lesion; when the myocardium is much degenerated or sclerosed strophanthus is dangerous. It is better avoided where thrombosis of the heart is suspected, and if given in full doses after digitalis a period of three days should intervene. Nausea and vomiting indicate that the drug should be discontinued. Stordeur finds that the best results are obtained by intravenous injection in doses of 1/4 to 1/2 mg. a day. It is very irritating to the cellular tissue, so that care must be observed in injection.

## Radiology and Electrology.

### 608. A New Method of Examining the Gall Bladder Radiologically.

G. SABATINI and E. MILANI (*Il Policlinico*, May 4th, 1925, p. 623), recalling the opacity of bromine salts to the x-rays, and the fact that they are eliminated by the liver, have found that after administering the salts by the mouth a picture of the gall bladder might be obtained. The preparation of the patient is important. In the early morning an egg and some soup is given, at 2 p.m. a dose of castor oil, at 7 p.m. a cup of milk, and after that no food or fluid of any kind. Still later a saline enema is given, and early next morning 20 grams of sodium bromide and strontium bromide in 100 c.cm. of water. The radiogram is taken five or six hours later. By this method the gall bladder was demonstrated in 60 per cent. of normal bladders and in 80 per cent. where cholecystitis was present. In several cases when the gall bladder could not be seen by ordinary methods a distinct shadow appeared after the bromide treatment. The authors give eight reproductions of radiograms taken by this method.

### 609. X-Ray Examination of the Male Urethra.

E. H. P. CAVE and G. L. S. KOHNSTAM (*Brit. Journ. Radiol.*, April, 1925, p. 121) consider that by the employment of a standard technique in urethrography reliable information may be obtained about urethral and prostatic conditions. Previous routine preparation of the patient is said to be unnecessary. The most satisfactory medium is lipiodol, either concentrated or diluted (for economical reasons) with four times its volume of sterile paraffin, such dilution in no way materially reducing its opacity or viscosity. The postero-anterior position, with the patient lying on the plate with the tube centred over the bulb of the urethra, is better than the antero-posterior position, in which the shape of the base of the bladder may be distorted through falling posteriorly on to a full rectum. A routine examination should also include an oblique lateral view with the tube centred over a point one inch below the mid point of Poupart's ligament. The authors used gas tubes of 4½-inch spark-gap and passing 5 milliamperes with an average exposure of two to three seconds for the postero-anterior view, and four to six seconds for the oblique. Intensifying screens were used; the distance of the anticathode from the film in the postero-anterior view was 20 inches and in the oblique 24 inches. They point out the importance of ensuring a continuous flow under constant pressure when injecting the opaque material, and recommend a pressure flask regulated by hand bellows, a mercury manometer, and a glass urethral nozzle. Four illustrative radiograms are supplied.

### 610. Electrical Treatment of Exophthalmic Goitre.

STEPHEN PORTRET and YVES HELIE (*Journ. de Radiol. et d'Electrol.*, February, 1925, p. 55) point out that in exophthalmic goitre two factors appear to be established incontestably: (1) the thyroid dystrophy in a neuropathic patient predisposes to the development of exophthalmic goitre; (2) on the other hand, there is an interference with thyroid function, due to disturbance of other endocrine glands, associated in the majority of cases with lesions of the sympathetic. The authors state that French surgeons have abandoned surgical treatment on account of the high mortality rate, the disfiguring scars, and the frequent failures, and add that the only medicinal treatment which has given generally satisfactory results is pituitary or ovarian opotherapy. They strongly condemn thyroid medication, which often aggravates the disease. Radiotherapy has frequently failed to relieve the exophthalmos, although some reduction in the size of the thyroid gland has been noted in many cases following an improvement in the general and cardiac symptoms. The authors record ten cases in which electrical treatment produced lasting improvement. They prefer a continuous current of from 60 to 110 volts; they place a rheostat in the circuit, and by a gradual elevation of the voltage avoid any shock—an important consideration in the case of these very nervous patients. The negative (active) electrode, a large flat sponge moistened in tepid water, is placed over the anterior surface of the neck; the smaller positive electrode is placed between the shoulders. At first the strength of the current should not exceed 5 to 7 milliamperes, the duration of the sitting being ten minutes. If the patient's skin shows no sign of irritation a current of 15 milliamperes for twenty minutes may be well borne subsequently. Patients who have previously received x-ray treatment are often more susceptible to electrical skin irritation. After five treatments a week, until twenty treatments have been given, there should be an interval of a month, following which a second series of treatments is often required, and in some cases a third course may be necessary,

the treatment lasting from eight to ten months. There may be erythema persisting for forty-eight hours, or even vesication or desquamation requiring application of zinc ointment. The authors report 30 cases of treatment by the galvanic current alone or by the constant and interrupted current. In every case lasting improvement followed, even in the 10 cases where no improvement had resulted from irradiation. The authors conclude that electrical treatment has been undeservedly neglected. In their first 20 cases, 18 improved both generally and in regard to nervous symptoms. The thyroid tumour diminished in 97 per cent., tachycardia and arrhythmia in 75.8 per cent., tremors in 81.2 per cent., and exophthalmos in 45.2 per cent. They add that electrical treatment is perfectly safe and appears to regulate thyroid dystrophy and glandular secretion, and to act as a sedative to the sympathetic system; it should be tried before any other treatment has been given.

## Obstetrics and Gynaecology.

### 611. Extraction of the After-coming Head.

R. COSTA (*Annali di Ostet. e Ginecol.*, March 31st, 1925, p. 229), who has already devised a hook to be used when the foetus is dead for the extraction of the after-coming head in breech deliveries, now describes a "flat hook" which is equally effective and which he has found can be used safely in the case of a living child. The instrument is 35 cm. long, has a winged handle for traction, and a slight pelvic curve; it is curved to a right angle towards the end, the portion beyond this angle being flattened and measuring 3.5 cm. in length and 2 cm. in breadth. Covered with India-rubber this end is introduced into the mouth and held in position with the index finger of one hand, while the other hand pulls on the handle. Extraction by this means is found easier than by manual manœuvres alone or forceps delivery; it is also speedier, and therefore may tend to diminish foetal mortality. The advantages claimed are that pressure is exercised deep within the month on the ascending ramus of the lower jaw, so that—in contrast with flexion by the finger alone—no portion of the flexing force is spent in opening the mouth rather than flexing the head. Only a minimum amount of traction need be exerted on the breech and neck.

### 612. Fixation of the Anterior Arm in Podalic Version.

ACCORDING to ROUËL and JAHIER (*Bull. Soc. de Gynéc. et d'Obstet. de Paris*, 1925, 3, p. 214), fixation of the anterior arm, which has long been recommended in delivery by podalic version in transverse presentations, is a manœuvre which may also be employed with advantage in cases in which it is decided to turn a cephalic into a podalic presentation before delivery. The accoucheur's hand (the left when the occiput is to the left of the pelvis, otherwise the right) holding a tape about 3 feet long and 1½ inch wide, after pushing the head upwards, grasps the band of the anterior foetal arm and passes the tape around the wrist. This can usually be performed in the uterus, but if the foetal arm has to be drawn into the vagina its subsequent ascent presents no difficulty. The ends of the tape are held by an assistant, and a foot or the feet are brought down in the usual way. Just before the anterior hip appears at the vulva, traction on the tape and on the breech delivers the foetal abdomen, followed by the thorax and anterior arm. The advantages claimed are that: (1) difficulties arising from extension of the after-coming arm are prevented; (2) the hisacroamial diameter engages in a position of anterior asymmetrism; (3) during delivery of the posterior arm a diameter of 8 cm. (extending from the acromion to the opposite side of the neck) engages instead of the hisacroamial diameter of 12.5 cm.; (4) the delivery of the after-coming head between the two arms is avoided.

### 613. Localized Abdominal Suppuration in Women.

E. MARTIN (*Zentralbl. f. Gynäk.*, April 25th, 1925, p. 898) agrees with Bumm that in all cases of peritoneal suppuration the healthy peritoneum must be kept out from the inflamed area by suturing over it an adjacent loop of intestine, but adds that this treatment has not been generally approved in practice. Martin records two cases that confirm Bumm's views. In the first case, during ennetage the lateral uterine wall was perforated and the vessels of the broad ligament and the peritoneum torn. A localized peritonitis followed, and laparotomy was performed; the broad ligament was plugged to arrest venous haemorrhage, and an adjacent loop of small intestine was sutured over the infected laceration, completely occluding that area. Recovery was uninterrupted and the bowels acted regularly; later a ventral hernia developed, and finally complete intestinal obstruction occurred. Two years after the first operation the hernial sac was

opened: there were no signs of peritonitis, the loop of intestine was quite free, and all adhesions had been absorbed, leaving an easily recognizable scar in the posterior peritoneal surface of the broad ligament. It was impossible to determine the duration of the adhesions resulting from the suturing of the intestinal loop over the lacerated wound of the broad ligament. In the second case the patient developed an acute metastatic pyosalpinx during the latter part of her puerperium: laparotomy was performed, and the peritoneum in the vicinity of the inflamed tube was seen to be slightly reddened. The infected area was roofed over by suturing an adjacent loop of small intestine to the surrounding healthy peritoneum. In this case also a ventral hernia developed, and about two years later another operation was performed. Slight local reddening of the peritoneum was present, but the intestinal loop was entirely free and there were no adhesions. The patient had not suffered from constipation after the primary operation. Martin insists that Bumm's method securely shuts off the healthy peritoneum during and after the acute stage of inflammation, and also permits the performance of a secondary operation in more favourable circumstances. Martin lays stress on the importance of keeping these patients under occasional observation for a prolonged period.

#### 614. Paget's Disease of Mammary Origin.

HICKEL (*Bull. Soc. Franç. de Derm. et de Syph.*, March, 1925, p. 29) records a case of Paget's disease in a woman, aged 55, the mother of five children, all of whom she had suckled, who six months previously had developed an oozing erosion of the left nipple which was regarded at first as eczema. Three weeks before admission to hospital she had noticed a swelling in the substance of the left breast. On examination a diagnosis was made of cancer of the breast with glandular metastases and invasion of the lactiferous ducts; this was confirmed after amputation of the breast. The lesion of the areola was identical with that described in Paget's disease, but appeared to be due to a secondary invasion of the epidermis by cancer cells. The case therefore confirmed the view of those writers who hold that Paget's disease should not be regarded as an independent affection, but as a secondary phenomenon in the course of mammary cancer, the remarkable feature of the condition being that the cancer cells affect the epidermis only without involving the dermis. In answer to the objection that Paget's disease often lasts for years without the slightest trace of a primary growth in the breast Hickel remarks that some mammary tumours have a very slow growth in spite of early invasion of the lactiferous ducts and may remain latent for a long period, the only manifestation being the cutaneous lesion. M. B. Schmidt in 1912 reported the case of a woman, aged 65, in whom Paget's disease had involved the whole surface of the breast in the course of eight years without the slightest tumour being detected in the substance of the breast. On amputation of the breast, however, a small cancerous nodule was found in its substance, with invasion of the lactiferous ducts. The apparent absence of any mammary tumour is therefore not an argument in favour of the independent existence of Paget's disease.

### Pathology.

#### 615. Variations in Pneumococci during Culture.

H. A. REIMANN (*Journ. Exper. Med.*, May, 1925, p. 587) has confirmed and extended F. Griffith's work on the dissociation of the pneumococcus into two varieties—a rough and a smooth. A Type I strain was transferred 240 times in plain broth; on agar plates made from the last subculture two forms of colonies were seen—a flat, thin, greenish, and translucent variety, and a heaped-up, thicker, more opaque and less greenish variety. The organisms composing these different colonies were found to have important points of distinction. The first or smooth (S) type were specific, in that they were agglutinated solely by a Type I antipneumococcal serum; the second or rough (R) type were non-specific, being agglutinated by all three types of serum. Further, the S type was highly virulent to mice, killing them in a dose of 0.0000001 c.c.m. given intraperitoneally; the R type was avirulent, failing to kill even in a dose of 2 c.c.m. The same dissociation into the S and the R types was produced much more rapidly by growing the organism in broth containing dilute bile. In this medium the two types appeared in the third transfer; after nine transfers the R type completely ousted the S type, which failed to develop any further. Similarly, in broth containing 1 per cent. of immune Type I serum the dissociation occurred rapidly—in the fifth transfer—and the S type was replaced completely by the R type after nine transfers. Reimann states that the two types can

easily be separated from each other by animal passage. As the S type is highly virulent, it multiplies in the body of the mouse and is found in large numbers in the heart's blood; the R type, on the other hand, though present in the blood for about four hours, fails to undergo further development, so that after six hours it is no longer recoverable from the heart's blood. The R type seems to be a derivative variety of the S type. When a pure S type is cultivated *in vitro*, after a time it begins to throw off R varieties; an R type, however, never reverts to the S type, no matter how long it is subcultured. Not even after passage through mice—the blood being taken four hours after injection—is there any reversion to the S type nor any increase in virulence.

#### 616. The Functions of the Spleen.

A. BOLAFFI (*Arch. di Patolog. e Clin. Med.*, February, 1925, p. 1) ascribes to the spleen the following functions. (1) It gives rise to cells of lymphoid type, and perhaps also to blood platelets. The evidence for this latter statement is, chiefly, that in the cells of the splenic pulp intact platelets may be found, and that in the embryo platelets are found in these cells before the appearance of megacaryocytes—the cells which are usually responsible for the genesis of the platelets. (2) It destroys red and white blood corpuscles and platelets whenever, from age, toxic influences, or congenital weakness, they depart from their normal structure. In certain diseases, such as haemolytic jaundice—congenital or acquired—and haemolytic splenomegaly, this destructive action of the spleen is increased, and probably has some causal relation to the disease. (3) During a certain period of intra-uterine life the spleen plays a part in the formation of blood cells. In this it merely acts in conjunction with the liver, and with the perivascular tissue of such organs as the lymph glands in assuming a haemopoietic function; as the bone marrow develops this function diminishes steadily till by birth it has nearly ceased. This haemopoietic capacity may be resumed later; such a myeloid transformation has been noted in many conditions, including scariatal and streptococcal infections, congenital syphilis, pernicious anaemia, tumours of the bone marrow, and myeloid leukaemia. An example of such a transformation is described by the author; it occurred in a soldier suffering from malaria and amoebic dysentery. (4) It regulates the metabolism of iron in the body in two ways: it breaks down red blood cells, thus liberating the haemoglobin, and it accumulates and prepares the iron for its subsequent manufacture into haemoglobin. These two activities are concurrent. (5) In the splenic anaemia of adults and in Banti's disease this organ is partly responsible for the production of the anaemia: in these diseases there is diminution in the red and white corpuscles and a low colour index. These changes are not due to changes in the bone marrow, which is apparently normal, nor to increased haemolysis, for all signs of blood destruction are lacking. It is suggested that in some way the spleen may interfere with the normal rate of passage of the blood cells from the bone marrow into the circulation. (6) It influences, and appears to regulate, the haemopoietic activity of the bone marrow: knowledge of this endocrine function is still very scanty. The increase of red cells following removal of the spleen is held to be due to the loss of the controlling influence of the spleen on the bone marrow, which therefore passes into a condition of hyperactivity.

#### 617. Etiology of Pernicious Anaemia.

B. S. CORNELL (*Journ. Canadian Med. Assoc.*, January, 1925, p. 26) considers the etiology of Addisonian anaemia, and reports a series of experiments. The author agrees with those authorities who regard pernicious anaemia as a definite pathological and clinical entity. He reviews the symptoms of the disease, and lays stress on the intestinal and nerve conditions being part of a single toxic infection. In the blood picture macrocytes are considered to be the most valuable diagnostic feature. From his own experiments he concludes that there is no evidence of any constant haemolytic substance in pernicious anaemia stools. Cornell extended Hexter's work and transplanted *B. welchii* into the duodenum of dogs, observing transient changes suggestive of pernicious anaemia. It has also been shown that *B. welchii* can be so introduced without gangrene and but little gas formation. The animals show evidence of a chronic infection with a fall in the haemoglobin and red cell count, together with a colour index of 1 or higher. In the case of the rabbit the blood picture shows the presence of many microcytes with some macrocytes soon after intrasplenic injections of *B. welchii*. The author considers the phenomenon of anisocytosis to be directly due to the action of the bacillary toxin on the red cells. While stating that his experiments have no proved relationship to pernicious anaemia, Cornell urges further investigation on these lines together with systematic search for *B. welchii* at autopsies.



# EPITOME OF CURRENT MEDICAL LITERATURE.

## Medicine.

### 618. Acute Articular Rheumatism and Tuberculosis.

NOVÉ-JOSSERAND (*Journ. de Méd. de Lyon*, April 20th, 1925, p. 251) states that the diagnosis between acute tuberculous arthritis and articular rheumatism will be assisted by careful inquiry into the patient's antecedents, the efficacy of sodium salicylate, very early skiagraphy, and "Jossierand's sign," which is the occurrence of a loud ringing systolic sound in the pulmonary area, combined with a rasping vibration like a very short diastolic thrill. The author describes two cases. The first patient, a youth aged 19, who had grown rapidly at the age of puberty, had a sudden attack of general malaise and shivering. The tonsils were very red and swollen but without exudate. A few days later severe pain was felt in the knees, feet, elbows, and hands, the temperature being 104°. The tonsillitis persisted and the left tonsil was incised without benefit. The knees were very swollen and extremely painful, and the patient sweated profusely. Salicylates and aspirin relieved the pain but had no definite effect on the temperature, which oscillated between 101° and 103°. The heart, lungs, and kidneys appeared to be normal. No skiagrams were taken. The patient was seriously ill for six weeks, after which the temperature fell and the poly-articular synovitis disappeared. Fourteen months after the first illness he had a second attack, but at this time signs of consolidation at the left apex were found which were confirmed by a skiagram, and enlarged glands found at the hilum. The patient died of acute bilateral pulmonary tuberculosis twenty-one months after the first and seven months after the second attack of "rheumatism." The second patient, a man aged 25, after repeated attacks of bronchitis in childhood and a dry pleurisy at the age of 12, had served in the army without illness. He then had a severe sore throat and polyarticular pains, similar in all respects to those of the first patient. Salicylates gave only moderate relief. About the tenth day, when the tonsillitis and arthritis were improving, a slight weakening of the first sound was heard at the apex with accentuation of the pulmonary second sound. No abnormal physical signs in the lungs were discovered, but a radiological examination showed enlarged glands at each hilum. The patient was sent to a mountain sanatorium for six months and made a complete recovery, a later skiagram showing no enlargement of the peribronchial glands. Nové-Jossierand does not consider that these are cases in which an attack of acute rheumatism lit up a quiescent tuberculosis. In the first case he learned, after the patient's death, that his grandfather, aunt, and sister had all died from tuberculosis. Earlier, in both cases, the effect of salicylates was much less definite than in acute rheumatism. He relies on Jossierand's sign as a valuable aid to differential diagnosis, and adds that repeated radiographic examination of the lungs should never be omitted.

### 619. The Effect of Pertussis on the Heart.

P. V. LEDBETTER and P. D. WHITE (*Journ. Amer. Med. Assoc.*, April 4th, 1925, p. 1022) review the literature and report their observations on 232 cases of pertussis observed at the Boston Children's Hospital and Massachusetts General Hospital. The shortest period of observation was one month and the longest seven years. They found that circulatory failure did not occur, though the paroxysms undoubtedly produced a temporary strain, particularly on the right side of the heart. No evidence of permanent damage to the heart could be found in any of the 232 cases, although one child had endocarditis and another congenital morbus cordis before infection.

### 620. Influence of Posture on the Emptying of the Stomach.

P. M. SANDER (*Massachusetts Laeger*, April 16th, 1925, p. 396) shows that when a person lies on the left side the emptying of the stomach is much more rapid than when he lies on the right side. The thirty-six persons he examined were patients treated in hospital for diseases not affecting the stomach. They were given a bulky opaque test meal, and were made to lie first on the right side and, some days later, on the left side until x-ray examinations, repeated every half-hour or hour, showed that the stomach was completely empty or contained only traces of the meal. When the patients lay on the right side the stomach was almost invariably emptied within three and a half hours. When they lay on the left side there was at

first a fairly rapid emptying of the stomach, but when a small portion of the meal had been discharged there was an interval of about two hours during which there was practically no change. This delay was probably due to the action of the force of gravity. In most cases the time taken by the stomach to empty itself was from two to two and a half hours longer when the patient lay on the left side than when he lay on the right. In some cases the difference in the times was from three to four hours. Only in two cases did the stomach empty itself more slowly in the right than in the left-sided posture. The delay was due in one case to menstruation and in the other to psychic depression. Sander believes that by adopting the right-sided posture a patient may hasten the evacuation of his stomach.

### 621. Typhoid Fever in Early Infancy.

M. MALLARDI (*La Pediatria*, April 15th, 1925, p. 413) gives details of 12 cases of typhoid in children under 2 years of age. He says that although not common typhoid is more frequent in young children than is generally recognized. Of his 12 patients 3 who were not treated with vaccines died. The author does not approve the calomel treatment, nor quinine. He accepts the modern view as to a more liberal diet, and thinks it should not be restricted to milk, but, if the children are old enough, should be mixed. If the first Widal test is negative another should be made.

### 622. Concurrent Varicella and Herpes Zoster.

P. GAUTIER and R. PEYROT (*Arch. de méd. des enf.*, May, 1925, p. 306) refer to the case recently reported by Aviraguer, Huber, and Dayras (see *Epitome*, May 9th, 1925, para. 465) of the simultaneous occurrence of varicella and herpes zoster, and record a case in a girl, aged 5, who, in addition to a typical eruption of varicella, presented herpes zoster in the region of the left scialic nerve. The present authors, like Comby, maintain that any eruptive fever may prepare the soil for herpes zoster, but that the latter, which is essentially a neuritis, may be produced by a variety of factors. They add that although some cases at first sight appear to prove the identity of the two affections, and in spite of the serological tests of Netter and Urbain, the fact that varicella produces no immunity to zoster justifies the conclusion that zoster and varicella are two distinct diseases. The simultaneous occurrence of the two affections in the authors' patient, as in other cases on record, should be regarded merely as an accidental association, like that sometimes existing between varicella and measles, or measles and zoster.

## Surgery.

### 623. Congenital Patellar Dislocation.

G. DENCKS (*Zentralbl. f. Chir.*, May 9th, 1925, p. 1010) observes that the comparatively rare condition of congenital patellar dislocation constitutes so serious a disability that, when the patella cannot be replaced by manipulation, a somewhat severe operation is justifiable. Dencks's first patient was a man, aged 20, with a congenital dislocation of the left patella which caused the knee to give way in standing or walking; there was severe pain in the knee after exertion. The patient also had a congenital subluxation of the head of the right radius, a definite left genu valgum, and the patella lay on the outer aspect of the lateral epicondyle of the femur. The tibial tuberosity was in the normal position, but the ligamentum patellae was inserted at its outer side, forming a ridge at an obtuse angle with the tibial axis. His mother had a similar abnormality of the left radius. A fixation apparatus was applied without result. Dencks performed Krogus's plastic operation. Long parallel incisions were made over the inner and outer borders of the joint, the lower ends being united by a transverse incision below the tibial tuberosity, and exposing the quadriceps tendon and patellar ligament. A flap was reflected containing the anterior portion of the capsular ligament, with a triangular resection of the synovial membrane over the condyles of the femur. A block of bone at the site of the insertion of the patellar ligament was then resected from the outer tuberosity of the tibia, and the patella, freed from its lateral attachments, was reflected with this. The internal tuberosity of the tibia above and to the inner side of the tubercle was then chiselled away to permit of the insertion of the bony attachment of the patellar ligament. The edges of the triangular incision of



the synovial membrane were sutured to the raw edges of the patellar flap and the capsular ligament was sutured over the patella. The joint was fixed by a plaster-of-Paris bandage, and passive movements were commenced four weeks later. In six months the joint could be flexed to 75 degrees, the patient was free from pain, and could walk and engage in boxing. About nineteen months later the patient fell downstairs on his left knee, and for some time afterwards he had severe pain in the joint, but ultimately the mobility was unimpaired. Deneks subsequently operated upon a boy of 13 who had a double congenital patellar luxation; healing was delayed by necrosis of the skin edges, and the ultimate result was unsatisfactory. Deneks observes that the treatment of these cases cannot yet be regarded as definitely settled, and hesitates to give more than a guarded prognosis when advising operation.

#### 624. Pre-operative Treatment for Graves's Disease.

A. KREECKE (*Zentralbl. f. Chir.*, April 18th, 1925, p. 866) states that according to Hildebrand the mortality from operations by skilled surgeons for Graves's disease is about 3 to 4 per cent. Hildebrand himself had 24 deaths among 666 operations, or a mortality of 3.6 per cent.; and the mortality of unpublished cases is doubtless much higher. Down to 1918 Kreecke had had 10 fatal cases among 80 operations, or a mortality of 12.5 per cent., but since 1919 out of 46 operations only 2, or 4.3 per cent., had ended fatally. He attributes this improvement in his mortality rate to the following pre-operative treatment. Every patient is made to rest in bed for eight to fourteen days before the operation and to avoid any severe physical exertion or excitement. The rapid action of the heart is, he finds, best checked by an ice-bag, cold compresses, or Lector's tubes. Kreecke has almost entirely abandoned the use of cardiac tonics such as preparations of digitals, but has found that the usual sedatives and hypnotics are much more suitable. On the supposition that the other endocrine glands, especially the thymus, are often responsible for the unfavourable issue of the operation he subjects all cases to irradiation of the thymus, which is performed four or five times at intervals of three or four weeks before the operation. More recently he has also employed irradiation of the suprarenals at intervals of three weeks. The duration of the rest in bed before operation is usually a fortnight, but may be shorter when the heart has been quiet for some days. The patient is not informed of the date of the operation until an hour before it is performed. Ether is the anæsthetic used. In patients whose pulse is below 60, goitre is usually performed on both sides at one time, but if the pulse is constantly above 110, only one side should be dealt with at one operation. Patients who show considerable psychological excitement even after rest treatment and in whom the pulse is 120 or more should not undergo operation. Most of the fatalities which Kreecke has seen were due to neglect of this rule.

#### 625. Renal Tumours in Children.

J. C. SCHIPPERS (*Acta Paediatrica*, April 15th, 1925, p. 141) discusses renal tumours in children, and draws attention to the necessity for careful routine examination of the renal regions of all children, since in the earlier stages these tumours can be removed surgically. He had prognosis that has hitherto been attached to them is, he believes, due to the fact that the surgeon is not called in while the tumour is operable. In some cases these tumours are of pre-natal origin. They generally become manifest before the age of 5; they grow rapidly and to a very great size; they produce metastases only in the later stages and cause death in 90 per cent. of them are unilateral. The tumour consists of embryonic sarcoma round or spindle-shaped cells. Other elements appearing in variable quantities are smooth muscle fibres, cartilage, fatty and bony tissues, and epithelial cells. Schippers deals briefly with the clinical diagnosis, pointing out that the larger tumours are characterized by their lateral position between the costal arch and the iliac crest. The diagnosis is established finally by laparotomy. Examination may be of service. he thinks, very inadvisable. He gives abbreviated clinical details of twelve cases and concludes that the success of nephrectomy is most certain when the operation is performed at a very early period when no adhesions have been formed and the tumour is small. Local anaesthesia has been recommended by Deming, since it is believed that death has in many cases been due to general narcosis. Before the operation the lungs and skeleton should be carefully investigated to exclude the absence of metastases. Treatment by x-rays has also been recommended, but the evidence of its value is at present inadequate; Schippers thinks it may be preferably combined with surgical treatment.

## Therapeutics.

626.

#### Dihydroxyacetone in Diabetes.

I. M. RABINOWITCH, ALTHEA B. FRITH, and ELEANOR V. BAZIN (*Canadian Med. Assoc. Journ.*, April, 1925, p. 374) record observations upon the use of dihydroxyacetone in the treatment of diabetes mellitus. The substance is a ketotriose, unstable in alkaline media, readily oxidized, and nontoxic in a dosage of 50 to 100 grams by the mouth. Glycogen storage in the liver was found to be greater for dihydroxyacetone than for glucose, and a lowering of the blood sugar followed its administration; hyperglycaemia resulted only in severe cases, and then in less marked degree than when glucose had been given. In normal persons a slight increase in the blood sugar similar to that following glucose was seen one hour after the oral administration of 50 grams of dihydroxyacetone. The blood sugar then decreased in amount and after three hours remained below the level noted in the post-absorptive state, the threshold being thus apparently lower than that for glucose. In diabetes the excretion of sugar was greater and the hyperglycaemia more marked and persistent after glucose than after dihydroxyacetone. In four untreated diabetics blood sugar time curves showed a marked degree of hyperglycaemia and glycosuria in the post-absorptive state. After the administration of 25 grams of dihydroxyacetone the increase in blood sugar above the basal value was not greater than that found in normal individuals, and in one there was a slight decrease. With one exception the total sugar excretion for the three hours following its administration was less than the amount excreted during the hour prior to its administration. It would thus appear that the drug has some influence upon the excretion of glucose. In one case the authors found that dihydroxyacetone could replace small amounts of insulin, at any rate temporarily.

627.

#### Bismuth Hydroxide as an Antisyphilitic.

S. LOMHOLT (*Ann. de Derm. et de Syph.*, April, 1925, p. 260) condemns all oily suspensions of bismuth on the ground that they are very slowly and irregularly absorbed. If any oily preparation be used it should be the potassium-sodium tartro-bismuthate, on account of its solubility in the fluids of the body. On the other hand, aqueous solutions and suspensions are absorbed rapidly and regularly, but the aqueous solution of the above-mentioned salt causes considerable pain when injected in sufficient quantity, and it is so rapidly eliminated that its routine employment is impracticable. The bismuth content of iodo-quinio-bismuth is low and inconstant. Lomholt recommends bismuth hydroxide, which is prepared by dissolving bismuth subnitrate in dilute nitric acid and neutralizing it with excess of ammonia. The white precipitate of bismuth hydroxide is ready for use after washing, but it is very unstable when suspended in distilled water; this, however, is corrected by adding 10 to 25 per cent. glycerin to the suspension, which is quite homogeneous and so slightly hypertonic that it is almost painless on injection. All bismuth suspensions must be shaken immediately before injection. Lomholt investigated the ratio of absorption and elimination, using a 10 per cent. suspension of bismuth hydroxide in a 25 per cent. glycerin and distilled water mixture. During the first fourteen days the quantity of bismuth eliminated in the urine was slightly more than 40 per cent. of the total quantity injected; he presumed that the quantity eliminated in the faeces raised the total amount eliminated to approximately two-thirds of the bismuth injected. Lomholt concludes therefore that this is a particularly safe, inexpensive, and easily prepared preparation of bismuth, there being no danger of poisoning from accumulation of bismuth in the system, nor of failure of the treatment through too rapid elimination. The formula recommended is: freshly prepared bismuth hydroxide emulsion 10 c.c.m., glycerin 10 c.c.m., distilled water 50 c.c.m. Lomholt usually gives one weekly injection containing from 10 to 30 cg. of bismuth according to the patient's weight; a faint "bismuth line" appears at the edge of the gums, sometimes after three or four injections, usually after seven or eight. He gives a series of eight to ten injections and has seen no serious toxic symptoms.

628.

#### Iodine in Exophthalmic Goitre.

A. S. JACKSON (*Annals of Surgery*, April, 1925, p. 739) states that following Plummer, he began, in 1922, to treat exophthalmic goitre cases with Lugol's solution (5 per cent. iodine and 10 per cent. potassium iodide). The first 20 cases showed remarkable clinical improvement, gastro-intestinal crises abating within forty-eight hours, and the more toxic cases especially being benefited. Later he increased the amount of iodine, and had no case of hyperthyroidism; this series included 50 cases, and in the last 25 of these no preliminary

ligature was necessary in the thyroidectomy. The author emphasizes the necessity for careful diagnosis in order to avoid iodine hyperthyroidism. He observed that in cases treated with iodine the pulse rate and basal metabolism rate fell together. He recommends that after careful physical examination patients who have not lost much weight and have a basal metabolism rate not exceeding + 75 per cent. should be given 10 drops of Lugol's solution before meals for three days, and also 30 drops of tincture of digitalis, 1/4 grains of luminol is given each afternoon. If improvement results after three days the patient is admitted to hospital and 10 drops of Lugol's solution is given every hour for five hours. The following morning thyroidectomy is performed under morphine-scopolamine-novocain anaesthesia. Immediately after the operation 10 drops of Lugol's solution is given by the rectum, and two hours later another dose is given by the mouth, 50 drops being usually given during the first twenty-four hours after the operation, 30 drops on the second day, and so on day by day, depending upon the rate of recovery. The average stay in hospital was five days. Patients with loss of weight amounting to 40 or 50 lb. who have a basal metabolism rate of over + 75 per cent., or who show any signs of an approaching crisis, require longer and more careful preparation. Jackson sums up the value of iodine administration in thyroid surgery as follows: (1) Patients are not brought in a precarious state to the operating theatre; (2) nervousness is diminished very greatly; (3) a multiple stage thyroidectomy is unnecessary; (4) a preliminary ligature is unnecessary; (5) haemorrhage is less because there is no previous ligature and therefore no collateral congestion. The morbid histology of the thyroid is stated by Jackson to undergo changes during iodine administration. A transitory stage occurs in which colloid replaces areas of hyperplasia and the gland begins to assume a more normal appearance, but unfortunately this return to normal is never complete.

## Laryngology and Otology.

### 629. Echinococcal Cyst of the Frontal Sinus.

CITELLI (*Rev. de Laryngol., d'Otol. et de Rhinol.*, April 15th, 1925, p. 236) remarks that, although hydatid cysts are much more common in the liver than in any other organ, they have been known to occur in nearly all parts of the body. So far, however, there have been no well authenticated cases recorded as occurring in the nose or accessory sinuses. One possible case of hydatid cyst of the frontal sinus was removed by Langenbeck in 1818, and was reported by Davaine (*Traité des entozoaires*, 1877, p. 584). Citelli now reports a case which came under his observation in 1915. From a boy aged 4 a hydatid cyst of the liver without fluid was removed. Since the age of 3 the patient had had a slight deviation of the right eye, caused by a tumour in the superior internal angle of the orbit. This growth had increased progressively and slowly until 1915, when the boy was 11 years of age. It was then a well marked, hard, smooth, rounded mass in the superior internal angle of the right orbit, and involved the inner part of the roof. There was also some slight ophthalmos and a deviation of the globe outwards and downwards; the nasal fossa was normal. Radiography showed complete opacity of the right frontal sinus, with the cranial wall of the sinus pushed inwards towards the cranium. There was scarcely any spontaneous pain, but a slight sensibility to touch. Ogston-Luc's operation was performed, and Citelli found the cavity full of a rounded mass, externally white and fibrous, internally yellowish and granulated, which showed all the typical appearances of an echinococcal cyst. After removal the patient made an uneventful recovery in ten days.

### 630. Diagnosis of Antral Disease.

W. L. BURNAP (*Minnesota Medicine*, April, 1925, p. 203) remarks that in the search for infective foci antral empyema is frequently overlooked owing largely to the erroneous belief that certain symptoms, such as nasal obstruction, pain, and unilateral nasal discharge, must be present. Experience shows that subjective symptoms are often misleading, as a large number of patients with arthritis and similar infections have no head symptoms. J. P. Tamm, in 100 autopsies, found 37 cases of antral disease, including 12 cases of chronic inflammation or empyema; only one case was diagnosed during life. The ostium of the antrum is situated high up in the middle meatus; drainage depends, therefore, upon the dilated epithelial lining. These conditions increase the number of infections and retard recovery. The antrum may be infected without dental disease, but the tooth should be considered first in all cases. A case of chronic nasal catarrh was cured by extraction of a dead premolar and evacuation of a secondary empyema. The author states that interpretation of dental films regarding relation of

the antrum to the tooth roots demands much skill and experience. If the dental apex is in contact with the antral wall there will be no area of bony softening and absorption; consequently many diseased teeth escape detection. Chronic antral infections may be discovered accidentally during a secondary infection. When examining the nasal fossa it is most important to spray or swab the mucous membrane with an adrenaline-cocaine solution; this contracts and blanches the nasal mucosa. Careful search for purulent discharge should be made, and if none be seen a suction bulb should be used. If pus appears in the middle fossa its origin must be investigated. Transillumination, skiagraphy, and puncture are the three chief methods of differential diagnosis; the first should never be omitted as the pus may be too thick to pass the antral ostium. Pain, often unilateral and severe, occurs as a rule in acute cases, but may be absent in the chronic; it usually indicates retention arising from partial or complete ostial occlusion, due to a thickened mucosa, polyp, or inspissated pus. The pain is felt usually in the cheek or around the eye, but may be referred to the ear and mastoid. Transillumination should always be employed, but requires careful interpretation; where it indicates a difference in antral density skiagrams should be taken. These will also assist greatly in determining the presence of any frontal, ethmoidal, or sphenoidal involvement: trocar puncture through the middle fossa usually gives incontrovertible evidence. Burnap concludes that acute and chronic maxillary antral infections are very common, but very few cases are diagnosed early, the majority persisting unrecognized for many years. Good treatment includes drainage and ventilation, under which the mucosa recovers rapidly in acute cases and ultimately in most chronic cases. When permanent intranasal drainage has been established few subsequent treatments are required. Radical and mutilating operations are never necessary in nontoxic infections and rarely in chronic infections.

## Obstetrics and Gynaecology.

### 631. Sympathectomy in Gynaecology.

R. LERICHE (*Presse Méd.*, April 11th, 1925, p. 465) recapitulates his experience of periarterial sympathectomy on the pelvic blood vessels, which operation he has performed twelve times since 1917. Division of the sympathetic along the internal iliac was sometimes accompanied by section of that along the ovarian or common iliac artery. One patient with metrorrhagia of unknown origin experienced temporary benefit; severe dysmenorrhoea was relieved in one case for two and a half years, and in another case for six months at least, the two patients concerned having a small mobile uterus and polycystic ovarian transformation. One patient suffering from kraurosis vulvae obtained complete relief lasting three years, and another was benefited. A patient who suffered intense pelvic pain after radium treatment for cervical carcinoma, but who showed no trace of recurrence, appeared cured after periarterial sympathectomy of both internal iliacs. Operative difficulties were encountered in one case only. Leriche reserves his opinion concerning the utility or expediency of adding to the operation a division of the presacral sympathetic, as suggested by Cotte. He concludes that periarterial sympathectomy is probably a valuable procedure in many cases which resist other treatments and which have too often been treated by useless or harmful ovarian excisions.

### 632. Tuberculosis of the Body of the Uterus.

C. DANIEL (*Gynéc. et Obstét.*, 1925, xi, 3, p. 162) states that modern investigations have shown that tuberculosis of the uterine body is much more common than was formerly supposed. Although usually it is secondary to other lesions in the lungs, lymphatic glands, kidneys, bones, Pott's abscess, cervix, or elsewhere, yet it is certain that in a fair number of cases the affection of the corpus uteri is primary. Simmonds found among 80 autopsy cases of genital tuberculosis in the female that 11 per cent. were of the uterus only, 23 per cent. of the tubes only, and 65 per cent. of both uterus and tubes. Although tuberculosis of the uterine body is found in childhood and after the menopause, the majority of published observations relate to women in full genital activity; the puerperal state seems to favour inoculation of the uterus with Koch's bacillus. As a rule the endometrium is affected first, with secondary extension to the myometrium; miliary, caseous, and hypertrophic forms have been described. An example of the last named is recorded by Daniel. The patient, a 7-parous woman aged 50, suffered from pain, fetid discharge, and irregular haemorrhage about two years after the menopause, and had within the uterus, in addition to

endometrial vegetations, a sessile submucous tumour the size of a small apple. Among the complicating conditions are: pyometra, which does not invariably occur in aged subjects; atresia of the whole uterine cavity; spontaneous rupture of the uterus; and carcinoma of the body of the uterus. Diagnosis is difficult, although in a small proportion of cases tuberculous material may be recognized in the fragments taken for biopsy; it is usually made after microscopical examination of the excised uterus. Danlot regards radical surgical intervention, if possible by the vaginal route, as the only rational mode of treatment. He notes, however, that Italian writers have strongly recommended hysterectomy and other conservative treatments, and that Cuzzi claims to have had, in a woman who had been fourteen times cured, a complete cure after radiotherapy followed by pregnancy and labour.

### 633. Prophylaxis in Puerperal Fever.

H. BIERMER (*Zentralbl. f. Gynäk.*, March 28th, 1925, p. 674) reports the result of administration simultaneously of anti-streptococcal vaccine and antistreptococcal serum to 94 patients in whom infection appeared likely to occur after abortion or delivery at term. The effects of such an attempt to confer active and passive immunity have been found by Leuros and others to be favourable. Biermer, however, states that 24 per cent. of his cases afterwards became febrile, compared with 8 per cent. in a control series in whom no attempt at immunization was carried out, and relatively three as many obstetric operations were followed by infection in those who had received the serum and vaccine. He concludes that it is fallacious to regard the simultaneous administration of a protective serum as annulling the danger of giving a vaccine during the "negative phase" of an existing slight infection. Clinically the treatment seemed sometimes harmful, especially in patients who had lost a good deal of blood.

### 634. Congenital Elongation of the Cervix.

ACCORDING TO P. SÉJOURNET (*Bull. Soc. de Gynéc. et d'Obstét. de Paris*, 1925, 4, p. 276) congenital lengthening of the cervix is occasionally met with in the newborn; in the absence of vaginal or uterine prolapse the cervix protrudes from the vulva, and other malformations, such as club-foot and spina bifida, are often present. In the adult, congenital cervical lengthening presents itself in partial and complete forms; in the former the anterior lip is usually affected and may attain the length of 10 cm. The complete form is not usually detected until after a full violent muscular effort, or coitus. Séjournet mentions the case of a patient who suffered from dysmenorrhoea and sterility which were finally relieved by cervical amputation, the elongated cervix being folded upwards on itself in the posterior fornix. Exteriorization of an elongated cervix, unlike the cervical hypertrophy associated with precociousity, is frequently met with in young virgins and in young nulliparae with intact perineum. It may nevertheless cause symptoms only at a later age. Two cases are described of this condition occurring in unmarried women. In the first, aged 40, the cervix after four years' diurnal descent became permanently exteriorized. The second patient, aged 47, who when sitting down felt a "falling," worse at the menstrual periods, had a cervix 7 cm. long which increased markedly in size at the menses. Séjournet adds that completely elongated cervixes measure as a rule from 5 to 8 cm., although Tédénat recorded one of 15 cm. Treatment consists in high amputation at the cervico-vaginal insertion.

## Pathology.

### 635. Vitamins and Bacterial Growth.

P. GOY (*Ann. de l'Inst. Pasteur*, February, 1925, p. 183) discusses the effect of vitamins on the growth of yeasts, moulds, and certain bacteria. Working with *Aspergillus niger*, he found that the addition to Rabin's solution of a heated filtrate of a culture of *Mucor mucedo* in the proportion of 3 per cent. increased the growth to such an extent that the yield was as great in 60 hours in this medium as it was in 130 hours in the control medium. Similarly he was able to show the beneficial effect on the growth of *Saccharomyces cerevisiae* of a heated culture of *Amylomucor*  $\beta$ . The substance present in this mucor which is responsible for increasing the growth of other organisms appears to be different from vitamin B. Thus it can be extracted from polished rice and from meat, neither of which contains the B factor; moreover, the extract of *Amylomucor*  $\beta$  itself has been shown by experiments on the higher animals to be free from vitamin B. Other differences were established, such as

the heat stability of the mucor extract (it withstood autoclaving at 130° C. for one and a half hours, even when the solution was acid or alkaline), its complete solubility in ether, and its filtration through kieselguhr without loss of potency. The addition of the filtrate of *Amylomucor*  $\beta$  to broth, and to certain other media, increased the growth of several microorganisms, such as the streptococcus, the *D. diphtheriae*, the tubercle bacilli, and several of the pathogenic anaerobes. The chief effect was not, apparently, increase of the total yield of the culture, but increased rapidity of the growth. Goy suggests, therefore, that the addition of this substance might be useful when an early growth is desired.

### 636. Antidiphtheritic Vaccination.

VARIOUS methods have been devised for producing an active immunity to diphtheria. Von Behring introduced the toxin-antitoxin mixture; Glenny and Sjödmersen recommend a formalized toxin—or anatoxin—which has the advantage of being free from some of the objectionable features of the first. A. SORDELI and R. SERA (*C. R. Soc. de Biologie*, March 20th, 1925, p. 824) now suggest another method, depending on the precipitation which occurs when antitoxin is incubated with toxin. Using Ramon's technique, the amount of antiserum is determined which will neutralize a given quantity of toxin in one hour and in twenty-four hours. In one experiment these amounts came to 14 and 7 c.cm. respectively. A mixture is now made up containing 9 c.cm. of antiserum and 100 c.cm. of toxin. Flocculation occurs after an hour at 38° C.; the mixture is left for a further twenty-four hours in the ice-chest at a temperature of 3° C. and is then centrifuged. The immunizing powers of the supernatant fluid and of the precipitate are then tested on guinea-pigs. It is found that both have much the same antigenic power, though, volume for volume, the precipitate is about 250 times more active. This concentration of the immunizing bodies in so small a quantity of precipitate is the essential part of the method. Vaccination can be carried out either by intradermal injection or by inoculation of the scarified skin, as in ordinary vaccination against small-pox. Testing the value of the two methods on guinea-pigs and rabbits, the authors found that the intradermal injection method gave rise to a higher degree of immunity than the other method. They advocate the employment of this concentrated overneutralized toxin for human vaccination.

### 637. The Streptococcal Toxin and the Dick Reaction.

J. PARAF (*Bull. et Mém. Soc. Méd. Hôp. de Paris*, March 19th, 1925, p. 395), applying the Dick test to 78 adults (doctors, nurses, students, and patients with chronic tuberculous or nervous diseases), found that 26 were positive and 52 negative. Of 5 who had had scarlet fever, 4 gave a negative and 1 a positive reaction. Of the remaining 48 with negative reactions 9 were subject to recurrent sore throat and 1 had had facial erysipelas seven years previously. The proportion of positive reactions (33 per cent.) was lower than that found by Dick and Zingher (41 per cent.). Among 46 children below the age of 14, 20 gave a positive and 26 a negative reaction; 16 of the latter were convalescent from scarlet fever, and 2 had had the disease two or three times. Among 12 children, aged from 1 to 6 months, 4 were positive and 8 negative. Among 8 of these 12 children the test was performed on both mother and child. In 5 infants, aged from 1 to 6 months, the reaction was the same as in the mother—namely, negative in 4 and positive in 1. In 3 infants, aged from 6 to 18 months, the reaction was the same as in the mother, but in an infant of 13 months the reaction was positive while its mother's was negative. Paraf points out that there is therefore, as in diphtheria, sometimes a transmissibility of streptococcal immunity from mother to child. This immunity becomes attenuated and finally disappears in the course of the second year, when the reaction in the child is often different from that in the mother. The Dick reaction therefore runs absolutely parallel with the Schick reaction under similar conditions. In a certain number of cases Paraf made use of a streptococcus isolated from diseases other than scarlet fever—such as acute malignant endocarditis, erysipelas neonatorum, and fatal puerperal fever—for the preparation of the toxin, and gave intradermal injections of these toxins simultaneously with the scarlatinal toxin, the results being always identical. He also performed the test in a few cases of streptococcal infection. The result was positive in a case of subacute endocarditis and one of recurrent erysipelas, but negative in a case of puerperal phlebitis and one of infection following abortion. These results seem to indicate a paraspecific immunity resembling the phenomenon of paradoxical agglutination observed in typhus.

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[D.11.]

## British Medical Association.

### DRAFT MEMORANDUM OF EVIDENCE PROPOSED TO BE PLACED BEFORE THE ROYAL COMMISSION ON NATIONAL HEALTH INSURANCE.

*(Here will appear an introductory section dealing with the authority which the Association has for dealing with this question and the way in which it has secured the approval of the profession for the views submitted.)*

The following sections of this Memorandum are not self-contained, and must be read in connection with each other.

1. The subject of this Memorandum is the organisation of a national scheme of health insurance so far as medical services are concerned and the relationship of such a scheme to other services concerned with public health.

#### GENERAL.

2. At the outset it is desired to emphasize two general considerations. The first is that the organisation of a national health insurance scheme is not necessarily, or even probably, the best means of utilising limited resources for the promotion of national health. It is more than likely that there are a number of other directions in which, severally or collectively, a corresponding expenditure would produce an even more satisfactory return. Such are (1) proper housing, (2) town-planning with the proper provision of open spaces and recreation facilities, (3) smoke abatement, (4) a pure milk supply, (5) public-house reform and the regulation of the sale of alcoholic beverages, (6) the destruction of vermin, (7) education, (8) the aiding of medical research.

3. If, however, resources are sufficient, or if for other reasons it is deemed desirable to organise a national health insurance scheme, a second general consideration becomes of paramount importance, viz., that regard should be had primarily and constantly to the maintenance of health and the prevention of disease and not merely to provision for the alleviation or cure of morbid conditions when once they have arisen. To this end it is essential not only that the attention of all practitioners should be directed continually to the preventive aspects of their work, but that the existing machinery and medical officers of the public health service should be brought into close and organic connection with the insurance scheme.

4. A national health insurance system is understood to be one through which, in return for premiums paid or contributions made, participants are entitled to medical attendance and

treatment, together with certain services ancillary thereto, and also to cash payments under certain conditions during ill-health or disablement. The medical profession, as such, is concerned only with the former class of these benefits, and with the giving of such certificates and reports as may be required in connection with the latter class.

5. The system established under the National Health Insurance Acts is on these lines. The medical profession has now had experience of it since January, 1913. At the beginning the success of the system was jeopardised by the facts that a large proportion of professional opinion was antagonistic to the system or to some of its important details, that sections of the insured population shared this antagonism, and that a lack of experience, combined with the overwhelming amount of work involved, led on the one hand to unsatisfactory practice arrangements, and on the other to very imperfect administrative machinery and methods. A little later the immense disturbance of the war and of demobilisation prevented acquired experience from having its full practical effect, and it is during the last three years only that the system can be said to have been working in a really smooth and normal fashion. Indeed, some essential improvements came into force only at the beginning of 1924. Nevertheless, in the year 1922 both the Representative Body of the Association and the Conference of Representatives of Local Medical and Panel Committees declared "that the measure of success which has attended the experiment of providing medical benefit under the National Health Insurance Acts system has been sufficient to justify the profession in uniting to ensure the continuance and improvement of an insurance system."

6. A comparison of the conditions of practice among the classes to which insured persons belong, before and since 1913, leaves no doubt in the mind of the profession (a) that large numbers, indeed whole classes, of persons are now receiving a real medical attention which they formerly did not receive at all; (b) that the number of practitioners in proportion to the population in densely populated areas has increased; (c) that the amount and character of the medical attention given is superior to that formerly given even in the best of the old clubs, and immensely superior to that given in the great majority of the clubs which were far from the best; (d) that illness is now coming under skilled observation and treatment

at an earlier stage than was formerly the case; (e) that, speaking generally, the work of practitioners has been given a bias towards prevention which was formerly not so marked; (f) that clinical records have been or are being provided which may be made of great service in relation to medical research and public health; (g) that co-operation among practitioners is being encouraged to an increasing degree; and (h) that there is now a more marked recognition than formerly of the collective responsibility of the profession to the community in respect of all health matters. All these are immense gains and, though it is possible that some of them may not be wholly due to the establishment of the National Health Insurance scheme, they have certainly been hastened and intensified by that system.

7. On the other hand it has to be said that this very success had led, at certain seasons, and in times of widespread epidemic disease, to a strain upon its powers and resources which the profession has scarcely been able to bear; and the new conditions have resulted in a volume of regulations which must be observed, rules which must be obeyed, forms which must be filled up, and quasi-judicial machinery which it is desirable to avoid, to an extent which is regarded by insurance practitioners as oppressive, or even menacing, and which actually by itself deters some other practitioners from taking part in the service at all. The doctor is still an individual dealing with an individual patient and having his prime duty in this relationship; and in so far as his mind is seriously diverted from this by concern for other duties and relationships, and by fear of transgressing unwittingly rules and regulations made for other purposes, this is detrimental to his work and to the interests of those whom he is primarily serving. It is, of course, true that all citizens live and work under the restraining influence of law and social custom, and that members of the medical profession have also in mind the disciplinary powers of the General Medical Council and the ethical and other traditions of their profession, but in the world, even in the medical world, these are not so onerous, so omnipresent, so imminent, as to be a constant source of worry or distraction. Experience of the National Health Insurance system as at present established has led the profession to realise very vividly that its work may be made not more efficient but less efficient by a multiplicity of departmental requirements. Its aim is so to improve the system as to enable the profession to supply what the public needs under conditions which will make its services most easily and suitably available to the community.

8. It is the belief of the Association that in any national health insurance scheme certain broad principles with regard to medical benefits must be regarded as fundamental. These are:—

(a) The medical provision should be available for those persons, and only for those persons, who would be unable to obtain it without the help of the insurance scheme;

(b) The medical provision made for such persons should be, as far as possible, complete;

(c) The conditions under which the medical attention is given to the individual should approximate as nearly as possible to those of private practice;

(d) Medical representatives should be closely associated with the administration of the scheme, and as far as questions of purely professional conduct and treatment are concerned, judgment should be in the hands of purely professional bodies;

(e) Remuneration should be on such a basis as (i.) would produce an income not less than that which corresponding responsibility and work should produce in comparable private practice, regard being had to all relevant considerations, and (ii.) would not prejudice the continuous supply of the best type of practitioner.

9. If these conditions are not secured there will be grave danger (1) that the volume of work imposed upon the medical profession will be much greater than it can properly perform, at any rate for some time to come; (2) that much of the advantage of present professional feeling and tradition will be lost and the present relationship of doctor and patient be changed for the worse, to the prejudice of the patient; (3) that work under the insurance scheme will be regarded as of only secondary importance when compared with other branches of medical practice.

#### SECTION A. PERSONS TO BE PROVIDED FOR.

10. The first of the above principles raises at once the question as to the extent of the national health insurance service as regards the persons for whom provision should be made. Within the present scheme are included all persons under a contract of service, namely, (a) all manual workers, without limit of £230 a year. Any such employed person who has a private

income or pension of not less than 10s. per week, or is ordinarily and mainly dependent for his livelihood on some other person, may claim exemption and is then required to make his own arrangements for medical attendance if his total income is above £160 a year (i.e., if his earned income is more than £134 a year or even less than this). Such persons are exempt from insurance in general but entitled to Medical Benefit. Further, certain whole classes of persons are excluded because, though under a contract of service, they serve under conditions which provide, by means of a superannuation scheme or otherwise, benefit considered to be at least equivalent to those of the national insurance scheme. On the other hand, certain persons who have been compulsorily insured for at least two years may continue their insurance voluntarily, even though they have ceased to be under a contract of service. These, however, are a relatively small number.

11. Questions which arise are (1) whether it is necessary to include within a national health insurance scheme all such persons as are at present included; (2) whether it is not at least equally necessary, from a national point of view, to include those economically dependent upon such persons, and also other workers who, though not under a contract of service, are in a like economic position; (3) whether it is desirable to include within the same system of medical benefit those who are actually destitute, in this case of course with appropriate modifications as to contributions.

12. It is impossible to resist the conclusion that provision for those referred to in the second question is necessary, and that the provision that must be made for those referred to in the third question might well be made by the same system. It is recognised that neither of these problems is a simple one. From the national health point of view the Association holds that the dependants of the lower paid insured person should have provided for them through some insurance system medical advice and treatment, but is opposed to the inclusion of the dependants of the whole of the present insured persons.

13. The problem of the inclusion of the dependants of even the lower-paid insured workers in any insurance scheme raises questions of paramount importance. However obviously desirable this may be as a matter of national health, it clearly involves some formidable difficulties. These are mainly (a) finance, (b) amount of additional work imposed on the medical profession, (c) consequential alterations in the conditions of practice in many areas.

14. The additional financial burden will be dependent on two factors: (a) the number of new participants, (b) the proportionate cost per head of each of these to that of persons previously insured. There does not appear to be any exact estimate of the number of dependants, but assuming for the moment that the number of existing insured persons (say 15,500,000) remains the same, the number of their dependants plus others in a like economic position is possibly something like one and a half times as great—that is to say the present insured persons plus their dependants would probably amount to 38,750,000 in all. There is no reason to suppose that such new entrants would be less costly than their predecessors. The total amount of work thrown on the medical profession is another factor of great importance, and it must be remembered that the demands under an insurance scheme would necessarily and properly be considerably heavier than those at present made by the same persons. This fact emerged during the early years of the operation of the National Insurance Scheme.

15. The profession would no doubt in the course of time adjust itself in numbers and in other ways to the new conditions, but for a considerable time to come, and perhaps permanently, in order to cope properly with the new work, and to make it tolerable by the profession—especially in those areas in which, owing to the character of the population, there would be left no scope at all for other practice—some arrangements tending to lighten the work would have to be made. The Association is of opinion that essential conditions accompanying any extension of a national health insurance scheme to include dependants and others of a like economic status should be (a) the establishment or continuance in all populous areas of infant welfare centres for the instruction of mothers and for the routine examination of infants and young children as to weight, etc., the practitioner having reasonable access to the records of all cases under his care; (b) a sufficiently adequate service of nurses available for home nursing; (c) the reduction to a minimum of all records and reports required from practitioners with regard to the new entrants and a lightening of those required with regard to existing insured persons; (d) a revision of the matters which may be made the subject of complaint and of the methods of dealing with them on the lines of the suggestions made in a subsequent section of this memorandum.

16. With a view to reducing further some of these difficulties and liabilities, and bringing the whole problem within more measurable compass, it is suggested—

(a) That the classes of persons exempt from the scheme by reason of their contract of service including provisions giving benefits equal to those of the national scheme, should be extended to include others (e.g., bank and insurance clerks) not at present excluded;

(b) That persons with an unearned income of an amount per week not less than that prescribed for sickness benefit should be excluded;

(c) That any income limit (whether £250 a year or a lower amount) should be applied alike to the non-manual worker, the manual worker, and the voluntarily insured person;

(d) That a lower income limit than that which is applied generally to insured persons should be necessary with regard to the inclusion of dependants.

17. It is not suggested that these income limits are exact criteria of economic need, but in view of the considerable increase in the total of medical advice and treatment which would be entailed by the inclusion of dependants and others in like economic position, it seems necessary, at any rate for a time, to draw the line of inclusion in the scheme as low as is reasonably possible, rather than as high as in other circumstances might be found desirable. The question of whether a contribution from the employer should be required for every one of his employees regardless of all, or any of the suggested exemptions, is not a medical question and is not prejudiced by the above suggestions.

18. From the medical side only, the problem of the provision of advice and treatment for the poor person not under any contract of service, or for the necessitous person, is not specially difficult. The difficulties here are the details of finance and administration. If these can be overcome the profession is prepared to undertake the work in general accordance with the National Health Insurance Scheme here outlined.

#### SECTION B. EXTENT OF PROVISION TO BE MADE.

19. The second of the main points is that the medical provision made for all persons included in the scheme should be, as far as possible, complete. Under the present scheme the medical advice and treatment provided is, broadly, such as can reasonably be expected from general practitioners as a class. Other services publicly provided under the auspices of local authorities are also available—certain pathological facilities, treatment for tuberculosis and venereal disease, and for certain infective fevers, the treatment of certain conditions of children of school age and provision in connection with maternity and infant welfare. Moreover, some Approved Societies make contributions to some of their members toward the cost of a few other treatments, e.g., dental, ophthalmic, or institutional. These benefits are, however, available for only a small proportion of insured persons, although all pay the same premiums. A further small provision for possible consultative advice by or through the regional medical officers, is, so far, scarcely at all developed.

20. It is desired to make all such services and benefits an integral part of the insurance scheme or to bring them into proper relationship thereto, so that they may be available for all persons included; and to extend the provision so as to include complete consultant and specialist advice and treatment, full laboratory facilities for clinical purposes, residential institutional treatment so far as possible with limited accommodation, dental advice and treatment, such ancillary help as can be given by nurses and masseurs, and an ambulance service—in addition to the general practitioner advice and treatment and the provision of necessary drugs and appliances which is at present the main provision made. The Association is of opinion that all these benefits should be equally available to all insured persons alike regardless of their membership of any particular society.

21. It seems necessary here to emphasise that when "general practitioner advice and treatment" is spoken of, the phrase does not indicate anything of an inferior character. In their own way and for their own purposes, such services "as can reasonably be expected from general practitioners as a class" are fully as important, as scientific, as highly skilled, as those which are provided by other practitioners in more special and restricted lines of practice. Practitioners, whatever their sphere of practice, may be relied upon to devote to their work all the knowledge, care and skill which they have; the distinction is mainly one of range. Experience and skill in certain directions can only be acquired by those (some general practitioners included) who are able to direct special attention to a particular branch of practice or class of case, or to the performance of certain surgical operations or manipulations.

It is desirable to secure all these different kinds of skill for the participants in an insurance scheme, without implying that one kind is superior in itself to another.

22. It is obvious, as is the case at present in connection with the provision of drugs and appliances, that persons who under the scheme would be eligible for all the additional services could not be put into a position to claim them whenever they wished. Otherwise demands might be made which would be disadvantageous medically and ruinous financially. With slight modification in one or two instances these services should be available only on the recommendation of the general practitioner responsible for the patient. This rule, however, might require safeguarding in two directions. On the one hand it is conceivable that a practitioner might make unreasonable or excessive use of these facilities, and accordingly practitioners might be (a) required to notify the administrative authority on recommending a patient for these extra services, and (b) liable to explain to a professional committee the reason for any apparently excessive use. On the other hand there might be cases, as in private practice, in which there might be a difference of opinion between practitioner and patient as to the need for the extra service, or cases in which a society or other body responsible for cash payments during sickness might make a request for further special advice, and accordingly provision might be made for an official referee to decide the matter in such cases where necessary.

23. The cases calling for a modification of the general rule that services should be available only on the recommendation of the general practitioner responsible are (a) the prescribing of any necessary drugs or appliances, or the using of other extra services by the consultant or specialist to whom the patient has been referred not for consultation only but for the carrying out of some special investigation or treatment; and (b) the direct application by the patient to a dentist for dental treatment. In the latter case some safeguards would be required for dental services of specified kinds or for any procedure estimated to involve expenditure beyond a stated amount.

24. The medical personnel of the consultant or specialist service should consist of all registered medical practitioners who expressed their willingness to accept service within each area and who satisfied certain criteria as to status. These criteria should be those at present laid down in the Medical Benefit Regulations and elsewhere for a similar purpose. These are:—

(a) That he has held hospital or other appointments affording special opportunities for acquiring special skill and experience of the kind required for the performance of the service rendered, and has had actual recent practice in performing the service rendered or services of a similar character; or

(b) That he has had special academic or post-graduate study of a subject which comprises the service rendered, and has had actual recent practice as aforesaid; or

(c) That he is generally recognised by other practitioners in the area as having special proficiency and experience in a subject which comprises the service rendered.

The decision as to whether any individual practitioner desiring to serve in a consulting or specialist capacity does in fact satisfy these criteria should be in the hands of a local professional committee. Any practitioner excluded by the decision of such a committee should have the right of appeal to a small professional committee representing a wider geographical area. From a list of consultants and specialists so compiled a practitioner, in agreement with his patient, might choose any individual considered most suitable for the particular case.

25. In normal circumstances, or whenever possible, such consultations would take place or such specialist services would be given, either at the consultant's rooms, or at the practitioner's house or surgery, or at the patient's house. The conditions in some localities, however, might make desirable the establishment of special premises for this purpose, and such premises might in some cases even be the out-patient department of a hospital. Wherever such consultative or specialist clinics were established attendance would have to be given by the medical officers at fixed times, the clinic should be available for the purposes of medical education, particularly post-graduate, and general practitioners not on the specialist list should be eligible for service as clinical assistants.

26. Among the detailed arrangements that must be made for the conduct of such a service is the important one for exchange of opinion and co-operation in treatment between the general practitioner responsible for the case and the consultant or specialist to whom the patient has been referred for advice or treatment. It is desirable that a system should

be adopted whereby the practitioner referring a case would furnish the consultant by some method with information of the previous history and points on which advice is specially desired, and the consultant would furnish the practitioner with information as to the results of his examination and any treatment given or future treatment advised. Provision might be made for insisting upon actual personal consultation between practitioner and consultant where either of them considered this necessary. The primary responsibility of the general practitioner in charge should be preserved in all cases.

27. The relation of certain existing clinics or treatment centres, provided by local authorities under statutory powers, to the suggested arrangements must be considered. Obviously in so far as persons provided for by these clinics come under a health insurance scheme, and so far as the treatment provided thereat is either general practitioner treatment or such as can normally be given by a consultant or specialist elsewhere, they would no longer be required. If they remained—as in many cases no doubt they would—their functions would be somewhat as follows:—(a) they would be centres for education in health matters; (b) they would be places at which practitioners might make appointments with their patients when necessary for special purposes; (c) they would be specialist clinics for persons under the insurance scheme where consultations elsewhere were not possible; (d) they would be available for public provision for such persons as did not come under the insurance scheme when such provision was still held to be necessary for certain purposes.

28. It is possible that for a limited period of time it would still be necessary to continue the appointment of whole-time officers dealing with tuberculosis and with venereal diseases.

29. The relationship of maternity work to the health insurance scheme requires special mention. It is contemplated that complete provision should be made for this as part of the medical service. Provision should be made, in addition to a cash payment, whereby attendance at confinement and during the puerperal period together with special examination and supervision during pregnancy would be brought within the scope of the scheme. Certain conditions are, however, essential if this is to be done: (1) there must be everywhere an efficient service of registered midwives, (2) there should be provision for institutional treatment for serious cases of ante-natal complications, for cases requiring major obstetrical operations, for cases where isolation and treatment of septic infection is specially indicated, and for cases where the home conditions are very unsuitable or dangerous for confinements; (3) any practitioner should be at liberty to decline to undertake this work; (4) practitioners should be at liberty to place their names upon the list for maternity purposes only. Provision for a woman within the insurance scheme would thus be for: (a) medical examination (not compulsory), and supervision during pregnancy; (b) attendance by a registered midwife during normal labour and during the puerperal period (the ideal being that both a midwife and a doctor should be provided, but where the scheme cannot provide for both in respect to normal labour the interests of the patient would best be served by the provision of a midwife; (c) attendance by a practitioner during labour and the puerperal period when his attendance is requested by the midwife under defined conditions, or when, as a result of his examination during pregnancy he has declared his personal attendance to be necessary. Professional services under these headings would be remunerated, as in the case of the other extra services, by a special scale of fees, as indicated in a later section. The procedure would be for the insured woman, at an early stage of pregnancy, to choose her doctor; for the doctor so chosen to make, with her consent, a suitable examination during pregnancy; for the midwife to be notified as to the doctor to be called in, and as to the conditions under which she must ask for his services. The consultant and specialist service would be available also in this connection.

30. The provision for a clinical laboratory service stands on a somewhat different footing. There are advantages in such a service being associated with research work; and suitable laboratories are as a rule connected with universities or hospitals, sometimes the larger voluntary hospitals, sometimes hospitals for infectious disease established by local authorities. When, however, routine investigations are undertaken by a university laboratory, such routine work should not be allowed to interfere unduly with teaching and research which are the proper work of a University Department. It is desirable that the necessary laboratory work should be divided between a relatively small number of large central laboratories and a larger number of small laboratories. At the former, investigations requiring special facilities or appar-

atus or those which can be carried out with greater accuracy, uniformity and economy when large numbers of specimens are dealt with would be made. At the latter, tests not involving the use of elaborate or exceptional apparatus would be carried out. Highly trained pathologists would be required for most of this work, and in practice it would be impossible and undesirable to restrict their activities to work required by the National Health Insurance scheme alone. Under these circumstances it seems desirable that laboratories should be established and maintained under other auspices, and that a suitable financial contribution should be made to them from the National Health Insurance fund in respect of the work which they do for persons included within the scheme. Some approved clinical laboratories under private management might be recognised for the same purpose. There are a number of cases, moreover, in which satisfactory results can be expected only if it is possible to provide pathologists to visit patients in their own homes and take the specimens required for examination. It is advisable to arrange for this, as well as for exchange of opinion between clinicians and laboratory workers.

31. For residential institutional treatment arrangements on much the same plan would probably be found most suitable, at any rate for a considerable period of time. There would be available the voluntary hospitals of various types, the hospitals for infectious disease, and the tuberculosis sanatoriums established by local authorities, and the present poor law hospitals. In use none of them could be restricted to persons under the insurance scheme alone, and the total accommodation in them would be insufficient in many areas. The right of insured persons to admission would thus be limited in accordance with arrangements made with the authorities governing particular hospitals or institutions. A copy of the hospital policy of the British Medical Association will be attached hereto, with those provisions marked which have special applicability to any such arrangement made on behalf of participants in an insurance scheme. This makes it clear that when use is made of voluntary hospitals or other charitable institutions for the treatment of insured persons, either as in-patients or out-patients, the cost of such treatment should not be a charge on the ordinary funds of the institution but should be defrayed in full out of the Medical Benefit Funds of the Insurance Acts, taking into consideration that the charge should include a percentage for the remuneration of the Visiting Staffs of the hospital in accordance with paragraph 32 of the British Medical Association Hospital Policy. The position of convalescent or rest-homes requires special consideration in this connection.

32. Before leaving this section it may be as well to point out that even within the scope of general practitioner treatment at present the provision for the needs of insured persons is not complete. Although there is complete provision for the supply of any drug or medicine which the practitioner in charge of a case may consider necessary (with due provision against sheer extravagance) there is considerable restriction as to the appliances which may be ordered. No doubt the reason for this is financial, but it would be a great advantage to allow all appliances necessary for the sick person to be supplied. In the case of some such appliances it might be possible to arrange for their loan to the insured person where they are required only temporarily.

33. One other contingent suggestion may perhaps be made. If it should be found desirable to continue to require payments from employers in respect of certain of their employees who were not included in the insurance scheme as a whole (i.e., exempt persons but for whom a card has to be stamped by the employer), it might be found possible and advisable to give such employees the benefit of some or all of these extra services by reason of such contributions.

#### SECTION C. REGULATIONS AND TERMS OF SERVICE.

34. A third main principle is that the conditions under which medical advice and treatment is given, whether by general practitioners or consultants, should approximate as nearly as possible to those of private practice, and should preserve within wide limits professional customs and traditions. These traditions and conditions must, of course, to some extent be modified by the facts that the scheme is based upon an insurance plan, and that under the scheme the practitioner undertakes certain responsibilities not to his patient alone but to the State and to societies or bodies administering cash payments during sickness or disablement, but no unnecessary requirements should be imposed either upon the insured person or the practitioner.

35. An essential point is that, as is the case at present, any registered medical practitioner shall be able to participate in the service as a right if he is willing to accept the



conditions, and until his continuance in the service has been properly adjudged to be detrimental to it. Unless this be so, a large part of their possible field of work would be automatically cut off from practitioners who have complied with those tests which have been recognised by the General Medical Council, in this respect the statutory governing body of the profession, as permitting entry to the profession. It seems to follow as a corollary from this that those conditions laid down for acceptance should be as little complicated and onerous as possible, so that as large a number as possible shall be willing to engage in work under a national health insurance scheme. This would be an advantage to the profession, to insured persons and to the public health alike. It is believed that the suggestions in this and the following section would tend, if adopted, to increase the number of practitioners willing to take part in this work.

36. The main fact of daily professional work is the intimate and confidential relationship which must necessarily arise between patient and doctor and without which, in a large number of instances, results must be far less satisfactory than would otherwise be the case. A very important factor in preserving this relationship is the right of a patient at any moment to seek the services of another practitioner and the right of a practitioner to intimate that he wishes no longer to be responsible for a particular case. All questions of supposed neglect or lack of success or improper behaviour on the part of a doctor, and of unreasonable conduct on the part of a patient may be solved very simply by the exercise of these rights, and there is no reason why, speaking generally, in reference to such matters, specific rules accompanied by penalties should be imposed on insured persons or special provision be made for complaints against practitioners, if a similar freedom of choice can be exercised. This freedom has been secured absolutely for insured persons under the regulations which came into force in 1924, but the corresponding freedom of the practitioner is still unnecessarily restricted. It should be equally absolute except that he should not abandon his responsibility for an actually ill person until other attendance has been secured. In the circumstances indicated it is obvious that the desirable thing to do is not to keep doctor and patient tied together as long as possible but to make other arrangements as rapidly as may be, and to do this with as little unpleasantness or recrimination as possible. There can be no objection, of course, to a statement in general terms as to what constitutes reasonable conduct in certain respects on the part of a patient, or what are in general the duties which the doctor undertakes to perform.

37. The conditions of an insurance scheme also make certain requirements or provisions necessary which are not needed in the conditions of private practice. These, however, though important, should be few. An insured person should be required (1) to seek acceptance by a doctor before occasion for medical treatment arises; (2) to claim treatment as an insured person, by the production of a medical card or otherwise, on at least the first consultation of each series. Failure in either of these respects should render the insured person liable to a penalty or to the payment of a fee, for otherwise an essential principle of insurance is violated or the doctor is placed in a serious difficulty as to his duty. An insurance practitioner should be liable to a penalty for (1) wilfully charging a fee for any service which he had undertaken to render as part of the insurance service; (2) such general conduct as is held to be detrimental to the interests of the service.

38. An insured person, moreover, has an obvious right to complain if he experiences undue difficulty in securing acceptance by any practitioner in his district at all, unless he has brought this about by placing himself in charge of an unqualified person and whilst he continues in such charge; and the arrangement made with the practitioners of an area must provide against an insured person being placed in this position.

39. Beyond his relationship to his patient as medical attendant the practitioner undertakes to keep certain records and make certain reports and also to furnish certain certificates. Statements made in such records, reports, or certificates about a patient's condition are matters of professional judgment, and, if honestly made, should not render the practitioner liable to any complaint beyond that to which all practitioners are liable in all their professional work, but wilful failure to keep records, make reports or furnish certificates on the occasions on which the practitioner has undertaken this duty, or the making of wilfully false statements in such documents, may well be the subject of serious official action.

40. If official complaints against an insured person were restricted to his failure to take action in the two ways judi-

cated in paragraph 37; and if official complaints against practitioners were restricted to the cases indicated above, it is probable that such complaints would not be numerous and liability to them would be recognised as on the whole just. It is probable, too, that the machinery at present provided for dealing with such complaints would, with some minor adjustments, be considered to be not inappropriate in the majority of cases. It is suggested, however: (1) that all complaints against a practitioner should in the first instance be sent to the Chairman of the Local Medical Committee and the chief administrative medical officer of the local authority (mentioned in paragraph 46); (2) that only such as could not be settled by them with the acquiescence of both parties should proceed further; (3) that questions of general conduct, detrimental to the service, or of giving false certificates should be reported upon in the first instance by the Local Medical Committee; (4) that an appeal to the Courts should be possible not only on the ground of improper procedure as at present, but also on the ground that the penalty inflicted was out of proportion to the offence; (5) that in the case of proposed removal from the service the practitioner should have the right of appeal to a duly constituted central professional committee, and that the Minister of Health, in cases where this right was exercised, should not be able to remove the practitioner from the service unless the central professional committee advised this course.

41. The circumstances of medical practice are so diverse in different parts of the country that any absolutely uniform regulations or terms of service are very difficult of application in some respects and in some areas. Particularly do the conditions in sparsely-populated districts need special consideration. It is, on the other hand, undesirable that similar conditions in different geographical areas should be differently dealt with, and, indeed, that there should be any unnecessary variety in the conditions or terms under which practitioners serve. It is suggested, therefore, that in the official regulations and terms of service there should be in some sections alternative provisions which might be adopted in certain districts or even in individual cases. Evidence as to special conditions in (a) sparsely-populated rural areas, and (b) certain colliery areas, will be found in Appendices I and II.

42. There is one anomaly in the arrangements for the provision of medical benefit created by Section 15 (4) of the 1911 Act (Section 24 (4) of the 1924 Act) which the Association is of opinion should now be rectified. The Section in question of the 1911 Act recognised certain medical aid institutes existing at the passing of the Act as agents for the administration of Medical Benefit (including the provision of any necessary drugs and appliances) for their members. The term "Medical Aid Institute" is a generic title which covered Friendly Society Institutes, Workmen's Medical Aid Associations, Workmen's Medical Funds and certain Provident Dispensaries—all now known under the style of "Approved (15 (4)) Institutes." It is believed that all these institutions employ whole-time medical officers paid by a salary, whose appointment and control is entirely in the hands of the governing body of the institute—a purely lay committee. The Association is of opinion that the standard of treatment given by these institutions is not equal to that given by the insurance service as a whole; it is certain that the great majority of medical men decline to take service under the conditions laid down by these institutions and it is difficult to argue that they supply any such need of the community as justifies their being placed outside the general scheme of administration of medical benefit.

#### SECTION D. ADMINISTRATION.

43. Two of the main principles to be satisfied in the administration of a National Health Insurance scheme seem to the Association to be these: (1) that the medical benefits in the widest sense (including the "treatment benefits" at present provided and administered by some Approved Societies) should be regarded as a health service and administered along with other health services, distinct from the administration of any cash benefits which should themselves be administered either separately or along with other cash benefits available from other schemes of National Insurance, and (2) that in the administration of the health services provision should be made for participation of the medical profession to an adequate extent. In Appendix III will be found a statement as to the points in connection with one of the "Additional Benefits," namely, Ophthalmic Benefit.

44. The central administration of all health services should be under the control of the Ministry of Health, and the local administration of all these services should be in the hands of a local authority established ad hoc, or acting through a statutory Committee constituted in accordance with schemes—

all of which should provide for a proportion of membership of persons of experience in health matters, including representatives of the medical profession. Such committees would be analogous to the existing statutory Education Committees of local authorities. It is recognised that existing local Government areas are in many cases not ideally the best for purposes of health administration, and that altogether new areas centred in each case round a considerable town, would be more satisfactory for purposes both of health and of education. Of existing authorities, however, it is probable that County Councils and County Borough Councils would be found the least unsuitable, though in a few cases it might be preferable to group a few Borough or Urban District areas.

45. In any case such unification of medical services as those contemplated in this Memorandum would, in such an administrative system involve the disappearance as such of Insurance Committees and the transfer of the health functions of the Poor Law Guardians. It is certain, however, that many of the members and officers of these bodies would be indispensable for the work of the unified authority.

46. Each such Authority would have a Chief Administrative Medical Officer, who would no doubt in most cases be the existing Medical Officer of Health. In each area there would be also a Statutory Local Medical Committee elected or appointed under a scheme which would ensure that it was representative of all kinds of medical practice in the area. Such a medical committee would take the place of both the existing Panel Committee and the existing Local Medical Committee, and like the former of these but unlike the latter, would have funds provided for administrative purposes. The duties of this Committee would be to appoint the representatives of the medical profession on the Local Health Committee and on any other local committees containing such representatives, to conduct any negotiations with the local health authority on behalf of the profession, to advise that authority on purely professional matters and to perform any other statutory duties imposed upon such a Medical Committee. The Medical Committee should have the right to present its view not only to the Local Health Committee but also to the Ministry of Health and to the public. A separate Dental Committee would probably be required.

47. The administration of the cash benefits (sickness disablement, maternity) does not primarily concern the medical profession as such. Practitioners are, however, brought into close and important relationship thereto by reason of the facts; (1) that they have to give medical certificates on which to a large extent the payment of these cash benefits depends; (2) that they often find their patients in doubt, difficulty or even distress with reference to these payments; (3) that they, through the Insurance Committees, are largely dependent on the bodies which administer these benefits for the correctness or otherwise of the lists of insured persons for whom they are responsible.

48. Evidence of serious imperfections in the administration of Approved Societies both in notifying Insurance Committees of the enrolment of insured persons and of the suspension of their members from medical benefit, and in the payment of sickness benefit to their members is continually coming to the notice of practitioners in their daily work, but except as to one matter on which there are official statistics of great importance, the Association does not wish to stress this. Doubtless, as in the corresponding matter of the imperfections of medical attendance and treatment, a considerable proportion of the complaints are vague and incapable of being substantiated, or are really due to faulty action on the part of the insured persons themselves. Doubtless, too, there are a considerable number of agents of large societies and a number of part-time officials of small societies who are unable to understand, or do not take the trouble to understand, the regulations under which they work or the instructions of their superior officers, just as there are some practitioners who will not read or consider memoranda or communications addressed to them. Doubtless, again, as in the case of medical attendances, the proportion of cases in which there is cause for complaint is quite small in relation to the total number of occasions on which complaint might possibly have arisen. Nevertheless it is distressing to doctor as well as to patient to witness cases in which actual want arises and delay in recovery ensues owing to the non-payment or the delay in payment of benefits to which the insured person appears entitled; and there is much loss of valuable time in explaining to such persons what they should do in order to secure what they believe to be their rights or to what quarter their complaints should be addressed.

49. The matter of the delay of Approved Societies to notify promptly the fact that members have passed out of medical

benefit or issue orange slips notifying suspensions from medical benefit is, however, serious. The following extract is from the official Memorandum (C.I.C.I.) issued to Approved Societies by the Central Index Committee in March, 1923:—

21. *Delay in issue of Orange Slips.*—The suspension from medical benefit which requires to be notified by the issue of an orange slip arises out of circumstances which should be known to the Society some considerable time before the suspension is due to take effect, and in the case of employed contributors usually about six months before that date. The instructions require that the Society should issue the orange slip as early as possible in the half-year at the close of which the member is due to be suspended. This, again, is no mere formality; it is necessary in order that the orange slip may be forwarded to the Insurance Committee before the suspension actually takes effect so that the member may be removed from the doctor's list immediately he ceases to be entitled to benefit. Doctors are credited on the numbers upon their lists at the beginning of each quarter; and it follows that if the Insurance Committee is unable to remove a suspended member from his doctor's list by the first day of the ensuing half-year, the doctor is credited for a further quarter at least in respect of that member, while the member himself may enjoy a period of medical benefit beyond that to which he is entitled.

22. Notwithstanding, however, the practical importance of the prompt despatch of orange slips, much delay is experienced by the Central Index in receiving them from Societies. The orange slips received notifying suspension on 30th June, 1921, for example, numbered 275,000, of which no more than 100,000 were received in time to permit of their being dealt with before the date of suspension, the balance of 63 per cent. of the persons concerned being still credited to doctors after ceasing to be entitled. In the case of suspensions taking effect on 31st December, 1921, 474,000 orange slips were received, of which 250,000 only were in time to be dealt with by the date of suspension; while of the suspensions taking effect on 30th June, 1922, 326,000 were received, of which 223,000 alone could be dealt with before the date of suspension.\*

23. It will thus be seen that in practice a large proportion of the orange slips issued are despatched too late to be made effective by the date of the suspension which they are intended to notify; and the consequence of this delay is, as already indicated, that hundreds of thousands of insured persons are in a position to obtain benefit beyond the period for which they are entitled to receive it, while credit for them is unavoidably given to the doctors concerned for a full quarter at least beyond the date of suspension, irrespective of the date when the numbers are actually taken off the doctors' lists. Some substantial improvements can reasonably be expected in this connection; and apart from the consequences just indicated, the Central Index Committee think it necessary to point out that delay of this kind is bound to increase the administration expenses of the Index. If all orange slips were forwarded promptly by each Society in the early part of the half-year at the end of which suspension is due, or in the case of large societies issued in equal instalments at regular intervals throughout that half-year, the heavy work of handling them and passing them on to Insurance Committees could be overtaken with an even load of work. If, however, receipts of orange slips are, as at present, congested towards the end of that half-year, extra expense is incurred through the dislocation of the current work or the employment of extra staff to cope with the congestion.

\* The figures in this paragraph relate to England.

This shows that in a period of eighteen months as the direct result of imperfect administration on the part of approved Societies there were 503,000 persons whom doctors were liable to attend in respect of whom no contribution was forthcoming, and there are figures showing that in Manchester alone there were such persons actually receiving treatment as follows:—During the last two quarters of 1921, 252; first three quarters of 1922, 758; whole of 1923, 1,190; and during the first two quarters of 1924, 311.

50. The profession regards the question of medical certification as of the highest importance, and looks upon the issue of a false certificate as one of the gravest offences of which a practitioner can be guilty. There has, no doubt, from time to time, been a certain amount of lax, as distinguished from wilfully false, certification on the part of some practitioners,

and some disregard of certification rules which, since they were in force, should have been strictly obeyed. In practice, however, it is difficult sometimes to obey all these rules quite strictly without doing some injustice to the insured person, and many of the conclusions which have sometimes been drawn by the officials of Approved Societies from an examination of large numbers of medical certificates or from the results of reference to Regional Medical Officers are erroneous, due often to very natural misinterpretation or misunderstanding. It is recognised that bodies responsible for the administration of cash benefits have a right to be consulted with regard to the arrangements for certification and to criticise the working of such arrangements, and the Association is prepared, should the Royal Commission wish it, to go more fully into the question of certification and to reply to any allegations which may possibly be made with regard thereto; but it appears that, in the main, medical certification in relation to sickness benefit is remarkably well done, and certainly an immense amount of trouble is taken to do it conscientiously and accurately, in spite of some failures.

51. Some alterations in the forms of certificate and of the Certification Rules and arrangements would conduce to the easier and more harmonious working of the system, and would be for the convenience alike of doctor and patient, without seriously interfering with the rights of the bodies administering cash benefits. For example, the phrase "incapable of work" used in the Acts and therefore necessarily repeated in all certificate forms is misleading and inaccurate if the words are given their ordinary signification; and certificates containing this phrase can be signed honestly only because the words are now understood to have a technical meaning, which, however, needs a pamphlet to set forth accurately. It is desirable that this phrase should be altered. With this exception the form of the first and of the final certificates might remain as at present, and it is probable that a First Intermediate Certificate may properly be required under the same conditions as now; but with regard to other intermediate certificates it is suggested (a) that they should simply state that the practitioner has seen the patient on a particular day and that the patient remains unfit for work; (b) that the interval between the issue of such certificates should be at the discretion of the practitioner provided that such interval was not greater than 14 days in the case of Sickness Benefit nor than 42 days (or in rural areas three months) in the case of Disablement Benefit; (c) that the practitioner should be able in the former case to apply for permission to make the interval longer than 14 days, and that the body administering Disablement Benefit should be able in the latter case to ask that the interval should be made shorter than 42 days or three months, as the case may be; (d) that the arrangements for special intermediate certificates dealing with absence from home should be more elastic both as to the period of illness at which such certificates may be issued and as to the length of time for which they should be available.

52. In the event of the complete separation of the administration of medical benefit from that of cash benefits which is suggested, the method by which these cash benefits shall continue to be administered is not the concern of the profession. Many practitioners, however, hold the belief, based on experience, that this administration is likely to be more satisfactory and sympathetic in the hands of certain classes of Approved Societies than in the hands of a large State organisation or committee of a local Government Authority. If it is determined that Approved Societies shall continue with this administration as one of their functions it is suggested that there should be certain requirements which all such societies should meet. They should (1) be of such a size as would constitute a properly insurable group; (2) be of such a character (or have such financial arrangements made for them by consent) as will not vitiate a uniform insurance scheme; (3) be of sufficiently uncomplicated constitution so as not to put their members at a disadvantage; (4) be obliged to classify all their members on a territorial basis; (5) be as uniform as possible in their rules for the conduct of insured persons.

53. The profession is completely convinced, in consequence of intercourse with insured persons over a period of twelve years, that Approved Societies, as at present constituted, do not as a whole in any sense represent insured persons, their wishes or opinions. For the most part insured persons take not the slightest interest in the work of their Societies, and very often do not know the name of the Society to which they belong. This indifference is probably inevitable in the case of the larger Societies, and of the great majority of insured persons and does not necessarily indicate any lack of interest or ability or zeal on the part of the principal officials of such Societies.

## SECTION E. REMUNERATION.

54. The remuneration of members of the medical profession working under the National Health Insurance scheme should be determined on its merits by negotiation between the Ministry of Health on the one hand and a central body representing the profession on the other. Such central body might most properly be the Council of British Medical Association, representing, as it does, all branches of the profession through its Divisions and Branches, and the Local Medical Committees of the country through its Insurance Acts Committee. The Association is strongly of opinion that the remuneration of the general practitioner service should be by a capitation system, though local option might be allowed as now in the distribution of the amount allotted in each area. The remuneration of consultation and specialist work, on the other hand, must necessarily be by tariff fees according to the variety of service rendered, or in some cases by sessional fees according to the time given and character of the work done.

55. The amount of the central practitioners fund must necessarily be arrived at by a somewhat elaborate actuarial calculation since it is impossible accurately to count the insured population day by day. The distribution of this pool to the different areas, too, must be made by a small expert Committee who will take account of all relevant facts. In the past there have been great difficulties in both these calculations, and it is desirable that the profession should be completely assured that any margin of error is reduced to a minimum.

56. The principle on which the amount of the remuneration should be established is that it should in total compare not unfavourably with that which should be forthcoming from similar responsibility and work in private practice of a like nature among the same class of persons, allowance being made for security on the one hand, and on the other hand for work done not primarily for the individual patient but for the State or public body.

57. The actual amount of the capitation fee on which remuneration for the general practitioner service should be based has been so recently and so fully argued, before the Court of Enquiry in January, 1924, that the profession has no wish to re-open the matter at the moment. They are, however, convinced (1) that the capitation fee of 9s. is still too low to be a proper remuneration for the responsibilities undertaken and work done under the insurance scheme; (2) that the extra amount allowed for rural conditions requires reconsideration. The exact determination of this matter, however, and the appropriate tariff of fees for consultant and specialist services must depend largely upon the nature of the insurance scheme recommended by the Royal Commission and enacted by Parliament. It is, therefore, not possible with advantage to carry it much further at the present time.

## APPENDIX I.

## MEMORANDUM AS TO SPECIAL CONDITIONS OF INSURANCE PRACTICE IN RURAL AREAS AND THE EXTRA REMUNERATION CALLED FOR TO MEET THEM.

1. Any consideration of the special conditions of rural practice was specifically excluded from the Reference to the Court of Enquiry into Remuneration in January of this year. It therefore becomes necessary to go somewhat fully into this aspect of the question before the Royal Commission. The importance of the matter to the profession is evidenced by the fact that in 1923 of 12,711 insurance practitioners there were 5,649 (40 per cent.) who claimed mileage, and therefore to some extent were practising under rural conditions.

2. There are certain undeniable peculiarities in these conditions to which the attention of the Ministry has already been drawn, and which have been acknowledged by them as worthy of consideration. They may be summarised as follows:—

- (i.) The list of a practitioner in a sparsely populated district must necessarily be smaller on the average than that of one in a town;
- (ii.) The cost of travelling and the time occupied in travelling is much more in the country than in a town;
- (iii.) The facilities for lightening the work of the practitioner (e.g., nursing and hospital facilities) are less in the country than in the town;

(iv.) The proportion of visits to attendances at the surgery is higher in the country than in the town, and the time occupied in rendering service is longer;

(v.) The necessity to engage a *locum tenens*, even for a short absence from home, whether for holiday, study, or professional business, presses hard on the country doctor, since deputising arrangements such as are the custom in the towns, are impracticable;

(vi.) The absence of day schools and of practically any higher education facilities in the more rural districts adds very materially to the country doctor's domestic expenses.

3. With regard to (i.), the average number of insured persons on the lists of the doctors who claim mileage is 697, that on the lists of all other doctors is 1,200. The doctors claiming mileage include many town practitioners who have a few patients in the country, and if these were excluded it is probable that the genuine country practitioner would be found to have an average of between four and five hundred, and that this list is incapable of increase. It may fairly be contended that a list of 500 people in a sparsely populated district takes at least as much time to work as one of a thousand in a town.

4. With regard to (ii.), since 1920 a mileage grant has been established to cover the cost of travelling beyond two miles from the practitioner's residence and a comparatively small addition was made in 1924 to meet the other conditions enumerated.

5. There is no doubt that at present owing to the unattractive financial conditions, rural practices are being abandoned in certain parts of the country. The difficulty is not confined to Great Britain and is perhaps inevitable, but if it is desired to retain efficient doctors in the country, it is absolutely necessary that their emoluments should be such as will enable them to maintain in all essentials a suitable standard of life.

6. The best solution would seem to be the retention of the present system of a general capitation fee for the whole profession with augmentations to meet the special requirements of the rural practitioner.

7. Remuneration as expressed by the capitation fee has been approached in the past chiefly from two directions: (1) the value of work done for insured persons as measured by the time occupied in the services rendered—a certain net income for an average practitioner in full work being assumed—and (ii.) the value of services rendered as estimated by the fees commonly charged by general practitioners. Both these lines of approach would seem to point to the need for a supplementary fund for practitioners in rural districts, for (i) the time occupied in the same services is definitely greater under country conditions for the same number of patients, and (ii.) the fees charged both for visits and attendances at the surgery in country practices has always been of necessity higher than those in towns—a fact apparently left out of consideration in 1911, when the matter was investigated chiefly on urban data.

## APPENDIX II.

### MEMORANDUM AS TO SPECIAL CONDITIONS IN COLLIERY AREAS OF SOUTH WALES.

1. Section 16 (3) of the 1911 National Health Insurance Act (24 (3) in the Act of 1924) authorises the Insurance Committee to require any person whose income exceeds a limit to be fixed by the Committee and to "allow any other persons in lieu of receiving medical benefit under such arrangements as aforesaid, to make their own arrangements for receiving medical treatment and attendance . . . and in such cases the Committee shall . . . out of the funds out of which medical benefit is payable contribute . . . sums not exceeding in the aggregate the amounts which the Committee would otherwise have expended in providing medical benefit for them."

2. In practically every area with the exception of South Wales this section of the Act has been taken to apply to individuals, but the Insurance Committees of Monmouthshire and Glamorgan have taken advantage of it to hand over the capitation fees for large bodies of workmen who have set up "Schemes" for the purpose of giving medical attendance by salaried doctors to the workmen and their families. The money for the families is obtained by deductions from the

men's wages supplemented by the money provided from Insurance funds under the above-mentioned section of the Insurance Act. The medical profession has always protested strongly against what it believes to be an abuse of the section, on the ground that these Schemes are an evasion of the intentions of the Acts which contemplates that the normal system will be the panel system, whereas these Schemes are worked on a whole-time salaried system.

3. The Schemes are invariably introduced and from time to time stimulated by a system of canvassing which is very unfair to competing doctors; they are controlled by Workmen's Committees, which are not responsible bodies like the Insurance Committee: they are subject to little or no central control they allow no direct representatives of the medical profession on them, nor are they guided, as the Insurance Committee largely is in medical matters, by a purely medical Committee—the Panel Committee. Experience has shown that the service provided is on the whole unsatisfactory as compared with that given by doctors under the normal system; the majority of these Schemes have disappeared after a comparatively short but unsatisfactory existence; and it is hoped that the Royal Commission will recommend such changes in the Acts as will make it impossible to finance such Schemes out of National Health Insurance Funds.

## APPENDIX III.

### OPHTHALMIC BENEFIT.

1. Among present "Additional benefits" dental and ophthalmic are easily first in demand and in value to insured persons.

2. Ophthalmic benefit appeals greatly to the insured person, for the symptoms of eye strain are most disturbing and are more frequent with the increasing complexity of modern life.

3. This benefit should be dealt with administratively in the way suggested in the main body of the memorandum with regard to the treatment benefits in general by being removed from the administration of Approved Societies. Under the present system, however, a few Approved Societies have made arrangements with specially qualified practitioners on behalf of their members and these arrangements are not open to the objection which is dealt with in the following paragraphs.

4. Other Approved Societies have entered into arrangements which are open to serious criticism and are certain to lead to grave danger to the insured persons.

5. These Societies have arranged for the provision of spectacles by opticians and without the necessary preliminary examination by a competent medical practitioner. The arrangement, it is alleged, is cheap. But cheap methods in dealing with human beings usually prove costly in the long run. It is sure to prove so in this regard, both immediately and in the future. An ophthalmic benefit secured through a competent medical practitioner is a full consultation covering external or internal diseases of the eye, refraction work, and vascular and neural examinations. The results of these examinations should be communicated to the insurance practitioner and would afford him information regarding his patients which he cannot get otherwise, and which will be a material guide to his work. The bare provision of spectacles by a "sight-testing" optician cannot secure these benefits, for he is not trained in the diseases of the eye and of the body which are concerned therewith. Apart from the risks inevitable in the employment of untrained or part-trained men for the examination of the most delicate sense organ and one closely connected with the brain, examinations by sight-testing opticians are inadequate and therefore unprofitable.

6. The utilisation of medical practitioners for this purpose will make it certain that within a very few years there will be a full supply of well-trained and competent ophthalmologists ready and able to do this work to the best advantage. If the employment of sight-testing opticians be continued or extended there will be a diminution of the supply of doctors willing to do this work, to the ultimate disadvantage of the community.

7. Further, as examination of the refraction of the eye for the purpose of fitting spectacles is regarded as a form of medical treatment, medical practitioners, with due regard to the disciplinary disabilities that would follow, or with proper regard for the welfare of their patients, cannot send their patients or be a party to sending their patients to persons not on the medical register.

[D.12.]

## QUESTIONS FOR MEETINGS OF THE LOCAL PROFESSION CALLED TO DISCUSS THE DRAFT MEMORANDUM OF EVIDENCE.

Most of the views expressed in the draft Evidence (D. 11) have been discussed and adopted from time to time during the past few years by the Representative Body or the Panel Conference, or both. Specific questions are in the main, therefore, only asked as regards the new suggestions. The meetings called to consider the draft Evidence are, of course, at liberty to express their opinion on any point mentioned in the report. It will be assumed that approval is given to all sections to which no objection is taken.

It is very desirable that the exact position of this draft Evidence should be clearly understood. The suggestions made on certain important new points, such as the extension to dependants, are not intended as declarations of policy, but as suggestions to the Royal Commission for their consideration. The profession will have to re-consider the whole position when the proposals of the Government, based on the Report of the Royal Commission, are placed before the country. It is therefore important that meetings should not bind their representatives down too rigidly, but, after stating their opinion on the points raised in the draft Evidence, send their representatives to the joint meeting on March 12th, 1925, for the purpose of so pooling the views of the profession throughout the country as to give the Royal Commission a clear idea of the present trend of medical opinion.

### QUESTIONS.

#### DEPENDANTS.

1. Is the Meeting in favour of the inclusion in an insurance scheme:—

- (a) of all dependants of all insured persons?
- (b) of the dependants of only the lower-paid persons included in the scheme described in paragraph 16?
- (c) of no dependants under any circumstances?

2. Does the Meeting consider that if any dependants are included it is essential to secure the provisions for lessening work as set out in paragraph 15?

#### POOR PERSONS NOT UNDER CONTRACT OF SERVICE.

3. Is the Meeting in favour of the inclusion of poor persons not under contract of service (para. 18)?

#### POOR LAW PATIENTS.

4. Is the Meeting in favour of the inclusion of that class of person at present attended under the Poor Law?

#### SPECIALIST AND CONSULTANT SERVICES.

5. Does the Meeting agree that the present service should at a convenient time be extended by the inclusion of specialist and consultant services (Section B)?

#### ORDER IN POINT OF TIME OF EXTENSIONS OF BENEFITS.

6. If financial or other circumstances should make it impossible at the same time to include dependants and also to extend the medical provision for insured persons to include specialist and consultant services, which would the Meeting put first—

- (a) the extension of the provision made for the present insured persons so as to include specialist and consultant services; or
- (b) the inclusion of dependants?

#### MATERNITY BENEFIT.

7. Does the Meeting agree with the inclusion of attendance at confinements and during the puerperal period together with

special examination and supervision during pregnancy being brought within the scope of the scheme under the conditions set forth in paragraph 29?

#### OFFICIAL COMPLAINTS.

8. Does the Meeting approve the somewhat altered procedure suggested in paragraph 40?

If not, what alternative proposals should be made?

#### GROUPING OF "ADDITIONAL TREATMENT BENEFITS" WITH MEDICAL BENEFIT.

9. Does the Meeting agree that it is essential that "additional treatment benefits" should be grouped with medical benefit and removed from the control of the Approved Societies (para. 41)?

#### ADMINISTRATION.

10. Does the Meeting agree with the suggestions contained in paragraphs 43 to 46 as regards the future administration of an extended National Health Insurance Service, in conjunction with the other health services of the country?

If not, what alternative is suggested?

#### CERTIFICATION.

11. Does the Meeting agree with the alterations in the rules of certification proposed in paragraph 51?

If not, state alternative suggestions.

Signed \_\_\_\_\_

Secretary of Local Meeting of Profession for \_\_\_\_\_

MEDICAL DEPARTMENT,

429, Strand, London, W.C.2.

January 2nd, 1925.

Last date for receipt of this form by Medical Secretary with Replies of Local Meetings of Profession—January 31, 1925.

[Notifications of meetings of the profession already arranged in various districts for the discussion of the Memorandum will be found at page 15.]

## PROCEEDINGS OF COUNCIL.

A MEETING of the Council of the British Medical Association was held on December 17th, 1924, at 429, Strand. Dr. R. A. Bolam presided, and there were present:

Mr. J. Basil Hall (President-Elect), Dr. H. B. Hall (President-Elect), Dr. G. Thomson (President-Elect), Dr. H. B. Hall (President-Elect), Dr. R. Wallace Henry (Immediate Past Chairman of Representative Body), Dr. C. O. Hawthorne (Representative Body), Dr. G. A. Allan, Sir Percy Bassett-Smith, K.C.B., G.M.C., Bailey, Dr. H. S. Beadles, Dr. J. W. Bone, G. F. Buchan, Dr. H. Guy Dain, Dr. J. S. Dalrymple, Dr. J. Don, Dr. C. E. Douglas, Mr. W. McAdam Eccles, Dr. David Ewart, Dr. C. E. S. Flemming, Dr. E. R. Fothergill, Dr. T. W. H. Garstang, Dr. J. Giansani, Dr. F. J. Gomez, Dr. F. W. Goodbody, Dr. T. Duncan Greenlees, Lieut.-Colonel C. B. Heald, R.A.F.(ret.), Dr. T. Eustace Hill, Dr. G. B. Hillman, Dr. I. W. Johnson, Dr. R. Langdon-Down, Dr. G. B. Hillman, Dr. I. W. Le Fleming, Dr. R. W. Leslie, Sir Richard Luce, M.P., K.C.M.G., Dr. A. Lyndon, Dr. J. A. Macdonald, Dr. S. Morton Mackenzie, Major-General Sir William Macpherson, K.C.M.G., A.M.S.(ret.), Dr. A. Manknell, Dr. Hugh Miller, Dr. Christine Murrell, Mr. A. W. Nuthall, Lieut.-Colonel F. O'Keefe, I.M.S.(ret.), Dr. William

Paterson, Dr. F. Radcliffe, Lieut.-Colonel J. W. F. Rait, I.M.S.(ret.), Dr. G. Sanders, Dr. J. W. Scharff, Mr. H. S. Souttar, Dr. John Stevens, Dr. W. E. Thomas, Dr. G. Clark Trotter, Mr. E. B. Turner, Sir Jenner Verrall, Dr. J. F. Walker.

#### Votes of Condolence.

The Chairman said that since its last meeting the Council and the Association had suffered serious losses in the death of Dr. Haslip, until lately Treasurer, and Dr. Crawford Treasure and Dr. Mactier, former members of Council. It was difficult to express the grief they all felt, particularly at the death of Dr. Haslip, who had endeared himself to them for so many years. Wellnigh half Dr. Haslip's professional life must have been spent in the service of the Association. His colleagues on the Council learned to love him, his memory would always be green amongst them, and the work he had done for the Association would remain and would help the Association in its future progress. Dr. Crawford Treasure and Dr. Mactier were not called to such high office as Dr. Haslip, but in their spheres they were very useful and well loved members of Council. Dr. Mactier in his own specialty was



always able to afford valuable advice, and in the case of Dr. Crawford Treasure the Council was well aware how heartily he had concerned himself in all matters affecting the profession, particularly in his own Principality, and also the Post Office medical service, in which he was much interested.

A vote of condolence with the families of these former colleagues was carried in silence, the members standing.

#### *Annual Meeting, 1925.*

The President-Elect (Dr. F. G. Thomson) had a motion that an official invitation be sent to the American Medical Association to nominate delegates to the Annual Meeting. Sir Jenner Verrall and Dr. Bristowe supported the proposal, which was carried unanimously.

#### *The Services.*

The Chairman, in calling upon Sir Richard Luce to present the report of the Naval and Military Committee, congratulated him in the name of the Council upon his election to Parliament.

Sir Richard Luce said that the first matter which had been dealt with by his Committee concerned the position in the R.A.M.C., which, owing to shortage of candidates, was steadily becoming worse. There was considerable discontent among the officers; seniors were called upon to do work which, if it were not for the shortage of candidates, would be done by juniors, and it did not appear that the block in promotion, of which the Committee had previously complained, had been removed. The Committee had made representations to the War Office and had had a meeting with the Director-General. He moved a resolution that a communication be sent to the War Office urging that (without prejudice to other matters which had been brought forward, notably the pay of majors) a higher rate of commencing pay should be offered. Sir William Macpherson said that the remedy for the discontent in the service would be largely met by securing that an increased number of newly qualified men joined the corps. He thought that the Association should use its influence with the medical schools to encourage entrance into the R.A.M.C. The resolution was agreed to.

Sir Richard Luce said that on the matter of the grievances of senior surgeon commanders, R.N., the Committee had at last brought the Admiralty to see that there was a case for remedy. The Admiralty had made to the surgeon commanders an offer of a lump sum of £250 to settle the grievances. While this, in the Committee's opinion, was far from adequate, it did vindicate the action which had been taken by the Association. Further negotiations were proceeding.

#### *Lunacy Law and Administration.*

Dr. Langdon-Down, Chairman of the Committee on Lunacy Law and Administration, submitted a draft of the evidence which it was proposed to give before the Royal Commission now sitting. It had been thought well not to deal with that part of the reference of the Royal Commission which concerned the care and treatment of patients actually in institutions, because another body—the Medico-Psychological Association—was dealing with that aspect of the question. The Committee also had not attempted to dictate as to the powers and duties of the authorities which supervised and controlled the arrangements for the reception of the insane, though at the points where these came intimately into touch with medical interests or the interests of patients some suggestions were offered. The Committee included members having a large variety of experience and an expert knowledge of lunacy law and administration, but the general view of the profession was also represented on the Committee, and, he thought, embodied in the proposed evidence. The Committee had recognized that there were two (not opposing) lines of thought with regard to the question, one of these having in view the patient as a private citizen who should be surrounded by all proper safeguards against abuse, and the other having in view the patient as a sick person, requiring earlier and better treatment. The memorandum endeavoured to incorporate and harmonize both these views.

The Chairman said that the document was a very technical one. The expert opinion must necessarily enter, and while he did not want to stifle criticism, he would deprecate lengthy discussion over details. Dr. Radcliffe suggested that for the magistrate to be required to interview the patient would sometimes be prejudicial to the patient, and, in certain distressing cases, repugnant to the patient's friends. He also referred to the paragraph which deprecated the continued detention in Poor Law institutions of persons of unsound mind, but the alternative was an enormous and impossible increase of county asylums. Dr. Fothergill brought forward several points on which, he thought, the document might be amended. Instead of the three-day urgency order, he thought the order should be for seven days, as this would often avoid the expense of a second medical certificate. He took exception to the phrasing of the absence of any reference to the teaching of medical students

and to early preventive treatment at an ordinary hospital. Dr. Langdon-Down said that the Committee fully sympathized with this last object, and he felt that this was conveyed in the memorandum directly or indirectly. If Dr. Fothergill would hand in his suggestions he would see how far they could be incorporated in the final memorandum.

Dr. Bristowe found fault with the section of the memorandum which favoured an interview with the patient by the magistrate in every case. The magistrate did not always exercise his judicial function in the way he should. Dr. Langdon-Down said that this difficult question had been considered at length in the Committee. The magistrate had the function of a judicial authority, and it was only consonant with that function that he should be able to weigh the evidence for himself. It was difficult, of course, to draw a distinction between the weighing of evidence and the forming of a medical diagnosis. While the Committee thought that the interview by the magistrate would be desirable, it did not lay this down in too positive terms.

The Chairman said that there seemed to be general agreement with the report; even the experts on this subject in the Council had taken no very grave exceptions, and he congratulated Dr. Langdon-Down and his Committee on an important piece of work.

The memorandum was approved, and Dr. Langdon-Down was given power to amend it in minor details. It was also agreed that the witnesses before the Commission should be Dr. Langdon-Down, Dr. J. W. Bone, Dr. F. H. Edwards, Dr. C. O. Hawthorne, Mr. E. W. G. Masterman, Dr. Christine Murrell, and Sir Jenner Verrall.

#### *Bureau for the Provision of Locumtenents.*

Dr. Morton Mackenzie, Chairman of the Organization Committee, brought forward a report on a matter arising from a resolution of the last Representative Meeting which referred it to the Council to consider the advisability of forming a "locum bureau," under the auspices of the Association, in each teaching centre. He said that although the office of the Scottish Committee had been used for this purpose, and the Newcastle-on-Tyne Division had been running a bureau of its own, what was now proposed was a new activity for the Association as such. At the Bradford meeting he had been against this proposal, but he had now come round to see its desirability, and his Committee was unanimous in recommending it. The reason which lay behind this departure was the necessity for the Association to do something for the newly qualified men and women. Recently the Association had agreed with the Society of Medical Officers of Health on a scale of salaries, and it had had to ask practitioners not to take up various appointments which conflicted with that scale; that being the case, it was felt that the Association ought to have something to offer them. A similar proposal was put forward at the conference with representatives of the teaching centres held in 1923. Another stimulus was the successful venture at Newcastle by Dr. Farquhar Murray, the honorary secretary for the Division. Manchester also had started a bureau of its own, but there it had been introduced under the aegis of the Local Medical Committee. Nothing expensive was proposed, at all events in the first instance—merely an organization for providing locumtenents in provincial centres. The Association was precluded from undertaking this work itself, and it would be necessary to proceed either by the registration of a statutory company under the Companies Act or to form a society under the Friendly Societies Act. The former was judged to be the better course. In forming the company wide powers would be taken, but that did not necessarily mean that anything more would be done than was indicated in the Bradford resolution. The one disadvantage of this new development was that it might be thought to trench upon the work of the medical agents, who had been of great help to the Association, especially in the matter of Warning Notices. He would regret this, but he thought that any antagonism would disappear as the project was better understood. The present proposal was to have only a co-ordinating office in London, and to have branches in the teaching centres. The benefits would be strictly confined to men during the first four years after qualification, and there would be preferential treatment for members of the Association in respect to the fees charged. He moved:

That it be recommended to the Representative Body that a bureau for the provision of locumtenents and assistants be formed under the auspices of the Association in such centres as may be deemed advisable.

After the Treasurer had spoken on the financial aspects of the matter, Sir Jenner Verrall said that the strongest point in favour of the Association at the moment was the rapid increase in its membership, but he did not think the young members would be retained or the proportion of newly qualified men joining the ranks remain at its present high level unless something of this kind were done. An amendment by Dr. Fothergill that the Branches and Divisions be urged to form such bureaux was lost by a large majority, and the recommendation of the

Committee was carried, together with some contingent recommendations reserving for future consideration certain questions relating to the activities of the Bureau.

#### Other Organization Matters.

A number of other proposals of the Organization Committee were agreed to, including, as a recommendation to the Representative Body, some new or amended Articles to further the affiliation arrangements between the Association and the Canadian Medical Association.

Another matter related to the grouping of Branches for election of members of Council. Dr. Mackenzie said that for a long time it had been felt that Wales ought to have another member on the Council, but to alter the grouping of Branches was a difficult matter. A way had now been found by asking Ireland to sacrifice one of its six members. Two Irish members on the Council, Dr. Darling and Dr. Leslie, acquiesced in the arrangement, and said that in their opinion Ireland was still sufficiently represented.

Dr. Mackenzie had once again the pleasant duty of reporting an increase in membership, which stood that day (December 17th, 1924) at 28,438, an increase of 2,314 on the figure for the corresponding date in 1923.

#### National Health Insurance.

Dr. Dain, Chairman of the Insurance Acts Committee, introduced the report of that Committee, which contained no recommendations.

Mr. Turner asked whether the Committee ought not to bring before the Council any principal resolutions of the recent Annual Panel Conference. Dr. Brackenbury quoted a minute of the Council in justification of the course which had been followed now for some years. He thought it would be a pity to insist that everything done at the Conference should be embodied in the Insurance Acts Committee's report to the Council. Dr. Fothergill thought that one fact which might have been reported was that the Conference unanimously approved the Association policy with regard to institutional treatment. Dr. Dain said that the Insurance Acts Committee was very anxious to hold the balance evenly as between its duty to the Council and its duty to the Conference, but the position was sometimes difficult to determine. Mr. Turner felt that the Committee was becoming less an integral part of the Association. The Chairman said that the reason why these matters were not reported to the Council was because, until this arrangement was made, the Council was flooded with matters which did not closely concern it.

The report was approved.

#### THE ROYAL COMMISSION ON NATIONAL HEALTH INSURANCE.

##### Discussion on the Association's Evidence.

The draft memorandum of evidence to be submitted to the Royal Commission (see page 1) was next considered. The debate on this memorandum occupied the greater part of the remainder of the Council's sitting. As the matter was introduced by Dr. Bolam, Chairman of the Royal Commission Committee, Dr. Macdonald occupied the chair of the Council.

Dr. Bolam reminded the Council that the Committee which had had in hand the preparation of this evidence was one which included, besides members of the Insurance Acts Committee, representatives of other sections of the profession. It had had also the advantage of certain recommendations from the Non-Panel Committee. The result of several meetings of the Committee was the memorandum of evidence, which he hoped would be regarded as co-ordinating the views of the Insurance Acts Committee with those of the profession generally with regard to the wider aspects which opened out under the Royal Commission's consideration. For the drafting of the memorandum the Committee was very largely indebted to Dr. Brackenbury. It had been drawn up with the idea of dealing with the matter only along general lines, while in the oral evidence it would be possible for the Association's witnesses to speak out of their special information and experience. He noticed that evidence already tendered to the Royal Commission—notably approved society evidence—had been given in that fashion. The document now before the Council was an attempt to deal with a situation which was of most far-reaching importance for the medical profession. Nothing which the Association had touched during the years of its active connexion with its work involved more sweeping changes. The policy adopted must be well considered, and it was essential to endeavour to carry the general agreement of the profession—the unanimous agreement if possible. Dr. Bolam then went through the memorandum paragraph by paragraph, explaining briefly what was intended in each. When he came to paragraph 12, which dealt with the inclusion of dependants within the scope of national insurance, he said that this would probably be the most debatable in the whole document. The consequences to the profession of the inclusion of the dependants of present insured persons were pointed out. Another paragraph

which was the result of special consideration, in particular by Sir Ewen Maclean and his subcommittee, was that which dealt with the relationship of maternity work to an insurance scheme (paragraph 29). Another difficult paragraph (40) dealt with the procedure with regard to official complaints, and here it was suggested that in the event of a decision by the Minister to remove a practitioner from the service, the practitioner should have a right of appeal to the General Medical Council. He also drew attention to the skilful use which Dr. Brackenbury had made of a Government memorandum in paragraph 49, and with regard to the section dealing with remuneration he noted the explicit statement ruling out negotiation through approved societies.

Dr. Macdonald (from the chair) said that this document would go down to the Divisions for local discussion, and would afterwards come back to the Council. Was the Council prepared to approve it roughly at the present moment, knowing that there would be a later opportunity of revision, or did it wish a detailed discussion? If the latter, he could not forecast any reasonable limit to the length of the sitting. Dr. Bolam here drew attention to another document which had been circulated setting out the specific questions which it was proposed should be discussed at the local meetings of the profession. Of these, the question of dependants was the most debatable. Most of the other points set out in the memorandum had been already covered by previous resolutions, as, for example, the inclusion of specialist and consultant services, while other matters, such as the grouping of treatment benefits with medical benefits, were not likely to furnish occasion for any disagreement.

It was resolved, on the motion of Dr. Fothergill, to discuss first the proposed time-table, and afterwards to discuss the memorandum.

Dr. Bolam then moved the adoption of the following time-table:

1925.

- Jan. 1st to 25th.—Meetings of local profession called conjointly by the Secretaries of the Divisions and Local Medical and Panel Committees.
- Jan. 31st.—Last date for receipt of replies of local meetings of profession.
- Feb. 5th.—Joint meeting of Royal Commission and Insurance Acts Committees to consider replies.
- Feb. 18th.—Special meeting of Council, followed by issue of memorandum, revised, if necessary, in accordance with the views of the local meetings.
- Feb. 25th to March 5th.—Further meetings of local profession, called as before to instruct representatives prior to a central joint meeting.
- March 12th.—Joint meeting of the representatives of Divisions and of representatives of Local Medical and Panel Committees.
- March 25th.—Meeting of Council.
- April 4th.—Printed evidence submitted to Royal Commission.
- Any time after April 13th.—Witnesses to be heard by the Royal Commission.

Dr. Bolam said that the Committee believed these proposed steps to be adequate for bringing the subject before the profession. It would be disastrous if it became necessary to apply to the Commission for an extension of time. A special meeting of Council was to be summoned, and he thought this was well justified.

Dr. Fothergill thought that January was an unfortunate time for local meetings. His motion to vary certain of the dates, making them later, to admit of better local meetings, was not seconded.

Some questions arising on the status of the joint meeting of representatives of Divisions and of Local Medical and Panel Committees, to be held on March 12th, Dr. Brackenbury said that no one had thought of this meeting as including less than all those entitled to attend the meeting of the Representative Body and those entitled to attend the Conference of Local Medical and Panel Committees, and he thought it would be wise also to have any members of the Royal Commission Committee who did not come in either of those categories. He understood that Dr. Fothergill desired that in addition to this joint meeting there should also be a meeting of the Representative Body as such in order that that body might take its proper place in formulating the policy of the Association. But it was necessary to remember that these projected meetings were not for the purpose primarily of formulating policy, although that was involved to a certain extent, but for the purpose of formulating evidence which was to go before a Royal Commission, and there was a very important distinction between those two things. If something was advocated on behalf of the profession before the Royal Commission, and the suggestion was adopted by the Commission, and subsequently by Parliament, it would be difficult, if not impossible, for the profession to go back upon what it had put forward; but if the profession made suggestions which were not adopted, or if they made suggestions as provisos to certain other conditions which might be adopted with those provisos, and these conditions were adopted by the Commission without the qualifying provisos, it would be open to the profession to reconsider the whole position *de novo*, and to say that the proposals were unacceptable. It was important to remember how far in the

situations which might possibly arise out of this matter the Association had a free hand. Continuing, Dr. Brackenbury said that as Chairman of the Representative Body he would like to have some guidance. It seemed to him that it would be possible to constitute this joint meeting a proper Representative Meeting of the Association. The two constituents of the joint meeting—the Representative Body and the Panel Conference—would each have to hold a preliminary meeting separately and pass a resolution consenting to the joint meeting, and at all stages of the proceedings it would have to be possible for the two bodies to vote separately. He did not anticipate any constitutional difficulty, but he would like to be fortified by the opinion of other members of the Council.

The Chairman said that there was no power in the Articles of Association to summon the representatives except to a Representative Meeting, which then became a meeting of the Representative Body.

Dr. Bolam pointed to an article (the second portion of Article 41) which in his opinion covered an emergency of this kind, and made it possible to defray the expenses of representatives attending such a conference. He was a little doubtful as to the policy of having these two bodies sitting side by side, each preserving its identity and passing resolutions which would have to come to the Council. That way might lead to a cleavage. The bond between the Association and the Panel Conference organization was of a rather curious character, but it had stood the test of time, and he believed the cohesion now was better than ever it had been. He would deprecate anything which emphasized the distinction, and his suggestion would be that this should have the character of one united meeting, not a meeting of two sections, the differences between which might in that case find undesirable emphasis. He did not believe that there were likely to be great divisions of policy; the most debatable point was this question of dependants. He thought that the Representative Body might be safely trusted at a later stage to implement what had been done.

Mr. Turner said that the proposed joint meeting would be, practically, a meeting of the Representative Body, heavily diluted by the Panel Conference. But how many of those attending such a meeting would represent practitioners not working the Act? The ideas of these men must be taken into consideration, and the feeling of the whole profession would not be voiced. Dr. Brackenbury pointed out that the meeting would have been preceded, and if necessary would be followed, by local meetings of the whole profession. He further made it plain that he did not differ in the least from the position which Dr. Bolam had just made clear as to the desirability of one united meeting. Dr. Bolam said that the constitutional way of dealing with the situation would be to summon the Representative Body, and at its assembling to put forward only one piece of business—that of authorizing every representative to sit in the ensuing conference. He took it for granted that every member of the Council who was not already included as a member of the Representative Body or of the Panel Conference would be asked to attend. Dr. Brackenbury proposed an addition to the recommendation with regard to the joint meeting, that those attending should include other members of the Council, the Insurance Acts Committee, and the Royal Commission Committee. Dr. Fothergill seconded this amendment, which was carried, as was also the whole of the recommendation dealing with the time-table.

The Council then returned to the recommendation to approve the draft memorandum and to issue it forthwith to the Divisions and to Local Medical and Panel Committees.

Dr. Brackenbury said that he thought all would agree, whatever individual opinion there might be in the Council on the matters at issue, that it was desirable to take the views of local meetings of the profession. He thought it right that the Council should be asked—he was speaking more particularly of paragraph 12, dealing with dependants—to endorse the lead given to the profession by the Committee. There were two propositions in this paragraph: one that the whole of the dependants of insured persons as at present defined should not be included, and the other—a much more difficult proposition—that after a line had been drawn the dependants of insured persons below that line—that was to say, dependants of the lower-paid insured persons—should be included in an insurance scheme. If this was practicable administratively and financially—and that was for the Royal Commission and Parliament to say—the Committee believed that it would be good for the nation, and not impossible for the profession. It was out of the question for witnesses on behalf of the Association to maintain the proposition that from the national health point of view it was good to have these lower-paid insured persons included in national insurance, but that no provision should be made for their public health services in the direction of the establishment of treatment clinics under the auspices of local authorities, and the private practitioner and destroy the economic independence of the profession. The only way to meet such a development

was to substitute something better, and to say that the people for whom this clinic treatment was provided should be provided for in a far better way, by having a practitioner of their own under the national insurance scheme. He would not minimize the difficulties, nor the fact that the volume of work imposed upon practitioners under any such arrangement would be great. Mr. Turner asked how the "lower-paid insured persons" would be determined, and how many dependants such a proposal would bring in. Dr. Brackenbury said that he did not see how it was possible to determine them except by an income limit. It was almost impossible to say how many would be brought in under such a proposal. His own total figure, including existing insured persons, would be about 30 million.

Dr. Douglas said that he parted company from Dr. Brackenbury on one point. Dr. Brackenbury seemed to look upon the financial and economic side as one which could be safely disregarded. But this seemed to be the dominating fact of the situation. There was no doubt that the Government had in mind a very comprehensive "all-in" system of insurance. All the money the Government could find would be made available for that scheme, and there would be no money for any scheme such as that now adumbrated for dependants. He thought the Council was losing time in discussing insurance for dependants because it was not practical policy.

Mr. Turner referred to the difficulty of laying down any income limit. Such an income limit would be extremely unpopular among politicians. If it could be obtained he would be in favour of it, but he scarcely thought it possible. Again, if this proposal materialized it would mean, in a great number of instances, doing away with private practice. Practitioners in certain areas would do nothing but contract practice, and the division in the profession between those who did contract practice and those who did not would be deepened. By the suggestion that a very large proportion of the whole profession could be treated in this way, a distinct incentive would be given to a State medical service, which some members of the Royal Commission favoured.

Sir Jenner Verrall said that if it came to a choice between an extension to dependants and an extension of benefits, he would favour the latter course. He thought, however, that if insurance were extended to dependants it would be quite justifiable and logical to extend it in the manner indicated in paragraph 12. Dr. Radcliffe said that he would be sorry if the Council came to a vote on the subject that day, for that would be to prejudice the position which the constituents of the Council might want to come to later on. Dr. Sanders, on the other hand, insisted that it was the plain duty of the Council to give a lead to the profession. This able document itself did not give a direct lead, but the Council, by the way in which it dealt with that document, could give such a lead, and this, he thought, it should do.

Dr. Le Fleming said that the only question to be decided was whether this was a suitable document to send down to the constituencies; the discussion must take place in the constituencies. Dr. Bolam said that the document, if passed that day, must be considered only as the provisional opinion of the Council; the formulation of a policy of the Association would come later.

Dr. Stevens said that, although he might be alone on the Council, he must register his protest against the strong bias of this document in favour of national insurance. It was not a properly balanced document; it failed to express the very large measure of disapproval on the part both of the profession and the public of the present conditions of medical benefit under the Insurance Act, and he moved that some words in that sense be included. Dr. Brackenbury replied that to include such words would be to throw the whole document out of gear. The resolution referring to the measure of success which had attended the experiment of national insurance was carried unanimously by the Panel Conference, and by more than the requisite majority in the Representative Body. Mr. Turner, while agreeing with the terms of the amendment, thought it would be unwise to press it, and Dr. Stevens said that he was quite content, having voiced this feeling, to withdraw the amendment.

Dr. Beadles, with the object of obtaining a vote in the Council on the principle involved, moved the deletion of paragraph 12 ("Dependants"). Dr. Goodbody seconded. The proposition was lost, 11 voting in its favour and about 25 against.

The document was then discussed page by page.

Mr. Turner moved, and it was agreed, to omit a reference to the hawk and small tradesman as examples of the "poor persons not under any contract of service," as described in paragraph 18.

Dr. Dain thought that it was not made sufficiently clear, in the section dealing with the extent of the provision to be made, that all insured persons should be entitled to equal treatment benefits. It was agreed to amend the document to give this point greater emphasis.

Dr. Douglas pointed out, with regard to paragraph 29, that maternity work had always been outside insurance practice. It was not a question of payment, but of imposing a very difficult and responsible duty upon the practitioner. Dr. Brackenbury said that the definite resolution embodied in this paragraph was passed, he thought unanimously, by the Panel Conference and reported to the Council. It was the opinion of that Conference that something more than cash provision ought to be made for the wives of insured persons in respect to maternity. The present proposal would make the provision of a midwife for the insured woman part of the insurance scheme. Dr. Radcliffe opposed the paragraph, which, he said, would have the effect of bringing doctors under disciplinary powers in connexion with midwifery. Dr. Bolam held that the mere deletion of the paragraph would leave matters in a very awkward position. The profession had allowed itself to drift into a peculiarly difficult position with regard to midwifery, and the paragraph was really an attempt to arrive at the greatest common measure of agreement. Sir Jenner Verrall hoped the Council would not delete the paragraph; some statement in the document on this very important question was clearly desirable, but he thought it would be better to say in what particular and definite manner the Council thought some additional provision should be made. A motion to delete the paragraph was lost.

Dr. Bone desired that the provision for a woman within the insurance scheme should include attendance by a practitioner or registered midwife during labour. Dr. Brackenbury pointed out that a very large proportion of confinements—Dr. Bone gave the figure as 56 per cent., but Dr. Brackenbury thought it was higher—were attended by registered midwives, and if Dr. Bone's proposition were adopted the State would ask why, having financed a scheme which had worked without disaster, it should go to the trouble of financing something else which was in the nature of a luxury. It would involve the State in a big expenditure which the State had already demonstrated to be unnecessary for the national health. For his own part, so far as normal labour was concerned, he was in favour of the trained midwife as against the practitioner *plus* the "handy-woman." Dr. Dain hoped the paragraph would remain as at present. The provision of doctor and midwife would mean that insurance practitioners would practically be compelled to attend all confinements, for nearly all insured women would avail themselves of the opportunity of securing the attendance of a doctor. After some further discussion, the paragraph was left as originally drafted.

Mr. Souttar desired the addition to paragraph 31, dealing with residential institutional treatment, of some words putting forward more strongly the hospital policy of the Association, and this suggestion was accepted by Dr. Bolam.

A discussion arose on paragraph 40, in which it was laid down that in a case of removal from the service a practitioner should have the right of appeal to the General Medical Council. Mr. Eccles asked whether the General Medical Council had powers to carry out what was now suggested. The Chairman agreed that it might require an Act of Parliament.

Dr. Lyndon proposed the deletion of this subparagraph, arguing that an appeal to the courts, as provided in the previous paragraph, was all that need be claimed. Dr. Brackenbury said that the functions of the General Medical Council in this respect would be advisory. Mr. Turner favoured the setting up of a professional committee, which should be constituted to act judicially. The Chairman reminded the members that the General Medical Council was constituted, not for the protection of the profession, but for the protection of the public. The proposal to delete this subparagraph was lost, and Dr. Fothergill then moved to substitute for the words "General Medical Council" "a duly constituted central professional committee," and this was carried.

Dr. Bone moved to delete an introductory paragraph in the section on remuneration—a paragraph which discussed the financial aspects of what was proposed. It seemed to him idle to urge that, although large numbers of dependants were to be brought in, and various extensions made in the service, the scheme could be financed without much additional contribution. Sir Jenner Verrall seconded the proposal to delete this paragraph, on the ground that either the question of finance ought not to be touched at all in the memorandum or ought to be dealt with in a much stronger fashion. Dr. Brackenbury reminded the Council that for many years the true position with regard to national health insurance funds was not publicly disclosed. Only when the Association itself instituted expert inquiry was it discovered what a large amount had accumulated in the fund. He proposed, however, to incorporate in the paragraph the words "with a small contribution for additional persons who come into the national scheme." The Medical Secretary suggested that a competent statistician should be asked to explore the position with a view to seeing whether the paragraph could be supported by actual figures. It was agreed

that this course should be taken, and in the meantime the paragraph was held back.

Dr. Fothergill, with regard to the final paragraph on remuneration, thought that it should be open to Dr. Brackenbury to attach other arguments in favour of the position set out in that paragraph with regard to the capitation fee. Dr. Brackenbury said that all that had been done here was to enter a caveat that if the system was to be continued on the present lines the profession was prepared to argue for a higher figure than 9s.

The remainder of the document was then agreed to as material to be sent to the Divisions, and the document containing the questions proposed to be issued to meetings of the local profession was also adopted (see page 9).

Dr. Flemming, amid general applause, congratulated the Royal Commission Committee on the issue of the memorandum. It was a statesmanlike document, and he doubted whether the Council had ever had a document of quite this quality. He hoped the Divisions would duly appreciate this good and important piece of work.

Dr. Bolam then resumed the chair of the Council.

#### OTHER BUSINESS.

##### *Extension of British Medical Association Lectures to Overseas.*

Dr. Bolam, Chairman of the Committee which had had under consideration the extension of British Medical Association lectures to overseas, brought forward a recommendation that the sum of £400 which the Council had decided should be granted for 1925 for the provision of such lectures be increased to £450, and that the Science Committee be instructed that the extra money, together with any further sum resulting from economies which the Committee could introduce, should be allowed to accumulate with a view to utilizing it at intervals for the purpose of asking eminent members of the profession visiting the dominions to act as lecturers and meeting part of their expenses. The Finance Committee concurred, and the recommendation was agreed to.

##### *New Premises for the Scottish Office.*

Dr. Douglas brought forward a recommendation from the Scottish Committee that the Council should authorize the purchase of a house for the Association in Scotland at a price not exceeding £4,000. He said that the number of members in Scotland had very greatly increased during recent years, and it was practically certain that if good premises were obtained the number would increase further. The proposed new house was situated in one of the best parts of the capital, the accommodation was in every way suitable, and included a room for meetings.

The recommendation was agreed to. It was stated that the removal into the new house would take place at Whitsuntide.

##### *Part-time Prison Medical Officers.*

Mr. Turner stated that the Medico-Political Committee had been investigating complaints received from part-time prison medical officers. It appeared that insistence by the Prison Commissioners that all prisoners, as soon as possible after reception, should be inspected by the medical officer, had occasioned a great increase in the number of visits, which medical officers had to pay to prisons, particularly visits in the evening, besides the usual routine daily visits. The Council agreed that representations should be made to the Prison Commissioners that an addition of £100 a year should be made to the salary of part-time prison medical officers in respect of compulsory evening visits (to be retrospective from the time when the evening visits were insisted on); that this sum should not be in any way regarded as a bonus, but as an addition to salary for additional services; that each officer should be allowed to appoint a deputy to carry out these additional visits; that each officer should be allowed four weeks' annual leave, the Prison Commissioners making allowances towards the cost of providing the necessary accommodations; and that where officers had to attend police or assize courts they should receive a fee even though they were not called upon to give evidence.

##### *The Association's New Headquarters.*

Dr. Bolam gave a report of the progress of the work at the Association's new building in Tavistock Square. One question which came forward was that of the name for the new premises. The Office Committee considered that the name should be "The British Medical Association House," that the large conference room should be known as "The Great Hall," and the smaller room "The Hastings Conference Hall."

Dr. Douglas moved that the house be known as "Tavistock House," because of the many interesting associations of the building of that name formerly on this site. He disliked the clumsiness of the designation proposed by the Office Committee, and especially its crudeness if it were shortened, as it would be, to "The B.M.A. House." The Treasurer supported the Office



Committee's proposal. He felt sure that whatever designation were given the house would popularly be known as "The B.M.A. House," just as St. Stephen's Palace of Westminster was scarcely known by that name at all, but as the Houses of Parliament. Dr. Bolam pointed out some postal and other difficulties, and added that the Building Committee proposed to take out some of the foundation of the original Tavistock House, and from that material to erect in the garden something in the nature of a memorial with a tablet recording the connexion of the house with Charles Dickens. Dr. Douglas's amendment was lost, and the original recommendation to call the house "The British Medical Association House" was adopted.

The Council transacted other business, and rose shortly after 8 p.m.

## British Medical Association.

### CURRENT NOTES.

#### The Sir Charles Hastings Clinical Prize for General Practitioners.

The Council of the British Medical Association has decided to establish experimentally an annual prize—"The Sir Charles Hastings Clinical Prize"—of fifty guineas for an essay or lecture for the purpose of stimulating systematic observation, research, and record in general practice. The Council believes that systematic observation by general practitioners, along selected lines of clinical study, may result in the production of practical contributions of great value by those who are in a favourable position for following disease through its various stages.

The first prize will be awarded in 1926, and the conditions governing its award, as adopted by the Council on April 16th, 1924, are as follows:

#### Regulations.

1. This prize is established by the Council of the British Medical Association for the promotion of systematic observation, research, and record in general practice; it includes a money award of the value of fifty guineas.
2. Any member of the Association who is engaged in general practice is eligible to compete for the prize.
3. The work submitted must include personal observations and experience of the candidate collected in general practice, and a high order of excellence will be expected. If no essay entered is of sufficient merit no award will be made.
4. Essays, or whatever form the candidate desires his (or her) work to take, must be sent to the Medical Secretary, British Medical Association, 429, Strand, W.C.2, not later than December 31st, 1925, and the prize will be awarded at the Annual General Meeting of the Association. The first award will be made in 1926.
5. If any question arises in reference to the eligibility of the candidate or the admissibility of his essay, the decision of the Council on any such point shall be final.
6. Each essay must be distinguished by a motto, and must be accompanied by an envelope marked with the same motto and including the candidate's name and address.
7. The candidate who gains the award shall, if the Council so desires, publish his paper in the *BRITISH MEDICAL JOURNAL* or deliver a lecture on the subject thereof at a meeting of the Association.
8. Inquiries relative to the prize should be addressed to the Medical Secretary, 429, Strand, London, W.C.2.

#### The British Medical Association Staff.

On Wednesday, December 24th, the members of the clerical and printing staffs of the British Medical Association held their Christmas luncheon in the staff luncheon room. Mr. S. Coulson, chairman of the Staff Committee, presided, and welcomed the guests, who included the Editor (Sir Dawson Williams), Deputy Medical Secretary (Dr. Anderson), Assistant Medical Secretary (Dr. Lord), Intelligence Officer (Miss Lawrence), and the Sub-Editor (Dr. Griffin). Apologies for absence were announced from the Medical Secretary (Dr. Cox), the Financial Secretary and Business Manager (Mr. Ferris-Scott), the Assistant Editor (Dr. Horner), and Assistant Medical Secretary (Dr. Macpherson). Sir Dawson Williams, after expressing the thanks of the guests for the hospitality received, gave

some interesting stories regarding the dining habits of the Emperor Napoleon. Dr. Anderson, who also spoke, referred to the great benefit conferred by the establishment of the staff luncheon room in fostering good fellowship among the staff. He read a letter addressed by Dr. Cox to Mr. Widdeson, honorary secretary of the Staff Committee, expressing his regret at being unable to be present and acknowledging with thanks the good work done by the whole staff on all occasions, and especially in emergencies. In referring to the new home of the Association, Dr. Anderson said that the accommodation to be provided there for the staff luncheon room would be much larger than that at present enjoyed.

## Association Notices.

### BRANCH AND DIVISION MEETINGS TO BE HELD.

**BIRMINGHAM BRANCH: NUNEATON AND TAMWORTH DIVISIONS.**—A meeting of the Nuneaton and Tamworth Division will be held at the Tamworth General Hospital on Thursday, January 22nd, when Dr. K. D. Wilkinson will speak on cardiac irregularity.

**BIRMINGHAM BRANCH: WEST BROMWICH DIVISION.**—The annual meeting of the West Bromwich Division will be held at the offices of the Smethwick Insurance Committee, 1, South Road, Smethwick, on Tuesday, January 6th, at 3 p.m. Business: Summary by the Chairman of the work of the Division during the past year; election of officers for 1925; to consider the draft Memorandum of Evidence to be put before the Royal Commission; the Chairman-Elect, on assuming the chairmanship, will give an inaugural address on the reduction of maternal and neo-natal mortality.

**ESSEX BRANCH: NORTH-EAST ESSEX DIVISION.**—A meeting of the Division, to which all medical practitioners are invited, will be held at the Red Lion Hotel, Colchester, on Friday, January 9th, at 3 p.m., to consider the Memorandum of Evidence which is to be submitted in the name of the Association to the Royal Commission on National Health Insurance. The meeting will be addressed by Dr. Alfred Cox, Medical Secretary of the Association, who will also be pleased to answer questions.

**GLOUCESTERSHIRE BRANCH.**—At the meeting of the Gloucestershire Branch to be held on Saturday, January 10th, Sir Humphry Rolleston, Bt., K.C.B., President of the Royal College of Physicians of London, will give an address.

**METROPOLITAN COUNTIES BRANCH: CITY DIVISION.**—The next meeting of the City Division will be held at the Metropolitan Hospital on Tuesday, January 13th, at 9.15 p.m., when Mr. McAdam Eccles, M.S.Lond., F.R.C.S. Eng., will read a paper entitled "Lessons learnt from the chief skiagrams taken in my 'firm's' work during 1924 at St. Bartholomew's Hospital," illustrated by lantern slides.

**METROPOLITAN COUNTIES BRANCH: LEWISHAM DIVISION.**—A meeting of the Lewisham Division will be held at the Parish Room, St. Laurence Vicarage, Catford, S.E.6, on Tuesday, January 20th, at 8.45 p.m., when Mr. Archer Ryland will read a paper on danger signals in the acute mastoid, illustrated by lantern slides.

**METROPOLITAN COUNTIES BRANCH: MARYLEBONE DIVISION.**—A meeting of the Marylebone Division will be held at 8 p.m. on Wednesday, January 14th, at 11, Chandos Street, Cavendish Square, to discuss the draft evidence proposed to be put before the Royal Commission on National Health Insurance by the Association. This matter is of extreme importance to all members of the profession, as any contemplated changes will affect consultants, and members of hospital staffs in any capacity, medical officers of health, private practitioners not doing panel work, as well as the panel practitioners—in fact, every class of the medical community will be directly affected, many very adversely. Members and non-members of the Division are asked to attend this meeting.

**ESSEX BRANCH: SOUTH MIDDLESEX DIVISION.**—A Middlesex Division will be held at St. John's on Wednesday, January 21st, at 8.15 p.m. A discussion on scarlet fever from a public health point of view will be opened by Dr. H. A. Gunther.

**METROPOLITAN COUNTIES BRANCH: SOUTH-WEST ESSEX DIVISION.**—A meeting of the South-West Essex Division will be held at Walthamstow Hospital, Orford Road, on Tuesday, January 6th, at 5.30 p.m. precisely. Agenda: Correspondence; discuss holding an annual dinner of the Division; communication from Medical Secretary regarding the report of the Ophthalmic Committee on the treatment of cases of refraction in insured patients; preliminary notice of a special meeting of the Division to consider the Memorandum of Evidence for presentation to the Royal Commission on National Health Insurance (see page 1). At 4.15 p.m. Mr. A. Tudor Edwards, F.R.C.S., surgeon to Westminster Hospital and Walthamstow Hospital, will read a paper on the significance of signs and symptoms in diseases of the genito-urinary tract. Tea will be served at 3.15.

**METROPOLITAN COUNTIES BRANCH: WILLESDEN DIVISION.**—A meeting of the Willesden Division will be held at the Willesden General Hospital, Harlesden Road, on Wednesday, January 21st, at 9 p.m., to consider the draft evidence to be submitted to the Royal Commission on National Health Insurance. In preparation for this meeting members and non-members of the Association are requested to attend an important meeting of all practitioners in Middlesex to be held at the Portman Rooms, Baker Street, W.1, on Sunday, January 18th, at 3 p.m., when Dr. H. B. Brackenbury will speak.



**MANCHESTER BRANCH: CHESTERFIELD DIVISION.**—A meeting of the Chesterfield Division will be held at the Maternity Hospital, Chesterfield, on Friday, January 9th, when a discussion on the use of insulin in general practice will be opened by Dr. A. Court.

**NORTHERN COUNTIES OF SCOTLAND BRANCH.**—A meeting of the Northern Counties of Scotland Branch will be held at Inverness on Friday, January 16th, when Professor A. W. Mackintosh will deliver a British Medical Association lecture entitled "Neurological findings."

**SURREY BRANCH: CROYDON DIVISION.**—At the meeting of the Croydon Division to be held at the Croydon General Hospital on Tuesday, January 27th, at 8.30 p.m., Dr. Gordon Holmes, C.M.G., will read a paper on the distinction between functional and organic nervous diseases.

**SURREY BRANCH: GUILDFORD DIVISION.**—A meeting of practitioners in the area of the Guildford Division will be held on Thursday, January 15th, to consider the Memorandum of Evidence to be placed before the Royal Commission on National Health Insurance by the British Medical Association. Time and place of meeting will be announced later.

**YORKSHIRE BRANCH: HARROGATE DIVISION.**—A meeting of the Harrogate Division will be held in the Imperial Café on Thursday, January 22nd, at 8.30 p.m., when Mr. S. W. Daw, F.R.C.S. (Leeds), will give an address on orthopaedics and the nervous system.

**YORKSHIRE BRANCH: SHEFFIELD DIVISION.**—A meeting of the local medical profession, called jointly by the Sheffield Division of the British Medical Association and the Sheffield Local Medical and Panel Committees, will be held at the Church House, St. James Street, Sheffield, on Friday, January 16th, at 8.30 p.m. Agenda: Consideration of draft Memorandum of Evidence to be submitted to the Royal Commission on National Health Insurance. Dr. Alfred Cox, Medical Secretary, has accepted an invitation to be present and will address the meeting. Discussion and questions will be invited.

**YORKSHIRE BRANCH: WAKEFIELD, PONTEFRAC, AND CASTLEFORD DIVISION.**—A lecture meeting of the Wakefield, Pontefract, and Castleford Division will be held at the Bull Restaurant, Westgate, Wakefield, on Thursday, January 15th, at 8.30 p.m., when Dr. J. le P. O. Burrow (Leeds) will speak on changes in reflexes in health and disease. Supper at 8 o'clock.

## Meetings of Branches and Divisions.

**OXFORD AND READING BRANCH: OXFORD DIVISION.**

The following office-bearers have been elected for 1925:

Chairman, Dr. Neill. Vice-Chairman, Dr. Summerhayes. Representative in the B.M.A., Dr. Neill. Deputy Representative, Mr. Hugh Dr. Stobbs.

meetings has been arranged for the

held at the Radcliffe Infirmary at

**Nursing Hints; Mr. Hayward Finch: Radium Therapy, March 25th, Dr. A. M. H. Gray: Diagnosis and Treatment of Some Common Diseases of the Skin, May 27th, Mr. Dodds-Parker: Gall Bladder Surgery, June 21st, Dr. Ainley Walker: Some Normal Measurements and their Clinical Value, October 28th, Professor Peters: Recent Researches in Rickets, November 25th, Annual Meeting, Chairman's Address. Clinical cases will be shown at each meeting and the subjects will be open for discussion. Tea will be provided. In addition to the above the annual meeting of the Oxford and Reading Branch will be held at Oxford on Friday, July 10th. In the morning the Collier Cup will be competed for at Frilford Heath, and in the afternoon Mr. Roberts will read a paper on modern chest surgery.**

## Insurance.

### MEETINGS TO DISCUSS MEMORANDUM OF EVIDENCE TO THE ROYAL COMMISSION.

The following meetings have been arranged to consider the draft Memorandum of Evidence to be submitted by the British Medical Association to the Royal Commission on National Health Insurance, which is published in the SUPPLEMENT this week.

#### Middlesex.

A meeting of all the medical practitioners in the county of Middlesex will be held under the auspices of the Divisions of the British Medical Association and of the Panel Committee on Sunday, January 18th, at 3 p.m., in the Portman Rooms, 59, Baker Street, for the purpose of considering the draft Memorandum of Evidence to be presented to the Royal Commission on National Health Insurance. Dr. H. B. Brackenbury will explain the memorandum, and discussion will follow. The meeting is intended to assist the discussion which will take place at the meetings of the Divisions which are to be held later. As the matters to be discussed are of vital importance to the whole profession a large attendance is desired. The Portman Rooms are three minutes' walk from Baker Street Station.

#### Marylebone Division.

At 11, Chandos Street, W.1, on Wednesday, January 14th, at 8 p.m.

#### Willisden Division.

At Willisden General Hospital, Harlesden Road, N.W., on Wednesday, January 21st, at 9 p.m.

#### Sheffield Division.

In conjunction with the Sheffield Local Medical and Panel Committees, at the Church House, St. James Street, Sheffield, on Friday, January 16th, at 8.30 p.m.

#### North-East Essex Division.

At the Red Lion Hotel, Colchester, on Friday, January 9th, at 3 p.m.

#### West Bromwich Division.

At the offices of the Southwick Insurance Committee, 1, South Street, Southwick, on Tuesday, January 6th, at 3 p.m.

#### Guildford Division.

On Thursday, January 15th. Time and place of meeting to be announced later.

As pointed out in the leading article published in the JOURNAL at page 30, it is of great importance that every medical practitioner, whether serving under the Insurance Act or not, and whether a member of the British Medical Association or not, should attend the meeting in his district.

## Correspondence.

### Cheshire and Flintshire Scheme for a Pathological Service for Insured Persons.

Sir,—A meeting of the Joint Committee responsible for the administration of the above scheme, recently held, has, *inter alia*, considered the points to which attention was directed by the article appearing in your issue of October 11th, 1924 (SUPPLEMENT, p. 133), and the Joint Committee desires me to submit the following observations relative thereto.

In reconsidering the question of the application of Clause 10(2) of the Terms of Service of Insurance Practitioners in its relation to the scheme in the light of information which was obtained at an interview with the Ministry of Health and otherwise, the Joint Committee felt some obscurity on this point did arise in its circular of September 26th.

The Joint Committee, therefore, has decided to withdraw the paragraphs referring to this particular question in the circular, and instead to substitute the following, which are more clearly definitive of the relative positions of practitioner, patient, and Joint Committee, namely:

Paragraph 12.—"It is considered that Clause 10(2) of the Terms of Service of Insurance Practitioners, Medical Benefit Regulations, 1924, will not apply to the acceptance by the practitioner for transmission to the laboratory of any fee paid in respect of the service rendered by the laboratory to his insured patient in this connection."

Paragraph 13.—"The Committee accepts no responsibility for the payment of fees, which will be a matter of arrangement between the insured person and the Pathologist; therefore, should be sent direct to (either by the insured person or by the insured person, who will ordinarily be responsible to the Pathological Department for the payment of the fees."

A later communication from the Ministry of Health is regarded as indicating that the arrangement now arrived at clears up the points in question.

Insurance practitioners are now assured that under the new arrangements Clause 10(2) of the Terms of Service of Insurance Practitioners, Medical Benefit Regulations, 1924, will not apply.

With respect to the second point raised in your article, the Joint Committee did not intend when requiring reports from the Pathological Department that such reports should contain any information as to the name and address of the person in respect of whom the examination had been made, but to avoid even the remotest possibility of information of a private and confidential nature in respect of any patient being divulged, either inadvertently or otherwise, it has readily accepted and adopted the following suggestion, namely:

That the pathologist shall at each meeting of the Joint Committee make a brief report, to contain nothing more than the number and type of examinations which have been made, the number of autogenous vaccines which have been prepared, and the particular places or districts from which material has been received, concluding with a statement of the amount of fees received in respect of such examinations.

The Joint Committee desires particularly to state that reports on specimens, etc., will be treated as private and confidential documents by the Pathological Department, and will not be open to either official or unofficial investigation.

The Joint Committee further has the authority of the Board of the Infirmary to give the assurance that the pathologist will be properly remunerated in accordance with the hospital policy of the British Medical Association.

In conclusion, it is desired to state that the benefits of the scheme have now been extended to the dependants, widows, and orphans of insured persons, and that from the short experience of its operation it promises to meet a very real need.—I am, etc.,

Chesler, Dec. 20th, 1924.

F. FREDERICK WEST,  
Honorary Secretary.

•• We are very glad to note that the points to which attention was drawn in the SUPPLEMENT of October 11th, 1924, have been acknowledged and met in a satisfactory way by the Joint Committee.

## VACANCIES.

ADLAIDE UNIVERSITY.—Marks Lectureship in Applied Physiology and Sheridan Fellowship. Salary £750 per annum.

BERMONSEY BOROUGH.—Assistant Medical Officer (female) for Maternity and Child Welfare. Salary at the rate of £600 per annum.

LEE HOSPITAL.—Resident Surgical Officer. Salary

—Second Medical Assistant. Salary £400 per annum.

CITY TOWN UNIVERSITY.—Professor of Bacteriology. Salary £500 per annum. CHICHESTER HOSPITAL, W.4.—Honorary Medical Officer of the X-ray Department.

HIMPSTEAD GENERAL AND NORTH-WEST LONDON HOSPITAL, Haversham Hill, N.W.3.—Electro-therapist. Honorarium £50 per annum.

HARROGATE INFIRMARY.—House-Surgeon (junior). Salary at the rate of £150 per annum.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.—House-Physician. Honorarium £50 for six months.

ISLINGTON: PARISH OF ST. MARY.—Assistant Medical Officer at the Infirmary, Highgate Hill. Salary at the rate of £350 per annum.

LIVERPOOL PORT SANITARY AUTHORITY.—Assistant Port Medical Officer. Salary £700 per annum, increasing to £800.

LONDON HOMOEOPATHIC HOSPITAL, Great Ormond Street, W.C.1.—Three Resident Medical Officers. Salary £400 per annum.

LORD MAYOR TRELON CHURCHES' HOSPITAL AND COLLEGE, Alton.—Second Assistant Resident Medical Officer (male).

MANCHESTER ROYAL INFIRMARY.—House-Surgeon (male). Aural, Gynaecological, and Ophthalmic Departments. Salary at the rate of £50 per annum.

MANCHESTER UNIVERSITY.—(1) Lecturer in Anatomy; stipend £500 per annum. (2) Lecturer in Dental Mechanics and Lecturer in Dental Prosthetics.

MARION HOUSE, Hospital, Golders Green, N.W.11.—Junior Male House-Surgeon. Salary £150 per annum.

MOUNT VERNON HOSPITAL FOR TUBERCULOSIS AND DISEASES OF THE CHEST, Northwood.—Assistant Resident Medical Officer. Salary at the rate of £200 per annum.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.1.—Honorary Anaesthetist.

NORTHAMPTON GENERAL HOSPITAL.—Third House-Surgeon (male). Salary £150 per annum.

NOTTINGHAM GENERAL HOSPITAL.—Resident Casualty Officer (male). Salary at the rate of £200 per annum.

PLYMOUTH: SOUTH DEVON AND EAST CORNWALL HOSPITAL.—Honorary Anaesthetist.

QUEEN MARY'S HOSPITAL FOR THE EAST END, Stratford, E.15.—Honorary Dental Surgeon.

ST. ANDREW'S HOSPITAL, Dollis Hill, N.W.2.—Honorary Surgeon for Diseases of Throat and Ear.

ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN, Plaistow, E.13.—Honorary Assistant Physician.

SWANSEA COUNTY BOROUGH.—Assistant Medical Officer (female). Salary £600 per annum.

SWINDON EDUCATION COMMITTEE.—Oculist. Fee 21 guineas per session.

SWINLEY UNIVERSITY.—Professor of Obstetrics. £1,100 per annum.

WEST LONDON: Registrar. 1) Honorary Medical Officer. 2) Obstetric Registrar. 3) Assistant Medical Officer.

WEST RIDING: Salary £400.

CERTIFYING FACTORY SURGEON.—The Chief Inspector of Factories announces the following vacant appointment: Ayton (Derbyshire).

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Tuesday morning.

## APPOINTMENTS.

GERARD, Maynard A., M.B., House-Surgeon to the Adelaide Hospital, Peter Street, Dublin.

HEDMAN, H. L., M.D., M.R.C.P.Lond., Honorary Assistant Physician to the Johannesburg General Hospital.

JACKSON, W. Arthur, M.D., Medical Officer of Health for the Compstall Urban District.

ALL SAINTS' HOSPITAL.—Senior House-Surgeon: J. Dreadon, F.R.C.S. Eng. Junior House-Surgeon: C. A. Spence, M.B.

KINGSINGTON, FULHAM, AND CHELSEA GENERAL HOSPITAL, S.W.—Senior Resident Medical Officer: J. Donald, M.B., Ch.B. Junior Resident Medical Officer: Wilson Park, M.A., M.B., Ch.B.

SWANSEA GENERAL AND EYE HOSPITAL.—Surgeon: E. R. Roy Thomas, M.B.

ST. M.R.C.S., for the Folkestone L.S.A., for the Bethnal Green Ch.B. Edin., for the Cinderford District, co. Gloucester.

## DIARY OF SOCIETIES AND LECTURES.

ROYAL SOCIETY OF MEDICINE.—Section of Surgery: Wed., 8.30 p.m., Mr. G. Keynes: Fat Necrosis of Breast; Mr. H. S. Souttar: Carcinoma of Oesophagus. Section of Tropical Diseases and Parasitology: Thurs., 5.30 p.m., Sir L. Rogers: Points of Resemblance in the Epidemiology of Leprosy and Tuberculosis; Dr. N. S. Lucas: Infection of Captive Animals. Section of Obstetrics and Gynaecology: Thurs., 8 p.m., Mr. J. P. Maxwell (Peking): Osteomalacia in China (illustrated by photographs and lantern slides). Specimens. Section of Neurology: Thurs., 8.30 p.m., Dr. R. M. Stewart: A Case of Organic Spinal Hemianesthesia. Clinical Section: Fri., 5 p.m., Cases. Section of Ophthalmology: Fri., 8 p.m., Cases. 8.30 p.m., Dr. S. Russ and the Neurological Animals: Mr. F. A. Williamson-Noble: Inflammatory Pseudotumours of the Orbit.

ROYAL SOCIETY, 32, Welbeck Street, W.1.—Tues., 8.15 p.m., Dr. N. S. Finzi: Sc.

WEST KENT: Road, S.F. rapy.

WESTMINSTER: Dr. J. M. chester.—Wed., 4.30 p.m., of the Heart. Mr. R. G. J. Langley: Use and Abuse of.

## POST-GRADUATE COURSES AND LECTURES.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION, 1, Wimpole Street, W.1.—Royal Eye Hospital, St. George's Circus, S.E.1.

Lectures and Demonstrations. Daily, 3 p.m., Clinical Cases; 5 p.m., Lecture. West End Hospital for Nervous Diseases, 73, Welbeck Street, W.1: Intensive Course in the Diagnosis and Treatment of Common Diseases of the Nervous System. Daily, 5 p.m., Lectures, including Clinical Demonstrations upon selected cases. Bethlem Royal Hospital, St. George's Fields, S.E.1: Tues. and Sat., 11 a.m., Lecture Demonstrations. ROYAL DENTAL HOSPITAL OF LONDON, Leicester Square, W.C.2.—Fri., 5 p.m., Clinical Aspects of X Rays in Dental Practice. WEST LONDON HOSPITAL POST-GRADUATE COLLEGE, Hammersmith, W.—Mon., 2 p.m., Surgical Out-patients. Tues., 2 p.m., Medical Out-patients. Wed., 2 p.m., Medical Out-patients. Thurs., 10 a.m., Neurological Department. Fri., 2 p.m., Throat, Nose, and Ear Department. Sat., 10 a.m., Medical Diseases of Children. Daily 10 a.m. to 6 p.m., Sat. 10 a.m. to 1 p.m., In- and Out-patient Departments and Operations. MURCHESTER: ST. MARY'S HOSPITALS, Whitworth Street.—Fri., 4.30 p.m., Post-Clameteric Hemorrhage.

## British Medical Association.

OFFICES AND LIBRARY, 113, STRAND, LONDON, W.C.1.

## Reference and Lending Library.

THE READING ROOM, in which books of reference, periodicals, and standard works can be consulted, is open to members from 10 a.m. to 6.30 p.m., Saturdays 10 to 2.

LENDING LIBRARY: Members are entitled to borrow books, including current medical works; they will be forwarded if desired, on application to the Librarian, accompanied by 6d. for each volume for postage and packing.

## Departments.

SUBSCRIPTIONS AND ADVERTISEMENTS (Financial Secretary and Business Manager. Telegrams: Articulate Westrand, London).

EDITORIAL SECRETARY (Telegrams: Medicaera Westrand, London).

EDITOR, British Medical Journal (Telegrams: Ailology Westrand, London).

Telephone number for all departments: Gerrard 2530 (2 lines).

SCOTTISH MEDICAL SECRETARY: 6, Rindall Square, Edinburgh (Telegrams: Associate, Edinburgh. Tel.: 4351 Central).

IRISH MEDICAL SECRETARY: 16, South Frederick Street, Dublin (Telegrams: Baillius, Dublin. Tel.: 4737 Dublin.)

## Diary of the Association.

## JANUARY.

- 6 Tues. London: Standing Ethical Subcommittee, 2.15 p.m. West Bromwich Division: 1, South Road, Smethwick, 3 p.m. South-West Essex Division: Walthamstow Hospital, Orford Road, 3.30 p.m.
- 8 Thurs. London: Lee Commission Subcommittee, 2.30 p.m. Chesterfield Division: Maternity Hospital, Chesterfield. Discussion on the Use of Insulin in General Practice, to be opened by Dr. A. Court.
- 9 Thurs. North-East Essex Division: Red Lion Hotel, Colchester. Address by Medical Secretary, 3 p.m.
- 10 Sat. Gloucestershire Branch: Address by Sir Humphry Rolleston, Bt., K.C.B., President, Royal College of Physicians of London.
- 11 Tues. City Division: Metropolitan Hospital, Paper by Mr. Meddum Keeler on Lessons learnt from Skiacran, 9.15 p.m.
- 14 Wed. Marylebone Division: 11, Chandos Street, Cavendish Square, 8 p.m.
- 15 Thurs. Guildford Division. Walsfield, 1 Division: Bull Restaurant, Westgate. Dr. J. de F. C. Burrow on and Disease, 8.30 p.m. Supper, 8 p.m.
- 16 Fri. Northern Counties of Scotland Branch: Inverness, R.M.A. Lecture by Professor A. W. Mackintosh on Neurological Medicine.
- 20 Tues. Sheffield Division, jointly with Local Medical and Panel Committees: Church House, St. James Street, Sheffield. Address by Medical Secretary, 8.30 p.m.
- 21 Tues. Lewisham Division: Parish Room, St. Laurence Vicarage, Catford. Paper by Mr. A. Ryland on Danger Signs, 8.45 p.m.
- 21 Wed. South Middlesex Division: St. John's Hospital, Tickenham. Discussion on Scarlet Fever from a Public Health Point of View: to be opened by Dr. H. A. Gunther, 8.15 p.m.
- 22 Thurs. Willesden Division: Willesden General Hospital, Harlesden Road, 9 p.m.
- 22 Thurs. Harrogate Division: Imperial Café. Address by Mr. S. W. Day on Orthopaedics and the Nervous System, 8.30 p.m.
- 27 Tues. Nuneaton and Tamworth Division: Tamworth General Hospital. Paper by Dr. K. D. Wilkinson on Cardiac Irregularity.
- 27 Tues. Croydon Division: Croydon General Hospital. Paper by Dr. Gordon Holmes on the Distinction between Functional and Organic Nervous Diseases, 8.30 p.m.
- 28 Wed. London: Organization Committee, 2 p.m. Oxford Division: Radcliffe Infirmary. Paper by Mr. Hayward Pinch on Radium Therapy, 2.30 p.m.

## FEBRUARY.

- 5 Thurs. London: Joint Meeting of Royal Commission and Insurance Acts Committees. Royal Surrey County Hospital, Guildford. Paper by Dr. Charles Roberts on Radiology in General Practice, 4 p.m.
- 18 Wed. London: Special Meeting of Council, 10 a.m.

## BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcement of Births, Marriages, and Deaths is 2s., which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.

## DEATHS.

HOLGATE SITW.—On December 22nd, 1924, at Hay's Nursing Home, Golders Green, Richard Holgate, Shaw, M.B.E., M.R.C.S. Eng., L.R.C.P. Lond., aged 55, late of 11, Regent and Golders Green. Intended Hampstead 4, 1924. M.C. Ch.B., J.P., on December 25th, 1924, at his residence, 203, Mottram Road, Stalybridge, after a prolonged illness; fortified by the rites of Holy Church. R.I.P.

# SUPPLEMENT TO THE BRITISH MEDICAL JOURNAL.

LONDON, SATURDAY, JANUARY 10TH, 1925.

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## British Medical Association.

**NINETY-THIRD ANNUAL MEETING, BATH, JULY 21st to 24th, 1925.**

*Patron: HIS MAJESTY THE KING.*

*President: J. BASIN HALL, M.Cantab., Consulting Surgeon, Royal Infirmary, Bradford.*

*President-Elect: FREDERICK GEORGE THOMSON, M.A., M.D., M.R.C.P., Physician, Royal United Hospital, Bath.*

*Chairman of Representative Body: HENRY BRITTEN BRACKENBURY, M.R.C.S., L.R.C.P.*

*Chairman of Council: ROBERT ALFRED BOLAN, M.D., LL.D., F.R.C.P.*

*Treasurer: N. BISHOP HARMAN, M.B., F.R.C.S.*

## PROVISIONAL PROGRAMME.



BATH ABBEY.

**T**HE incoming President will deliver his address to the Association on Tuesday, July 21st.

The ANNUAL REPRESENTATIVE MEETING will begin on Friday, July 17th, at 10 a.m., and be continued on the three following week-days.

The statutory ANNUAL GENERAL MEETING will be held on July 21st at 2 p.m., and the adjourned general meeting at 7.45 p.m.

The Annual Dinner of the Association will take place on Thursday, July 23rd.

The Conference of Secretaries will be held at 2.30 p.m. on Wednesday, July 22nd, and the Secretaries' Dinner at 6.30 the same evening.

The official Religious Service will be held in the Abbey Church on July 21st at 4.30 p.m.

The Annual Exhibition of surgical appliances, foods, drugs, and books will be opened by the President-Elect on July 21st at 9.30 p.m., and will remain open on July 22nd, 23rd, and 24th.

A Popular Lecture will be delivered by Sir W. H. Bragg, K.B.E., F.R.S., on Friday, July 24th, at 8 p.m.

Saturday, July 25th, will be given up to excursions to places of interest in the neighbourhood.

## THE SECTIONS.

The Scientific Sections will meet from 10 a.m. to 1 p.m. for papers and discussions, and it is hoped that laboratory and clinical demonstrations will be arranged for the afternoons of July 22nd, 23rd, and 24th.

*The following Sections will meet on Three Days—Wednesday, Thursday, and Friday, July 22, 23, and 24.*

### MEDICINE.

*President: The Right Hon. Lord DAWSON OF PENN, G.C.V.O., K.C.M.G., C.B., M.D., F.R.C.P. (London).*  
*Vice-Presidents: E. J. CAYE, M.D., F.R.C.P. (Bath); T. R. ELLIOTT, D.S.O., C.B.E., M.D., F.R.C.P., F.R.S. (London); Professor J. A. NIXON, C.M.G., M.D., F.R.C.P. (Bristol); Professor ADAM PATRICK, M.D., M.R.C.P. (Dundee); W. N. WEST WATSON, M.D. (Bradford).*

*Honorary Secretaries: F. G. CHANDLER, M.D., M.R.C.P., 1, Park Square West, Portland Place, London, N.W.1; JAMES LANDSAY, M.D., M.R.C.P., 1, The Circus, Bath.*

### SURGERY.

*President: Sir BERKELEY MOYNIHAN, Bt., K.C.M.G., C.B., M.S., LL.D., F.R.C.S. (Leeds).*  
*Vice-Presidents: A. H. BURGESS, M.B., F.R.C.S. (Manchester); FREDERICK LACE, F.R.C.S. (Bath); H. S. SOUTTAR, C.B.E., M.Ch., F.R.C.S. (London); C. F. WALTERS, F.R.C.S. (Bristol).*  
*Honorary Secretaries: A. D. V. BLATHWAYT, M.R.C.S., L.R.C.P., 6, Brock Street, Bath; A. L. FULLER, F.R.C.S.I., 9, Gay Street, Bath; R. M. VICK, O.B.E., M.Ch., F.R.C.S., 152, Harley Street, London, W.1.*

### OBSTETRICS AND GYNAECOLOGY.

*President: Lady BARRETT, C.B.E., M.D., M.S. (London).*  
*Vice-Presidents: H. S. DAVIDSON, C.B.E., M.B., F.R.C.S. (Edinburgh); EARDLEY L. HOLLAND, M.D., F.R.C.P., F.R.C.S. (London); W. F. RAWSON, F.R.C.S. (Bradford); D. C. RAYNER, F.R.C.S. (Bristol).*

*Honorary Secretaries: J. BRIGHT BANISTER, M.D., M.R.C.P., 39, Harley Street, London, W.1; W. H. DUNCAN, F.R.C.S. (Ed.), 13, Gay Street, Bath.*

**PATHOLOGY AND BACTERIOLOGY.**

*President:* Professor J. C. G. LEDINGHAM, C.M.G., D.Sc., M.B., F.R.C.P., F.R.S. (London).

*Vice-Presidents:* J. A. BRAXTON HICKS, M.D., M.R.C.P. (London); Professor E. H. KETTLER, M.D. (Cardiff); RUPERT WATERHOUSE, M.D., M.R.C.P. (Bath).

*Honorary Secretaries:* Lieut.-Colonel JAMES COWAN, M.B., R.A.M.C. (ret.), 44, Combe Park, Bath; G. C. OKELL, M.B., M.R.C.P., Wellcome Physiological Research Laboratories, Langley Court, Beckenham, Kent.

**NEUROLOGY AND PSYCHOLOGICAL MEDICINE.**

*President:* Sir MAURICE CRAIG, C.B.E., M.D., F.R.C.P. (London).

*Vice-Presidents:* EDWIN BRAMWELL, M.D., F.R.C.P. (Edinburgh); ARTHUR F. HURST, M.D., F.R.C.P. (Aston); NORMAN LAYERS, M.D. (Bath); S. A. K. WILSON, M.D., F.R.C.P. (London).

*Honorary Secretaries:* RAY EDWARDS, M.R.C.S., L.R.C.P., 29, Gay Street, Bath; EDWARD MAPOTHER, M.D., M.R.C.P., Maudsley Hospital, Denmark Hill, London, S.E.5.

**THERAPEUTICS (INCLUDING BALNEOLOGY AND RADIOTHERAPY).**

*President:* Professor R. B. WILD, M.D., F.R.C.P. (Oxford, Derbyshire).

*Vice-Presidents:* PRESTON KING, M.D. (Bath); W. MITCHELL, M.B. (Bradford); NATHAN MUTCH, M.D., F.R.C.P. (London).

*Honorary Secretaries:* DOROTHY C. HARE, C.B.E., M.D., M.R.C.P., 1, Bickenhall Mansions, London, W.1; CECIL H. TERRY, M.B., 15, The Circus, Bath.

**LARYNGOLOGY, OTOTOLOGY, AND RHINOLOGY.**

*President:* ARTHUR H. CHEATLE, C.B.E., F.R.C.S. (London).

*Vice-Presidents:* NEIL MACLACHLAN, M.B. (Newcastle-upon-Tyne); IRWIN MOORE, M.B., C.M. (London); SYDNEY R. SCOTT, M.S., F.R.C.S. (London).

*Honorary Secretaries:* H. N. BARNETT, F.R.C.S. (Ed.), 27, The Circus, Bath; R. SCOTT STEVENSON, M.D., 30, New Cavendish Street, London, W.1.

**The following Sections will meet on Two Days.****DISEASES OF CHILDREN.**

*President:* ROBERT HUTCHISON, M.D., F.R.C.P. (London).

*Vice-Presidents:* CAREY F. COOMBS, M.D., F.R.C.P. (Bristol); P. T. CRIBBLE, F.R.C.S. (Belfast); CHARLES McNEIL, M.D., F.R.C.P. (Edinburgh); REGINALD H. MILLER, M.D., F.R.C.P. (London).

*Honorary Secretaries:* VINCENT COATES, M.C., M.D., 10, The Circus, Bath; R. A. RAMSAY, M.Ch., F.R.C.S., 123, Gloucester Terrace, Hyde Park, London, W.2.

**OPHTHALMOLOGY.**

*President:* W. MARDON BEAUMONT, M.R.O.S. (Bath).

*Vice-Presidents:* R. WALLACE HENRY, M.D. (Leicester); A. W. OMMOND, C.B.E., F.R.C.S. (London); C. H. WALKER, F.R.C.S. (Bristol).

*Honorary Secretaries:* R. COLLEY, M.B., D.O.M.S., 30, The Circus, Bath; P. G. DOYNE, M.B., F.R.C.S., 8, Harley Street, London, W.1.

**ORTHOPAEDICS.**

(One day being combined with Surgery.)

*President:* Professor E. W. HEY GROVES, M.S., F.R.C.S. (Bristol).

*Vice-Presidents:* NAUGHTON DUNN, M.B., Ch.B. (Birmingham); G. L. GIRDLESTONE, M.B., F.R.C.S. (Oxford); E. MUIRHEAD LITTLE, F.R.C.S. (London).

*Honorary Secretaries:* T. TWISTINGTON HIGGINS, O.B.E., F.R.C.S., 27, Harley Street, London, W.1; J. S. LEVIS, M.C., M.B., 20, Gay Street, Bath.

**PUBLIC MEDICINE.**

*President:* T. EUSTACE HILL, O.B.E., M.B., D.Hy. (Durham).

*Vice-Presidents:* T. W. NAYLOR BARLOW, C.B.E., M.R.O.S., L.R.C.P. (Walsley); J. F. BLACKETT, M.D. (Bath); W. A. BREND, M.D. (London); S. NOY SCOTT, M.R.C.S., L.R.C.P. (Plymouth).

*Honorary Secretaries:* A. NEVILLE COX, M.D., M.R.C.P., 21, Cornwall Gardens, Preston Park, Brighton; R. E. THOMAS, M.D., 11, Darlington Place, Bath.

**The following Section will meet on One Day.****MEDICAL SOCIOLOGY.**

*President:* CHARLES E. S. FLEMING, M.R.C.S., L.R.C.P. (Bradford-on-Avon).

*Vice-Presidents:* J. W. BONE, M.B., C.M. (Luton); WILFRED BUCKLEY, C.B.E. (London); G. P. MALE, M.R.C.V.S. (Reading); E. A. STARLING, M.B., M.Ch. (Tunbridge Wells).

*Honorary Secretaries:* C. J. BUCHAN, M.B., 326, Brownhill Road, Catford, London, S.E.6; C. A. MARSH, M.D., 20, Victoria Buildings, Bath.

The Honorary Local General Secretary is Mr. W. G. MUMFORD, O.B.E., F.R.C.S. (British Medical Association Committee Rooms, Assembly Rooms, Bath); and the Honorary Assistant Secretary is Dr. R. G. GORDON.

**British Medical Association.****CURRENT NOTES.****National Health Insurance and Public Health.**

At a recent meeting of the West Somerset Branch of the British Medical Association Dr. W. G. Savage, county medical officer, opened a discussion on the relationship between a national insurance scheme and the public health with a valuable paper, in which he drew attention to the various ways in which the connexion between the two might be made closer and more effective. The necessity for this, and some methods for bringing it about, are stated in the draft Memorandum of Evidence proposed to be given before the Royal Commission (SUPPLEMENT, January 3rd, 1925, pp. 1-9), and it is highly important that this part of the whole subject should be kept in view at the meetings of the profession now being held to consider the Memorandum. In his paper Dr. Savage points out that an insurance scheme necessarily breaks down the economic antagonism between preventive and curative medicine which has in some degree previously existed, and that the public health work done by insurance practitioners has been extensive and valuable. Though Dr. Savage has some objections to the form of record which has to be kept by such practitioners, it has to be borne in mind that this form was drawn up by an experienced and representative committee, which gave full attention to its possible statistical and research purposes, though it was recognized that its prime use was clinical. To the present lamentable neglect to use these records—even such of them as are returned to the authorities when those to whom they refer have died or ceased insurance—Dr. Savage draws serious attention, and his suggestion that the medical officers of the local authority (and not only the officers of the Ministry of Health, as at present) might be afforded opportunity of utilizing them is worthy of favourable consideration. He points out, too, that the possibility of making special investigations by means of particular records in certain localities as to the incidence of diseases in the area has been very little used, and, indeed, seems to be very imperfectly realized. Here again it is obviously desirable that the local health authority and its medical officer should be brought into close and organic connexion with a national health insurance scheme. Some of the wider public health activities assigned to or contemplated for Insurance Committees by the original Act of 1911 have never been carried out, and experience compels the recognition that these are, in fact, impossible; but this makes it all the more necessary that other means should be sought for utilizing the great opportunities which a health insurance scheme offers for furthering the public health by affording information in accordance with which preventive measures may be taken, and interesting in them a large body of practitioners who must necessarily be actively associated with such measures. Dr. Savage has done good service by his paper, and it is to be hoped that other medical officers of health will follow his example.

**Certification Risks.**

The North of England Branch of the British Medical Association has done a very useful piece of work in issuing to all its members a "Memorandum on Certificates, Notifications, Reports, etc." The memorandum quotes the Warning Notice of the General Medical Council as regards certificates. Then follow some instances of cases of alleged wrongful or careless certification which have come before the General Medical Council in the past two or three years; and the memorandum ends with the following paragraph:

"It is necessary for medical practitioners to recognize that, if regulations under the National Health Insurance scheme cause inconvenience or appear to press hardly upon the insured person, this does not absolve the medical man from the responsibility which attaches to appending his signature to a certificate. A doctor attaching his signature and the qualifications which make it valid under the Medical Act vouches for the accuracy of the statements made in the certificate, and must accept any consequences that flow therefrom."

Other Branches of the Association might well copy the example of the North of England Branch and remind their

members from time to time of the responsibilities which doctors undertake in signing certificates and reports, and of the penalties which may be entailed by carelessness or mistaken kindness of heart.

#### Examination of Immigrants to the United States.

Owing to the severity of the conditions governing the entry of immigrants to the United States, medical practitioners in this country are now being confronted with various forms of certificates of fitness. Some of these are drawn up by shipping companies in their own defence, and as they are not unduly exhaustive the Medico-Political Committee of the British Medical Association has taken no exception to them, but has recommended Divisions that the fee for filling them up should be not less than 10s. 6d. There is, however, one official form of certificate to which the Committee takes very great exception on account of the technical knowledge of a number of diseases extremely uncommon in this country which would be necessary if the certificate were to be conscientiously dealt with. It has to be borne in mind that the signing of these certificates involves a very serious responsibility, because if it is found that an intending immigrant shows signs of any of these diseases on landing a heavy fine is inflicted upon the shipping company which has brought him over, the unfortunate ship surgeon gets into trouble, and the immigrant has to be taken back at the expense of the shipping company. The very serious view which the General Medical Council now takes of anything which may savour of laxity in certification must also always be remembered. The Medico-Political Committee considered that it was altogether too much to expect of the general practitioner with no tropical experience that he should certify that a given individual was not suffering from any of the following diseases: actinomycosis, blastomycosis, framboesia, mycetozoa, Oriental sore, filariasis, amoebiasis, schistosomiasis, or other dangerous conditions caused by animal parasites. The Committee considered that it would be fully justified in recommending the Council of the Association to advise its members to have nothing to do with this certificate, no matter what fee should be offered, and the Council, without hesitation, adopted the Committee's recommendation. Members are therefore advised that if they should be confronted with one of these forms they should refuse to fill it up under any conditions.

#### Correction of Draft Evidence for Royal Commission on Insurance.

By a printer's error a line has been dropped out of paragraph 10 of the draft Memorandum of Evidence proposed to be given by the British Medical Association to the Royal Commission on National Health Insurance. The following correction should be made in all copies of the SUPPLEMENT of January 3rd, 1925:

Page 2, col. 1, para. 10, last line but one, after the word "without" insert "any income limit and (b) non-manual workers with an income"

#### Middlemore Prize, 1925.

The Middlemore Prize was founded by the late Richard Middlemore, F.R.C.S., of Birmingham, to be awarded for the best essay or work on any subject which the Council of the British Medical Association might from time to time select in any department of ophthalmic medicine or surgery. For many years the prize has been awarded to the author of the best essay received in connexion with a specific subject, but it has been decided on this occasion to deal with the award of the prize on a broader basis. The Council will accordingly award the prize in the year 1925 to that person who is adjudged to have submitted to the Association the best contribution on any ophthalmological subject, whether previously published or not, provided that the contribution shall not have been published or prepared more than three years prior to the date on which applications are receivable in competition for the prize. The prize will take the form of an illuminated certificate and a cheque for £50. Contributions in competition for the prize must reach the Medical Secretary, British Medical Association, 429, Strand, W.C.2, on or before

Monday, February 2nd, 1925. The contributions will be judged by examiners appointed by the Association, and the decision of the Council will be final.

## Association Notices.

### BRANCH AND DIVISION MEETINGS TO BE HELD.

**BIRMINGHAM BRANCH: NUNEATON AND TAMWORTH DIVISION.**—A meeting of the Nuneaton and Tamworth Division will be held at the Tamworth General Hospital on Thursday, January 22nd, when Dr. K. D. Wilkinson will speak on cardiac irregularity.

**BORDER COUNTIES BRANCH: ENGLISH DIVISION.**—A meeting of the English Division and Cumberland Panel Committee will be held in the County Hotel, Carlisle, on January 13th, at 3.30 p.m., for consideration of the evidence to be placed before the Royal Commission on National Health Insurance. The meeting will be addressed by the Medical Secretary, Dr. Alfred Cox, and those attending should take with them the BRITISH MEDICAL JOURNAL SUPPLEMENT of January 3rd.

**SOUTH MIDLAND BRANCH: BUCKINGHAMSHIRE DIVISION.**—A special joint meeting of the Bucks panel practitioners and the local members of the British Medical Association will be held at the Crown Hotel, Aylesbury, on Friday, January 16th, at 5 p.m., to discuss the Memorandum of Evidence to be submitted to the Royal Commission. All practitioners in the area are invited. Any resolutions from this meeting will go to the Insurance Acts Committee and later to a Conference of Representatives in London. Therefore it is essential that all suggestions should be submitted as soon as possible. It is desired to emphasize before the Royal Commission the special difficulties under which country practitioners work, and the Secretary (Dr. T. Perrin, 10, Temple Square, Aylesbury) will be glad to receive any suggestions from rural practitioners.

**EASTERN COUNTIES DIVISION.**—A special Counties Division will be held in Medical and Panel Committees of the Newtown St. Boswells, on Wednesday, January 15th, at 5 p.m., to consider the draft evidence proposed to be put before the Royal Commission on National Health Insurance on behalf of the British Medical Association.

**ESSEX BRANCH: NORTH-EAST ESSEX DIVISION.**—A meeting of the Division, to which all medical practitioners are invited, will be held at the Red Lion Hotel, Colchester, to-day (Friday, January 9th), at 3 p.m., to consider the Memorandum of Evidence which is to be submitted in the name of the Division to the Royal Commission on National Health Insurance. The meeting will be addressed by Dr. Alfred Cox, Medical Secretary, who will also be pleased to answer questions.

**GLOUCESTERSHIRE BRANCH.**—At the meeting of the Gloucestershire Branch to be held on Saturday, January 10th, Sir Humphry Rolleston, Bt., K.C.B., President of the Royal College of Physicians of London, will give an address.

**KENT BRANCH: BROMLEY DIVISION.**—A meeting of all medical practitioners in the Division will be held at the United Services Club, London Road, Bromley, on Friday, January 16th, at 8.30 p.m., to consider the draft Memorandum of Evidence which is to be submitted to the Royal Commission on National Health Insurance. The meeting will be addressed by Dr. G. C. Anderson, Deputy Medical Secretary, who will also answer any questions.

**LANCASHIRE AND CHESHIRE BRANCH: MID-CHESHIRE DIVISION.**—A British Medical Association lecture will be given on Friday, January 16th, at 8.45 p.m., in the Board Room of the Altrincham General Hospital, by Dr. S. A. Kinnier Wilson (London) on Neuritis and Neurasthenia. Members of neighbouring Divisions are heartily welcome.

**METROPOLITAN COUNTIES BRANCH: CITY DIVISION.**—The next meeting of the City Division will be held at the Metropolitan Hospital on Tuesday, January 13th, at 9.15 p.m., when Mr. McAdam Eccles, M.S.Lond., F.R.C.S.Eng., will read a paper entitled "Lessons learnt from the chief skiagrams taken in my 'firm's' work during 1924 at St. Bartholomew's Hospital," illustrated by lantern slides. Meetings of the medical profession in the area of the City Division will be held at Shoreditch and Islington. The Islington meeting is to be held in the Islington Town Hall on Tuesday, January 20th, at 9.15 p.m. Dr. G. C. Anderson will open the discussion on the draft Memorandum of Evidence proposed to be placed before the Royal Commission on National Health Insurance. The date and place of the Shoreditch meeting will be announced in next week's SUPPLEMENT.

**METROPOLITAN COUNTIES BRANCH: KENSINGTON DIVISION.**—A meeting of the Kensington Division will be held at the Kensington Town Hall at 3.30 p.m. on Friday, January 23rd, to discuss the evidence it is proposed to place before the Royal Commission on National Health Insurance. It is hoped that all medical men in the Divisional area, whether members of the Association or not, will attend and express their views, as the matters under discussion will affect all practitioners in whatever class of work they are engaged.

**METROPOLITAN COUNTIES BRANCH: LEWISHAM DIVISION.**—It is proposed to hold a meeting of all medical practitioners residing in Lewisham on Wednesday, January 14th, at 8.45 p.m. at the New Hall, St. Laurence Church, Bramley Road, Catford, S.E.6, to



DORSET AND WEST HANTS BRANCH: BOURNEMOUTH DIVISION.  
A MEETING OF THE Bournemouth Division was held on December 17th,  
1924, in St. Peter's Church, Bournemouth. The Rev. Canon G. W. G. gave his report  
of the work done during the year. He said that the Annual Report delivered by Dr.  
Bernard Myers, Secretary of the Division, was very important that every care should be taken of nervous children.

as some of the world's greatest men and women were of the neurotic type. Remarking that a nervous child could be detected by the trained eye during the first few days of life, the lecturer described the characteristics of the nervous patient during infancy, school age, and adult life. He quoted statistics from a London clinic showing the percentage of the various signs and symptoms in a large number of cases. As regards treatment, he said that the environment of the child was of the greatest importance, and of drugs bromide was of most value.

## KENYA BRANCH.

A meeting of the Kenya Branch was held at Nairobi on June 11th, 1924. Dr. A. J. JEX-BLAKE, the President, who was in the chair, read a paper on euccephalitis lethargica, and, in the absence of Mr. H. H. V. Welch, described two cases of the disease which had occurred at the European Hospital, Nairobi. Dr. Jex-Blake was cordially thanked for his interesting paper.

Dr. F. J. C. Johnstone was elected honorary secretary in succession to Dr. C. J. Wilson, who had resigned through pressure of other work. On the motion of Dr. BUNKITT, seconded by the CHAIRMAN, a hearty vote of thanks was accorded to Dr. Wilson for the very efficient manner in which he had carried out the duties of honorary secretary.

At the meeting held on July 9th, Dr. G. V. ALLEN read a paper on the diagnosis of amoebiasis, illustrated by blackboard diagrams, which was followed by a demonstration of microscopical specimens. A discussion followed, and a vote of thanks was accorded to Dr. Allen for his paper.

Dr. R. W. BUCKITT demonstrated a case of an eye in an Indian child from whom the other eye had been removed three months before.

The Branch met again on August 13th, under the chairmanship of the President, Dr. A. J. JEX-BLAKE. A paper on artificial feeding and disorders of infants read by Dr. G. V. W. ASCHERSON gave rise to considerable discussion, in which the majority of those present took part. A hearty vote of thanks was accorded to Dr. Anderson for his paper.

At the meeting of the Branch on October 8th Dr. R. W. BUCKITT, Vice-President, who took the chair, read a paper on the modern treatment of fevers, with suggestions as to the treatment of animals. A general discussion ensued, and Dr. Buckitt was thanked for his interesting and original paper.

## METROPOLITAN COUNTIES BRANCH: LEWISHAM DIVISION.

A MEETING of the Lewisham Division was held on December 16th, 1924, at the South-Eastern Children's Hospital, Sydenham, with Dr. F. A. BEATTIE in the chair. On the motion of Dr. CHANLEY, seconded by Dr. E. C. ARNOLD, a resolution was carried unanimously expressing strong disapproval of the Hospital Saving Association scheme.

Dr. H. B. GLADSTONE showed diet and weight charts of marasmic children. Dr. SHUTTLEWORTH showed x-ray plates of fracture of the right hip in a lady of 63 years. Dr. CHANLEY described a case of suppurative cystic non-malignant tumour of the breast. Dr. BARNES described a case of "acute abdomen" which showed on operation thousands of glands studded over the intestines—a case of Hodgkin's disease. Dr. BARNES showed a case of osteitis deformans, in which there was great enlargement of the head, curving of the bones of the left arm, and bow-legs. The patient had complained of pain in the lumbar region for four years. Dr. CHANLEY described the case of a child aged 2½ years thought to be suffering from encephalitis lethargica. Dr. BARNES described the case of a soldier who had haemolytic jaundice for ten days in July, 1918, since when he had eight or nine attacks. The liver was enlarged. The blood count showed reds 2,248,000 and whites 2,650 per cubic millimetre; there were no nucleated red cells; bile was present in the urine.

The members were afterwards shown over the new out-patient department of the hospital.

## METROPOLITAN COUNTIES BRANCH: SOUTH MIDDLESEX DIVISION.

AN ordinary meeting of the South Middlesex Division was held at St. John's Hospital, Twickenham, on December 11th, 1924, when Dr. G. S. EWEN was in the chair.

Dr. Provis read a paper on ante-natal care. He considered that many patients who attended the clinics might quite well be treated by their own medical practitioner. It was important to take the history and make a thorough examination of the mother. The urine should be tested at least one month after attending the clinic, and re-examined from time to time. The breasts also should be examined and treated if necessary, the pelvis examined and measured, and the presentation diagnosed. The question of turning the child might be considered in breech cases where it could easily be done, but as it was apt to return to its former position its value was doubtful. It was not considered advisable to make internal examinations as a routine, except in doubtful cases of those of primiparae. The diagonal conjugate should then be measured and the size of the outlet estimated. In cases with a history of miscarriage a Wassermann test should be made and treatment given where needed. When positive, the blood of the infant must be tested on several occasions after birth. In cases of gonorrhoea active treatment was necessary. Dr. Provis used methyl violet and often swabbed out with 20 per cent. bile salts, which seemed to have beneficial effect.

Dr. Provis stated, in reply to a question by Dr. Yoxce, that the woman should attend the ante-natal clinic at the sixth month.

Dr. PENROU considered it important to estimate the ratio between the size of the head and the pelvic outlet; he also discussed castor oil and quinine treatment, and the use of pituitrin. Dr. RUDNOCK-WEST discussed how often it was necessary to hold ante-natal clinics. Dr. DUNSTON considered that about eight new cases would be seen on each occasion, representing approximately 400 new cases per annum. Dr. COOK thought that sufficient stress had not been laid upon the examination of the urine in ante-natal cases; he received three or four cases of eclampsia each year which might have been treated much earlier. He obtained excellent results in gonorrhoea cases by diathermy.

## SOUTH-WESTERN BRANCH: EXETER DIVISION.

THE annual meeting of the Exeter Division was held in the library of the Royal Devon and Exeter Hospital on October 17th, 1924, under the presidency of Dr. R. V. SOLLY, Chairman.

Dr. Solly vacated the chair to Dr. VINCENT SMITH, and the following officers were elected for 1924-25:

Vice-Chairman, Dr. J. A. W. Pereira Gray. Representative in Representative Body, Dr. F. A. Roper. Secretary, Mr. Norman Lock.

The Representative, Dr. ROPER, then reported on the proceedings at the Representative Meeting at Bradford, and commented especially on medical evidence in courts of law, fees in cases of street accidents and for ambulance lectures, lunacy certificates, medical defence, hospitals.

## SOUTH WALES AND MONMOUTHSHIRE BRANCH: NORTH GLAMORGAN AND BRECKNOCK DIVISION.

To give the members an opportunity of inspecting the new hospital, Mountain Ash, the meeting of the North Glamorgan and Brecknock Division of the British Medical Association was held at the institution on December 16th, 1924.

The Secretary, Dr. ARTHUR T. JONES, J.P., gave an interesting account of the Cottage Hospital and of the work done there during its thirty years' existence. It was opened in 1895, which happened to be the year he went to Mountain Ash. Twenty-one patients were admitted during this first year, and an average of 32 patients per annum were admitted for the following eight years, up to 1904. In 1905, the hospital was enlarged by the building of an additional ward of five beds, making a total of twelve beds. For the next four years, an average of 84 patients were admitted annually. In 1908, two more wards were added, together with a new and commodious operating theatre. The total number of beds was brought up to 17, and an average number of 107 patients had annually been admitted, the largest number being 130 in 1910, and the smallest, 79, in 1918. The total number of patients treated at the Cottage Hospital was 2,337. The population of the urban district area in 1896 was 25,650. The population of the whole area to-day was over 46,000, and that of Mountain Ash and Penrhiwceder—excluding Abercynon and Ynysydwyl—was 30,055. The increase in population had necessitated a larger building, and the scheme of a new hospital had fructified in the erection of a fine and commodious building on modern lines, and equipped with the most modern surgical appliances.

The members were subsequently escorted around the building by Miss Morgan (matron), after which they were entertained to tea by Dr. and Mrs. Arthur Jones. A hearty vote of thanks was accorded to Dr. and Mrs. Jones for their hospitality, to Miss Morgan and her staff for carrying out the arrangements, and also to the board of managers for allowing the Division to meet at the hospital.

## SOUTH WALES AND MONMOUTHSHIRE BRANCH: SOUTH-WEST WALES DIVISION.

At the meeting of the South-West Wales Division at the Carmarthenshire Infirmary on November 26th, 1924, Mr. HENRY WADE, C.M.G., D.S.O., lecturer in clinical surgery in the University of Edinburgh, and surgeon to the Edinburgh Royal Infirmary, gave an interesting address on the differential diagnosis of cases simulating appendicitis, which was highly appreciated by all present. After the lecture Mr. Wade gave a lantern demonstration of pyelograms and x-ray plates illustrating kidney and ureteral conditions which simulated appendicitis. At the close of the meeting a hearty vote of thanks was, on the motion of the Chairman, Dr. J. PHILLIPS, seconded by Dr. PARRY, accorded to Mr. Wade for his interesting lecture.

A further meeting of the Division was held on December 19th. A subcommittee was appointed to arrange for a social meeting in the summer at Llanelly, at which the Branch would be entertained by the South-West Wales Division.

Drs. R. Jones, Evans (Tumble), and A. H. D. Smith, were elected members of the new Welsh Contract Practice Subcommittee.

Drs. T. R. Davies and Dr. Oscar Williams (Llanelly) were elected Representative and Deputy Representative respectively in the Representative Body.

## YORKSHIRE BRANCH: SCARBOROUGH DIVISION.

THE annual meeting of the Scarborough Division was held on December 16th, 1924, at the Royal Hotel. The following office-bearers were appointed for 1925:

Chairman, Dr. Forman. Vice-Chairman, Dr. Fox Linton. Honorary Secretary, Dr. Chapman. Representative in Representative Body, Dr. Candler-Hope.

The annual dinner of the Division was held the same evening at the Royal Hotel, when the principal guest was the Mayor of Scarborough.

## OPHTHALMIC BENEFIT FOR INSURED PERSONS.

BY

N. BISHOP HARMAN, M.A., M.B.CANTAB., F.R.C.S.ENG.,  
SENIOR OPHTHALMIC SURGEON TO THE WEST LONDON HOSPITAL, ETC.

AMONG "additional benefits" provided through the National Health Insurance Acts dental and ophthalmic are easily first in demand and in value to insured persons. Dental benefit is imperative if preventive medicine is to be developed, for untreated dental disease is the forerunner of many and grave general disorders, which may be prevented with comparative ease, but are cured, if cured at all, with great difficulty. Ophthalmic benefit appeals greatly to the insured person, for the symptoms of eye-strain are most disturbing, and are more frequent with the increasing complexity of modern life.

A few approved societies have provided ophthalmic benefit by entering into arrangements with qualified and registered medical practitioners, and according to my information the arrangements have proved thoroughly satisfactory to the insured persons, of value to the panel practitioners who are responsible for the treatment of those persons, and economically practicable.

Other approved societies have entered into arrangements which are open to serious criticism and are certain to lead to grave danger to the insured persons. These societies have arranged for the provision of spectacles by opticians and without the necessary preliminary examination by a qualified doctor. The arrangement, it is alleged, is cheap. But it should be remembered that cheap methods in dealing with human beings usually prove costly in the long run. It is sure to prove so in this regard, for reasons that are easy to set out. There are other reasons affecting general economics which should be taken into account.

1. *Serious Organic Disease.*

Five per cent. of eye cases show serious organic disease. These cases are scattered throughout the whole, and commonly give no warning of their nature. Often the complaint is only made of dimness of vision, and a request is made for glasses to see with. These cases commonly have some error of refraction the correction of which materially improves vision, so that the optician may consider that he has done all that is needed by giving glasses; whereas the real root of the trouble has remained undiscovered. There is no doubt that opticians are beginning to be fearful of these risks, for one often gets cases which have been recommended to go to hospital or to an eye surgeon; some of these are cases of real defect and danger, others show no such defect or danger, and the appearance of these latter cases shows that the optician cannot, from the absence of sufficiently wide training, make a satisfactory distinction.

2. *Myopia and Industrial Conditions.*

Of the 95 per cent. of cases it should be remarked that these are by no means straightforward "optical" cases in which eyes as optical instruments independent of a human body may be dealt with by an optician with mechanical measuring instruments. Of these 95 per cent. some 10 per cent. are myopes of more than low degrees. A couple of years ago I examined serially 7,000 private case papers of my own; of these 480 were between the ages of 20 and 60 years, with three or more dioptres of error. Of these cases no less than 26 per cent. showed serious conditions of eye-strain or failure which required much more than "optical" treatment; and amongst those engaged in close eyework no less than 53 per cent. had breakdowns. The figures of that investigation were published widely in the United Kingdom and in the United States of America, and so far there has been no challenge to the deductions drawn therefrom. As a matter of fact, they have been so far accepted that material decisions have been based upon them. It shows what an immense amount of medical attention is involved in these cases, and with that a wide knowledge of life and of everyday work if any really useful benefit is to accrue to these people.

3. *Eye-strain in Young Adults.*

One is amazed at the number of young people who come complaining of symptoms of eye-strain or of headache and in whom there are found only very small errors of refraction—such small errors as may be found in a large proportion of the population, or even the majority of the people, and without causing any trouble even in these who work at benches or desks. To the optician these are cases for glasses. To the doctor who does ophthalmic practice they are cases for much wider investigation. He wants to know why there is this supersensitiveness, and he is often able to discover probable causes of trouble and

indicate to the private practitioner what is the line of treatment that is best likely to benefit the patient. Such treatment is by no means confined to the ordering of glasses or drugs; it enters into the details of the patient's life, and without that there is certain to be a failure of effect.

It may be said that much of this advice might be given by opticians of experience. In practice this is not so. Advice of this kind can only be given on the basis of a wide experience, such as is obtained by the doctor in an educational experience of men and of health problems which the medical curriculum is designed to afford, and which it undoubtedly does afford. No training in a narrow groove can accomplish this. So that if it should come about that a material part of medical treatment and consultation were given into the hands of men trained in such a narrow groove it is inevitable that a great part of the "medical benefit" would be lost. The provision would be penny wise and pound foolish.

4. *Signs of Wear and Tear.*

There has to be considered the special problem of the adults. In these persons the beginning of wear and tear is often to be seen most easily and often as a first indication by difficulty in the eyes. The changes in the cornea, in the iris and the reaction of the pupil, changes in the lens, vitreous, and above all in the state of the vessels of the retina, are so well known as an indication of ageing of the tissues and the disabilities that arise therefrom that these examinations are a necessary part of every medical examination which is designed to discover the true state of the body of the patient. With a properly designed medical benefit covering ophthalmic examination all this information would be at the disposal of the private doctor of the patient. The advantage would be immense, and probably the saving that could be effected by the early discovery of indications of general wear and tear would be so great as to balance any cost of this additional benefit. It is not to be expected that this advantage could be obtained by the use of opticians, unless, indeed, it were proposed to subject these persons to such a wide and lengthy curriculum that it would be to all intents and purposes coextensive with the medical curriculum, in which case it would be more advantageous to put them through the medical course right away.

5. *Covering.*

The provision of additional medical benefit must have safeguards, so that the call upon the benefit shall be given to those only to whom it will be of advantage, and to secure that it shall not be given unnecessarily, and therefore wastefully. That means that it must be given under the order of the private panel practitioner, possibly with some mechanism of appeal in case of disagreement as to the necessity of the provision of the benefit. If the benefit is obtained through doctors qualified in eye work no ethical question arises; it is the regular procedure. If it were proposed to give it through opticians a serious ethical matter would immediately arise. For a panel practitioner to advise a patient to obtain part of his medical treatment through the agency of a person not on the *Medical Register* would be "covering" in the terms understood by the General Medical Council. The panel practitioner so doing would be liable to proceedings being taken against him. Consequently, panel practitioners would not advise their patients to go to opticians, so that the benefit provided would be unobtainable through the proper channels. It might be null and void.

It may be said that general practitioners have in the past advised their patients to go to opticians for sight-testing, and that they do so now. There is evidence that this practice is declining for the very reasons set out, and also because there are now many more doctors engaged in eye work, and who see patients for fees which the industrial classes can afford.

6. *Opticians.*

It may be said that only those opticians who are well equipped for their work would be recognized. That would be no solution to the difficulty. Those recognized may or may not be pleased with the recognition, according to the terms in which it is given. If recognition should have coupled therewith prohibition to advertise (as on the experience of the *Dentists Register* may be held likely) they would not be pleased. For the rest of their sort who were not recognized would be free to advertise as they do now. Further, it is likely that any attempt to recognize some and not all of these persons would bring the rest of them—that is, the majority of the sight-testing fraternity—into the field with vehement protestations against the injustice of the procedure. There are already more than a few "bills" suggested in the interests of the several sections of sight-testers.

7. *The Education of the Public.*

There is one argument that appeals very strongly to me, and it is one that I am inclined to think will appeal most strongly to the persons most affected—that is, the insured. For eighteen

<sup>1</sup> Harman, *The Consequences of Myopia as an Industrial Disease of the Kingdom*, Transactions of the Ophthalmological Society of the United Kingdom, 1922, p. 20.

years one great department of State has rigorously set its face against sight-testing by any other than properly trained and qualified doctors. The Board of Education has made it plain that in dealing with children the best possible is the only admissible, and that there is no second best. One generation of children have learned this, and now they are the fathers and mothers, and they see their children treated in this same proper fashion. Is it to be expected for one moment that these parents will be content if they are fobbed off with second or third best, an optician instead of a properly trained eye doctor?

I am inclined to think that if the authorities concerned attempted to set up such an inferior grade of optical benefit there would be raised such a volume of protest that they will wish they had never suggested such an idea. The matter would no longer be a matter of the best way of doing medical work, or a question of medical ethics; it would become a matter of politics; and the cry would be raised that the authorities propose to give medical treatment for the masses which they as the classes would not be content with themselves.

It may be said that many of the industrial classes do now betake themselves to these same sight-testing opticians. True. But what a man will do of his own free choice he will not tolerate when it is provided for him by a Government authority. At present he has a choice between the cost of loss of time involved in attending a hospital or the cost of paying an optician; he takes one or the other course, as is most convenient to him, and he knows he does it at his own risk, so far as the optician is concerned. It will be far otherwise with a Government prescription of an optician for sight-testing. I can see any such suggestion becoming a violent political controversy, and I am inclined to think that in that contest the usual forms of "stunt" would be employed to make any action by Government in recognizing or employing optician sight-testers for insured persons look exceedingly bad.

### 8. Long Views.

It is necessary on occasions to take long views. A procedure which may conceivably suggest a temporary advantage will be found on looking forward to lead to an increasing disadvantage. The number of doctors who do eye work has increased considerably in recent years, particularly since the medical treatment of school children was organized; but the increase has been far less than is warranted by the necessities of the population. The reason for this failure of adequate provision lies in the exploiting of the field by the advertising sight-testing optician. Fathers hesitate to make a heavy expenditure on the training of their sons for such work, and young doctors whose bent is for this work turn to other fields when they see the odds so much against them. The same was seen in the dental field, and the State had to take measures to protect itself. The rapid exploitation of dental work by hosts of untrained advertising tooth-drawers inhibited the provision of qualified dental surgeons so seriously that the State stepped in, sorted out the untrained into the passable and the bad, put the passable on an expanded *Dentists Register*, and thereon determined that there should be no more dental practice except by the registered, and no further entry to the *Dentists Register* except to the properly trained and qualified. It is now certain that at no distant date there will be a full supply of trained and competent dental practitioners.

A recognition of sight-testing opticians, temporary or otherwise, will certainly inhibit the provision of doctors who do eye work. Further, should sight-testing opticians be recognized, they could never be incorporated in any sort of medical register. The die will be cast for weal or woe.

It cannot be argued that the midwives' register is a comparable action by the Legislature. Parturition is a physiological act. Abnormalities may be discovered beforehand, and the signs of danger at or after childbirth are so distinctive that failure of a midwife to summon a doctor to such cases is an offence, and leads to penal action. Further, it is likely that at no distant date the midwife will be eliminated, from economic and domestic reasons. There is increasing tendency in civilized countries for the lying-in to be arranged in a nursing home. This practice has spread to such an extent in the United States that the latest figures show a decline in births attended by midwives.

I base my plea for the development of ophthalmic practice by properly trained doctors upon grounds of public policy and not upon any narrow view of craftsmanship. I make no doubt that if ophthalmic benefit be provided through doctors from one generation of medical students there will be secured such a number of competent practitioners as will give a personnel equivalent to one doctor who does ophthalmic practice to every town of 10,000 inhabitants, who will be able to cope with the demand in the town of his residence and a wide rural district around.

I have hope that our statesmen (and in that term I include the officers of the great friendly societies) will strive for permanent advantage rather than a makeshift.

## CO-ORDINATION OF WELFARE SERVICES.

ADDRESS TO THE WEST HAM INSURANCE COMMITTEE.

BY

HAROLD S. BEADLES, M.R.C.S.,

CHAIRMAN OF THE COMMITTEE.

As time goes on the public services provided under the National Health Insurance Act are unfolding to the view of the student of social affairs a vista of health activity, more beneficial in its results than the promoters of the Act dared to anticipate at its inception. In spite of the many vicissitudes suffered by National Health Insurance administration since 1911—arising mainly out of the war—the financial assistance and medical attendance and treatment provided thereunder have clearly demonstrated that with steadfastness of purpose, and the power of careful organization, there is a possibility of achieving results in this phase of human life which must not be ignored by those responsible for the welfare of the community, if the peoples of the more thickly populated areas of the country are to be rendered capable of withstanding the unnatural strain put upon their bodies and minds by the present artificial existence known as modern civilization. The elements of insurance have been provided for fifteen million persons as against five million previously insured voluntarily.

Nevertheless we are even now only in a position to discern the fringe of the true health standard. What little we can see, however, indicates the more forcibly the nebulous state of a great many of the nation's present health activities in other directions. The full splendour of good health can only be enjoyed by the establishment of well defined and effective relationship between the various particles now wandering more or less haphazardly around the central and local administration of public affairs. The systems of health and public welfare administration which have been built up in this country during generations past, each very good in its service of that particular need which caused its creation, have now become much too numerous for the individual whom they are intended to benefit to understand thoroughly and use to the best advantage. The creation of funds for the operation of such systems is to-day also a matter of much complexity. The operation of the National Insurance Act has demonstrated that continuance of this multiplicity of systems and complexity of finance is entirely unnecessary. It has shown the need for providing complete insurance for workers without the possibility of such workers being at any time "out of benefit." That which has acted so smoothly in health and insurance, so efficiently during the past twelve years can open the way for other public welfare services, local rates for others, precepts, rates, and voluntary subscriptions for others, whilst compulsory contributions in other forms now play a big part in the social scheme. A number of the services have bases of incidence of charge peculiar to themselves and differing materially from those of others.

It is claimed that there is no need for all these varieties. All public services might well be divided into two main categories—namely: (a) imperial—that is, those applicable to the community as a whole; and (b) individual—that is, those applicable to and enjoyed by the individual particularly. In the former there would be included the navy, army, air force, and other defence services; diplomacy, government (central and local); police protection and allied services; education; construction and maintenance of roads; water supply, housing, drainage, and sanitation; prevention of pollution of air, water, and food; control of agriculture, shipping, and transport; medical research, and many others. Under (b) would be grouped financial assistance in time of sickness and accident, maternity and unemployment; widows' and orphans' and old age pensions and allowances; medical attendance and treatment in the fullest sense, including all institutional, dental, ophthalmic, and specialists' services and nursing.

It is the second group (b) with which I am now dealing. Mr. Lloyd George, one year before the passage of the National Insurance Act, 1911, referred to the gigantic task of dealing with the sick, the infirm, the unemployed, and the widows and orphans. This reference, and the fact of his production of the Insurance Act so soon after it was made, indicates the possibility that he, even at that time, realized what an important part insurance could play in the amelioration of some of the ills mentioned. To-day all political parties have announced their intention to alter and extend national insurance against sickness, unemployment, and accident, and to co-ordinate measures to these ends with provision for old age, widowhood, and orphanage. Yet of all the schemes so far expounded not one would seem to aim at total insurance for all social "individual" services.

The Insurance Acts have further shown the inequity of having different payments for different conditions. It is difficult to see why, if sickness is to be the subject of insurance, the benefit



derived therefrom, when sickness falls upon the insured, should be something short of the benefit derived from employment. Sickness places a far greater strain upon the household exchequer than good health. Therefore sickness pay should at least bear adequate proportion to good health pay. At present the sick pay is 15s. a week, while unemployment averages 50s., compensation for accident 50s., and that for old age 10s. Similar benefits of insurance should apply to old age, unemployment, and the other ills to which the great majority of the working people are heir. Subject, of course, to family responsibilities, these should be equal at, say, 50s. for the man, when it would be unnecessary to distinguish whether a person is prevented from working by illness, unemployment, accident, old age, or any other disability. The standard of living given by the insurance benefits should be regulated according to the disability which the benefit is created to counteract. At the same time all the means available for removal of the disabilities insured against should be brought into full operation on behalf of the individual as part of the insurance scheme. These would include domiciliary medical attendance and treatment, institutional treatment (surgical and otherwise), and nursing, and also the finding of employment. National insurance must primarily be for the benefit of the community and not of the individual, and for this reason the premium should cover all time of unemployment from whatever cause arising. It must include all those who now come under the Poor Law. Many of these are the same people, temporarily unemployed, while others are unemployable for various reasons; but the State cannot afford to leave these out if it desires a healthy nation. Some of the unemployable are now the greatest danger to the community.

The funds for the provision of these individual services should be raised in manner somewhat similar to the present system of national insurance so far as they would be collected through the medium of stamps purchasable at the Post Office. There should, however, be one form of stamp for all purposes, the face values being graduated from a minimum to a maximum by not less than one penny. The primary function of the stamped card would be the check it would furnish upon the proper payment of contributions on behalf of the person employed. Contributions should be payable in respect of every person reaching employment age—namely, at the expiration of his or her school age; and should continue to be payable until either the age of 65 is reached—when the old age pension would be payable—or until certain agreed earning has been attained, or until proof that a certain standard of living was assured by private means. Such contributions should be at a rate per pound of earnings—probably sixpence to the worker—and could be charged in suitable proportion between the State, the employer, and the employed. During periods of unemployment through sickness or otherwise the rate of contribution should be paid by the State and the insured person concerned, out of his cash benefits. The State's contribution to the benefits and administration, representing the State's interest in the social welfare of the individual, would be drawn from the funds derived by special taxation and revenues for imperial purposes, or as a first charge upon income tax. The moneys accumulated by the sale of stamps would pass through a central fund, controlled by the State, to local pools controlled by the administering local authorities.

It is estimated that about £230,000,000 per annum would meet the expense of the personal services requirements of the community, this figure being arrived at thus:

Health ... ..	£94,500,000	including cash payments.
Employment ... ..	85,500,000	" " "
Pensions (old age, etc.) ...	100,000,000	" " "
	£280,000,000	

To meet this annual charge a levy of 2s. 6d. would have to be made in respect of every £1 earned in the country, apportionable between the State, the employer, and the insured person. This seems at first sight to be a large proportion of the country's wages bill, but it must be remembered that under this scheme the poor relief rates, a considerable proportion of the ordinary local rates, hospital contributions, and other central and local taxes and rates would disappear, whilst the present contributions under the Health and Unemployment Insurance Acts would also be merged. Moreover, much of the present wasteful method of collection of revenues—State and local—would be swept away.

Reference has already briefly been made to the proposed system of administering the scheme. The State would control the collection of funds and supervise the apportionment thereof among the local authorities responsible for the actual administration of the benefits. These local authorities should be constituted mainly of persons appointed by and from the present county and county borough councils, supplemented by persons appointed by such councils and nominated from various interests concerned with the working of the scheme, due regard being paid in the making of such appointments to experience acquired

by the persons selected in the public services which are to be absorbed thereunder.

Medical benefit is at present administered by Insurance Committees, but only general practitioner attendance is provided for most of the insured, and then only "if in benefit." Additional benefits are provided by some approved societies for some of the insured. It is now clear that the only way to provide complete medical attendance for the whole community is to place it under the control of one body, not separate approved societies or the present Insurance Committees, but an *ad hoc* committee of the county or borough council on the lines of the educational committees, which committee could administer all health matters and properly co-ordinate them.

When contributions are taken compulsorily from a portion of the community the contributors have a right to expect to be provided with equal benefits and on equal terms. The position of the deposit contributors is a serious menace to the general health, and so long as there exists a number of societies approved for the purpose of administration and giving different benefits to their members the name of "national" becomes a farce. The working of the Act has shown some of us that we cannot continue permanently to have such societies approved, and that here again we shall have to set up committees of county and borough councils, which committees will administer not only health insurance but all other forms of social insurance, including those for sickness, accident, unemployment, old age pensions, and widows' pensions, when there will be no necessity for the present Poor Law system.

Our thanks are due to the approved societies for all the work they have done in the past, the friendly societies as the pioneers, and the great industrial insurance companies for the assistance of their wonderful organizations. But we and they must recognize that the time has come for changes marking the next stage in the development of the great social amelioration; and that they, as well as members of Insurance Committees, must find a way to some administrative body more comprehensive in its constitution and more effective in its power.

## Insurance.

### MEETINGS TO DISCUSS MEMORANDUM OF EVIDENCE TO THE ROYAL COMMISSION.

The following meetings have been arranged to consider the draft Memorandum of Evidence to be submitted by the British Medical Association to the Royal Commission on National Health Insurance.

#### Middlesex.

A meeting of all the medical practitioners in the county of Middlesex will be held under the auspices of the Divisions of the British Medical Association and of the Panel Committee on Sunday, January 18th, at 3 p.m., in the Portman Rooms, 59, Baker Street, for the purpose of considering the draft Memorandum of Evidence to be presented to the Royal Commission on National Health Insurance. Dr. H. B. Brackenbury will explain the Memorandum, and discussion will follow. The meeting is intended to assist the discussion which will take place at the meetings of the Divisions which are to be held later. As the matters to be discussed are of vital importance to the whole profession a large attendance is desired. The Portman Rooms are three minutes' walk from Baker Street Station.

#### Morphebone Division.

At 11, Chandos Street, W.1, on Wednesday, January 14th, at 8 p.m.

#### City Division.

At Islington Town Hall, on Tuesday, January 20th, at 9.15 p.m.  
At Shoreditch. Date and place of meeting to be announced later.

#### Kensington Division.

At Kensington Town Hall, on Friday, January 23rd, at 3.30 p.m.

#### Kingston-on-Thames Division.

At the Surbilon Assembly Rooms, Surbilon, on Tuesday January 20th, at 3.15 p.m.

#### Leicishom Division.

At the New Hall, St. Laurence Church, Bramley Road, Gifford S.E.6, on Wednesday, January 14th, at 8.45 p.m.

#### Willesden Division.

At Willesden General Hospital, Harlesden Road, N.W., on Wednesday, January 21st, at 9 p.m.

#### Bromley Division.

At the United Services Club, London Road, Bromley, on Friday, January 16th, at 8.30 p.m.

#### Sheffield Division.

In conjunction with the Sheffield Local Medical and Panel Committees, at the Church House, St. James Street, Sheffield, on Friday, January 16th, at 8.30 p.m.

#### North-East Essex Division.

At the Red Lion Hotel, Colchester, on Friday, January 9th at 3 p.m.



## Meetings to Discuss Memorandum of Evidence.

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- Guildford Division.**  
At the Royal Surrey County Hospital, on Thursday, January 22nd, at 3 p.m.
- North and South Suffolk Divisions.**  
In the Council Chamber of the East Suffolk County Council, Ipswich, on Wednesday, January 14th, at 2.30 p.m.
- Gateshead Division.**  
At the offices of the Gateshead Unionist Association, 3, Catherine Terrace, Gateshead, on Sunday, January 11th, at 3 p.m.
- Buckinghamshire Division.**  
In conjunction with the Bucks panel practitioners, at the Crown Hotel, Aylesbury, on Friday, January 16th, at 3 p.m.
- Holland Division.**  
At the White Hart Hotel, Spalding, on Friday, January 16th, at 3 p.m.
- South-Western Branch.**  
At the Royal Cornwall Infirmary, Truro, on Tuesday, January 13th, at 3 p.m.
- Bedford Street, Plymouth, on Thursday, January 14th, at 4.15 p.m.**  
At Goodbody's Restaurant, Bedford Street, Plymouth, on Thursday, January 14th, at 4.15 p.m.
- Derby Division.**  
At the Royal Devon and Exeter Hospital, Exeter, on Thursday, January 15th, at 3 p.m.
- Derby Division.**  
At Derby, on Friday, January 23rd, at 3 p.m. Place of meeting will be announced later.
- Harrogate Division.**  
At the Imperial Café, Harrogate, on Tuesday, January 13th, at 8.30 p.m.
- South-Eastern Counties Division (Edinburgh Branch).**  
At the Railway Hotel, Newtown St. Boswells, on Wednesday, January 14th, at 3 p.m.
- English Division (Border Counties Branch).**  
At the County Hotel, Carlisle, on Tuesday, January 13th, at 3.30 p.m.
- Furness Division.**  
At the Criterion Restaurant, Cornwallis Street, Barrow, on Wednesday, January 14th, at 3.15 p.m.

As pointed out in the leading article published in the JOURNAL of January 3rd, page 30, it is of great importance that every medical practitioner, whether serving under the Insurance Act or not, and whether a member of the British Medical Association or not, should attend the meeting in his district. The draft Memorandum of Evidence to be submitted to the Royal Commission was published in the SUPPLEMENT of January 3rd, and it is hoped that members attending will take it to the meetings.

### A LOCAL INQUIRY INTO RHEUMATIC DISEASE.

We have received for information a circular letter which the Leicestershire Insurance Committee has sent out to the insurance practitioners in its area. It consists of a memorandum embodying the conclusions arrived at from the study of the Ministry of Health report on the incidence of rheumatic diseases, published early last year, and also of an inquiry into various factors which may have an etiological bearing on these diseases in Leicestershire. Observations have been asked as to—

1. Cellar dwellings (if any).
2. Factory conditions and name of principal industry.
3. Information as to dental and tonsillar sepsis among insured persons and dependants (percentage).
4. Whether doctor would approve of a general scheme for mouth and teeth examination of insured persons, and furnish suggestions thereto.
5. State actual conditions and places in your district which require attention of sanitary, roads, and health improvements.
6. Recommendation as to health propaganda in various forms.

We notice, however, that there is no inquiry as to the number of cases of rheumatism occurring in each practitioner's district, but we presume that the intention will be to obtain these figures from the insurance cards. Only two and a half weeks have been allowed for the filling up and returning of the schedules, so it would appear that all that is hoped for at this stage is a general impression of the conditions obtaining in Leicestershire with a view to further action. We feel sure that the bringing of the insurance practitioner into the scheme of preventive medicine can only result in good to the national health.

### LONDON PANEL COMMITTEE.

A MEETING of the London Panel Committee was held on December 16th, 1924, under the chairmanship of Dr. H. J. CARNALL. An estimate of the expenditure of the Panel Committee for 1925 was £5,300, representing 0.44d. per insured person. The expenditure for 1924 was £2,772.

**Complaints against Practitioners.**  
The findings of the Medical Service Subcommittee in certain cases were criticized. In a case against a practitioner recently

investigated by the subcommittee, the practitioner had put in a statement which he had obtained from the insured person himself to the effect that there was no urgency in the case. The subcommittee thereupon reported to the Insurance Committee that it deprecated the action of the practitioner in obtaining such a statement from the insured person, as it made the consideration of the matter more difficult. After some discussion, the Panel Committee agreed to a resolution informing the Ministry of Health of its opinion that the action of the practitioner in obtaining the statement from the insured person was quite reasonable and justifiable. Dr. CARDALLO dissented from this view, and held that in the circumstances of the case the recommendation of the Medical Service Subcommittee was a sound one. Dr. CARDALLO also took exception to another resolution before the Panel Committee in which it was called upon to express its disagreement with the position upon a practitioner. Dr. SRAATON, who was responsible for the resolution, said that it did seem that in this somewhat exceptional case the decision of the subcommittee was opposed to the facts elicited, and that the punishment meted out was too severe. The Committee, however, agreed to an amendment to bring to the notice of the Insurance Acts Committee a case in which the Medical Service Subcommittee had decided to hear a complaint lodged by an approved society against a practitioner notwithstanding the fact that the period of six weeks allowed under the regulations had been exceeded.

After a long discussion, and after hearing a report from its representatives on the Medical Service Subcommittee, the Panel Committee decided to bring to the notice of the Ministry of Health certain matters in controversy relating to the election of chairman of the subcommittee, and decided that its representatives—in whom it passed a vote of confidence—should not attend the meetings of the subcommittee until the matter was adjusted.

**A Holiday Substitute Scheme.**  
It was reported that the "holiday locum" scheme under the aegis of the Committee had been worked by a group of practitioners on the boundary between the boroughs of Marylebone and Paddington with quite successful results, and a similar scheme was authorized for 1925.

## Correspondence.

### ROYAL COMMISSION ON NATIONAL INSURANCE.

SIR,—At the meetings of the profession when the draft of the Memorandum of Evidence proposed to be given by the British Medical Association before the Royal Commission is considered some Divisions will have present members of the Council, or of the committees which have considered the question, and some will have "official" speakers from the central office and elsewhere to explain the document to them. The side of the question put forth in the evidence is thereforo likely to be fully elucidated in these centres. But a number of Divisions will have no guidance of this sort, and it is right that they, as well as those who have the official explanations, should be afforded the chance of hearing the arguments against some portions of the proposed evidence and considering facts which are not clearly set forth in the draft, so that they may obtain a clear understanding of both sides of the matter before answering the very important questions set down.

Everyone who has worked at or studied the subject will be in cordial agreement with the major portion of the proposed evidence. If there is to be a health service on insurance lines it should be made as perfect as possible in every way, and should include specialist and consultant services and laboratory facilities. The question of attendance at conferences is for those to decide who will have to officiate, and everyone will agree with an attempt to improve the conditions under which panel practice is carried on, and to free it as far as possible from red tape of every description. But the proposed inclusion of the dependants of insured persons in an insurance scheme is quite a different proposition, and, as Dr. Cox rightly states in his letter to Secretaries of Divisions and committees, dated December 19th, 1924, would seriously threaten the practices of those general practitioners who are not on the panel. The fact that these committees which considered the evidence, and practically only voiced by Dr. John Stevens and myself at the Council meeting, is one of the reasons for this letter, in order that the Divisions before voting may be able to consider both sides of the question.

The proposed Memorandum of Evidence suggests that the dependants only of the lower paid insured persons should be included, and proposes various safeguards. But in answer to a question at the Council meeting the fact appeared that

the imposition of an income limit on insured persons was the only reliable method by which it was possible to determine whether the dependants of any particular person came within the scheme or not. Anyone who is conversant with the subject knows perfectly well that no Royal Commission will recommend, nor will any Government venture to impose, any income limit whatever on manual workers. Those of us who had to urge this point during the negotiations on the Insurance Bill had this fact thoroughly impressed on us with the most perfect frankness.

The votes of millions weigh more than those of thousands. This being so, it may be taken that the Divisions must vote for all or none. Any attempt to get in the lower paid only is impossible and illusory. The Association, ever since I have known anything about its policy, has always held that contract practice is the least desirable form of practice, and should only be undertaken for those who are quite unable to provide private attendance for themselves. If all the dependants are to be included (making a total of 38½ million), then well over 80 per cent. of the population will get their medical attendance under contract by compulsion. Free from compulsion, such a scheme would fail entirely.

The objections to this state of affairs are:

1. The deepening, accentuation, and perpetuation of the objectionable distinction between "panel" and "non-panel" practitioners, which is bad in the eye both of the public and the profession. I have many times heard it urged that a panel practitioner is also a private practitioner. In these circumstances this would cease to be the fact in a very large number of cases. Every vestige of private practice in thickly populated industrial districts would go by the board, and only those practising in country or residential districts would retain any private patients at all.

2. If the Association, claiming to represent the profession, gives evidence that it is prepared to recommend that 80 odd per cent. of the population shall be attended as part of a State-aided scheme under contract, then a tremendous weapon will be placed in the hands of those in favour of a whole-time State medical service, who would at once urge that such a service would be easier to administer, discipline, and control, as well as much cheaper, and that if the profession were ready for 80 per cent. they would soon swallow the other 20 per cent. It has been argued that to suggest the possibility of such a service is a "bogey." But it is now within the practical politics of one party at least; and *verbum sap.*

3. It would be impossible at present to find sufficient doctor-power to work such a scheme. There are about 14,500 practitioners on the insurance panels, and it is extremely unlikely that many of those outside would be forced on to them. Therefore the 38½ million of insured persons and dependants would have to be divided among this 14,500, giving about 2,700 to each doctor. If it were possible to spread this average evenly over all the kingdom it would be a practicable proposition. But in the rural areas there would not be enough inhabitants to give each practitioner this number, and in the industrial districts there would be a great deal too many. Those of us who worked the Central Medical War Committee will remember the chaos in face of the 1918-19 influenza epidemic, when there was too large a number of patients for each doctor left in civil practice. In addition, the amount of work which would be required from anyone undertaking the treatment of insured women and insured young children would be enormous. The insured mother with her insured offspring would very rightly require much more attention than an ordinary insured worker—male or female.

4. The financial side requires careful consideration. The cost of the lay administration of the Insurance Act is about £7,000,000 a year. With an increase of insured persons of 150 per cent. this expense would increase *pari passu*. Either the number of officials or their respective salaries would go up like a rocket. It is only the altruistic doctor who is always expected to do more work for lower fees. With regard to the capitation fees for medical benefit, the doctor would be expected to insure that part of the population with the greatest expectation of sickness at a premium perhaps less than that paid for a healthy worker.

5. This draft of evidence has been prepared and submitted practically by the Insurance Acts Committee. Those practitioners who would be very materially affected if the dependants were included have only a nominal representation on that committee, and very probably in most cases know very little of the suggested removal of a large number of their patients from their care unless they consent to swallow their principles and engage in panel practice. No decision on this exceedingly important question should be made by any Division unless the members have had these facts and arguments set before them

much more clearly than they are displayed in the draft. It is proposed that the final vote on the question shall be given by a meeting of the Representative Body together with the members of the Panel Conference, almost all of which latter body are either engaged in practice under the Insurance Act or are taking part in its administration. Why not strengthen the gathering by including an equal number of non-panel men? This is, of course, impossible, but is logical and fair.

In conclusion, in my opinion there is a great opportunity for the Association to give wise evidence and press for everything possible to improve the present system, and remove those defects which press hardly both on the insured person and his doctor, but not to risk splitting the profession in chase of an impossible ideal, the pursuit of which might easily land us in a State service which would be detrimental to the doctor, more detrimental to the study of the science and art of medicine and surgery, and disastrous to the sick person.—I am, etc.,

London, W.2, Jan. 5th.

E. B. TURNER.

SIR.—The British Medical Association has let slip a golden chance of doing a national service. Like the Annual Representative Meeting of 1922, which carefully skirted round the issue, so in the evidence to be given before the Commission the Association refuses the opportunity thrust upon it to discuss the absolutely vital question whether the Act does not increase national poverty in depth and area; and yet it has (for the first time in my knowledge) made this forward step that it begins by the admission that this scheme which "has justified its existence" may, after all, be waste; the money, it allows, might have been better spent.

There is no doubt that in the public eye judgement will go by default. If the Association does not discuss the principle, but does discuss the details, even advising extensions, it will be held to have approved that principle. I know that many medical men feel a certain dissatisfaction with an attitude which suggests that our citizenship should be subordinate to professionalism. We want to know what is good for the poor, and, so far as in us lies, guide the nation in the light of that knowledge.

All history shows that national health depends on national standard of living. Now it is plainly impossible to raise that standard of living by a tax on production. No one can deny that the employers' contribution is such a tax. It bears hard on the small employer; everyone has noticed that. When he can raise prices (and he has not yet failed to do so) it hurts the larger employer not at all. It bears hard on the working man with a young family; unless it cause unemployment (and everyone has known cases) it is trivial for the young and unmarried. It hits cruelly where it means to miss; it misses where it aims to hit.

It is a national question, and the position taken by the Association may have consequences incalculable. I appeal to those men who have hitherto stood aloof, especially consultants, feeling that it is no concern of theirs. National welfare concerns us all. Everyone knows how the Labour party—and others to-day—are obsessed by the notion that the State purse is bottomless. For humanity's sake, and England's, I appeal to them to discourage that pathetic and dangerous fallacy.

The Royal Commission has consented to receive evidence on the principle. To make it effective the support of a number of doctors is desirable. Will sympathizers who read this note send me a postcard with their names and any friends' names (not to pledge themselves to any particular doctrine) to say that they deprecate any extension of the Act till the basic principle has been thoroughly considered?—I am, etc.,

29, Daniel Street, Bath, Somerset,  
Jan. 7th.

B. G. M. BASKETT.

#### Locumtenents' Bureaux.

SIR.—There is a mistake in the report of Council on page 10, second column, of the SUPPLEMENT of January 3rd, where, in the discussion on the proposed medical bureaux, I am represented as having said, "The benefits will be strictly confined to men during the first four years after qualification." As a matter of fact, the report of my Committee was to the effect that this was one of the questions which was reserved for further consideration.—I am, etc.,

Doxford, Jan. 5th.

S. MORTON MACKENZIE.

#### Advertisements on Certificate Forms.

SIR.—Whenever I meet with a certificate, or other statutory form, which bears a trade advertisement I write in bold letters across the advertisement "Not recommended by me." If this practice were generally followed the nuisance would soon cease.—I am, etc.,

Whitby, Jan. 2nd.

J. G. ROSS.

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## Naval and Military Appointments.

Panel Consultants.  
SM.—As it appears to be highly probable that the question of consultation with specialists under the panel system will be discussed by the Royal Commission on National Insurance, I desire to point out that a large trade union of non-manual workers has initiated a scheme for securing consultations which has been in full working order for some years.

At the office of the union a list of specialists is kept to meet the requirements of individual members. On application to the secretary the appropriate consultant is communicated with, and he is asked to make an appointment in a letter to the member. At the consultation the member presents a card of introduction, and pays the agreed fee at his own expense before leaving. Several years ago I was asked by the secretary to join the staff of consultants at half the usual fee, which was then two guineas. When, however, the scale of fees generally was raised during the war I was informed that for the future the fee would be one and a half guineas.

In the event of a member requiring a home consultation I am asked what the fee would be, and here again half the fee usually charged is that generally suggested. On an agreement being arrived at the member's own doctor is communicated with and an appointment made. In my own experience there has never been any friction between the parties met and their independence maintained. I may add that the members fully appreciate the advantages the scheme offers.—I am, etc., A. Z.

## Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.  
SURGEON CAPTAIN R. H. MONUMENT, O.B.E., to the President, additional for three months' post-graduate course.  
The following Surgeon Commanders have been placed on the retired list with the rank of Surgeon Captain: N. H. Harris, A. C. W. Newport, C.V.O., R. W. Stanstreet, T. E. Blunt to the Dido; B. S. Robson to the O'Connell to the Agamemnon.  
Surgeon Commanders T. E. Blunt to the Tiger; L. F. Cope, O.B.E., to the Princess Margaret; W. K. D. Breton to the Stuart on recommendation; J. S. McGrath to the Iron Duke on relief; W. F. Beattie to the O'Connell to the Agamemnon.  
Surgeon Lieutenants G. B. Tarring to the Repulse, additional; the Triad; J. E. T. White, M.V.O., to the Repulse, additional; R. Burns to the Eagle; R. H. Drennan to the Stuart on recommendation; Weeks to the Eagle; R. H. Drennan to the Stuart on recommendation; Glorvorn; D. Duncan to the Thistle.  
Messrs. H. E. M. Martin and R. G. Proctor have entered as Surgeon Lieutenants and appointed to R.N. Hospital, Haslar, for course.

ROYAL ARMY MEDICAL CORPS.  
Lieut.-Colonel F. S. Irvine, C.M.G., D.S.O., to be Brevet Colonel.  
Lieut.-Colonel W. M. B. Sparks, D.S.O., retires on retired pay.  
Lieut.-Colonel W. F. Ellis, O.B.E., is placed on the half-pay list on account of ill health.  
Major W. D. O. Kelly, D.S.O., to be Lieutenant-Colonel to complete establishment.  
Major S. McK. Saunders retires on retired pay.  
Major (now Major) W. H. O'Riordan, M.C., to be acting Major from October 28th, 1917, to March 30th, 1919.  
Captain (now Major) W. H. O'Riordan, M.C., to be acting Major from October 28th, 1917, to March 30th, 1919.  
Captain T. Young relinquishes his temporary rank of Major on ceasing to be employed as a Deputy Assistant Director of Hygiene.  
Captain F. A. Roddy retires, receiving a gratuity.  
Captain H. S. Griffith retires, receiving a gratuity.

ROYAL AIR FORCE MEDICAL SERVICE.  
Squadron Leader T. S. Rippon, O.B.E., to be Wing Commander; Squadron Leader E. Huntley to be honorary Wing Commander.  
Flight Lieutenants W. R. Forbes and J. W. H. Stoll to be honorary Squadron Leaders.  
Squadron Leaders A. E. Henton to R.A.F. Depot; (Honorary Squadron Leader) F. W. Squire, T.D., to Central Flying School, Updon.  
Flying Officers W. A. Beck and J. Parry-Evans to R.A.F. Depot.

REGULAR ARMY RESERVE OF OFFICERS.  
ROYAL ARMY MEDICAL CORPS.  
W. G. Hazelton, late Cadet, Belfast University Contingent, O.T.C., to be Lieutenant.  
SUPPLEMENTARY RESERVE OF OFFICERS: ROYAL ARMY MEDICAL CORPS.  
A. S. Burns to be Lieutenant.

INDIAN MEDICAL SERVICE.  
Major-General J. Jackson, O.B.E., E.H.P., has retired.  
Lieut.-Colonel R. W. Knox, D.S.O., to be Colonel, vice Colonel H. J. E. Bannard, D.S.O., K.H.P., promoted to be Major-General.  
Major L. H. L. Mckenzie, an officiating Agency Surgeon, is granted leave on average pay for eight months, combined with leave on half average pay for one year and twenty-four days (November 3rd, 1924).  
Major E. Stevenson, on officiating Agency Surgeon, is posted as Agency Surgeon, Gilgit (November 3rd, 1924).  
Major H. Stott, O.B.E., are placed temporarily at the disposal of the Government of the United Provinces, with effect from date of his appointment as Professor of Pathology, King George's Medical College, Lucknow.

The promotion to his present rank of Major H. B. Scott, O.B.E., is ante dated from September 1st, 1918, to March 1st, 1918.  
The promotion to his present rank of Major A. N. Thomas, D.S.O., is ante dated from July 27th, 1919, to January 27th, 1919.  
Major W. D. H. Stevenson, C.I.E., relinquished the temporary rank of Lieutenant-Colonel on vacating the appointment of Assistant Director-General, I.M.S., on February 10th, 1922.  
The services of Captain C. G. Martin, an officer of the Medical Research Department, are placed temporarily at the disposal of the Government of Madras for appointment as officiating Assistant Director, King Institute of Preventive Medicine, Guindy.  
The services of Captain R. C. Mohitra, O.B.E., are placed permanently at the disposal of the Government of the Punjab.

## TERRITORIAL ARMY.

ROYAL ARMY MEDICAL CORPS.  
Major (Prov.) A. F. Lee, M.C., is confirmed in his rank.  
Major A. Walker, D.S.O., T.D., resigns his commission and retains the rank of Major, with permission to wear the prescribed uniform.  
Captain E. Phillips, D.S.O., M.C., R.A.M.C., to be Divisional Adjutant, 54th (East Anglian) Division, vice Major R. K. Mollam, R.A.M.C.  
Captain J. F. Edmiston to be Major, with precedence from June 3rd, 1924.  
Captain H. A. Lucas resigns his commission and is granted the rank of Major.

## COLONIAL MEDICAL SERVICES.

Dr. J. C. MacNaughton, M.O., Tonganyiko, transferred from Tabora to Bukoba.  
Dr. Thomas Clinch appointed Government Medical Officer, Fiji.  
Dr. Nora A. Robinson appointed Medical Officer, Medical Department, Gold Coast.

## VACANCIES.

BIRMINGHAM GENERAL HOSPITAL.—Medical Registrar and Resident Medical Officer. Salary £155 per annum.  
BRIGHTON: ROYAL SUSSEX COUNTY HOSPITAL.—House-Surgeon (male). Salary £150 per annum.  
CHELTENHAM GENERAL AND EYE HOSPITALS.—(1) House-Physician. (2) House-Surgeon at the Ear, Throat, and Nose Branch. Males. Salary £200 per annum each.  
CHICHESTER: ROYAL WEST SUSSEX HOSPITAL.—House-Surgeon (male). Salary at the rate of £185 per annum.  
CITY OF LONDON HOSPITAL FOR DISEASES OF THE HEART AND LUNGS, Victoria Park, E.2.—House-Physician (male). Salary at the rate of £125 per annum.  
CITY OF LONDON MENTAL HOSPITAL, near Dartford.—Second Assistant Medical Officer. Salary £350 per annum (£400 if applicant holds diploma in psychological medicine), rising to £450.  
DERBYSHIRE EDUCATION COMMITTEE.—Assistant School Medical Officer (woman). Salary £600 per annum, rising to £700.  
FARNHAM HOSPITAL AND NURSING HOME, 237, Fulham Road, S.W.3.—The whole of the Medical and Surgical Staff.  
HAMPSTEAD GENERAL AND NORTH-WEST LONDON HOSPITAL, Haverstock Hill, N.W.3.—Electro-therapist. Honorarium £50 per annum.  
HAYWARDS HEALTH HOSPITAL.—Honorary Consulting Throat and Ear Surgeon. Honorarium £50 for six months.  
HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.—House-Physician. Honorarium £50 for six months.  
HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.1.—Casualty Officer. Salary £400 per annum.  
LIVERPOOL ROYAL INFIRMARY.—Honorary Assistant Surgeon. Salary £150 per annum.  
LORD MAYOR TRELLOP CHIPPERS' HOSPITAL AND COLLEGE, Alton.—Second Assistant Resident Medical Officer (male). Salary at the rate of £100 per annum.  
MANCHESTER: ST. MARY'S HOSPITALS.—House-Surgeon for the Whitworth Hospital (Gynaecological and Children). Salary at the rate of £100 per annum.  
MANCHESTER: ST. MARY'S HOSPITAL, Fitzroy Square, W.—House-Surgeon, non-resident. Salary £150 per annum.  
METROPOLITAN EAR, NOSE, AND THROAT HOSPITAL, Fitzroy Square, W.C.1.—Surgeon, non-resident. Salary £150 per annum.  
MINISTRY OF PENSIONS HOSPITAL, Grange Road, Manchester.—Radiologist. Honorarium at the rate of £300.  
NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.1.—Honorary Anaesthetist.  
NORTHAMPTON GENERAL HOSPITAL.—Third House-Surgeon (male). Salary £150 per annum.  
NONWICH: JENNY LIND HOSPITAL FOR CHILDREN.—Resident Medical Officer (male). Salary £150 per annum.  
NOTTINGHAM GENERAL HOSPITAL.—(1) Resident Casualty Officer (male). Salary £150 per annum. (2) House-Surgeon. Salary at the rate of £150 per annum. (3) House-Physician. Salary at the rate of £150 per annum. (4) House-Surgeon. Salary at the rate of £150 per annum. (5) House-Physician. Salary at the rate of £150 per annum. (6) House-Surgeon. Salary at the rate of £150 per annum. (7) House-Physician. Salary at the rate of £150 per annum. (8) House-Surgeon. Salary at the rate of £150 per annum. (9) House-Physician. Salary at the rate of £150 per annum. (10) House-Surgeon. Salary at the rate of £150 per annum. (11) House-Physician. Salary at the rate of £150 per annum. (12) House-Surgeon. Salary at the rate of £150 per annum. (13) House-Physician. Salary at the rate of £150 per annum. (14) House-Surgeon. Salary at the rate of £150 per annum. (15) House-Physician. Salary at the rate of £150 per annum. (16) House-Surgeon. Salary at the rate of £150 per annum. (17) House-Physician. 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(100) House-Surgeon. Salary at the rate of £150 per annum.

ROYAL FREE HOSPITAL, Gray's Inn Road, W.C.1.—House-Physician. Salary £100 per annum.  
ST. LEONARDS-ON-SEA: BUCHANAN HOSPITAL.—House-Surgeon (woman). Salary £100 per annum.  
ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN, Plaistow, E.13.—Honorary Assistant Physician.  
SOUTHAMPTON HOSPITAL, East Dulwich Grove, S.E.—Mole Assistant Medical Officer. Salary at the rate of £300 per annum.  
SYDNEY UNIVERSITY.—Professor of Obstetrics. Salary £1,100 per annum.  
WEST LONDON HOSPITAL, Hammersmith Road, W.6.—(1) Honorary Medical Registrar; honorarium £100 per annum. (2) Honorary Obstetric Registrar. Registrar; honorarium £100 per annum. (3) Resident Medical Officer. Salary at the rate of £250 and £150 per annum respectively.  
WOLVERHAMPTON AND STAFFORDSHIRE HOSPITAL.—(1) Resident Medical Officer. (2) House-Surgeon. Salary at the rate of £250 and £150 per annum respectively.

CERTIFICATE FACTORY SURGEONS.—The Chief Inspector of Factories announces the following recent appointments: Bovey Tracey (Devon), St. Just (Cornwall), Staplehurst (Kent).

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Tuesday morning.



# SUPPLEMENT

TO THE

# BRITISH MEDICAL JOURNAL.

LONDON, SATURDAY, JANUARY 17TH, 1925.

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## British Medical Association.

### ROYAL COMMISSION ON LUNACY AND MENTAL DISORDER.

The following Memorandum of Evidence (as approved by the Council on December 17th, 1924) was submitted on behalf of the British Medical Association to the Royal Commission on Lunacy and Mental Disorder on Wednesday, January 14th. The Association's witnesses were: Dr. R. Langdon-Down (Chairman of the Association's Committee on Lunacy and Mental Disorder), Dr. J. W. Bone, Dr. F. H. Edwards, Dr. C. O. Hawthorne, Mr. E. W. G. Masterman, Dr. Christine Murrell, and Sir Jenner Verrall.

#### MEMORANDUM OF EVIDENCE GIVEN ON BEHALF OF THE ASSOCIATION.

##### INTRODUCTORY.

1. The British Medical Association is a voluntary organization of the medical profession; it comprises representatives of every form of medical practice and includes both practitioners who deal with the mentally disordered in various special ways and those who meet such patients in the usual course of general practice. The Members of the Association, now numbering over 28,400, are organized throughout the British Empire in local units called Divisions and in combinations of Divisions called Branches. By means of this local machinery, and with the help of its weekly organ, the *BRITISH MEDICAL JOURNAL*, the Association is able to inform and to collect the opinions of the main body of the medical profession, and in preparing this Memorandum the Council of the Association has utilized the experience and views of every type of medical practitioner.

2. When the Council of the Association learned that a Royal Commission on Lunacy and Mental Disorder (as regards England and Wales) was to be set up by the Government, it appointed a Special Committee to consider possible modifications of the Lunacy Laws, to prepare evidence for submission on behalf of the Association to the Royal Commission; and to appoint witnesses to give such evidence.

3. The personnel of the Special Committee is as follows:

- R. LANGDON-DOWN, M.B., B.Chir., M.R.C.P. (London). Member Medico-Psychological Association, Chairman of Lunacy Law Committee, British Medical Association.
- G. F. BARNHAM, M.D., Member Medico-Psychological Association, Medical Superintendent London County Mental Hospital, Claybury.
- R. A. BOLAM, O.B.E., LL.D., M.D., F.R.C.P. (Newcastle-on-Tyne). Chairman of Council, British Medical Association.
- \*J. W. BONE, M.B., C.M. (Luton).
- \*H. B. BRACKENBURY, M.R.C.S., L.R.C.P. (Hornsey). Chairman of Representative Body, British Medical Association, Vice-President Central Association Mental Welfare.
- F. H. EDWARDS, M.D., M.R.C.P. (London). Member Medico-Psychological Association, Medical Superintendent Camberwell House.
- J. BASIL HALL, M.B., M.Chir., F.R.C.S.Ed. (Bradford). President British Medical Association.
- N. BISHOP HARMAN, M.B., B.Chir., F.R.C.S. (London). Treasurer British Medical Association.
- BERNARD HART, M.D. (London). Member Medico-Psychological Association, late Medical Superintendent Northumberland House Asylum.
- C. O. HAWTHORNE, M.D., F.R.C.P., F.R.F.P. and S. (London). Consulting Physician Hampstead and North-West London Hospital.
- \*J. A. MACDONALD, LL.D., M.D. (Taunton). Consulting Physician Taunton and Somerset Hospital.
- E. W. G. MASTERMAN, M.D., F.R.C.S. (London). Medical Superintendent St. Giles Hospital.
- \*CHRISTINE MURRELL, M.D. in Mental Diseases and Psychology (London). Late Clinical Assistant Northumberland County Asylum.
- \*SIR ALFRED J. RICE-OKLEY, C.B.E., M.D. (London).
- A. F. TREDGOLD, M.D. (London).
- \*E. B. TURNER, F.R.C.S. (London).
- SIR JENNER VERRALL, LL.D., M.R.C.S., L.R.C.P. (Leatherhead). Consulting Surgeon Sussex County Hospital.

\*In General Practice.

4. The Association in approaching the questions submitted to the Royal Commission has endeavoured to keep in mind the principle that the interests of the patient as a sick person should be the first consideration. Subject to this principle the Association desires to give due weight to the claims of the public as a whole for protection against any improper restriction of individual liberty on the one hand and against the risks which attach to the inefficient



control of persons of unsound mind on the other. In addition are to be considered the claims of the medical profession for adequate safeguards in carrying out the difficult and responsible duties placed in the hands of its individual members.

5. The Committee invited and has received and considered suggestions from Medical Superintendents of Poor Law Infirmaries and has had also the assistance and collaboration of several representative general practitioners of great experience.

6. On a previous occasion (*viz.*, in April, 1912) the Association laid before the Government proposals dealing with the treatment of patients suffering from mental disorder in its early stages, but for the purpose of the present inquiry the subject has been fully and freely reconsidered.

#### PRINCIPAL OBJECTS FAVOURED.

7. The principal objects favoured in this Memorandum are briefly as follows:

(a) To meet, as far as possible, the susceptibilities of the public with a view to minimize the objections which prevent patients from accepting proper treatment at the earliest possible moment. (*Vide paras. 24-26.*)

(b) To avoid the need for a formal Reception Order for mental patients whose symptoms, though acute, are likely to be short-lived, in the hope that the recovery of the patient may render such an Order unnecessary. (*Vide paras. 40-44.*)

(c) To provide opportunities for the treatment, on a voluntary basis and under approved conditions, of suitable patients, whether in one of the existing types of institution or in hospitals or clinics or under private care. (*Vide paras. 36-39.*)

(d) To urge the provision and continuation of such kinds of accommodation as shall supply the needs of patients suffering from different forms and degrees of mental disorder; to meet the position created by differences in the social and financial status of such patients; and to advocate, if the ends here defined require it, the removal of the ban on any increase in the number of "licensed houses" (Section 207 (6) of the Lunacy Act 1890). (*Vide paras. 52-55.*)

(e) To secure as far as possible uniformity of procedure in the certification alike of private and of other patients, and in particular to affirm the advisability of two medical certificates for submission to any judicial authority who is asked to issue a Reception Order. (*Vide para. 71 (g).*)

(f) To claim for practitioners who sign medical certificates under the Lunacy Act the immunities granted to witnesses in Courts of Law. (*Vide para. 58.*)

(g) To amend the wording and procedure of the Reception Order and the accompanying documents as hereinafter explained in detail. (*Vide paras. 30-35.*)

(h) To revise the existing conditions under which Voluntary Boarders may be accepted. (*Vide paras. 36-39.*)

(i) To make suitable provision for the after-care of patients leaving institutions, with special regard to collaboration between the patient's private medical attendant and the authorities who may have had charge of the patient. (*Vide para. 48.*)

(j) To preserve the authority of central administration, except in so far as the administration of property is concerned. (*Vide para. 19.*)

8. The Association recognizes that mental disorders differ from other ailments in that the proper treatment of the patient may necessitate, either for his own good or for the protection of his family or the public, interference with his liberty of action; and further, that the patient may be prevented by the nature of his illness from forming a proper judgement on the measures necessary for his welfare. Consequently in the scheme of treatment there must be introduced safeguards which are not necessary in dealing with ordinary bodily ailments where the mind is not affected.

9. Those engaged in the preparation of this Memorandum who were not fully familiar with the law on the subject have been much impressed by the numerous and effective provisions designed for the due protection of the patient's

rights. (Appendix D.) Where the law appears to be defective is in the unsatisfactory character of its terminology, in the differences made in the treatment of patients because of differences in social or financial standing, in a failure to regard the person of unsound mind primarily as a patient—a sick person—and in the failure to provide adequate facilities for treatment without a Reception Order.

#### TERMINOLOGY.

10. Any reconsideration of the Lunacy Acts suggests some elucidation and amendment of the terminology employed. For example, for various reasons a general desire has been expressed that the term "lunatic" should be discarded, and by the passing of the Mental Deficiency Act 1913 the inclusion of the term "idiot" in the Lunacy Acts is rendered both superfluous and anomalous. The word "pauper," although clearly enough defined in the Lunacy Act of 1890, is objectionable on account of its wider significance outside the Act, and its use, in existing circumstances, is frequently unjust.

Again, the substitution of the term "mental hospital" for the old term "asylum" may be justified because it expresses better the modern attitude towards the treatment of mental disorder.

11. Of the two main divisions of mental abnormality—*viz.*, mental deficiency and mental disorder—the Commission is, it is understood, concerned only with the latter, and this Memorandum accordingly confines itself to the discussion of mental disorder, using this term to cover all kinds and degrees of departure from the normal other than mental deficiency.

Within this division many types and forms have been recognized by medical writers, but for the present purpose medical classification, subdivision and definition, so far from being helpful, would be a hindrance.

What has to be considered from the point of view of law and administration is rather the practical measures and arrangements that are called for by any individual case and not the precise nosological classification of the patient's disorder.

12. Broadly speaking, from this point of view there are mental disorders which call for measures of control, and others for which, at all events in some stages, measures of control are not necessary although other kinds of treatment may be required. "Mental disorders" will thus include both grave and mild cases, and the very beginnings of disorder on the one hand and its latest manifestations on the other.

13. It is convenient that some brief and acceptable name should be given to each of these two groups.

14. In the Lunacy Acts the name given to a patient who is a proper person to be taken charge of and detained for care and treatment is "lunatic." If the term "lunatic" is dropped, as is here suggested, the expression "of unsound mind," which is used in the Act alternatively to "lunatic," would seem to be the most suitable one for this group.

15. As, however, there has been a tendency of recent years to use the expression in a somewhat lax and general way it would seem best to give it a precise definition and to confine its use to the particular group of cases now under consideration.

16. The definition suggested is:

"Persons of unsound mind" means persons who by reason of mental disorder may properly be taken charge of and detained for care and treatment."

17. Mental disorder would thus be divided into two groups—*viz.*, (a) the "mentally unsound," and (b) the "mentally ailing"—the former being those proper to be taken charge of and detained, if necessary, and the latter not requiring detention.

18. The need for such definitions is particularly emphasized when the provisions of Section 315 of the Lunacy Act 1890 are considered. Here, unless the phrase "a person of unsound mind" were limited as in the above definition, the section would forbid the reception and treatment in nursing homes of patients who though mentally disordered do not require detention or control.

19. Form 16 of the Lunacy Act 1890—the certificate

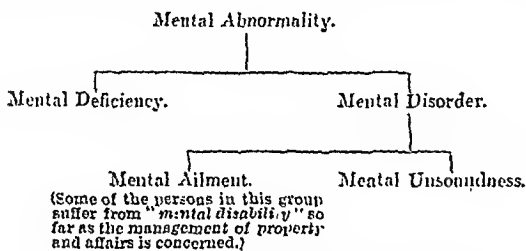
dealing with a person entitled to payments from a public department—states that he is “by reason of mental disability unable to manage his affairs.” This expression seems a useful one where it is intended to indicate the need for measures of control of the patient’s property and affairs, but not necessarily of his person; and it might well be used in place of the expression “of unsound mind” in Section 116 (c) of the Lunacy Act 1890.

20. “Mental infirmity arising from disease or age” is an expression used in Section 116 (d), and as it seems to mean much the same as “mental disability” the latter might well take its place for the sake of uniformity.

21. Such a nomenclature as is suggested in paras. 12 to 20 would not be at variance with present usage, is valuable from the point of clearness, distinguishes between different types of arrangement for treatment, and gives due consideration to the susceptibilities of patients and their friends. In addition, it gives a definitely recognized place to those cases which are neither normal in mind nor so mentally disordered as to require measures of control.

22. Accordingly it is suggested that any future Act should be called the “Mental Disorders Act,” and in it the words “lunatic” and “pauper” should not be used.

23. The following scheme shows what is intended in tabular form:



#### CRITICISM OF PRESENT PROCEDURE.

24. More important, however, than the terms used, if the best possible is to be done for those who are mentally disordered, are the arrangements provided and the conditions governing them.

25. The reluctance of patients and their friends to accept treatment under existing arrangements is ascribed partly to unwillingness to enter a place known to be devoted to the treatment of persons of unsound mind and partly to unwillingness to apply for a Reception Order by a judicial authority with its necessary formalities and consequences. (As an example of the kind of thing which should be avoided, the Association would suggest that any patient who is being treated in a Poor Law Infirmary and whose maintenance, in part or in whole, is refunded either by himself or on his behalf, should not be compelled to wear clothing provided by the Poor Law Guardians.) The Reception Order undoubtedly puts a seal of a formal and semi-public nature on the patient’s mental disorder, and this will permanently stamp him, even though his disorder may have been of comparatively brief duration and one from which he may have made complete recovery.

26. The avoidance of an undesired stigma, by allowing less formal arrangements for suitable cases, is much to be desired, but it must always be borne in mind that the associations springing from any arrangement will depend in the long run upon the actual facts and usage and not upon any verbal description or sympathetic intention. Escape from stigma is practically impossible where the stigma is justified by the facts.

#### TYPES OF PATIENTS TO BE DEALT WITH.

27. One difficulty in dealing with mental disorders is that they present so great a variety of conditions. Thus the most lasting and grave forms of mental unsoundness may at their onset present only a mild type of mental disturbance. On the other hand, some of the most acute forms may be of only temporary duration, almost sure to recover and possibly unlikely to recur. Then again some of the forms are marked by a natural tendency to remission and recurrence with intervals of apparent mental health; others, and these perhaps the most dangerous forms of mental

disorder, are very difficult to detect and are carefully concealed by the patient for long periods; there are also chronic forms which present no dangerous or conspicuously objectionable characters.

#### NEED FOR MORE FLEXIBILITY IN ARRANGEMENTS: PROPOSED PROVISIONAL ORDER.

28. It is clear that if the best possible is to be done for the patient as a sick person the facilities for treatment and the types of accommodation must be sufficiently various to suit the conditions defined in para. 27.

29. Another reason for urging the need of flexibility is the frequent difficulty and uncertainty of diagnosis and prognosis, and the claim for fuller opportunities for research if treatment is to be placed on a more secure basis.

30. There is already a procedure by Urgency Order provided for in the Act, and in practice a large proportion, approximating to 60 per cent. in some institutions, of the private patients admitted to institutions are admitted in the first instance on this Order, on the ground that it is expedient for the welfare of the patient that he should be forthwith placed under care and treatment.

31. The Order in this case is made, not by a judicial authority, but by someone closely related to the patient. Some such power is essential to enable immediate steps to be taken when delay would be dangerous or harmful, but it would be sufficient for safety and convenience that the duration of such an Order should be, say, “three days,” for clearly it is desirable that at the earliest possible moment there should be judicial authority for a measure which means the loss of personal liberty.

32. It would, however, be a great advantage to the patient that such an Order should be capable of extension, on the approval of a judicial authority, for a further twenty-eight days. This would provide opportunity for observation and possible recovery before submitting a petition for a formal Reception Order, and there is reason to believe that in many cases a Reception Order would then not be necessary.

33. If this plan were adopted it would appear best to call such an Order a Provisional Order, and that such Order should supersede the present Urgency Order. The exact form which it is suggested this Provisional Order and the accompanying papers should take is appended hereto (vide Appendix B).

34. The Provisional Order made by a relative, or where necessary by a Relieving Officer, would expire automatically at the end of three days, unless it were endorsed by a judicial authority whereby its validity would be continued for a further period of twenty-eight days. Wherever possible this Order should be signed by the judicial authority prior to the admission of the patient and in no case later than three days after admission. At the expiration of a Provisional Order the patient must be discharged unless he is either placed under a Reception Order or becomes a voluntary boarder.

35. In support of this proposal it may be pointed out that in the existing provisions for so-called “pauper patients” there is opportunity for a period of observation of seventeen days before a formal Reception Order is made, and there is evidence from experienced medical practitioners that a number of patients who come under observation in this way get well and go home before this period has elapsed, without a Reception Order having been made.

#### VOLUNTARY BOARDERS.

36. The Association advises that the provision enabling registered hospitals and licensed houses to receive suitable patients as voluntary boarders should be extended, under suitable conditions, to the county and county borough asylums. In each individual case the arrangement would require the approval of the Medical Superintendent or his deputy.

37. The advantages of the voluntary boarder system are that it is subject to the consent of the patient and provides for his care and treatment for so long as this may be necessary; in addition, it avoids or postpones the necessity for a Reception Order. It is valuable, too, as a transition measure when the patient is recovering from his illness and discharge from the Reception Order is justifiable but the

patient still requires treatment. The use of this system has steadily increased in recent years, many patients being now received as voluntary boarders who formerly would have been dealt with under a Reception Order.

38. A condition of the present procedure, whereby the reception of a voluntary boarder into a licensed house has to depend on permission being obtained beforehand from the Board of Control, or in the case of a registered hospital from two members of the Visiting Committee, appears unnecessary, although it is fully recognized that the present form of notification and report on voluntary boarders should be maintained.

39. In the interest of the patient it is desirable that the notice to leave should be extended to seventy-two hours.

#### TEMPORARY BOARDERS.

40. The Mental Treatment Bill of 1923 introduced a new proposal—namely, the temporary treatment of mental disorder without a Reception Order under the Lunacy Acts in an approved institution on the recommendation of a medical practitioner, subject to the consent of the patient or to his being incapable of volition. The period of treatment is limited to six months, subject to the power to extend the treatment for a further six months when recovery within that period is reasonably probable.

41. The institutions which may be approved under this Bill include, in addition to institutions under the Lunacy Act, hospitals or parts of hospitals outside the Lunacy Acts, and institutions that may hereafter be established by Visiting Committees. For admission thereto the recommendation of the doctor declares that the patient shows symptoms of mental disorder.

42. There is in the Bill no definition of the term "mental disorder," but presumably it is intended to be used in the sense already defined in this document and to include both persons of "unsound mind" and the "mentallyailing."

If this is so it would enable acute cases and others which are likely to be brief in duration to be received and detained without the formality of a Reception Order, not only in the institutions at present recognized under the Lunacy Act but also in ordinary hospitals not so recognized.

43. The Association finds itself in agreement with this proposal, at least so far as it goes. It is necessary, however, to point out that although the Mental Treatment Bill is based on the consent of the patient (and even extends to the case where the patient is incapable of volition) and applies to institutions managed by a Visiting Committee, it does not effect the same result as would come about from extending the voluntary boarder principle to the county and county borough asylums. If this were done, and if the Provisional Order which is suggested above were available, there would appear to be no special object in applying the provisions of the Mental Treatment Bill to the existing institutions. The voluntary boarder principle might easily be made to cover all the consenting cases and it would in fact go further, in that it is indefinite in its duration and is applicable not only during the first six or twelve months of treatment but also during convalescence if so desired, and in these respects the proposals in the Bill would not be an adequate substitute.

44. The application of the provisions of the Bill to include patients for the time being incapable of volition is a valuable provision, as it includes cases which would not otherwise gain the advantage of these temporary arrangements, although they might be provided for under the Provisional Order as suggested in paras. 30-34.

45. In the Mental Treatment Bill the expression "incapable of volition" is used to describe certain patients who may come under its provisions. This expression, in practice, will not always be easy of interpretation, and it is suggested that the actual facts on which judgement of the incapacity must be based—namely, that the patient does not, when given the choice, exercise it—would be preferable as the basis of the definition. It is therefore suggested that Section 4 (1) (a) of the Bill should be modified to read somewhat as follows:

"(a) A recommendation for treatment shall only be given under this section in respect of a person who either is willing to submit to treatment or does not

express unwillingness to submit to treatment, or in whose case, if he is a minor, consent to his reception as a patient has been given by his parent or guardian, and every such recommendation shall state whether the person in respect of whom it is given is willing to submit to treatment or does not express unwillingness to submit to treatment or is a minor on whose behalf the necessary consent by his guardians has been given, as the case may be";

and that Section 4 (5) be amended to read somewhat as follows:

"(5) Where the person to be received as a patient has not definitely expressed his willingness to be received or is a minor, there must be annexed to the recommendation for treatment a statement signed by a justice of the peace to the effect set out in Part II of the Schedule to this Act."

If in fact the patient resists being dealt with under this provision he cannot enjoy its advantages and must be dealt with otherwise.

46. The proposal to recognize non-registered hospitals for the reception and temporary treatment of cases of mental disorder is one that the medical profession welcomes on the ground that it will be valuable for purposes of education and research and will tend to link up the study of mental disorders with general medicine. It will undoubtedly be welcomed also by many patients.

47. The Association is of opinion that in addition to the institutions recognized in the Mental Treatment Bill there should be the power to approve under this Bill: (a) houses which are supported wholly or partly by voluntary contributions or which are privately owned, for the reception of patients under the provisions of the Bill; and (b) the reception as single patients under the Bill in houses not so approved, provided that a medical practitioner gives a written recommendation in each case, stating that suitable treatment can be obtained for the patient in the proposed house.

48. It is urged that the principle of permitting "after-care" homes and convalescent homes at the seaside or elsewhere in connexion with county and county borough mental hospitals should be recognized.

49. It should be possible upon the Order of the petitioner, without the consent of the Board of Control being first obtained, to remove a patient detained under Order in his own house or in "single care" to an institution if and when the mental condition of the patient renders this course advisable; the fact of removal in any such case to be reported to the Commissioners. Similar powers already exist for the committee of the person in "lunatics so found."

50. Reference has already been made in paragraph 40 to the fact that cases of mental disorder may lawfully be received if they are not "lunatics" or "alleged lunatics." Whether or not it is proper to receive, outside the Act, a patient who is suffering from mental disorder, is not always an easy question to decide, and a mistake on the part of the person receiving such a patient may result in a prosecution.

51. It is possible that institutions under Visiting Committees may come to include what have been described as clinics both with beds and with consultative arrangements for out-patients on lines comparable to venereal disease clinics. It is hardly likely that these would be established except in large centres of population where there is no ordinary hospital provision for these cases.

The development of centres of this type would be of assistance for the purpose of getting expert opinion for certification and other purposes, and might well take the place of the receiving wards of workhouses for the reception of patients in the first instance.

#### VALUE OF VARIETY IN TYPE OF INSTITUTIONS.

52. That the variety of provision which at present exists for the treatment of patients should be continued seems very much to be desired. There are facilities for private patients on various scales in the licensed houses, registered hospitals, and publicly maintained institutions, or under single care. Patients needing assistance from public sources

or from charitable foundations are provided for in the public institutions and in the registered hospitals.

53. Some sections of the population prefer public management, some private. Each type of institution has a good record of work done and of trustworthy management under official supervision.

54. The Association is satisfied that there exists a desire in the community generally that many patients should be able to be treated otherwise than in public institutions, and should the existing veto on the setting up of new licensed houses or the extension of existing licensed houses result in the diminution or inadequacy of this provision it may be necessary to repeal this veto or to provide extended facilities for the treatment of patients in small numbers in private hands under proper safeguards. The opinion of practitioners in general practice in various parts of the country has been sought on this point, and the unanimously expressed opinion is in favour of the continuance of such provision, as meeting the wishes both of patients and of patients' friends.

55. The scheme contained in Appendix C shows the grouping of patients suffering from mental disorders from the point of view of the administrative measures possible for dealing with them and for bringing them under treatment in accordance with the foregoing suggestions.

#### CERTIFICATION.

56. When care and control are deemed necessary and the various methods of securing treatment by voluntary consent are not available an Order of some kind becomes necessary, whether it be the proposed Provisional Order, or the full Reception Order, a Detention Order, or an Urgency Order.

In all these cases the Order must be justified by evidence, and this must of course include medical evidence in the form of a certificate or certificates.

57. It has become customary to speak of "certification" as being the fact which deprives a patient of his freedom, whereas of course the formal authority is in all cases the Order, and this is made not by the certifying doctor but by the judicial authority or, in the case of the Urgency Order, by a relative. Therefore whenever a person is medically examined it should be understood that the fee paid to the examining medical practitioner is for the fact of having conducted the medical examination and not for having certified the patient as insane.

58. While it is desired to guard against the elevation of the medical certificate to a position of authority which it does not possess, there is no wish to underestimate the great importance of the certificate as evidence.

Indeed it is desired to insist upon its being given very definitely the status of evidence; and therefore, that the protection which witnesses in courts of law are entitled to receive shall be extended to the practitioner who signs a certificate under the Lunacy Acts. (Vide Appendix A.)

59. It is recognized that the function of the medical practitioner does not intrude on the power of the magistrate. The doctor simply contributes to the evidence on which the magistrate bases his judicial decision, acting as the representative of the law.

It is in harmony with this view that the Association, while not wishing to dictate the duties to be laid upon the magistrate, favours his interviewing the patient, so that the patient may present his view of the position. Incidentally, this would have the additional advantage of rendering unnecessary the presentation to the patient, after his admission, of the form notifying his right to see a magistrate.

60. In these proposals the Association aims to secure that there shall be judicial authority for detention, the only exception being during the first three days, when it may be unavoidable that the onus should be placed upon a relative, or on a Poor Law officer. (Vide paras. 31-34.)

61. It is in accordance with the principle of placing the real responsibility where it properly rests—viz., on the judicial authority who makes the Order—that it is suggested that the duration of the Urgency Order or Provisional Order should in the first instance, when it is for reasons of avoiding delay made by a near relative, only be valid for three days instead of for a week as at present.

62. A question has been raised as to the qualifications that should be required of the judicial authority. All that the Association feels entitled to say on this point is that it is essential to the welfare of the patient as well as to the convenience of the medical practitioner that access to the judicial authority qualified to sign the Reception Order should be near at hand and readily obtained.

63. With regard to Section 43 of the Lunacy Act and Form 8 thereof, while it is considered that one of the medical practitioners signing the medical certificate should, whenever practicable, be the usual medical attendant of the patient, this condition should be abrogated in those "single case" cases where it is intended that the usual medical attendant should continue to be the "medical attendant" of the patient.

64. The certificate of a doctor in principle consists of three elements—namely:

(i) Observations by the doctor himself, at the time of examination, of conduct or behaviour of an abnormal kind (using the term conduct in a wide sense to include all modes of self-expression). These observations may be supported by other observations made on previous occasions and by observations reported by other persons (whose names are given);

(ii) The conclusion that such behaviour is due to mental disorder; and

(iii) The further conclusion that the mental disorder is of such a nature or degree that the patient is a proper person to be taken charge of and detained for care and treatment.

65. The Association does not support the suggestion that second certificates should be signed by specially approved practitioners.

#### SUGGESTED AMENDMENT OF CERTIFICATES AND FORMS.

66. The actual form and wording of the Petition, Statement of Particulars, Certificates, and Reception Order require amendment:

(a) It is suggested that the terms "lunatic" and "idiot" should be omitted throughout and that in place thereof the phrase "a person of unsound mind" should be used. Even the phrase "alleged to be of unsound mind" should be omitted, except where its use is essential;

(b) It is proposed to alter the Statement of Particulars in the following respects:

(i) To substitute "whether previous history of mental disorder" for "whether first attack";

(ii) To substitute "Age at onset of mental disorder" for "Age on first attack";

(iii) To substitute "When and where previously under treatment for mental disorder" for "When and where previously under care and treatment as a lunatic, idiot, or person of unsound mind"; and

(iv) To substitute "Duration of present illness" for "Duration of existing attack."

67. In the certificate (Form 8) it is suggested that:

In para. 2 "separately from any other practitioner" be deleted. This would be following the proposal in the Mental Treatment Bill and would facilitate the formation of a sound and well grounded opinion. Evidence of mental unsoundness is sometimes difficult to elicit and a joint examination would spare the patient undue annoyance.

3 (a) should read: "Facts pointing to this conclusion observed by myself at the time of examination, viz.:"

3 (b) should read: "Facts observed by myself on previous occasions."

3 (c) should read: "Statements communicated by others."

68. The Reception Order might be more explicit and correspond more closely with the medical certificates thus:

"I authorize you to receive, take into your charge, and detain A.B., etc."

69. There is some uncertainty at present as to the right of the medical officer or medical attendant to administer medical treatment to a patient under a Reception Order, against the patient's wishes, even though the friends approve of the treatment proposed; this uncertainty should be cleared up.

#### PROTECTION OF PATIENTS.

70. After a careful consideration of the subject, the Association is firmly of opinion that the obstacles to the improper reception or detention of patients in institutions under the Lunacy Acts are such as to render improper reception or detention practically impossible, and the evidence received from medical practitioners resident in various quarters is unanimous that such cases do not in practice arise (vide Appendix D).

From the evidence which the Association has received it would appear that so far from there being any risk of patients being detained too long in institutions (as has been alleged) the risk is rather that, owing largely to pressure from patients' relatives and friends, discharge may sometimes be premature.

#### POOR LAW PATIENTS.

71. Subjoined are a number of recommendations for amendment of the law affecting Poor Law infirmaries and so-called "pauper patients":

- (a) "Observation wards" for mental cases should be in a separate infirmary or Poor Law hospital and not in the workhouse.
- (b) A medical officer should not have the power given him by Section 24 of the Lunacy Acts to detain a patient for fourteen days "against his will" without the authority of a justice.
- (c) It should be made clear in any future legislation that the institutions for lunatics referred to in Section 16 of the Lunacy Act 1890 include a Poor Law Infirmary or hospital. This would enable many cases of senile dementia, which at present have to be sent to the county or county borough asylums, to receive treatment in the wards of Poor Law infirmaries or hospitals.
- (d) While no general statement can be made as to the suitability of Poor Law workhouses for the reception of patients of unsound mind (the accommodation provided in such institutions varying widely) the continued detention of patients in these institutions is to be deprecated.

(e) The provision of clinics or reception houses in places where they would be convenient, or of better accommodation in workhouse infirmaries, would avoid the necessity of placing patients in unsuitable companionship as now apparently happens in the "insane" wards of the workhouses.

(f) It is unfortunate that patients with "mental disorders" should have to invoke the machinery of the Poor Law in order to obtain treatment, and the avoidance of this procedure could be secured by the direct admission of patients to recognized mental hospitals.

(g) For removal to an asylum of a so-called "pauper patient" only one medical certificate is at present required (except in the case of patients dealt with under Section 13 of the Lunacy Act 1890). Whether the procedure of certification is made uniform for all patients or not, the Association considers that two medical certificates should be required by law in all cases.

#### MISCELLANEOUS.

72. Bona-fide communications to constables, relieving officers, or overseers initiating proceedings under Sections 13 (i), 15 (i), and 20 of the Lunacy Act 1890 should be privileged.

73. The right to see a magistrate is accorded to all patients placed under Order except those dealt with under Section 13 of the Lunacy Act 1890, and this is an anomaly which should be removed.

74. In the interests of the patients, the classification of patients suffering from various mental disorders should, as far as possible, be effected, and this with as little delay as possible.

75. It is urged that no person not charged with an offence

against the law should be examined with regard to the state of his mind in a public court, as is at present allowed, and is, as a matter of fact, sometimes done.

76. Powers of forcible entry in order to visit, examine, or remove a person who is deemed to be of "unsound mind" should be granted to magistrates in connexion with cases arising under Sections 13 (2) and 20 of the Lunacy Act 1890.

#### TYPES OF ACCOMMODATION FOR PATIENTS SUFFERING FROM MENTAL DISORDER.

77. The following types of accommodation for persons suffering from mental disorder are suggested:

- (i) Non-registered hospitals or parts of or adjuncts to hospitals, voluntary or Poor Law.
- (ii) Institutions or Clinics or Homes established, or to be established, by Local Authorities.
- (iii) Homes to be founded on a charitable or semi-charitable foundation.
- (iv) Recognized homes on a purely private basis for several patients.
- (v) Publicly maintained mental hospitals and specialized wards of Poor Law hospitals.
- (vi) Registered mental hospitals.
- (vii) Private (licensed) mental hospitals, and the approved annexes of (v), (vi), and (vii).
- (viii) Private houses for single patients.

Asylums.

#### CLASSIFICATION AND ALLOCATION OF PATIENTS.

78. For those who are of "unsound mind" and for whom measures of control have become desirable it should be open to adopt various methods of procedure:

- (a) Voluntary—
  - (a) by the patient's act,
  - (b) by the action of a friend or relative where the patient does not refuse or where he is a minor.
- (n) Compulsory by the action of a relative or relative officer—
  - (a) as a temporary or provisional measure for three days,
  - (b) as a temporary or provisional measure for a month with the approval of a judicial authority.
  - (c) Compulsory by the order of a judicial authority under the Reception Order.

"Compulsory (c)" patients of unsound mind may be received in (v), (vi), (vii), and (viii).  
 "Compulsory (b)" patients may be received in (i), (ii), (iii), (iv), (v), (vi), (vii), and (viii).  
 "Voluntary (a)" patients of unsound mind may be received in (v), (vi), (vii), and (viii), and also in (i), (ii), (iii), and (iv).

The "mentally ailing" but not of unsound mind may be received in (i), (ii), (iii), (iv), and (viii), and as voluntary boarders with the approval of the medical superintendent in (v), (vi), and (vii).

#### APPENDIX A.

#### CONSIDERATIONS WHICH SUPPORT THE CLAIM THAT THE CERTIFYING PRACTITIONER SHOULD ENJOY THE IMMUNITIES OF A WITNESS.

NOTE.—The quotations are from the Lunacy Act 1890, the italics being introduced for purposes of emphasis.

1. Section 4. Sub-section (1).  
A person shall not be received or detained as a lunatic, etc., "unless under a reception order made by a Judicial Authority."
2. Section 9. Sub-section (2).  
"Judicial Authority shall . . . have the same jurisdiction and power as regards summoning and examination of witnesses, the administration of oaths, and otherwise, as if he were acting in the exercise of his ordinary jurisdiction."
3. Section 28. Sub-section (4).  
"Every medical certificate made under and for the purpose of this Act shall be evidence of the facts therein appearing and of the judgement therein stated to have been formed by the certifying medical practitioners on such facts, as if the matters therein appearing had been verified on oath."



4. If the Judicial Authority signs a Reception Order without personally seeing the patient the M.O. of the institution must inform the patient that he has the right to claim an audience with some other Judicial Authority, who after such audience must report to the Commissioners in order that these "may take such steps as may be necessary to give effect to the report." Section 8 (3). Should the M.O. think that such an audience might be prejudicial to the patient he will not tell the patient of its possibility, but he must certify his opinion to the Commissioners. Section 8 (1).

NOTE.—The Powers of the Judicial Authority to visit the patient to make various inquiries, to summon other witnesses (Section 6) to administer oaths (Section 9 (21)) show that medical certificates are not per se conclusive, that is, the certificates are evidence, not judgement.

5. Further, when an alleged lunatic demands a jury in the case of an "inquisition" the Judge by personal examination may decide whether the alleged lunatic is mentally competent to form and express a wish for a jury (Section 91).

6. Again, without a jury, the "Masters" (barristers) shall "personally examine the alleged lunatic and take such evidence as they think fit in order to ascertain whether he is of sound mind or not." Section 92.

7. Where the Masters certify in one direction or the other the certificate shall have the same effect as an inquisition taken upon the oath of a jury. Section 93.

NOTE.—The above rules and practices show that the principle accepted in the Lunacy Act is that the responsibility for detaining a person to be (or not to be) of unsound mind rests with an appropriate legal officer and not with a member (or members) of the medical profession. These may, as may other persons, give evidence, and this evidence (in whole or in part) must be in the form of a prescribed certificate. It is for the duty constituted Judicial Authority to consider the medical certificates together with any other evidence he may think advisable, and after consideration to give his decision. Upon this decision the whole of the future action relative to the patient depends. In a word, the medical practitioner gives evidence; the Judicial Authority pronounces judgement; the medical practitioner is a witness; the Judicial Authority is a judge. Hence the claim by the practitioner for the immunities of a witness is strictly in accord with the whole tenor of the Lunacy Act.

## APPENDIX B.

### PROPOSED PROVISIONAL ORDER FOR DETENTION.

I, the undersigned, .....  
being a Justice of the Peace for .....  
having visited (a) .....  
do hereby authori-  
ment for a period  
date.

DATED this, ..... day of, ..... 192 .

Signed, .....  
A Justice of the Peace for  
(or as the case may be.)

To the Medical Superintendent,

..... Hospital,  
Recognized Home  
(or as the case may be.)

N.B.—Wherever possible this Order should be signed prior to the admission of the Patient and in no case later than 3 days after admission.

(a) Name of Patient.

### FORM OF PROVISIONAL ORDER

FOR THE RECEIPT OF A PATIENT, WITH MEDICAL CERTIFICATE  
AND STATEMENT ACCOMPANYING PROVISIONAL ORDER.

I, the undersigned, being a Person Twenty-one years of age,  
hereby authorize you to receive (a) .....  
as a Patient into your Hospital, etc.  
for observation, care, and treatment, whom I last saw at .....  
day of ..... 192 .

I am not related to or connected with the Person signing the  
Certificate which accompanies this Order in any of the ways  
mentioned in the Margin (b). Subjoined hereto is a Statement  
of Particulars relating to the said (a) .....

SIGNED, .....  
Name and Christian }  
Name at length }  
Rank, Profession, or }  
Occupation (if any) }  
Full Postal Address .....  
How related to or connected  
with the Patient (c) .....  
DATED this ..... day of ..... 192 .  
To the Medical Superintendent, .....  
..... etc.

### Marginal Notes.

(a) Name of Patient.  
(b) Husband, wife, father, father-in-law, mother, mother-in-law, son,  
son-in-law, daughter, daughter-in-law, brother, brother-in-law, sister,  
sister-in-law, partner or assistant, or in the case of a rate-aided  
patient this may be signed by a relieving officer where no relative is  
available or willing to act.

(c) If not the husband or wife, or a relative of the Patient, the  
person signing to state as briefly as possible—(1) Why the Order is not  
signed by the husband or wife, or a relative of the Patient. (2) His  
or her connexion with the Patient, and the circumstances under which  
he or she signs.

### STATEMENT OF PARTICULARS REFERRED TO IN THE ANNEXED ORDER.

If any Particulars are not known, the fact is to be so stated.

The following is a Statement of Particulars relating to the  
said (a) .....

Name of Patient, with Christian Name at length .....  
Sex and Age .....  
Married, Single or Widowed .....  
Rank, Profession, or previous occupation (if any) .....  
Religious Persuasion .....  
Residence at or .....  
Whether previous .....  
Age at onset of .....  
When and where previously under care and treatment for  
mental disorder .....  
Duration of present illness .....  
Supposed cause .....  
Whether subject to Epilepsy .....  
Whether suicidal .....  
Whether dangerous to others and in what way .....  
Names, Christian Names and Full Postal Addresses of one or  
more relatives of the Patient .....  
Name of the Person to whom Notice of  
Death to be sent, and full Postal Address,  
if not already given .....  
Name and Full Postal Address of the usual  
Medical Attendant of the Patient .....  
Signed (d) .....  
Name, with Christian Name at length .....  
Rank, Profession, or Occupation (if any) .....  
How related to or otherwise connected  
with the Patient .....  
(a) Name of patient.  
(d) When the Petitioner or person signing an Urgency Order is not the  
person who signs the statement, add the following particulars concerning  
the person who signs the statement.

### STATEMENT ACCOMPANYING PROVISIONAL ORDER.

I, the undersigned, being a Registered Medical Practitioner, do  
hereby certify that it is expedient for the welfare of the  
said (a) .....  
that the said .....  
should be forthwith placed under care and treatment.

My reasons for this conclusion are as follows.....

DATED this, ..... day of .....  
One thousand nine hundred and twenty.....

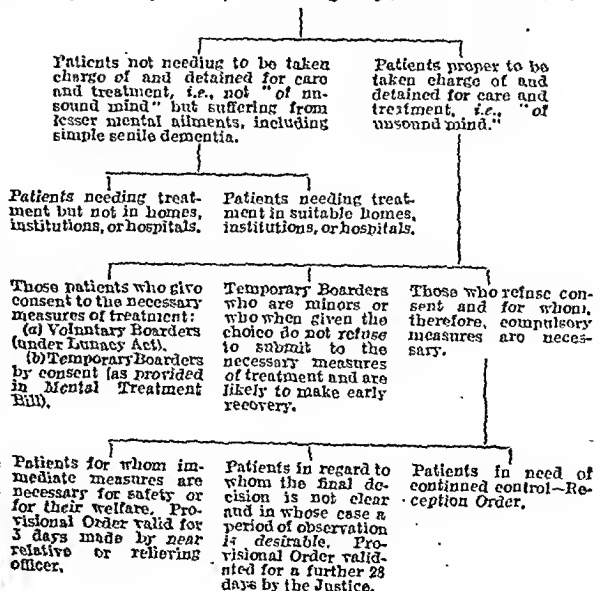
SIGNED, .....  
of (c) .....

N.B.—It is desirable that this Certificate be signed by the  
usual Medical Attendant.

† Or for the public safety, as the case may be.  
(c) Insert full postal address.

## APPENDIX C.

### Scheme for Classification of Patients suffering from Mental Disorders.



## Current Notes.

## APPENDIX D.

## PROTECTION OF ALLEGED LUNATIC.

- (NOTE: The references are to the Lunacy Act 1890.)
1. Judicial Authority may decide to see patient and may postpone decision to secure this. Section 6 (1).
  2. In the meantime may make inquiries of or concerning the lunatic, and may visit him. Section 6 (1) (2).
  3. At hearing may have lunatic, and person appointed by lunatic, present. Section 6 (3).
  4. May adjourn for fourteen days, and may at continued hearing summon any person to attend before him. Section 6 (4).
  5. All persons bound to secrecy save lunatic and his friend. Section 6 (5).
  6. Judicial Authority may put witnesses on oath. Section 9 (2).
  7. Where Petition granted forthwith and patient not seen by Judicial Authority, the medical officer (institution) must within twenty-four hours inform him in writing of his right to see or be seen by a Judicial Authority other than the one who has granted the Petition. If the M.O., however, thinks that such a visit would be prejudicial to the patient he will not tell the patient of this right, but he must certify his opinion to the Commissioners. Section 6 (1).
  8. The Judicial Authority who sees the patient on the claim under No. 7 shall be entitled to see all the papers in the case and shall send to the Commissioners a report, and "the Commissioners shall take such steps as may be necessary to give effect to the report." Section 8 (3).
  9. The M.O. one month after reception of patient shall send to the Commissioners (and to the Visitors) a report as to the mental and bodily condition of the patient. After reception of this report one or more of the Commissioners shall visit the patient and shall report whether the detention of the patient is or is not proper (Section 39 (2) and (3)). Similarly one or more of the Visitors will visit the patient and if in doubt as to the propriety of his detention will report to the Commissioners who must make all necessary inquiries. Section 39 (4).
  10. If the Commissioners in any case under this Section 39 determine that a patient ought to be discharged, they may make an order for his discharge.
  11. Letters by patients to Lord Chancellor, Commissioners, etc., must be forwarded unopened; and notices to this effect must be posted in the institution; also of right of patient to request personal and private interview with a Commissioner or Visitor. Section 42 (1).
  12. A medical practitioner who has signed a certificate for the reception order in the case of a private patient shall not be the regular professional attendant of the patient while detained under the order. Section 43 (1).
  13. Any Commissioner or Visitor may give an order for patient to be visited by any relation or friend, or by any medical or other person whom any relation or friend desires to be admitted to him. If any manager or officer prevents or obstructs such admission he is liable to a penalty not exceeding £20. Section 47 (1), (3).

## British Medical Association.

## CURRENT NOTES.

## Hospital Policy.

THE British Medical Association has just issued (price 3d.; 3½d. post free) a pamphlet embodying its policy as affecting hospitals, together with an introductory note. This policy deals with the following matters:

1. Inter-relationship and co-ordination of hospital provision.
2. Utilization of municipal hospitals for civil needs.
3. Utilization of Poor Law hospitals for civil needs.
4. Voluntary hospital policy (Great Britain and Ireland).
5. Voluntary schemes.
6. Contributory schemes for "private" patients.
7. Standards for hospitals (England and Wales) with 100 or more beds.
8. Scheme for formation of local hospitals committees.
9. Subscribers' letters.

The decisions enunciated in the pamphlet have been arrived at after conferences between members of the medical staffs of voluntary hospitals, correspondence with hospitals, meetings of hospital staffs, and discussions with medical practitioners throughout Great Britain and Ireland, and have received the approval of the Representative Body of the Association.

## Association Prizes for Essays by Medical Students.

The Council of the Association will award in March, 1925, prizes of £10 each, for the best essays on the diagnosis and treatment of chronic intestinal obstruction. One prize is open to competition by the final-year medical students in each of the following groups of schools:

- Group 1.—University of Aberdeen; University of St. Andrews (University College, Dundee).
- Group 2.—Queen's University of Belfast; University of Dublin (University College, Dundee).
- Group 3.—University of Birmingham; University of Bristol; University of Cambridge; University of Edinburgh; University of Glasgow; University of London; University of Manchester; University of Oxford; University of Sheffield; University of Southampton; University of St. Thomas; University of Toronto; University of Wales; University of York.

College, Cork; University College, Dublin; University College, Galway; Royal College of Surgeons in Ireland (Schools of Surgery); University of Birmingham; University of Bristol; University of Cambridge; University of Edinburgh; University of Glasgow; University of London; University of Manchester; University of Oxford; University of Sheffield; University of Southampton; University of St. Thomas; University of Toronto; University of Wales; University of York.

The prizes will be awarded to the authors of the best essays sent in from the respective groups; but if no essay is deemed worthy of a prize, no prize will be awarded in that group. The essays, not exceeding 5,000 words, should be clinical, and must include concise notes of three cases personally observed. Essays should be plainly written on foolscap paper (one side only), and must reach the Medical Secretary, British Medical Association, 429, Strand, W.C.2, not later than January 31st, 1925. Each essay must be signed by a pseudonym; it must be accompanied by a sealed envelope marked outside with the pseudonym, and containing inside a signed and dated statement that the essay is the bona-fide work of the competitor, and that he or she has not yet passed the final professional examination, together with full name, address, and medical school. The following members of the Association have kindly undertaken to act as examiners: Sir H. Gilbert Barling, Bt., C.B. (Birmingham); the Rt. Hon. Lord Dawson of Penn, G.C.V.O., K.C.M.G. (London); Dr. W. E. Hume, C.M.G. (Newcastle-on-Tyne); Mr. H. Wade, C.M.G., D.S.O. (Edinburgh). The decision of the examiners will be final.

## Middlemore Prize, 1925.

The Middlemore Prize was founded by the late Richard Middlemore, F.R.C.S., of Birmingham, to be awarded for the best essay or work on any subject which the Council of the British Medical Association might from time to time select in any department of ophthalmic medicine or surgery. For many years the prize has been awarded to the author of the best essay received in connexion with the specific subject, but it has been decided on this occasion to deal with the award of the prize on a broader basis. The Council will accordingly award the prize in the year 1925 to that person who is adjudged to have submitted to the Association the best contribution published or not, provided that the contribution shall not have been published or prepared more than three years prior to the date on which applications are receivable in competition for the prize. The prize will take the form of an illuminated certificate and a cheque for £50. Contributions in competition for the prize must reach the Medical Secretary, British Medical Association, 429, Strand, W.C.2, on or before Monday, February 2nd, 1925. The contributions will be judged by examiners appointed by the Association, and the decision of the Council will be final.

## The Half-Yearly Indexes.

The usual half-yearly indexes to the JOURNAL and to the SUPPLEMENT and EPILOGUE have been prepared and will be published shortly; they will, however, not be issued with all copies of the JOURNAL, but only to those readers who ask for them. Any member or subscriber who desires to have one or all of the indexes can obtain what he wants, post free, by sending a post-card notifying his desire to the Financial Secretary and Business Manager, British Medical Association, 429, Strand, W.C.2. Those wishing to receive the indexes regularly as published should intimate this desire.

## Association Notices.

### BRANCH AND DIVISION MEETINGS TO BE HELD.

**BATH AND BRISTOL BRANCH.**—A clinical meeting of the Bath and Bristol Branch will be held at Bristol on Wednesday, January 22th.

**BIRMINGHAM BRANCH: NUNEATON AND TAMWORTH DIVISION.**—A meeting of the Nuneaton and Tamworth Division will be held at the Tamworth General Hospital on Thursday, January 22nd, when Dr. K. D. Wilkinson will speak on cardiac irregularity.

**BORDER COUNTIES BRANCH: DUMFRIES AND GALLOWAY DIVISION.**—A meeting of the Division will be held on Thursday, January 22nd, in the Royal Infirmary, Dumfries, at 3.30 p.m. Business: Annual report; ambulance lectures; programme for 1925; draft Memorandum of Evidence to be submitted to the Royal Commission on National Health Insurance.

**ESSEX BRANCH: MID-ESSEX DIVISION.**—A meeting open to all practitioners in the Division will be held at the address of the Honorary Secretary (Littleton Hall, Bynalwood, Essex) on Sunday, January 18th, at 3.15 p.m., to discuss the draft evidence to be presented to the Royal Commission on National Health Insurance, and to elect two representatives to confer with the Essex Panel Committee.

**FIFE BRANCH.**—A general meeting of practitioners arranged by the Fife Branch and the Fife County Panel and Local Medical Committees will be held in the Station Hotel, Kirkcaldy, on Thursday, January 22nd, at 3 p.m., to consider the draft evidence which it is proposed to put before the Royal Commission on National Health Insurance on behalf of the British Medical Association. The draft evidence was printed in the SUPPLEMENT to the BRITISH MEDICAL JOURNAL of January 3rd.

**KENT BRANCH: BROMLEY DIVISION.**—A meeting of all medical practitioners in the Division will be held at the United Services Club, London Road, Bromley, to-day (Friday, January 16th), at 8.30 p.m., to consider the draft Memorandum of Evidence which is to be submitted to the Royal Commission on National Health Insurance. The meeting will be addressed by Dr. G. C. Anderson, Deputy Medical Secretary, who will also answer any questions.

**KENT BRANCH: DARTFORD DIVISION.**—A special general meeting, called by the Dartford Division, will be held at the Livingstone Hospital, Dartford, on Tuesday, January 27th, at 3 p.m. Business: To consider the draft evidence to be put before the Royal Commission by the British Medical Association (see BRITISH MEDICAL JOURNAL SUPPLEMENT, January 3rd); to arrange date of a clinical meeting. All practitioners in the district are asked to make an effort to attend the meeting.

**LANCASHIRE AND CHESHIRE BRANCH: BURY DIVISION.**—A special combined meeting of the Bury Panel Committee and the Bury Division of the British Medical Association will be held in the Derby Hotel on Wednesday, January 21st, at 8.30 p.m., to consider and discuss the draft Memorandum of Evidence to the Royal Commission on National Health Insurance. Those attending are urged to bring with them the SUPPLEMENT of January 3rd, which contains the whole matter, and to study it beforehand.

**LANCASHIRE AND CHESHIRE BRANCH: HYDE DIVISION.**—The Hyde Division is holding a supper d'ansant at Oaklands, Mottram New Road, Hyde, on Friday, January 23rd, at 8.30 p.m.

**LANCASHIRE AND CHESHIRE BRANCH: LIVERPOOL DIVISION.**—A meeting of practitioners in the area of the Liverpool Division will be held at the Medical Institution, 114, Mount Pleasant, Liverpool, on Wednesday, January 21st, at 3 p.m., when Dr. G. C. Anderson, Deputy Medical Secretary, will open a discussion on the draft Memorandum of Evidence proposed to be placed before the Royal Commission on National Health Insurance.

**LANCASHIRE AND CHESHIRE BRANCH: MID-CHESHIRE DIVISION.**—A British Medical Association lecture will be given to-day (Friday, January 16th), at 8.45 p.m., in the Board Room of the Altrincham General Hospital, by Dr. S. A. Kinnier Wilson (London) on Neuritis and Neurasthenia. Members of neighbouring Divisions are heartily welcome.

**METROPOLITAN COUNTIES BRANCH: CITY DIVISION.**—The following meetings will be held in the City Division area in order to give members and non-members of the Association resident in the area an opportunity of discussing fully the draft Memorandum of Evidence proposed to be placed before the Royal Commission on National Health Insurance. (1) Tuesday, January 20th, at 9.30 p.m., at West Public Library, Thornhill Square, Islington. Speaker: Dr. G. C. Anderson, Deputy Medical Secretary, on, opposite Shoreditch Railway Station, and Mr. E. B. Turner, F.R.C.S. It is concerned will attend at least one of the

meetings, and also carefully study the SUPPLEMENT, BRITISH MEDICAL JOURNAL, of January 3rd. Any medical practitioner who has not received a copy can obtain one by applying to the Secretary, Dr. Ernest A. Worley, 43, De Beauvoir Road, N.1. A meeting of the Division will be held at the Metropolitan Hospital, Kingsland Road, on Tuesday, February 10th, at 9.30 p.m., when Dr. Edwin Smith, coroner for North-East London, will read a paper on some legal relationships of the practitioner.

**METROPOLITAN COUNTIES BRANCH: FINCHLEY DIVISION.**—A meeting of the Finchley Division will be held at the Finchley Memorial Hospital on Tuesday, January 20th, at 8.45 p.m. All medical prac-

tioners within the area are invited to attend to discuss the Memorandum of Evidence to be submitted to the Royal Commission on National Health Insurance.

**METROPOLITAN COUNTIES BRANCH: HAMSTEAD DIVISION.**—A meeting of the Hampstead Division will be held at the Hampstead Town Hall, Haverstock Hill, on Thursday, January 22nd, at 8.30 p.m., to consider the draft Memorandum of Evidence proposed to be placed before the Royal Commission by the British Medical Association. The meeting is open to non-members. The attendance of medical practitioners is earnestly requested, and they are asked to read carefully beforehand the draft Memorandum and the questions enumerated on page 9 of the SUPPLEMENT of January 3rd, to which answers will be formulated at the meeting.

**METROPOLITAN COUNTIES BRANCH: KENSINGTON DIVISION.**—A meeting of the Kensington Division will be held at the Kensington Town Hall at 3.30 p.m. on Friday, January 23rd, to discuss the evidence it is proposed to place before the Royal Commission on National Health Insurance. It is hoped that all medical men in the Divisional area, whether members of the Association or not, will attend and express their views, as the matters under discussion will affect all practitioners in whatever class of work they are engaged.

**METROPOLITAN COUNTIES BRANCH: LEWISHAM DIVISION.**—A meeting of the Lewisham Division will be held at the Parish Room, St. Laurence Vicarage, Bromley Road, Catford, S.E.6, on Tuesday, January 20th, at 8.45 p.m., under the chairmanship of Dr. A. Beattie. Mr. Archer Ryland will read a paper on danger signals in the acute mastoid, illustrated by lantern slides.

**METROPOLITAN COUNTIES BRANCH: SOUTH MIDDLESEX DIVISION.**—A meeting of the South Middlesex Division will be held at St. John's Hospital, Twickenham, on Wednesday, January 21st, at 8.15 p.m. A discussion on scarlet fever from a public health point of view will be opened by Dr. H. A. Günther.

**METROPOLITAN COUNTIES BRANCH: SOUTH-WEST ESSEX DIVISION.**—A meeting open to all practitioners in the Division will be held on Tuesday, January 20th, at the Wesleyan Church School Rooms (near Leyton Station, Midland Railway) at 3.30 p.m., for the purpose of considering the draft Memorandum of Evidence to be presented to the Royal Commission on National Health Insurance (BRITISH MEDICAL JOURNAL SUPPLEMENT, January 3rd). Dr. Alfred Cox, Medical Secretary, will attend and answer any questions that may be asked.

**METROPOLITAN COUNTIES BRANCH: WEST HERTFORDSHIRE DIVISION.**—A meeting of the West Hertfordshire Division will be held in the Abbey Institute, Romeland, St. Albans, on Sunday, January 18th, at 2.30 p.m., for the discussion of the draft Memorandum of Evidence to be placed before the Royal Commission on National Health Insurance. The subjects to be discussed include the question of including in the insurance scheme the dependants of all insured persons. As this would mean an enormous increase in the amount of insurance work to be undertaken by the general practitioner, it is a matter requiring very careful consideration. All medical practitioners in the area of the Division, whether members of the Association or not, are cordially invited to attend.

**METROPOLITAN COUNTIES BRANCH: WILLESDEN DIVISION.**—A meeting of the Willesden Division will be held at the Willesden General Hospital, Harlesden Road, on Wednesday, January 21st, at 9 p.m., to consider the draft evidence to be submitted to the Royal Commission on National Health Insurance. In preparation for this meeting members and non-members of the Association are requested to attend an important meeting of all practitioners in Middlesex to be held at the Portman Rooms, Baker Street, W.1, on Sunday, January 18th, at 3 p.m., when Dr. H. B. Brackenbury will speak.

**METROPOLITAN COUNTIES BRANCH: WOOLWICH DIVISION.**—A meeting of the Woolwich Division, to which all practitioners are invited, will be held on Tuesday, January 20th, at 8.30 p.m., at the Shakespeare Hotel, Powis Street, Woolwich, to discuss the draft of the evidence to be given before the Royal Commission on National Health Insurance. The meeting will be preceded by a simple supper, at 2s. 6d. a head, at 8.30 punctually. Those intending to be present are asked to notify the honorary secretary (Dr. F. J. O. Blackmore, 138, Herbert Road, Woolwich, S.E.18) as early as possible.

**MIDLAND BRANCH: CHESTERFIELD DIVISION.**—The annual dinner of the Chesterfield Division will be held at the Station Hotel on Wednesday, January 21st, at 7.30 p.m., when Dr. Brackenbury will give an address.

**MIDLAND BRANCH: DERBY DIVISION.**—A meeting, to which the whole of the medical profession (both members and non-members of the British Medical Association) in the Derbyshire Divisional Area are invited, will be held in the Board Room of the Derbyshire Royal Infirmary, on Friday, January 23rd, at 3 p.m., to consider the draft Memorandum of Evidence to be placed before the Royal Commission on National Health Insurance. The meeting will be addressed by Dr. G. C. Anderson and Sir Richard Luce, M.P. At the close an opportunity will be given for the asking of questions. It is hoped that the meeting will be well attended in order that the voting on the questions to be submitted may be an expression of the general feeling of practitioners in the area.

**MIDLAND BRANCH: HOLLAND DIVISION.**—A joint meeting of the Holland Division and the Holland Panel Committee will be held at the White Hart Hotel, Spalding, to-day (Friday, January 16th), at 3 p.m., to consider the proposed evidence to be placed before the Royal Commission on National Health Insurance. Members are requested to bring the BRITISH MEDICAL JOURNAL SUPPLEMENT of January 3rd with them to the meeting.

**MIDLAND BRANCH: LEICESTER AND RUTLAND DIVISION.**—A meeting of the medical profession of Leicestershire and Rutland will be held in the dining room of the Oriental Café, Market Place, Leicester, on Thursday, January 22nd, at 3.30 p.m., for the purpose of discussing the draft Memorandum of Evidence which it is proposed to put before the Royal Commission on National Health Insurance.

**MIDLAND BRANCH: LINCOLN DIVISION.**—A meeting of the members of the medical profession resident in Lincoln (whether members of the British Medical Association or not) will be held at the offices of the Lincoln Insurance Committee, Palfrey Chambers, Silver Street (opposite Curtis and Maw's), to-day (Saturday, January 17th), at 8 p.m., to discuss the draft Memorandum of Evidence proposed to be placed before the Royal Commission, and to answer the questions which the Association is asking the medical profession on the subject.

**NORFOLK BRANCH: NORWICH DIVISION.**—A special meeting of the Norwich Division will be held in the Medical Library on Wednesday, January 21st, at 8.30 p.m., to consider the draft evidence to be placed before the Royal Commission on National Health Insurance. It is hoped that all medical practitioners in this area, whether members or not, will make every effort to attend and put forward their views.

**NORTH OF ENGLAND BRANCH: CLEVELAND DIVISION.**—Under the combined auspices of the Cleveland Division of the British Medical Association and of the Middlesbrough Panel Committee, a general meeting of the local medical profession will be held at Worsley House, North Ormsby Hospital, Middlesbrough, on Tuesday, January 20th, at 3 p.m., to discuss the draft Memorandum of Evidence proposed to be placed before the Royal Commission on National Health Insurance, published in the SUPPLEMENT to the BRITISH MEDICAL JOURNAL of January 3rd, and to answer the series of questions contained therein. Afternoon tea will be provided by the hospital authorities at the close of the meeting.

**NORTH OF ENGLAND BRANCH: NEWCASTLE-UPON-TYNE DIVISION.**—Dr. William Brown, Wilde Reader in Mental Philosophy, Oxford, will give an address on psychotherapy at Armstrong College, on Tuesday, January 20th, at 5.30 p.m.—A meeting of practitioners in the area of the Newcastle-upon-Tyne Division will be held at the Medical Institute, 7, Windsor Terrace, on Tuesday, January 20th, at 8.30 p.m., to consider the evidence to be submitted by the profession to the Royal Commission on National Health Insurance, and a consensus of opinion will be taken on the different questions submitted, as set out in the SUPPLEMENT to the BRITISH MEDICAL JOURNAL of January 3rd. As this matter is of great importance to the profession generally and to those engaged in national health insurance work in particular, it is hoped that the meeting will be large and representative. Dr. R. A. Bolani, Chairman of the Council of the Association, who is also Chairman of the Committee appointed to collect the evidence, expects to be present.

**NORTH OF ENGLAND BRANCH: STOCKTON DIVISION.**—Two very important meetings will be held in the Stockton and Thornaby Hospital in connexion with the draft Memorandum of Evidence proposed to be placed before the Royal Commission on National Health Insurance. All members and non-members are cordially invited, and it is hoped that there will be a large attendance at both meetings. At the first meeting, to be held on Wednesday, January 21st, at 4 p.m., Dr. Dix, the Representative for Group B on the Insurance Acts Committee, will address the meeting, and at the second meeting, to be held on Friday, January 23rd, at 8.30 p.m., the draft Memorandum will be discussed and reported upon.

**NORTH OF ENGLAND BRANCH: SUNDERLAND DIVISION.**—A meeting called by the Sunderland Division and by the Sunderland Panel and Local Medical Committees will be held at 48, John Street, Sunderland, to-day (Friday, January 16th), at 8.30 p.m., and all practitioners in the Sunderland Division are invited to be present. The subject for consideration is the draft Memorandum of Evidence for the Royal Commission on National Health Insurance.

**NORTHERN COUNTIES OF SCOTLAND BRANCH.**—A meeting of the Northern Counties of Scotland Branch will be held at the Palace Hotel, Inverness, to-day (Friday, January 16th), at 6.30 p.m., when Professor Ashley Mackintosh (Aberdeen University) will deliver a British Medical Association lecture entitled "Neurological misgivings." The lecture will be followed by a dinner at 7.30 p.m.; it is hoped there will be a good attendance of members, both at the lecture and dinner. Members wishing to remain over the week-end should communicate with the manageress of the Palace Hotel.

**OXFORD AND READING BRANCH: OXFORD DIVISION.**—A meeting of the members of the medical profession of the district, arranged by the Oxford Division and Oxfordshire Panel Committee, will be held at the Radcliffe Infirmary, Oxford, on Wednesday, January 21st, at 3 p.m., to discuss the subjects contained in the SUPPLEMENT to the BRITISH MEDICAL JOURNAL of January 3rd.

**SOUTH MIDLAND BRANCH: BEDFORDSHIRE DIVISION.**—A general meeting of the Bedfordshire Division will be held at Emerson Norman's Restaurant, 9, High Street, Bedford, on Wednesday, January 21st, at 3 p.m. Agenda: Letter from British Legion regarding formation of a Medical Advisory Committee for Bedfordshire; to fill vacancy on Executive Committee. To be followed, the draft Memorandum of Evidence proposed to be placed before the Royal Commission on National Health Insurance. All practitioners in the area are invited to attend the meeting. Tea will be provided.

**SOUTH MIDLAND BRANCH: BUCKINGHAMSHIRE DIVISION.**—A special joint meeting of the Bucks panel practitioners and the local members of the British Medical Association will be held at the Crown Hotel, Aylesbury, to-day (Friday, January 16th), at 3 p.m., to discuss the Memorandum of Evidence to be submitted to the Royal Commission. All practitioners in the area are invited. Any resolutions from this meeting will go to the Insurance Acts Committee and later to a Conference of Representatives in London. Therefore it is essential that all suggestions should be submitted as soon as possible. It is desired to emphasize before the Royal Commission the special difficulties under which country practitioners work, and the Secretary (Dr. T. Perrin, 10, Temple Square, Aylesbury) will be glad to receive any suggestions from rural practitioners.

**SOUTHEAST BRANCH: ISLE OF WIGHT DIVISION.**—A combined meeting of all Island practitioners to consider the draft Memorandum of Evidence to be placed before the Royal Commission on National Health Insurance will be held at the Mutz Hall, Newport, Isle of Wight, on Wednesday, January 21st, at 3.15 p.m. The arrangements are in the hands of Dr. W. J. A. Erskine, and Dr. Roberts, Upwey, Ventnor, secretary of the Local Medical and Panel Committee.

**SOUTHERN BRANCH: PORTSMOUTH DIVISION.**—A meeting of practitioners in the area of the Portsmouth Division will be held at the Corner House, Commercial Road, Portsmouth, on Thursday, January 22nd, at 5.30 p.m. Dr. G. C. Anderson, Deputy Medical Secretary, will open a discussion on the draft Memorandum of Evidence proposed to be placed before the Royal Commission on National Health Insurance.

**SOUTHERN BRANCH: WINCHESTER DIVISION.**—A special meeting under the joint auspices of the Winchester Division and the Hampshire Local Medical and Panel Committees, and open to all members of the profession, will be held on Sunday, January 25th, in the Oldfellows' Hall, St. George's Street, Winchester, for the purpose of considering the draft Memorandum of Evidence to be submitted to the Royal Commission on National Health Insurance. The chair will be taken by Dr. Williams-Freeman at 2.30 p.m. Arrangements have been made whereby any practitioner living in the southern part of the county may attend either of the two following similar meetings if he finds it more convenient to do so: (a) Portsmouth—the Corner House, Commercial Road, on Thursday, January 22nd, at 3.30 p.m.; (b) Southampton—South Ham's Hospital, on Friday, January 23rd, at 8.45 p.m.

**SOUTH WALES AND MONMOUTHSHIRE BRANCH: SWANSEA DIVISION.**—A joint meeting of the Swansea Division and of the Panel Committee for Swansea has been arranged for Thursday, January 22nd, at 8 p.m., to discuss the evidence to be given before the Royal Commission on National Health Insurance. All members of the profession are invited, and copies of the SUPPLEMENT of January 3rd will be provided for non-members of the Association.—The Division will hold a medical clinic at the General Hospital on Thursday, January 29th, at 8.15 p.m.

**SOUTH-WESTERN BRANCH: EXETER DIVISION.**—The following course of lectures arranged for the spring of 1925 will be held in the library of the Royal Devon and Exeter Hospital, at 3.30 p.m., on the dates indicated: February 6th, Mr. Norman Lock: Intestinal Obstruction; March 6th, Dr. William Gordon: The Significance of Recent Work in Cardiology; April 3rd, Mr. R. Wayland Smith: Head Injuries; May 1st, Dr. F. A. Roper: Some Principles in Endocrinology. The lectures will be free to all members of the Association.

**SURREY BRANCH: CROYDON DIVISION.**—At the meeting of the Croydon Division to be held at the Croydon General Hospital on Tuesday, January 27th, at 8.30 p.m., Dr. Gordon Holmes, C.M.G., will read a paper on the distinction between functional and organic nervous diseases.

**SURREY BRANCH: GUILDFORD DIVISION.**—A meeting of practitioners in the area of the Guildford Division will be held at the Royal Surrey County Hospital, Guildford, at 3 p.m. on Thursday, January 22nd (instead of on January 15th, as previously announced) to consider the Memorandum of Evidence to be placed before the Royal Commission on National Health Insurance. The memorandum, as published in the SUPPLEMENT of the BRITISH MEDICAL JOURNAL of January 3rd, should be brought to the meeting. Dr. Cecil Lankester, chairman of the Division, will preside, and tea will be served at 4.30 p.m.—A meeting of the Guildford Division will be held at the Royal Surrey County Hospital, Guildford, on Thursday, February 5th, at 4 p.m., when Dr. Charles Roberts will read a paper on radiology in general practice. Tea at 3.45 p.m.

**SURREY BRANCH: KINGSTON-ON-THAMES DIVISION.**—A meeting of the medical profession in the area of the Kingston-on-Thames Division will be held at the Surbiton Assembly Rooms, Surbiton, on Tuesday, January 20th, at 3.15 p.m. Dr. G. C. Anderson will open the discussion on the draft Memorandum of Evidence proposed to be placed before the Royal Commission on National Health Insurance. Dr. H. R. Cran, vice-chairman of the Surrey Panel Committee, will preside.

**SURREY BRANCH: REIGATE DIVISION.**—An important Divisional meeting will be held, under the chairmanship of Dr. W. McD. Ellis, at the East Surrey Hospital, Reigate, on Sunday, January 18th, at 3 p.m., to which all medical practitioners, specialists, and consultants are invited, to consider the draft Memorandum of Evidence to be placed before the Royal Commission on National Health Insurance, and to pass the necessary resolutions. Dr. Percy Fry, a member of the Insurance Acts Committee and the Surrey Panel Committee, will address the meeting.



**YORKSHIRE BRANCH: HARROGATE DIVISION.**—A meeting of the Harrogate Division will be held in the Imperial Café on Thursday, January 22nd, at 8.30 p.m., when Mr. S. W. Daw, F.R.C.S. (Leeds), will give an address on orthopaedics and the nervous system.

**YORKSHIRE BRANCH: SHEFFIELD DIVISION.**—A meeting of the local medical profession, called jointly by the Sheffield Division of the British Medical Association and the Sheffield Local Medical and Panel Committees, will be held at the Church House, St. James Street, Sheffield, to-day (Friday, January 16th), at 8.30 p.m. Agenda: Consideration of draft Memorandum of Evidence to be submitted to the Royal Commission on National Health Insurance. Dr. Alfred Cox, Medical Secretary, has accepted an invitation to be present and will address the meeting. Discussion and questions will be invited.

**YORKSHIRE BRANCH: WAKEFIELD, PONTEFRAC, AND CASTLEFORD DIVISION.**—The Wakefield, Pontefract, and Castleford Division is holding a special meeting for the consideration of the draft evidence for the Royal Commission on National Health Insurance at the Clayton Hospital, Wakefield, on Thursday, January 22nd, at 3 p.m., when the chair will be taken by Dr. William Steven (Featherstone), the Divisional chairman.

## Meetings of Branches and Divisions.

### BIRMINGHAM BRANCH: WEST BROMWICH DIVISION.

The annual meeting of the West Bromwich Division was held at the offices of the Smethwick Insurance Committee on January 6th. The retiring Chairman, Dr. BRADSHAW, gave an outline of the work of the Division during the past year. The membership was increased from 32 at December 31st, 1923, to 47 at December 31st, 1924. Four very successful meetings had been held during the year. In January Dr. E. H. K. Harries, of the Birmingham Fever Hospitals, gave a demonstration of the Schick test for diphtheria; in April Mr. H. W. Dawes (West Bromwich) read a paper on foot-and-mouth disease; in June Dr. H. G. Dain (Birmingham) opened a discussion on contract practice; in October Colonel L. W. Harrison of the Ministry of Health showed a film on the diagnosis and treatment of gonorrhoea in the male. Several very important matters were dealt with during the year. After prolonged negotiations contract practice rates were, he said, put on a better footing in West Bromwich and Wednesbury. The appointment of medical officer of health at a salary of £800 per annum West Bromwich Town Council assistant medical officer of health or annum, but a deputation from of the Town Council and the result was completely successful. The Smethwick Town Council tried to appoint a woman assistant medical officer of health and school medical officer at £500 per annum instead of at £600 per annum, the Association's minimum; their efforts were frustrated, and the appointment had now been filled at the adequate salary.

The following officers were appointed for 1925:

Chairman, Dr. R. W. Stocks (West Bromwich); Secretary, Dr. Dingley (Wednesbury). Representative in Representative Body.

The meeting discussed the draft Memorandum of Evidence to be placed before the Royal Commission on National Health Insurance. It was arranged that separate meetings should be held in West Bromwich and Smethwick, that each meeting should answer the questions submitted, that each meeting should appoint a committee of five, and that those appointed should meet in West Bromwich on Sunday, January 25th, to decide finally the answers to be sent to the Medical Secretary of the Association.

The Chairman, Dr. R. W. Stocks, gave an inaugural address on the reduction of maternal and neo-natal mortality.

### ESSEX BRANCH: NORTH-EAST ESSEX DIVISION.

A meeting, to which all medical men resident in the area of the Division were invited, was held at the Red Lion Hotel, Colchester, on January 9th, to consider the draft Memorandum of Evidence proposed to be submitted to the Royal Commission on National Health Insurance. After sympathetic reference to the death of Dr. Caudwell of Coggeshall by the Chairman, discussion on the draft Memorandum was introduced by Dr. Cox, the Medical Secretary, who spoke in full detail on the various points contained in the Memorandum. The following, among others, took part in the subsequent discussion: Drs. FOX, HALL, ROWLAND, FELL, CLOWES, and COOX. A vote was taken on the items contained in the questionnaire in Document D.12, but owing to the limited time available the voting was somewhat cursory. The meeting concluded with a vote of thanks to Dr. Cox, proposed by Dr. CURLE.

### YORKSHIRE BRANCH: WAKEFIELD, PONTEFRAC, AND CASTLEFORD DIVISION.

The third of the seven monthly lecture meetings arranged by the Wakefield, Pontefract, and Castleford Division for the present winter session was held at Wakefield on December 18th, 1924, when the Chairman, Dr. WILLIAM STEVEN, presided, and nearly sixty members and medical visitors were present.

The speaker of the evening, Sir BERKELEY MOYNIHAN, Bt., took as his subject the acute abdomen, and in a masterly address emphasized the salient diagnostic features of the various acute abdominal conditions in which early operation is imperative. Drs. OLDFIELD, THOMAS, CALLENDER, GREAVES, FLEMING, and others took part in the subsequent discussion.

## National Insurance.

### THE EVIDENCE TO THE ROYAL COMMISSION.

#### MEETING OF LONDON PRACTITIONERS.

A mass meeting of London practitioners to consider the draft Memorandum of Evidence proposed to be placed before the Royal Commission by the British Medical Association (SUPPLEMENT, January 3rd) was held at the Hotel Cecil on Sunday afternoon, January 11th. The attendance was greatly diminished as the result of a fog, which made travelling from certain of the suburbs almost impossible, but well over one hundred practitioners were present. The chair was taken by Dr. H. J. CARNALE, Chairman of the London Local Medical and Panel Committees, who was supported by Dr. H. B. Brackenbury, Dr. G. C. Anderson (Deputy Medical Secretary of the British Medical Association), and Drs. W. E. A. Worley and C. L. Batterson, secretaries respectively of the Metropolitan Branch Council and of the Local Medical and Panel Committees, whose names were jointly attached to the notice summoning the meeting.

Dr. BRACKENBURY said that the document must be considered as a whole; one section of it must not be entirely detached from the other sections. Even the question of dependants was intimately associated with the other proposals. This was not a memorandum which was to give any finality to the policy of the profession in this connexion. It was only when the report of the Royal Commission was issued, or, better still, when the proposals of the Government based on that report were made known, that the profession would be able to say that this or that proposal did or did not commend itself. He remarked upon the fundamental principles laid down in paragraph 8 of the document; in so far as any of those five principles were transgressed in any national health insurance scheme that scheme could not expect to gain the approval of the profession. It was true, of course, that such principles had to be reasonably and impartially applied, but they were the principles which must be held to govern the situation.

#### Inclusion of Dependants.

It was decided to take one by one the questions as already set out for meetings of the local profession (SUPPLEMENT, January 3rd, p. 9), the first being that of dependants, and Dr. BRACKENBURY gave a brief statement of the suggestions under that head. After describing what classes of persons it was suggested might be excluded from the scheme and what new classes of persons included, he said it was quite certain that in some way or other the State would make provision for the classes of poor persons whom the Memorandum proposed should be brought into insurance. The alternative would be a further increase of municipal and county treatment centres with whole-time salaried doctors. The far better way would be the provision of a family doctor for all these people. In reply to a question, Dr. Brackenbury added that if all the dependants of the present insured persons were brought in it was estimated that the insured population would number 38 million; this was altogether too gigantic a proposition. The suggestions in the Memorandum would involve an increase of the insured population probably to 28 million or 30 million, or practically double the present number. If the profession was to assume responsibility for this increased number certain other conditions must be met, such as the provision of a proper supply of nurses, the reduction of record-keeping to a minimum, and an entire revision of the present procedure with regard to complaints.

Dr. B. P. DOUZYOV said that at the beginning of national insurance the British Medical Association persuaded the profession to attend a very large section of the population for a very small sum. Now they were told that that section was to be largely increased. He called attention to the phrase "at any rate for the present," in paragraph 17. He believed that although the proposals at present might be partial, this was part of a movement to include the whole of the dependants, and to lead up to a national medical service. Up to now the scheme had included mainly manual workers—a relatively healthy population—but now it was proposed to take in those who were not manual workers and who were in many cases not fit for manual work. If a State Medical Service was brought in he was convinced that many practitioners would have nothing to do with such a scheme and would, if necessary, leave the country and work elsewhere.

Dr. F. G. LLOYD said that if the State was satisfied with the service rendered to the present insured persons and was willing to pay properly for dependants he saw no reason against their inclusion.



# Insurance: Evidence to the Royal Commission.

SUPPLEMENT TO THE  
BRITISH MEDICAL JOURNAL

Dr. S. F. HOLLOWAY thought that doctors serving under the Insurance Act had so far been fairly well satisfied. Certainly they were in a much better economic position than before the Act. He instanced a practitioner with a list of over 2,000; as it was, the dependants of these persons largely came under that practitioner's care, and for them he received an income of £400 a year. Was it likely that the State would offer no more than that?

Dr. J. MACKEITH argued against Dr. Brackenbury's view that municipal treatment centres were a menace to the general practitioner. These treatment centres, in the speaker's opinion, were most desirable things, and had accomplished something for the health of the community which would never be accomplished by the inclusion in an insurance scheme of dependants of insured persons. He believed that the panel system had been a disastrous failure, and he hoped there would be no extension to dependants or to other classes. For the benefit of the community it would be desirable to repeal the medical provisions of the Act.

Dr. PALMER opposed the inclusion of the dependants of all insured persons (which was the first proposition before the meeting) on the ground that many of the better-paid insured persons should be responsible for payment for medical attendance on their dependants, and also on the ground that, at all events in his area of South London, the practitioners could not cope with the work if this wholesale inclusion of the name must be made. Dr. R. CARSWELL said that it seemed to him obvious that any national health insurance scheme worthy of the name must include dependants. He was one of those who disapproved of the present insurance system, but he did not disapprove of insurance against sickness. Insurance should be radically altered from the provision of medical attendance. Dr. O'NEILL favoured the inclusion of the dependants of vision of the cost of medical attendance.

Dr. O'NEILL favoured the inclusion of the dependants of lower paid persons. If such persons were not included they would be taken in by the clinics.

The proposition favouring the inclusion in an insurance scheme of all dependants of all insured persons was then put, and lost by a large majority; only three or four hands were held up in its favour. The discussion continued on the question of including the dependants of only the lower-paid persons brought into the scheme as described in paragraph 16 of the document.

Mr. E. B. TURNER asked whether it was likely that any Royal Commission would report in favour of this proposal to the exclusion of the proposal to include all dependants. Would any Royal Commission recommend, or any Government propose to Parliament, the establishment of an income limit in the case of manual workers? Then there was the question of doctor-power. The insured woman worker had been very reasonable in her demands for medical attendance, but the case of women and their families would mean much heavier demands upon the doctor, and quite rightly, for children needed a great deal of care and treatment. During his forty-five years of a sheltered practice he had paid twenty-five visits to sick women and children to one visit he had paid to sick men. In industrial districts the result of what was now foreshadowed would be similar to the chaos in the middle of the war, when too many doctors were taken from civil practice. In these densely populated industrial districts every vestige of private practice would be swept away, and the objectionable division of the profession into panel and non-panel would be deepened and accentuated. The money spent on administration—already £7,000,000—would be vastly increased, and the bureaucracy that went with it. And did the profession think that if all dependants were taken on practitioners would be paid for all these new inclusions the same capitation fee as now? Finally, he complained that non-panel views had not been sufficiently represented in the preparation of the Memorandum. At the same time, although not himself an insurance practitioner, he was thoroughly in accord with nine-tenths of the document.

Dr. BRACKENBURY declared that the Memorandum had been prepared in the most impartial way, without any predominance of insurance practitioner interests. They were all agreed that in this matter the non-insurance practitioner was as vitally concerned as the man who was working the Act. Mr. Turner had been addressing himself to the proposition already negatived. All his arguments were against the inclusion of the number of dependants. But with regard to these people, it was not the profession did not make some suggestions that dependants of lower-paid persons it must be remembered that if the profession extended the system of treatment doctors would not fold its hands with regard to these people. It was one thing to think that this was economically element on the vision of a family doctor for all these poor persons, should the Commission think that the non-insurance element of the document consisted largely of consultants. The working non-panel

practitioner was practically not represented. Dr. BRACKENBURY said that one of the committees from which a report was received was the Non-Panel Committee, which did represent non-panel general practitioners.

A division then took place on the question: Is the meeting in favour of the inclusion in an insurance scheme of the dependants of only the lower-paid persons included in the scheme described in paragraph 16? A show of hands resulted in a tie, and the Chairman (Dr. Cardale) gave his casting vote in favour of the proposition. A demand, however, was made for a recount on the ground that the counting had been inaccurate, and a standing vote was taken. It was then found that the meeting was not in favour of the proposition, the numbers being: In favour 51, against 51.

**Poor Persons not under Contract of Service.**  
The meeting was then asked to say whether it favoured the inclusion of poor persons not under contract of service (para graph 18). Mr. TURNER and Dr. MACKEITH thought there would be considerable objection if it was proposed to compel such persons as small tradesmen of such persons could be collected. Dr. BRACKENBURY said that that was a difficulty, but all that was stated in the Memorandum was that if these administrative difficulties could be overcome there was no objection on the part of the profession to these people becoming insured persons. By a show of hands the meeting decided that it was not in favour of this inclusion.

**Poor Law Patients.**  
On the proposal to include the class of person at present attended under the Poor Law, Dr. E. A. GREGG hoped the meeting would not allow itself to be stampeded into turning down every proposition. He had been absolutely convinced as a result of his experience as a Poor Law guardian that it was impossible in Poor Law administration ever to get the status of the doctor raised substantially. The mentality of the average Poor Law guardian was such that the doctor under this system could hardly have the position which the profession would desire for him, and he thought that advantage should be taken of an opportunity like this to emancipate this section of the profession. Dr. A. E. CORRE hoped the position of existing officers would not be prejudiced in any transfer of this kind, and he pointed out how restricted was the amount of compensation which by statute a Poor Law officer might receive on removal from his post. Dr. BRACKENBURY said that there would be no difficulty in making specific provision in the paragraph to meet this point of view, and safeguard the present Poor Law medical officer.

The proposal was agreed to by 49 votes to 29.  
**Specialist and Consultant Services: Maternity Benefit.**  
The meeting was asked whether it agreed that the present service should at a convenient time be extended by the inclusion of specialist and consultant services. The reading of the question was greeted with loud cries of "Agreed."  
Mr. SYDNEY TIBBLES, in reply to a question, said that a very large number of ophthalmic surgeons had agreed already to help the rest of the profession to provide ophthalmic benefit in this scheme. The remuneration would be partly from the contributions of the insured persons and partly from those of approved societies.

The proposition was carried without dissent. Dr. BRACKENBURY gave a brief exposition of the proposals with regard to maternity benefit. The proposal to include within the scope of the scheme attendance at confinements and during the puerperal period, together with special examination and supervision during pregnancy, was negatived; there voted: In favour 27, against 55.

**Administration.**  
The meeting was next asked whether it approved the somewhat altered procedure in the case of official complaints suggested in paragraph 40. Dr. MACKEITH dissented from the proposal, who was under complaints against an insurance practitioner, who was under contract, must go through the normal channel of the lay authority. Dr. PALMER protested—in opposition to those actually engaged in this work could have any knowledge of the efficacy or otherwise of the present system. Dr. GEORGE JONES thought that if the medical profession joined itself together for the mixed tribunal to which it was at present subject under the Insurance Act. There would have to be an appeal, of course, either to the General Medical Council or to a common law court.

The meeting signified, without dissent, its approval of the suggestions of paragraph 40.

Approval was similarly given to the proposition that it was essential that "additional treatment benefits" should be grouped with medical benefit and removed from the control of the approved societies.

On the suggestions contained in paragraphs 43 to 46 as regards the future administration of an extended national health insurance service, after Dr. BRACKENBURY had described the position in some little detail, the meeting gave a vote in favour, with one dissentient.

The alterations in the rules of certification proposed in paragraph 51 were similarly agreed to.

#### Remuneration.

The CHAIRMAN then invited resolutions on other sections of the Memorandum.

Dr. MACKEITH complained of the arrangement suggested in paragraph 54, whereby the central body most properly representing the profession in negotiation on questions of remuneration was stated to be the Council of the British Medical Association.

Mr. E. B. TURNER, as a non-panel member of the British Medical Association, and one who had held the office of Chairman of Representative Meetings, assured Dr. MacKeith that he was quite wrong in supposing that the Association did not voice non-panel interests. A large number of non-panel doctors were members of the Association, and they had it in their power, if they wished, to bring their views before the Council and the Representative Body just as directly as any other section. Of course, national insurance had been the most "live" question in medical politics during the last few years, and the activities of the Association had been largely concerned in that direction. But although he himself was an uncompromising opponent of the Insurance Act, he felt that the Association was right in doing what it had done in the interests of the insurance practitioner, if for no other reason than that the remuneration and conditions of numerous other members of the profession engaged in all kinds of public service fluctuated with the insurance capitation fee. The Association, even when it was working on behalf of insurance practitioners, was really working on behalf of the whole profession. (Applause.)

Mr. T. P. BEDDOES said that in Germany, from which the national insurance system was derived, what corresponded to the British Medical Association in relation to the Insurance Act was a body devoted entirely to the safeguarding of the economic and financial interests of the profession. The British Medical Association prided itself on being a scientific institution, and that was, in his view, its weakness.

No resolution was moved, and the subject dropped.

On the motion of Mr. W. M. GABRIEL, it was agreed to recommend substitution of the phrase "dental surgeon or dentist" for "dentist" in paragraph 23, Mr. Gabriel pointing out that since the passing of the recent Act the term "dentist" had a technical significance and related strictly only to men registered under that Act.

A vote of thanks was accorded to the Chairman for his able conduct of the proceedings, and a similar compliment was paid to Dr. Brackenbury.

### MEMORANDUM OF EVIDENCE TO THE ROYAL COMMISSION.

#### MEETINGS TO BE HELD.

The following meetings have been arranged to consider the draft Memorandum of Evidence to be submitted by the British Medical Association to the Royal Commission on National Health Insurance. Further particulars of many of the meetings will be found in the announcements of forthcoming meetings of Branches and Divisions of the Association (SUPPLEMENT, pp. 37-39).

A meeting of all the Divisions of the British Medical Association and of the Panel Committee on Sunday, January 18th, at 3 p.m., in the Portman Rooms, 59, Baker Street, for the purpose of considering the draft Memorandum of Evidence, Dr. H. R. BRACKENBURY will explain the Memorandum, and discussion will follow. The Portman Rooms are three minutes' walk from Baker Street Station.

#### City Division.

At West Public Library, Thornhill Square, Islington, on Tuesday, January 20th, at 9.30 p.m.

At St. Leonard's, Shoreditch, Church Room (opposite Railway Station), on Wednesday, January 22nd, at 9.30 p.m.

#### Kensington Division.

At Kensington Town Hall, on Friday, January 23rd, at 3.30 p.m.

#### Kingston-on-Thames Division.

At the Surbiton Assembly Rooms, Surbiton, on Tuesday, January 20th, at 3.15 p.m.

#### Willesden Division.

At Willesden General Hospital, Harlesden Road, N.W., on Wednesday, January 21st, at 9 p.m.

#### Finchley Division.

At Finchley Memorial Hospital on Tuesday, January 20th, at 8.45 p.m.

#### Hamstead Division.

At Hampstead Town Hall, Haverstock Hill, N.W.3, on Thursday, January 22nd, at 8.30 p.m.

#### Woolwich Division.

At the Shakespearo Hotel, Powis Street, Woolwich, on Tuesday, January 20th, at 8.30 p.m.

#### Dartford Division.

At the Livingstone Hospital, Dartford, on Tuesday, January 27th, at 3 p.m.

#### Bromley Division.

At the United Services Club, London Road, Bromley, Kent, on Friday, January 16th, at 8.30 p.m.

#### Reigate Division.

At the East Surrey Hospital, Reigate, on Sunday, January 18th, at 3 p.m.

#### Guildford Division.

At the Royal Surrey County Hospital, on Thursday, January 22nd, at 3 p.m.

#### Portsmouth Division.

At the Corner House, Commercial Road, Portsmouth, on Thursday, January 22nd, at 3.30 p.m.

#### Isle of Wight Division.

At the Mutz Hall, Newport, Isle of Wight, on Wednesday, January 21st, at 3.15 p.m.

#### Winchester Division.

At the Oddfellows' Hall, St. George's Street, Winchester, on Sunday, January 25th, at 2.30 p.m.

#### Buckinghamshire Division.

In conjunction with the Bucks panel practitioners at the Crown Hotel, Aylesbury, on Friday, January 16th, at 3 p.m.

#### Derby Division.

In the Board Room of the Derbyshire Royal Infirmary, on Friday, January 23rd, at 3 p.m.

#### Lincoln Division.

At the offices of the Lincoln Insurance Committee, Palfrey Chambers, Silver Street, Lincoln, on Saturday, January 17th, at 8 p.m.

#### Holland Division.

At the White Hart Hotel, Spalding, on Friday, January 16th, at 3 p.m.

#### Norwich Division.

In the Medical Library, Norwich, on Wednesday, January 21st, at 8.30 p.m.

#### Leicester and Rutland Division.

At the Oriental Café, Market Place, Leicester, on Thursday, January 22nd, at 3.30 p.m.

#### Bedfordshire Division.

Joint meeting with the Panel Committee at Emerson Norman's Restaurant, 9, High Street, Bedford, on Wednesday, January 21st, at 3.15 p.m.

#### Oxford Division.

At the Radcliffe Infirmary, Oxford, on Wednesday, January 21st, at 3 p.m.

#### West Hertfordshire Division.

At the Abbey Institute, Romeland, St. Albans, on Sunday, January 18th, at 2.30 p.m.

#### South-West Essex Division.

At the Wesleyan Church School Rooms (near Leyton Station, Midland Railway), on Tuesday, January 20th, at 3.30 p.m.

#### Mid-Essex Division.

At Littleton Hall, Brentwood, on Sunday, January 18th, at 3.15 p.m.

#### Liverpool Division.

At the Medical Institution, 114, Mount Pleasant, Liverpool, on Wednesday, January 21st, at 3 p.m.

#### Sheffield Division.

In conjunction with the Sheffield Local Medical and Panel Committees, at the Church House, St. James Street, Sheffield, on Friday, January 16th, at 8.30 p.m.

#### Wakefield, Pontefract, and Castleford Division.

At Clayton Hospital, Wakefield, on Thursday, January 22nd, at 3 p.m.

#### Bury Division.

At the Derby Hotel, Bury, on Wednesday, January 21st, at 8.30 p.m.

#### Newcastle-upon-Tyne Division.

At the Medical Institute, 7, Windsor Terrace, Newcastle-upon-Tyne, on Tuesday, January 20th, at 8.30 p.m.

#### Cleveland Division.

At Worsley House, North Ormesby Hospital, Middlesbrough, on Tuesday, January 20th, at 3 p.m.

#### Sunderland Division.

Joint meeting with the Sunderland Panel and Local Medical Committees at 48, John Street, Sunderland, to-day (Friday, January 16th), at 8.30 p.m.

*Stockton Division.*

At Stockton and Thornaby Hospital on Wednesday, January 21st, at 4 p.m., and Friday, January 23rd, at 8.30 p.m.

*Swansea Division.*

At Swansea on Thursday, January 22nd, at 8 p.m.

*Dumfries and Galloway Division.*

At Royal Infirmary, Dumfries, on Thursday, January 22nd, at 3.30 p.m.

*Fife Branch.*

At the Station Hotel, Kirkcaldy, on Thursday, January 22nd, at 3 p.m.

As pointed out in the leading article published in the *JOURNAL* of January 3rd (p. 30), it is of great importance that every medical practitioner, whether serving under the Insurance Act or not, and whether a member of the British Medical Association or not, should attend the meeting in his district. The draft Memorandum of Evidence to be submitted to the Royal Commission was published in the *SUPPLEMENT* of January 3rd, and it is hoped that members attending will take it to the meetings.

## THE ROYAL COMMISSION.

The twelfth meeting of the Royal Commission on National Health Insurance was held at the Home Office on January 8th, Lord Lawrence of Kingsgate in the chair. The examination of Mr. Edwin Heather, representing the Independent Order of Oddfellows, Manchester Unity, was continued on the following subjects: dental benefit, extension of medical benefit, the benefits of married women deposit contributors, exempt persons.

Proof copies of the oral evidence given at the meetings of December 11th, 18th, and 19th, 1924, may be obtained, on remittance of cost and postage, from H.M. Stationery Office, Adastral House, Kingsway, W.C.2. Evidence of December 11th and statement submitted by National Conference of Industrial Assurance Approved Societies, price 1s. 6d.; evidence of December 18th, price 1s. 6d.; evidence of December 19th and statement submitted by the Independent Order of Oddfellows, Manchester Unity, price 1s. 6d.

## Correspondence.

## ROYAL COMMISSION ON NATIONAL INSURANCE.

SIR,—Mr. Turner has spent a lot of ink in dealing with a situation with which the profession is not faced, and with which it may never be faced. If ever it has to choose between the inclusion of all the dependants of insured persons as at present defined in a national health insurance scheme or the inclusion of none of them, the choice would no doubt be made with full consideration of all the facts so well put by Mr. Turner. The opinion expressed in the draft Memorandum of Evidence is that the inclusion of all these dependants would not be wise, and would not be acceptable to the British Medical Association. With this opinion it appears that Mr. Turner is in agreement. So are his colleagues on the Council. It is a pity that he should suggest disagreement where none exists.

The present position is, however, that the Association proposes to suggest to the Commission that there is a better way—namely, to draw a line below which, in general, assistance is required to secure medical advice and treatment for dependants, and to provide it for these, and for these only, by an insurance plan. The Royal Commission, or Parliament, may find that there are serious difficulties in doing this; but it would be foolish to assume that these are insuperable, and therefore to refrain from supporting a suggestion which, if it can be carried out, is obviously more advantageous to the national health and less disadvantageous to the profession than any alternative method which has been suggested.

For there can be no doubt that the State will in some way make provision for attending to the health of these poor people. At present it is doing this very imperfectly and with many restrictions by means of municipal and county treatment centres of various kinds. Even under the present limitations these are becoming more numerous and more firmly established, and they are undermining the position of the private practitioner and gradually destroying his practice as a family doctor. It will, in my view, be impossible permanently to maintain the restrictions as to kind of illness treated or the prohibition of domiciliary attendance which at present attach to this method of

provision. Family private practice will then be finally destroyed with regard to a large proportion of the population. It is to be hoped that the meetings of the profession now being held will support the Council in its belief that it is imperative to seize this opportunity of suggesting that a far better and more effective method is through an insurance scheme, to provide a doctor of his own for each of these poor persons, so that they may be placed in the same position and advised in a similar way as those who are economically better off.

Strong objection must be taken to Mr. Turner's statement that "this draft of evidence has been prepared and submitted practically by the Insurance Acts Committee." This is not in accordance with the fact. It was submitted to and approved by, the Council, by a large meeting of joint committees after full consideration of reports from four special subcommittees presided over by Sir Thomas Horder, Sir Ewen Maclean, Professor H. R. Dean, and Dr. Badoock, and of reports also from the Non-Panel Committee of the Council and from a special Committee on Ophthalmic Benefit. Substantial portions of the Memorandum are in the exact words of these reports, and it embodies also the findings of the Hospitals Committee so far as they are relevant to the matters discussed. There can be no question as to the full and impartial preparation and consideration of the draft.—I am, etc.,

London, N.4, Jan. 10th.

HENRY B. BRACKENBURY.

SIR,—Mr. E. B. Turner (*SUPPLEMENT*, January 10th, p. 25) has voiced in concentrated form the undoubted opinions of general practitioners who are not insurance practitioners, many of whom are beginning to look with alarm on what appears to be a proposal to make a second and further raid into their private practices by roping in another 50 per cent. for an insurance scheme.

Some of the most important arguments against his position, however, are not those which can be very well stated in the public medical press, and therefore it is the more incumbent on every area, in making its arrangements to discuss the suggested Memorandum of Evidence giving the views of our profession, to be sure to have at its meeting one or more who have been behind the scenes in its preparation. As the travelling expenses are being paid by the Association there can be no excuse for hesitancy.

But what one is more concerned with is the warning in your leading article (*BRITISH MEDICAL JOURNAL*, January 3rd, p. 30, col. 2), where you very correctly state—

"It is clearly to be understood that the Memorandum of Evidence to be submitted to the Royal Commission will contain merely suggestions—though suggestions of wide-reaching importance—which the profession thinks it well to place before, or even to urge upon, the Royal Commission."

And again—

"But it should at the same time be remembered that it will be almost impossible later to oppose proposals substantially in the same form as suggestions made by the profession itself in its evidence."

The whole of the activities of the British Medical Association for the past twenty-one years have been concentrated in an endeavour to secure the confidence of members of our profession in itself as having provided the most up-to-date and efficient local machinery for securing full discussion by all sections in our profession of all questions affecting medical policy, with a subsequent opportunity for a central discussion and an endeavour there to come to some common line of action. This machinery has been provided by the Divisions and the Representative Body of the Association, the latter consisting as it does of representatives called together from all parts of the United Kingdom and beyond. To a great extent this endeavour has proved successful; and many who have not felt directly interested in medical politics have relied on this machinery and become willing loyally to abide by the decisions come to.

But what is the proposal before the profession now? It is that there should be a hybrid meeting of individual members of our profession to determine a policy for it. Not a meeting of the Representative Body, not a meeting of the Panel Conference; but an amalgam of the two. As Mr. Turner rightly says, the logical demand is that an equal number of non-insurance practitioners should be invited

to meet the Representative Body in order to balance the 200 or more practitioners forming the Conference of Panel Practitioners. That would give the final Gilbertian touch the original proposal requires.

It is idle to protest, as some do, that at some later date the profession must, and will be able to, consider its policy on the fundamental questions as they are elaborated now in this Memorandum of Evidence. It will have become too late. As you rightly say, "it will be almost impossible later to oppose proposals substantially in the same form as suggestions made by the profession itself in its evidence."

It is to be hoped, therefore, that all the Divisions of the Association will insist—by adoption of definite resolutions at their forthcoming meetings—in demanding that a special meeting of the Representative Body be called to consider this Memorandum of Evidence, together with the decisions of this conjoint conference and any further information the Council cares to place before it, before any document of evidence is forwarded to the Royal Commission. This can easily and inexpensively be arranged for the day succeeding the conference.

Only in this way can any continuation of unity be hoped for in our profession at this time of the further elaboration of a national health service.—I am, etc.,

Hove, Jan. 10th.

E. ROWLAND FOTHERGILL.

SIR,—In the draft Memorandum of Evidence (Document D. 11, para. 15) some doubt is expressed as to the ability of the doctors to undertake the additional work involved. Mr. E. B. Turner, in the SUPPLEMENT of January 10th, says it would be impossible to find the doctor-power to work the scheme, and similar doubts were expressed at the London meeting on January 11th.

But is the work going to be increased to such an extent? At present the dependants of the insured person do receive medical attention; usually they are private patients of the breadwinner's panel doctor. If dependants came under an insurance scheme the only difference would be that the doctor would be paid in a different manner for doing the work he is doing at present, and he would have no book-keeping and no bad debts.

The question before the profession is, "Shall these patients be looked after by an extension of the present clinic system or shall the family doctor be responsible for all the preventive medicine and treatment the family requires?" Recently I had the opportunity of obtaining the views of a number of doctors in connexion with the proposed formation of a local public medical service. I think doctors would welcome the inclusion of dependants, so that each family would have its doctor, but the remuneration must be adequate.

But none of us want an extension of the present clinic system, whereby our patients are sent by nurses (of whom we know little) to see so-called specialists (of whom we know less). If a doctor finds he has extra work and has to get help, he is not only serving the State by practising preventive medicine, but he is improving his own standing and helping to absorb into general practice some of the junior men at present without a post.

It is to be hoped that doctors will seize the opportunity, if it is given them, to be the doctors of the nation. If they do not, one can foresee that in ten years' time the general practitioner, after watching his practice dwindling under the inroads of various voluntary and municipal clinics, will only be permitted two functions. One will be, I think, to sit in his "office," as it will then rightly be called, and issue printed tickets telling his patients which clinic or "specialist" to consult. Of the second I am certain: he will be permitted to continue to pay income tax, rates, and taxes to help to keep all the schemes going.—I am, etc.,

London, W.10, Jan. 13th.

A. KEITH GIBSON.

#### Remuneration of Rural Practice.

SIR.—Truly the rural doctor's income is being very thoroughly pared. Notwithstanding the feeling remarks on our position that are made at various conferences, I am given £126 as a mileage allowance for a panel spread over a wide and sparsely populated district, which necessitates my running 5,600

miles a year at least on insurance work. This works out at sixpence a mile almost exactly.

Our capitation fee is the same as that of town doctors, so that I cannot understand how the sum given for mileage can be considered adequate for the running expenses of a stout car, quite apart from the time spent on the road and the time and work required to keep the car in a condition to travel on the road.

Why should a professional man working for a Government department not receive as much remuneration as a taxi-driver for the same work? Do our ears cost less to run? Can we buy ears more cheaply? Do we get any rebate of ear tax? Where then does the adverse balance come from? Out of our capitation grant, or otherwise out of our pockets. Verily is the country profiteering at our expense.

I have kept silence with great difficulty for some time past, but now have "boiled over," and hope that many other country doctors will add their tales of woe to mine.—I am, etc.,

Coldingham, Berwickshire, Jan. 8th.

F. O. TAYLOR.

#### Pensions for Panel Practitioners.

SIR,—May I appeal to all panel practitioners who attend the meetings held to discuss what evidence shall be submitted to the Royal Commission to voice a determined support to the slogan "No extensions without pensions"? A sad blunder was perpetrated in permitting the present Insurance Acts to come into operation without this logical corollary. Especially should the younger men, just entering the profession, remain firm on this question. We are now, for better or worse, Civil servants. Then we are entitled to the same treatment as all other Civil servants.—I am, etc.,

Hove, Jan. 13th.

A. A. HILL.

## Naval and Military Appointments.

### ROYAL NAVAL MEDICAL SERVICE.

SURGEON COMMANDERS H. BURNS, O.B.E., to the *Frigate*; A. B. Cox to H.M. Dockyard, Devonport; J. M. Gordon to the *Emperor of India*; W. Bradbury, D.S.O., to R.N. College, Greenwich; F. H. Holl to the *Royal Oak*, temporary.

SURGEON LIEUTENANT COMMANDERS W. H. Murray to the *Osprey*, additional; G. H. Hayes to the *Tiger* and F. G. Motton to the *Victory* for R.N. Barracks; R. A. J. MacKenzie to R.N. College, Dartmouth. SURGEON LIEUTENANTS J. J. O'Reilly to the *Clematis*; E. V. Barnes to the *Resolution*.

### ROYAL ARMY MEDICAL CORPS.

The following Majors to be Lieutenant-Colonels: Brevet Lieut.-Colonel H. V. Bagshawe, C.B.E., D.S.O., vice Lieut.-Colonel W. F. Ellis, O.B.E., to half-pay; R. J. Franklin, vice Lieut.-Colonel H. S. Anderson, C.M.G., to retired pay.

### ROYAL AIR FORCE MEDICAL SERVICE.

Wing Commander H. A. Treadgold to Central Medical Board, Hampstead, for duty as medical officer. Squadron Leader P. M. Keane to the R.A.F. Depot on transfer to Home Establishment. Flying Officers W. B. Stott to R.A.F. Depot on transfer to Home Establishment; R. S. MacLachy to Palestine General Hospital.

### VACANCIES.

BIRMINGHAM GENERAL HOSPITAL.—Medical Registrar and Resident Medical Officer. Salary £155 per annum.

CHELTENHAM GENERAL AND EYE HOSPITAL.—Honorary Pathologist.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE HEART AND LUNGS, Victoria Park, E.2.—House-Physician (male). Salary at the rate of £125 per annum.

DERBYSHIRE EDUCATION COMMITTEE.—Assistant School Medical Officer (woman). Salary £600 per annum, rising to £700.

ELIZABETH GARRETT ANDERSON HOSPITAL, Euston Road, N.W.1.—(1) Assistant Pathologist (female); salary £150 per annum. (2) Assistant Anaesthetist.

EVELING HOSPITAL FOR CHILDREN, Southwark, S.E.—(1) Physician to Out-patients (honorary). (2) House-Physician (male); salary at the rate of £120 per annum.

EXETER ROYAL DEVON AND EXETER HOSPITAL.—Medical Officer in charge of Venereal Clinic. Salary £400 per annum.

FREMINGTON HOSPITAL AND NURSING HOME, 237, Fulham Road, S.W.3.—The whole of the Medical and Surgical Staff.

Irmond Street, W.C.1.—Casualty

Road, N.W.1.—Medical Registrar.

MANCHESTER CITY.—Two Assistant Medical Officers at the Baguley Sanatorium. Salary £350 per annum.

MANCHESTER: ST. MARK'S HOSPITAL.—House-Surgeon for the Whitworth Park Hospital (Gynaecological and Children). Salary at the rate of £50 per annum.

METROPOLITAN ASYLUM BOARD.—(1) Director of the Pathological Services. (2) Director of the Diphtheria Antitoxin Establishment. Salary £1,100 and £500 per annum respectively.

METROPOLITAN EAR, NOSE, AND THROAT HOSPITAL, Fitzroy Square, W.—House-Surgeon. Salary £100 per annum.

M.—Assistant Medical Officer (non-

— EAST LONDON, Greenwich Road, S.E.10. inas per annum.

— AND EPILEPTIC, Queen Square, W.C.1.

NORWICH: JENNY LIND HOSPITAL FOR CHILDREN.—Resident Medical Officer (male). Salary £150 per annum.

NOTTINGHAM GENERAL HOSPITAL.—House-Surgeon. Salary £150 per annum.

ROYAL FREE HOSPITAL, Gray's Inn Road, W.C.—Venereal Diseases Department (female). (1) Medical Officer in charge of Department. (2) First Assistant. (3) Second Assistant. Females. Salary for (2) £550 per annum, and for (3) £5 5s. per week.  
 ROYAL WESTMINSTER OPHTHALMIC HOSPITAL, King William Street, W.C.2.—Assistant House-Surgeon for three months.  
 ST. MART'S HOSPITAL FOR WOMEN AND CHILDREN, Plaistow, E.15.—Honorary Assistant Physician.  
 STAFFORDSHIRE EDUCATION COMMITTEE.—Assistant School Medical Inspector. Salary £600 per annum, rising to £800.  
 WAKEFIELD: £175 per an.  
 WEST LONDON: " al  
 Registrar: " al  
 WOOLWICH: " ng  
 Officer in l to 1700.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces the following vacant appointments: Patterdale (Westmorland), Great Wakering (Essex).

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Tuesday morning.

### APPOINTMENTS.

BOWIE, E. Ormond, L.A.H., D.P.H.Dub., Medical Superintendent of Strickton House, Church Street, Shropshire.  
 DOUBLEDAY, F. M., L.R.C.P.Lond., M.R.C.S., L.D.S.Eng., External Examiner in Dental Subjects to the University of Bristol.  
 SAWAY, A. Ernest, M.B., B.S.Lond., M.R.C.S., L.R.C.P., Honorary Surgeon to the Derbyshire Hospital for Sick Children.  
 STURRIDGE, F. R., M.C., M.R.C.S.Eng., L.R.C.P.Lond., a member of the Honorary Medical Staff of the Wilkesden General Hospital.

### DIARY OF SOCIETIES AND LECTURES.

#### ROYAL SOCIETY OF MEDICINE.

Social Evening, Mon., 8.30 p.m. Reception by the President, Sir S. Clair Thomson. 9.20 p.m., Address by Miss Lena Ashwell on The Drama as a Necessity of Civilized Life. Sir Thomas Legge will give an exhibition of Fifteenth Century Stained Glass.  
 General Meeting of Fellows, Tues., 5.30 p.m.  
 Section of Pathology: Tues., 8.30 p.m., Dr. R. A. O'Brien and Miss B. I. Range. The Testing of Antidyphtheria (Stigma) Serum; Dr. J. A. Murray: Tar-enteronemia in Rabbit and Rat; Messrs. A. T. Gienny and C. G. Pope: Explanation of the Toxicity of Frozen Diptheria Toxin-antitoxin Mixtures; Drs. C. C. Okell and H. J. Parish: Results of Further Dick (Scarlet Fever) Tests.  
 Section of History of Medicine: Wed., 5 p.m., at the Wellcome Historical Medical Museum, 54a, Wigmore Street, W. Mr. C. J. S. Thompson: Anatomical Manikins; Mr. Alban Doran: Ancient Bed Bottles and Uroscopy. Mr. Thompson will exhibit drawings and specimens of uroscopic Glasses.  
 Section of Epidemiology and State Medicine: Thurs., 5.30 p.m., Dr. F. E. Wynne: Overcrowding and Epidemic Disease.  
 Section for the Study of Disease in Children: Fri., 8.30 p.m., Discussion: Pneumococcal Peritonitis; to be opened by the President, Dr. H. C. Cameron, followed by Mr. G. E. Waugh, Mr. John Fraser, and Dr. D. Nabarro.  
 ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.1.—Sir Arthur Keith, 5 p.m., Mon., Antiquity of Man in South Africa; Wed., The Rhodesian Skull; Fri., Java and their bearing on the The  
 HENRIETTA SOCIETY, Mansion House, Lectures  
 by Mr. G. Grey Turner: Perfora Ulcera, and After.  
 MANCHESTER CLINICAL SOCIETY.—Medical Society's Reading Room: Wed., 4.30 p.m., Lecture by Mr. James Sherrett: Acute Haematemesis and Melæna.  
 MEDICO-LEGAL SOCIETY, 11, Chandos Street, W.1.—Tues., 8.30 p.m., Mr. F. Llewellyn Jones: Laws of Nations and the Health of Nations.  
 UNIVERSITY COLLEGE, Gower Street, W.C.1.—Mon., 5 p.m., Professor G. Elliot Smith, F.R.S.: The Anatomy and Physiology of the Sympathetic Innervation of the Striated Muscle.

#### POST-GRADUATE COURSES AND LECTURES.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION, 1, Wimpole Street, W.1.—Lecture, Tues., 5.30 p.m., Treatment of Fractures. West End Hospital for Nervous Diseases, 75, Welbeck Street, W.1: Intensive Course in the Diagnosis and Treatment of Common Diseases of the Nervous System, Daily, at 5 p.m., Lectures, including Clinical Demonstrations on Cases, Bethlem Royal Hospital, St. George's Fields, S.E.1: Tues. and Sat., 11 a.m., Lecture Demonstrations.  
 HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.1.—Thurs., 4 p.m., Tonsils and Adenoids.  
 NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.15.—Daily: In-patient and Out-patient Clinics, special Departments. Lectures and Demonstrations. Fri.,

St. JOHN'S HOSPITAL, 49, Le Lectures:  
 Tues., 5 p.m., The Erythemas; Thurs., 5 p.m., Lupus Erythematosus.  
 ROYAL DENTAL HOSPITAL, Leicester Square, W.C.2.—Fri., 5 p.m., Fundamental Facts of Dead Teeth and of the Methods employed in Treatment.  
 ST. ANDREW'S INSTITUTE FOR CLINICAL RESEARCH, St. Andrews.—Tues., 4 p.m., The Eye and the Kidney. Thurs., 4 p.m., Demonstration of Kidney Cases in the Dundee Royal Infirmary. (Tues., Jan. 27th, Clinical Application of Tests for Renal Efficiency. Tues., Feb. 3rd, Albuminuria in Children and Adults.)  
 WEST LONDON: Mon., 12 noon, Chest Cases. Wed., 12.15 p.m., X a.m., Gynaecological Ward. Fri., 12 noon, Children. Dr. Patients, Operations, Special Departments.  
 GLASGOW POST-GRADUATE MEDICAL ASSOCIATION.—At Western Infirmary: Wed., 4.15 p.m., Surgical Cases. At Royal Infirmary (Gynaecological): Mon., Shaw Street a.m., Mon. 10 a.m. Medical Diseases of a.m. to 1 p.m., In- and Out-patients, Operations, Special Departments.  
 At Western Infirmary: Wed., 4.15 p.m., Surgical Cases. At Royal Infirmary (Gynaecological): Mon., Shaw Street a.m., Mon. 10 a.m. Medical Diseases of a.m. to 1 p.m., In- and Out-patients, Operations, Special Departments.  
 At Western Infirmary: Wed., 4.15 p.m., Surgical Cases. At Royal Infirmary (Gynaecological): Mon., Shaw Street a.m., Mon. 10 a.m. Medical Diseases of a.m. to 1 p.m., In- and Out-patients, Operations, Special Departments.

## British Medical Association.

OFFICES AND LIBRARY, 122, STRAND, LONDON, W.C.2.

### Reference and Lending Library.

The Reading Room, in which books of reference, periodicals, and standard works can be consulted, is open to members from 10 a.m. to 6.30 p.m., Saturdays 10 to 2.  
 LENDING LIBRARY: Members are entitled to borrow books, including current medical works; they will be forwarded if desired, on application to the Librarian, accompanied by 6d. for each volume for postage and packing.

### Departments.

SUBSCRIPTIONS AND ADVERTISEMENTS (Financial Secretary and Business Manager): Telegraphs: Articulate Westrand, London).  
 MEDICAL SECRETARY (Telegrams: Mediteora Westrand, London).  
 LONDON, British Medical Journal (Telegrams: Antiology Westrand, London).  
 Telephone number for all departments: Gerrard 2630 (3 lines).  
 SCOTTISH MEDICAL SECRETARY: 6, Rutland Square, Edinburgh. (Telegrams: el; 4261 Central).  
 IRELAND MEDICAL SECRETARY: Frederick Street, Dublin. (Telegrams: 4737 Dublin).

### Diary of the Association.

(For meetings called to discuss the Memorandum of Evidence to be submitted to the Royal Commission on National Health Insurance see page 41.)

- JANUARY.
- 16 Fri. Mid-Cheshire Division: Altrincham General Hospital, B.M.A. Lecture by Dr. S. A. Kinzier Wilson on Neuritis and Neurasthenia, 8.45 p.m.  
 Northern Counties of Scotland Branch: Palace Hotel, Inverness. B.M.A. Lecture by Professor A. Mackintosh on Neurological Musings, 6.30 p.m. Dinner, 7.30 p.m.  
 20 Tues. London: Medical Officers of Schools Subcommittee, 2.30 p.m. Lewisham Division: Parish Room, St. Laurence Vicarage, Catford. Paper by Mr. A. Ryland on Danger Signals, 8.45 p.m.  
 Newcastle-on-Tyne Division: Armstrong College. Address by Dr. William Brown on Psychiathery, 5.30 p.m.  
 21 Wed. Bedfordshire Division: Emerson Norman's Restaurant, 9, High Street, Bedford, 3 p.m.  
 Chesterfield Division: Annual Dinner, Station Hotel. Address by Dr. Brackenbury, 7.30 p.m.  
 South Middlesex Division: St. John's Hospital, Tickenham. Discussion on Scarlet Fever from a Public Health Point of View; to be opened by Dr. H. A. Gunther, 8.15 p.m.  
 22 Thurs. Dumfries and Galloway Division: Royal Infirmary, Dumfries, 3.30 p.m.  
 Harrogate Division: Imperial Café. Address by Mr. S. W. Daw on Arthropodæ and the Nervous System, 8.30 p.m.  
 Nuncaton and Tamworth Division: Tamworth General Hospital. Paper by Dr. K. D. Wilkinson on Cardiac Irregularity.  
 23 Fri. Hyde Division: Supper Dansant, Oaklands, Mottrian New Road, Hyde, 8.30 p.m.  
 27 Tues. Croydon Division: Croydon General Hospital. Paper by Dr. Gordon Holmes on the Distinction between Functional and Organic Nervous Diseases, 8.30 p.m.  
 28 Wed. London: Organization Committee, 2 p.m.  
 Bath and Bristol Branch: Clinical Meeting, Bristol.  
 Oxford Division: Radcliffe Infirmary. Paper by Mr. Hayward Finch on Radium Therapy, 2.30 p.m.
- FEBRUARY.
- 5 Thurs. London: Joint Meeting of Royal Commission and Insurance Acts Committee.  
 Guildford Division: Royal Surrey County Hospital, Guildford. Paper by Dr. Charles Roberts on Radiology in General Practice, 4 p.m.  
 6 Fri. Exeter Division: Royal Devon and Exeter Hospital. Lecture by Mr. Norman Lock on Intestinal Obstruction, 5.30 p.m.  
 10 Tues. City Division: Metropolitan Hospital, Kingsland Road. Paper by Dr. Edwin Smith on Some Legal Relationships of the Practitioner, 9.30 p.m.  
 12 Thurs. Castleford Division: Bull Restaurant. Paper by Mr. S. W. Daw on Modern Supper, 8 p.m.  
 18 Wed. London: Special Meeting of Council, 10 a.m.

### BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcement of Births, Marriages, and Deaths is 9s., which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.

#### BIRTH.

FINDLAY.—At a nursing home in Glasgow, on November 20th, to Captain and Mrs. Findlay, I.M.S., a daughter—both well.

#### MARRIAGES.

BOYD-HOLTON.—On January 6th, at St. John's Church, Finsbury Park, by the Rev. Canon Buckley and the Rev. H. Casson, Thomas Fraser, eldest son of Mr. and Mrs. G. H. Boyd of St. Peter's, Thamel, to Patricia Nina, younger daughter of Dr. and Mrs. Holton of Maxton, Elstree, and granddaughter of the late Surgeon-General F. Holton, M.B., A.M.S.  
 THOMSON-RENNET.—At St. Clement's Episcopal Church, Aberdeen, on December 29th, Ian Stewart Thomson, M.A., M.D., D.P.H., Southampton Isolation Hospital, second son of Professor J. Arthur Thomson, Aberdeen University, to Sadie, younger daughter of Ernest Rennet, Advocate in Aberdeen.

WEBBER-REIDER.—On December 23rd, 1924, at the Church of St. Simon Stock, Putney, Harold Norrils Webber to Madeleine Mary Ryder.

#### DEATHS.

DINGLE.—Lilian Mary Dingle, L.R.C.P. and S. (née Grandin, The Magnolias, Jersey), on December 5th, 1924, of typhus, at Chao-Tong, Yunnan, China. (By cable.)  
 PREBBLE.—On January 10th (suddenly), at 6, St. Albans Place, Blackburn, Philip Prebble, M.B., C.M.Aber. 1835, aged 59 years.



# SUPPLEMENT

TO THE

# BRITISH MEDICAL JOURNAL.

LONDON, SATURDAY, JANUARY 24TH, 1925.

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### British Medical Association.

#### CURRENT NOTES.

##### Secret Commissions.

Two recent instances in which secret commissions have been offered to medical men have been brought to the notice of the Medical Secretary. In the first case, a company selling rubber goods informed a medical man that tho thought had occurred to them that he might be inclined to recommend to his patients the goods sold by them, and that they were accordingly "writing confidentially to make the businesslike proposition to allow you a commission of 20 per cent. on all orders we execute through your recommendation." Another company—makers of surgical instruments—after fitting the patient of a medical man with a truss, had "pleasure in asking your acceptance of the enclosed remittance for 7s. 11d., being a special professional discount of 15 per cent. on the transaction." Apart from the legal risks persons making and accepting such offers run, it should be obvious to business people that the suggestion is one which is very objectionable to members of the medical profession. Members receiving such offers are requested to send the information to the Medical Secretary, and also to endeavour to make plain to the firm making the offer that, so far from advancing their interest, such an offer prevented any more business being done with that firm.

##### A Bogus Doctor.

A warning is issued against a bogus doctor, who has lately been victimizing members of the profession and their relatives, especially in the London area. The man, who is said to be fairly well educated and of smart appearance, calls upon doctors or Irish people and claims acquaintance with their relatives or friends living in Ireland. Saying that he has obtained an appointment in Ireland, or that for some other reason he has to go to Ireland that evening and has run short of cash, he asks where he can cash a cheque or for a money loan. He has at various times given the name of Fitzgerald, Moore, Rogers, Black, McCormack, O'Brien, or Murphy. He is about 40 to 45 years of age, 5 ft. 10 in. in height, with dark hair streaked with grey and brushed back, grey or blue eyes, clean shaven, and generally dressed in a grey lounge suit, light grey overcoat, and soft felt hat. It is suggested that anyone approached by this man should communicate at once with the Commissioner of Police, New Scotland Yard, Parliament Street, S.W.1 (Telephone: Victoria 7000).

### THE EVIDENCE TO THE ROYAL COMMISSION.

#### MEETING OF MIDDLESEX PRACTITIONERS.

A MEETING of the medical practitioners of the county of Middlesex was held under the auspices of the Divisions of the Association in that area and of the Panel Committee on Sunday afternoon, January 18th, in the Portman Rooms, Baker Street, for the purpose of considering the draft Memorandum of Evidence proposed to be presented to the Royal Commission on National Health Insurance (SUPPLEMENT, January 3rd, pp. 1-9). About eighty were present. Dr. H. DISTIN, Chairman of the North Middlesex Division, was voted to the chair.

#### Dr. Brackenbury's Statement.

Dr. H. B. BRACKENBURY said that the draft Memorandum had been laboriously and impartially prepared, and represented the result of a great deal of consideration of very difficult problems. It would be a pity if any meeting of medical men should turn down lightly propositions which had been the outcome of so much careful exploration. Propositions which at first sight did not recommend themselves to those who came to them freshly might prove to be the only feasible propositions after more lengthy consideration. In Middlesex, at all events, he was glad to think that the profession had got out of the atmosphere of twelve years ago, when there was a rivalry between insurance and non-insurance practitioners as to which could pull the more chestnuts out of the fire, and the profession was prepared now to approach these problems in a statesmanlike spirit. Dr. Brackenbury then repeated in substance the speech he delivered at the mass meeting of London insurance practitioners the previous Sunday (SUPPLEMENT, January 17th, p. 39). The five principles laid down in paragraph 8 of the Memorandum were essential, and their application must be reasonable and impartial. He drew attention to three difficult problems. The first was the proposed inclusion of certain new classes of people—dependants and others—in national insurance and the exclusion of certain existing classes. Insured persons at present included many who were just as well able to provide medical attendance for themselves as those who were not insured. It was suggested that such people as clerks in the large banks and insurance offices, who had security of employment and a superannuation scheme, should come into the category of persons excluded, as did Civil servants and certain other classes at the present time. Persons with certain small private incomes, who might at present at their own option take themselves out of insurance, should be excluded. Further, it was suggested that the income limit should be applied, not merely to the clerical worker, but to the manual worker also. But if people above a certain line were excluded, it would be illogical to argue against the inclusion of any below that line. A second question of some difficulty was the relation of the medical officer to these provisions for poor persons. He would give the medical officer of health a very important role, associating him with the elected chairman of the Local Medical Committee in settling disputes or investigating complaints which might arise in connexion

with this service. A third difficult point was the relationship of maternity work to the insurance scheme. The absolute freedom of every practitioner to say whether he would or would not take part in maternity practice must be preserved, but it was proposed that at all events for insured women the provision of a midwife should be included in the benefit which she received from insurance, and that as part of this scheme, as well as of the general scheme, the advice and help of consultants and sufficient institutional provision must be forthcoming to make maternity benefit an effective part of national insurance.

#### Discussion.

The discussion which ensued upon this introductory speech was informal, and was mainly in the nature of questions directed to Dr. Brackenbury with a view to further enlightenment on specific points. The questions chiefly related to the conditions likely to arise from the inclusion of dependants. Dr. Brackenbury said that if practitioners were to assume this additional work and responsibility it was essential that better nursing help should be available, statistical records must be reduced to the minimum, and there must be an alteration of the quasi-judicial machinery for dealing with complaints. With regard to remuneration, those who had drawn up the Memorandum saw no reason why the rate should be lower in the case of the new entrants. Certification, of course, would not be necessary in the case of dependants, except possibly in the very minor matter of school certification.

A show of hands was called for on the question whether the meeting was in favour of the inclusion of all dependants of all insured persons. Not one hand was held up in the affirmative.

On the more debatable question of the inclusion of dependants of only the lower-paid persons, Dr. W. R. Wilson asked whether it would be to the advantage of the public to increase contract practice to the great extent foreshadowed. Contract practice, at all events up to the time of the Insurance Act, was not considered the best form of practice. Moreover, in this case it had the effect of creating a "corner," which made it very difficult for a young man newly entering practice to secure a livelihood. Dr. BRACKENBURY said that with absolute free choice of doctor at any time a young man putting his name on the panel had very much the same kind of opening under the Insurance Act as he had in private practice. Dr. WINSTON and Dr. S. F. HOLLOWAY spoke in favour of the inclusion of dependants of lower-paid persons, and on the question being put to the meeting it was answered in the affirmative, 44 voting in favour and 10 against. The meeting also unanimously assented to the view that if any dependants were included it was essential to secure the provisions for lessening work as set out in paragraph 15. Without discussion the meeting signified itself in favour of the inclusion of poor persons not under contract of service and of that class of person at present attended under the Poor Law.

With regard to specialist and consultant services, Dr. BRACKENBURY said that if the consultant came in it was very desirable that he should come in under conditions which were assimilated as far as possible to those of private practice—that is to say, he should not be obliged to do his work through clinics or institutions provided for the purpose.

The extension of the service by the inclusion of specialist and consultant services was approved unanimously, but some discussion took place on the order in time in which these developments—in the one case the inclusion of dependants, and in the other case the extension to consultant and specialist services—should come into force, supposing the two could not take place simultaneously. Dr. C. F. T. SCOTT was of opinion that the two schemes must go together, so that there was really no question of priority. Dr. S. C. EVANS spoke in favour of the inclusion of dependants as the first resort, and Dr. A. G. NEWELL in favour of the inclusion of consultants and specialists. Dr. BRACKENBURY said that he had no wish to influence the meeting one way or the other, but in fairness to consultants and specialists who were probably not present that afternoon, it had to be remembered that if the inclusion of dependants was taken first it would mean that for some time the services of consultants and specialists would continue to be exploited. On the matter being put to the vote, 40 voted in favour of extension in the first place to specialist and consultant services, and 25 in favour of the inclusion of dependants in the first place.

The question of associating maternity benefits with the insurance scheme was briefly discussed. Dr. MUSGRAVE thought that the existing arrangement sufficed. Dr. W. R. WILSON, on the other hand, was of opinion that this proposal was the best of the whole series, and might result in a great lessening of maternal mortality. It would be a terrible reflection on the medical profession if it did not support some such provision on behalf of the child-bearing population of the country.

The question of maternity benefit as set out in question 7 of the series submitted to local meetings of the profession was answered in the affirmative by 40 votes to 11.

The meeting unanimously approved the somewhat altered procedure suggested in the Memorandum for dealing with official complaints, the proposal to group "additional treatment benefits" with medical benefit, and—with two dissentients—the suggestions as to the future administration of an extended service. Dr. BRACKENBURY briefly explained the greater freedom of the certification rules which were proposed, and these alterations were agreed to unanimously.

## Association Notices.

### BRANCH AND DIVISION MEETINGS TO BE HELD.

**BATH AND BRISTOL BRANCH.**—A clinical meeting of the Bath and Bristol Branch will be held at Bristol on Wednesday, January 22th.

**EGYPTIAN BRANCH.**—A clinical meeting of the Egyptian Branch will be held in the School of Medicine, Cairo, on Monday, January 26th, when Dr. Catherine Maule will read a paper on the Schick test as done in New York. There will also be a general discussion on diphtheria.

**ESSEX BRANCH: SOUTH ESSEX DIVISION.**—The South Essex Division has arranged a meeting at the Queen's Hotel, Grays, on Tuesday, January 27th, at 8.45 p.m., to discuss the draft Memorandum of Evidence to be presented to the Royal Commission on National Health Insurance.

**KENT BRANCH: DARTFORD DIVISION.**—A special general meeting, called by the Dartford Division, will be held at the Livingstone Hospital, Dartford, on Tuesday, January 27th, at 3 p.m. Business: To consider the draft evidence to be put before the Royal Commission by the British Medical Association (see *BRITISH MEDICAL JOURNAL SUPPLEMENT*, January 3rd); to arrange date of a clinical meeting. All practitioners in the district are asked to make an effort to attend the meeting.

**LANCASHIRE AND CHESHIRE BRANCH: HYDE DIVISION.**—The Hyde Division is holding a supper d'ansant at Oaklands, Mottram New Road, Hyde, to-day (Friday, January 23rd), at 8.30 p.m.

**LANCASHIRE AND CHESHIRE BRANCH: MANCHESTER DIVISION.**—A joint meeting of the Manchester Division and of the Manchester Medical (and Panel) Committee will be held in the Lecture Hall, Milton Hall, 244, Deansgate, Manchester, to-day (Friday, January 23rd), at 4 p.m., to consider the draft Memorandum of Evidence proposed to be placed before the Royal Commission on National Health Insurance.

**LANCASHIRE AND CHESHIRE BRANCH: MID-CHESHIRE DIVISION.**—The annual meeting of the Mid-Cheshire Division will be held on Wednesday, January 22th, in the Board Room of the Altrincham General Hospital, at 2.30 p.m. Business: Annual Report of the Executive Committee; election of officers for 1925; correspondence, etc. At 3 p.m. there will be a meeting of the medical profession of the Mid-Cheshire area to consider replies to questions on the proposed draft evidence to be placed before the Royal Commission on National Health Insurance.

**METROPOLITAN COUNTIES BRANCH: CITY DIVISION.**—A meeting will be held in the City Division area on Wednesday, January 22th, at 9.30 p.m., at St. Leonard's, Shoreditch, Church Room, opposite Shoreditch Railway Station, in order to give members and non-members of the Association resident in the area an opportunity of discussing fully the draft Memorandum placed before the Royal Commission. Speakers: Dr. Cardale and Mr. hoped that as many medical meeting, and also carefully study *JOURNAL*, of January 3rd. Any received a copy can obtain on Dr. Ernest A. Worley, 45, Do B the Division will be held at the land Road, on Tuesday, February Edwin Smith, coroner for North-East London, will also appear on some legal relationships of the practitioner.

**METROPOLITAN COUNTIES BRANCH: KENSINGTON DIVISION.**—A meeting of the Kensington Division will be held at the Kensington Town Hall to-day (Friday, January 23rd), at 3.30 p.m., to discuss the evidence it is proposed to place before the Royal Commission on National Health Insurance. It is hoped that all medical men in the Divisional area, whether members of the Association or not, will attend and express their views, as the matters under discussion will affect all practitioners in whatever class of work they are engaged.

**METROPOLITAN COUNTIES BRANCH: MARYLEBONE DIVISION.**—A meeting of all practitioners resident in the Marylebone Division, whether members or not, will be held at 8 p.m. on Friday, January 30th, at 11, Chandos Street, Cavendish Square, W.1, to discuss the draft Memorandum of Evidence to the Royal Commission on National Health Insurance. This matter is of extreme importance to all members of the profession, as any contemplated changes will affect consultants and members of hospital staffs, medical officers of health, private practitioners not doing panel work, as well as the panel practitioners.

**METROPOLITAN COUNTIES BRANCH: NORTH MIDDLESEX DIVISION.**—A meeting of all the doctors in the area of the North Middlesex Division will be held in the Fairfax Hall, Portland Gardens, Harringay, on Sunday, January 25th, at 3 p.m., for the further and more detailed consideration of the draft Memorandum of Evidence to be placed before the Royal Commission on National Health Insurance.

**METROPOLITAN COUNTIES BRANCH: WANDSWORTH DIVISION.**—All medical men residing in the boroughs of Wandsworth and Battersea are invited to attend a meeting to be held at 3.30 p.m. to-day (Friday, January 23rd), at Stanley's Restaurant, 237, Lavender Hill, Clapham Junction. Agenda: Explanatory address by the Chairman, Dr. M. G. Biggs; discussion on the draft Memorandum of Evidence to be placed before the Royal Commission on National Health Insurance. As the subjects to be discussed are vital to all members of the profession, panel and non-panel practitioners alike, it is hoped that all practitioners will endeavour to be present, as they may not have another opportunity of collectively making known their views.

**MIDLAND BRANCH: DERBY DIVISION.**—A meeting, to which the whole of the medical profession (both members and non-members of the British Medical Association) in the Derbyshire Divisional Area are invited, will be held in the Board Room of the Derbyshire Royal Infirmary to-day (Friday, January 23rd), at 3 p.m., to consider the draft Memorandum of Evidence to be placed before the Royal Commission on National Health Insurance. The meeting will be addressed by Dr. G. C. Anderson and Sir Richard Luce, M.P. At the close an opportunity will be given for the asking of questions. It is hoped that the meeting will be well attended in order that the voting on the questions to be submitted may be an expression of the general feeling of practitioners in the area.

**NORTH OF ENGLAND BRANCH: BLYTH DIVISION.**—A meeting of the Blyth Division will be held at the Knight Memorial Hospital, Blyth, on Wednesday, January 28th, at 8 p.m. Business: Election of officers for 1925; consideration of Memorandum of Evidence to be submitted to the Royal Commission on National Health Insurance.

**NORTH OF ENGLAND BRANCH: CLEVELAND DIVISION.**—It has been arranged to hold a theatre night at the Opera House, Middlesbrough, on Thursday, January 29th, when *Lilac Time* will be played. After the performance the Chairman of the Division (Dr. Harold Walker) and Miss Walker will be "at home" to members and their friends at Ashleigh, Southfield Road. It is hoped that this, a further effort on the part of the Executive Committee to foster the social side of the Division's activities, will be well supported.

**NORTH OF ENGLAND BRANCH: STOCKTON DIVISION.**—A meeting of the Stockton Division will be held in the Stockton and Thornaby Hospital to-day (Friday, January 23rd), at 8.30 p.m., when the draft Memorandum will be discussed and reported upon.

**NORTHERN COUNTIES OF SCOTLAND BRANCH: INVERNESS DIVISION.**—A meeting of all medical practitioners in the county of Inverness, under the auspices of the Inverness Division and Inverness County and Burgh Local Medical and Panel Committees, will be held on Thursday, January 29th, at 3.30 p.m., in the Palace Hotel, Ness Walk, Inverness. Business: To consider the draft evidence proposed to be submitted by the British Medical Association to the Royal Commission on National Health Insurance, as contained in the *BRITISH MEDICAL JOURNAL SUPPLEMENT* of January 3rd. As a questionnaire thereon will be submitted to the meeting and the answers thereto forwarded to the Medical Secretary of the British Medical Association, being the considered opinion of the medical practitioners in the area, it is hoped that as many practitioners, panel and non-panel, members and non-members, will attend.

**SOUTHERN BRANCH: WINCHESTER DIVISION.**—A special meeting under the joint auspices of the Winchester Division and the Hampshire Local Medical and Panel Committees, and open to all members of the profession, will be held on Sunday, January 25th, in the Oddfellows' Hall, St. George's Street, Winchester, for the purpose of considering the draft Memorandum of Evidence to be submitted to the Royal Commission on National Health Insurance. The chair will be taken by Dr. Williams-Freeman at 2.30 p.m. Arrangements have been made whereby any practitioner living in the southern part of the county may attend a similar meeting, if he finds it more convenient to do so, at Southampton (South Hants Hospital), on Friday, January 23rd, at 8.45 p.m.

**SOUTH WALES AND MONMOUTHSHIRE BRANCH: SWANSEA DIVISION.**—The Swansea Division will hold a medical clinic at the General Hospital on Thursday, January 29th, at 8.15 p.m.

**SOUTH-WESTERN BRANCH: EXETER DIVISION.**—The following course of lectures arranged for the spring of 1925 will be held in the library of the Royal Devon and Exeter Hospital, at 3.30 p.m., on the dates indicated: February 6th, Mr. Norman Lock: Intestinal Obstruction; March 6th, Dr. William Gordon: The Significance of Recent Work in Cardiology; April 3rd, Mr. R. Wayland Smith: Head Injuries; May 1st, Dr. P. A. Roper: Some Principles in Endocrinology. The lectures will be free to all members of the Association.

**SURREY BRANCH: CROYDON DIVISION.**—At the meeting of the Croydon Division to be held at the Croydon General Hospital on Tuesday, January 27th, at 8.30 p.m., Dr. Gordon Holmes, C.M.G., will read a paper on the distinction between functional and organic nervous diseases.

**SURREY BRANCH: GUILDFORD DIVISION.**—A meeting of the Guildford Division will be held at the Royal Surrey County Hospital, Guildford, on Thursday, February 5th, at 4 p.m., when Dr. Charles Roberts will read a paper on radiology in general practice. Tea at 3.45 p.m.

**WORCESTERSHIRE AND HEREFORDSHIRE BRANCH: WORCESTER DIVISION.**—A meeting of the Worcester Division will be held at the Worcester General Infirmary at 2.45 p.m. to-day (Friday, January 23rd), to discuss the draft Memorandum of Evidence to be placed before the Royal Commission on National Health Insurance. Non-members are invited to the meeting.

## National Insurance.

### MEMORANDUM OF EVIDENCE TO THE ROYAL COMMISSION.

#### MEETINGS TO BE HELD.

The following meetings have been arranged to consider the draft Memorandum of Evidence to be submitted by the British Medical Association to the Royal Commission on National Health Insurance. Further particulars of many of the meetings will be found in the announcements of forthcoming meetings of Branches and Divisions of the Association (*SUPPLEMENT*, pp. 46-47).

#### North Middlesex Division.

At Fairfax Hall, Portland Gardens, Haringay, N., on Sunday, January 25th, at 3 p.m.

#### City Division.

At St. Leonard's, Shoreditch, Church Room (opposite Railway Station), on Wednesday, January 28th, at 9.30 p.m.

#### Kensington Division.

At Kensington Town Hall, to-day (Friday, January 23rd), at 3.30 p.m.

#### Marylebone Division.

At 11, Chandos Street, Cavendish Square, W.1, on Friday, January 30th, at 8 p.m.

#### Wandsworth Division.

At Stanley's Restaurant, 237, Lavender Hill, Clapham Junction, S.W., to-day (Friday, January 23rd), at 3.30 p.m.

#### Dartford Division.

At the Livingstone Hospital, Dartford, on Tuesday, January 27th, at 3 p.m.

#### South Essex Division.

At Queen's Hotel, Grays, on Tuesday, January 27th, at 8.45 p.m.

#### Winchester Division.

At the Oddfellows' Hall, St. George's Street, Winchester, on Sunday, January 25th, at 2.30 p.m.

#### Derby Division.

In the Board Room of the Derbyshire Royal Infirmary, to-day (Friday, January 23rd), at 3 p.m.

#### Mid-Cheshire Division.

In the Board Room of the Altrincham General Hospital on Wednesday, January 28th, at 3 p.m.

#### Manchester Division.

In the Lecture Hall, Milton Hall, 244, Deansgate, Manchester, to-day (Friday, January 23rd), at 4 p.m.

#### Stockton Division.

At Stockton and Thornaby Hospital, to-day (Friday, January 23rd), at 8.30 p.m.

#### Worcester Division.

At the Worcester General Infirmary to-day (Friday, January 23rd), at 2.45 p.m.

#### Blyth Division.

At the Knight Memorial Hospital, Blyth, on Wednesday, January 28th, at 8 p.m.

#### Inverness Division.

At the Palace Hotel, Ness Walk, Inverness, on Thursday, January 29th, at 3.30 p.m.

#### Berkshire.

A meeting of all practitioners on the Berkshire panel will be held in the library of the Royal Berkshire Hospital on Tuesday, January 27th, at 3 p.m., to discuss the draft Memorandum of Evidence. A speaker from headquarters will attend.

As pointed out in the leading article published in the *JOURNAL* of January 3rd (p. 30), it is of great importance that every medical practitioner, whether serving under the Insurance Act or not, and whether a member of the British Medical Association or not, should attend the meeting in his district. The draft Memorandum of Evidence to be submitted to the Royal Commission was published in the *SUPPLEMENT* of January 3rd, and it is hoped that members attending will take it to the meetings.

### THE ROYAL COMMISSION.

THE thirteenth meeting of the Royal Commission on National Health Insurance was held at the Home Office on January 15th, with Lord Lawrence of Kingsgate in the chair. Mr. Joseph Cave, High Chief Ruler of the Independent Order of Rechabites, and Mr. Jonas P. Illingworth, a director of that Order, were examined on the following subjects: the rates of cash benefits, the deposit contributors' scheme, the administration charges, the extension of medical benefit. Thereafter evidence was heard on behalf of the National Association Friendly Society, represented by Mr. Jonathan Duncan, general secretary, and Mr. Harry Bailey, assistant secretary. Questions as to the age limits for insurance, the size of societies, extension of benefits, workmen's compensation, and dental benefit, were dealt with.

## VACANCIES.

**BIRMINGHAM GENERAL HOSPITAL.**—Medical Registrar and Resident Medical Officer. Salary £155 per annum.

**BLACKBURN COUNTY BOROUGH.**—Medical Officer of Health. Salary £1,000 per annum.

**CARDIFF CITY COUNCIL.**—Assistant Medical Officer. Salary £500 per annum.

**CENTRAL LONDON THROAT, NOSE, AND EAR HOSPITAL,** Gray's Inn Road, W.C.1. Resident House-Surgeon (male). Remuneration £75 per annum.

**CITY OF LONDON HOSPITAL FOR DISEASES OF THE THROAT AND LUNGS,** Victoria Park, E.2.—House-Physician (male). Salary at the rate of £125 per annum.

**DURHAM COUNTY MENTAL HOSPITAL,** Winterton.—Male Assistant Medical Officer. Salary £300 per annum, with £100 bonus at present.

**GLOUCESTERSHIRE ROYAL INFIRMARY AND EYE INSTITUTION,** Gloucester.—Assistant House-Surgeon (male). Salary £150 per annum.

Great Ormond Street, W.C.1.—Casualty  
um  
—Senior House-Surgeon. Salary £225 per  
annum.

**HULL ROYAL INFIRMARY.**—House-Physician (male). Salary £200 per annum.

**KINGSTON.**—Medical Officer (male) to take  
charge of  
Salary £400 per annum.  
LONDON. . . . . nomenclological Registrar and  
Obstetric  
LONDON. . . . . Road, N.W.1.—(1) Medical  
Registrar  
annum. (2) Anaesthetist; small  
honorarium.

**MANCHESTER: ANCOATS HOSPITAL.**—Two House-Surgeons. Salary at the rate of £100 per annum for first six months, rising to £150 per annum for second six months.

**MANCHESTER CITY.**—Two Assistant Medical Officers at the Baguley Sanatorium. Salary £350 per annum.

**MARGATE: ROYAL SEA BATHING HOSPITAL FOR SURGICAL TUBERCULOSIS.**—House-Surgeons. Salary at the rate of £200 per annum.

(ATONRUH).—Assistant Medical Officer (non-  
annum.  
rthwood.—Junior Assistant Medical Officer  
for six months.  
Hospital.—House-Surgeon. Salary £125 per  
annum.

**QUEEN'S HOSPITAL FOR CHILDREN,** Hackney Road, E.2.—Assistant Casually  
the rate of £100 per annum.  
Hospital, City Road, E.C.1.—Four Refraction  
rate of £100 per annum.  
a CONSUMPTION AND DISEASE OF THE THIRST.  
Medical Officer (male). Salary £350 per  
annum.

**RYDE: ROYAL ISLE OF WIGHT COUNTY HOSPITAL.**—Resident House-Surgeon  
(unmarried). Salary £180 per annum.

**ST. MARK'S HOSPITAL, W.2.**—(1) First Assistant Pathologist; salary £500 per  
annum. (2) Casualty House-Surgeon; salary at the rate of £100 per  
annum.

**SARUMPTON FREE HOSPITAL FOR WOMEN,** Marylebone Road, N.W.1.—House-  
Surgeon. Salary at the rate of £100 per annum.

**SEYMOUR'S HOSPITAL SOCIETY.**—Physician at the Dreadnought Hospital,  
Greenwich.

**SHROPSHIRE ORTHOPAEDIC HOSPITAL,** Gobowen.—Gill Students to learn Ortho-  
paedic Work. Salary £15 first year, £20 second year.

**SOUTH LONDON HOSPITAL FOR WOMEN,** Clapham Common.—Clinical  
Assistants (Medical Department), female.

**STAFFORDSHIRE EDUCATION COMMITTEE.**—Assistant School Medical Inspector.  
Salary £600 per annum, rising to £800.

**WEST LONDON HOSPITAL,** Hammersmith Road, W.6.—Honorary Surgical  
Registrar. Honorarium £100 per annum.

**WESTERN SKIN HOSPITAL,** 44-46, Hampstead Road, N.W.1.—Honorary Radio-  
logist.

**WILKESON GENERAL HOSPITAL,** Harlesden Road, N.W.10.—(1) Member of  
Honorary Medical Staff. (2) Honorary Anaesthetist.

**CERTIFYING FACTORY SURGEONS.**—The Chief Inspector of Factories announces  
the following vacant appointments: Highbury (Somerset), Froelchurn  
(Forfar), Stillington (Durham).

*This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Tuesday morning.*

## DIARY OF SOCIETIES AND LECTURES.

**ROYAL SOCIETY OF MEDICINE.**  
Section of Odontology: Mon., 8 p.m., Mr. G. F. Gale Matthews: A Case of  
long-standing insomnia cured by the extraction of Pulpless Teeth.  
Mr. L. E. Claremont: The Problem of Pulpless Teeth.  
Section of Psychiatry, Neurology, Disease in Children, and Epidemiology:  
Tues., 8.30 p.m., Adjourned Discussion: The Mental Sequelae of  
Encephalitis Lethargica.  
Section of Comparative Medicine: Wed., 5 p.m., Discussion: Canine  
Jaundice, with Special Reference to Leptospirosis Infection; to be opened  
by Dr. C. C. Okell, Mr. T. Dalling, and Mr. L. P. Pugh.  
Section of Urology: Thurs., 8.30 p.m., Discussion: Radiotherapy and  
Electrotherapy in Diseases of the Bladder and Prostate.

**ROYAL COLLEGE OF SURGEONS OF ENGLAND,** Lincoln's Inn Fields, W.C.2.—Sir  
Arthur Keith, F.R.S.: 5 p.m., Mon., Neanderthal Man in Malta; Wed.,  
Recent Discoveries of Fossil Man in France and Germany; Fri., Recent  
Discoveries of Fossil Man in England and their Bearing on the Early  
Distribution of Racial Types in Europe.

**ROYAL INSTITUTE OF PUBLIC HEALTH,** 37, Russell Square, W.C.1.—Harben  
Lectures by Professor Edgar L. Collis: Mon., Tues., Wed., 4.30 p.m.,  
Phthisis and Industrialism (National and Occupational), with reference  
to other Infectious Diseases.

**LONDON DERMATOLOGICAL SOCIETY,** 49, Leicester Square, W.C.2.—Wed.,  
4.30 p.m., Clinical Cases.

**MEDICAL SOCIETY OF LONDON,** 11, Chandos Street, W.1.—Mon., 8.30 p.m.,  
Dr. A. Castellani: Parenteral Fevers.

**UNIVERSITY COLLEGE,** Gower Street, W.C.1.—Mon., 5 p.m., Professor G.  
Elliot Smith, F.R.S.: The Anatomy and Physiology of the Sympathetic  
Innervation of the Striated Muscle.

## POST-GRADUATE COURSES AND LECTURES.

**FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION,**  
1, Wimpole Street, W.1.—Lecture: Fri., 5.30 p.m., Sir Humphry Rolleston,  
Bt., The Medical Aspect of Gall Stones. West End Hospital for Nervous  
Diseases, 75, Wilbeck Street, W.1: Intensive Course in the Diagnosis and

Treatment of Common Diseases of the Nervous System, Daily at 5 p.m.,  
Lectures, including Clinical Demonstrations on Cases, *Bellem Royal  
Hospital, St. George's Fields, S.E.1:* Tues. and Sat., 11 a.m., Lecture  
Demonstrations.

**HOSPITAL FOR SICK CHILDREN,** Great Ormond Street, W.C.1.—Thurs., 4 p.m.,  
Routine Chemical Examination of the Urine.

**NORTH-EAST LONDON POST-GRADUATE COLLEGE,** Prince of Wales's General  
Hospital, Tottenham, N.15.—Daily: In-patient and Out-patient Clinics,  
Operations, Clinics in Special Departments, Lectures and Demonstra-  
tions: Tues., 4.30 p.m., Eye Changes as Signs of Organic Disease. Fri.  
4.30 p.m., Laureates.

**ST. JOHN'S HOSPITAL,** 43, Lecker Square, W.C.2.—Chesterfield Lectures:  
Thurs., 5 p.m., Anthrax; Herpes. Thurs., 5 p.m., Pemphigus and  
Allied Eruptions.

**WEST LONDON HOSPITAL FOR POST-GRADUATE COLLEGE,** Hammersmith Road, W.6.—  
Mon., 12 noon, Applied Anatomy. Tues., 12 noon, Chest Cases. Wed.,  
12.15 p.m., Medical Pathology. Thurs., 12 noon, Surgical Dyspepsia.  
Fri., 12 noon, Surgical Pathology. Sat., 10 a.m., Operations on Throat,  
Nose, and Ear. Daily 10 a.m. to 6 p.m., Sat. 10 a.m. to 1 p.m., In- and  
Out-patient, Operations, Special Departments.

**GLASGOW POST-GRADUATE MEDICAL ASSOCIATION.**—At Eye Infirmary: Wed.,  
4.15 p.m., Eye Cases. At Royal Maternity and Women's Hospital:  
Thurs., 4.15 p.m., The Mother and the Newborn Infant.

## British Medical Association.

OFFICES AND LIBRARY, 429, STRAND, LONDON, W.C.2.

## Reference and Lending Library.

The Reading Room, in which books of reference, periodicals, and  
standard works can be consulted, is open to members from  
10 a.m. to 6.30 p.m., Saturdays 10 to 2.

**LENDING LIBRARY:** Members are entitled to borrow books,  
including current medical works; they will be forwarded if  
desired, on application to the Librarian, accompanied by 6d.  
for each volume for postage and packing.

## Departments.

**SUBSCRIPTIONS AND ADVERTISEMENTS** (Financial Secretary and Business  
Manager, Telegrams: Articulate Westrand, London).  
**MEDICAL SECRETARY** (Telegrams: Mediscera Westrand, London).  
Editor, *British Medical Journal* (Telegrams: Altioleg Westrand,  
London).

Telephone number for all departments: Gerrard 2530 (5 lines).

**SCOTTISH MEDICAL SECRETARY:** 6, Rutland Square, Edinburgh (Tele-  
grams: Associate, Edinburgh. Tel.: 4361 Central).  
**IRISH MEDICAL SECRETARY:** 16, South Frederick Street, Dublin (Tele-  
grams: Bacillus, Dublin. Tel.: 4737 Dublin).

## Diary of the Association.

(For meetings called to discuss the Memorandum of Evidence to be  
submitted to the Royal Commission on National Health Insurance  
see page 47.)

## JANUARY.

- 23 Fri. Hyde Division: Supper Dances, Oaklands, Mottram New Road,  
Hyde, 8.30 p.m.
- 26 Mon. Egyptian Branch: School of Medicine, Cairo, Clinical Meeting.
- 27 Tues. Croydon Division: Croydon General Hospital, Paper by Dr.  
Gordon Holmes on the Distinction between Functional and  
Organic Nervous Diseases, 8.30 p.m.
- 28 Wed. London: Organization Committee, 2 p.m.  
Bath and Bristol Branch: Clinical Meeting, Bristol.  
Mid-Cheshire Division: Annual Meeting, Altrincham General  
Hospital, 2.30 p.m.
- Oxford Division: Radcliffe Infirmary. Paper by Mr. Hayward  
Pinch on Radium Therapy, 2.30 p.m.
- 29 Thurs. London: Conference between Representatives of the British  
Medical Association and the Society of Medical Officers of  
Health, 2 p.m.  
London: Report of Royal Commission on Superior Civil  
Services in India Subcommittee, 2.30 p.m.  
Cleveland Division: Theatre Night, Opera House, Middles-  
brough.
- 30 Fri. London: Ophthalmic Committee's Joint Subcommittee, 5 p.m.

**LIVERPOOL UNIVERSITY CLINICAL SCHOOL.**—3.30 p.m. Mon., Children's Hos-  
pital: Paralysis, Tues., Southern Hospital: Colitis. Wed., Northern  
Hospital: Bronchopneumonia. Fri., Royal Infirmary: Dental Disease  
in Relation to General Medicine.

**SHEFFIELD UNIVERSITY.**—Fri., 4.30 p.m., The History of the Microscope.

**ST. ANDREW'S INSTITUTE FOR CLINICAL RESEARCH.**—Tues., 4 p.m.,  
The Clinical Application of Tests for Renal Efficiency. (Tues., February  
3rd, Albuminuria in Children and Adolescents. Tues., February 10th,  
Review of Cases, showing the Relation of Cardiovascular Disease to the  
Kidney.)

## BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcement of Births, Marriages, and  
Deaths is 9s., which sum should be forwarded with the notice  
not later than the first post on Tuesday morning, in order to  
ensure insertion in the current issue.

## MARRIAGES.

**FELLOWS—GRIFFITHS.**—On Jan. 19, 1925, Rev. D. F. W. Fellows, B.A., B.  
India, son of late Mr. G. W.  
Basil Griffiths, M.D., B.S.  
younger daughter of Mr. and  
Cardiff. (Cabled.)

**MCGEORGE—EDWARDS.**—At St. Michael's Church, Dumfries, by the Rev.  
Dr. Montgomery Campbell, on Wednesday, January 14th, Jane Clarke  
McGeorge, M.B., Ch.B., second daughter of Mr. and Mrs. David  
McGeorge, Benridge, Dumfries, to Alexander Henry Edwards, M.B.,  
F.R.C.S., C.M. Edin.

## DEATH.

**CANSFIELD.**—January 15th, at Woodville, Reiburn Avenue, Shipley, Yorks,  
Ethion Cansfield, M.B., Ch.B., the devoted husband of Mabel Cansfield,  
aged 39 years.

# SUPPLEMENT

TO THE

# BRITISH MEDICAL JOURNAL.

LONDON, SATURDAY, JANUARY 31st, 1925.

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## British Medical Association.

**NINETY-THIRD ANNUAL MEETING, BATH, JULY 21st to 24th, 1925.**

Patron: HIS MAJESTY THE KING.

President: J. BASIL HALL, M.Chir.Cantab., Consulting Surgeon, Royal Infirmary, Bradford.

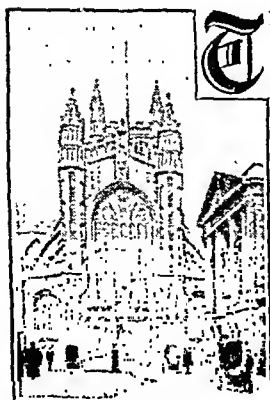
President-Elect: FREDERICK GEORGE THOMSON, M.A., M.D., M.R.C.P., Physician, Royal United Hospital, Bath.

Chairman of Representative Body: HENRY BRITTEN BRACKENBURY, M.R.C.S., L.R.C.P.

Chairman of Council: ROBERT ALFRED BOLAM, M.D., LL.D., F.R.C.P.

Treasurer: N. BISHOP HARMAN, M.A., M.B., F.R.C.S.

## PROVISIONAL PROGRAMME.



BATH ABBEY.

**T**HE incoming President will deliver his address to the Association on Tuesday, July 21st.

THE ANNUAL REPRESENTATIVE MEETING will begin on Friday, July 17th, at 10 a.m., and be continued on the three following week-days.

The statutory ANNUAL GENERAL MEETING will be held on July 21st at 2 p.m., and the adjourned general meeting at 7.45 p.m.

The Annual Dinner of the Association will take place on Thursday, July 23rd.

The Conference of Secretaries will be held at 2.30 p.m. on Wednesday, July 22nd, and the Secretaries' Dinner at 6.30 the same evening.

The official Religious Service will be held in the Abbey Church on July 21st at 4.30 p.m.

The Annual Exhibition of surgical appliances, foods, drugs, and books will be opened by the President-Elect on July 21st at 9.30 p.m., and will remain open on July 22nd, 23rd, and 24th.

A Popular Lecture will be delivered by Sir W. H. Bragg, K.B.E., F.R.S., on Friday, July 24th, at 8 p.m.

Saturday, July 25th, will be given up to excursions to places of interest in the neighbourhood.

## THE SECTIONS.

The Scientific Sections will meet from 10 a.m. to 1 p.m. for papers and discussions, and it is hoped that laboratory and clinical demonstrations will be arranged for the afternoons of July 22nd, 23rd, and 24th.

The following Sections will meet on Three Days—Wednesday, Thursday, and Friday, July 22, 23, and 24.

### MEDICINE.

President: The Right Hon. Lord DAWSON OF PENN, G.C.V.O., LL.D., F.R.C.S. (Leeds); M.D., F.R.C.P. (Bath); T. R. F.R.C.P., F.R.S. (London); Professor A. H. ADAM, M.D., F.R.C.P. (Bristol); Professor ADAM PATRICK, M.D., M.R.C.P. (Dundee); W. N. WEST WATSON, M.D. (Bradford).

Honorary Secretaries: F. G. CHANDLER, M.D., M.R.C.P., 1, Park Square West, Portland Place, London, N.W.1; JAMES LINDSAY, M.D., M.R.C.P., 1, The Circus, Bath.

### SURGERY.

President: Sir BERKELEY MOYNIHAN, Bt., K.C.M.G., C.B., M.S., LL.D., F.R.C.S. (Leeds).

Vice-Presidents: A. H. BURGESS, M.B., F.R.C.S. (Manchester); FREDERICK LACE, F.R.C.S. (Bath); H. S. SOUTTAR, C.B.E., M.Ch., F.R.C.S. (London); C. F. WALTERS, F.R.C.S. (Bristol).

Honorary Secretaries: A. DE V. BLATHWAY, M.R.C.S., L.R.C.P., 6, Brock Street, Bath; A. L. FULLER, F.R.C.S.I., 9, Gay Street, Bath; R. M. VICK, O.B.E., M.Chir., F.R.C.S., 152, Harley Street, London, W.1.

### OBSTETRICS AND GYNAECOLOGY.

President: Lady BARRETT, C.B.E., M.D., M.S. (London).

Vice-Presidents: H. S. DAVIDSON, O.B.E., M.B., F.R.C.S. (Edinburgh); EARLEY L. HOLLAND, M.D., F.R.C.P., F.R.C.S. (London); W. P. RAWSON, F.R.C.S. (Bradford); D. C. RAYNER, F.R.C.S. (Bristol).

Honorary Secretaries: J. BRIGHT BANISTER, M.D., M.R.C.P., 39, Harley Street, London, W.1; W. H. DUNCAN, F.R.C.S. (Ed.), 13, Gay Street, Bath.



**PATHOLOGY AND BACTERIOLOGY.**

*President:* Professor J. C. G. LEDINGHAM, C.M.G., D.Sc., M.B., F.R.C.P., F.R.S. (London).

*Vice-Presidents:* J. A. BRAXTON HICKS, M.D., M.R.C.P. (London); Professor E. H. KETTLE, M.D. (Cardiff); RUPERT WATERHOUSE, M.D., M.R.C.P. (Bath).

*Honorary Secretaries:* Lieut.-Colonel JAMES COWAN, M.B., R.A.M.C. (ret.), 44, Combe Park, Bath; C. C. O'KEILL, M.B., M.R.C.P., Wellcome Physiological Research Laboratories, Langley Court, Beckenham, Kent.

**NEUROLOGY AND PSYCHOLOGICAL MEDICINE.**

*President:* Sir MAURICE CRAIG, C.B.E., M.D., F.R.C.P. (London).

*Vice-Presidents:* EDWIN BRANWELL, M.D., F.R.C.P. (London); ARTHUR F. HURST, M.D., F.R.C.P. (Bath); S. A. K. WILSON, M.B., F.R.C.S. (London).

*Honorary Secretaries:* RAY EDWARDS, M.R.C.S., L.R.C.P., 29, Gay Street, Bath; EDWARD MAPOTHER, M.D., M.R.C.P., Maudsley Hospital, Denmark Hill, London, S.E.5.

**THERAPEUTICS (INCLUDING BALNEOLOGY AND RADIO-THERAPY).**

*President:* Professor R. B. WILD, M.D., F.R.C.P. (Chislehurst, Derbyshire).

*Vice-Presidents:* PRESTON KING, M.D. (Bath); W. MITCHELL, M.B., C.M. (Bradford); NATHAN MUTCH, M.D., F.R.C.P. (London).

*Honorary Secretaries:* DOROTHY C. HARR, C.B.E., M.D., M.R.C.P., 1, Bickenhall Mansions, London, W.1; CECIL H. TERRY, M.B., 15, The Circus, Bath.

**LARYNGOLOGY, OTOTOLOGY, AND RHINOLOGY.**

*President:* ARTHUR H. CHEATLE, C.B.E., F.R.C.S. (London).

*Vice-Presidents:* NEIL MACLAY, M.B. (Newcastle-upon-Tyne); IRWIN MOORE, M.B., C.M. (London); SYDNEY R. SCOTT, M.S., F.R.C.S. (London).

*Honorary Secretaries:* H. N. BARNETT, F.R.C.S. (Ed.), 21, The Circus, Bath; R. SCOTT STEVENSON, M.D., 30, New Cavendish Street, London, W.1.

*The following Sections will meet on Two Days.*

**DISEASES OF CHILDREN.**

*President:* ROBERT HUTCHISON, M.D., F.R.C.P. (London).

*Vice-Presidents:* CAREY F. COOMBS, M.D., F.R.C.P. (Bristol); P. T. CRYMBALE, F.R.C.S. (Belfast); CHARLES McNEIL, M.D., F.R.C.P. (Edinburgh); REGINALD H. MILLER, M.D., F.R.C.P. (London).

*Honorary Secretaries:* VINCENT COATES, M.C., M.D., 10, The Circus, Bath; R. A. RAMSAY, M.Ch., F.R.C.S., 123, Gloucester Terrace, Hyde Park, London, W.2.

**OPHTHALMOLOGY.**

*President:* W. MARDON BEAUMONT, M.R.C.S. (Bath).

*Vice-Presidents:* R. WALLACE HENRY, M.D. (Leicester); A. W. ORMOND, C.B.E., F.R.C.S. (London); C. H. WALKER, F.R.C.S. (Bristol).

*Honorary Secretaries:* R. COLLEY, M.B., D.O.M.S., 30, The Circus, Bath; P. G. DOYNE, M.B., F.R.C.S., 8, Harley Street, London, W.1.

**ORTHOPAEDICS.**

(One day being combined with Surgery.)

*President:* Professor E. W. HEY GROVES, M.S., F.R.C.S. (Bristol).

*Vice-Presidents:* NAUGHTON DUNN, M.B., Ch.B. (Birmingham); G. R. GIRDLESTONE, M.B., F.R.C.S. (Oxford); E. MUIRHEAD LITTLE, F.R.C.S. (London).

*Honorary Secretaries:* T. TWISTINGTON HIGGINS, O.B.E., F.R.C.S., 27, Harley Street, London, W.1; J. S. LEVINS, M.C., M.B., 20, Gay Street, Bath.

**PUBLIC MEDICINE.**

*President:* T. EUSTACE HILL, O.B.E., M.B., D.Hy. (Durham).

*Vice-Presidents:* T. W. NAYLOR BARLOW, O.B.E., M.R.C.S., L.R.C.P. (Wallasey); J. F. BLACKETT, M.D. (Bath); W. A. BREND, M.D. (London); S. NOY SCOTT, M.R.C.S., L.R.C.P. (Plymouth).

*Honorary Secretaries:* A. NEVILLE COX, M.D., M.R.C.P., 21, Cornwall Gardens, Preston Park, Brighton; R. E. THOMAS, M.D., 11, Darlington Place, Bath.

*The following Section will meet on One Day.*

**MEDICAL SOCIOLOGY.**

*President:* CHARLES E. S. FLEMING, M.R.C.S., L.R.C.P. (Bradford-on-Avon).

*Vice-Presidents:* J. W. BONE, M.B., C.M. (Luton); WILFRED BUCKLEY, C.B.E. (London); G. P. MALE, M.R.C.V.S. (Reading); E. A. STABLEY, M.B., M.Ch. (London).

*Honorary Secretaries:* C. J. CATFORD, London, S.E.6; C. A. COMBE, Bath.

The Honorary Local General Secretary is Mr. W. G. MEMORON, O.B.E., F.R.C.S. (British Medical Association Committee Rooms, Assembly Rooms, Bath); and the Honorary Assistant Secretary is Dr. R. G. GORDON.

**British Medical Association.****CURRENT NOTES.****Advertisements on the Back of Government Medical Certificates.**

In the SUPPLEMENT of December 27th, 1924, there appeared a letter which was addressed by the Medical Secretary, on the instruction of the Council, to the Minister of Health, taking strong exception to the printing of an advertisement on the back of a medical vaccination certificate, and also urging that in no circumstances should advertisements be placed on the back of any form which has to be filled up by a medical practitioner. The British Medical Association has now been informed that the incident is due to an unfortunate misunderstanding at the Ministry, and a definite assurance has been given that no documents containing forms which have to be filled in by medical practitioners shall in futuro be used as a medium for advertisements.

**The Half-yearly Indexes.**

The usual half-yearly indexes to the JOURNAL and to the SUPPLEMENT and EPITOME have been published; they will, however, not be issued with all copies of the JOURNAL, but only to those readers who ask for them. Any member or subscriber who desires to have one or all of the indexes can obtain what he wants, post free, by sending a postcard notifying his desire to the Financial Secretary and Business Manager, British Medical Association, 429, Strand, W.C.2. Those wishing to receive the indexes regularly as published should intimate this desire.

**Association Notices.****BRANCH AND DIVISION MEETINGS TO BE HELD.**

**BIRMINGHAM BRANCH: COVENTRY DIVISION.**—A meeting of the Coventry Division will be held on Tuesday, February 3rd, at the Coventry and Warwickshire Hospital, at 8.30 p.m. Agenda: Correspondence; annual report and balance sheet; Mr. Bernard Ward on practical points in the treatment of the enlarged prostate.

**BIRMINGHAM BRANCH: NUNSTON AND TAMWORTH DIVISION.**—A clinical and pathological meeting of the Nunston and Tamworth Division will be held at Atherton on Wednesday, February 25th.

**LANCASHIRE AND CHESHIRE BRANCH: HYDE DIVISION.**—A meeting of the Hyde Division will be held at the Dukinfield Town Hall on Friday, February 6th, when Dr. Alfred Cox, the Medical Secretary, will be present.

**METROPOLITAN COUNTIES BRANCH: CITY DIVISION.**—A meeting of the City Division will be held at the Metropolitan Hospital, Kingsland Road, on Tuesday, February 10th, at 9.30 p.m., when Dr. Edwin Smith, coroner for North-East London, will read a paper on some legal relationships of the practitioner.

**METROPOLITAN COUNTIES BRANCH: LEWISHAM DIVISION.**—At the meeting of the Lewisham Division to be held at the Parish Room, 1, St. John's Church, Catford, S.E.6, on Tuesday, February 17th, at 8.45 p.m., a paper will be read by Mr. Frank Cook, F.R.C.S.

**METROPOLITAN COUNTIES BRANCH: MARYLEBONE DIVISION.**—A meeting of all practitioners resident in the Marylebone Division, whether members or not, will be held at 8 p.m. to-day (Friday, January 30th), at 11, Chandos Street, Cavendish Square, W.1, to discuss the draft Memorandum of Evidence to the Royal Commission on National Health Insurance. This matter is of extreme importance to all members of the profession, as any contemplated changes will affect consultants and members of hospital staffs, medical officers of health, private practitioners not doing panel work, as well as the panel practitioners.

**METROPOLITAN COUNTIES BRANCH: SOUTH MIDDLESEX DIVISION.**—A meeting of the South Middlesex Division will be held at the St. John's Hospital, Twickenham, on Wednesday, February 25th, at 8.15 p.m., for general business. At 8.30 p.m. Dr. H. C. Corry Mann, O.B.E., will read a paper entitled "Some remarks on dietary during the school age of life."

**METROPOLITAN COUNTIES BRANCH: SOUTH-WEST ESSEX DIVISION.**—A meeting of the South-West Essex Division will be held at the Wesleyan Church School Rooms, High Road, Leyton, on Tuesday, February 3rd, at 3.30 p.m. At 4.15 p.m., after the completion of the ordinary business, Mr. W. Ibbotson, F.R.C.S., will read a paper on catarrhs of the nasopharynx and its ramifications. Tea will be served at 3.15.

**METROPOLITAN COUNTIES BRANCH: WILLESDEN DIVISION.**—A dinner will be held at the Comedy Restaurant, Pantons Street, Haymarket, S.W.1, on Sunday, February 15th, at 7 p.m. Tickets can be obtained from Dr. W. Lock, 45, Church Road, N.W.10.

**MIDLAND BRANCH: CHESTERFIELD DIVISION.**—A clinical and pathological meeting of the Chesterfield Division will be held at the Maternity Hospital, Chesterfield, on Friday, February 13th, at 8.30 p.m., when there will be a demonstration of cases.

**NORTH OF ENGLAND BRANCH: SUNDERLAND DIVISION.**—The annual meeting of the Sunderland Division will be held at 48, John Street, Sunderland, at 8.15 p.m., to-day (Friday, January 30th).

**SOUTH WALES AND MONMOUTHSHIRE BRANCH: SWANSEA DIVISION.**—At the meeting of the Swansea Division to be held at the General Hospital, Swansea, on Thursday, February 12th, at 8.15 p.m., a paper will be read by Dr. Daniel E. Evans.

**SOUTH-WESTERN BRANCH: EXETER DIVISION.**—The following course of lectures arranged for the spring of 1925 will be held in the library of the Royal Devon and Exeter Hospital, at 3.30 p.m., on the dates indicated: February 6th, Mr. Norman Lock: Intestinal Obstruction; March 6th, Dr. William Gordon: The Significance of Recent Work in Cardiology; April 3rd, Mr. R. Wayland Smith: Head Injuries; May 1st, Dr. F. A. Roper: Some Principles in Endocrinology. The lectures will be free to all members of the Association.

**STAFFORDSHIRE BRANCH: SOUTH STAFFORDSHIRE DIVISION.**—The fourth meeting of the session 1924-25 of the South Staffordshire Division will be held at the Victoria Hotel, Wolverhampton, on Tuesday, February 3rd, at 8.15 p.m. Supper, 3s. 6d. each (exclusive of wines), will be served at 8.30 prompt. Mr. H. H. Joy, K.C., will deliver a British Medical Association Lecture on the medical witness. Members of other Divisions will be welcome. Those intending to be present are asked to notify the chairman (Dr. J. H. Sheldon, 261, Tettenhall Road, Wolverhampton), so that arrangements can be made.

**SURREY BRANCH: GUILDFORD DIVISION.**—A meeting of the Guildford Division will be held at the Royal Surrey County Hospital, Guildford, on Thursday, February 5th, at 4 p.m., when Dr. Charles Roberts will read a paper on radiology in general practice. Tea at 3.45 p.m.

## Meetings of Branches and Divisions.

### BIRMINGHAM BRANCH: NUNEATON AND TAMWORTH DIVISION.

A MEETING of the Nuneaton and Tamworth Division was held at Tamworth General Hospital on January 22nd. The report of the Division for the past year was presented and approved. Dr. K. D. WILKINSON (Birmingham) read a paper on "cardiac irregularity," which was illustrated by anatomical and pathological specimens, charts, and an ink polygraph. The lecturer, after giving a very clear account of the normal mechanism of the heart, dealt with the pathology of the various forms of cardiac irregularity and with modern methods of diagnosis and treatment. The paper was very greatly appreciated.

### BORDER COUNTIES BRANCH: DUMFRIES AND GALLOWAY DIVISION.

A MEETING of the Dumfries and Galloway Division was held in the Royal Infirmary, Dumfries, on January 22nd, when Dr. P. M. KERR, vice-chairman, presided. The annual report was adopted and also Minute 41 of the Representative Body concerning the fee for lecturers to ambulance classes. The programme for the current year was discussed, and it was decided to hold a social meeting in the summer, either in Wigtown or Kirkcudbrightshire, and to hold clinical meetings when convenient in all three shires, and to arrange for papers.

An animated discussion took place on the report of the Scottish Departmental Committee on puerperal morbidity, and the discussion was adjourned until the next meeting, the Secretary being instructed in the meantime to circulate copies of the report.

The meeting then resolved itself into a meeting of medical practitioners of Dumfriesshire and Dumfries and Maxwelltown, two non-members being present, to consider the draft evidence to be placed before the Royal Commission on National Health Insurance. Dr. P. M. KERR was called to preside, and Dr. BRYSON, a member of the Scottish Rural Subcommittee, was present and explained the various points as they arose.

### EGYPTIAN BRANCH.

A GENERAL meeting of the Egyptian Branch was held at Cairo on December 30th, 1924. Mr. MADNEX, having read the minutes of the inaugural meeting of the Branch in January, 1924, and of the Branch Council in November, 1924, stated the arrangements made regarding the clerical work of the Branch, which were approved. The proposed new Branch rules were discussed and, after certain modifications, adopted.

In response to the invitation to attend the Annual Meeting of the Association at Bath in July, 1925, Mr. MADNEX agreed to attend to represent the Branch. The vacancies on the Branch Council caused by the departure of various members were filled. A suggestion put forward by Dr. BROWN that a clinical meeting would be of increasing interest to members was warmly supported.

### GLOUCESTERSHIRE BRANCH.

A MEETING of the Gloucestershire Branch was held at the Royal Infirmary, Gloucester, on December 11th, 1924, with the President, Dr. J. MIDDLETON MARTIN, in the chair. Dr. D. E. FISLAY, senior physician to the Infirmary, showed and discussed the following nine cases:

1. A boy with lupus vulgaris of the thigh, following a minor injury two years previously.

2. A case of extensive and inveterate seborrhoeic eczema in a child for which numerous remedies had been tried, the most successful being salicylic acid. Dr. J. Goss suggested that in the absence of improvement from persistent skin-popping x rays should be tried. Dr. H. C. TERRY laid stress on the possibility of infection of the skin of the child from the scalp of the mother.

3. A man with lupus erythematosus of the face and scalp. The condition had existed for four years and had received many varieties of treatment, including ether soap, calamine lotion, arsenical paint, carbon dioxide snow, and vaccine from his enucleated tonsils. Dr. ALMAN POWELL considered that intestinal stasis should always be kept in mind in such cases. Dr. J. Goss found that x-ray treatment did good, but that the resulting disfigurement was rather worse than the original condition.

4. A child with urticaria pigmentosa existing since the age of 4 months, and for which a year's ineffective treatment with hydrarg. c. crel. had been given before Dr. FISLAY saw the case. This helped to distinguish it from a syphilitic lesion, which it resembled. Belladonna and atropine had been found of some value.

5. A man with chronic dermatitis with ulceration of the foot and leg. Dr. C. V. KNIGHT suggested trying a plaster case owing to the possibility of its being an artefact. Dr. FISLAY said the condition cleared up under Unna's paste, but the patient took it off as he said it was uncomfortable, and the persistence of the condition was probably due to interference by the man.

6. A case of exophthalmic goitre with definite symptoms in a young man closely following an accident. There was no improvement whatever after six weeks' rest and treatment, and an injection of 5 units of insulin was tried. Within two hours the pulse, which had been consistently at about 130 per minute, fell to 85 and remained down for two weeks. Then the pulse rate began to creep up and was now as rapid as before. Insulin was being tried again, but with no conspicuous success. There was nothing in the blood sugar condition to raise any expectation of improvement from insulin, yet the immediate change after the first injection was dramatic.

7. A boy with encephalitis lethargica. The first symptom was delayed sleep and constant movements of the legs. Next day there was headache and the boy appeared to be silly. Sleepiness and paralysis of the left sixth cranial nerve followed. The boy was now much improved. Dr. J. G. SOUTAR agreed this was a definite case of the disease, but thought that encephalitis was over-diagnosed at the present time. In his experience sequelae were marked when the illness began with a high temperature. In children it was a most damaging disease, frequently leading to moral degeneration. It was noticeable that comparatively few cases were followed by certifiable insanity. Dr. TERRY had recently had a case in a boy about the same age in which the onset in its details exactly corresponded to the one shown.

8. A young man with the Parkinsonian syndrome following encephalitis. This case began with acute mania, but diplopia was found. The excitement disappeared in a week under paraldehyde. In two weeks the patient was almost comatose; within six weeks the syndrome was established. Dr. SOUTAR remarked that the acute mental stage was unusual and that it was also unusual for the Parkinsonian syndrome to follow at once the acute stage; one might wait several years before signs appeared. He emphasized rigidity in some group of muscles as the characteristic early sign.

9. A man, aged 31, first admitted to hospital a year ago with a diagnosis of typhoid as he had been nursing that disease. On admission, nine weeks after the onset of the illness with delirium, he looked very ill, was wasted, and had retraction of the head, but no cranial paresis or Kernig's sign. A lumbar puncture was performed, and the cerebro-spinal fluid gave a negative Wassermann reaction, but showed some lymphocytosis and excess of globulin. His blood gave a negative Widal reaction. He left the hospital convalescent, but returned in May with weakness of the legs, and he developed what appeared to be typical spastic paraplegia. His Widal reaction was then positive, and his Wassermann still negative. It did not seem possible to exclude encephalitis in such a case.

### KENYA BRANCH.

A MEETING of the Kenya Branch was held at the Native Civil Hospital, Nairobi, on November 5th, 1924, when the President, Dr. A. JEX-BLAKE, took the chair.

The terms of reference of the East African Parliamentary Commission were discussed. It was pointed out that the Commission had so far been afforded little opportunity of seeing the work carried out by the public health service in the colony, and the following resolution was, on the motion of Dr. WILSON, seconded by Dr. PATERSON, carried unanimously:

That this meeting notes with regret that the programme as published affords the Parliamentary Commission now in Kenya no adequate opportunity of seeing the work of the public health services of the country and the Government medical activities generally, although provision has been made for visiting all mission stations where medical work is being carried out. In particular it regrets that the tour in Kavirondo has not included any opportunity for the Commission to become acquainted with the important public health work in those districts. It trusts that full effect will be given to the assurance of His Excellency the Governor, as communicated to the meeting by Dr. GILKS, that this omission will be rectified during the remainder of the tour. The meeting resolves that a copy of this resolution be sent to the Honourable Colonial Secretary and to each of the members of the Commission.

On the motion of Dr. BUREITT, seconded by Dr. MACKINNON, it was also unanimously resolved:

That the members of the Kenya Branch of the British Medical Association would be glad to meet the members of the East African Parliamentary Commission should they wish it, and to answer any questions of medical or public health interest in connexion with the Commission's terms of reference.

### METROPOLITAN COUNTIES BRANCH: CAMBERWELL DIVISION.

A MEETING of the Camberwell Division was held at the Maudsley Hospital, Denmark Hill, on January 20th, when Dr. R. KING BROWN was in the chair. Members of the Lambeth Division also attended by invitation. Dr. EDWARD MORTIMER, medical superintendent of the hospital, gave an address on the present provision

for the treatment of mental disorder, and suggested improvements. A suggestive and illuminating address was listened to with great interest, particularly because of the proposed early amendment of the Lunacy Act. Some discussion took place, and a number of questions were answered by the lecturer. The meeting closed with a hearty vote of thanks to Dr. Mapother.

#### METROPOLITAN COUNTIES BRANCH: MARYLEBONE DIVISION.

A MEETING called by the Marylebone Division to discuss the draft evidence proposed to be submitted to the Royal Commission on National Health Insurance was held at 11, Chandos Street, on January 14th, when Mr. C. E. WALLIS was in the chair. On the motion of Dr. C. O. HAWTHORNE the meeting decided to confine itself in the first instance to answer the questions in document D.12, discussion on general points to come later. It then proceeded to discuss and to answer the questions in order. The meeting was not in favour of including dependants. The replies in all cases were the outcome of large proportional votes. Among those taking part in the discussion were Dr. C. O. HAWTHORNE, MESSRS. MCADAM ECCLES, BISHOP HARMAN, H. S. SOUTAR, and BEDDOES, DRs. HALLS-DALLY, ADAMS, SPURGIN, and GOULET.

#### METROPOLITAN COUNTIES BRANCH: STRATFORD DIVISION.

A SPECIAL meeting of the Stratford Division, which includes the insurance areas of West Ham, East Ham, and a portion of Essex, was held at the Educational Offices, Stratford, on January 20th, to consider the draft Memorandum of Evidence to be placed before the Royal Commission. Dr. G. F. WILSON was in the chair, and after a long discussion the various resolutions were put to the meeting.

The following resolution referring to the appointment of an assistant school medical officer for the county borough of West Ham was further put to the meeting and carried unanimously by the members of the Division present:

"That in the opinion of the Stratford Division no medical practitioner, within the area of the Division, should apply for an appointment as assistant school medical officer under the county borough of West Ham at a lower rate of remuneration than 1600 per annum, exclusive of travelling and other official expenses, or continue to hold any such appointment made after July 23rd, 1923, at a lower rate of remuneration than that stated above."

The opportunity was taken of making a presentation to Dr. Charles Sanders on his retirement after thirty-seven years' service as medical officer of health for West Ham. The presentation took the form of a pair of binoculars, a silver breakfast dish, and a tortoiseshell manicure set in a tortoiseshell case for Mrs. Sanders. The presentation was made by Dr. Wilson, and Dr. SANDERS, in reply, expressed his thanks for the appreciation of his colleagues.

#### NORTH LANCASHIRE AND SOUTH WESTMORLAND BRANCH: FURNESS DIVISION.

A MEETING, to which all medical men in the Furness area were invited, was held at the Criterion Restaurant, Barrow, on January 14th, when Dr. FAWCETT was in the chair. Dr. Cox, the Medical Secretary, attended to explain the draft Memorandum of Evidence to be put before the Royal Commission on National Health Insurance. The Memorandum was taken in sections, Dr. Cox first making a short explanation, questions and comments being made next, and then the questions dealing with that section were put to the vote.

On the motion of Dr. THOMPSON, seconded by Dr. CARSON, a vote of thanks to Dr. Cox was carried with applause. In the evening a dinner was held at the same place.

#### SOUTH WALES AND MONMOUTHSHIRE BRANCH.

The winter meeting of the South Wales and Monmouthshire Branch was held in the Council Chamber, Town Hall, Llanelly, on January 21st, when the Vice-President, Mr. R. J. COULTER, was in the chair. After the ordinary business of the meeting had been transacted the remainder of the meeting was devoted to papers and clinical cases.

Mr. T. E. HAMMOND (Cardiff) read a paper on hæmaturia, and dealt in detail with the various causes of the symptoms and signs. Specimens of urine were shown. He stated that in only 30 per cent. of cases were clinical signs present, and emphasized the importance of a cystoscopic examination in every case. The examination and interpretation of the findings should be performed by one who was well experienced in the work.

Dr. T. R. DAVIES read a short paper on "A New System of Anatomy," based on the book with that title by James Drake, M.D., published in 1707. The descriptions of the circulation, heart innervation, and respiration were read. The book contained an accurate account of the intrinsic muscles of the larynx.

Dr. J. J. HEALY (Llanelly) read a paper on the diagnosis of glaucoma, describing the types, modes of onset, clinical symptoms, and of emergency. The operation of trephining was described, and clinical cases shown. Dr. Healy demonstrated a specimen of melanotic sarcoma of the ciliary body; and, jointly with Dr. A. H. D. SMITH, showed a case of bilateral oculomotor nerve paralysis in a boy who gave a positive Wassermann reaction.

Dr. G. V. DAVIES showed cases of: (a) deep adenoma of the thyroid gland removed by open operation which completely relieved the dysphagia and dyspnoea; (b) two fractures of the right forearm within eighteen months, treated by open operation and Thomas's splint without pegs, wires, or plates; the anatomical and functional results were good.

Dr. A. H. D. SMITH showed a septic knee-joint, treated by

Kocher's open operation, without drainage, and an extensive burn of the leg treated with amblime.

Dr. T. R. DAVIES (Llanelly) showed two cases of dactylitis in infants, illustrated with skiagrams; also a case for diagnosis—a girl, aged 10, with enlarged liver and spleen and a slight lymphocytosis.

#### SOUTH WALES AND MONMOUTHSHIRE BRANCH: CARDIFF DIVISION.

A WELL attended clinical meeting was held at Glam-Ely Tuberculosis Hospital (one of the institutions maintained under the King Edward VII Welsh National Memorial Association) on December 3rd, 1924. Dr. ALEXANDER BROWNLEE, the medical superintendent, gave an instructive demonstration on artificial pneumothorax in the treatment of pulmonary tuberculosis. An excellent series of lantern slides was shown depicting the lung conditions under treatment, accompanied by their respective temperature and pulse charts. Professor LYLE CUSIMANS gave a synopsis of the rationale of the pneumothorax treatment.

A hearty vote of thanks was accorded Dr. Brownlee for his kind invitation, and appreciation was expressed for the sturdy work which was being done in the fight against tuberculosis.

#### YORKSHIRE BRANCH: WAKEFIELD, PONTEFRAC, AND CASTLEFORD DIVISION.

THE fourth of the seven monthly lecture meetings arranged by the Wakefield, Pontefract, and Castleford Division for the present winter session was held at Wakefield on January 15th, under the chairmanship of Dr. WILLIAM STEVEN (Featherstone). An address on changes in reflexes in health and disease was given by Dr. J. LE F. BURROW (Leeds), who, after lucidly describing the anatomical and physiological bases of reflexes, gave an interesting practical demonstration of the methods of their elicitation and their interpretation. A hearty vote of thanks was accorded to Dr. Burrow for his most useful address.

## THE EVIDENCE TO THE ROYAL COMMISSION.

### MEETING OF THE MEDICAL PROFESSION IN EDINBURGH.

A MEETING of the medical profession in Edinburgh, called at the instance of the local Division of the British Medical Association, was held in the Hall of the Royal College of Surgeons on January 20th to discuss the draft Memorandum of Evidence proposed to be placed before the Royal Commission on National Health Insurance (SUPPLEMENT, January 3rd (pp. 1-8)). The chair was taken by Sir DAVID WALLACE, K.B.E., C.M.G., F.R.C.S., who was supported by Dr. G. Keppie Paterson, Chairman of the Edinburgh and Leith Division, and by Dr. J. R. Drever, Scottish Medical Secretary of the Association.

Sir DAVID WALLACE, in his opening remarks, said that the Committee of the British Medical Association, which had for some time been considering the future of national health insurance and its relationship to the medical profession, was very representative, consisting both of those working under the National Health Insurance Act and of those who were not working under that Act, and he thought that the draft Memorandum had been drawn up in a very careful manner and that its statements were couched in the most moderate terms. He then called the attention of the meeting to the questions asked in the SUPPLEMENT to the BRITISH MEDICAL JOURNAL of January 3rd (p. 9), and requested that answers should be in the affirmative or in the negative, as he did not think that suggestions containing alterations and additions would be of much help. The inclusion of dependants for purposes of medical treatment was discussed, and in view of the fact that the subject of limiting the medical benefit to persons below a certain income level was so involved, it was decided that it would be better meantime to recommend the exclusion of dependants altogether from the operation of national health insurance; the questions as to their inclusion were, therefore, answered by the meeting in the negative. The second question as to whether, if dependants should be included, it would be essential to secure provisions for lessening the work, was answered unanimously in the affirmative.

With regard to the inclusion of poor persons not under contract of service, the meeting was equally divided, and the Chairman refrained from giving a casting vote. The meeting was in favour of the inclusion in the national health insurance scheme of the class of persons at present attended under the Poor Law. With regard to the extension of the present service to specialists and consultants at some convenient time, the meeting unanimously agreed that this should be done, and, further, that this extension of specialist and consultant services should take precedence of the inclusion of dependants. As regarded the inclusion of attendance at confinements and during the puerperal period, together with special examination and supervision during pregnancy, being brought within the scope

of the national health insurance scheme, it was pointed out that any practitioner, should he not wish to do maternity work, would be free to refuse, and that he might also decline to attend the wife of an insured person on his list, while, on the other hand, those who were specially interested in maternity work, even if they were not doing other insurance work, might engage in this branch of practice and receive payment from the State for doing so. This question was accordingly answered in the affirmative. Approval was given unanimously to the questions asked regarding procedure for official complaints and the grouping of additional treatment benefits with medical benefit and their removal from the control of approved societies. The meeting agreed with the suggestions of the Association regarding the future administration of a national health insurance service in conjunction with the other health services of the country.

At the conclusion of the meeting a resolution was adopted cordially approving of paragraph 2 of the draft Memorandum regarding the directions other than a national health insurance scheme in which expenditure might be made to produce an even more satisfactory return in regard to the health of the community. The meeting terminated with a vote of thanks to the Chairman and to the College of Surgeons for the use of its hall.

#### NORTH DEVON.

A MEETING of the local medical profession was held at Barnstaple on January 21st to discuss the Memorandum of Evidence to be presented to the Royal Commission on National Health Insurance. The meeting was called by the North Devon Division of the British Medical Association. In framing answers to the questions set out in Document D. 12 (SUPPLEMENT, January 3rd, p. 9) particular attention was devoted to question 11, regarding certification:

"Does the meeting agree with the alterations in the rules of certification proposed in paragraph 51? If not, state alternative suggestions."

The meeting decided that paragraphs 50 and 51 of the draft Memorandum of Evidence (Document D. 11, pp. 6, 7) ought to be strengthened, on the ground that as they stood these paragraphs did not sufficiently express the feelings of many medical men, especially those engaged in rural practice. Remembering the heavy burden imposed on practitioners by the certification rules, the meeting considered that these rules constituted one of the most important reasons for any unpopularity there might be for service under the Insurance Acts. On the proposal of Dr. H. C. JONAS, the following amendments to paragraphs 50 and 51 were unanimously approved:

#### ALTERNATIVE SUGGESTIONS REGARDING CERTIFICATION.

##### Paragraph 50.

Page 6, line 3.—To insert the word "medical" after the word "false."

Page 7, line 1.—To insert a fullstop after the word "rules"; and to delete the words "which, since they were in force, should have been strictly obeyed."

After the fullstop after "rules" to insert the following sentence: "Practically all these instances of laxity are concerned with infringements of the non-medical part of the certificate."

Page 7, line 3.—To substitute the word "impossible" for the word "difficult."

Last line of the paragraph.—To delete the last five words and to insert a fullstop after the word "accurately."

##### Paragraph 51.

To commence the paragraph with the following words: "The present certification rules impose a duty on the practitioner of visiting a patient at stated intervals, quite irrespective of the medical necessities of the case, and of giving certificates 'on the terms,' on the occasions, and in the manner required—in other words of performing certain administrative duties on behalf of the approved societies which are properly those of a sick visitor, and not of a medical practitioner. The slightest breach of these rules has been followed by severe penalties, though the certificate is in fact a statement of the facts of the case, and has a medical nat y false or misleading of duties and restrictions prevent many—often of the highest professional skill—from taking part in National Health Insurance work. Unnecessary visits for the purpose only of certification are demoralising both to the patient and practitioner; they tend at all times to perfunctory work, and in times of stress to the omission of visits which are of far more urgent in country practice, where the time involved is obviously much greater. Notes on the certificates and letters of explanation are extremely irksome and distracting to a busy doctor, and it is not too much to say that in rural practice at least the rules cannot be properly observed, and that technical breaches are committed and passed over by all concerned. It must, however, be recognized that it is of the greatest importance that the highest standard in a truly medical certificate should be maintained and . . ."

Line 2.—To delete the words "would conduce to" and substitute the words "are necessary to secure."

Line 6.—After the word "benefits" to insert the following sentence: "The most important point in which Insurance Service compares unfavourably with non-panel practice is that these rules impose on the practitioner duties of certifying matters of fact apart from a purely medical opinion; and that any inaccuracy on this respect—e.g., a question of dates—is regarded by the Insurance Committees, the Ministry, and, worst of all, the General Medical Council as a breach of professional accuracy."

Line 15.—To insert a fullstop after the word "present," to delete all to the end of (a) and to substitute the following: "It is suggested that (a) All intermediate certificates shall be purely medical certificates of the form, 'I hereby certify that . . . is suffering from . . . and is unable to work."

Dated . . . Signed . . ."

## National Insurance.

### THE ROYAL COMMISSION.

THE fourteenth meeting of the Royal Commission on National Health Insurance was held at the Home Office on January 22nd, Lord Lawrence of Kingsgate in the chair. Evidence was received from three miners' societies: the Scottish Miners' Federation Approved Society (Mr. James Gold), the Lancashire and Cheshire Miners' Permanent Approved Society (Mr. D. Shaw), and the Lancashire and Cheshire Miners' Federation Approved Society (Mr. Lee Shaw). The special difficulties arising in societies composed wholly or largely of miners were represented by these witnesses—in particular the inability to give additional benefits owing to the unavoidable heavy expenditure on normal benefits for those engaged in the mining industry.

Proof copies of oral evidence given at the meeting of January 8th may be obtained from H.M. Stationery Office, Adelphi House, Kingsway, W.C.2, on remittance of cost (1s. 6d.) and postage.

### LONDON INSURANCE COMMITTEE.

#### Chairmanship of the Medical Service Subcommittee.

A LONG-STANDING dispute which has not previously found expression in open meeting came before the Committee on January 22nd with regard to the chairmanship of the Medical Service Subcommittee. This position has been held for the last seven years by Mr. David Davis, D.L., J.P. The medical members of the Committee are Dr. R. L. Bell and Dr. W. C. Gooden (representing the Panel Committee), and Dr. K. McFadyen (representing the Local Medical Committee), and there are three lay persons representing the Insurance Committee.

The Chairman of the Insurance Committee (Mr. W. J. Wightman) stated that the Medical Service Subcommittee had not been able to perform its duties owing to the abstention of the medical representatives from the last four meetings summoned, so that the subcommittee was unable to form a quorum. The medical representatives had declared that they would neither attend the meetings of the Medical Service Subcommittee nor resign their membership thereon while Mr. Davis remained chairman. During the seven years of his chairmanship Mr. Davis had discharged his onerous duties to the satisfaction of the Insurance Committee. In that period 635 cases had been considered, and only 8 decisions had been upset on appeal. Up to November last the chairman had had to exercise his casting vote only on ten occasions; on eight of these occasions he voted against the view of the medical members. Five of these cases went to appeal, and in only one case was the appeal allowed. Some opposition was expressed to Mr. Davis's continuance in office in 1923, and in 1924 the Panel Committee passed a resolution to the effect that the continuance of Mr. Davis in the chairmanship was not acceptable to that body, and instructed its representatives to oppose his re-election. Mr. Davis was the choice of the neutral members. The Ministry of Health, to which the Panel Committee had appealed, asked the chairman of the Insurance Committee (himself) to consider the problem, and he was bound to report that he found himself utterly unable to find any tangible reason for compliance with the demands of the medical representatives. Later a deputation from the Insurance Committee waited on the Minister of Health and made strong representations against the insistence of the doctors to terminate the chairmanship of Mr. Davis. The attitude of the Ministry appeared to be that the Medical Service Subcommittee could only properly function when the chairman was acceptable to all its constituent factors. The deputation strongly disagreed with this interpretation, and declined to advise the resignation of Mr. Davis. The peculiar duties of the subcommittee as a tribunal on cases of complaint against the medical service placed a grave responsibility upon the medical representatives, for these representatives were assuming an attitude which prevented complaints against members of their own profession from being heard, and an intolerable position was created.

Dr. Cardale said that the time was inopportune for making a long statement from the point of view of the medical members. A very difficult and serious situation had arisen. At present, as chairman of the Panel Committee, he was trying to discover whether there was not some way out of the impasse, and to enter into controversy at the moment would mean only angry words and personalities.

Mr. J. Skinner moved and Mr. H. Mills seconded a resolution:

"That this Committee, whilst recognizing that the medical representatives have abstained from the Medical Service Subcommittee in order to draw attention to their views, urges them to fulfil their constitutional obligations or to give place to such other members of the medical profession as are prepared to serve."

Sir Thomas Neill, in supporting, said that members of the medical profession were in their infancy in matters of business; they were the most incompetent business people he had ever met.

Dr. C. H. Pring protested against the stifling of discussion in order to avoid personalities. He declared the demand made by the medical members of the subcommittee to be monstrous. The key to the situation was the fact that the London Panel Committee was practically the Medical Practitioners' Union, which was an ordinary trade union. The methods introduced by the medical members of this subcommittee were those of a trade union. Those members appeared, not as administrators of justice, but as advocates for the practitioners whose conduct was being investigated. Practitioners against whom notice of complaint was given were urged to apply for advice from the officials of the Panel Committee beforehand, and it was the representatives of the Panel Committee who eventually "tried" them. Dr. Cardale strongly protested against these statements, but Dr. Pring said that he had been himself a member of the Panel Committee and was well aware of the procedure. Dr. Pring went on to say that the medical members of the subcommittee had formed a conspiracy against their neutral chairman because on certain occasions he had given his casting vote against them.

Mr. Rockliff charged the Panel Committee with influencing the free judgement of the medical members of the subcommittee, and pointed out the distressing nature of the position when insured persons were daily forwarding complaints of the treatment they were getting, and the doctors would not lend a hand to decide on the complaints.

The Chairman said that the Insurance Committee could take no action to compel the medical members to attend, and the matter was now in the hands of the Ministry of Health.

Mr. Skinner's resolution was carried without dissent.

*Practitioners' Appeals Dismissed.*—It was reported that in five cases in which practitioners appealed to the Minister of Health against the decision of the Insurance Committee in the matter of their alleged breaches of the regulations, the Minister had in every case dismissed the appeal, and in all cases except one had imposed fines varying from £5 to £50, and had ordered the practitioner to pay the costs of the Committee in a sum not exceeding £5. In the remaining case the Minister had deferred a decision on the question of a fine until after the result of some pending litigation with regard to the case.

*The Royal Commission.*—Consideration had previously been given by the Committee and other bodies concerned to the question whether, having regard to the peculiar position which London occupies in the matter of insurance administration, it might be possible for the Insurance Committee and the Panel and Pharmaceutical Committees to present a joint case to the Royal Commission. It was now reported, however, that it appeared, after some preliminary conferences, that the Panel and Pharmaceutical Committees, while anxious to assist the Insurance Committee, could not very well dissociate themselves from the evidence to be given on behalf of the medical profession and the pharmaceutical profession respectively. Therefore it had been decided that the Insurance Committee should give evidence in its own behalf.

*Surgery Accommodation.*—A joint report was presented by Mr. J. Skinner, Chairman of the Medical Benefit Subcommittee, and Dr. C. L. Batteson, Secretary of the Panel Committee, with regard to their visits to the surgeries of certain practitioners. Since the former report visits had been paid to the surgeries of forty-five practitioners in all parts of London, and in the majority of cases it was found that the accommodation provided was satisfactory, having regard to the circumstances of the practice. In a few cases in which alterations were suggested by the Committee's representatives in order to provide additional waiting-room accommodation, the practitioners concerned were willing to adopt and carry out the suggestions made.

#### LONDON PANEL COMMITTEE.

*Constitution of the Committee.*—At the meeting of the London Panel Committee on January 20th Dr. R. G. Chase moved that the Committee appoint a section to consider necessary alterations in the rules, statutory or otherwise, affecting the constitution and work of the Committee, with a view to making service on the Committee more interesting and therefore more attractive to the ordinary medical practitioner in London, and also to consider the question of the remuneration of members as at present in force

in other panel committees. It was agreed to set up such a section, and Drs. M. B. Bayly, J. Collar, W. H. Palmer, and J. E. Stratton, with the Chairman and Vice-Chairman of the Committee, Dr. Cardale and Dr. Gregg, were appointed members.

*A Prescribing Survey.*—A subcommittee reported that it had had under consideration the question of the advisability of the addition to the drug tariff of pills of 5 grains in every case in which 5-grain pills at present appear. During the present prescribing survey it had become apparent that 5-grain pills were very generally ordered by practitioners, and as 5-grain pills carried an extra dispensing fee, such ordering would seem to be one of the factors tending to increase the drug bill. A recommendation to this effect was agreed to. A further result of the prescribing survey is that it has been shown that a considerable wastage of medicine is at present caused by the use of medicine bottles lacking correct graduation in respect of the doses to be taken. It was agreed to inform the Ministry of Health to this effect.

## Correspondence.

### *Psychology and the Panel.*

SIR,—Health insurance differs from all other forms of insurance in that psychology takes a part. Consciously or unconsciously, it enters into the successful treatment of a large proportion of patients, and it therefore should be given prominent consideration when laying the foundation of health insurance.

It is my humble opinion that the present system of national health insurance fundamentally interferes with the successful application of psychological treatment. Some of my panel patients would never be cured by their panel doctor, and, on the other hand, some of my "best cures" have been among panel patients whom I have treated privately, as they were on the lists of other doctors—as good as myself or better.

At this time of transition I would plead, not for a patching up of the present system, but for a system by which the poorer classes were compelled to set aside regularly part of their earnings to pay medical and maintenance expenses when they arose.—I am, etc.

Cheltenham, Jan. 13th.

M. J. ROCHE, M.B.

### *State Insurance and the Medical Profession.*

SIR,—In view of the evidence which it is proposed shall be placed by the British Medical Association before the Royal Commission on National Health Insurance in the near future, perhaps you will be kind enough to publish the views of one who has had experience of the panel system from its inception.

When the German scheme was first introduced the profession generally viewed it with distrust, and rightly so. It was too full of pinpricks and all the hundred and one restrictions so foreign to English ideas. And now, in 1925, we look back and ask ourselves, What has it done for us, and what has it done for the public as a whole? I venture to say—and there are many who hold the same view—that it has been a failure.

In reading many of the articles in the *BRITISH MEDICAL JOURNAL* and other periodicals, it has struck me more than once that they have been written by men with only a second-hand knowledge of their subject; and it is obvious to me that nowadays, more so than ever, it is easier to evade the truth than speak it. Take, for instance, the question of a small panel. How can we expect a legitimate return for work done? In one case alone it worked out to the tune of 12s. 11d. for over fifty consultations and prescriptions—a truly wonderful return for the thought and time expended over the cases; and there are many such examples.

And now we are in 1925. As a friend of mine said to me the other day, "What has the British Medical Association done for us? I think it has let us down." No, I would not go so far as that; but I do think it has shown much weakness where we looked for strength. Take the question of "gross panels." Have all these been achieved fairly? I am sorry to say many have not, and if the matter of canvassing had been looked into strange disclosures would doubtless have resulted.

It is necessary to mention these facts as they strike at the very root of things and help us to look them squarely in the face. The "moral" of the profession, too, has deteriorated at least 50 per cent. since the advent of State insurance, and self-respect, as regards both the profession and public, has been lowered, not raised. I could quote instance upon instance in support of what I say, and, further, I am voicing the opinions of others. Wherever the State creeps in trouble usually follows, but it is with regard to the treatment of sickness that the State should exercise extraordinary care.

We charge a fee commensurate with the kind of ease we are attending—or at least I hope we do—but the State does not recognize such a thing; it tries to beat us down. The question of life and death is a matter of words only.

A scheme such as this is to-day is not one to attract the best of the profession. It antagonizes, does not encourage. Take the subject of medical referees. What effect has that produced in the profession? Again—let us have the truth—a



feeling of opposition, a feeling of indifference. You say this is untrue, but if you would take the trouble to find out the number of cases in which the general practitioner has failed to meet the referee you would doubtless change your opinion. From my point of view, any case requiring a second opinion (and it is chiefly the societies who are down on the profession) should be settled locally; and further, all referees should be general practitioners, or at least have been in practice as such.

I am sorry to be obliged to write in this strain, but in view of the future, and what has been my experience of the Act in the past, I feel it my duty to speak the bare truth, which seems to be evaded by most writers in the JOURNAL.—I am, etc.,

Canford Cliffs, Dorset, Jan. 14th.

FRANCIS G. BENNETT.

## Naval and Military Appointments.

### ROYAL NAVAL MEDICAL SERVICE.

SURGEON COMMANDERS J. McDONALD and J. Martin are placed on the retired list, with the rank of Surgeon Captain.

Surgeon Commanders J. H. McDowall to the *Gleopatra*, additional, temporary; E. L. Markham, O.B.E., to the *Zece*; Holton, O.B.E., to the *Virid*, for R.N. Barracks, to the *Carlisle*; J. E. Johnston to the *Pembroke*, on commissioning for trials; E. B. Kenny to the *H.M. Dockyard*, Gibraltar, and a H. W. Nicholls to the *Victory* for R.N. Barracks, Portsmouth.

Surgeon Lieutenant Commanders W. F. Beattie to the *Excellent*; J. O. Brown to the *Triad*; C. H. M. Gimlette, J. A. Watson, L. S. Goss, A. W. North, J. J. Carroll, F. H. Vey, and G. Aubrey to the *President*, additional for five months' course at R.N. College, Greenwich.

Surgeon Lieutenant R. G. Anthony to the *Virid*, additional for R.M. Infirmary, Plymouth.

Messrs. W. A. Hopkins and H. A. M. Whitby have entered as Surgeon Lieutenants and appointed to the *Victory*, additional for course at Royal Naval Hospital, Haslar; Messrs. G. Keating and R. B. McVicker have entered as Surgeon Lieutenants and appointed R.N. Hospital, Haslar, for course.

### ROYAL ARMY MEDICAL CORPS.

Major and Brevet Lieutenant-Colonel M. G. Winder, D.S.O., to be Lieutenant-Colonel, vice Lieutenant W. M. B. Sparkes, D.S.O., to retire pay.

Captain (now Major) A. J. Digram, O.B.E., to be acting Lieutenant-Colonel from October 1st, 1919, to May 16th, 1921. (Substituted for notification in the *London Gazette* of April 20th, 1921.)

Captain T. F. Kennedy, O.B.E., relinquishes the temporary rank of Major on ceasing to be employed as a Deputy Assistant Director of Hygiene.

Captain W. H. Ferguson, M.C., relinquishes the temporary rank of Major on ceasing to be employed as a Deputy Assistant Director of Pathology.

Captains J. W. Malcolm, M.C., and F. R. Escribá are granted the local rank of Major for service with the Iraq levies.

The appointment to Captain of J. B. Finch is antedated to March 15th, 1918, with precedence next below A. C. Jebb, but not to carry pay or allowances for the period of antedate.

Captain H. G. Hobson, O.B.E., M.C., is restored to the establishment.

Lieutenant (on probation) F. H. King resigns his commission.

### ROYAL AIR FORCE MEDICAL SERVICE.

Wing Commander H. E. Whittingham to R.A.F. Pathological Laboratory, Halton, for duty as Deputy Director.

Squadron Leader P. T. ... quarters, Egypt.

Flight Lieutenant A. J. ...

Flying Officers R. S. MacLachy to R.A.F. Trans-Jordan Headquarters, Palestine; W. B. ...

... F. W. G. Smith, R. W. ...

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### TERRITORIAL ARMY.

#### ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel H. G. G. Mackenzie, D.S.O., having attained the age limit for retention, relinquishes his commission and retains the rank of

M.S.(ret.) to be Major.

O.B.E., M.C., is confirmed in his rank.

### TERRITORIAL ARMY RESERVE OF OFFICERS.

#### ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel C. A. Lees, C.B.E., having reached the age limit, is retired, and retains his rank with permission to wear the prescribed uniform.

Captain P. J. Watkin, M.C., from Active List, to be Captain.

### COLONIAL MEDICAL SERVICES.

Dr. C. B. D. Reid, Medical Officer, transferred from Dar-es-Salaam to Mwanza, Tanganyika; Dr. H. R. Neilson appointed Sanitation Officer and Medical Officer of Health, Kampala, Uganda; Dr. F. R. Freeman, M.C., appointed District M.O. and M.O.H., Mbale, Uganda; Dr. J. E. Hailstone to be Senior M.O., Arua, Uganda; Dr. E. A. C. Langton appointed District M.O., Mbarara, Uganda; Dr. J. C. Caldwell appointed M.O. Jinja, Uganda.

## VACANCIES.

BOLINGBROKE HOSPITAL, Wandsworth Common, S.W.11.—(1) Resident Medical Officer. (2) House-Surgeon. Salary at the rate of £200 and £120 per annum respectively.

BRIGHTON: ROYAL SUSSEX COUNTY HOSPITAL.—House-Physician (male). Salary £150 per annum.

CARDIFF CITY COUNCIL.—Assistant Medical Officer. Salary £600 per annum.

DERHAM COUNTY MENTAL HOSPITAL, Winterborne, Dorset.—Assistant Medical Officer. Salary £200 per annum, with £100 bonus at present.

EDINBURGH: THE HOSPITAL MATERNITY HOSPITAL.—Resident Medical Officer (female). Remuneration at the rate of £50 per annum.

EDINBURGH HOSPITAL FOR WOMEN AND CHILDREN.—(1) Senior House-Surgeon. (2) Junior House-Surgeon. Females. Salary at the rate of £60 and £40 per annum respectively.

EDINBURGH ROYAL EDINBURGH HOSPITAL FOR SICK CHILDREN.—Four Honorary Resident Medical Officers.

HASTINGS: ROYAL EAST SUSSEX HOSPITAL.—Honorary Radiologist.

HOSPITAL FOR EPILEPSY AND PARALYSIS, Maidstone, Kent.—Medical Registrar. Honorarium £100.

HOSPITAL FOR TROPICAL DISEASES, Endsleigh Gardens, N.W.—Medical Superintendent. Salary £250 per annum.

KENT COUNTY OPHTHALMIC HOSPITAL, Maidstone.—House-Surgeon. Salary £300 per annum.

LANARK COUNTY.—Medical Officer of Health. Salary £1,300 per annum.

LONDON HOSPITAL, E.1.—Obstetric and Gynaecological Registrar and Tutor. Salary £400 per annum.

LONDON TEMPERANCE HOSPITAL, Hampstead Road, N.W.1.—Anaesthetist. Small honorarium.

MANCHESTER: ANCOATS HOSPITAL.—Two House-Surgeons. Salary at the rate of £100 per annum for first six months, rising to £150 per annum for second six months.

MARGATE: ROYAL SEA BATHING HOSPITAL FOR SURGICAL TUBERCULOSIS.—House-Surgeons. Salary at the rate of £200 per annum.

MINISTAR OF PENSIONS.—Junior Resident Medical Officer at the Highbury Group of Hospitals, Birmingham. Salary £300 per annum.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney Road, E.2.—Assistant Casualty House-Surgeon. Salary at the rate of £100 per annum.

ROCHDALE INFIRMARY.—Radiologist.

ROYAL FREE HOSPITAL, Gray's Inn Road, W.C.1.—Casualty Officer. Salary £100 per annum.

RYDE: ROYAL ISLE OF WIGHT COUNTY HOSPITAL.—Resident House-Surgeon (unmarried). Salary £180 per annum.

ST. MARK'S HOSPITAL FOR CANCER, FISTULA, AND OTHER DISEASES OF THE RECTUM, City Road, E.C.1.—House-Surgeon (male). Salary £200 per annum.

ST. PANCRAS BOROUGH.—Assistant Medical Officer (male) in the Public Health Department. Salary £600 per annum, rising to £700.

SALISBURY: GENERAL INFIRMARY.—House-Surgeon (male). Salary £150 per annum.

SARAJEVO FREE HOSPITAL FOR WOMEN, Marylebone Road, N.W.1.—House-Surgeon. Salary at the rate of £100 per annum.

SEAFORD HOSPITAL SOCIETY.—Physician at the Dreadnought Hospital, Greenwich.

SOMERSET COUNTY COUNCIL.—Assistant Tuberculosis Officer. Salary £600 per annum, rising to £650.

STANLIX DISTRICT MENTAL HOSPITAL, Larbert.—Second Assistant Medical Officer (male). Salary £275 per annum.

STOCK-ON-TRENT: NORTH STYFORDSHIRE INFIRMARY.—House-Surgeon. Salary £150 per annum.

WEST END HOSPITAL FOR NERVOUS DISEASES.—(1) Assistant Physician. (2) Physician for Skin Department. (3) House-Physician (male) for In-patients; salary at the rate of £150 per annum. (4) Clinical Assistant in the Speech Department.

WEST LONDON HOSPITAL, Hammersmith Road, W.6.—Honorary Surgical Registrar. Honorarium £100 per annum.

WILTS COUNTY MENTAL HOSPITAL, Devizes.—Assistant Medical Officer (male). Salary £350 per annum.

WORCESTER GENERAL INFIRMARY.—Senior Resident Medical Officer. Salary £180 per annum.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces the following vacant appointments: Ossett (Yorks, West Riding), Bruton (Somerset).

MEDICAL REFEREE UNDER THE WORKMEN'S COMPENSATION ACT, 1906, FOR DUNDEE DISTRICT.—Applications to the Private Secretary, Scottish Office, by February 9th.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Tuesday morning.

### REGULAR ARMY RESERVE OF OFFICERS.

#### LIFE GUARDS.

Surgeon Lieut.-Colonel J. H. Power, having attained the age limit of inability to recall, ceases to belong to the Reserve of Officers.

### SUPPLEMENTARY RESERVE OF OFFICERS.

#### ROYAL ARMY MEDICAL CORPS.

Captain Frederick W. Oldershaw, late Serv. Bns., Lincoln Regiment, to be Lieutenant, December 6th, 1924. (Substituted for notification in the *London Gazette*, December 5th, 1924.)

#### INDIAN MEDICAL SERVICE.

The services of Colonel R. A. Needham, C.I.E., D.S.O., Deputy Director-General, are placed at the disposal of the Railway Department (Railway Board) for a period of one year, from January 1st, and he is placed on special duty.

Lieut.-Colonel J. K. S. Fleming, O.B.E., is appointed Deputy Director-General, Indian Medical Service, from January 1st.

The services of Lieut.-Colonel T. C. McCombie Young are placed at the disposal of His Excellency the Commander-in-Chief (November 20th, 1924).

The services of Major T. D. Morrison are placed permanently at the disposal of the Government of Assam (November 20th, 1924).

The services of Major S. Gordon, M.C., are placed at the disposal of His Excellency the Commander-in-Chief, with effect from the date on which he reports himself for duty to the military authorities.

Major G. M. Millar, O.B.E., is appointed substantively to be an Agency Surgeon under the Government of India in the Foreign and Political Department, with effect from October 3rd, 1924.

Captain (Acting Major) W. E. Brerley relinquished his acting rank on January 31st, 1920, on substantive promotion to the rank of Major (February 1st, 1920).

## APPOINTMENTS.

- CORRY, J., L.R.C.P.Lond., M.R.C.S.Eng., Medical Officer, Paddington Casual Wards, Metropolitan Asylums Board.
- LEWELLYN-JONES, J. G. M.B., Ch.B.Liverp., Workhouse Medical Officer and Public Vaccinator of the Hawarden Union, and Medical Officer of Health and Medical Officer, Isolation Hospital, Hawarden Rural District Council.
- MILLER, Charles Hewitt, C.B.E., M.D., F.R.C.P., Assistant Physician to the Royal Devon and Exeter Hospital.
- MITCHELL, A. Philip, M.Ch., M.D., F.R.C.S. Ed., Assistant Surgeon to Lenth Hospital.
- POWELL, A. T. W., M.C., M.B., B.S.Lond., D.P.H., Assistant County Medical Officer of Health for the County of West Suffolk.
- ROSE, W. G., F.R.C.S. Edg., M.B., B.S.Lond., Assistant Honorary Surgeon to the Derbyshire Royal Infirmary.
- STANDERLAND CHILDREN'S HOSPITAL.—Miss Betty Mitchell, M.B., Ch.B., Junior Resident Medical Officer to act as House-Physician.
- TODD, Alan H., M.S., F.R.C.S., Honorary Orthopaedic Surgeon to the Lincoln General Hospital.
- LIVERPOOL.—DAVID LEWIS, NORTHERN HOSPITAL.—Resident Medical Officer John W. Cowen, M.B., John D. Chang, M.B., R. S. Turner, M.B., Norman Weinberg, M.B., C. W. Hooley, M.B., and F. C. O'Mara, M.R.C.S.Eng., L.R.C.P.Lond.
- ST. MARK'S HOSPITAL, W.2.—Medical Superintendent: I. Penhall Phillips, M.A., L.R.Cantab., M.R.C.S., L.R.C.P. Medical Registrar: Miss G. E. Harris, M.B., B.S., D.P.H.
- CHESTERFIELD FACTORY SURGEONS.—G. G. Allan, M.B., Ch.B.Edin., for the Aston District, co. Berwick; W. Blackwood, M.B., Ch.B.Edin., for the Canbourne District, co. Cornwall; F. C. S. Broome, M.B., B.S.Lond., for the Ryde District, Isle of Wight; W. J. McCracken, M.B., B.Ch.Belf., for the Ilaworth District, co. York (West Riding); C. S. Parker, M.R.C.S., L.R.C.P., for the Coalville District, co. Leicester.

## DIARY OF SOCIETIES AND LECTURES.

## ROYAL SOCIETY OF MEDICINE.

- Section of Ophthalmology: Tues., 5 p.m., Cases.
- Section of Pathology at the National Institute for Medical Research, Hampstead, N.W.3: Tues., 8.30 p.m., Demonstrations:—Dr. J. Brownlee, Changes in Immunity with Age; Dr. A. Eidinow, Effect of Irradiated Blood on Haemobacteraemia Power; Drs. H. H. Dale, F. M. Durham, and J. E. Marshall, Effect of "Bayor 205" on Trypanosomes; Mr. J. Smith, Action of Light on Bacteria; Mr. J. E. Barnard, Development of Young Colobus; Messrs. H. H. Dudley and O. Rosenheim, Spermatid Phosphate from Testes; Dr. W. May, Reaction to Filtrates of Pneumococcal Cultures; Dr. S. R. Hirsch, Metabolism of N-methylethylamine; Treatment of Tuberculosis; C. perature of Normal Rabbits; I of Serum in Serological Reactions.
- Section of Surgery, Anaesthetics, Medicine, Obstetrics and Gynaecology, and Pathology: Wed., 8 p.m., Special Discussion: The Prevention and Treatment of Post-operative Pulmonary Affections. Speakers: Sir C. Gordon-Watson and Mr. E. C. Lindley (Surgery), Dr. F. E. Shipway (Anaesthetics), Lord Dawson (Medicine), Mr. J. P. Hedley (Obstetrics), and others.
- Section of Pathology: Tues., 10.30 a.m., Demonstration:—Mrs. G. J. Jenkins; Septicemia as a Complication of Middle-ear Infection.
- ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.—Mon., 5 p.m., Mr. Zachary Cope: Extravasation of Bile. Wed., 5 p.m., Mr. P. Wimsbury White: Pathology of Hydronephrosis. Fri., 5 p.m., Mr. A. H. Todd: Syphilitic Atheritis.
- MAXWELL MEDICAL SOCIETY.—Wed., 4.30 p.m., Professor G. R. Murray: Presidential Address—Twins in Health and Disease.
- ROBERTS SOCIETY, 32, Welbeck Street, W.1.—Tues., 8.15 p.m., Major C. E. S. Phillips, O.B.E.: Constant Vomiting. Mr. C. H. Diaphragms; (2) Demonstration of New C.I.
- UNIVERSITY COLLEGE, Gower Street, W.C.1.—Mon., 5 p.m., Professor G. Elliot Smith, F.R.S.: The Anatomy and Physiology of the Sympathetic Innervation of the Striated Muscle.

## POST-GRADUATE COURSES AND LECTURES.

- FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION, 1, Wimpole Street, W.1.—Lecture, Mon., Operative Treatment of Combined Course in Diseases of Children, Hospital and Children's Clinic: Two Hospital: Comprehensive Course. Clinical St. John's Hospital for Diseases of the Skin: Demonstrations daily in the various departments. Tues. and Thurs., Special Lectures, London Gardens: Tues. and Thurs., 2 p.m., Clinical Demonstrations, Endersleigh Hospital for Sick Children, Great Ormond Street, W.C.1.—Thurs., 4 p.m., Acidosis and Vomiting in Infancy and Childhood.
- NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.1.—Mon., Tues., Thurs., Fri., 2 p.m., Out-patient Clinics. Mon., 12 noon, Anatomy and Physiology of the Eye. Tues., 3.30 p.m., Compression Pa Neurology of the Eyes. Thurs., 3.30 p.m., Tremors. Fri., 3.30 p.m., Tues. and Thurs., 4 p.m.
- NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.15.—Daily: In-patient and Out-patient Clinics, Tues. 4.30 p.m., Differential Diagnosis of Fits. Fri., 4.30 p.m., Prognosis in Breast Cancer.
- QUEEN CHARLOTTE'S MATERNITY HOSPITAL, Marylebone Road, N.W.1.—Thurs., 5 p.m., Malpresentations.
- ST. JOHN'S HOSPITAL, 49, Leicester Square, W.C.2.—Chesterfield Lectures: Lichenification. Thurs., 5 p.m., Lichen Planus. Thurs., 5 p.m., Pruritus—Prurigo.
- WEST LONDON HOSPITAL POST-GRADUATE COLLEGE, 12 noon, Applied Anatomy. Tues., 12 noon, Skin Department. Thurs., 12 noon, Gynaecology. Surgical Pathology. Sat., 10 a.m., Medical Operations, Special Departments.

- GLASGOW POST-GRADUATE MEDICAL ASSOCIATION.—At Royal Hospital for Children: Wed., 4.15 p.m., Medical Cases.
- LIVERPOOL UNIVERSITY CLINICAL SCHOOL.—3.30 p.m., Mon., Children's Hospital: Clinical. Tues., Southern Hospital: Fractures about the Ankle joint. Wed., Northern Hospital: Surgical Cases. Thurs., St. Mary's Hospital: Fractures and Other Anaemias. Fri., Royal Infirmary: Urinary Cases.
- MANCHESTER.—ASCOTE HOSPITAL.—Thurs., 4.20 p.m., Diseases of Oesophagus.
- MILWAUKEE.—ST. MARK'S HOSPITAL.—Whitworth Street: Fri., 4.30 p.m., Management of Premature Infants.
- ST. ANDREW'S INSTITUTE FOR CLINICAL RESEARCH, St. Andrews.—Tues., 4 p.m., Albuminuria in Children and Adolescents. (February 15th, Relative Cardiovascular Disease in the Kidney; February 17th, Albuminuria Diseases other than those primarily of the Kidney.)

## British Medical Association.

OFFICES AND LIBRARY, 123, STRAND, LONDON, W.C.2.

## Reference and Lending Library.

THE READING ROOM, in which books of reference, periodicals, and standard works can be consulted, is open to members (at 10 a.m. to 6.30 p.m., Saturdays 10 to 2).

LENDING LIBRARY: Members are entitled to borrow books including current medical works; they will be forwarded if desired, on application to the Librarian, accompanied by £1 for each volume for postage and packing.

## Departments.

- SUBSCRIPTIONS AND ADVERTISEMENTS (Financial Secretary and General Manager, Telegrams: Articulate Westland, London).
- Medical Secretary (Telegrams: Modicera Westland, London).
- Editor, British Medical Journal (Telegrams: Anthology Westland, London).
- Telephone number for all departments: Gerrard 259 (8 lines).
- SCOTTISH MEDICAL SECRETARY: 6, Rutland Square, Edinburgh. (Telegrams: Associate, Edinburgh. Tel.: 4261 Central).
- IRISH MEDICAL SECRETARY: 16, South Frederick Street, Dublin. (Telegrams: Bacliff, Dublin. Tel.: 4737 Dublin).

## Diary of the Association.

## JANUARY.

- 30 Fri. London: Ophthalmic Committee's Joint Subcommittee, 5 p.m. Sunderland Division: Annual Meeting, 48, John Street, Sunderland, 8.15 p.m.
- 3 Tues. London: Library Subcommittee, 3 p.m. Coventry Division: Coventry and Warwickshire Hospital. Paper by Mr. Bernard Ward on Practical Point in the Treatment of Enlarged Prostate, 8.30 p.m. South Staffordshire Division: Victoria Hotel, Wolverhampton. R.M.A. Lecture by Mr. H. H. Joy, K.C., on the Medical Witness. Supper, 6.15 for 8.30 p.m. South-West Essex Division: Wesleyan Church School Rooms, High Road, Leyton, 3.30 p.m. Paper by Dr. W. H. Bolton on Catarrhs of the Nasopharynx and its Complications, 4.15 p.m.
- 5 Thurs. London: Joint Meeting of Royal Commission and Insurance Acts Committees (Essex Hall, Essex Street, Strand, London, opposite the Law Courts). Guildford Division: Royal Surrey County Hospital, Guildford. Paper by Dr. Charles Roberts on Radiology in General Practice, 4 p.m.
- 6 Fri. Exeter Division: Royal Devon and Exeter Hospital. Lecture by Mr. Norman Lock on Intestinal Obstruction, 3.30 p.m. Hyde Division: Dukinfield Town Hall. Address by the Medical Secretary.
- 10 Tues. City Division: Metropolitan Hospital, Kingsland Road. Paper by Dr. Edwin Smith on Some Legal Relationships of the
- 12 Thurs. Bedford Division: Bull Restaurant, by Mr. S. W. Daw on Modern
- 15 Sun. Willesden Division: Dinner, "Glenady" Restaurant, Panton Street, Haymarket, S.W. 7 p.m.
- 17 Tues. London: Coroners' Law and Death Certification Subcommittee, 4 p.m.
- 18 Wed. London: Special Meeting of Council, 10 a.m.
- MARCH.
- 5 Thurs. London: Journal Committee, 2.30 p.m.
- 6 Fri. Exeter Division: Royal Devon and Exeter Hospital. Lecture by Dr. W. Gordon on the Significance of Recent Work in Cardiology, 3.30 p.m.
- 11 Wed. London: Finance Committee, 2.30 p.m.

## BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcement of Births, Marriages, and Deaths is 9s., which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.

## BIRTHS.

- ALEXANDER.—At Plymouth, on January 18th, to Captain R. H. Alexander, M.C., R.A.M.C., and Mrs. Alexander (née Carlyon), a son.
- CHESLER.—At Carlton, Smith, Yorks, on January 22nd, to Margaret Morrison Chesler, M.B., Ch.B. (née Rutherford), wife of Frederick George Chesler, M.C., M.B., Ch.B., a daughter.
- SKELLING.—On January 24th, at 130, High Town Road, Luton, to Effie, wife of T. R. Skelling, M.R.C.S.Eng., L.R.C.P.Lond., a son.

## DEATHS.

- BEST.—On January 23rd, at The First, Waltham Cross, Frederick Henry de Graves Best, M.R.C.S., L.R.C.P., in his 55th year, after three weeks' illness.
- IRVINE.—On January 20th, at Wellington College, Berks, Arthur Gerard Cheyne Irvine, M.R.C.S., L.R.C.P., Captain R.A.M.C., late of Selly Oak, Birmingham, aged 60.

# BRITISH MEDICAL JOURNAL.

LONDON, SATURDAY, FEBRUARY 7TH, 1925.

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### National Insurance.

#### RANGE OF SERVICE: EXTRACTION OF TEETH.

*Decision of a Court of Referees appointed in Scotland.*

For some time the question whether teeth extraction comes within the terms of contract of insurance practitioners has given rise to a good deal of controversy in Scotland, chiefly owing to the activities of the Scottish Rural Workers' Approved Society, which issued a circular to its members in these terms:

"... For simple extractions, where no anaesthetic is necessary, you should consult your panel doctor, who is required under his terms of service to provide such treatment free, as part of your medical benefit."

The Insurance Acts Subcommittee (Scotland) brought this circular to the notice of the Scottish Board of Health, who replied that it had communicated with the Rural Workers' Approved Society, pointing out the machinery provided under the regulations for deciding such questions. The question has now been finally decided by a Court of Referees on a case raised by the Rural Workers' Approved Society with the Roxburgh County Insurance Committee.

The inquiry was held on January 5th. The case for the Local Medical Committee was conducted by the clerk, Mr. James Barrie, and the Committee was advised throughout by the Scottish Medical Secretary of the British Medical Association, Dr. J. R. Drever, who gave evidence at the inquiry, as did also a number of local practitioners.

Appended is the finding of the court.

Having heard the evidence adduced for the Scottish Rural Workers' Approved Society, the Roxburgh County Insurance Committee, the Local Medical Committee, and for Dr. J. M. Lander, and considered the same, we find that there is no custom or practice of the medical profession peculiar to the County of Roxburgh which is relevant to the question which we are asked to determine, and we determine that the extraction of teeth does not come within the scope of an insurance practitioner's obligations under his terms of service with the Insurance Committee.

JAMES A. FLEMING.  
R. C. BUIST, M.D.  
J. E. MOORHOUSE, M.D.

Edinburgh, January 5th, 1925.

#### Note.

The question we are asked to determine is whether the extraction of teeth falls within the scope of the services which medical practitioners who have entered into an agreement with an Insurance Committee have contracted to give.

Section 8 (1) of the Terms of Service for Practitioners, which by Section 3 of the Regulations must be incorporated in any such agreement, provides as follows: "The treatment which a practitioner is required to give to his patient comprises such treatment as is of a kind which can consistently with the best interests of the patient be properly undertaken by a general practitioner of ordinary professional competence and skill."

By Section 2 (1) of the National Health Insurance (Medical Benefits) Consolidated Regulations (Scotland), 1923, which are incorporated in the said Terms of Service by Section 15 thereof, it is provided that "treatment" means medical attendance and treatment, including the issue of medical certificates. Unless, therefore, the extraction of teeth can be held to be medical treat-

ment it is clear that the practitioner is not bound to undertake such an operation.

The National Insurance Act, 1911, grants various benefits to insured persons which are detailed in Section 8 as (a) medical, (b) sanatorium, (c) sickness, (d) disablement, and (e) maternity benefits, and also (f) to certain insured persons the "further benefits" mentioned in Part II of the Schedule IV to that Act. These "further benefits" are in the Act called "additional benefits."

The first of these "further" or "additional" benefits mentioned in that schedule is thus described: "(1) Medical treatment and attendance for any persons dependent upon the labour of a member." The second is thus described: "The payment of the whole or any part of the cost of dental treatment."

Two points are clear from these provisions: first, that dental treatment is for the purposes of the Act something further than or additional to medical treatment, and is not included in that expression; and, second, that dental treatment is a treatment for which additional payment is to be made, even by the member.

It was urged in argument that any service rendered by a practitioner to his patient is a service within his contract unless he can show that it is beyond his competence and that the fact that he did render the service shows that it is within his competence.

That argument ignores entirely the conclusion we have arrived at upon a consideration of the provisions above referred to. It also, even upon the assumption that dental treatment can be considered as included in medical treatment, ignores entirely the standard of competence and skill which is stipulated for in the contract. That standard is the competence and skill possessed by the general body of practitioners and is not the standard of exceptional competence and skill possessed by an individual practitioner. We have no hesitation in rejecting the argument.

There are no special customs or practices in the area in question which throw light on the subject. Out of twenty-one practitioners only three do any dental work, and they all charge for the treatment and for any local anaesthetic supplied.

We desire to express our appreciation of the manner in which each party presented their case. We have also to thank Mr. Gerrard for the excellent manner in which he performed the duties of clerk to the inquiry.

After the note so far had been drafted and submitted to the referees for their approval, Mr. Fleming received the letter enclosed herewith from Mr. Wood, the secretary of the Scottish Rural Workers' Approved Society. In a telephonic conversation with Mr. Wood he stated that his objection is that we were asked to act under the reference to the Board by the Committee was of general question of 1921. He also stated that the referer of December 8th, 1923, but of the general question.

It is, of course, for the Board to say whether they will take action on the lines suggested by Mr. Wood, but we may say that after careful consideration of the Regulations of 1924 and the modifications which they have made on the Regulations of 1923, we are satisfied that there is nothing in them which would allow us to alter the conclusion we have arrived at on the Regulations of 1923, namely, that the treatment prescribed in Section 8 of each set of Regulations does not include dental treatment.

In Section 8 (1) of the Regulations of 1924 the standard of skill for medical treatment is described as of a kind which general practitioners as a class can reasonably be expected to possess, and in Section 8 (4) it is provided that in determining that question "regard is to be had to the question whether services of the kind are or are not usually undertaken by general practitioners practising in the area in which the question arose."

These passages seem to us to confirm the conclusion at which we had arrived, that even on the assumption, which we think is not well founded, that medical treatment includes dental treatment, the standard of skill stipulated for is not the standard of skill possessed by an individual practitioner.

J. A. F.  
R. C. B.  
J. E. M.

## THE ROYAL COMMISSION.

The fifteenth meeting of the Royal Commission on National Health Insurance was held at the Home Office on January 29th. Sir Andrew Duncan took the chair during the earlier part of the sitting, and Lord Lawrence of Kingsgate later.

Evidence was first received from Mr. J. P. Lewis, C.A., secretary of the Hearts of Oak Benefit Society, on certain points of policy relating to investment of society funds. The main part of the sitting was devoted to the examination of Mr. Alban Gordon, who submitted far-reaching proposals for the reconstruction of the approved society system on a territorial basis and the transfer of medical and allied benefits to a unified local health service embracing all aspects of medical work.

Proof copies of the oral evidence and the relative statements submitted at the meeting of January 15th are now on sale and may be obtained, on remittance of cost (2s. 3d.) and postage, from H.M. Stationery Office, Adastral House, Kingsway, London, W.C.2.

## THE MEETING AT EDINBURGH.

## Correction.

In the report of the meeting held in Edinburgh to discuss the Memorandum of Evidence to the Royal Commission on National Health Insurance (SUPPLEMENT, January 31st, p. 52) the word "not" was inadvertently omitted from the following sentence (line 11 from foot of column): "The meeting was in favour of the inclusion in the national health insurance scheme of the class of persons at present attended under the Poor Law." This should read: The meeting was not in favour, etc.

## Association Notices.

## BRANCH AND DIVISION MEETINGS TO BE HELD.

**BIRMINGHAM BRANCH: NUNEATON AND TAMWORTH DIVISION.**—A clinical and pathological meeting of the Nuneaton and Tamworth Division will be held at Atherton on Wednesday, February 25th.

**LANCASHIRE AND CHESHIRE BRANCH: HYDE DIVISION.**—A meeting of the Hyde Division will be held at the Dukinfield Town Hall to-day (Friday, February 6th), when Dr. Alfred Cox, the Medical Secretary, will address the meeting. Members are requested to bring with them any non-member of the Association residing in the district.

**METROPOLITAN COUNTIES BRANCH: CITY DIVISION.**—A meeting of the City Division will be held at the Metropolitan Hospital, Kingsland Road, on Tuesday, February 10th, at 9.30 p.m., when Dr. Edwin Smith, coroner for North-East London, will read a paper on some legal relationships of the practitioner.

**METROPOLITAN COUNTIES BRANCH: LEWISHAM DIVISION.**—At the meeting of the Lewisham Division to be held at the Parish Room, St. Laurence Vicarage, Catford, S.E.6, on Tuesday, February 17th, at 8.45 p.m., a paper will be read by Mr. Frank Cook, F.R.C.S.

**METROPOLITAN COUNTIES BRANCH: N.—An**  
address will be given to the  
Palace Mansions Hotel (Merrick  
De Vero Hotel, at 8.45 p.m.,  
R. H. Cole, physician in charge  
Hospital, entitled "The present  
treatment of mental disorders."

**METROPOLITAN COUNTIES BRANCH: SOUTH MIDDLESEX DIVISION.**—A meeting of the South Middlesex Division will be held at the St. John's Hospital, Twickenham, on Wednesday, February 25th, at 8.15 p.m., for general business. At 8.30 p.m. Dr. H. C. Corry Mann, O.B.E., will read a paper entitled "Some remarks on dietary during the school age of life."

**METROPOLITAN COUNTIES BRANCH: WEST MIDDLESEX DIVISION.**—A meeting of the West Middlesex Division will be held on Thursday, February 12th, at 8.30 p.m., at the King Edward Memorial Hospital, Mattock Lane, Ealing, when Dr. J. Bell will give an address on some hæmorrhages associated with pregnancy. A discussion will follow.

**METROPOLITAN COUNTIES BRANCH: WILLESDEN DIVISION.**—A dinner will be held at the Comedy Restaurant, Pantons Street, Haymarket, S.W.1, on Sunday, February 15th, at 7 p.m. Tickets can be obtained from Dr. W. Lock, 45, Church Road, N.W.10.

**MIDLAND BRANCH: CHESTERFIELD DIVISION.**—A clinical and pathological meeting of the Chesterfield Division will be held at the Maternity Hospital, Chesterfield, on Friday, February 13th, at 8.30 p.m., when there will be a demonstration of cases.

**SOUTHERN BRANCH.**—A meeting of the Southern Branch will be held at the South Western Hotel, Southampton, on Friday, February 20th, at 2.45 p.m. Agenda: Correspondence; financial statement; a discussion on the need for public education on what ought to be known about cancer will be opened by the Honorary Secretary, who will move a resolution; to fix date of annual meeting of the Branch at Jersey; to make a collection for Epsom College.

**SOUTH WALES AND MONMOUTHSHIRE BRANCH: SWANSEA DIVISION.**—At the meeting of the Swansea Division to be held at the General Hospital, Swansea, on Thursday, February 12th at 8.15 p.m., a paper will be read by Dr. Daniel E. Evans.

**SOUTH-WESTERN BRANCH: EXETER DIVISION.**—The next meeting of the Exeter Division will be held in the Library of the Royal Devon and Exeter Hospital to-day (Friday, February 6th), at 3.30 p.m., when a lecture will be delivered by Mr. Norman Lock on intestinal obstruction. Tea at 4.30.

**STURARY BRANCH: CROYDON DIVISION.**—A meeting of the Croydon Division will be held at the Croydon General Hospital on Tuesday, February 24th, at 8.30 p.m., when Dr. J. A. Ryle will give an address on recent observations on referred pain.

## Meetings of Branches and Divisions.

## CEYLON BRANCH.

The annual general meeting of the Ceylon Branch was held in the Colonial Medical Library on December 17th, when Dr. A. Nett, president, was in the chair.

The following resolution was carried unanimously:

"That this Association begs to submit to Government that General Order No. 224, to the effect that in case of ill health officers in Government employ to tender certificates of ill health from Government medical officers only, is at the present time unjustified and unnecessary; that there are sufficient number of duly qualified medical men in private practice to give such certificates; and that this Order should be so amended as to permit the acceptance by Government Departments of medical certificates issued by qualified medical men."

The report of the Branch Council for the year 1924 was read, and the audited statement of accounts submitted and approved. The following officers were elected for 1925:

President, Dr. P. J. Chiswell. President-Elect for 1926, Dr. H. M. Ferries. Vice-Presidents, Drs. S. T. Gunasekara and C. Brito Babapulle. Honorary Secretary and Treasurer, Dr. Lionel de Silva.

A programme of dates of meetings of the Branch to be held in the Colonial Medical Library during the year was arranged.

## METROPOLITAN COUNTIES BRANCH: LEWISHAM DIVISION.

A MEETING of the Lewisham Division was held on January 20th, at the Parish Room, St. Laurence Vicarage, Catford, when Dr. F. A. Beattie occupied the chair.

Mr. ARTHUR RYLAND delivered an address entitled "Danger signals in the neuro mastoid." He showed a series of lantern slides illustrating the development and structure of the temporal bone. The deciding factor causing complications, he said, was the anatomical structure of the bone, not the virulence of the organism or the resisting power of the patient. The function of the mastoid cells was unknown. The chief variations of the mastoid cells were (1) cellular; (2) acellular; (3) diploic; (4) with a dense outer cortex; (5) infantile; (6) supercellular type. The focal cells were the original group of mastoid cells, and the diploic the original spongy bone cells. The danger signs were first, and most important, bulging of the drum, which ought to be freely incised under a general anaesthetic; second, resistance of local pain, with headache and fever. The acute mastoid abscess was shown by swelling, oedema, and turning of the ear forward. If a rigor occurred the mastoid should be opened. When there was facial paralysis, vertigo, spontaneous nystagmus, and cervical stiffness, the brain of the trouble was being borne by the labyrinth.

Drs. CHARLEY and ORR joined in the discussion, and a vote of thanks to the lecturer was accorded on the proposal of the CHAIRMAN.

## YORKSHIRE BRANCH: HARROGATE DIVISION.

A MEETING of the Harrogate Division was held in the Imperial Café on January 22nd, when Dr. NIMMO WATSON was in the chair.

A paper on orthopaedics and the nervous system was read by Mr. S. W. Daw (Leeds), who, after stating the general orthopaedic principles underlying lesions of the upper and lower neurons, referred to special lesions. In torticollis he condemned passive movements, but advised active movements (with or without resistance) of the muscles that were not contracted. In anterior poliomyelitis affecting the lower limbs early support of the foot with a rectangular splint was necessary. Mr. Daw outlined the surgical treatment where deformities had occurred. Early treatment with Fairbank's splint was advised for Erb's birth palsy. The symptoms associated with cervical ribs, spinal tumour, and spinal caries were given. The treatment by surgical measures of certain cases of paraplegia and hemiplegia, also of Little's disease, was considered. Mr. Daw replied fully to many questions which were raised in the subsequent discussion.

On the motion of Dr. GARRAD, seconded by Dr. HOLMES, a hearty vote of thanks was unanimously accorded to Mr. Daw.

## Correspondence.

## Royal Commission on National Health Insurance.

SIR,—May I draw attention to the great injustice to whole-time medical officers which is proposed in the draft Memorandum of Evidence? Paragraph 27 states, "certain existing clinics or treatment centres . . . would no longer be required." Presumably the whole-time medical officers who run these clinics "would no longer be required" also. This presumption is confirmed by paragraph 28, which states, "for a limited

period of time it would still be necessary to continue the appointment of whole-time officers dealing with tuberculosis and with venereal diseases." Evidently it is the intention eventually to abolish the appointments altogether.

Why should the Council of the British Medical Association take up such a hostile attitude to whole-time medical officers? Last year at the Annual Meeting at Bradford they passed a resolution prohibiting them from taking fees for consultations, and now they wish to deprive them even of their appointments and salaries.

Surely this is both unfair and inconsistent. It is unfair because we whole-time medical officers belong to the same profession as the Council and are all, or nearly all, members of the British Medical Association, and are entitled to as much consideration as any other members, and to as much freedom of action in our choice as to what branch of the profession we wish to follow. It is inconsistent because the British Medical Association very recently agreed to co-operate with the Society of Medical Officers of Health in deciding on and endeavouring to obtain a scale of salaries which would improve the conditions of service of the whole-time medical officers. And now within a few months the British Medical Association is advising that the salaries shall cease to exist. It is also inconsistent because our whole-time appointments have all been advertised in the *BRITISH MEDICAL JOURNAL*, and thus the *JOURNAL* invites us to apply for posts which are approved in the advertisement pages and condemned in the *SUPPLEMENT*.—I am, etc.,

LEONARD CROSSLEY, M.D.,  
County Tuberculosis Officer for Wilts  
since January 1st, 1913.

Winsley, Wilts, Jan. 27th.

#### *The Evidence to be placed before the Royal Commission on National Health Insurance.*

Sir,—I wish to protest as strongly as I can against the way the vote of the profession on the questions in Document D. 12 (*SUPPLEMENT*, January 3rd, p. 9) was taken. There should in all fairness have been a postal vote on a matter of such great importance. The voting by show of hands at large central meetings disenfranchised the remote, rural, and single-handed men. If the object was to dragoon and stampede the profession and to ensure that the views and wishes of the official few should prevail it was successful.—I am, etc.,

Dukinfield, Jan. 25th.

JAMES BRIERLEY, M.D.

•• We have referred this letter to the Medical Secretary, who writes:

The opinion of the Association whenever expressed has always been against postal voting on matters of this kind as being less satisfactory than voting after discussion. Every effort has been made by urging that meetings should be multiplied (even at the risk of overlapping) to get general opinion. The suggestion that any "official few" are wanting to dragoon the rest is absurd, as must be evident to anybody who realizes how extensively the Council has cast its net in the drafting of the document as well as in the methods adopted to get it discussed.

### Naval and Military Appointments.

#### ROYAL NAVAL MEDICAL SERVICE.

##### ROYAL NAVAL VOLUNTEER RESERVE.

Probationary Surgeon Sublieutenant B. W. C. Archer to be Surgeon Sublieutenant.

#### ROYAL ARMY MEDICAL CORPS.

Majors T. H. Gibbon, O.B.E., and R. E. Humfrey, C.M.G., retire on retired pay, and are granted the rank of Lieutenant-Colonel. Major J. E. Hoar is placed on retired pay. Captains G. V. Thornton, M.C., and E. J. Mannix retire, receiving a gratuity.

#### ROYAL AIR FORCE MEDICAL SERVICE.

Flight Lieutenant E. F. N. Currey to R.A.F. Base, Malta. Flying Officer G. R. Nodwell is promoted to the rank of Flight Lieutenant.

#### MILITIA.

##### ROYAL ARMY MEDICAL CORPS.

Captain T. Hampson, M.C., to be Major.

#### TERRITORIAL ARMY.

##### ROYAL ARMY MEDICAL CORPS.

Captain R. Henry to be Major, January 11th, 1925. (Substituted for notification in the *London Gazette*, February 13th, 1923.)

#### COLONIAL MEDICAL SERVICES.

Dr. J. Pugh appointed Deputy Principal Medical Officer, Tanganyika. Dr. T. H. Duggan appointed Assistant Director of Medical Service, Nigeria. Dr. E. M. Franklin, Senior Medical Officer, has been transferred from Nigeria to Gold Coast.

### VACANCIES.

**BENTLEY GREEN BOARD OF GUARDIANS.**—Dental Surgeon for the Guardians' Hospital and Children's Homes. Fees 2 guineas per session.

**BIRMINGHAM AND MIDLAND EYE HOSPITAL.**—House-Surgeon. Salary £110 per annum.

**BIRMINGHAM AND MIDLAND EAR AND THROAT HOSPITAL.**—Junior House-Surgeon. Salary at the rate of £200 per annum.

**BOLENGROVE HOSPITAL, Wandsworth Common, S.W.11.**—(1) Resident Medical Officer. (2) House-Surgeon. Salary at the rate of £200 and £120 per annum respectively.

**CHICHESTER HOSPITAL FOR WOMEN, S.W.3.**—Registrar (Gynaecological). Honorarium £50 per annum.

**CHESTERFIELD AND NORTH DERBYSHIRE ROYAL HOSPITAL.**—Casualty and Orthopaedic House-Surgeon. Salary at the rate of £150 per annum.

**CUMBERLAND INFIRMARY, Carlisle.**—(1) House-Physician for six months and House-Surgeon for six months; salary at the rate of £165 and £185 per annum respectively. (2) Resident Medical Officer as Junior House-Surgeon; salary at the rate of £145 per annum.

**DONSET MENTAL HOSPITAL, Herrison.**—Third Assistant Medical Officer (male). Salary £300 per annum, rising to £350.

**DUBLIN: DR. STEEVENS'S HOSPITAL.**—Honorary Obstetric Physician and Gynaecologist.

**EDINBURGH: THE HOSPICE MENTALITY HOSPITAL.**—Resident Medical Officer (female). Remuneration at the rate of £50 per annum.

**EDINBURGH HOSPITAL FOR WOMEN AND CHILDREN.**—(1) Senior House-Surgeon. (2) Junior House-Surgeon. Females. Salary at the rate of £60 and £40 per annum respectively.

**EDINBURGH: ROYAL EDINBURGH HOSPITAL FOR SICK CHILDREN.**—Four Honorary Resident Medical Officers.

**ESSEX COUNTY HOSPITAL, Colchester.**—(1) House-Surgeon. (2) Assistant House-Surgeon. Males. Salary £200 and £150 per annum respectively.

**EXETER: ROYAL DEVON AND EXETER HOSPITAL.**—Senior House-Surgeon. Salary at the rate of £250 per annum.

**FISHERLY URBAN DISTRICT.**—Medical Officer of Health and School Medical Officer. Salary £500 per annum, rising to £1,000.

**HASTINGS: ROYAL EAST SUSSEX HOSPITAL.**—Honorary Radiologist.

**HOSPITAL FOR EPILEPSY AND PARALYSIS, Maidstone, W.9.**—Medical Registrar. Honorarium £100.

**KENT COUNTY OPHTHALMIC HOSPITAL, Maidstone.**—House-Surgeon. Salary £300 per annum.

**LANARK COUNTY.**—Medical Officer of Health. Salary £1,300 per annum.

**LEICESTER ISOLATION HOSPITAL AND SANATORIUM.**—Resident Medical Officer (male). Salary £250 per annum.

**LEICESTER ROYAL INFIRMARY.**—House-Physician. Salary as Senior £150, as Junior £120 per annum.

**MADRAS AND SOUTH MADRASS RAILWAY.**—District Medical Officer. Commencing salary according to age and qualifications, rising to a maximum of Rs.1,550 per mensem.

**MANCHESTER: ST. MARY'S HOSPITALS.**—(1) Resident Obstetric Officer for the Whitworth Street West Hospital (Maternity). (2) Resident Surgical Officer for the Whitworth Park Hospital (Gynaecological and Children). Salaries £200 per annum.

**MANCHESTER UNION.**—Two Assistant Medical Officers at the Booth Hall Infirmary for Children. Salary £275 per annum each, rising to £325.

**MINISTRY OF PENSIONS.**—Junior Medical Officer at the Highbury Group of Hospitals, Birmingham. Salary £350 per annum.

**NOTTINGHAM GENERAL HOSPITAL.**—Pathologist. £350 per annum and fees for private work.

**QUEEN'S HOSPITAL FOR CHILDREN, Hackney Road, E.2.**—House-Surgeon (male). Salary at the rate of £100 per annum.

**ROYAL CHEST HOSPITAL, City Road, E.C.**—(1) Medical Officer (non-resident) in charge of the Tuberculosis Dispensary Department; salary £150 per annum. (2) Physician with charge of out-patients.

**ROYAL FREE HOSPITAL, Gray's Inn Road, W.C.1.**—Casualty Officer. Salary £100 per annum.

**ST. PAUL'S HOSPITAL FOR SKIN AND GENITO-URINARY DISEASES, Endell Street, W.C.2.**—(1) Honorary Surgeon. (2) Honorary Assistant Surgeon.

**SUSSEX: GENERAL INFIRMARY.**—House-Surgeon (male). Salary £150 per annum.

**WEIR HOSPITAL, Grove Road, Balham, S.W.12.**—Senior Resident Medical Officer (male). Salary £150 per annum.

**WEST END HOSPITAL FOR NERVOUS DISEASES.**—(1) Assistant Surgeon. (2) Physician for Skin Department. (3) House-Physician (male) for In-patients. (4) Clinical Assistant in the Speech Department. Salary for (3) at the rate of £150 per annum.

**WEST LONDON HOSPITAL, Hammersmith Road, W.6.**—Honorary Surgical Registrar. Honorarium £100 per annum.

**WORCESTER GENERAL INFIRMARY.**—Senior Resident Medical Officer. Salary £180 per annum.

**YORK CITY COUNCIL.**—Medical Officer of Health and School Medical Officer. Salary £1,000 per annum.

**CERTIFYING FACTORY SURGEONS.**—The Chief Inspector of Factories announces the following vacant appointments: Penmachno (Carnarvon), Forfar (Forfar), Bognor (Sussex).

**MEDICAL REFEREE UNDER THE WORKMEN'S COMPENSATION ACT** for the Bishop's Waltham, Petersfield, and Portsmouth County Courts (Circuit No. 51). Applications, preferably from medical practitioners resident in Portsmouth, to the Private Secretary, Home Office, by February 21st.

*This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Tuesday morning.*

### APPOINTMENTS.

**BULEY, Hamilton, F.R.C.S.Eng.**, Assistant Surgeon, Liverpool Royal Infirmary.

**LACK, Victor J., F.R.C.S.Eng.**, Lecturer in Midwifery and Diseases of Women at the University of Birmingham.

**MANCHESTER ROYAL INFIRMARY.**—House-Physicians: R. W. Parker, M.B., Ch.B., S. P. Wilson, M.Sc., M.B., Ch.B., C. Eccleston, M.B., Ch.B.,



Dr. B. C. L. Walker, M.B., Ch.B., Hunter, M.B., Ch.B., A. H. Macdonald, M.B., Ch.B., B. S. F. Clegg, M.B., Ch.B., C. V. Brown, to the Specials Department: W. E. Hunter, Junior Pathological Registrar: W. M. Roberts, M.Sc., M.B., Ch.B.

## DIARY OF SOCIETIES AND LECTURES.

### ROYAL SOCIETY OF MEDICINE.

War Section: Mon., 5 p.m., Major A. T. Frost, R.A.M.C.: Treatment of ...  
 ... Medicine, and Disease in Children: ...  
 Milk Supply. Speakers: Dr. Robertson, Dr. Niven, Lieut.-Colonel J. W. ...  
 ... 4.30 p.m., Laboratory ...  
 ... A New Method of Studying ...  
 ... Dr. Hermann ...  
 ... S. Melbourn ...  
 ... Discussion: ...  
 ... Tea at 4 p.m.  
 Section of Surgery—Subsection of Proctology: Wed., 5.30 p.m., Discussion: ...  
 ... to be opened by Mr. F. Swinford Edwards, followed by Mr. J. P. Lockhart-Mummery, Sir G. Gordon-Watson, Mr. H. Graeme ...  
 Section of Neurology: Thurs., 8.30 p.m., Discussion: The Etiology and ...  
 Treatment of Subacute Combined Degeneration of the Spinal Cord: ...  
 to be opened by Drs. A. F. Hurst and H. J. MacBride.  
 Section of Tropical Diseases and Parasitology: Thurs., 5.30 p.m., Mr. A. F. ...  
 MacCallan: Ophthalmology in Egypt, Captain W. H. Dye: Schistosomiasis and Splenomegaly in Nyasaland.  
 Clinical Section: Fri., 5 p.m., Cases.  
 Section of Ophthalmology: Fri., 8 p.m., Cases. 8.30 p.m., Discussion: ...  
 The Etiology of Miner's Nystagmus. Speakers:—Dr. T. L. Jewell, ...  
 General; Professor J. S. Haldane: Physiological Consequences of Work ...  
 in very Dim Illumination; Mr. H. S. Elworthy: The Quality of ...  
 Illumination in Coal Mines; Professor E. L. Collis: Compensation as a ...  
 Factor in the Causation of Miner's Nystagmus; Dr. G. H. Fowler: ...  
 The Personal Factor in the Causation of the Disease; Dr. F. Robson: ...  
 The Effect of Mine Gases.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.—Mon., ...  
 5 p.m., Mr. V. E. Negus: Some Disorders of the Larynx. Wed., 5 p.m., ...  
 Mr. R. Lawford Knaggs: Osteitis Deformans and its Relation to Osteitis ...  
 Fibrosa and Osteomalacia. Fri., 5 p.m., Mr. Stanford Cade: Regional ...  
 Anaesthesia. Sat., 4 p.m., Hunterian Oration by Sir Percy Power, ...  
 K.B.E.

BIOCHEMICAL SOCIETY. Biochemical ...  
 ... v. College, W.C.I.  
 ... Cholesterol Syn-  
 ... of Substanc...  
 ... J. C. Drummond and K. H. Coward:  
 ... Hamlin Fraction of Cod-liver Oil; (b) Ultra-  
 ... S. Tashira: Reducing Properties of Plain ...  
 and Striated Muscle. P. Haas and T. G. Hill: An Oxygen-absorbing ...  
 Mechanism in *Mercurialis perennis*. A. Wormald: Tyrosinase-tyrosine ...  
 Reaction. F. C. Harpell and H. S. Raper: Action of Tyrosinase on ...  
 Amino-acids. C. Rimington and H. D. Ray: The Phosphorus of ...  
 Caseinogen.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, W.I.—Mon., 8.30 p.m., ...  
 Discussion: The Treatment of Lymphadenoma: to be introduced by ...  
 Sir Thomas Horder, followed by Drs. Herbert French, N. S. Finzi, ...  
 Robert Knox, and others.

### POST-GRADUATE COURSES AND LECTURES.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION, ...  
 1, Wimpole Street, W.I.—Wed., 5.30 p.m., ...  
 ... Andrew ...  
 ... Balfour of Film on Malaria, with ...  
 ... Parasite as a Therapeutic Agent. ...  
 ... Children, Paddington Green, Victoria ...  
 ... uses of ...  
 ... Clinic: ...  
 ... Comprehensive Course. Clinical Work, and Lectures. St. John's ...  
 ... Hospital for Diseases of the Skin, Leicester Square, W.C.: Demonstrations ...  
 ... daily in the various departments. Pathological Demonstrations ...  
 ... arranged for, and Tues. and Thurs. Special Lectures. Tickets for ...  
 ... this particular course from the Fellowship. London School of Hygiene ...  
 ... and Tropical Medicine, Endsleigh Gardens, N.W.I.: Tues. and Thurs., ...  
 ... 2 p.m., Clinical Demonstration.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.I.—Thurs., 4 p.m., ...  
 Hernia.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.I.—Mon., ...  
 Tues., Thurs., and Fri., 2 p.m., Out-patient Clinics. Mon., ...  
 12 noon, Affluent Paths and Physiology of Sensation; 3.30 p.m., General ...  
 Treatment of Paraplegia. Tues., 3.30 p.m., Compression Paraplegia due to ...  
 Tumours. Wed., 3.30 p.m., The Optic Nerve. Thurs., 12 noon, ...  
 Cerebro-spinal Fluid; 3.30 p.m., Diagnostic Significance of Tremors. ...  
 Fri., 3.30 p.m., Some Forms of Acute Encephalitis. Operations: Tues. ...  
 and Fri., 9 a.m.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General ...  
 Hospital, Tottenham, N.15.—Daily: In-patient and Out- ...  
 Operations, Clinics in Special Departments. ...  
 Tues., 4.30 p.m., Treatment of Pulmic ...  
 Special Reference to Artificial Pneumothorax. ...  
 diagnosis.

QUEEN CHARLOTTE'S MATERNITY HOSPITAL, Marylebone Road, N.W.I.—Thurs., ...  
 5 p.m., Treatment of Placenta Praevia.

ST. JOHN'S HOSPITAL, 49, Leicester Street, W.C.2.—Chesterfield Lectures: ...  
 Tues., 5 p.m., Eczema; Thurs., 5 p.m., Eczema.

SOUTH-WEST LONDON POST-GRADUATE ASSOCIATION, St. James's Hospital, ...  
 Ouseley Road, Batham, S.W.12.—Tues., 4 p.m., Angina Pectoris.

WEST LONDON HOSPITAL POST-GRADUATE COLLEGE, Hammersmith, W.—Mon., ...  
 12 noon, Applied Anatomy. Tues., 12 noon, Clinical Cases. Wed., ...  
 12.15 p.m., Medical Pathology. Thurs., 11 a.m., Gynaecological Wards. ...  
 Fri., 10 a.m., Skin Department. Sat., 10 a.m., Operations on Throat,

Nose, and Ear. Bath 10 a.m. to 6 p.m., Sat. 10 a.m. to 1 p.m., In- and ...  
 Out-patients, Operations, Special Departments.

GRANOV POST-GRADUATE MEDICAL ASSOCIATION.—At Royal Maternity and ...  
 Women's Hospital: Wed., 4.15 p.m., Obstetrical Cases.

LIVERPOOL UNIVERSITY CLINICAL SCHOOLS.—At 3.30 p.m., Mon., Children's ...  
 Hospital: Congenital Pyloric Stenosis. Tues., Southern Hospital: ...  
 Surgical Cases. Wed., Northern Hospital: Sterility. Thurs., Stanley ...  
 Hospital: Radiology of Fractures.

MIXCHESTER: ACCIDENT HOSPITAL.—Thurs., 4.30 p.m., Diseases of the ...  
 Oesophagus.

MIXCHESTER: ST. MARY'S HOSPITAL.—Whitworth Street West Branch: Fri., ...  
 4.30 p.m., Indications for Operation in Tuberculous Adenitis.

ST. ANDREW'S INSTITUTE FOR CLINICAL RESEARCH, St. Andrew.—Tues., 4 p.m., ...  
 The Relation of Cardio-vascular Disease to the Kidney. (February 12th, ...  
 Albuminuria in Diseases other than those Primarily of the Kidney). ...  
 February 24th, Renal Insufficiency in Relation to the Risks of Surgical ...  
 Procedure.)

SHEFFIELD UNIVERSITY.—Fri., 4.30 p.m., History of Medicine—The ...  
 Beginnings of the Application of the Microscope to Medicine—Malpighi

## British Medical Association.

OFFICES AND LIBRARY, 429, STRAND, LONDON, W.C.2.

### Reference and Lending Library.

THE READING ROOM, in which books of reference, periodicals, and ...  
 standard works can be consulted, is open to members from ...  
 10 a.m. to 6.30 p.m., Saturdays 10 to 2.  
 LENDING LIBRARY: Members are entitled to borrow books ...  
 including current medical works; they will be forwarded if ...  
 desired, on application to the Librarian, accompanied by 6d. ...  
 for each volume for postage and packing.

### Departments.

SUBSCRIPTIONS AND ADVERTISEMENTS (Financial Secretary and ...  
 Manager. Telegrams: Articulate Westland, London).  
 MEDICAL SECRETARIES (Telegrams: Medisera Westland, London).  
 EDITOR, British Medical Journal (Telegrams: Attitology Westland ...  
 London).

Telephone number for all departments: Gerrard 2520 (5 lines).

SCOTTISH MEDICAL SECRETARY: 6, Rutland Square, Edinburgh. (Tele- ...  
 grams: Associate, Edinburgh. Tel.: 4361 Central).  
 IRISH MEDICAL SECRETARY: 16, South Frederick Street, Dublin. (Tele- ...  
 grams: Basillus, Dublin. Tel.: 4737 Dublin.)

### Diary of the Association.

#### FEBRUARY.

- 6 Fri. Exeter Division: Royal Devon and Exeter Hospital. Lecture ...  
 by Mr. Norman Lock on Intestinal Obstruction. 3.30 p.m.  
 Hyde Division: Dukesfield Town Hall. Address by the Medical ...  
 Secretary.
- 10 Tues. City Division: Metropolitan Hospital, Kingsland Road. Paper ...  
 by Dr. Edwin Smith on Some Legal Relationships of the ...  
 Practitioner. 9.30 p.m.
- 12 Thurs. Wakefield, Pontefract, and Castleford Division: Bull Restaurant. ...  
 Westgate, Wakefield. Paper by Mr. S. W. Daw on Modern ...  
 Treatment of Fractures. Supper, 8 p.m.  
 West Middlesex Division: King Edward Memorial Hospital. ...  
 Matlock Lane, Ealing. Address by Dr. ... Bell on Some ...  
 Haemorrhages associated with Pregnancy. 8.30 p.m.
- 13 Fri. Kensington Division: Kensington Palace Mansions Hotel, De ...  
 Vere Gardens. Address by Dr. H. H. Cole on the Present ...  
 Legal Disabilities in the Early Treatment of Mental ...  
 Disorders. 8.45 p.m.
- 15 Sun. Wilkesden Division: Dinner. Comedy Restaurant, Pantou ...  
 Street, Haymarket, S.W. 7. 7 p.m.
- 17 Tues. London: Coroners' Law and Death Certification Subcommittee, ...  
 4 p.m.
- 18 Wed. London: Special Meeting of Council, 10 a.m.
- 20 Fri. London: Science Committee, 2.30 p.m.  
 Southern Branch: South Western Hotel, Southampton, 2.45 p.m.
- 24 Tues. London: Central Ethical Committee, 2.15 p.m.  
 Croydon Division: Croydon General Hospital. Address by Dr. ...  
 J. A. Kyle on Recent Observations on Referred Pain. 8.30 p.m.
- 26 Thurs. London: Insurance Acts Committee, 12 noon.
- 27 Fri. London: Public Health Committee, 2.30 p.m.

#### MARCH.

- 4 Wed. London: Medical-Political Committee, 2.30 p.m.
- 5 Thurs. London: Journal Committee, 2.30 p.m.
- 6 Fri. Exeter Division: Royal Devon and Exeter Hospital. Lecture ...  
 by Dr. W. Gordon on the Significance of Recent Work in ...  
 Cardiology. 3.30 p.m.
- 11 Wed. London: Finance Committee, 2.30 p.m.
- 25 Wed. London: Council, 10 a.m.

## BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcement of Births, Marriages, and ...  
 Deaths is 9s., which sum should be forwarded with the notice ...  
 not later than the first post on Tuesday morning, in order to ...  
 ensure insertion in the current issue.

### BIRTHS.

CORNICACK.—At "Elmstead," Felpham, in Sussex, on December 13th, to ...  
 Major and Mrs. Cornicack (J.M.S.), a son.

EXLES.—On February 1st, at 88, Mansfield Road, Nottingham, to Felix and ...  
 Althea J. Exles, M.B., B.S. (née Bolton), a son. Home address, ...  
 "Coedyglyn," Glynciellog, Wrexham.

### DEATHS.

HAYWARD.—On January 27th, at 27, Lemon Street, Truro, Arthur Ernest ...  
 Hayward, M.R.C.S., L.R.C.P., aged 62, late of Hobart, Tasmania.

SHURLOCK.—On January 16th, at a Derby nursing home, Arthur George ...  
 Shurlock, M.A., M.B., B.S., D.P.H. Camb., M.R.C.S., L.R.C.P., Assistant ...  
 County M.O.H. Haunts, late Captain R.A.M.C., aged 50 years.

# SUPPLEMENT

TO THE

# BRITISH MEDICAL JOURNAL.

LONDON, SATURDAY, FEBRUARY 14TH, 1925.

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### British Medical Association.

#### CURRENT NOTES.

##### Proprietary Medicine Legislation.

THERE are welcome signs that the long and strenuous labours of the Association in connexion with the advertisement and sale of proprietary medicines may before long receive their reward. It is known that the Government of 1920 introduced a bill into the House of Lords which, if passed, would have gone far to remedy the abuses connected with this business. But the bill was withdrawn at the end of its career in the House of Lords for the purpose of securing agreement on one or two points which were the subject of controversy and might possibly have wrecked the bill. It is believed that the present Government intends to proceed with legislation at a convenient time, but when that time will arrive depends a good deal on how far any bill introduced may be regarded as an agreed measure. The persons chiefly concerned in coming to an agreement are the makers of these remedies, the pharmaceutical chemists and others who sell them, the medical profession, and the Government as representing the interests of the public. The recent very significant vote at the Publicity Club of London (SUPPLEMENT to the BRITISH MEDICAL JOURNAL, November 22nd, 1924, p. 189) shows that the responsible persons in connexion with the proprietary medicine trade, as well as those concerned in the advertisement of these wares, are beginning to realize that legislation is inevitable, and that it would be a wise move and an evidence of foresight to try to help forward legislation on lines which, while preserving legitimate interests, would abolish the grave abuses with which this trade is surrounded. The Pharmaceutical Society has now asked the British Medical Association to send representatives to meet representatives of the society to discuss the possibility of pressing for legislation, and no doubt this consultation will be arranged very shortly. It is the intention of the Association, with the help of the medical members of Parliament, to press the Government to take early action, and the prospects of the Government acceding to this request look more than usually promising in view of the circumstances mentioned above.

##### The Sir Charles Hastings Clinical Prize for General Practitioners.

The Council of the British Medical Association has decided to establish experimentally an annual prize—"The Sir Charles Hastings Clinical Prize"—of fifty guineas for an essay or lecture for the purpose of stimulating systematic observation, research, and record in general practice. The Council believes that systematic observation by general practitioners, along selected lines of clinical study, may result in the production of practical contributions of great

value by those who are in a favourable position for following disease through its various stages.

The first prize will be awarded in 1926, and the conditions governing its award, as adopted by the Council on April 16th, 1924, are as follows:

##### Regulations.

1. This prize is established by the Council of the British Medical Association for the promotion of systematic observation, research, and record in general practice; it includes a money award of the value of fifty guineas.
2. Any member of the Association who is engaged in general practice is eligible to compete for the prize.
3. The work submitted must include personal observations and experience of the candidate collected in general practice, and a high order of excellence will be expected. If no essay entered is of sufficient merit no award will be made.
4. Essays, or whatever form the candidate desires his (or her) work to take, must be sent to the Medical Secretary, British Medical Association, 429, Strand, W.C.2, not later than December 31st, 1925, and the prize will be awarded at the Annual General Meeting of the Association. The first award will be made in 1926.
5. If any question arises in reference to the eligibility of the candidate or the admissibility of his essay, the decision of the Council on any such point shall be final.
6. Each essay must be distinguished by a motto, and must be accompanied by an envelope marked with the same motto and including the candidate's name and address.
7. The candidate who gains the award shall, if the Council so desires, publish his paper in the BRITISH MEDICAL JOURNAL or deliver a lecture on the subject thereof at a meeting of the Association.
8. Inquiries relative to the prize should be addressed to the Medical Secretary, 429, Strand, London, W.C.2.

### Association Notices.

#### BRANCH AND DIVISION MEETINGS TO BE HELD.

**BIRMINGHAM BRANCH: NUNEATON AND TAMWORTH DIVISION.**—A clinical and pathological meeting of the Nuneaton and Tamworth Division will be held at Atherstone on Wednesday, February 25th.

**METROPOLITAN COUNTIES BRANCH: CITY DIVISION.**—A meeting of the City Division will be held at the Metropolitan Hospital, Kingsland Road, on Tuesday, March 10th, at 9.30 p.m., when Sir H. E. Bruce-Porter will read a paper on medical practice and its pitfalls.

**METROPOLITAN COUNTIES BRANCH: KENSINGTON DIVISION.**—An address will be given to the Kensington Division at Kensington Palace Mansions Hotel (Merrick Room), De Vere Gardens, opposite De Vere Hotel, at 8.45 p.m., to-day (Friday, February 13th), by Dr. R. H. Cole, physician in charge of mental diseases at St. Mary's Hospital, entitled "The present legal disabilities in the early treatment of mental disorders."

**METROPOLITAN COUNTIES BRANCH: LEWISHAM DIVISION.**—A meeting of the Lewisham Division will be held on Tuesday, February 17th, at 8.45 p.m., at the Parish Room, St. Laurence Vicarage, Bromley Road, Catford, S.E.6. Dr. F. A. Beattie will preside. Mr. W. H. Trethowan, F.R.C.S. (Guy's Hospital), will give an address on manipulative surgery.

**METROPOLITAN COUNTIES BRANCH: SOUTH MIDDLESEX DIVISION.**—A meeting of the South Middlesex Division will be held at the St. John's Hospital, Twickenham, on Wednesday, February 25th, at 8.15 p.m., for general business. At 8.30 Dr. L. R. Shore will read a paper on hilum tuberculosis, with some observations on artificial pneumothorax.

**METROPOLITAN COUNTIES BRANCH: WILLESDEN DIVISION.**—A dinner will be held at the Comedy Restaurant, Pantou Street, Haymarket, S.W.1, on Sunday, February 15th, at 7 p.m. Tickets can be obtained from Dr. W. Lock, 45, Church Road, N.W.10. A meeting of the Division will be held at the Willesden General Hospital, Harlesden Road, on Wednesday, February 25th, at 9 p.m. Agenda:—Dr. W. Lock: Report of Conference at Wembley, 1924, on Venereal Diseases.

**MIDLAND BRANCH: CHESTERFIELD DIVISION.**—At the meeting of the Chesterfield Division, to be held at the Maternity Hospital, Chesterfield, on Friday, March 13th, Dr. A. J. Hall, professor of medicine, University of Sheffield, will give an address on "Diagnostic Bunkers."

**NORTH OF ENGLAND BRANCH: SHEFFIELD DIVISION.**—A meeting of the Division will be held at the Medical Institute, Sheffield, on Wednesday, February 18th, at 8.15 p.m. Dr. Hall will give a short talk on the diagnosis of spinal paralyses, to be followed by a discussion.

Members are cordially invited to attend a supper which will precede the meeting, commencing at 8.15 p.m., at which Dr. Hall will be the guest of the Division. Members intending to be present for supper are asked to notify Dr. Colin Mearns, 22, Bewick Road, Gateshead, before Wednesday, February 18th.

**SOUTHERN BRANCH.**—A meeting of the Southern Branch will be held at the South Western Hotel, Southampton, on Friday, February 20th, at 2.45 p.m. Agenda: Correspondence; financial statement; a discussion on the need for public education on what ought to be known about cancer will be opened by the Honorary Secretary, who will move a resolution; to fix date of annual meeting of the Branch at Jersey; to make a collection for Epsom College.

**SOUTH WALES AND MONMOUTHSHIRE BRANCH: SWANSEA DIVISION.**—A meeting of the Swansea Division will be held at the General Hospital, Swansea, on Thursday, February 26th, at 8.15 p.m., when Mr. Trevor Hunter, barrister-at-law, will read a paper on the law and medicine.

**SURREY BRANCH: CROYDON DIVISION.**—A meeting of the Croydon Division will be held at the Croydon General Hospital on Tuesday, February 24th, at 8.30 p.m., when Dr. J. A. Kyle will give an address on recent observations on referred pain.

**SURREY BRANCH: GUILDFORD DIVISION.**—At the meeting of the Guildford Division, to be held at the Royal Surrey County Hospital, Guildford, on Thursday, March 5th, Sir Crisp English, K.C.M.G., will open a discussion on abdominal pain.

**YORKSHIRE BRANCH: WAKEFIELD, PONTEFRAC, AND CASTLEFORD DIVISION.**—At the meeting of the Wakefield, Pontefract, and Castleford Division, to be held at the Bull Restaurant, Wakefield, on Thursday, March 12th, Mr. E. W. Bain, F.R.C.S. (Leeds), will give a lecture on middle-ear suppuration.

## National Insurance.

### THE ROYAL COMMISSION.

The sixteenth meeting of the Royal Commission on National Health Insurance was held at the Home Office on February 5th, Lord Lawrence of Kingsgate in the chair. The main part of the sitting was devoted to the examination of Mr. F. W. Daniels, chairman, and Mr. P. Rockliff, secretary, of the Joint Committee of Approved Societies. The subjects dealt with included the scope and quality of medical benefit, the possibility of limiting cash benefits so as to leave more funds available for treatment benefits, the benefits of married women, the pooling of surpluses. Thereafter Mr. E. E. England, representing the Stock Exchange Clerks Approved Society and the Baltic and Corn Exchange Society, and Commander E. G. Holdway, representing the Lloyds Health Insurance Society, were examined on a variety of matters relative to these societies.

Proof copies of the oral evidence and the relative statements submitted at the meeting of January 22nd may be obtained from H.M. Stationery Office, Adastral House, Kingsway, London, W.C.2, on remittance of cost (2s. 3d.) and postage.

### THE RECORD CARD.

#### SOME DIFFICULTIES IN A RURAL PRACTICE.

The following is the substance of a reply, made by a West Country insurance practitioner to the county medical officer of health, when the latter had stated (1) that the "panel doctor" is paid to keep Record Cards but does not keep them in such a manner as to make them of any statistical value; and (2) that the county M.O.H. ought to have a right of free access to all Record Cards for the purpose of getting statistics for preventive medicine.

For the benefit of the county medical officer of health, who evidently has not realized what these are, I will quote a few

of the difficulties experienced in keeping Record Cards by a panel doctor in a rural district of this county.

#### A Confusion of Names.

First, I have here the Parliamentary Register for one small village in my practice. Although it gives only the names of the males over the age of 21 and the females over 30 years of age, the list contains the names of 63 Halls, 40 Bonds, 32 Giles, 29 Wills, 25 Smiths.

Of the 63 Halls, 4 are Samuel, 4 are Henry, 4 are Frederick, 3 are James, 3 are Frank, 3 are William. And as there are so many Halls they have called some of them the Clarke-Halls; and as there are so many Clarke-Halls there are now the John-Clarke-Halls, the Willie-Clarke-Halls, and the Henry-Clarke-Halls. When I am asked to visit Kathleen the message is: "It is Kathleen Willie-Clarke-Hall, not Kathleen John-Clarke-Hall." Of the 40 Bonds, 5 are Elizabeth, 4 are Eliza, 4 are Mary, 4 are Henry, 4 are George, 4 are William. Of the 32 Giles, 3 are Henry; they live in three adjacent houses, and are all Henry Giles of Badgers' Holl. Of the Smiths, 10 are John Smith, 3 are John Wm. Smith, 3 are John Henry Smith, 3 are James Smith, 2 are James Edward Smith. And so it goes on.

Now this is only one village in my practice; there are Halls by the score when you take in the whole practice, Bonds by the dozen, and so on. Add to this the fact that none of the houses are numbered, and you add to the confusion. Three John Bonds live in one long unnumbered street, and one of them is a postman. I asked him once: "What do you do with a letter addressed simply 'John Bond, Broad Street?'" He said: "Well, I open it and read it myself first, and if there's no money or anything in it for me I leave it at the house of the nearest John Bond. If I am coming this way the one at the bottom of the street gets it next; if I am going out on my round then the other John Bond gets the next chance at it, and hands it on if it isn't meant for him."

#### The Case of Samuel Hall.

Now let us see what happens when one of the seventeen Samuel Halls in the practice starts to cough. I say "Good-morning; er-er, let me see, you are—er-er, your name is—?" "Sam Hall, sir." So I turn cheerfully to the 3,000 Record Cards that my partners and I are supposed to keep, wade through the 153 Halls, pick out sixteen cards with Samuel Hall on the front, and settle down to find this man's card.

"Which approved society do you belong to?" "The National Health, sir." "I know, but I want the name of the society." "Oh, I don't rightly remember that, sir." "Well, who is the secretary; who do you pay your money to each week?" "They stops it out of my pay, sir." "If you were ill who would give you your sickness benefit?" "Sam Smith, sir." "Then you are in the Past-a-Joke Society." "No I baint, sir, that's my club that I pays into; I be in the Penitential Society for the State."

I then look through the Samuel Halls who are "in the Penitential," and find that there are twelve; so now I ask, "Where do you live?" and the answer is "Long Street." Only eight of the twelve live in Long Street, but which of them is the right one?

"What is your number in your approved society—have you got your card with you?" "No, sir. It's the Penitential, sir, that's all I can tell you. I'm Samuel James Hall of Long Street." "Oh! Samuel James Hall?" "Yes, but I don't know if they put the James on my card."

I then search through the Samuel James Halls and find that there are four, two of whom live in Long Street and are "Penitentials," but that is as far as I can get; this man is either one of the two Samuel James Halls, or possibly entered as one of the eight Samuel Halls. I cannot enter up his illness on any of these cards, since each card has a different member's number on it. Again, the cards come to me sometimes with simply "S. Hall," which may be Sidney. Many cards have Mrs. instead of Miss, and vice versa.

Of course, it eventually turns out that when I picked out sixteen cards to find the right one for one of the seventeen Samuel Halls of the practice, I naturally failed, since the card I really needed was still retained by the Insurance Committee, who sent for it two months ago. It is one of their little failings. In passing, I might add that I have here a letter from the county M.O.H., in which he promises to send me an answer in a day or two. When I say that that letter is four months old and that I have not had that answer yet, it is allowed to infer what may happen if the county M.O.H. is allowed to send for our Record Cards.

#### Other Complications.

That leads on to the next difficulty. In a practice where two men are in partnership, and one partner dies during an influenza epidemic, the remaining man, with double work to do, an epidemic on, the trouble of finding a new partner, and, perhaps,

his own household all down with influenza, has to sort out all his late partner's Record Cards and post them off to the Insurance Committee at once.

Add to this that the practice includes portions of three counties, with three Insurance Committees; that the cards must be carefully sorted out and sent to the right Committees; that for statistical purposes it is important that every case of influenza be entered on the correct Record Card, although one has had to send off half one's cards—and some idea is gained of the torture that these same Record Cards are to a would-be conscientious panel doctor. And, if that is not enough, add the fact that the cards are not returned for some weeks and are frequently lost or asked for when they have never been returned.

Another difficulty occurs when a doctor has two surgeries, and his patients, for reasons of their own, visit one surgery one day and the other the next day, and then he has to attend them at their homes a day or two later. Can he carry 3,000 Record Cards around with him? And what if his partner be called in to see some of the sick? Where are the cards to be kept? Can a doctor possibly find time to enter up every card "when the day's work is over," when his day "ends" at two in the morning?

#### *Etiology and Treatment.*

Why do all these difficulties occur? For the very good reason that the responsibility for keeping the Record Cards has been placed on the wrong shoulders. The authorities imagined, perhaps rightly, that the patient, who is after all the proper person to be made responsible for his own card, would be too slovenly to look after it properly, and so they conceived the "brilliant" idea of putting the responsibility on the already overburdened general practitioner. But one cannot do the wrong thing and expect right results, even when dealing with such "patient oxen" as panel doctors. It does not work; it never can work properly.

The only solutions possible are:

1. Make each insured person responsible for carrying his Record Card about with him, in a grease-proof cover; let him produce it to each doctor he goes to, at each place he gets treatment, and then the county M.O.H. can call on the patient and inspect the Record Card whenever the fancy takes him. (The boggy about the patient not seeing his own card is a myth; the man sees what is on his certificate every time he is ill.)

2. Abolish the present cards.

The idea of having a Record Card is in order to have a reliable record. But how can this be possible when (1) the patient often goes to a non-panel doctor for treatment; (2) hospital surgeons are under no obligation to fill in the record; (3) patients drop out of benefit for two years, have an unrecorded illness, and then return to being insured persons; (4) epidemics prevent accurate records; (5) the cards are sent for by the Insurance Committee and are absent when required; (6) the present Record Cards are admittedly so badly designed that it would be hard to find a solitary panel practitioner who has a word to say in favour of them.

#### ABSORBENT WOOL FOR INSURED PERSONS.

A LETTER has been sent by the Ministry of Health to the Retail Pharmacists' Union with reference to the supply of absorbent cotton-wool to insured persons. It has been represented to the Minister that the existing tariff requirements do not secure the supply of a cotton-wool of uniform quality, and he is advised that the difficulties would very largely be removed by the adoption of a standard sample. An arrangement has accordingly been made with the Manchester Testing House, Royal Exchange, Manchester, to retain a standard sample which, in its opinion, meets the requirements laid down in the Drug Tariff. The Testing House will be prepared to give a definite opinion whether samples submitted for testing are in accordance with the standard sample. The Minister has decided that from July 1st next all absorbent cotton-wool supplied to insured persons shall be in accordance with the requirements of the *British Pharmaceutical Codex*, 1923, and the standard sample of the Manchester Testing House.

## Naval and Military Appointments.

### ROYAL NAVAL MEDICAL SERVICE.

**SURGEON LIEUTENANT COMMANDER A. W. COCKING** to the *Broke*.  
**Surgeon Lieutenants** J. S. Harper to the *Gnat*; J. A. E. Tannian to the *Nautis*; R. Burns to the *Montrose*.

### ROYAL NAVAL VOLUNTEER RESERVE.

**Mr. F. M. B. Allen** has entered as Probationary Surgeon Lieutenant and attached to the Ulster Division.

### ROYAL ARMY MEDICAL CORPS.

**Major R. K. White, D.S.O.**, retires on retired pay, and is granted the rank of Lieutenant-Colonel.

### ROYAL AIR FORCE MEDICAL SERVICE.

**Flight Lieutenant G. McC. Jones** is transferred to the Reserve, Class D.2.  
**Flight Lieutenants** E. N. H. Gray and W. E. Barnes to No. 20 Squadron,

**India:** B. F. Haythornthwaite to No. 28 Squadron, India; P. A. Hall, A. C. Mansford, J. R. Woodrow, J. Prendergast, and T. A. Walker to R.A.F. Depot, on transfer to Home Establishment.

**Flying Officers** T. Glynn to Alrcraft Park, India; A. A. Townsend to Aircraft Depot, India; C. G. J. Nicholls and B. Pollard to Research Laboratory and Medical Officers' School of Instruction, Hampstead, for short course, on appointment to short-service commissions; H. C. C. Patterson to Marine Aircraft Experimental Establishment, Felixstowe; F. L. White to R.A.F. Depot.

### TERRITORIAL ARMY.

#### ROYAL ARMY MEDICAL CORPS.

**Majors (prov.) A. P. Hecat and A. J. Brown** are confirmed in their rank.

**Captain T. W. S. Hills** to be Major.  
To be Lieutenants: Second Lieutenant W. A. Ramsay (late R. Scots), with precedence as from June 20th, 1924; C. C. P. Anning; Supernumerary for Service with the O.T.C., Major P. K. Mitchiner to be Lieutenant-Colonel and to command the Medical Unit of the University of London O.T.C.

### TERRITORIAL ARMY RESERVE OF OFFICERS.

#### ROYAL ARMY MEDICAL CORPS.

**Lieutenant Captain (prov.) A. Massey**, from the Active List, to be Lieutenant.

The announcement regarding Captain A. Morris, which appeared in the *London Gazette* of December 31st, 1918, to be cancelled.

## VACANCIES.

**BIRMINGHAM CITY.**—Assistant Tuberculosis Officer and Assistant Medical Officer in a Sanatorium. Salary £450 per annum.

**BIRMINGHAM AND MIDLAND EYE HOSPITAL.**—House-Surgeon. Salary £110 per annum.

**BLACKPOOL.**—VICTORIA HOSPITAL.—Assistant House-Surgeon. Salary £120 per annum.

**BRIGHTON.**—NEW SUSSEX HOSPITAL.—House-Surgeon. Honorarium £50 per annum.

**BRISTOL GENERAL HOSPITAL.**—(1) Two House-Physicians. (2) House-Surgeon. (3) Resident Obstetric Officer. (4) House-Surgeon to Special Departments. (5) Casualty House-Surgeon. Salary for six months at the rate of £99 per annum, and £100 in the event of second appointment being held.

**BRISTOL ROYAL INFIRMARY.**—(1) Obstetric House-Physician. (2) Casualty House-Surgeon. (3) Two House-Physicians. (4) Four House-Surgeons. (5) House-Surgeon to the Ear, Nose, and Throat Department. (6) House-Surgeon to the Gynaecological, Ophthalmic, and Skin Departments. (7) Dental House-Surgeon. Salary for (1) and (2) £100 per annum, for (3), (4), (5), and (6) £80 per annum, and for (7) £115 per annum.

**BURY AND DISTRICT JOINT HOSPITAL BOARD.**—Resident Assistant to the Medical Superintendent. Salary £400 per annum, increasing to £450.

**CARDIFF CITY MENTAL HOSPITAL, Whitechurch.**—Resident Clinical Assistant (male). Honorarium 50 guineas for six months.

**CHICHESTER HOSPITAL FOR WOMEN, S.W.3.**—Registrar (Gynaecological). Honorarium £50 per annum.

**DERBYSHIRE GENERAL HOSPITAL.**—Junior House-Surgeon (male). Salary £153 per annum.

**DORSET COUNTY HOSPITAL, Dorchester.**—House-Surgeon. Salary £120 per annum.

**DORSET MENTAL HOSPITAL, Berrisford.**—Third Assistant Medical Officer (male). Salary £309 per annum, rising to £350.

**HAMPSHIRE: PARISH OF ST. JOHN.**—Senior and Junior Resident Assistant Medical Officer at the New Eden Hospital. Salary £250 and £150 per annum respectively.

**HOSPITAL FOR EPILEPSY AND PARALYSIS, Maida Vale, W.9.**—Medical Registrar. Honorarium £100.

**HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.1.**—Surgical Registrar. Salary £300 per annum.

**LANCASHIRE COUNTY COUNCIL.**—Two Dental Surgeons. Salary £600 per annum.

**LEEDS UNIVERSITY.**—Lecturer in Bacteriology. Salary £500.

**LINCOLN CITY AND COUNCIL BOROUGH.**—Medical Officer of Health. Salary £900 per annum.

**LONDON JEWISH HOSPITAL, Stepney Green, E.1.**—Out-patient Assistant. Salary £100 per annum.

**MADRAS AND SOUTH MADRAS RAILWAY.**—District Medical Officer. Commencing salary according to age and qualifications, rising to a maximum of Rs.1,550 per mensem.

**MANCHESTER CITY.**—Assistant Tuberculosis Officer. Salary £540 per annum, plus bonus, at present £170 19s. 9d.

**MANCHESTER: MONSIEUR HOSPITAL FOR INFECTIOUS DISEASES.**—(1) First Assistant Medical Officer. (2) Junior Medical Assistant. Salary £600 and £350 per annum respectively.

**MANCHESTER: ST. MARY'S** .....  
Whitworth Street West  
Officer for the Whitworth  
Salaries £200 per annum. .... Officer for the  
sident Surgical  
and Children).

**NEWCASTLE-UPON-TYNE: ROYAL VICTORIA INFIRMARY.**—Honorary Physician in charge of Electrical and Massage Departments.

**NOTTINGHAM GENERAL HOSPITAL.**—Pathologist. £350 per annum and fees for private work.

**QUEEN'S HOSPITAL FOR CHILDREN, Hackney Road, E.2.**—House-Surgeon (male). Salary at the rate of £100 per annum.

**ROTHERHAM COUNTY BOROUGH.**—Medical Officer of Health. Salary £1,000, rising to £1,250.

**ROYAL CHEST HOSPITAL, City Road, E.C.**—(1) Medical Officer (non-resident) in charge of the Tuberculosis Dispensary Department; salary £250 per annum. (2) Physician with charge of out-patients.

**ROYAL NORTHERN HOSPITAL, Holloway, N.**—(1) Resident Medical Officer. (2) Assistant Surgical Officer. Salary £200 and £150 per annum respectively.

**ST. THOMAS'S HOSPITAL, S.E.**—Resident Assistant Surgeon.

**WEST HAM COUNTY BOROUGH.**—Two Assistant School Medical Officers. Salary £600 per annum each.

**WEST LONDON HOSPITAL, Hammer Smith Road, W.6.**—Honorary Surgical Registrar. Honorarium £100 per annum.

**WESTERN OPHTHALMIC HOSPITAL, Marylebone Road, N.W.1.**—(1) Honorary Dental Surgeon. (2) Senior and Junior House-Surgeons. Salary £150 and £100 per annum.

**WOLVERHAMPTON AND STIFFORDSHIRE HOSPITAL.**—House-Surgeon. Salary at the rate of £150 per annum.  
**YORK CITY COUNCIL.**—Medical Officer of Health and School Medical Officer. Salary £1,000 per annum.

**CERTIFYING FACTORY SURGEONS.**—The Chief Inspector of Factories announces the following vacant appointments: Buntingford (Herts), Tenterden (Kent), Misterton (Notts).

*This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Tuesday morning.*

### APPOINTMENTS.

**MACDONALD, A. R., M.R.C.S., L.R.C.P.,** House-Surgeon to the Norfolk and Norwich Hospital, Norwich.

**PIDCOCK, B. HENZELL, M.D., B.S. Lond., F.R.C.S. Eng.,** Assistant Surgeon to the Royal Hanley County Hospital.

**SPURD, Norman A., M.A., M.Ch., B.M.Oxon.,** Member Eton College Medical Board.

**WYATT, W., M.B. Ed.,** Assistant Medical Officer, Fountain Menial Hospital, Tooting, S.W.

**CENTRAL LONDON THROAT, NOSE, AND EAR HOSPITAL, Gray's Inn Road, W.C.1.**—House-Surgeons: B. McKelvie, M.D., Ch.B. Vict., J. B. Baird, M.B., Ch.B. N.Z.

**WILLESDEN GENERAL HOSPITAL, Harlesden Road, N.W.10.**—Honorary Anaesthetist: H. A. Faulkner, M.R.C.S., L.R.C.P. Member of the Honorary Medical Staff: F. Melville Harvey, M.R.C.S., L.R.C.P.

**CERTIFYING FACTORY SURGEONS.**—T. F. Arnott, M.B., Ch.B. Glas., for the Bovey Tracey District, co. Devon; A. H. B. Kirkman, F.R.C.S. Ed., for the Staplehurst District, co. Kent.

### DIARY OF SOCIETIES AND LECTURES.

#### ROYAL SOCIETY OF MEDICINE.

**Special Discussion:** Mon., 5.30 p.m., Non-specific Disturbances of Health Due to Vitamin Deficiency. Speakers: Dr. Leonard Williams, Colonel R. McCarrison, Dr. W. Cramer, Dr. G. M. Findlay, and others. (The meeting may be adjourned at 7 p.m. and resumed at 8.30 p.m.)  
**Section of Pathology:** Tues., 8.30 p.m., D. Thomson: Researches on *B. pneumosintes*; G. M. Findlay: Acceleration of the Carcinogenic Action of Tar by Radiant Energy; A. N. Goyle: The Virulence and Toxicogenicity for Mice of "Normal" and "Rough" Forms of *B. enteritidis* Gartner.

**Section of History of Medicine:** Wed., 5 p.m., Mr. G. L. Gask: The Medical Staff of Edward III. Mr. W. Reeve Wallace and Dr. N. G. Horner will exhibit a Paduan diploma of 1523, and Dr. Arthur T. Davies a diploma of Montpellier.

**Section of Dermatology:** Thurs., 4 p.m., Cases. 5 p.m., Dr. Aldo Castellani: Observations on some Skin Diseases common in Central America, with microscopic sections, etc.). 8.30 p.m., Dr. N. Macdonald: Dr. R. M. Beath: Dysostosis

**ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.**—Mon., 8 p.m., Mr. C. P. G. Walsley: Ectopic and Imperfect Descent of the Testis. Wed. and Fri., 5 p.m., Dr. G. S. Williamson: Anatomy and Physiology of the Thyroid Apparatus.

**ROYAL SOCIETY OF TROPICAL MEDICINE AND HYGIENE, 11, Chandos Street, W.1.**—Thurs., 7.45 p.m., Demonstration by Dr. Henry Meloney (Peking): The Pathology of Experimental Leishmaniasis in the Hamster. 8.15 p.m., Professor D. Blacklock: Schistosomiasis and Goitre in Sierra Leone (illustrated by lantern slides).

**CHLSEAS CLINICAL SOCIETY, Club Room, St. George's Hospital.**—Tues., 8.30 p.m., Discussion: Some Diseases Common to the Climatieric (both sexes); to be opened by Sir Thomas Parkinson and Mr. A. Ralph Thompson.

**HAYMAN SOCIETY OF LONDON, St. Mary's Hospital, Paddington, W.**—Thurs., 8.15 p.m., Clinical Meeting.

**MEDICAL SOCIETY OF LONDON, 11, Chandos Street, W.1.**—Mon., 9 p.m., First Lettsomian Lecture by Sir Bernard Spilsbury: Wounds and Other Injuries.

**ST. BARTHOLOMEW'S HOSPITAL MEDICAL SCHOOL, West Smithfield, E.C.1.**—Mon., Tues., Wed., and Thurs., 5 p.m., Sir William I. de Courcy Wheeler: The Conservative Treatment of Fractures of the Pelvis and Lower Extremity.

### POST-GRADUATE COURSES AND LECTURES.

**FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION, 1, Wimpole Street, W.1.**—Fri., 5.30 p.m., Lecture: Some points in the Diagnosis and Treatment of Tuberculosis and Cancer of the Larynx. **North-Eastern Post-Graduate College (Prince of Wales's Hospital, Tottenham):** Intensive Course in Medicine, Surgery, and the Special Departments, daily except Saturday, 10.30 a.m. to 5.30 p.m. **Paddington Green, Victoria Hospital, and the Children's Clinic:** Combined Course in Diseases of Children. Two sessions daily. **London Lock Hospital, Lectures:** St. John's Hospital for Diseases of the Skin, Leicester Square, W.C.2: Demonstrations daily. Tues. and Thurs. **Special Lectures, London School of Hygiene and Tropical Medicine, Endleigh Gardens, N.W.1:** Tues. and Thurs., 2 p.m., Clinical Demonstration.

**HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.1.**—Thurs., 4 p.m., Intussusception.

**NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.1.**—Mon., Tues., Thurs., and Fri., 2 p.m., Out-patient Clinics. Mon., 12 noon, Afferent Paths and Physiology of Sensation. Tues., Mon., acute Combined Degeneration. Tues., 3.30 p.m., Cerebral Tumours. Wed., 3.30 p.m., The Optic Cerebro-spinal Fluid; 3.30 p.m., Methods of Otitis Media. Operations, Tues. and Fri., 9 a.m.

**QUEEN CHARLOTTE'S MATERNITY HOSPITAL, Marylebone Road, N.W.1.**—Thurs., 5 p.m., Clinical Aspects of Abortion.

**SOUTH-WEST LONDON POST-GRADUATE ASSOCIATION, St. James's Hospital, Gt. Charles Road, Balham, S.W.12.**—Thurs., 4 p.m., Diagnosis of Gastric Disease.

**WEST LONDON HOSPITAL POST-GRADUATE COLLEGE, Hammersmith, W.**—Mon., 12 noon, Applied Anatomy. Tues., 12 noon, Chest Cases. Wed., 12.15 p.m., Medical Pathology. Thurs., 2 p.m., Genito-Urinary Depart-

ment. Fri., 10 a.m., Gynaecological Operations. Sat., 10 a.m., Medical Diseases of Children. Daily 10 a.m. to 5 p.m., Sat., 10 a.m. to 1 p.m., In- and Out-patients, Operations, Special Departments.

**GLASGOW POST-GRADUATE MEDICAL ASSOCIATION.**—At Ear, Nose, and Throat Hospital: Wed., 4.15 p.m., Cases.

**LIVERPOOL UNIVERSITY CLINICAL SCHOOL.**—3.30 p.m., daily. Mon., Samaritan Hospital: Significance of Uterine Haemorrhage in Gynaecological Diagnosis. Tues., Maternity Hospital: Caesarean Section. Thurs., St. George's Skin Hospital: Skin Cases.

**MANCHESTER: ANTONIS HOSPITAL.**—Thurs., 4.30 p.m., Diseases of the Oesophagus.

**MANCHESTER: ST. MARK'S HOSPITALS.**—Whitworth Street West Branch: Fri., 4.30 p.m., Ante-Natal Management.

**ST. ANDREWS INSTITUTE FOR CLINICAL RESEARCH, St. Andrews.**—Tues., 4 p.m., Albuminuria in Diseases other than those primarily of the Kidney. (Thurs., February 24th, Renal Insufficiency in Relation to the Risk of Surgical Procedure. Tues., March 3rd, Albuminuria and Pregnancy.)

### British Medical Association.

OFFICES AND LIBRARY, 112, STRAND, LONDON, W.C.2.

#### Reference and Lending Library.

**THE READING ROOM,** in which books of reference, periodicals, and standard works can be consulted, is open to members from 10 a.m. to 6.30 p.m., Saturdays 10 to 2.

**LENDING LIBRARY:** Members are entitled to borrow books, including current medical works; they will be forwarded if desired, on application to the Librarian, accompanied by 6d. for each volume for postage and packing.

#### Departments.

**SUBSCRIPTIONS AND ADVERTISEMENTS (Financial Secretary and Business Manager, Tel. 4361 Central.)**  
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**IRISH MEDICAL SECRETARY:** 16, South Frederick Street, Dublin (Telegrams: Bacillus, Dublin. Tel. 4737 Dublin.)

#### Diary of the Association.

- FEBRUARY.**  
13 Fri. Kensington Division: Kensington Palace Mansions Hotel, De Vere Gardens. Address by Dr. R. H. Cole on the Present Legal Disabilities in the Early Treatment of Mental Disorders, 8.45 p.m.  
15 Sun. Willesden Division: Dinner, Comedy Restaurant, Pantos Street, Uxbridge, S.W. 4 p.m.  
17 Tues. London: Coroners' Law and Death Certification Subcommittee, 4 p.m.  
Lewisham Division: Parish Room, St. Laurence Vicarage, Bromley Road, S.E.6. Address by Mr. W. H. Trethowan on Manipulative Surgery, 8.45 p.m.  
18 Wed. London: **Special Meeting of Council**, 10 a.m. Gateshead Division: Medical Institute, 7, Windsor Terrace, Newcastle-on-Tyne. Short talk by Dr. G. Smith on the Diagnosis of Spinal Paralysis, 9 p.m. Supper, 8.15 p.m.  
20 Fri. London: Science Committee, 2.30 p.m.  
London: Propaganda Subcommittee, 2.30 p.m.  
Southern Branch: South-Western Hotel, Southampton, 2.45 p.m.  
23 Tues. London: Council Ethical Committee, 2.15 p.m.  
Croydon Division: Croydon General Hospital. Address by Dr. J. A. Ryle on Recent Observations on Referred Pain, 8.30 p.m.  
25 Wed. South Middlesex Division: St. John's Hospital, Tulsehedge. General Business, 8.15 p.m. Paper by Dr. L. R. Shore on Illium Tuberculosis with Some Observations on Artificial Pneumothorax, 8.30 p.m.  
Willesden Division: Willesden General Hospital, Harlesden Road, 9 p.m.  
26 Thurs. London: Insurance Acts Committee, 12 noon.  
Swansea Division: General Hospital, Swansea. Paper by Mr. Trevor Hunter on the Law and Medicine, 8.15 p.m.  
27 Fri. London: Public Health Committee, 2.30 p.m.  
**MARCH.**  
3 Tues. London: Organization Committee.  
4 Wed. London: Medical-Political Committee, 2.30 p.m.  
5 Thurs. London: Journal Committee, 2.30 p.m.  
Culford Division: Royal Surrey County Hospital, Guildford. Discussion on Abdominal Pain, to be opened by Sir Crisp English.

### BIRTHS, MARRIAGES, AND DEATHS.

*The charge for inserting announcement of Births, Marriages, and Deaths is 9s., which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.*

#### BIRTHS.

**HUGH FERGUSON.**—At 18, Walker Street (nursing home), Edinburgh, on February 7th, 1925, the wife of Captain W. Hugh Ferguson, M.C., R.A.M.C., of a daughter.  
**STEWART.**—On February 9th, at Hiltside, Uxbridge, Rhodesia, the wife of J. Lennox Stewart, D.S.O., M.C., M.B., a son (Donnld).

#### DEATHS.

**CRITCHLOW.**—On February 6th, at Brompton, Eberth Aubrey Lennox Critchlow, M.R.C.S., L.R.C.P., of Trinidad and King's College Hospital, London, aged 30.  
**DEWAR.**—On January 31st, 1925, accidentally killed, John Dewar, L.R.C.P., L.R.C.S. Edin., of 4, Harley Road, South Hampstead, and formerly of 132, Sloane Street, S.W., aged 80 years. R.I.P.  
**MURIN.**—At 1, Nelson Road, Southsea, on January 28th, 1925, John Martin, late Highland Regt.  
**ROWS.**—At 65, Gundry Row, Mental Hospital, Prestwich, younger son of R. G. Rows, The Willows, Helston, on January 28th, 1925, in his 78th year. Interred at Helston, Feb. 1925.  
Pallologist to the County



# SUPPLEMENT TO THE BRITISH MEDICAL JOURNAL.

LONDON, SATURDAY, FEBRUARY 21st, 1925.

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## Association Notices.

### SPECIAL REPRESENTATIVE MEETING.

Notice is hereby given that a Special Representative Meeting of the Association will be held in the Wesleyan Central Hall, Westminster, London, on Thursday, March 12th, 1925, at 9.30 in the forenoon, on the requisition of the Council, to consider the following motion:

That the members of the Representative Body present be authorized to attend a Conference called for Thursday, March 12th, and (if necessary) Friday, March 13th, 1925, at 10 a.m., in association with representatives of Local Medical and Panel Committees, to consider a Memorandum of Evidence proposed to be submitted to the Royal Commission on National Health Insurance.

By order of the Chairman of the Representative Body,

ALFRED COX,

*Medical Secretary.*

February 18th, 1925.

### British Medical Association.

#### CURRENT NOTES.

##### Royal Commission on National Health Insurance.

THE Council of the British Medical Association, at its meeting on Wednesday, February 18th, received a report of the replies of the local meetings of the profession upon the questions submitted with respect to the draft Memorandum of Evidence proposed to be given by the Association before the Royal Commission on National Health Insurance. The Council received also the draft Memorandum of Evidence as revised in accordance therewith by the joint meeting of the Royal Commission Committee and the Insurance Acts Committee. The revised Memorandum as approved by the Council will appear in the SUPPLEMENT to the BRITISH MEDICAL JOURNAL of February 28th, and will thus reach all members of the Association. Further, copies of the SUPPLEMENT in question will be forwarded direct from the Head Office to all non-members of the Association in Great Britain. The Council, as already intimated, will summon a Joint Conference of Representatives of Divisions and of Local Medical and Panel Committees to be held in London on March 12th for the purpose of considering the revised draft Memorandum of Evidence, and it is hoped that, between the issue of the document in the SUPPLEMENT of February 28th and the date of the Conference, Divisions of the Association and Local Medical and Panel Committees will hold meetings for the purpose of instructing their representatives as to their views, in anticipation of the discussion which will take place at the Joint Conference on March 12th. Honorary secretaries of Divisions and Local Medical and Panel Committees should note that the Council will invite to the Conference on March 12th (a) all Representatives of Representative Body Constituencies holding office for 1924-25, and (b) all Panel Conference Representa-

tives appointed by the Local Medical and Panel Committees for the session 1924-25, unless the Medical Secretary is notified that deputies are acting on this occasion.

##### Election of Council.

There are two vacancies upon the Council for the period commencing with the Annual Meeting at Bath next July among the members of Council appointed by the Oversea groups of Branches. As will be seen from the Association Notice in another page, two nominations have been received in respect of the African Group, with the result that voting papers will be issued towards the end of this month to the members of those Branches. It is a pity that no nominations have been received from the Hong-Kong and China and Malaya Group, especially in view of the opening ceremony of the new house of the Association. It now rests with the Council of the Association either to fill the vacancy itself or require nominations from members of the Branches.

##### The Association's Policy for Assistant School Medical Officers.

It is gratifying to see that some progressive education authorities are adopting the policy of the British Medical Association as to the qualifications of their assistant school medical officers. In order to justify the demand for a minimum commencing salary of £600 a year, the Association stipulated that such an officer should have had not less than three years' experience since qualification, and in view of that fact and of the knowledge that comparatively few assistant school medical officers rise to higher rank or much higher salary, such a commencing salary must be regarded as reasonable. The county borough of West Ham, which has distinguished itself by stipulating that "applicants must be members of their professional association," is now advertising for an assistant school medical officer, demanding the three years' experience since qualification, and stating that the D.P.H. will be considered a recommendation.

## Association Notices.

### ELECTION OF MEMBERS OF COUNCIL OF ASSOCIATION BY BRANCHES OUTSIDE THE UNITED KINGDOM.

Two candidates (Dr. J. BARCROFT ANDERSON, East London, South Africa, and Mr. ALFRED R. FUEL, London, England) have been nominated to represent the African Group of Branches upon the Council of the Association for the three years 1925-26. Voting papers will therefore be posted from the Head Office on Monday, March 2nd, 1925, to every member of the Branches in the Group—namely: Border (South Africa), Cape of Good Hope (Eastern), Cape of Good Hope (Western), Egyptian, Gibraltar, Grigoland West, Kenya, Malta, Natal Coastal, Natal Inland, Nyasaland, Orange Free State and Basutoland, Pretoria, Rhodesian, Sierra Leone, Tanganyika Territory, Uganda, Witwatersrand, and Zanzibar. The voting papers must be returned so as to reach the Medical Secretary, British Medical Association, 429, Strand, London, W.C.2, not later than May 16th, 1925.

There were no nominations in respect of the Hong Kong and China and Malaya Branches.

The following are the other Representatives on the Council for the Groups of Branches outside the United Kingdom:

Mr. T. P. DUNHILL, C.M.G. (was elected for the three years 1924-27), South Australian, Tasmanian, Victorian, and Western Australian Branches.

Dr. DAVID EWART, O.B.E. (was elected for the three years 1923-26), New Zealand and Fiji Branches.

Dr. F. J. GOMEZ (was elected for the three years 1923-27), West Indian and Canadian Group of Branches.

Lieut.-Colonel J. W. F. RAIT, I.M.S.(ret.) (was elected for the three years 1923-27), Indian Group of Branches.

Sir JENNER VERRALL, LL.D. (was elected for the three years 1924-26), New South Wales and Queensland Branches.

### BRANCH AND DIVISION MEETINGS TO BE HELD.

**BIRMINGHAM BRANCH: NUNEATON AND TAMWORTH DIVISION.**—A clinical and pathological meeting of the Nuneaton and Tamworth Division will be held at Athlerton on Wednesday, February 25th.

**BORDER COUNTIES BRANCH: DUMFRIES AND GALLOWAY DIVISION.**—The next meeting of the Dumfries and Galloway Division will be held in the Royal Infirmary, Dumfries, on Thursday, February 26th, at 3.30 p.m. The business includes consideration of the report of the Scottish Departmental Committee on Puerperal Morbidity and Mortality.

**KENT BRANCH: DARTFORD DIVISION.**—A meeting of the Dartford Division will be held at the New Erith Hospital at 3 o'clock on Friday, February 27th. Mr. H. S. Souttar, C.B.E., F.R.C.S., of the London Hospital, will give an address on modern treatment of fractures, and it is hoped that all practitioners in the Dartford area will be able to attend.

**EDINBURGH BRANCH.**—The winter clinical meeting of the Edinburgh Branch will be held in the Royal Infirmary, Edinburgh, on Friday, February 27th. All members of the profession are cordially invited. Senior medical students desirous of attending will be admitted by card, obtainable from Mr. F. E. Jardine. The museum will be open from 10 a.m. to 6 p.m. Arrangements will be made for holding special clinics during the day. The clinical meeting will be held at 3.30 p.m. Dinner at 6.30 in the Caledonian Station Hotel (morning dress); dinner ticket, price 10s. 6d.

**LANCASHIRE AND CHESHIRE BRANCH: HYDE DIVISION.**—At a meeting of the Hyde Division to be held at the Hyde Town Hall on Thursday, March 12th, at 8.30 p.m., Dr. Ralphs will give his impressions of a short visit to the United States of America.

**METROPOLITAN COUNTIES BRANCH: CITY DIVISION.**—A meeting of the City Division will be held at the Metropolitan Hospital, Kingsland Road, on Tuesday, March 10th, at 9.30 p.m., when Sir R. E. Bruce-Porter will read a paper on medical practice and its pitfalls.

**METROPOLITAN COUNTIES BRANCH: KENSINGTON DIVISION.**—The Kensington Divisional dance will be held at the Kensington Town Hall on Thursday, May 7th. All money over after expenses have been paid will be handed to the Royal Medical Benevolent Fund and the Royal Medical Benevolent Guild. Further details will appear later, or can be obtained from the Honorary Secretary, 20, Upper Phillimore Place, W.8.

**METROPOLITAN COUNTIES BRANCH: SOUTH MIDDLESEX DIVISION.**—A meeting of the South Middlesex Division will be held at the St. John's Hospital, Twickenham, on Wednesday, February 25th, at 8.15 p.m., for general business. At 9.30 Dr. L. R. Shore will read a paper on hilum tuberculosis, with some observations on artificial pneumothorax.

**METROPOLITAN COUNTIES BRANCH: WILLESDEN DIVISION.**—A meeting of the Division will be held at the Willesden General Hospital, Harlesden Road, on Wednesday, February 25th, at 9 p.m. Agenda:—Dr. W. Lock: Report of Conference at Wembley, 1924, on Venereal Diseases.

**NORTH OF ENGLAND BRANCH: CONSETT DIVISION.**—A social meeting of the Consett Division will be held in the Railway Hotel, Consett, on Wednesday, February 25th, at 8 p.m., when Dr. George Hall, C.M.G., consulting physician, Royal Victoria Infirmary, Newcastle-

upon-Tyne, will be entertained by the Division. After the supper Dr. Hall will address the meeting on the subject of epidemic encephalitis. Supper (tickets 5s. each) will be served at 8 p.m. prompt, and it is hoped that as many members as possible will be present to meet Dr. Hall. To facilitate the arrangements for the supper, members intending to be present should notify the Honorary Secretary (Dr. J. Charles, Hillside House, Stanley, S.O.) not later than Monday, February 23rd.

**SOUTH WALES AND MONMOUTHSHIRE BRANCH: SWANSEA DIVISION.**—A meeting of the Swansea Division will be held at the General Hospital, Swansea, on Thursday, February 26th, at 8.15 p.m., when Mr. Trevor Hunter, barrister-at-law, will read a paper on the law and medicine.

**SOUTHERN BRANCH: WINCHESTER DIVISION.**—A meeting of the Winchester Division will be held at 4, The Square, Winchester, on Thursday, March 19th, at 3.30 p.m., when a British Medical Association Lecture will be given by Professor H. Maclean on the present position of endocrine diseases from a clinical standpoint.

**SURREY BRANCH: CROYDON DIVISION.**—A meeting of the Croydon Division will be held at the Croydon General Hospital on Tuesday, February 24th, at 8.30 p.m., when Dr. J. A. Kyle will give an address on recent observations on referred pain.

**SURREY BRANCH: GUILDFORD DIVISION.**—At the meeting of the Guildford Division, to be held at the Royal Surrey County Hospital, Guildford, on Thursday, March 5th, Sir Crisp English, K.C.M.G., will open a discussion on abdominal pain.

## Meetings of Branches and Divisions.

### EGYPTIAN BRANCH.

The Egyptian Branch of the British Medical Association held a clinical meeting at the School of Medicine, Kasr-el-Aini, Cairo, on January 26th. Sixty-seven members and other medical men were present.

A paper was read by Dr. CAROLINE MAULE on the prevention and control of diphtheria (the Schick test). This paper had originally been read at Bordeaux at the International Health Congress last summer. A very active and interesting discussion was carried on afterwards by SUHAIB PASHA, Under Secretary of State, Public Health, Mr. MADNET, and the medical officers interested in the epidemic work of Egypt. Later on a clinical evening was held, in which many interesting cases illustrating the diseases peculiar to Egypt were shown and discussed.

It is hoped that this will be the first of a very large number of similar successful meetings in the future.

### BORDER COUNTIES BRANCH.

A MEETING of the Border Counties Branch was held at Dumfries and Galloway Royal Infirmary on December 18th, 1924, when Dr. M. Bryson (President) was in the chair.

The meeting unanimously supported the resolution of the Branch council to make an offer to the Council of the Association of a flag for the new hall, bearing the arms of the City of Carlisle, to commemorate the Association's visit there in 1899.

A discussion on fractures, their diagnosis and treatment, was opened by Dr. G. R. LIVINGSTON, followed by Dr. R. COXWELL (who showed many most interesting skiagraphs), Mr. NORMAN MACLAREN, Drs. M. KERR, J. E. BOWSER, J. D. ROBSON, J. CROFT, M. BRYSON, and others.

Tea was provided by the President, and afterwards Dr. LIVINGSTON gave a demonstration of splints and Hey Groves appliances.

### LANCASHIRE AND CHESHIRE BRANCH: WARRINGTON DIVISION.

A most enjoyable evening was spent by the Warrington Division on February 12th, on the occasion of the annual dinner. Dr. ARTHUR ANDERSON was in the chair, and there were twenty-eight others present, among the visitors being Dr. G. C. ANDERSON (Deputy Medical Secretary), Dr. CONRAD STURROCK, Dr. S. E. CRITCHLEY, Dr. JAMES, and Dr. JEANS.

Following the usual toasts, interspersed with musical items, Dr. E. J. FOX proposed that of the British Medical Association. He pointed out the danger of its becoming the organ of the majority, and raised again the question of medical defence. Dr. G. C. ANDERSON responded in an extremely able and satisfying speech, referring in particular to the extensive ramifications of the Association, the activities in India, Malaya, and Canada (where Empire work had been done), to the necessity of the majority prevailing—at the same time illustrating that all medical classes were catered for. He gave the Division to understand that the question of medical defence was being very seriously considered by the appropriate committee of the Association in order that the Council might report to the Representative Body this year as to the advisability of the Association taking up the matter.

### NORTH LANCASHIRE AND SOUTH WESTLORLAND BRANCH.

A CLINICAL meeting of the North Lancashire and South Westmorland Branch was held at Calgarth Hospital, Windermere, by kind permission of Mr. Hough, on January 22nd. There were twenty-nine present, which, taking into account the scattered area of the Branch and the prevalence of influenza, was considered a very excellent attendance. A highly interesting and instructive paper, entitled "The chronic abdomen," was given by Mr. WILSON H. HEY, M.B., F.R.C.S. (Manchester). The discussion that followed showed how much the paper had been appreciated and the novel points noted. Mr. Hey briefly replied. Votes of thanks to Mr. Hey and to Mr. Hough concluded the meeting.

## National Insurance.

## A NATIONAL INSURANCE INQUIRY.

WE have received from the Ministry of Health various documents relating to a committee of inquiry into the professional conduct of a Salford insurance practitioner. The documents include a full report of the inquiry and the formal announcement of the Minister's decision. The case was exceptional in that the respondent practitioner (whom we prefer to write of as Dr. X) pleaded guilty to certain acts which the Court of Inquiry (duly constituted by the Medical Benefit Regulations, 1924) described in its report as "deliberately fraudulent with no justification." Dr. X's application that the inquiry should be held in private was rejected and the case was heard in public. It appeared that Dr. X had, after the charges had been notified to him, sold his practice and had sent in his resignation from the panel, but the resignation was not allowable. Moreover, his counsel decided not to call Dr. X and to withdraw from the inquiry altogether, but this was not permitted to prevent the inquiry proceeding.

To understand properly the charges which were brought against Dr. X by the Salford Local Medical and Panel Committee, it should be noted that the remuneration of the Manchester and Salford panel practitioners is on the system of "payment per attendance," each doctor being provided with a day book in which he has to enter every attendance given to insured persons. At the end of each quarter the Panel Committee, taking into account the amount of money available for distribution to the panel doctors and the total attendances given by all the panel doctors, has to decide what fee can be paid for each attendance, having regard to the various sorts of attendances, such as visits, consultations, operations, etc., and after some allowances for contingencies have been made, each doctor whose claim is passed is paid, on account, in proportion to the number of his actual attendances, any balance remaining being distributed at the end of the year. Thus it is the duty of the Panel Committee carefully to scrutinize the doctors' day sheets and to see that payment is only made for attendances actually rendered, as overpayment to any one doctor would inflict an injustice on all the others. A good deal of reliance has to be put on the honour of the doctors, but there is no reason to believe that this confidence has been abused to any appreciable extent, though the case in question appears to be an example of such abuse.

The charges brought against Dr. X were briefly as follows:

1. That he had entered on his day sheets attendances on an insured person, Mr. A, which he had not rendered. It appeared that when Dr. X was attending a child of Mr. A, the mother of the child offered to pay Dr. X's fee, but he refused to accept the fee, and obtaining the father's medical insurance card, marked the attendance on the day sheets as attendance rendered to Mr. A himself and gave prescriptions on the official form, thus imposing an improper charge on the panel fund and the drug fund.
2. That Dr. X entered on his day sheets four attendances on another insured person, Mr. B, which had never been made, for the purpose of getting payment from the Insurance Committee.
3. That Dr. X entered three attendances on an insured woman which had never been made. This charge was withdrawn as it was impossible to obtain the woman as a witness at the inquiry.
4. Dr. X was charged with signing certificates on the official form, stating that he had examined an insured person on the dates named, though he had not in fact done so. This charge was also withdrawn though it was admitted that Dr. X's assistant had signed the certificates, although neither Dr. X nor the assistant had seen the person on the dates named.
5. This was a charge that Dr. X had issued a prescription without any examination, and this was admitted to be the case.
6. That Dr. X issued a prescription to an insured person though he knew that another panel doctor was attending the person. On this charge Dr. X was acquitted.

As regards charges 1 and 2, Dr. X's counsel admitted on behalf of Dr. X that attendances which had not been made had been entered on the day sheets and payment for them claimed from the Insurance Committee, the only excuse being that Dr. X was at the time working under great difficulties owing to epidemics of measles and influenza. Though these charges were admitted, evidence was given in full detail before the inquiry committee, witnesses being duly sworn and the relevant day sheets and other documentary evidence being produced.

The inquiry committee held that these two charges were proved, and reported to the Minister of Health that Dr. X "deliberately

and fraudulently caused false entries to be made on the day book sheets," and issued a prescription in the name of Mr. A, which was really intended for an uninsured child.

As a result of the inquiry, the Minister of Health has decided to remove Dr. X from the panel list for Manchester and Salford, as he is adjudged guilty of conduct prejudicial to the efficiency of the medical service of the insured; and it is further ordered that the costs of the Panel Committee, to be taxed as between party and party, shall be paid by Dr. X.

The gross irregularities outlined above were fully proved and admitted by Dr. X himself, and as the regulations stand the Panel Committee could not do otherwise than bring the case forward in the prescribed way. Had it not done so the Committee would have forfeited the confidence of the insurance doctors, who look to it for protection against fraudulent demands on the medical benefit pool. The case is of general interest, however, because it shows that the inquiry committees appointed by the Minister of Health are now being called on to give verdicts, where definite fraud is alleged, like a jury in a court of common law, and that the Minister is at liberty to publish as he thinks fit to all insurance committees and to the medical profession, through the medical press, his decision that a panel doctor has been adjudged guilty of fraud by a tribunal so constituted. Apart altogether from the merits—or rather the demerits—of the case in question, it may reasonably be contended that when charges of fraud are to be inquired into the inquiry committee should sit in private, or that the Minister of Health should avail himself of the provision of paragraph 62 of the Medical Benefit Regulations, 1924, which provides that where the alleged facts "are, or may be, the subject of investigation by any other tribunal, he (the Minister) may, if he thinks fit, direct that no further steps shall be taken under this part of the regulations pending the issue of such other investigation."

## THE ROYAL COMMISSION.

THE seventeenth meeting of the Royal Commission on National Health Insurance was held at the Home Office on February 12th, Lord Lawrence of Kingsgate in the chair. Mr. C. H. Waring, representing the Group of Catholic Approved Societies, gave evidence on questions of additional benefits and insurance of married women. Thereafter the examination of Mr. F. W. Daniels, chairman, and Mr. P. Rockliff, secretary, of the Joint Committee of Approved Societies, was continued and concluded. The National Insurance Beneficent Society, represented by Mr. G. W. Canter and Mr. P. Rockliff, was then heard on the question of its administration of treatment benefits.

Proof copies of the oral evidence and the relative statement submitted at the meeting of January 29th may be obtained from H.M. Stationery Office, Adastral House, Kingsway, W.C.2, on remittance of cost (2s. 3d.) and postage.

## VACANCIES.

- BATH: ROYAL UNITED HOSPITAL.—Honorary Anaesthetist.  
BIRMINGHAM: GENERAL HOSPITAL.—Medical Registrar and Resident Medical Officer. Salary £355 per annum.  
BIRMINGHAM AND MIDLAND HOSPITAL FOR WOMEN.—House-Surgeon. Salary at the rate of £75 per annum.  
BRIGHTON: NEW SUSSEX HOSPITAL.—House-Surgeon. Honorarium £50 per annum.  
BRISTOL GENERAL HOSPITAL.—(1) Two House-Physicians. (2) House-Surgeon. (3) Resident Obstetric Officer. (4) House-Surgeon to Special Departments. (5) Casualty House-Surgeon. Salary for six months at the rate of £80 per annum, and £100 in the event of second appointment being held.  
BRISTOL ROYAL INFIRMARY.—(1) Obstetric House-Surgeon. (2) Casualty House-Physicians. (3) Four House-Surgeons. (4) Four House-Physicians. (5) Four House-Surgeons. Ear, Nose, and Throat Department. (6) House-Physicians. Ophthalmic, and Skin Departments. Salary for (1) and (2) £100 per annum, for (3) £116 per annum, for (4) £130 per annum, for (5) £140 per annum, for (6) £150 per annum.  
B. HOSPITAL BOARD.—Resident Assistant to the Salary £400 per annum, increasing to £450.  
CAMBRIDGE: ANDENBROOKE'S HOSPITAL.—House-Surgeon (male). Salary at the rate of £150 per annum.  
CROYDON GENERAL HOSPITAL.—Junior House-Surgeon (male). Salary £150 per annum.  
HINSTEAD: PARISH OF ST. JOHN.—Senior and Junior Resident Assistant Medical Officer at the New End Hospital. Salary £250 and £150 per annum respectively.  
HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.1.—Surgical Registrar. Salary £300 per annum.  
KING'S LYNN: WEST NORFOLK AND KING'S LYNN HOSPITAL.—Assistant Resident Medical Officer. Salary £100 per annum.  
LAVENSHIRE COUNTY COUNCIL.—Two Dental Surgeons. Salary £600 per annum.  
LITCHFIELD ROYAL INFIRMARY.—Two Surgical Dressers. Honorarium 10s. 6d. per week.

LONDON TEMPERANCE HOSPITAL, Hampstead Road, N.W.1.—Dermatologist.  
 MANCHESTER: ANCOATS HOSPITAL.—(1) Resident Medical Officer (male).  
 (2) Pathological Registrar. Salary at the rate of £175 and £100 per annum respectively.  
 MANCHESTER: CHRISTIE HOSPITAL.—Cancer Research Worker. Stipend £500 per annum.  
 MANCHESTER CITY.—Assistant Tuberculosis Officer. Salary £540 per annum, plus bonus, at present £170 18s. 9d.  
 MANCHESTER ROYAL INFIRMARY (Central Branch).—(1) Resident Medical Officer. (2) Assistant Medical Officer. (Ladies.) Salary £200 and £100 per annum respectively.  
 NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.1.—Assistant Ophthalmic Surgeon.  
 NEWCASTLE-UPON-TYNE: HOSPITAL FOR SICK CHILDREN.—Senior and Junior Resident Medical Officers. Salary at the rate of £120 and £100 per annum respectively.  
 NEWCASTLE-UPON-TYNE: PRINCESS MARY MATERNITY HOSPITAL.—Assistant Resident Medical Officer. Salary at the rate of £40, rising to £80 on appointment as Senior Resident Medical Officer.  
 NEWPORT EDUCATION COMMITTEE.—Assistant School Medical Officer and Medical Inspector of Schools (male). Salary £500 per annum.  
 NOTTINGHAM GENERAL HOSPITAL.—Pathologist. £350 per annum and fees for private work.  
 PORTSMOUTH: ROYAL PORTSMOUTH HOSPITAL.—Senior House-Surgeon (male). Salary at the rate of £200 per annum.  
 QUEEN CHARLOTTE'S MATERNITY HOSPITAL, Marylebone Road, N.W.1.—(1) Two Assistant Resident Medical Officers. (2) Senior Resident Medical Officer. Salary for (1) at the rate of £80, and for (2) £100 per annum.  
 ROTHERHAM COUNTY BOROUGH.—Medical Officer of Health. Salary £1,000, rising to £1,250.  
 ROYAL CHEST HOSPITAL, City Road, E.C.—Physician with charge of out-patients.  
 ROYAL MANCHESTER CHILDREN'S HOSPITAL, Pendlebury.—(1) Resident Surgical Officer; salary at the rate of £80 per annum for six months, rising to £120 if appointed Resident Medical Officer. (2) Assistant Medical Officer for Out-patients' Department, Garside Street; salary at the rate of £150 per annum for six months, rising to £200 on appointment as Medical Officer.  
 ROYAL NATIONAL ORTHOPAEDIC HOSPITAL, Great Portland Street, W.1.—House-Surgeon. Salary £150 per annum.  
 RUGBY: HOSPITAL OF ST. CROSS.—Senior and Junior Resident Medical Officers (males). Salary at the rate of £150 and £100 per annum respectively.  
 SALFORD ROYAL HOSPITAL.—(1) House-Surgeon. (2) Casualty House-Surgeon. Salary at the rate of £150 per annum each.  
 SALFORD UNION INFIRMARY.—Assistant Resident Medical Officer (male). Salary £275 per annum.  
 SUMNERIAN FREE HOSPITAL FOR WOMEN, Marylebone Road, N.W.1.—(1) Surgeon to In-patients. (2) Surgeon to Out-patients.  
 SHEFFIELD: JESSOP HOSPITAL FOR WOMEN.—Honorary General Physician.  
 STOCKTON AND THORNHAY HOSPITAL.—Senior House-Surgeon. Salary £250 per annum.  
 STROKE-ON-TRENT: NORTH STAFFORDSHIRE INFIRMARY.—House-Physician. Salary £150 per annum.  
 UNIVERSITY COLLEGE HOSPITAL, Gower Street, W.C.1.—Obstetric Physician.  
 WESTERN OPHTHALMIC HOSPITAL, Marylebone Road, N.W.1.—(1) Honorary Dental Surgeon. (2) Senior and Junior House-Surgeons; salary £150 and £100 per annum.  
 WESTMINSTER CITY.—Third Assistant Medical Officer (male) for St. Stephen's Hospital, Fulham Road, S.W. Remuneration £300 per annum, rising to £350.  
 WILLESDEN GENERAL HOSPITAL, Harlesden Road, N.W.10.—Honorary Radiologist.  
 WIR HOSPITAL, Grove Road, Balham, S.W.12.—Junior Resident Medical Officer (male). Salary £100 per annum.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Tuesday morning.

## DIARY OF SOCIETIES AND LECTURES.

ROYAL SOCIETY OF MEDICINE.  
 Section of Odontology: Mon., 8 p.m., Mr. F. N. Doubleday: Some Drugs and Solutions used in Local Anaesthesia. Experimental evidence will be shown at 7.30 p.m.  
 General Meeting of Fellows: Tues., 5.30 p.m., Ballot for Fellowship.  
 Section of Medicine: Tues., 5.30 p.m., Clinical Meeting at Westminster Hospital. Tea, 5 p.m.  
 Section of Pathology: Wed., 5 p.m., Dr. Nathan Raw: Cerebral Cereulosis in Man and Animals.  
 Section of State Medicine: Thurs., 5.30 p.m., Dr. Edinburgh: The Preventive Control of Diphtheria.  
 Section of Urology: Thurs., 8.30 p.m., Dr. Archer and Dr. Robb: Tolerance of the Body for Urea in Health and Disease; to be followed by a discussion in which Drs. H. Maclean, G. A. Harrison, and de Vesselow will take part. Mr. K. M. Walker: A New Diathermy Pouch Operation for Prostatic Obstruction.  
 Section of Study of Disease in Children: Fri., 5 p.m., 4.30 p.m. Cases.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.—Mon., Wed., and Fri., 5 p.m., Dr. G. W. de P. Nicholson: The Nature of Tumour Formation.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, W.1.—Mon., 8.30 p.m., Sir G. Lenthall Cheate, K.C.B.: The Early Stages of Pathological Hyperplasia in the Breast, with Special Reference to Cysts and their Danger.  
 UNIVERSITY OF LONDON.—At 1, Wimpole Street, W.1: Wed., 5 p.m., Lecture by Professor R. Cruchet: The Relation of Paralysis Agitans to the Parkinsonian Syndrome of Epidemic Encephalitis.

## POST-GRADUATE COURSES AND LECTURES.

FELLOWSHIP OF MEDICINE AND SURGERY.—At 1, Wimpole Street, W.1.—Of Wales's General Hosp. Medicine, Surgery, and all the exception of Saturday, until 5.30 p.m., and will include Demonstrations, Medical and Surgical Clinics, Operations, and opportunity for study in the Special Departments. Lectures at 4.30 p.m. London Lock Hospital, 91, Dean Street, W.1: Comprehensive Course, Clinical Work daily, and Lectures. St. John's Hospital for Diseases of the Skin, Leicester Square, W.C.1.

Demonstrations daily in the various departments. Pathological Demonstrations arranged for. Special Lectures, Tues., 5 p.m., Alpecci; Thurs., 5 p.m., Leukemias, Cutis Mycosis Fungoides. Tickets for this particular course from the Fellowship, London School of Hygiene and Tropical Medicine, Endleigh Gardens, N.W.1: Tues. and Thurs., 2 p.m., Clinical Demonstrations.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.1.—Thurs., 4 p.m., Arthritis in Childhood.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.1.—Mon., Tues., Thurs., and Fri., 2 p.m., Out-patient Clinics. Tues., 12 noon, Motor System—Pyramidal and Extra-pyramidal; £30 p.m., Myasthenia Gravis. Tues., 3.30 p.m., Cerebral Tumors. Wed., 3.30 p.m., The Optic Nerve. Thurs., 12 noon, Cerebro-spinal Fluid. Thurs., 3.30 p.m., Methods of Testing the Eighth Nerve. Fri., 3.30 p.m., Recurrent Vertigo. Operations: Tues. and Fri., 9 a.m.

QUEEN CHARLOTTE'S MATERNITY HOSPITAL, Marylebone Road, N.W.1.—Thurs., 5 p.m., Albuminuria in Pregnancy.

SOUTH-WEST LONDON POST-GRADUATE ASSOCIATION, St. James's Hospital, Onseley Road, Balham, S.W.12.—Wed., 4 p.m., Abdominal Disorders.

WEST LONDON HOSPITAL POST-GRADUATE COLLEGE, Hammer-smith, W.—Mon., 12 noon, Applied Anatomy. Tues., 12 noon, Chest Cases. Wed., 12.15 p.m., Medical Pathology. Thurs., 11 a.m., Gynaecological Wards. Fri., 2 p.m., Surgical Out-patients. Sat., 10 a.m., Medical Diseases of Children. Daily 10 a.m. to 6 p.m., Sat. 10 a.m. to 1 p.m., In- and Out-patient Operations, Special Departments.

## British Medical Association.

OFFICES AND LIBRARY, 173, STRAND, LONDON, W.C.1.

### Reference and Lending Library.

THE READING ROOM, in which books of reference, periodicals, and standard works can be consulted, is open to members from 10 a.m. to 6.30 p.m., Saturdays 10 to 2.

LENDING LIBRARY: Members are entitled to borrow books, including current medical works; they will be forwarded if desired, on application to the Librarian, accompanied by 6d. for each volume for postage and packing.

### Departments.

SUBSCRIPTIONS AND ADVERTISEMENTS (Financial Secretary and Business Manager. Telegrams: Articulate Westrand, London).  
 MEDICAL SECRETARY (Telegrams: Mediocræ Westrand, London).  
 EDITOR, British Medical Journal (Telegrams: Autology Westrand, London).  
 Telephone number for all departments: Gerrard 2630 (3 lines).

SCOTTISH MEDICAL SECRETARY: 6, Rindall Square, Edinburgh (Telegrams: Associate Edinburgh, Tel. 4561 Central).  
 IRISH MEDICAL SECRETARY: 16, South Frederick Street, Dublin (Telegrams: Baclinn, Dublin. Tel. 4731 Dublin).

### Diary of the Association.

FEBRUARY.  
 20 Fri. London: Science Committee, 2.30 p.m.  
 London: Preparation of the Report of the Committee on the Southern Branch: 4.30 p.m. to 6.30 p.m.  
 24 Tues. London: Central I.  
 Croydon Division: Croydon General Hospital. Address by Dr. J. A. Ryle on Recent Observations on Refracted Pain. 8.30 p.m.  
 25 Wed. Consett Division: Railway Hotel, Consett. Address by Dr. G. Hall on Epidemic Trachinosis. Supper, 8 p.m.  
 South Middlesex Division: St. John's Hospital, Twickenham. General Business, 8.15 p.m. Paper by Dr. L. R. Shore on Artificial Pneumothorax with Some Observations on Artificial Pneumothorax. 8.30 p.m.  
 Willesden Division: Willesden General Hospital, Harlesden Road, 9 p.m.  
 26 Thurs. London: Insurance Act Committee, 2 p.m.  
 Dumfries and Galloway Division: Royal Infirmary, Dumfries. 3.30 p.m.  
 Swansea Division: General Hospital, Swansea. Paper by Mr. Trevor Hunter on the Law and Medicine, 8.15 p.m.  
 27 Fri. London: Public Health Committee, 2.30 p.m.  
 Dartford Division: New Dartford. Address by Mr. H. S. Souttar on the Modern State of the River Dart. 3 p.m.  
 Edinburgh Branch: W. R. Edinburgh, 3.30 p.m.  
 6.30 p.m.

GLASGOW POST-GRADUATE MEDICAL ASSOCIATION.—At Western Infirmary: Wed., 4.15 p.m., Medical Cases.

MANCHESTER: ANCOATS HOSPITAL.—Thurs., 4.30 p.m., Dyspepsia.  
 MANCHESTER: ST. MARY'S HOSPITALS.—Whitworth Street, West Branch: Fri., 4.30 p.m., Contracted Pelvis.

ST. ANDREWS INSTITUTE FOR CLINICAL RESEARCH, St. Andrews.—Tues., 4 p.m., Renal Insufficiency in Relation to the Risks of Surgical Procedure. (March 3rd, Albuminuria and Pregnancy; March 10th, Albuminuria and the Specific Fevers.)

SHEFFIELD UNIVERSITY.—Fri., 4.30 p.m., History of Medicine—Origins of the Germ Theory of Disease.

## BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcement of Births, Marriages, and Deaths is 9s., which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.

### BIRTHS.

MATTHEW.—On February 15th, at Redgarth, Dundee, to the wife of Dr. David Matthew, a son.

MILLER.—At Cardiff, on February 7th, to Dr. Charles Booth Meller and Mrs. Emily Matilda Meller, M.B., Ch.D. (née McCandless), a daughter.

### DEATH.

JONES.—On February 10th, at 39, Hyde Park Gate, London, Evan Jones J.P., V.D., late of Aberdare, Glamorgan, in his 88th year. Interred at St. Fagan's Church, Aberdare, Glam., on February 13th, 1925.

# SUPPLEMENT TO THE BRITISH MEDICAL JOURNAL.

LONDON, SATURDAY, FEBRUARY 28TH, 1925.

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## British Medical Association.

### REVISED DRAFT MEMORANDUM OF EVIDENCE PROPOSED TO BE PLACED BEFORE THE ROYAL COMMISSION ON NATIONAL HEALTH INSURANCE.

#### EXPLANATORY NOTE.

The following is the draft Memorandum of Evidence which appeared in the SUPPLEMENT of January 3rd, 1925, as revised by the Council after consideration of the replies of the meetings which have been held throughout the country. The alterations (other than merely verbal changes and some rearrangements in form) may be summarized as follows:

*Part I* is new.

*Part II—Para. 12:* Amplified to make clear that certain classes at present included in Health Insurance should be excluded.

*Paras. 13 and 14:* Altered to emphasize the opinion of the profession that all dependants should not be included, only the dependants of the poorly paid insured persons, and that the difficulties about including even these are great.

*Para. 18:* A sentence has been added to emphasize the need of protecting the interests of present Poor Law medical officers if the destitute are included.

*Para. 28:* Amended to make it clear that even if the scheme of the Memorandum were adopted it would for some considerable time probably be necessary to continue the services of whole-time venereal disease officers and tuberculosis officers.

*Para. 29:* Amended to show that the proposed maternity service is only for insured women and the wives of insured men, and otherwise to make the meaning clearer, particularly as regards the method of dealing with complaints and as regards the general procedure.

The remainder of the Memorandum and the Appendices are practically unaltered. A copy of the revised document is being sent to all non-members of the Association in order that they may use it at any local meetings of the profession that may be called.

#### PART I.

##### AUTHORITY OF THE BRITISH MEDICAL ASSOCIATION.

In presenting its evidence before the Royal Commission the British Medical Association acts in a dual capacity (a) as representing the organised medical profession in this country as no other body is in a position to do, and (b) as representing, under a special mandate, those practitioners, in this memorandum called Insurance practitioners, who are at the present time under contract with Insurance Committees for the provision of medical attendance to insured persons.

##### (a) As Representing the Organised Medical Profession in Great Britain.

The right, and indeed the duty of the medical profession as a whole to state its views on National Health Insurance will not be questioned. A system which for twelve years has provided domiciliary medical attendance by a method previously untried, to some 14,000,000 persons, must necessarily have a profound effect on medical practice and on the relations of the medical profession to the Government, to the community, and to the individual patient. And when it is noted that the Royal Commission is to report on "what, if any, alterations, extensions or



In 1914 the Association called a Conference of Representatives of Local Medical and Panel Committees. This has met every year since and is now a firmly established part of the machinery which the profession has devised to meet the new problems arising out of the National Health Insurance Acts. The Conference meets annually, or oftener if required; it contains representatives, elected by every Local Medical and Panel Committee, who together with their constituents, may or may not be members of the British Medical Association; it elects its own Chairman, and it has formally and repeatedly recognised the Insurance Acts Committee of the Association as its official mouthpiece in negotiations with the Government. It uses the staff and machinery of the Association

for its own purposes, and the Association has for some years been content to leave to the Conference the decision of all questions of details, regulations, and negotiations as regards remuneration.

## PART II.

### A SCHEME OF NATIONAL HEALTH INSURANCE.

The following sections of this Memorandum are not self-contained, and must be read in connection with each other.

1. The subject of this part of the Memorandum is the organisation of a national scheme of health insurance so far as medical services are concerned and the relationship of such a scheme to other services concerned with public health.

#### GENERAL.

2. At the outset it is desired to emphasize two general considerations. The first is that the organisation of a national health insurance scheme is not necessarily, or even probably, the best means of utilising limited resources for the promotion of national health. It is more than likely that there are a number of other directions in which, severally or collectively, a corresponding expenditure would produce an even more satisfactory return. Such are (1) proper housing, (2) town-planning with the proper provision of open spaces and recreation facilities, (3) smoke abatement, (4) a pure milk supply, (5) public-house reform and the regulation of the sale of alcoholic beverages, (6) the destruction of vermin, (7) education, (8) the aiding of medical research.

3. If, however, resources are sufficient, or if for other reasons it is deemed desirable to organise a national health insurance scheme, a second general consideration becomes of paramount importance, viz., that regard should be had primarily and constantly to the maintenance of health and the prevention of disease and not merely to provision for the alleviation or cure of morbid conditions when once they have arisen. To this end it is essential not only that the attention of all practitioners should be directed continually to the preventive aspects of their work, but that the existing machinery and medical officers of the public health service should be brought into close and organic connection with the insurance scheme.

4. A national health insurance system is understood to be one through which, in return for premiums paid or contributions made, participants are entitled to medical attendance and treatment, together with certain services ancillary thereto, and also to cash payments under certain conditions during ill-health or disablement. The medical profession, as such, is concerned only with the former class of these benefits, and with the giving of such certificates and reports as may be required in connection with the latter class.

5. The system established under the National Health Insurance Acts is on these lines. The medical profession has now had experience of it since January, 1913. At the beginning the success of the system was jeopardised by the facts that a large proportion of professional opinion was antagonistic to the system or to some of its important details, that sections of the insured population shared this antagonism, and that a lack of experience, combined with the overwhelming amount of work involved, led on the one hand to unsatisfactory practice arrangements, and on the other to very imperfect administrative machinery and methods. A little later the immense disturbance of the war and then of demobilisation prevented acquired experience from having its full practical effect, and it is during the last three years only that the system can be said to have been working in a really smooth and normal fashion. Indeed, some essential improvements came into force only at the beginning of 1924. Nevertheless, in the year 1922 both the Representative Body of the Association and the Conference of Representatives of Local Medical and Panel Committees declared "that the measure of success which has attended the experiment of providing medical benefit under the National Health Insurance Acts system has been sufficient to justify the profession in uniting to ensure the continuance and improvement of an insurance system."

6. A comparison of the conditions of practice among the classes to which insured persons belong, before and since 1913, leaves no doubt in the mind of the profession (a) that large numbers, indeed whole classes, of persons are now receiving a real medical attention which they formerly did not receive at all; (b) that the number of practitioners in proportion to the population in densely populated areas has increased; (c) that the amount and character of the medical attention given is superior to that formerly given even in the best of the old clubs, and immensely superior to that given in the great majority of the clubs which were far from the best; (d) that illness is now coming under skilled observation and treatment at an earlier stage than was formerly the case; (e) that, speaking generally, the work of practitioners has been given a bias

towards prevention which was formerly not so marked; (f) that clinical records have been or are being provided which may be made of great service in relation to medical research and public health; (g) that co-operation among practitioners is being encouraged to an increasing degree; and (h) that there is now a more marked recognition than formerly of the collective responsibility of the profession to the community in respect of all health matters. All these are immense gains and, though it is possible that some of them may not be wholly due to the establishment of the National Health Insurance scheme, they have certainly been hastened and intensified by that system.

7. On the other hand it has to be said that this very success had led, at certain seasons, and in times of widespread epidemic disease, to a strain upon its powers and resources which the profession has scarcely been able to bear; and the new conditions have resulted in a volume of regulations which must be observed, rules which must be obeyed, forms which must be filled up, and quasi-judicial machinery which it is desirable to avoid, to an extent which is regarded by insurance practitioners as oppressive, or even menacing, and which actually by itself deters some other practitioners from taking part in the service at all. The doctor is still an individual dealing with an individual patient and having his prime duty in this relationship; and in so far as his mind is seriously diverted from this by concern for other duties and relationships, and by fear of transgressing unwittingly rules and regulations made for other purposes, this is detrimental to his work and to the interests of those whom he is primarily serving. It is, of course, true that all citizens live and work under the restraining influence of law and social custom, and that members of the medical profession have also in mind the disciplinary powers of the General Medical Council and the ethical and other traditions of their profession, but in the world, even in the medical world, these are not so onerous, so omnipresent, so imminent, as to be a constant source of worry or distraction. Experience of the National Health Insurance system as at present established has led the profession to realise very vividly that its work may be made not more efficient but less efficient by a multiplicity of departmental requirements. Its aim is so to improve the system as to enable the profession to supply what the public needs under conditions which will make its services most easily and suitably available to the community.

8. It is the belief of the Association that in any national health insurance scheme certain broad principles with regard to medical benefits must be regarded as fundamental. These are:—

(a) The medical provision should be available for those persons, and only for those persons, who would be unable to obtain it without the help of the insurance scheme;

(b) The medical provision made for such persons should be, as far as possible, complete;

(c) The conditions under which the medical attention is given to the individual should approximate as nearly as possible to those of private practice;

(d) Medical representatives should be closely associated with the administration of the scheme, and as far as questions of purely professional conduct and treatment are concerned, judgment should be in the hands of purely professional bodies;

(e) Remuneration should be on such a basis as (i.) would produce an income not less than that which corresponding responsibility and work should produce in comparable private practice, regard being had to all relevant considerations, and (ii.) would not prejudice the continuous supply of the best type of practitioner.

9. If these conditions are not secured there will be grave danger (1) that the volume of work imposed upon the medical profession will be much greater than it can properly perform, at any rate for some time to come; (2) that much of the advantage of present professional feeling and tradition will be lost and the present relationship of doctor and patient be changed for the worse, to the prejudice of the patient; (3) that work under the insurance scheme will be regarded as of only secondary importance when compared with other branches of medical practice.

#### SECTION A. PERSONS TO BE PROVIDED FOR.

10. The first of the above principles raises at once the question as to the extent of the national health insurance service as regards the persons for whom provision should be made. Within the present scheme are included all persons under a contract of service, namely, (a) all manual workers, without any income limit and (b) non-manual workers with an income limit of £250 a year. Any such employed person who has a private income or pension of not less than 10s. per week, or is ordinarily and mainly dependent for his livelihood on some other person,

may claim exemption and is then required to make his own arrangements for medical attendance if his total income is above £160 a year (i.e., if his earned income is more than £131 a year or even less than this). Such persons are exempt from insurance in general but entitled to Medical Benefit. Further, certain whole classes of persons are excluded because, though under a contract of service, they serve under conditions which provide, by means of a superannuation scheme or otherwise, benefits considered to be at least equivalent to those of the national insurance scheme. On the other hand, certain persons who have been compulsorily insured for at least two years may continue their insurance voluntarily, even though they have ceased to be under a contract of service. These, however, are a relatively small number.

11. Questions which arise are (1) whether it is necessary to include within a national health insurance scheme all such persons as are at present included; (2) whether it is not at least equally necessary, from a national point of view, to include other workers who, though not under a contract of service, are in a like economic position; (3) whether those economically dependent upon such persons, should be included; (4) whether it is desirable to include within the same system of medical benefit those who are actually destitute, in this case of course with appropriate modifications as to contributions.

12. With regard to the first question, the Association, as will be seen in paragraph 15 of this Memorandum, is of opinion that certain classes of persons now included in the scheme should be excluded therefrom. It is impossible to resist the conclusion that provision for medical advice and treatment for certain of those referred to in the second and third questions is necessary in some form, and the Association is of opinion that the best way of making such provision is by help towards securing a family doctor or general practitioner, as can be done by an insurance scheme with a wide freedom of choice and conditions, rather than by state-paid or rate-paid medical officers or by the establishment of treatment clinics which must necessarily be restricted in their activities and their staffing. The Association also has no doubt that it is desirable to make provision for those referred to in the fourth question by means of the same general system.

13. It is recognised that the problems, even the medical problems, raised by these suggestions are by no means simple. While agreeing that, as a matter of national health, proper provision for medical advice and treatment should be made for the dependants of poorly paid earners, (though not for the dependants of all insured persons as at present), such earners themselves, and the dependants of those mentioned in the previous paragraph are not to be recommended as the best methods of making this provision, a considerable body of opinion within the profession fears that the difficulties may be so great as to make the suggestion of including even these persons in an insurance scheme impracticable. There is, however, a body of opinion in the profession which regards the provision of medical attendance on this class of dependants as being a most urgent need. On the financial side numbers would be formidable and there is no reason to suppose that the new entrants into an insurance scheme would be less costly than their predecessors. On the medical side the main difficulties would be found in (a) the amount of additional work imposed on the profession, and (b) consequential alterations in the conditions of practice in many areas.

14. There does not appear to be any exact estimate of the number of dependants, but assuming for the moment that the number of insured persons (say 15,500,000) remains the same as at present, and that to these be added persons in a like economic position and the dependants of both these classes, the additional number is possibly something like one and a half times as great—that is to say the total number would probably amount to 38,750,000 in all. It must be remembered that the demands on the profession under an insurance scheme would necessarily and properly be considerably heavier than those at present made by the same persons. This fact emerged during the early years of the operation of the National Insurance Scheme. The Association holds very strongly (1) that an extension on the scale indicated by the above figures is wholly unnecessary and would in practice be found almost impossible, and (2) that to cope properly with the new work which would be involved in any extension whatever of the insured population, to make it tolerable by the profession and to reduce the difficulties and liabilities in order to bring the whole problem within more measurable compass, it is imperative:

(a) to apply the first principle enunciated in para. 8 (namely the provision of medical service only for those persons who are unable to obtain it without the help of such a scheme) as strictly as is administratively possible;

(b) to make, concurrently with any such extension, certain arrangements tending to lighten the work.

15. The Association is of opinion:—

(a) That the classes of persons exempt from the scheme by reason of their contract of service including provisions giving benefits equal to those of the national scheme, should be extended to include others (e.g., bank and insurance clerks) not at present exempt;

(b) That persons with an unearned income of an amount per week not less than that prescribed for sickness benefit should be excluded;

(c) That any income limit (whether £250 a year or a lower amount) should be applied alike to the non-manual worker, the manual worker, and the voluntarily insured person;

(d) That unless a lower income limit than the present one is applied generally to insured persons a still lower income limit than that which is applied generally should be necessary with regard to inclusion of dependants.

16. It is not suggested that these income limits are exact criteria of economic need, but, in view of the considerable increase in the total of medical advice and treatment which would be entailed by the inclusion of dependants and others in like economic position, it seems necessary to draw the line of inclusion in the scheme as low as is reasonably possible, rather than as high as in other circumstances might be found desirable. The question of whether a contribution from the employer should be required for every one of his employees regardless of all, or any of, the suggested exemptions, is not a medical question and is not prejudiced by the above suggestions.

17. The Association is further of opinion that essential conditions accompanying any extension of a National Health Insurance scheme to include any dependants and others of a like economic status must be (a) a sufficiently adequate service of nurses available for home nursing; (b) the reduction to a minimum of all records and reports required from practitioners with regard to the new entrants, and a lightening of those required with regard to existing insured persons; (c) a revision of the matters which may be made the subject of complaint and of the methods of dealing with them on the lines of the suggestions made in a subsequent section of this memorandum. In suitable populous areas it would be desirable also to establish or continue infant welfare centres strictly confined to the instruction of mothers and the routine examination of infants and young children as to weight, etc., provided that these centres were kept in proper relationship to practitioners who should have reasonable access to the records of all cases under their individual care.

18. From the medical side only, the problem of the provision of advice and treatment for the poor person not under any contract of service, or for the necessitous person, is not specially difficult. The difficulties here are the details of finance and administration. If these can be overcome the profession is prepared to undertake the work in general accordance with the National Health Insurance Scheme here outlined. It is, however, essential that provision should in that case be made to preserve the interests, as to superannuation and otherwise, of all existing medical officers affected by the change.

#### SECTION B. EXTENT OF PROVISION TO BE MADE.

19. The second of the main points is that the medical provision made for all persons included in the scheme should be, as far as possible, complete. Under the present scheme the medical advice and treatment provided is, broadly, such as can reasonably be expected from general practitioners as a class. Other services publicly provided under the auspices of local authorities are also available—certain pathological facilities, treatment for tuberculosis and venereal disease, and for certain infective fevers, the treatment of certain conditions of children of school age and provision in connection with maternity and infant welfare. Moreover, some Approved Societies make contributions to some of their members toward the cost of a few other treatments, e.g., dental, ophthalmic, or institutional. These benefits are, however, available for only a small proportion of insured persons, although all pay the same premiums. A further small provision for possible consultative advice by or through the regional medical officers, is, so far, scarcely at all developed.

20. It is desired to make all such services and benefits an integral part of the insurance scheme or to bring them into proper relationship thereto, so that they may be available for all persons included; and to extend the provision so as to include complete consultant and specialist advice and treatment, full laboratory facilities for clinical purposes, residential institutional treatment so far as possible with limited accommodation, dental advice and treatment, such ancillary help as can be given by nurses and masseurs, and an ambulance service—in addition to the general practitioner advice and

treatment and the provision of necessary drugs and appliances which is at present the main provision made. The Association is of opinion that all these benefits should be equally available to all insured persons alike, regardless of their membership of any particular society.

21. It seems necessary here to emphasise that when "general practitioner advice and treatment" is spoken of, the phrase does not indicate anything of an inferior character. In their own way and for their own purposes, such services "as can reasonably be expected from general practitioners as a class" are fully as important, as scientific, as highly skilled, as those which are provided by other practitioners in more special and restricted lines of practice. Practitioners, whatever their sphere of practice, may be relied upon to devote to their work all the knowledge, care and skill which they have; the distinction is mainly one of range. Experience and skill in certain directions can only be acquired by those (some general practitioners included) who are able to direct special attention to a particular branch of practice or class of case, or to the performance of certain surgical operations or manipulations. It is desirable to secure all these different kinds of skill for the participants in an insurance scheme, without implying that one kind is superior in itself to another.

22. It is obvious, as is the case at present in connection with the provision of drugs and appliances, that persons who under the scheme would be eligible for all the additional services could not be put into a position to claim them whenever they wished. Otherwise demands might be made which would be disadvantageous medically and ruinous financially. With slight modification in one or two instances these services should be available only on the recommendation of the general practitioner responsible for the patient. This rule, however, might require safeguarding in two directions. On the one hand it is conceivable that a practitioner might make unreasonable or excessive use of these facilities, and accordingly practitioners might be (a) required to notify the administrative authority on recommending a patient for these extra services, and (b) liable to explain to a professional committee the reason for any apparently excessive use. On the other hand there might be cases, as in private practice, in which there might be a difference of opinion between practitioner and patient as to the need for the extra service, or cases in which a society or other body responsible for cash payments during sickness might make a request for further special advice, and accordingly provision might be made for an official referee to decide the matter in such cases where necessary.

23. The cases calling for a modification of the general rule that services should be available only on the recommendation of the general practitioner responsible are (a) the prescribing of any necessary drugs or appliances, or the using of other extra services by the consultant or specialist to whom the patient has been referred not for consultation only but for the carrying out of some special investigation or treatment; and (b) the direct application by the patient to a dental surgeon or dentist for dental treatment. In the latter case some safeguards would be required for dental services of specified kinds or for any procedure estimated to involve expenditure beyond a stated amount.

24. The medical personnel of the consultant or specialist service should consist of those registered medical practitioners who satisfy certain criteria as to status and who express their willingness to accept service within each area. These criteria should be those at present laid down in the Medical Benefit Regulations and elsewhere for a similar purpose. These are:—

(a) That he has held hospital or other appointments affording special opportunities for acquiring special skill and experience of the kind required for the performance of the service rendered, and has had actual recent practice in performing the service rendered or services of a similar character; or

(b) That he has had special academic or post-graduate study of a subject which comprises the service rendered, and has had actual recent practice as aforesaid; or

(c) That he is generally recognised by other practitioners in the area as having special proficiency and experience in a subject which comprises the service rendered.

The decision as to whether any individual practitioner desiring to serve in a consulting or specialist capacity does in fact satisfy these criteria should be in the hands of a local professional committee. Any practitioner excluded by the decision of such a committee should have the right of appeal to a small *ad hoc* professional committee representing a wider geographical area. From a list of consultants and specialists so compiled a practitioner, in agreement with his patient, might choose any individual considered most suitable for the particular case.

25. In normal circumstances, or whenever possible, such consultations would take place or such specialist services would be given, either at the consultant's rooms, or at the practitioner's house or surgery, or at the patient's house. The conditions in some localities, however, might make desirable the establishment of special premises for this purpose, and such premises might in some cases even be the out-patient department of a hospital. Wherever such consultative or specialist clinics were established attendance would have to be given by the medical officers at fixed times, the clinic should be available for the purposes of medical education, particularly post-graduate, and general practitioners not on the specialist list should be eligible for service as clinical assistants.

26. Among the detailed arrangements that must be made for the conduct of such a service is the important one for exchange of opinion and co-operation in treatment between the general practitioner responsible for the case and the consultant or specialist to whom the patient has been referred for advice or treatment. It is desirable that a system should be adopted whereby the practitioner referring a case would furnish the consultant by some method with information of the previous history and points on which advice is specially desired, and the consultant would furnish the practitioner, with information as to the results of his examination and any treatment given or future treatment advised. Provision might be made for insisting upon actual personal consultation between practitioner and consultant where either of them considered this necessary. The primary responsibility of the general practitioner in charge should be preserved in all cases.

27. The relation of certain existing clinics or treatment centres, provided by local authorities under statutory powers, to the suggested arrangements must be considered. Obviously in so far as persons provided for by these clinics come under a health insurance scheme, and so far as the treatment provided thereat is either general practitioner treatment or such as can normally be given by a consultant or specialist elsewhere, they would no longer be required. If they remained—as in many cases no doubt they would—their functions would be somewhat as follows:—(a) they would be centres for education in health matters; (b) they would be places at which practitioners might make appointments with their patients when necessary for special purposes; (c) they would be specialist clinics for persons under the insurance scheme where consultations elsewhere were not possible; (d) they would be available for public provision for such persons as did not come under the insurance scheme when such provision was still held to be necessary for certain purposes.

28. It is likely that for some time to come it would still be necessary to continue the appointment of whole-time officers dealing with tuberculosis and with venereal diseases.

29. The relationship of maternity work to the health insurance scheme requires special mention. It is contemplated that complete provision should be made for this as part of the medical service for insured women and the wives of insured men. Provision should be made, in addition to a cash payment, whereby attendance at confinement and during the puerperal period together with special examination and supervision during pregnancy would be brought within the scope of the scheme. Certain conditions are, however, essential if this is to be done: (1) any insurance practitioners should be at complete liberty to undertake or to decline this work without any administrative detriment to his interests otherwise, (2) any complaints as to treatment in connection with this work must be referred to a solely professional committee on which the local administrative authority should be represented by its medical officer; (3) there must be everywhere an efficient service of registered midwives, (4) there should be provision for institutional treatment for serious cases of ante-natal complications, for cases requiring major obstetrical operations, for cases where isolation and treatment of septic infection is specially indicated, and for cases where the home conditions are very unsuitable or dangerous for confinements; (5) any registered practitioner should be at liberty to place his or her name upon the list for maternity purposes only. Provision for a woman within the insurance scheme would thus be for: (a) medical examination (not compulsory), and supervision during pregnancy; (b) attendance by a registered midwife during normal labour and during the puerperal period (the ideal being that both a midwife and a doctor should be provided, but where the scheme cannot provide for both in respect to normal labour the interests of the patient would best be served by the provision of a midwife); (c) attendance by the practitioner of her choice during labour and the puerperal period when his attendance is requested by the midwife under defined conditions, or when, as a result of his examination during pregnancy he has declared his personal attendance to be necessary. Professional services under these headings would be remunerated,



as in the case of the other extra services, by a special scale of fees. The procedure would be for the insured woman at an early state of pregnancy, to choose her doctor; for the doctor so chosen to make, with her consent, a suitable examination during pregnancy; for the midwife to be notified as to the doctor to be called in, and as to the conditions under which she must ask for his services. The consultant and specialist service would be available also in this connection.

30. The provision for a clinical laboratory service stands on a somewhat different footing. There are advantages in such a service being associated with research work; and suitable laboratories are as a rule connected with universities or hospitals, sometimes the larger voluntary hospitals, sometimes hospitals for infectious disease established by local authorities. When, however, routine investigations are undertaken by a university laboratory, such routine work should not be allowed to interfere unduly with teaching and research which are the proper work of a University Department. It is desirable that the necessary laboratory work should be divided between a relatively small number of large central laboratories and a larger number of small laboratories. At the former, investigations requiring special facilities or apparatus or those which can be carried out with greater accuracy, uniformity and economy when large numbers of specimens are dealt with would be made. At the latter, tests not involving the use of elaborate or exceptional apparatus would be carried out. Highly trained pathologists would be required for most of this work, and in practice it would be impossible and undesirable to restrict their activities to work required by the National Health Insurance scheme alone. Under these circumstances it seems desirable that laboratories should be established and maintained under other auspices, and that a suitable financial contribution should be made to them from the National Health Insurance fund in respect of the work which they do for persons included within the scheme. Some approved clinical laboratories under private management might be recognised for the same purpose. There are a number of cases, moreover, in which satisfactory results can be expected only if it is possible to provide pathologists to visit patients in their own homes and take the specimens required for examination. It is advisable to arrange for this, as well as for exchange of opinion between clinicians and laboratory workers.

31. For residential institutional treatment arrangements on much the same plan would probably be found most suitable, at any rate for a considerable period of time. There would be available the voluntary hospitals of various types, the hospitals for infectious disease, and the tuberculosis sanatoriums established by local authorities, and the present poor law hospitals. In use none of them could be restricted to persons under the insurance scheme alone, and the total accommodation in them would be insufficient in many areas. The right of insured persons to admission would thus be limited in accordance with arrangements made with the authorities governing particular hospitals or institutions. A copy of the hospital policy of the British Medical Association will be attached hereto, with those provisions marked which have special applicability to any such arrangement made on behalf of participants in an insurance scheme. This makes it clear that when use is made of voluntary hospitals or other charitable institutions for the treatment of insured persons, either as in-patients or out-patients, the cost of such treatment should not be a charge on the ordinary funds of the institution but should be defrayed in full out of the Medical Benefit Funds of the Insurance Acts, taking into consideration that the charge should include a percentage for the remuneration of the Visiting Staffs of the hospital in accordance with paragraph 31 of the British Medical Association Hospital Policy. The position of convalescent or rest-homes requires special consideration in this connection.

32. Before leaving this section it may be as well to point out that even within the scope of general practitioner treatment at present the provision for the needs of insured persons is not complete. Although there is complete provision for the supply of any drug or medicine which the practitioner in charge of a case may consider necessary (with due provision against sheer extravagance) there is considerable restriction as to the appliances which may be ordered. No doubt the reason for this is financial, but it would be a great advantage to allow all appliances necessary for the sick person to be supplied. In the case of some such appliances it might be possible to arrange for their loan to the insured person where they are required only temporarily.

33. One other contingent suggestion may perhaps be made. If it should be found desirable to continue to require payments from employers in respect of certain of their employees who were not included in the insurance scheme as a whole (i.e., exempt persons but for whom a card has to be stamped by the employer), it might be found possible and advisable to give

such employees the benefit of some or all of these extra services by reason of such contributions.

#### SECTION C. REGULATIONS AND TERMS OF SERVICE.

34. A third main principle is that the conditions under which medical advice and treatment is given, whether by general practitioners or consultants, should approximate as nearly as possible to those of private practice, and should preserve within wide limits professional customs and traditions. These traditions and conditions must, of course, to some extent be modified by the facts that the scheme is based upon an insurance plan, and that under the scheme the practitioner undertakes certain responsibilities not to his patient alone but to the State and to societies or bodies administering cash payments during sickness or disablement, but no unnecessary requirements should be imposed either upon the insured person or the practitioner.

35. An essential point is that, as is the case at present, any registered medical practitioner shall be able to participate in the service as a right if he is willing to accept the conditions, and until his continuance in the service has been properly adjudged to be detrimental to it. Unless this be so, a large part of their possible field of work would be automatically cut off from practitioners who have complied with those tests which have been recognised by the General Medical Council, in this respect the statutory governing body of the profession, as permitting entry to the profession. It seems to follow as a corollary from this that the conditions laid down for acceptance should be as little complicated and onerous as possible, so that as large a number as possible shall be willing to engage in work under a national health insurance scheme. This would be an advantage to the profession, to insured persons and to the public health alike. It is believed that the suggestions in this and the following section would tend, if adopted, to increase the number of practitioners willing to take part in this work.

36. The main fact of daily professional work is the intimate and confidential relationship which must necessarily arise between patient and doctor and without which, in a large number of instances, results must be far less satisfactory than would otherwise be the case. A very important factor in preserving this relationship is the right of a patient at any moment to seek the services of another practitioner and the right of a practitioner to intimate that he wishes no longer to be responsible for a particular case. All questions of supposed neglect or lack of success or improper behaviour on the part of a doctor, and of unreasonable conduct on the part of a patient may be solved very simply by the exercise of these rights, and there is no reason why, speaking generally, in reference to such matters, specific rules accompanied by penalties should be imposed on insured persons or special provision be made for complaints against practitioners, if a similar freedom of choice can be exercised. This freedom has been secured absolutely for insured persons under the regulations which came into force in 1924, but the corresponding freedom of the practitioner is still unnecessarily restricted. It should be equally absolute, except that he should not abandon his responsibility for an actually ill person until other attendance has been secured. In the circumstances indicated it is obvious that the desirable thing to do is not to keep doctor and patient tied together as long as possible, but to make other arrangements as rapidly as may be, and to do this with as little unpleasantness or recrimination as possible. There can be no objection, of course, to a statement in general terms as to what constitutes reasonable conduct in certain respects on the part of a patient, or what are in general the duties which the doctor undertakes to perform.

37. The conditions of an insurance scheme also make certain requirements or provisions necessary which are not needed in the conditions of private practice. These, however, though important, should be few. An insured person should be required (1) to seek acceptance by a doctor before occasion for medical treatment arises; (2) to claim treatment as an insured person, by the production of a medical card or otherwise, on at least the first consultation of each series. Failure in either of these respects should render the insured person liable to a penalty or to the payment of a fee, for otherwise an essential principle of insurance is violated or the doctor is placed in a serious difficulty as to his duty. An insurance practitioner should be liable to a penalty for (1) wilfully charging a fee for any service which he had undertaken to render as part of the insurance service; (2) such general conduct as is held to be detrimental to the interests of the service.

38. An insured person, moreover, has an obvious grievance if he experiences undue difficulty in securing acceptance by any practitioner in his district at all, unless he has brought this about by placing himself in charge of an unqualified person and whilst he continues in such charge; and



the arrangement made with the practitioners of an area must provide against an insured person being placed in this position.

39. Beyond his relationship to his patient as medical attendant the practitioner undertakes to keep certain records and make certain reports and also to furnish certain certificates. Statements made in such records, reports, or certificates about a patient's condition are matters of professional judgment, and, if honestly made, should not render the practitioner liable to any complaint beyond that to which all practitioners are liable in all their professional work, but wilful failure to keep records, make reports, or furnish certificates on the occasions on which the practitioner has undertaken this duty, or the making of wilfully false statements in such documents, may well be the subject of serious official action.

40. If official complaints against an insured person were restricted to his failure to take action in the two ways indicated in paragraph 37; and if official complaints against practitioners were restricted to the cases indicated above, it is probable that such complaints would not be numerous and liability to them would be recognised as on the whole just. It is probable, too, that the machinery at present provided for dealing with such complaints would, with some minor adjustments, be considered to be not inappropriate in the majority of cases. It is suggested, however: (1) that all complaints against a practitioner should in the first instance be sent to the Chairman of the Local Medical Committee and the chief administrative medical officer of the local authority (mentioned in paragraph 46); (2) that only such as could not be settled by them with the acquiescence of both parties should proceed further; (3) that questions of general conduct, detrimental to the service, or of giving false certificates should be reported upon in the first instance by the Local Medical Committee; (4) that an appeal to the Courts should be possible not only on the ground of improper procedure as at present, but also on the ground that the penalty inflicted was out of proportion to the offence; (5) that in the case of proposed removal from the service the practitioner should have the right of appeal to a duly constituted central professional committee, and that the Minister of Health, in cases where this right was exercised, should not be able to remove the practitioner from the service unless the central professional committee advised this course.

41. The circumstances of medical practice are so diverse in different parts of the country that any absolutely uniform regulations or terms of service are very difficult of application in some respects and in some areas. Particularly do the conditions in sparsely populated districts need special consideration. It is, on the other hand, undesirable that similar conditions in different geographical areas should be differently dealt with, and, indeed, that there should be any unnecessary variety in the conditions or terms under which practitioners serve. It is suggested, therefore, that in the official regulations and terms of service there should be in some sections alternative provisions which might be adopted in certain districts or even in individual cases. Evidence as to special conditions in (a) sparsely populated rural areas, and (b) certain colliery areas, will be found in Appendices I and II.

42. There is one anomaly in the arrangements for the provision of medical benefit created by Section 15 (4) of the 1911 Act (Section 24 (4) of the 1924 Act) which the Association is of opinion should now be rectified. The Section in question of the 1911 Act recognised certain medical aid institutes existing at the passing of the Act as agents for the administration of Medical Benefit (including the provision of any necessary drugs and appliances) for their members. The term "Medical Aid Institute" is a generic title which covered Friendly Society Institutes, Workmen's Medical Aid Associations, Workmen's Medical Funds and certain Provident Dispensaries—all now known under the style of "Approved (15 (4)) Institutes." It is believed that all these institutions employ whole-time medical officers paid by a salary, whose appointment and control is entirely in the hands of the governing body of the institute—a purely lay committee. The Association is of opinion that the standard of treatment given by these institutions is not equal to that given by the insurance service as a whole; it is certain that the great majority of medical men decline to take service under the conditions laid down by these institutions, and it is difficult to argue that they supply any such need of the community as justifies their being placed outside the general scheme of administration of medical benefit.

#### SECTION D. ADMINISTRATION.

43. Two of the main principles to be satisfied in the administration of a National Health Insurance scheme seem to the Association to be these: (1) that the medical benefits in the widest sense (including the "treatment benefits" at present provided and administered by some Approved Societies) should be regarded as a health service and administered along with

other health services, distinct from the administration of any cash benefits, which should themselves be administered either separately or along with other cash benefits available from other schemes of National Insurance, and (2) that in the administration of the health services provision should be made for participation of the medical profession to an adequate extent. In Appendix III will be found a statement as to points in connection with one of the "Additional Benefits," namely, Ophthalmic Benefit.

44. The central administration of all health services should be under the control of the Ministry of Health, and the local administration of all these services should be in the hands of a local authority established *ad hoc*, or acting through a statutory Committee constituted in accordance with schemes—all of which should provide for a proportion of membership of persons of experience in health matters, including representatives of the medical profession. Such committees would be analogous to the existing statutory Education Committees of local authorities. It is recognised that existing Local Government areas are in many cases not ideally the best for purposes of health administration, and that altogether new areas centred in each case round a considerable town, would be more satisfactory for purposes both of health and of education. Of existing authorities, however, it is probable that County Councils and County Borough Councils would be found the least unsuitable, though in a few cases it might be preferable to group a few Borough or Urban District areas.

45. In any case such unification of medical services as those contemplated in this Memorandum would, in such an administrative system involve the disappearance as such of Insurance Committees and the transfer of the health functions of the Poor Law Guardians. It is certain, however, that many of the members and officers of these bodies would be indispensable for the work of the unified authority.

46. Each such Authority would have a Chief Administrative Medical Officer, who would no doubt in most cases be the existing Medical Officer of Health. In each area there would be also a Statutory Local Medical Committee elected or appointed under a scheme which would ensure that it was representative of all kinds of medical practice in the area. Such a medical committee would take the place of both the existing Panel Committee and the existing Local Medical Committee, and like the former of these but unlike the latter, would have funds provided for administrative purposes. The duties of this Committee would be to appoint the representatives of the medical profession on the Local Health Committee and on any other local committees containing such representatives, to conduct any negotiations with the local health authority on behalf of the profession, to advise that authority on purely professional matters and to perform any other statutory duties imposed upon such a Medical Committee. The Medical Committee should have the right to present its view not only to the Local Health Committee but also to the Ministry of Health and to the public. A separate Dental Committee would probably be required.

47. The administration of the cash benefits (sickness disablement, maternity) does not primarily concern the medical profession as such. Practitioners are, however, brought into close and important relationship thereto by reason of the facts: (1) that they have to give medical certificates on which to a large extent the payment of these cash benefits depends; (2) that they often find their patients in doubt, difficulty or even distress with reference to these payments; (3) that they, through the Insurance Committees, are largely dependent on the bodies which administer these benefits for the correctness or otherwise of the lists of insured persons for whom they are responsible.

48. Evidence of serious imperfections in the administration of Approved Societies both in notifying Insurance Committees of the enrolment of insured persons and of the suspension of their members from medical benefit, and in the payment of sickness benefit to their members, is continually coming to the notice of practitioners in their daily work, but except as to one matter on which there are official statistics of great importance, the Association does not wish to stress this. Doubtless, as in the corresponding matter of the imperfections of medical attendance and treatment, a considerable proportion of the complaints are vague and incapable of being substantiated, or are really due to faulty action on the part of the insured persons themselves. Doubtless, too, there are a considerable number of agents of large societies and a number of part-time officials of small societies who are unable to understand, or do not take the trouble to understand, the regulations under which they work or the instructions of their superior officers, just as there are some practitioners who will not read or consider memoranda or communications addressed to them. Doubtless, again, as in the case of medical attendances, the proportion of cases in which there is cause

for complaint is quite small in relation to the total number of occasions on which complaint might possibly have arisen. Nevertheless it is distressing to doctor as well as to patient to witness cases in which actual want arises and delay in recovery ensues owing to the non-payment or the delay in payment of benefits to which the insured person appears entitled; and there is much loss of valuable time in explaining to such persons what they should do in order to secure what they believe to be their rights or to what quarter their complaints should be addressed.

40. The matter of the delay of Approved Societies to notify promptly the fact that members have passed out of medical benefit or issue orange slips notifying suspension from medical benefit is, however, serious. The following extract is from the official Memorandum (C.I.C.I.) issued to Approved Societies by the Central Index Committee in March, 1923:—

"21. *Delay in issue of Orange Slips.*—The suspension from medical benefit which requires to be notified by the issue of an orange slip arises out of circumstances which should be known to the Society some considerable time before the suspension is due to take effect, and in the case of employed contributors usually about six months before that date. The instructions require that the Society should issue the orange slip as early as possible in the half-year at the close of which the member is due to be suspended. This, again, is no mere formality; it is necessary in order that the orange slip may be forwarded to the Insurance Committee before the suspension actually takes effect so that the member may be removed from the doctor's list immediately he ceases to be entitled to benefit. Doctors are credited on the numbers upon their lists at the beginning of each quarter; and it follows that if the Insurance Committee is unable to remove a suspended member from his doctor's list by the first day of the ensuing half-year, the doctor is credited for a further quarter at least in respect of that member, while the member himself may enjoy a period of medical benefit beyond that to which he is entitled.

"22. Notwithstanding, however, the practical importance of the prompt despatch of orange slips, much delay has been experienced by the Central Index in receiving them from Societies. The orange slips received notifying suspension on 30th June, 1921, for example, numbered 275,000, of which no more than 100,000 were received in time to permit of their being dealt with before the date of suspension, the balance of 175 per cent. of the persons concerned being still entitled to doctors after ceasing to be entitled. In the case of suspensions taking effect on 31st December, 1921, 474,000 orange slips were received, of which 250,000 only were in time to be dealt with by the date of suspension; while of the suspensions taking effect on 30th June, 1922, 326,000 were received, of which 223,000 alone could be dealt with before the date of suspension."

"23. It will thus be seen that in practice a large proportion of the orange slips issued are despatched too late to be made effective by the date of the suspension which they are intended to notify; and the consequence of this delay is, as already indicated, that hundreds of thousands of insured persons are in a position to obtain benefit beyond the period for which they are entitled to receive it, while credit for them is unavoidably given to the doctors concerned for a full quarter at least beyond the date of suspension, irrespective of the date when the numbers are actually taken off the doctors' lists. Some substantial improvements can reasonably be expected in this connection; and apart from the consequences just indicated, the Central Index Committee think it necessary to point out that delay of this kind is bound to increase the administration expenses of the Index. If all orange slips were forwarded promptly by each Society in the early part of the half-year at the end of which suspension is due, or in the case of large societies issued in equal instalments at regular intervals throughout that half-year, the heavy work of handling them and passing them on to Insurance Committees could be overtaken with an even load of work. If, however, receipts of orange slips are, as at present, congested towards the end of that half-year, extra expense is incurred through the distraction of the current work or the employment of extra staff to cope with the congestion."

\* The figures in this paragraph relate to England.

This shows that in a period of eighteen months as the direct result of imperfect administration on the part of approved Societies there were 503,000 persons whose doctors were liable to attend in respect of whom no contribution was forthcoming, and there are figures showing that in Manchester

alone there were such persons actually receiving treatment as follows:—During the last two quarters of 1921, 252; first three quarters of 1922, 750; whole of 1923, 1,160; and during the first three quarters of 1924, 706.

50. The profession regards the question of medical certification as of the highest importance, and looks upon the issue of a false certificate as one of the gravest offences of which a practitioner can be guilty. There has, no doubt, from time to time, been a certain amount of lax, or distinguished from wilfully false, certification on the part of some practitioners, and some disregard of certification rules which, since they were in force, should have been strictly obeyed. In practice, however, it is difficult sometimes to obey all the rules quite strictly without doing some injustice to the insured person, and many of the conclusions which have sometimes been drawn by the officials of Approved Societies from an examination of large numbers of medical certificates or from the results of reference to Regional Medical Officers are erroneous, due often to very natural misinterpretation or misunderstanding. It is recognised that bodies responsible for the administration of cash benefits have a right to be consulted with regard to the arrangements for certification and to criticise the working of such arrangements, and the Association is prepared, should the Royal Commission wish it, to go more fully into the question of certification and to reply to any allegations which may possibly be made with regard thereto; but it appears that, in the main, medical certification in relation to sickness benefit is remarkably well done, and certainly an immense amount of trouble is taken to do it conscientiously and accurately, in spite of some failures.

51. Some alterations in the forms of certificate and of the Certification Rules and arrangements would conduce to the easier and more harmonious working of the system, and would be for the convenience alike of doctor and patient, without seriously interfering with the rights of the bodies administering cash benefits. For example, the phrase "incapable of work" used in the Acts and therefore necessarily repeated in all certificate forms is misleading and inaccurate if the words are given their ordinary significance; and certificates containing this phrase can be signed honestly only because the words are now understood to have a technical meaning, which, however, needs a pamphlet to set forth accurately. It is desirable that this phrase should be altered. With this exception the form of the first and of the final certificates might remain as at present, and it is probable that a First Intermediate Certificate may properly be required under the same conditions as now; but with regard to other intermediate certificates it is suggested (a) that they should simply state that the practitioner has seen the patient on a particular day and that the patient remains unfit for work; (b) that the interval between the issue of such certificates should be at the discretion of the practitioner provided that such interval was not greater than 14 days in the case of Sickness Benefit nor than 42 days (or in rural areas three months) in the case of Disablement Benefit; (c) that the practitioner should be able in the former case to apply for permission to make the interval longer than 14 days, and that the body administering Disablement Benefit should be able in the latter case to ask that the interval should be made shorter than 42 days or three months, as the case may be; (d) that the arrangements for special intermediate certificates dealing with absence from home should be more elastic both as to the period of illness at which such certificates may be issued and as to the length of time for which they should be available.

52. In the event of the complete separation of the administration of medical benefit from that of cash benefits which is suggested, the method by which these cash benefits shall continue to be administered is not the concern of the profession. Many practitioners, however, hold the belief, based on experience, that this administration is likely to be more satisfactory and sympathetic in the hands of certain classes of Approved Societies than in the hands of a large State organisation or committee of a local Government Authority. If it is determined that Approved Societies shall continue with this administration as one of their functions it is suggested that there should be certain requirements which all such societies should meet. They should (1) be of such a size as would constitute a properly insurable group; (2) be of such a character as to have such financial arrangements made for them by consent as will not vitiate a uniform insurance scheme; (3) be of sufficiently uncomplicated constitution so as not to put their members at a disadvantage; (4) be obliged to classify all their members on a territorial basis; (5) be in uniform as regards their rules for the conduct of insured persons.

53. The profession is completely convinced, in consequence of intercourse with insured persons over a period of twelve years, that Approved Societies, as at present constituted, do not as a whole in any sense represent insured persons, their

wishes or opinions. For the most part insured persons take not the slightest interest in the work of their Societies, and very often do not know the name of the Society to which they belong. This indifference is probably inevitable in the case of the larger Societies, and of the great majority of insured persons, and does not necessarily indicate any lack of interest or ability or zeal on the part of the principal officials of such Societies.

#### SECTION E. REMUNERATION.

54. The remuneration of members of the medical profession working under the National Health Insurance scheme should be determined on its merits by negotiation between the Ministry of Health on the one hand and a central body representing the profession on the other. Such central body might most properly be the Council of British Medical Association, representing, as it does, all branches of the profession through its Divisions and Branches, and the Local Medical Committees of the country through its Insurance Acts Committee. The Association is strongly of opinion that the remuneration of the general practitioner service should be by a capitation system, though local option might be allowed as now in the distribution of the amount allotted in each area. The remuneration of consultation and specialist work, on the other hand, must necessarily be by tariff fees according to the variety of service rendered, or in some cases by seasonal fees according to the time given and character of the work done.

55. The amount of the central practitioners fund must necessarily be arrived at by a somewhat elaborate actuarial calculation since it is impossible accurately to count the insured population day by day. The distribution of this pool to the different areas, too, must be made by a small expert Committee who will take account of all relevant facts. In the past there have been great difficulties in both these calculations, and it is desirable that the profession should be completely assured that any margin of error is reduced to a minimum.

56. The principle on which the amount of the remuneration should be established is that it should in total compare not unfavourably with that which should be forthcoming from similar responsibility and work in private practice of a like nature among the same class of persons, allowance being made for security on the one hand, and on the other hand for work done not primarily for the individual patient but for the State or public body.

57. The actual amount of the capitation fee on which remuneration for the general practitioner service should be based has been so recently and so fully argued, before the Court of Enquiry in January, 1924, that the profession has no wish to re-open the matter at the moment. They are, however, convinced (1) that the capitation fee of 9s. is still too low to be a proper remuneration for the responsibilities undertaken and work done under the insurance scheme; (2) that the extra amount allowed for rural conditions requires reconsideration. The exact determination of this matter, however, and the appropriate tariff of fees for consultant and specialist services must depend largely upon the nature of the insurance scheme recommended by the Royal Commission and enacted by Parliament. It is, therefore, not possible with advantage to carry it much further at the present time.

#### APPENDIX I.

##### MEMORANDUM AS TO SPECIAL CONDITIONS OF INSURANCE PRACTICE IN RURAL AREAS AND THE EXTRA REMUNERATION CALLED FOR TO MEET THEM.

1. Any consideration of the special conditions of rural practice was specifically excluded from the Reference to the Court of Enquiry into Remuneration in January of last year. It therefore becomes necessary to go somewhat fully into this aspect of the question before the Royal Commission. The importance of the matter to the profession is evidenced by the fact that in 1923 of 12,711 insurance practitioners there were 5,649 (40 per cent) who claimed mileage, and therefore to some extent were practising under rural conditions.

2. There are certain undeniable peculiarities in these conditions to which the attention of the Ministry has already been drawn, and which have been acknowledged by them as worthy of consideration. They may be summarised as follows:—

- (i.) The list of a practitioner in a sparsely populated district must necessarily be smaller on the average than that of one in a town;
- (ii.) The cost of travelling and the time occupied in travelling is much more in the country than in a town;
- (iii.) The facilities for lightening the work of the practitioner (e.g., nursing and hospital facilities) are less in the country than in the town;

(iv.) The proportion of visits to attendances at the surgery is higher in the country than in the town, and the time occupied in rendering service is longer;

(v.) The necessity to engage a *locum tenens*, even for a short absence from home, whether for holiday, study, or professional business, presses hard on the country doctor, since deputising arrangements such as are the custom in the towns, are impracticable;

(vi.) The absence of day schools and of practically any higher education facilities in the more rural districts adds very materially to the country doctor's domestic expenses.

3. With regard to (i.), the average number of insured persons on the lists of the doctors who claim mileage is 697, that on the lists of all other doctors is 1,200. The doctors claiming mileage include many town practitioners who have a few patients in the country, and if these were excluded it is probable that the genuine country practitioner would be found to have an average of between four and five hundred, and that this list is incapable of increase. It may fairly be contended that a list of 500 people in a sparsely populated district takes at least as much time to work as one of a thousand in a town.

4. With regard to (ii.), since 1920 a mileage grant has been established purporting to cover the cost in money and time of travelling beyond two miles from the practitioner's residence, and a comparatively small addition was made in 1924 to meet the other conditions enumerated.

5. There is no doubt that at present owing to the unattractive financial conditions, rural practices are being abandoned in certain parts of the country. The difficulty is not confined to Great Britain and is perhaps inevitable, but if it is desired to retain efficient doctors in the country, it is absolutely necessary that their emoluments should be such as will enable them to maintain in all essentials a suitable standard of life.

6. The best solution would seem to be the retention of the present system of a general capitation fee for the whole profession with augmentations to meet the special requirements of the rural practitioner.

7. Remuneration as expressed by the capitation fee has been approached in the past chiefly from two directions: (1) the value of work done for insured persons as measured by the time occupied in the services rendered—a certain net income for an average practitioner in full work being assumed—and (ii.) the value of services rendered as estimated by the fees commonly charged by general practitioners. Both these lines of approach would seem to point to the need for a supplementary fund for practitioners in rural districts, for (i) the time occupied in the same services is definitely greater under country conditions for the same number of patients, and (ii.) the fees charged both for visits and attendances at the surgery in country practices have always been of necessity higher than those in towns—a fact apparently left out of consideration in 1911, when the matter was investigated chiefly on urban data.

#### APPENDIX II.

##### MEMORANDUM AS TO SPECIAL CONDITIONS IN COLLIERY AREAS OF SOUTH WALES.

1. Section 16 (3) of the 1911 National Health Insurance Act (24 (3) in the Act of 1924) authorises the Insurance Committee to require any person whose income exceeds a limit to be fixed by the Committee and to "allow any other persons in lieu of receiving medical benefit under such arrangements as aforesaid, to make their own arrangements for receiving medical treatment and attendance . . . and in such cases the Committee shall . . . out of the funds out of which medical benefit is payable contribute . . . sums not exceeding in the aggregate the amounts which the Committee would otherwise have expended in providing medical benefit for them."

2. In practically every area with the exception of South Wales this section of the Act has been taken to apply to individuals, but the Insurance Committees of Monmouthshire and Glamorgan have taken advantage of it to hand over the capitation fees to bodies of workmen who have set up "Schemes" for the purpose of giving medical attendance by salaried doctors to the workmen and their families. The money for the families is obtained by deductions from the men's wages supplemented by the money provided from Insurance funds under the above-mentioned section of the Insurance Act. The medical profession has always protested strongly against what it believes to be an abuse of the section, on the ground that these Schemes are an evasion of the intentions of the Act which contemplate that the normal system will be the panel system, whereas these Schemes are worked on a whole-time salaried system.

3. The Schemes are invariably introduced and from time to time stimulated by a system of canvassing which is very unfair

to competing doctors; they are controlled by Workmen's Committees, which are not responsible bodies like the Insurance Committee: they are subject to little or no central control, they allow no direct representatives of the medical profession on them, nor are they guided, as the Insurance Committee largely is in medical matters, by a purely medical Committee—the Panel Committee. Experience has shown that the service provided is on the whole unsatisfactory as compared with that given by doctors under the normal system; most of these Schemes have disappeared after a comparatively short but unsatisfactory existence; and it is hoped that the Royal Commission will recommend such changes as will make it impossible to finance such Schemes out of National Health Insurance Funds.

### APPENDIX III.

#### OPHTHALMIC BENEFIT.

1. Among present "Additional benefits" dental and ophthalmic are easily first in demand and in value to insured persons.

2. Ophthalmic benefit appeals greatly to the insured person, for the symptoms of eye strain are most disturbing and are more frequent with the increasing complexity of modern life.

3. This benefit should be dealt with administratively in the way suggested in the main body of the memorandum with regard to the "treatment benefits" in general by being removed from the administration of Approved Societies. Under the present system, however, a few Approved Societies have made arrangements with specially qualified practitioners on behalf of their members and these arrangements are not open to the objection which is set out in the following paragraphs.

4. Other Approved Societies have entered into arrangements which are open to serious criticism and are certain to lead to grave danger to the insured persons.

5. These Societies have arranged for the provision of spectacles by opticians and without the necessary preliminary examination by a competent medical practitioner. The arrangement, it is alleged, is cheap. But cheap methods in dealing with human beings usually prove costly in the long run. It is sure to prove so in this regard, both immediately and in the future. An ophthalmic benefit secured through a competent medical practitioner is a full consultation covering external or internal diseases of the eye, refraction work, and vascular and neural examinations. The results of these examinations should be communicated to the insurance practitioner and would afford him information regarding his patients which he cannot get otherwise, and which will be a material guide to his work. The bare provision of spectacles by a "sight-testing" optician cannot secure these benefits, for he is not trained in the diseases of the eye and of the body which are concerned therewith. Apart from the risks inevitable in the employment of untrained or part-trained men for the examination of the most delicate sense organ and one closely connected with the brain, examinations by sight-testing opticians are inadequate and therefore unprofitable.

6. The utilisation of medical practitioners for this purpose will make it certain that within a very few years there will be a full supply of well-trained and competent ophthalmologists ready and able to do this work to the best advantage. If the employment of sight-testing opticians be continued or extended there will be a diminution of the supply of doctors willing to do this work, to the ultimate disadvantage of the community.

7. Further, as examination of the refraction of the eye for the purpose of fitting spectacles is regarded as a form of medical treatment, medical practitioners, with due regard to the disciplinary disabilities that would follow, or with proper regard for the welfare of their patients, cannot send their patients or be party to sending their patients to persons not on the *Medical Register*.

## British Medical Association.

### CURRENT NOTES.

#### Preparations for the Opening of the New House of the Association.

MEMBERS will be interested to learn that the alterations and decoration of the new house are progressing steadily. It is too early yet to be able to give any definite particulars as to the opening ceremony, but so far as can be seen the date will be either July 14th or 15th, and the ceremony will consist not only of the opening of the new house but the dedication of the memorial gates which are to be erected to commemorate the members of the Association who gave their lives in the great war. The Council in November last sent an invitation to all the Overseas Branches to make a special effort to be represented at the opening ceremony, as well as at the Annual Meeting at Bath, and many responses have already been received which show that a good gathering of our brethren from over the seas may be expected. We shall shortly be in a position to report further very agreeable indications of the interest in the great event which is being shown by the Dominions.

#### Life Insurance without Medical Examination.

The Medical Secretary not infrequently receives letters from members of the Association informing him that they have been asked to give information about the previous health of patients who have been accepted for life insurance without medical examination, and who have died shortly afterwards. His advice to them is invariably that they should not give any information without the written consent of the relatives of the deceased. It can hardly be doubted that the object of insurance companies in making such inquiries is the chance of getting information regarding the previous health of the deceased which may enable them to dispute the claim and thereby evade a financial liability which they have incurred, without taking the usual steps to protect themselves against undue risk. Whether a fee is offered or not is beside the point: the fact remains that the insurance company would seem to be looking to the doctor to pull the chestnuts out of the fire. The line which should be adopted by doctors in cases of this kind is to refuse information and to inform the relatives that they should tell the insurance company quite plainly

that if the claim is not settled promptly they will sue in the courts. This advice has been given to a number of correspondents, and it may be useful to make it more widely known.

#### South African Medical Congress, 1925.

At the invitation of the Natal Inland Branch of the British Medical Association, the twentieth South African Medical Congress will be held in Pietermaritzburg during the week beginning July 6th, under the presidency of Dr. D. Campbell Watt. Five sections have been arranged—namely, medicine and mental hygiene; surgery; public health; obstetrics and gynecology; and special subjects. Practitioners desirous of contributing papers are invited to communicate with the honorary general secretary of the Congress, Dr. C. G. Kay Sharp, Education Department, Pietermaritzburg. A circular will be sent to those indicating a desire to be present at the Congress, when the details of the arrangements have been decided. The membership fee is two guineas.

#### Salaries of Part-time Medical Officers of Health.

In January the Medical Secretary of the British Medical Association sent to all part-time medical officers a questionnaire asking for particulars in regard to their salaries. The object of this set of questions was to obtain a body of information which would enable the Medical Secretary to advise inquirers as to what was customary in similar appointments in various parts of the country. So far only about half of the officers addressed have sent answers. It is hoped that those who have not already replied will do so as soon as possible.

#### Trade Unions and Unqualified Practice.

The attraction that unqualified practice has always had for certain individuals is well known, but it is rather melancholy to find at this time of day a trade union actually providing for its members treatment by a well known "consumption cure." Not only has a branch of one trade union (the National Union of Boot and Shoe Operatives) provided and paid for the treatment, but in one case recently reported to us has put considerable pressure upon the member to dissuade him from discontinuing the treatment. In view of the strong remarks made by the Select Committee of the House of Commons on those who profess to "cure consumption" it seems a pity that the money of trade unionists should be wasted in this way.

## Association Notices.

### SPECIAL REPRESENTATIVE MEETING.

NOTICE is hereby given that a Special Representative Meeting of the Association will be held in the Wesleyan Central Hall, Westminster, London, on Thursday, March 12th, 1925, at 9.30 in the forenoon, on the requisition of the Council, to consider the following motion:

That the members of the Representative Body present be authorized to attend a Conference called for Thursday, March 12th, and (if necessary) Friday, March 13th, 1925, at 10 a.m., in association with representatives of Local Medical and Panel Committees, to consider a Memorandum of Evidence proposed to be submitted to the Royal Commission on National Health Insurance.

By order of the Chairman of the

Representative Body,  
ALFRED COX.

February 18th, 1925. Medical Secretary.

### TABLE OF DATES.

Mar. 16, Mon.	Branch Reports for 1924 due by this date.
Mar. 25, Wed.	Council.
Mar. 30, Mon.	Nomination papers available for election of 24 members of Council by grouped Home Branches, 2 Public Health members of Council, and 4 Representatives of Public Health Service in Representative Body.
April 11, Sat.	Annual Report of Council appears in SUPPLEMENT.
April 25, Sat.	Last day for receipt of nominations for election of 24 members of Council by grouped Home Branches, and of 2 Public Health members of Council, and 4 Public Health Service Representatives.
May 9, Sat.	Publication in SUPPLEMENT of nominations for election of 24 members of Council by grouped Home Branches, 2 Public Health members of Council, and 4 Public Health Service Representatives. Voting papers posted.
May 12, Tues.	Independent motions for A.R.M. Agenda must be received at Head Office by this date.
May 16, Sat.	Last day for receipt of voting papers for election of 24 members of Council by grouped Home Branches, 2 Public Health members of Council, and 4 Public Health Service members of Council.
May 20, Sat.	Publication in SUPPLEMENT of results of Council elections by grouped Branches, and of election of members of Council and Representatives in Representative Body by Public Health Service members.
June 4, Thurs.	Nomination papers available for election of 12 members of Council by grouped Home Representatives.
June 10, Wed.	Names of Representatives and Deputy-Representatives must be received by this date.
June 18, Thurs.	Council.
June 27, Sat.	Meetings of Constituencies must be held between this date and July 17th to instruct Representatives.
July 3, Fri.	Supplementary Report of Council appears in SUPPLEMENT. Amendments and riders for issue in A.R.M. Agenda must be received by this date.
July 17, Fri.	Annual Representative Meeting, Bath. Nominations for election of 12 members of Council by grouped Representatives must be received (at A.R.M., Bath) by this date.
July 18, Sat.	Annual Representative Meeting, Bath.
July 20, Mon.	Council, and Annual Representative Meeting, Bath.
July 21, Tues.	Annual Representative Meeting, Bath. Annual General Meeting, Bath, President's Address.
July 22, Wed.	Council Meetings of Sections, Conference of Honorary Secretaries, Bath.
July 23, Thurs.	Meetings of Sections, etc., Bath.
July 24, Fri.	Meetings of Sections, etc., Bath.

ALFRED COX, Medical Secretary.

### BRANCH AND DIVISION MEETINGS TO BE HELD.

**BIRMINGHAM BRANCH: COVENTRY DIVISION.**—A meeting of the Coventry Division will be held on Tuesday, March 3rd, at the Coventry and Warwickshire Hospital, at 8.30 p.m. Agenda: Correspondence; paper by Dr. Wright, pathologist, to the Coventry and Warwickshire Hospital.

**KENT BRANCH: DARTFORD DIVISION.**—A meeting of the Dartford Division will be held at the New Erith Hospital at 3 o'clock to-day (Friday, February 27th). Mr. H. S. Souttar, C.B.E., F.R.C.S., of the London Hospital, will give an address on modern treatment of fractures, and it is hoped that all practitioners in the Dartford area will be able to attend.

**EDINBURGH BRANCH.**—The winter clinical meeting of the Edinburgh Branch will be held in the Royal Infirmary, Edinburgh, to-day (Friday, February 27th). All members of the profession are cordially invited. Senior medical students desirous of attending will be admitted by card, obtainable from Mr. F. E. Jardine. The museum will be open from 10 a.m. to 6 p.m. Arrangements will be made for holding special clinics during the day. The clinical meeting will be held at 3.30 p.m. Dinner at 6.30 in the Caledonian Station Hotel (morning dress); dinner ticket, price 10s. 6d.

**LANCASHIRE AND CHESTER BRANCH: HYDE DIVISION.**—At a meeting of the Hyde Division to be held at the Hyde Town Hall on Thursday, March 12th, at 8.30 p.m., Dr. Ralphs will give his impressions of a short visit to the United States of America.

**METROPOLITAN COUNTIES BRANCH: CAMBERWELL DIVISION.**—A meeting of the Camberwell Division will be held at Bermondsey and Rotherhithe Hospital, Lower Road, Rotherhithe, on Wednesday, March 4th, at 9 p.m., when Dr. N. Mutch, assistant physician, Guy's Hospital, will give an address on rheumatoid arthritis.

**METROPOLITAN COUNTIES BRANCH: CITY DIVISION.**—A meeting of the City Division will be held at the Metropolitan Hospital, Kingsland Road, on Tuesday, March 10th, at 9.30 p.m., when Sir H. E. Bruce-Porter will read a paper on medical practice and its pitfalls.

**METROPOLITAN COUNTIES BRANCH: SOUTH-WEST ESSEX DIVISION.**—A meeting of the South-West Essex Division will be held at the Woodford Jubilee Hospital, Woodford Green, on Tuesday, March 3rd, at 3.30 p.m. After the termination of the ordinary business a paper will be read at 4.15 p.m. by Mr. C. H. S. Frankan, C.B.E., F.R.C.S., on tuberculous glands of the neck. Tea at 3.15 p.m.

**MIDLAND BRANCH: CHESTERFIELD DIVISION.**—At the meeting of the Chesterfield Division, to be held at the Maternity Hospital, Chesterfield, on Friday, March 13th, Dr. A. J. Hall, professor of medicine, University of Sheffield, will give an address on "Diagnostic Bunkers."

**SOUTHERN BRANCH: WINCHESTER DIVISION.**—A meeting of the Winchester Division will be held at 4, The Square, Winchester, on Thursday, March 19th, at 3.30 p.m., when a British Medical Association Lecture will be given by Professor H. Maclean on the present position of endocrine diseases from a clinical standpoint.

**STAFFORDSHIRE BRANCH.**—The second general meeting of the session will be held at the Stork Hotel, Walsall, on Thursday, March 5th; the President, Dr. J. W. Dawes, will take the chair at 4 p.m. Business: Correspondence. Exhibition of cases. Papers:—Dr. S. C. Dyke: The Differential Diagnosis of Glycosuria; Dr. G. F. Hayeraft: A New Aspect of Herpes Ophthalmicus; Dr. F. G. Layton: Concerning Doctors. Exhibitions of pathological specimens, etc. Dinner at 6.15 p.m. at the Stork Hotel, Walsall. Members proposing to attend are requested to notify the honorary general secretary, Dr. W. Webster, by March 2nd.

**SURREY BRANCH: GUILDFORD DIVISION.**—At the meeting of the Guildford Division, to be held at the Royal Surrey County Hospital, Guildford, on Thursday, March 5th, Sir Crisp English, K.C.M.G., will open a discussion on abdominal pain.

**YORKSHIRE BRANCH: WAKEFIELD, PONTEFRAC, AND CASTLEFORD DIVISION.**—At the meeting of the Wakefield, Pontefract, and Castleford Division, to be held at the Bull Restaurant, Wakefield, on Thursday, March 12th, Mr. E. W. Bain, F.R.C.S. (Leeds), will give a lecture on middle-car supposition.

## Meetings of Branches and Divisions.

### METROPOLITAN COUNTIES BRANCH: WESTMINSTER AND HOLBORN DIVISION.

#### The Relationship between Doctor and Patient: Some Legal Aspects.

A DINNER MEETING of the Westminster and Holborn Division was held at the Criterion Restaurant, under the chairmanship of Dr. HOWARD HUMPHRIS, on February 19th.

Mr. OSWALD A. HEMPSON, solicitor to the Medical Defence Union, gave an address on some of the legal aspects of the relationship of doctor and patient. This relationship was one of contract—on the doctor's side to exercise reasonable care and skill and to do his utmost to effect a cure, and on the patient's side to pay reasonable fees. No guarantee of correct diagnosis or certain cure was involved in the contract; attempts had been made to infer such a guarantee, but this had never been confirmed by law. The expected skill varied with the individual practitioner. From one who held himself out to be an expert and accepted fees under that title greater skill would be required than from the ordinary general practitioner. Care, on the other hand, was a constant factor. Cases frequently came to the Medical Defence Union in which the doctor stated that he had advised the patient to follow a certain course of treatment or allow a consultant to be brought in, and the patient had refused. It was very important that the medical man should obtain and preserve written evidence of that advice and refusal. He should repeat the advice in the form of a letter to the patient and retain a copy. It had been suggested that patients should be got to sign an indemnity, but the speaker did not believe that that would carry any real protection; it would not absolve the practitioner from exercising a reasonable degree of care and skill, and if it was decided that there had been dereliction induced by the fact that the practitioner had protected himself beforehand by the indemnity, the damages awarded against him might be correspondingly heavy. It was necessary also to remember that the practitioner was responsible for the acts of others, such as those of a partner within the business of the partnership, or of an assistant within the terms of his employment. In the famous case known as the St. Bartholomew's Hospital case it was laid down that the surgeon was responsible for all that happened in the operating room after the door was closed; but recently a different view had been taken in a South African court, where, in an action against a surgeon for allowing a swab to remain in the body of the patient, the judge had held that the surgeon could not be held liable because, by custom, there had been delegated to the nurse the duty of checking the swabs, and it could not be to the interest of the patient that the surgeon himself should undertake this duty. To establish criminal negligence it was necessary to prove something far more serious than such negligence as would entitle a patient to civil damages. He directed attention to the report



in the BRITISH MEDICAL JOURNAL of recent proceedings, and particularly to the dictum of Mr. Justice Stephen on manslaughter by negligence which was frequently quoted in those proceedings (February 7th, p. 286). In a criminal case it was care rather than skill which was the determining factor.

Often it was imperative for a medical man to make some communication with regard to the condition or health of a patient, and that brought him into the sphere of possible action for slander or libel. In slander, because it was a transitory thing (save in four cases which were treated as being actionable *per se*) it was necessary to prove, not only that the slander had been spoken, but that actual damage had resulted; in libel, which had a more permanent character, it was not necessary to prove special damage. There were various lines of defence to such actions. The defence of justification, that what was spoken was true in substance and fact, was dangerous because, if the verdict should go against the defendant, the offence was aggravated and the damages increased. The defence of fair comment on a matter of public interest hardly arose in ordinary professional relations. The defence of qualified privilege was most frequent, and within this category came consultations between medical men, statements made by a medical man to the relatives of the patient, and statements made in discharge of a legal, moral, or social duty. But it must not be forgotten that this defence of qualified privilege could be rebutted by what the law called malice, which had a wider interpretation than malice in ordinary speech, and was held to include any corrupt or wrong motive or spite or ill will, or, in other words, any indirect motive other than a sense of duty. The making of statements which were known to be false, or statements which were made recklessly, without care whether they were true or false, would be clear proof of malice. In giving certificates it was clearly necessary to speak only of facts actually discovered by the certifier as the result of his examination, and not to make my statement as to what might have been the condition at some antecedent date, or if such statements as the latter were put in, it must be clearly stated in the certificate that they were purely surmise. He was aware that the Harnett case had caused many scratchings of heart, but, that case notwithstanding, the Act of 1890 still governed the situation, and this gave the medical profession a substantial protection. At an early stage in any proceedings arising out of anything done in pursuance of the Lunacy Act a medical man could apply to the court for the dismissal of such proceedings, and the judge, on being satisfied that there was no reasonable ground for alleging want of good faith or reasonable care, could direct the proceedings to be dismissed. The Act of 1890, indeed, gave a greater protection than the common law, because there was no mention in that Act of skill, but only of reasonable care and good faith, which latter might be defined as acting with no ulterior motive, the only guiding factor being the interest of the patient. His own opinion was that the profession need not fear that the Harnett case had added to its responsibilities. The same law remained to be applied, there was the same necessity to consider the individual facts of every case, and, provided the doctor acted with reasonable care and good faith, he had absolute protection under the Act.

It had often been suggested (Mr. Hempsen continued) that members of the profession should act as informers to the police, but medical men had rightly shown themselves disinclined to serve as private detectives. If a liability of that sort were to be admitted it would, in many cases, be a great abuse of the trust which those in physical or mental trouble reposed in the members of the profession. He recalled being present, some years ago, at a meeting between the Law Officers of the Crown and representatives of the medical profession when this question was discussed. At that meeting all that the Lord Chief Justice of the time asked of the profession was that in cases where there was good reason to believe that an illegal operation had been performed by some outside party a doctor should inform the police, and Mr. Hempsen thought that even in making this modified request the Law Officers realized that they could not enforce such an obligation. That was really a great tribute to the confidence existing between doctor and patient. He concluded by saying that if the profession had many obligations it had also certain privileges. The practice of medicine by unqualified persons in this country was not prohibited, but certain disabilities were attached to such practice, and an unqualified practitioner was not able to sustain an action for the recovery of fees. To the medical profession was accorded the right to sign certain formal certificates. The opinion of the doctor was accepted in many courts, and a certificate from him had a considerable influence upon a case. Members of the profession alone were entitled to hold certain offices, they were exempt from jury service and from training for the militia, a certain latitude was allowed to them when exceeding the speed limit on the highway, and another odd privilege was that their horses were not at law allowed to be harnessed to the local fire engine!

A discussion took place, in which Dr. WILLIAM HILL, Dr. PORTER PHILLIPS, Dr. GILBERT SCOTT, and others took part, and some interesting (though not always reportable!) medico-legal experiences were exchanged.

#### EDINBURGH BRANCH: SOUTH-EASTERN COUNTIES DIVISION.

A MEETING of the South-Eastern Counties Division was held on February 11th in the Railway Hotel, Newtown St. Boswells, when Dr. C. J. W. DIXON was in the chair.

Sir ROBERT PHILIP gave a most interesting address on tubercularization and detubercularization, and arranged for a demonstration of the effects of a tuberculosis infection in guinea-pigs which showed very well the spread of the infection through the lymphatics from one group of glands to another, at first unilaterally but finally bilaterally, and involving organs such as the spleen, liver, and lungs. He pointed out (1) that these were definite focal effects arising from infection at a primary focus, the infection travelling in a definite path from one group of glands to another; (2) that in addition there were also systemic effects such as loss of weight and appetite, and rise of temperature. As a result of the route travelled by the tubercle bacilli he deduced that in the diagnosis of tuberculosis very careful attention should be paid to the lymphatic system.

Sir Robert Philip laid down two broad propositions: (1) that tubercularization—not tuberculosis—was practically universal in civilized countries; (2) that the infection of tuberculosis was for the most part effected in childhood. In view of these propositions he suggested that great attention should be paid to children, and particularly to delicate children, who should be reviewed from time to time with a view to determining the extent of tubercularization. With regard to such children, he said that environmental influences and such diseases as measles and whooping-cough, while not in themselves being the cause of tuberculosis, lowered the bodily resistance to such an extent that they might foster the development of the process.

With regard to detubercularization, Sir Robert Philip was very emphatic that detubercularization should not be delayed until the gross manifestations appeared, and emphasized the fact that surgical procedures for tuberculosis were at the best "local toiletting," and that they did not affect retubercularization. He personally recommended the innunction of tuberculin ointment—1 to 50 per cent.—once a week as a routine procedure; and by the kindness of Dr. Page a number of tuberculous cases were shown in which great improvement had been effected by this treatment.

On the motion of Dr. OLIVER a very warm vote of thanks was accorded to the lecturer.

#### LANCASHIRE AND CHESHIRE BRANCH: BLACKPOOL DIVISION.

A GENERAL meeting of the Blackpool Division was held at the Victoria Hospital, Blackpool, on February 11th, when Dr. STEWART was in the chair. After the members had been entertained to tea by the matron of the hospital, an instructive demonstration of clinical cases, skiagrams, and pathological specimens was given by Drs. HODGSON, BAIRD, ENGLISH, and DEVERS. The demonstration covered a very wide field—medical, surgical, obstetrical, and pathological.

On the motion of Dr. STEWART, seconded by Dr. CORRI, the best thanks of the meeting were unanimously accorded to Drs. Hodgson, Baird, English, and Devers.

It was announced that provisional arrangements were in hand for a meeting of the Division on March 18th, when the coroner had promised to give an address.

#### METROPOLITAN COUNTIES BRANCH: CITY DIVISION.

MEETINGS of the City Division were held respectively on January 13th and February 10th, both at the Metropolitan Hospital. On January 13th, when forty-two members were present, Mr. W. McADAM ECCLES, M.S., F.R.C.S., read a paper, illustrated by lantern slides, on the lessons learnt from the x-ray plates taken during 1924 at St. Bartholomew's Hospital. There was a most interested audience. Mr. McAdam Eccles was unanimously thanked for his very instructive lecture, and also for having plates specially prepared for this demonstration.

The meeting on February 10th was also attended largely, fifty-four members being present. Dr. EDWIN SMITH, coroner for North-east London and lecturer on medical jurisprudence at St. Thomas's Hospital, read a paper on some legal relationships of the practitioner, with special reference to the coroner's court. The audience was deeply interested, and a hearty vote of thanks was accorded to the lecturer.

Prior to Dr. Edwin Smith's paper the following resolution, moved by Dr. C. E. EVANS and seconded by Mr. H. VAUGHAN PRICE, F.R.C.S., was carried without dissent:

That this Division views with ever-increasing alarm the constant encroachments and threats of further encroachments on private practice, not only by the agents of the Ministry of Health (National Health Insurance Acts) and municipal bodies in infant welfare work, school treatment, and clinics, tuberculosis persons, without any obvious increased benefit to the public, but also by the Medical Association which state what steps are being taken to guard the interests of the profession generally.

## METROPOLITAN COUNTIES BRANCH: SOUTH MIDDLESEX DIVISION.

An ordinary meeting of the South Middlesex Division was held at St. John's Hospital, Twickenham, on January 21st, when, in the absence of Dr. G. S. Ewen (Chairman), Dr. GÜNTHER presided.

Dr. Günther opened a discussion on scarlet fever from a public health point of view. He stated that the population of Hampton Wick was 2,417, and had not varied much since 1893, during which period 145 cases of scarlet fever had been notified, resulting in two deaths. This gave an average of about four cases a year. There were no facilities for isolation hospital accommodation until 1906, and for some years advantage was only taken sparingly of such facilities. From a public health point of view the management of this disease often presented points of difficulty, especially in view of the fact that in the vast majority of cases the disease was a mild one. Very little was known about the etiology of the disease. They were told that the organism was a haemolytic streptococcus, but there must be factors at work which at certain times caused numerous children to contract the disease. In some years the complaint was highly infectious and in other years only slightly infectious. One thing was certain—that until the bacillus was isolated very little advance in the control of the disease could be attained. Dr. Günther said that diagnosis often presented great difficulties, but no doubt in future years might be remedied, as the writings of George and Gladys Dick in America seemed to show. In certain cases, owing to difficulties in diagnosis, the general practitioner and the medical officer of health were not infrequently placed in a dilemma. Dr. Günther was of the opinion that scarlet fever and German measles were often taken one for the other. Having no isolation hospital in the district, most of the cases were sent, under arrangement, to certain other fever hospitals, but the remainder had to be treated at home.

A hearty vote of thanks was accorded to Dr. Günther for his interesting communication.

## METROPOLITAN COUNTIES BRANCH: WILLESDEN DIVISION.

At the Comedy Restaurant, on Sunday evening, February 15th, Dr. WOOLLEY STOKER presided over the first dinner of the Division. Dr. LOCK said the Burns Grace. In replying to the toast of the Division, proposed by Mr. F. D. SATER, surgeon to the Willesden General Hospital, the CHAIRMAN traced the history of the Division, which sprang from Hampstead in 1912, and after the Insurance Act lapsed and was attached to Harrow. Since its resurrection in 1919 it had prospered and the membership had doubled.

Dr. G. C. ANDERSON, Deputy Medical Secretary, British Medical Association, proposed the toast of "The hospitals in Willesden." Mr. G. FURNESS, chairman of the Willesden General Hospital, replying for his own and for St. Andrew's Hospital, Dollis Hill, expressed his pleasure at being present and being associated with the doctors. Dr. F. G. BUCHAN, for the Municipal Hospital, put in a plea for co-ordination of work and for preventive medicine. Dr. THAXER, of the Park Royal Hospital under the board of guardians, referred to the development of the surgical work in Poor Law hospitals. Proposing the toast of "The Ladies and the Guests," Dr. STURRIDGE emphasized the great work done by Mr. Furness in developing the Willesden General Hospital. Miss LAWRENCE, Intelligence Officer, British Medical Association, effectively replied, and Mr. JAMES JOHNSTONE, barrister, secretary of the Middlesex Panel Committee, welcomed the opportunity of showing the doctors that he was not merely a silent recorder of their opinions. Mrs. LOCK made a collection on behalf of the proposed maternity ward for the General Hospital and expressed satisfaction at the result. Dr. PATTERSON, before proposing the health of the Chairman, congratulated Drs. Lock and Sturridge on the excellence of the arrangements. He also referred to each of the nine preceding chairmen, and especially to the oldest, Dr. Macevoy, who was present, and was always consulted in cases of difficulty. Dr. STOKER's reply brought an enjoyable evening to a close.

## Correspondence.

## Insurance Remuneration.

SIR,—For the year 1924 practitioners in the Glasgow area have received a capitation rate of 8s., and we are told that no additional grant may be expected whereby our remuneration will be made up to the 9s. per caput which most of us understood the British Medical Association had obtained at the recent negotiations. During these negotiations the vast majority of us signed "strike notices" because we would not accept a capitation rate of 8s. 6d. Now it appears we have worked for a year for 8s., and next year may have to work for less. I would be interested to know if statistics are available giving the rate of remuneration received by practitioners in other areas, and whether, if our unfortunate plight in Glasgow is paralleled elsewhere, the British Medical Association can do anything to obtain for us the capitation rate which we were promised and awarded—that is, 9s.

Much capital was made by the Ministry of Health that panel practice meant a sure income and a complete freedom from bad debts. During 1923 the bad debts from my private practice amounted to 15 per cent., some of which I still hope to recover through a debt collector. During 1924 bad debts from my

panel practice amounted to 12½ per cent., all of which is irrecoverable.

Comment seems unnecessary.—I am, etc.,

Govan, Feb. 5th.

IAN D. GRANT.

\*\* We have referred this letter to the Scottish Medical Secretary, who writes as follows:

Dr. Grant's letter proceeds on a not uncommon misunderstanding as to the exact nature of the arrangements for payment under the insurance system which the profession has accepted. Some doctors have come into the service since the date when the general principles were agreed to, and others have forgotten what these were. It may be well to restate them now.

A capitation fee of 9s. does not mean a payment of 9s. for every person on a doctor's list at a particular time, since all the lists contain the names of persons who are dead or otherwise not entitled to medical benefit.

The total number of persons entitled to treatment for a given year is calculated by the actuary, and 9s. in respect of each of them is paid into the central pool. This sum forms the insurance premium. The insurance risk which the doctors carry is the risk of having to attend all those entitled to treatment. The insurance risk in each area is generally proportionate to the numbers on index registers, and the pool is divided amongst Insurance Committees pro rata to the index registers after adjustment for such things as temporary residents.

The insurance risk which each individual practitioner carries is again generally proportionate to the number of persons on his list, and the local pool is distributed in that proportion in all areas except those where the doctors prefer to be paid in proportion to the services which they render.

As the numbers on index registers and also the numbers on doctors' lists are in excess of the calculated total of persons entitled to benefit, the sum received obviously falls below 8s. per caput. The rate of inflation is believed to be uniform, but the proportion of persons on the index registers who have come on to doctors' lists varies among areas, which results in a variation in the sum received per caput. If two areas have the same total index register, the sum received by the two areas would be the same in each case; but if, say, 70 per cent. of the register have chosen a doctor in one area and 80 per cent. in the other, the sum per head of doctors' lists would be greater in the former case than in the latter, although the total sum received by the doctors would be the same in both areas.

The method of distribution is not ideal, but so far no better workable scheme has been devised.

## The Expansion of the National Health Insurance Medical Service.

SIR,—The above is what the "taking in of the dependants of insured persons" means. Now is the time to consider if the service is developing upon right lines.

To my mind there is one fatal flaw in the present system—that is, the autocratic bureaucratic government from the Ministry of Health. I believe the nation is instinctively correct in its hatred of bureaucratic government. If socialism and nationalization inevitably mean bureaucratic government, then they are damnable, and to be resisted by every intelligent citizen. But need this be so? Democratic socialism alone would be tolerable to an educated people.

Syndicalism—that is, the control of an industry by owners and workpeople, regardless of the communal interest—is as bad as the present capitalist system. Therefore the medical profession cannot, in justice, ask to control a national health system. That is what some doctors are thoughtlessly demanding.

I believe that the solution of these problems lies in claiming that an industry or a health service shall be controlled by a triple alliance of owners, workpeople, and representatives of the general community. Now let us try and apply this to the national health service. Governance by the Ministry of Health and its whole-time officials is every day becoming more tyrannical and objectionable. Before the profession agrees to extend further the area of service, thereby diminishing the area of general practice, let it insist upon the Whitehall governing body being radically altered.

The great merit of the Insurance Committees was that they represented insured persons, the doctors, and the general community. In like manner the Whitehall governing body must fairly and justly represent the same interests, and unless this be done I hope the joint meeting in London will refuse absolutely to have anything to do with an extension of the service. Two demands should be made:

(1) The Central Governing Committee should consist of representatives of insured persons, selected members of our

Insurance Acts Committee, and members of Parliament representing the community, with the Minister of Health as chairman.

(2) Regional medical officers shall be chosen by the panel doctors in the respective regions. Otherwise the medical profession is only providing more patronage for the party in power.

Now is the time to take the definite stand.—I am, etc.,

Southend-on-Sea, Feb. 17th.

FERDINAND REES.

#### *Royal Commission on National Insurance.*

Sir,—I recently drew attention (as it affects whole-time medical officers) to the proposed evidence to be submitted by the British Medical Association. May I now refer to it as it affects the people most concerned—the dependants of insured persons, to whom it is proposed to extend medical benefit? These dependants will include nearly all the school children of the country, and it is these that I wish to consider.

My excuse for venturing to discuss the question at all is that, as tuberculosis officer, I have some knowledge of the practices of all the general practitioners in the county, and, being on the staff of the county medical officer of health, I am closely associated with the school medical service. Also, having been in the county since 1903, I am able to compare conditions before and after the Insurance Act came into being.

The result of my experience is that I am sure that medical benefit has been of great value to the insured person, and I am all in favour of extending the Act to include their dependants. But I am very doubtful if the school children will benefit if, at the same time that they are given general practitioner treatment, they are deprived of all the existing forms of treatment provided by the school medical service.

Excluding treatment of eyes, teeth, tonsils, and adenoids, orthopaedics, and mental deficiency—all of which are admitted to require specialist treatment—the remaining defects treated by the school medical service are scabies, impetigo, ringworm, and pediculosis. Does the general practitioner want to treat these four ailments? And if so, what capitation fee would adequately remunerate him for the time and trouble needed? Extension of benefit to dependants is bound to be expensive, as they earn no wages and have no employers, so that all the cost must be borne by the State—that is, the taxpayer. It is therefore important that the capitation fee should be moderate.

I would suggest that if medical benefit is extended to dependants it should consist of general practitioner treatment, which would be in addition to, not in place of, existing forms of treatment supplied by local authorities.

Such a modified extension of medical benefit—

1. Would increase the amount of treatment given to children.
2. Would relieve the general practitioner from treating troublesome and comparatively trivial ailments.
3. Would exempt the general practitioner from keeping the necessary records, returns, and reports required by the Board of Education.
4. Would be less expensive than the British Medical Association scheme.
5. And lastly, it would provide for all the children the fatherly care of the family physician, which is so much to be desired, but is not necessary for the successful discovery of nits in a school child's head.

—I am, etc.,

Winsley, Wilts, Feb. 16th.

LEONARD CROSSLEY, M.D.

#### *The Record Card in Rural Practice.*

Sir,—I was delighted with "Kathleen Willie-Clarke-Hall's" doctor's racy description of his difficulties with his Record Cards (SUPPLEMENT, February 14th, p. 62). His case is a somewhat extreme one, though it could probably be capped by many a Welsh panel practitioner; still he speaks for us all. And the great moral deducible is, of course, the tragic waste of the doctor's time. Three or four minutes to find a single card, or to prove that one does not possess it, is too long to waste over a single patient during a strenuous hour and a half of "surgery," with anything from ten to thirty or more other patients waiting to have their ears found and to be then themselves examined and prescribed for and given their certificates.

At a busy time of year—often the whole time from October to May—a single-handed semi-rural practitioner such as I am will almost certainly have three or four serious cases on hand that he is anxious to get to see as early as possible. One of these cases may be three or four miles away in one direction, another equally as far in the opposite direction, and so on.

Starting a "surgery" at 9 a.m. one has, if possible, to be away on one's morning rounds by 10.30. "Doing the Record Cards" then would easily protract this consultation period by an entire hour. Similarly at the evening "surgery," which,

starting at, say, 6 p.m., goes on to 7.30 or 8 o'clock. If the Record Cards for the patients visited during the day and for patients who have consulted during the evening surgery hour have now to be tackled, there is work provided which will last till 9.30. But 9.30 is too late to be setting off on an evening round to the serious cases, who may again be miles apart—north, south, east, or west.

*Record keeping properly done is a manifest impossibility in practices of a certain type.* This is a cardinal point, which should long ago have been recognized by the bureaucrats.

A county M.O.H., or other county health administrator, comes down to his comfortable offices at 9 a.m., or later, to his clerks, lady typists, and all the amenities and comforts; at midday he can go out for an hour and a half to his lunch, and can retire from his day's work at whatever hour he likes in the afternoon. "A little record keeping" is quite a simple thing, he reflects, as he toasts his toes at his drawing-room fire before going off to an undisturbed night's rest. Now the county M.O.H. or other bureaucrat is not a fool; he is an able man for a practical certainty, and usually also a very tactful and charming man. But he is often lacking in one thing, and that is imagination. While toasting his toes at 11 p.m. he does not realize that the average general practitioner doing panel work may quite likely have started the day's work by having been "out at a confinement" all the previous night, and that often that same general practitioner is hauled out of bed for a longer or shorter period three or four nights running. He does not realize that that general practitioner after three or four hours' sleep tackles his morning "surgery" (four-fifths of which is probably for trifling ailments), feverishly impatient to get through it quickly in order to get away to a case of possible intestinal obstruction four or five miles away, or to a case of pneumonia with a shaky heart. He does not realize that this same general practitioner (who ought, according to Memo. 274/1.C., to be cheerfully carrying out his "obligation" to keep records), with these yesterday's serious cases worrying him, has probably received during surgery hour several messages by note or telephone or telegram to "please come at once" to various other fresh cases at varied points of the compass, one of which may be a confinement call and another a summons to a serious accident. He does not, I repeat, attempt to realize or visualize what goes on day after day in the busy doctor's practice. With real urgency in half a dozen different directions all pulling at the doctor simultaneously, what time can possibly be given to fiddling about with Record Cards at all?

Whether the Record Cards under any circumstances are of much real use is extremely doubtful. Four years ago an expression of opinion, hailing from workers with the late Sir James Mackenzie at St. Andrews, seems to me to be conclusive. I quote the final paragraph of their statement as it appeared in the *Times* of January 12th, 1921:

"The only function of the insurance cards that can to our minds be of any value is that the notes afford proof that the patient was incapacitated and therefore entitled to benefit. And until the whole subject of non-terminal affections has been worked out in such institutions as ours, in limited areas, as you suggested, any attempt of the Ministry of Health to obtain statistics of value is folly."

The medical correspondent of the *Times*, in sending this "considered opinion"—for such it appears to me to be—to his paper, makes this devastating remark:

"In no area has medical recording received so much careful attention as at St. Andrews, where the special investigation into the earliest sign of disease is being carried out under the direction of Sir James Mackenzie."

But supposing that the medical advisers of the Ministry of Health were right and Sir James Mackenzie and his associates were wrong, and that the Record Cards are of value: then I submit—

1. That they are of real value only when ideally kept.
2. That they cannot possibly be ideally kept in very many types of practice; and in such types of practice—
3. That the attempt to keep them is a heart-break to a conscientious practitioner, a waste of valuable time, and an act of utter folly.
4. That they can only be carefully kept (a) by the right type of doctor in a selected type of practice; (b) by such a number (comparatively small) of men as will produce a not unmanageable amount of material.

Kathleen Willie-Clarke-Hall's doctor offers two solutions of the problems of the Record Card and its keeping by the panel practitioner:

1. That the patient keep his Record Card himself and produce it when claiming advice.
2. That the Record Card be abolished.

May I suggest an additional alternative—namely:

3. That the present system of Record Cards be acknowledged by the Ministry of Health to have failed of its object. That a new simple Record Card be given to, and kept, by each panel patient, and produced by him to his doctor on one or two occasions during any illness. On this could be entered any salient

feature likely to be of use to his present or any future doctor as memorandum or as guide.

That Record Cards, as elaborate as may be, be issued to a certain number of medical men on the panel who might undertake their keeping for any of the following or similar reasons: (a) That the number of their panel patients is comparatively few. (b) That their conditions of working are favourable (the existence of partners, assistant, book-keeper, etc.). (c) That they have a natural aptitude or liking for statistics.

That a levy of 1d., or other agreed figure, per head of the patients on the non-record keeping practitioners' lists be made, and that the resulting sum be pooled and divided out amongst these record-keeping practitioners.

On some such lines, Sir, I think that a way might be made for us out of our troubles. If the present Ministry of Health would look into the possibilities of some such scheme, and act upon their findings, and if they would at the same time review the whole question of certification (99 per cent. of so-called "lax certification" is merely ordinary justice to the insured person meted out to him by a conscientious fact-knowing member of a honourable, State-recognized profession) the "teething" difficulties of the National Health Insurance scheme would practically be a thing of the past, and 99 per cent. of the medical men who are now trying honestly to fulfil their obligation to the State would breathe a purer air. —I am, etc.,

February 17th.

A NORTHERN PRACTITIONER.

## Naval and Military Appointments.

### ROYAL NAVAL MEDICAL SERVICE.

SURGEON CAPTAIN H. J. CHATER to the *Tamar*, additional, and to *Tamar* additional for R.N. Hospital, Hong-Kong from date of joining.

Surgeon " " the *Egmont*, additional, and to the *Egmont*.  
Sergeant " " T. Wylie and L. F. Strugnell to the *Atreco*; A. G. McKee to the *Verdon*, temporary; P. J. Inman to the *Titanic*; R. P. Nimmo to the *Calyppo*; A. G. Anderson to R.N. Hospital, Simonstown; G. E. Heath to the *Thunderer*, temporary; J. A. Watson, appointment to the *President*, additional for five months' course cancelled; E. R. Kelley and A. W. Gunn to the *Egmont*, additional, and to the *Egmont* for R.N. Hospital, Malta; H. F. Stephen to the *Centurion*.

Surgeon Lieutenant E. C. Davis to the *Stuart*.  
Surgeon Lieutenants (short service) M. B. Devane transferred to permanent list, and J. E. Clark transferred to permanent list as Surgeon Lieutenant Commander.

Mr. R. M. L. Hall has entered as Surgeon Lieutenant and appointed to R.N. Hospital, Haslar, for course.

### ROYAL NAVAL VOLUNTEER RESERVE.

W. E. M. Wardill entered as Surgeon Lieutenant and attached to Tyne Division.

### ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel J. Dorgan retires on retired pay.  
The following Captains to be Majors: H. N. Sealy, A. Jackson (prov.), E. C. Beddows, M.C., J. Rowe, M.C. (prov.), W. P. Croker (prov.), A. B. H. Bridges, O.B.E., A. G. Brown (prov.), R. Hemphill, D.S.O.  
Captain T. Parr and Lieutenant T. W. Davidson are seconded for duty with the Sudan Defence Force.  
Lieutenant (on probation) M. A. Graham-Yooll resigns his commission.

### ROYAL AIR FORCE MEDICAL SERVICE.

Flight Lieutenant A. Briscoe to R.A.F. Central Hospital, Finchley.  
Flying Officers G. J. Hanley to R.A.F. Depot; F. L. White to No. 1 Flying Training School, Netheravon; G. J. Griffiths to Research Laboratory and Medical Officers' School of Instruction, Hampstead, on appointment to a short-service commission for short course; C. G. J. Nicholls and B. Pollard to R.A.F. Depot.

### REGULAR ARMY RESERVE OF OFFICERS.

#### ROYAL ARMY MEDICAL CORPS.

Major S. W. Sweetnam, having attained the age limit of liability to recall, ceases to belong to the Reserve of Officers.

### INDIAN MEDICAL SERVICE.

Lieut.-Colonel J. B. D. Hunter, O.B.E., is granted leave on average pay for seven months.  
Lieut.-Colonel " " Rules, from October 20th, 1924.  
Lieut.-Colonel " " Officiating Public Health Commissioner confirmed in the appointment, with effect from " " Civil Surgeon, Simla West, is granted leave on average pay for five months and nineteen days, with effect from October 8th, 1924.  
Captain (now Major) G. F. Graham to be acting Lieut.-Colonel while commanding a Field Ambulance in East Africa, from April 16th, 1917, to November 2nd, 1917.  
Major A. E. Griseewood has retired from the service.  
Captain A. L. Watts has resigned the service.

### TERRITORIAL ARMY.

#### ROYAL ARMY MEDICAL CORPS.

Colonel T. Kay, D.S.O., T.D. (late R.A.M.C., T.A.), to be Colonel and Assistant Director of Medical Services 52nd (Lowland) Division, T.A., vice Colonel G. H. Edlington, T.D., R.H.F., who vacates on completion of tenure of appointment.

Lieut.-Colonel (Brevet Colonel) F. Whallier, D.S.O., T.D., from R.A.M.C., T.A., to be Colonel, with precedence as from February 16th, 1924, and Assistant Director of Medical Services 48th (West Riding) Division, T.A., vice Colonel A. D. Sharp, C.B., C.M.G., T.D., R.H.S., who vacates on completion of tenure of appointment.

Major T. A. Hindmarsh to be Lieutenant-Colonel and to command 50th (1st Northern) Casualty Clearing Station.  
Lieutenant D. Ross to be Captain.

To be Lieutenants: Lieutenant N. G. Hill, M.C. (late Duke of Lancaster's Own Yeomanry); Second Lieutenant W. S. C. Copeman (late 1st Reserve); Second Lieutenant S. Vatcher

Colonel.  
Colonel D. J. Graham, O.R.E., to be Brevet

Superintendence for Service with the O.T.C.—Captain A. Fowler (late R.A.M.C., S.R.) to be Captain, with precedence as from February 8th, 1917, for service with the Medical Unit, Aberdeen University Contingent, Officers' Training Corps.

### COLONIAL MEDICAL SERVICES.

Dr. J. O. Shireore, Deputy Principal Medical Officer, appointed Principal Medical Officer, Tanganyika. Dr. A. J. Borg appointed District M.O. and M.O.H. Labasa, Fiji. Dr. T. Clunie appointed District M.O. and M.O.H. Levuka, and M.O.H. Olanai, Fiji. Dr. V. W. T. McGusty appointed District M.O. and M.O.H. Lautoka, Fiji. Dr. R. J. Colbert appointed M.O. Federated Malay States. Dr. R. H. Miller, M.O. Gambia, transferred to Nigeria. Dr. C. B. Jennings appointed M.O. West African Medical Staff, Sierra Leone. Dr. H. G. Willshire appointed M.O. Nyasaland, on probation. Dr. W. J. McClintock is confirmed in his appointment of M.O. Nigeria. Drs. W. Milne-Tough and R. Bury, Nyasaland, have relinquished their duties of Senior and Principal Medical Officer

McNaughton transferred from Tabora to be of Venereal Disease, Bukota District. Dr. J. H. From Tanga to Moshi, Tanganyika. Dr. J. M. (ant M.O.H.) Nairobi Municipal Area, Eastleigh, Township Area, Nairobi and Kyambu Districts, appointed M.O. in charge Uganda Railway Con- Dr. P. H. Rawson, M.C., has resigned his appointment as M.O. Uganda.

## VACANCIES.

BARNET: WELLHOUSE HOSPITAL—Assistant Resident Medical Officer. Salary £150 per annum.

BIRMINGHAM: GENERAL HOSPITAL—Medical Registrar and Resident Medical Officer. Salary £155 per annum.

CAMBRIDGE: ADDENBROOKE'S HOSPITAL—House-Surgeon (male). Salary at the rate of £130 per annum.

CHILDREN'S HOSPITAL, Balmain Street, E.13.—Honorary Physician.

DERBYSHIRE COUNTY COUNCIL—County Medical Officer of Health. Salary £1,400 per annum.

ELING BOROUGHS—Assistant Medical Officer of Health. Salary £600 per annum.

FEDERATED MALAY STATES.—Research Studentship in Tropical Medicine. Salary 500 dollars a month (£700 a year).

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.1.—Surgical Registrar. Salary £200 per annum.

ILLIUM DISPENSARY.—Honorary Surgeon.

INVERNESS: NORTHERN INFIRMARY—Junior Medical Resident (male, unmarried). Salary £100 per annum.

KING'S COLLEGE HOSPITAL, Denmark Hill, S.E.5.—Junior Obstetric and Gynaecological Surgeon.

LONDON TEMPERANCE HOSPITAL, Hampstead Road, N.W.1.—Dermatologist.

MANCHESTER: ANCOATS HOSPITAL.—(1) Resident Medical Officer (male). (2) Pathological Registrar. Salary at the rate of £175 and £100 per annum respectively.

MANCHESTER: CHRISTIE HOSPITAL—Cancer Research Worker. Stipend £500 per annum.

METROPOLITAN ASYLUMS BOARD.—(1) Assistant Medical Officers of the Infectious Hospitals Service; salary £500 per annum. (2) Junior Assistant Medical Officer for the Hospital for Children, Sutton; salary £500 per annum.

METROPOLITAN HOSPITAL, Kingsland Road, E.8.—Honorary Anaesthetist (male).

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.1.—Assistant Ophthalmic Surgeon.

NOTTINGHAM GENERAL HOSPITAL.—Pathologist. £350 per annum and fees for private work.

OLDHAM ROYAL INFIRMARY.—House-Surgeon to the Male Wards. Salary at the rate of £200 per annum.

PRINCE OF WALES'S GENERAL HOSPITAL, Tottenham, N.15.—Honorary Anaesthetist. Honorarium £20 annually.

ROYAL CHEST HOSPITAL, City Road, E.C.1.—(1) Physician with charge of Out-patient. (2) Radiologist (honorary).

ROYAL NORTHERN HOSPITAL, Holloway, N.—Assistant Pathologist. Salary £150 per annum.

ST. MARY'S HOSPITAL, Institute of Pathology and Research, W.—Research Studentship. Salary £200 per annum.

ST. PETER'S HOSPITAL FOR STONE, etc., Henrietta Street, W.C.2.—House-Surgeon. Salary at the rate of £75 per annum.

SALFORD ROYAL HOSPITAL.—(1) House-Surgeon. (2) Casualty House-Surgeon. Salary at the rate of £125 per annum each.

SARAFEN FREE HOSPITAL FOR WOMEN, Marylebone Road, N.W.1.—(1) Surgeon to In-patients. (2) Surgeon to Out-patients.

SHEFFIELD ROYAL HOSPITAL.—Honorary Radiologist in charge of Electro-therapeutic Department.

STOCKPORT COUNTY BOROUGH.—Assistant Medical Officer of Health. Salary £600 per annum, rising to £650.

SUDAN MEDICAL SERVICE.—Two Medical Inspectors, unmarried and under 30 years of age. Pay £E.720 a year, rising to £E.1,200.

UNIVERSITY COLLEGE HOSPITAL, Gower Street, W.C.1.—Obstetric Physician.

WAKEFIELD: WEST RIDING COUNTY COUNCIL—District Tuberculosis Officer for the Dewsbury Area. Salary £600 per annum, rising to £750.

WEST LONDON HOSPITAL, Hammersmith Road, W.6.—(1) House-Physician. (2) Two House-Surgeons (Male). Salary at the rate of £100 per annum.

WILMSEY GENERAL HOSPITAL, Harlesden Road, N.W.10.—Assistant Honorary Radiologist.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Tuesday morning.

## APPOINTMENTS.

AITKEN, William S.M.B., Ch.B.Glas., Medical Officer and Public Vaccinator to the Govanhill District of the Govan Parish Council, Glasgow.

BYRD, C. B. M.R.C.S., L.R.C.P., Certifying Factory Surgeon for the Patterdale District, Co. Westmorland.

CHELTENHAM GENERAL HOSPITAL.—Honorary Physician: F. J. Liddle, M.B., M.R.C.S., B.S., D.P.H. Honorary Pathologist: J. B. Davey, M.B., M.R.C.S., L.R.C.P., D.T.M.

ST. PAUL'S HOSPITAL FOR SKIN AND GENITO-URINARY DISEASES.—*Honorary Surgeon*: Kenneth Walker, M.B., F.R.C.S. *Honorary Assistant Surgeons*: Sir Thomas J. Carey Evans, F.R.C.S., H. P. Winsbury White, F.R.C.S.

ST. THOMAS'S HOSPITAL.—*Surgical Registrar*: C. V. Patrick, M.B., B.Ch., Cantab., F.R.C.S. Eng. *Casualty Officers and Resident Anaesthetists*: E. C. Archer, M.R.C.S., L.R.C.P., T. H. Sims, M.B., B.Ch., R. H. T. Rea, M.B., B.Ch., R. D. Alexander, M.B., B.Ch., D. P. Marks, M.R.C.S., L.R.C.P., R. H. Boggan, M.R.C.S., L.R.C.P., A. R. Robinson, M.R.C.S., L.R.C.P., A. A. Battison, M.B., B.S. *Resident House-Physicians*: A. M. Cooke, M.B., B.Ch., H. F. Turner, M.B., B.Ch., L. G. L. Walker, M.R.C.S., L.R.C.P., W. W. McLean, M.R.C.S., L.R.C.P.; (for Children) J. W. Hope-Simpson, M.B., B.Ch. *Resident House-Surgeons*: W. G. Thwaites, M.R.C.S., L.R.C.P., W. H. Gervis, M.B., B.Ch., M. W. P. Thudum, M.R.C.S., L.R.C.P., S. Starkey, M.R.C.S., L.R.C.P. *Resident Orthopaedic House-Surgeons*: A. P. Jeffery, M.B., B.S. *Resident House-Surgeons*: (Ear) F. C. Allan, M.R.C.S., L.R.C.P.; (Throat) R. McD. Barron, M.R.C.S., L.R.C.P. *Obstetric House-Physicians*: (Senior) A. F. D. Darlington, M.C., M.R.C.S., L.R.C.P.; (Junior) E. J. Rees, M.R.C.S., L.R.C.P. *Ophthalmic House-Surgeons*: (Senior) W. E. Heath, M.R.C.S., L.R.C.P.; (Junior) C. D. Gordon, M.R.C.S., L.R.C.P. *Chief Assistants and Clinical Assistants*: (Throat) D. F. A. Neilson, F.R.C.S. (Chief Assistant), J. B. Cavenagh, M.C., M.B., B.Ch., D. O. R. Pilot, M.R.C.S., L.R.C.P., C. R. Cooper, M.B., B.Ch., H. Yates, M.B., B.Ch.; (Skin) H. T. Barron, M.D. (Chief Assistant), W. E. Rees, M.R.C.S., L.R.C.P., F. G. Macdonald, M.R.C.S., L.R.C.P.; (Ear) H. I. Varrucy, F.R.C.S. Ed. (Chief Assistant), A. D. Pegg, M.R.C.S., L.R.C.P., E. W. P. Thomas, M.R.C.S., L.R.C.P.; (Dental) P. Lloyd-Williams, M.R.C.S., L.R.C.P., L.D.S. (Chief Assistant), (Children's Medical) J. D. Niles, M.B., B.Ch., J. P. Marsden, M.R.C.S., L.R.C.P., E. A. Trim, M.R.C.S., L.R.C.P., L. C. Cook, M.R.C.S., L.R.C.P.; (Tuberculosis Department) D. Riley, M.R.C.S., L.R.C.P., G. W. S. de Jersey, M.R.C.S., L.R.C.P.; (Orthopaedic) H. W. Nicholson, M.R.C.S., L.R.C.P.; (Electro-cardiograph) B. E. Thompson, M.B., B.Ch.; (X-ray Department) B. Shires, M.B., Ch.R.Ed. (Chief Assistant), (Mental Diseases) J. Rickman, M.B., B.Ch. (Chief Assistant), F. H. Macdonald, M.R.C.S., L.R.C.P.; (Antenatal) G. R. Marcano, M.R.C.S., L.R.C.P., J. J. R. Robinson, M.R.C.S., L.R.C.P.; (Electro-therapeutic) P. Bauwens, M.R.C.S., L.R.C.P.; (Ophthalmic) K. G. W. Saunders, M.R.C.S., L.R.C.P.

## DIARY OF SOCIETIES AND LECTURES.

ROYAL SOCIETY OF MEDICINE.  
Section of Tropical Diseases of Parasitology: Mon., 5.30 p.m., Dr. H. L. Meleney: Kala-azar in China. Histological sections and lantern slides will be shown.

Sections of Epidemiology, Comparative Medicine, and Disease in Children: Adjourned Discussion: Mon., 8 p.m., The Control of Tuberculosis and the Milk Supply. Speakers: Dr. M. J. Rowlands, Steinhilber Williams, D. Nabarro, Sir Layton Blewett, Dr. M. Raw, Mr. G. P. Hale, Sir Henry Gauvain, and Dr. A. Stanley Griffiths.

Section of Orthopaedics: Tues., 5 p.m., Cases.

Section of Pathology, Lister Institute, Chelsea, S.W.1: Tues., 8 for 8.30 p.m. Demonstrations:—T. Lumsden: Effects of an Anti-rum on Cancer Cells *in vitro*; H. Schultze and S. Zilvin: Experimental Tubercle in Rats. Communications.—V. Korenchewsky: Technique for Accurate Study of Metabolism in Rabbits; V. Korenchewsky and M. Cary: Internal Secretion of Sexual Glands; R. St. J. Hinks: Serological and Biochemical Reactions of Pathogenic Plant Bacteria; J. C. G. Ledingham: The Guarnieri Body; S. P. Hedson, H. B. Maitland, and M. Burbury: The Guinea-pig in the Guinea-pig.

Sections of Bacteriology and Pathology: Tues., 8.30 p.m., and State Medicine, 5.30 p.m., Special Discussion: The Nature, Prevention, and Treatment of Fibrosis. Openers: Dr. W. Edgecombe, Dr. J. A. Glover, Sir William Wilcoxon, and Dr. P. H. Hume. (Other speakers: Dr. A. C. L. Middelton, Dr. Kerr Pringle, Sir Percy Bassett-Smith, Dr. R. H. Hiff, Mr. J. E. R. McDonagh, Dr. M. B. Ray, Dr. Oliver Heath, Dr. C. E. Sandfield, Dr. Higgins.)

Section of Surgery: Wed., 8.30 p.m., Mr. Pintail Sai (Bangkok): Case of Sarcoma of the Breast. Discussion on the Mortality of Appendicitis, to be opened by Mr. Joseph Adams and Mr. McNeill Love.

Section of Obstetrics and Gynaecology: Thurs., 8 p.m., Specimens. Dr. J. S. Fairbairn and Dr. J. McNeill. Topics: Toxaemia in Early Pregnancy with Jaundice, Hyperemesis, and Multiple Neuritis. Mr. Everard Williams and Dr. Russell Reynolds: Determining Patency of Fallopian Tubes by X-rays. Dr. Sidney Forsdike: Investigation of Uterus and Tube by Inflation and X-rays.

Section of Laryngology: Fri., 4 p.m., Cases.

Section of Anaesthetics: Fri., 8.30 p.m., Mr. F. S. Rood: Extradural Anaesthesia.

Section of Otolaryngology: Sat., 9.45 a.m., Cases.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East, S.W.1.—Thurs., 5 p.m., Milroy Lecture by Dr. S. MacNalty: Epidemic Diseases of the Central Nervous System.

HUNTERIAN SOCIETY, Mansion House, E.C.—Mon., 9 p.m., Hunterian Oration by Dr. H. Letheby Tidy: Angio-haemic Anaemia.

MANCHESTER MEDICAL SOCIETY.—Joint meeting with Liverpool Medical Institution at Liverpool, Thurs., 4 p.m., Professor A. Ramsbottom: Dizzy Attacks. Mr. J. B. Macalpine: Treatment of Vesicle Papilloma; Mr. Harry Platt: Loose Bodies in Joints.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, W.1.—Wed., 9 p.m., Second Lettsomian Lecture by Sir Bernard Spotsbury: Wounds and Other Injuries in their Medico-legal Aspect.

## POST-GRADUATE COURSES AND LECTURES.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION, 1, Wimpole Street, W.1.—Mon., 5.30 p.m., Lecture: Renal Disease—its Diagnosis and Treatment. *Royal Waterloo Hospital*, Waterloo Road, S.E.1: Special Course in Medicine, Surgery, and Gynaecology. Lecture Demonstrations in the Wards and Out-patient Departments. *North-East Fester Hospital*, St. Ann's Road, Tottenham, N.15: Wed. and Thurs., 11 a.m., Demonstrations on the Diagnosis and Treatment of the Acute Infectious Diseases.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.1.—Thurs., 4 p.m., Some Haemorrhagic Affections in Childhood.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.1.—Mon., Tues., Thurs., and Fri., 2 p.m., Out-patient Clinics. Mon., 12 noon, Cerebellum; 3.30 p.m., Chorea. Tues., 3.30 p.m., Pathology of 12 noon, Tumours. Wed., 3.30 p.m., The Oculomotor Nerve. Thurs., 12 noon, The Nerve; 3.30 p.m., Radiology in the Diagnosis and Treatment of Nervous Cases. Fri., 3.30 p.m., Surgical Treatment of Spastic Conditions. Operations: Tues. and Fri., 9 a.m.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.15.—Dr. J. In-patient and Out-patient Clinics, Operations, Clinics in Special Departments. Lectures and Demonstra-

tions: Tues., 4.30 p.m., Treatment of Diabetes. Fri., 4.30 p.m., Nasal Catarrh.

QUEEN CHARLOTTE'S MATERNITY HOSPITAL, Marylebone Road, N.W.1.—Thurs., 5 p.m., Common Obstetric Difficulties.

ST. JOHN'S HOSPITAL, 43, Leicester Square, W.1.—*Chatterfield Lectures*: Tues., 5 p.m., Neph. Thurs., 5 p.m., Benign Growths of the Skin.

W. J. LOYD'S POST-GRADUATE COLLEGE, Hanover-square, W.—Mon., 12 noon, Applied Anatomy. Tues., 12 noon, Chest Cases. Wed., 12.15 p.m., Medical Pathology. Thurs., 2 p.m., Genito-Urinary Department. Fri., 12 noon, Surgical Pathology. Sat., 10 a.m., Medical Diseases of Children. Daily 10 a.m. to 5 p.m., Sat. 10 a.m. to 1 p.m., In- and Out-patients, Operations, Special Departments.

SOUTH-WEST LONDON POST-GRADUATE ASSOCIATION, St. James's Hospital, Gower Street, Ballham, S.W.12.—Wed., 4 p.m., Eye Cases.

GLASGOW POST-GRADUATE MEDICAL ASSOCIATION.—At Royal Infirmary: Wed., 4.15 p.m., Venereal Diseases (Male).

LIVERPOOL UNIVERSITY MEDICAL SCHOOL.—3.30 p.m. Mon., Children's Hospital: Surgical Diseases of the Kidneys in Childhood. Tues., Southern Hospital: Treatment of Whitlows. Wed., Northern Hospital: Subinfections. Thurs., Stanley Hospital: Ovarian Tumours.

## British Medical Association.

OFFICES AND LIBRARY, 423, STRAND, LONDON, W.C.2.

### Reference and Lending Library.

THE READING ROOM, in which books of reference, periodicals, and standard works can be consulted, is open to members from 10 a.m. to 6.30 p.m., Saturdays 10 to 2.

LENDING LIBRARY: Members are entitled to borrow books, including current medical works; they will be forwarded if desired, on application to the Librarian, accompanied by 6d. for each volume for postage and packing.

### Departments.

SUPREMACY: (Financial Secretary and Business Manager) Westland, London.  
MEDICAL: (Secretary) Westland, London.  
EDITOR: (Telegrams) Atiology Westland, London.  
Telephone number for all departments: Gerrard 2520 (5 lines).

SCOTTISH MEDICAL SECRETARY: 6, Rutland Square, Edinburgh. (Telegrams: Associate, Edinburgh. Tel.: 4261 Central.)  
IRISH MEDICAL SECRETARY: 16, South Frederick Street, Dublin. (Telegrams: Baclilus, Dublin. Tel.: 4737 Dublin.)

### Diary of the Association.

3 Tues. London: Organization Committee, 2 p.m.  
County Division: Coventry and Warwickshire Hospital, 8.30 p.m.  
South-West Essex Division: Woodford Jubilee Hospital, Woodford Green. Paper by Mr. C. H. S. Frankau on Tuberculous Glands of the Neck, 3.30 p.m.

4 Wed. London: Medico-Political Committee, 2.30 p.m.  
Cambridge Division: Berners and Rotherhithe Hospital, Lower Road, Rotherhithe. Address by Dr. N. Mutch on Rheumatoid Arthritis, 9 p.m.

5 Thurs. London: Journal Committee, 2.30 p.m.  
Edinburgh: Scottish Committee.  
Guildford Division, Royal Surrey County Hospital, Guildford. Discussion on Abdominal Pain, to be opened by Sir Crisp English.  
Staffordshire Branch: Stork Hotel, Walsall, 4 p.m. Dinner, 6.15 p.m.

6 Fri. London: Dominions Committee, 2.30 p.m.  
Exeter Division: Royal Devon and Exeter Hospital. Lecture by Dr. W. Gorion on the Significance of Recent Work in Cardiology, 5.30 p.m.

10 Tues. City Division: Metropolitan Hospital, Kingsland Road. Paper by Sir H. E. Bruce-Potter on Medical Practice and its Pitfalls, 9.30 p.m.

11 Wed. London: Finance Committee, 2.30 p.m.

12 Thurs. London: Joint Meeting of Representatives of Divisions and of Local Medical and Panel Committees, together with Members of Council, Insurance Acts and Royal Commission Committees, re Evidence to be given by Association before Royal Commission on National Health Insurance, Wesleyan Central Hall, Westminster, London.

MANCHESTER: ASHCOTT HOSPITAL.—Thurs., 4.30 p.m., Dyspepsia.  
MANCHESTER: ROYAL INFIRMARY.—Tues., 4.15 p.m., Practical Points in Diabetes.

MANCHESTER: ST. MARY'S HOSPITAL.—Whitworth Street West Branch: Fri., 4.30 p.m., Displacements of the Uterus in Relation to Pregnancy and Labour.

ST. ANDREWS INSTITUTE FOR CLINICAL RESEARCH, St. Andrews.—Tues., 4 p.m., Albuminuria and Pregnancy. (March 10th, Albuminuria and the Specific Fevers. March 17th, Diuretics.)

## BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcement of Births, Marriages, and Deaths is 9s., which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.

### BIRTH.

McDONNELL.—On February 19th, at 89, Lower Baggot Street, Dublin (Quaker home), to Sheila, the wife of J. J. McDonnell, M.B., a daughter.

### DEATHS.

GETTINGS.—On February 18th, at Hammerwich, near Lichfield, Cathbert Key Gettings, M.B., Ch.B. (Irm.), M.R.C.S. Eng., L.R.C.P. Lond., aged 45, eldest surviving son of J. S. Gettings, surgeon.

MARTIN.—On February 19th, at "Strangford," Church Road, Ashford, Kent, Albert Edmund Samuel Martin, F.R.C.S. (Irel.), aged 41.

MASON.—On Saturday, February 21st, at his residence, Torkington House, Stamford, James Mason, M.D., aged 85 years. Interred at Hauxwell Cemetery, Wednesday, February 25th.



TO THE:

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## PROCEEDINGS OF COUNCIL.

· · This was agreed to.

*Charles Hastings Collection: Gift to Association.*

The Chairman stated that the Worcester Medical Society, through the Worcester Division, had offered the majority of the books in its library to the British Medical Association. The society was formed about 1860, but was now practically defunct. Some of the books in the library had been presented by the founder of the Association, Sir Charles Hastings. Mr. W. G. Spencer, the Association's Honorary Librarian, was strongly of opinion that the whole of the gift should be accepted, quite a number of the books being of considerable classical and historical value. Some of the books were duplicates of those already in the Association's library, but Mr. Spencer thought that even these could be made use of.

Mr. Turner moved, and Dr. Goodbody seconded, that the offer be accepted, with an expression of gratitude to the Worcester society for the gift, and this was agreed to with applause. The Chairman stated that evidently the library was formed upon the collection left by Sir Charles Hastings, and that it might be possible to keep the nucleus of the collection separate and distinctive in the library of the Association.

*Courageous Act of Assistant Medical Secretary.*

The Chairman made reference to the courageous act of a member of the staff, Dr. C. Courtenay Lord, Assistant Medical Secretary, who, during the Christmas holidays, was on the scene of a motor-car accident and was instrumental in saving life in a way which earned much public appreciation. He thought it would be the wish of the Council to put on record its own appreciation of Dr. Lord's action in extraordinary and difficult circumstances, and he moved the following resolution:

The Council of the British Medical Association has heard with great pleasure of the gallant conduct of Dr. C. Courtenay Lord, Assistant Medical Secretary, on December 28th, 1924, when at Stokesay Bridge, Shropshire, he took the leading part in saving the lives of two persons who were in danger of drowning in the river Ounay, as a consequence of a motor-car accident; and also rescued a third person who afterwards died. The Council hereby places on record its admiration of his courageous action and its congratulations to Dr. Lord.

The resolution was carried with applause. Dr. Lord thanked the Council. He said that he never expected that any official notice would be taken of what he had done; it was merely his good fortune to have been in the right place at the right time.

*Puerperal Morbidity and Mortality: Appointment of a Committee.*

The Council at its previous meeting passed a resolution that it was unable to accept the opinions expressed in Dame Janet Campbell's Report on Maternal Mortality, issued by the Ministry of Health, as to the causation of puerperal morbidity, and the inferences, especially to the disadvantage of general practitioners, which had been drawn therefrom. Mr. Turner, chairman of the Medico-Political Committee, now proposed that a special committee of the Association be set up to consider and report on the causation of puerperal morbidity and mortality and on the administrative action, if any, that should be taken in connexion with the matter. Dr. Flemming supported the motion, stating that more information was needed than up to the present had been available. He considered that there had been unjust criticisms of general practitioners in this matter, and that a proper setting out of the facts would alter public opinion on this question very considerably. The Chairman of Council reported that a letter, covering a report from a committee of the Obstetrical Section of the Royal Society of Medicine on the subject, had been received from Sir G. Newman, who had asked for an expression of opinion on behalf of the Association.

The motion was agreed to, and after some discussion the following were nominated to form the committee: the officers of the Association, Mr. E. B. Turner, Dr. C. E. S. Flemming, Dr. J. W. Bone, Sir Ewen Maclean, Mr. Comyns Berkeley, Dr. Christine Murrell, Dr. Mabel Ramsay, Dr. H. J. Cardale, Dr. C. E. Douglas, Dr. W. E. Thomas, Dr. G. F. Buchan, and Sir Jenner Verrall, with power to co-opt not more than two additional members.

*The General Medical Council and the Public Prosecutor.*

A long discussion took place on a matter brought forward by the Medico-Political Committee, following upon a resolution passed by the Medical Defence Union. This concerned a case in which a practitioner was brought before the General Medical Council on a charge arising out of information laid by the Director of Public Prosecutions; but before the reference to the General Medical Council an investigation had been carried out by the police, who, however, had not proceeded with the charge. The General Medical Council came to the conclusion that the accused practitioner was innocent and dismissed the complaint. After various views had been expressed it was

eventually agreed that the Medico-Political Committee should reconsider its report in the light of the discussion, and bring up a recommendation at the next meeting of Council. The question of the position of members of the profession in respect to possible charges against them in the courts—a question which had arisen on a communication from the West Birmingham Branch of the General Practitioners' Union, and which had a special reference to the case of *Rex v. Bateman*—was also remitted to the Medico-Political Committee for report, and the hope was expressed that by the time the Committee came to consider its report the considered judgement in the *Bateman* case might be available.

*Indirect Methods of Advertising.*

Dr. Langdon-Down, chairman of the Central Ethical Committee, brought forward a revised report of the Committee dealing with indirect methods of advertising. He recalled the debate at the Annual Representative Meeting at Bradford, when general approval was given to the report on this subject, but reconsideration was requested with regard to the paragraphs dealing with anonymity in the press so as to make more clear the occasions when and the conditions under which it was possible to depart from such anonymity. The Committee had done its best to draft paragraphs which should offer a guiding rule on the subject. The revised paragraphs ran as follows:

12. From time to time there are discussed in the lay papers topics which have relation both to medical science and policy and to the health and welfare of the public, and it may be legitimate or even advisable that medical practitioners who can speak with authority on the question at issue should contribute to such discussions. But practitioners who take this action ought to make it a condition of publication that laudatory editorial comments or headlines relating either to the contributor's professional status or experience shall not be permitted; that his address or photograph shall not be published; and that there shall be no unnecessary display of his medical qualifications and appointments. There is a special claim that practitioners of established position and authority shall observe these conditions, for their example must necessarily influence the action of their less recognized colleagues. Discussions in the lay press on disputed points of pathology or treatment should be avoided by practitioners; such issues find their appropriate opportunity in the professional societies and the medical journals.

13. After making all allowances for all those modes of publicity for which there may be some justification, there remain many instances which can only be regarded as gravely and unnecessarily contravening the spirit of the notice of the General Medical Council. The Association is convinced that in taking up an attitude of determined opposition to these undesirable journalistic methods, the Association is acting in the best interests of the public as well as of the medical profession. The extension of the system can only lead to a competition for public notice in which the able and more scrupulous men would be left behind by those who professionally are greatly inferior, to the detriment of the public, who are ill qualified to judge of the true worth of scientific opinions. The extension of the advertising habit among the profession in general would certainly destroy those traditions of dignity and self-respect which have helped to give the British medical profession its present high status, and would gravely undermine the amenities and harmonious working of medical practice.

Dr. Fothergill contested the phrase in the second of these paragraphs, "the able and more scrupulous men would be left behind by those who professionally are greatly inferior"; he said that because a man started to advertise himself it did not at all follow that his abilities were inferior. He proposed that the phrase should read, "... in which the more scrupulous men would be left behind, to the detriment of the public." Dr. Langdon-Down saw no reason for accepting this amendment, but Dr. Fothergill, who was seconded by Colonel Rait, pressed it to a vote, and the amendment was carried.

Dr. Hawthorne said that he did not dissent from the propositions contained in these revised paragraphs provided it was recognized that they were based upon a certain principle which must have a general application. The principle upon which medical conduct might be prescribed was one or other of the following: (1) to allow every man to act according to his own sense of good taste and personal self-respect; (2) to lay down certain rules which were based upon the view that it was not in the public interest that professional qualifications and achievements should be openly displayed, on the ground that the public had not the information which entitled them to judge of the value of these displays. The principle which had been adopted in this case was the second of these two. But if it was proposed to assert this principle its proposers must be ready to apply it, not in a limited field, but in the whole field of publication. There were certain publications which gave an opportunity to medical practitioners to display their professional achievements, their addresses, their telephone numbers, the numbers of their motor cars, and the occupations of their leisure. It must not be said of any legislative body in the profession that it was ready enough to inflict penalties for transgressions when small and unprotected practitioners were concerned, but allowed members of the

profession more highly placed to go free. In South Africa recently it had been specifically pointed out that it was an offence against medical ethics to construct medical autobiographies for publication in social volumes of the quality of *Who's Who*. A member said it was stretching the argument very far to suggest that members of the public would be likely to search through the entries in *Who's Who* in order to select a practitioner.

It was agreed to recommend the revised report to the Representative Body.

#### *Advertising of Nursing Homes.*

Dr. Langdon-Down brought forward a recommendation of the Central Ethical Committee relating to the question of the advertising of nursing homes. He reminded the Council that while the greater part of this recommendation had been agreed to on a previous occasion, one paragraph had been sent back to his committee for further consideration. His committee, however, was unable to see any reason for modifying the paragraph, and accordingly resubmitted it as follows:

That if a medical practitioner has a financial interest in any institution to which he refers a patient, it is not consonant with professional integrity that a knowledge of such interest be withheld from the patient.

Dr. Brackenbury said that, like Dr. Hawthorne in regard to the previous question, he had a great respect for principles, but when a principle was enunciated in this rather strong form, without proviso or exception, he assumed it was to be universally applied. He knew of a doctor who had lent a considerable sum of money to a matron to enable her to set up a nursing home, but beyond the loan he had no financial interest whatever in the venture. He would not receive any gain; he might possibly suffer loss. Was he to be compelled to explain these circumstances to every patient?

Dr. Radcliffe suggested the qualifying words after "financial interest," "involving his possible pecuniary gain." Dr. Langdon-Down said he was rather doubtful whether the case instanced by Dr. Brackenbury came strictly within the term "financial interest," but he agreed that the words suggested by Dr. Radcliffe would meet that particular objection, and he was prepared to accept them.

The recommendation was carried as follows:

That the Council is of opinion that if a medical practitioner has a financial interest, involving his possible pecuniary gain, in any institution to which he refers a patient, it is desirable that he should disclose this fact to his patient.

#### *Door-plates.*

Dr. Langdon-Down said that a member of the Association had recently inquired whether it was in order for a medical man who was practising as an eye specialist to put on his door-plate "Ophthalmic surgeon." The opinion of the Committee was that it was undesirable to use a title on a door-plate indicative of special practice. The President of the General Medical Council, however, in a reply to a similar inquiry, stated that as no exception had been taken to the description of "Dental surgeon" by a medical man practising dentistry, it might be inferred that the Council would raise no objection to the words "Ophthalmic surgeon" used upon a plate. In answer to this the Committee had pointed out that the designation "Dental surgeon" stood in rather a different category, because it conveyed information to which it was reasonable that the public should have access, but in the case of other specialties the proper procedure on the part of the patient was not to go direct to a practitioner who professed to be a specialist, but first to seek the advice of his ordinary medical attendant. A further letter had now been received from the General Medical Council, stating that the matter had been brought before the Executive Committee, and that while the Council, for which it spoke, would deprecate any extension of the custom of announcing special departments of practice, each case must be considered on its merits, and the Council would be unlikely to find a charge of advertising proved in this particular instance.

#### EVIDENCE BEFORE THE ROYAL COMMISSION ON NATIONAL HEALTH INSURANCE.

The Council then turned to the consideration of the revised draft Memorandum of Evidence (printed as revised by the Council in last week's SUPPLEMENT) proposed to be placed before the Royal Commission on National Health Insurance. The Treasurer took the chair, and Dr. Bolam explained the alterations which had been made in the Memorandum after considering the replies to the questions set out, which had been sent from more than 200 meetings of practitioners held throughout the country.

Dr. Bolam said that the introduction to the revised Memorandum was almost entirely the work of the Medical Secretary, and it set out very clearly the right of the British Medical

Association to appear as representing the profession before the Royal Commission. The material amendments in the body of the Memorandum were not very large. For the most part they were found in Section A, dealing with persons to be provided for. Paragraph 11 of the original draft had been rearranged, and the general argument of the ensuing paragraphs somewhat reworded so as to emphasize, what the framers of the draft had in mind from the first, the importance of providing a family doctor for the persons under consideration rather than the setting up of a system of treatment centres with State-paid or rate-paid medical officers. Paragraph 13 was one of the most difficult to phrase in order to convey the opinion expressed in the local meetings throughout the country. Inevitably those who thought in one direction would be of opinion that the revised paragraph did not go far enough, while others who took a different view would believe that it went too far. The committee in charge of the draft had tried faithfully to convey the balance of opinion with regard to this question of dependants. In Section B there was very little alteration, and such alterations as there were gathered round the difficult question of the maternity service. Dr. Bolam added, in conclusion, that all the resolutions sent up from the local meetings had been carefully considered at a joint meeting of the Insurance Acts and Royal Commission Committees; a number of the points brought forward had been incorporated in the draft, and certain others had been noted by those who would present the evidence and make submissions by word of mouth.

Dr. Fothergill considered that the document still did not state adequately the opinion of the profession with regard to persons who could and persons who could not pay for themselves. He wanted it definitely stated at the beginning of paragraph 12 that there were four groups of persons requiring medical service—namely, (1) those who without assistance could pay the fee charged, either at the time or later; (2) those who could pay the premium in full for an insurance scheme; (3) those who could pay only a portion of the premium required for such a scheme; and (4) those who were unable to pay any part of such premium. The first two of these classes must be left out of the scheme.

Dr. Brackenbury said that he appreciated the motive lying behind this suggestion, but to amend the draft in this way would complicate matters, because there a distinction was drawn between insurance premiums wholly paid by the patient, premiums paid partly by the patient and partly by his employer, and premiums paid partly by the patient, partly by the employer, and partly by the State. But it was important to make the distinction clear between those who ought not to be in the scheme at all and those who ought. He felt that if the paragraphs as now drafted were carefully read it would be found that the right emphasis had been made. The desire of those who were putting forward this evidence was to limit the persons to be provided for in any scheme to a greater extent than they were limited now.

Dr. Fothergill, who had put forward his views on this point in the form of an amendment, withdrew it after this explanation.

Mr. Turner, who said that the Memorandum now was much more satisfactory than when it was first presented to the Council, challenged Dr. Bolam's statement that the balance of opinion in the profession was in favour of the inclusion in the insurance scheme of the dependants of the lower-paid persons. If the replies from the different areas were analysed according to the way in which voting took place in the Representative Meeting he believed a majority would be found to be against the proposal. He did not think that this would command a majority in the Association, or if there was such a majority that it would appear from the summary of replies received to be negligible.

Dr. Stevens also said that there was no evidence that the profession throughout the country was in favour of the inclusion of dependants. These proposals were the slippery path which would lead to the inclusion of practically the whole population. He complained of the opportunism of the proposals.

Dr. Bolam said he was prepared to assert quite explicitly that the balance of opinion in the profession was in favour of what was set out under this head in the Memorandum. The majority might be "negligible," but under a democratic constitution a majority could not be neglected. If the figures were analysed it would be found that in addition to the 87 areas which had answered "Yes" to the question whether they favoured the inclusion of the dependants of lower-paid persons, at least 11 others had practically registered the same decision, accompanying it with suggestions designed to safeguard the position, which was indeed already safeguarded in these respects; on the other hand, 70 areas had answered "No," but among those which had qualified their replies only two had answered in this direction, so that the true numbers were 98 to 72, leaving out of account 25 areas which favoured inclusion of all dependants. The balance of opinion—he stressed it no more than that—was in favour of the inclusion.

Mr. Turner said that the vote of Marylebone, with some 500 or 600 members, which was against the proposal, counted only for one in this summary, just like some Division with 40 or 50 members.

Dr. Brackenbury said that if Mr. Turner and Dr. Stevens would read the document in its final form he did not think they would find in it a statement the accuracy of which they could challenge, even as an expression of opinion.

Mr. Turner, speaking with regard to paragraph 15, asked how many members of the Council really thought that an income limit would be imposed which would cut out the higher-paid manual workers. He was sure that many areas assented to this proposal under the impression that the income limit such as here set out might be obtained. There was no possibility of such an income limit being conceded. What the Commission was likely to say was that apparently the Association was in favour of including in any circumstances two-thirds of the population, and they might as well bring it up to the 38,750,000 set out in paragraph 14. There were trade unionists on the Commission some of whom wished for a State medical service, and they were not likely to impose any income limit whatever.

Dr. Brackenbury said that in this evidence the profession was not stating what it thought it was going to get, but what it thought it ought to have. He was not so pessimistic as Mr. Turner with regard to the eventual results, but even if he were he would still consider it the duty of the profession to put forward the right suggestions. There was no need to be frightened about an income limit. There were three or four income limits in the present system. He saw no administrative difficulty in making a distinction between those insured persons whose dependants were included and those whose dependants were not included. Nor was there anything sacrosanct about the income limit of £250. It might be lower, and if it was made sufficiently low it might be possible for the profession to agree to include the whole of these dependants on the same basis.

Dr. Buchan, speaking with regard to the last part of paragraph 17, said that if the insurance system was to be a system of preventive medicine the general practitioner should, in his opinion, do the work which it was suggested in the Memorandum should be done in clinics—the instruction of mothers and the routine examination of infants and young children—and if it was suggested by the framers of these proposals that the general practitioner should not do this work, but that it should be relegated to others, it seemed to him not in harmony with the protestations made on behalf of the general practitioner. With regard to paragraph 18, which laid it down as essential that the interests of Poor Law officers affected by the proposed changes should be the subject of special provision, he hoped that this provision would not be confined to Poor Law officers, because other medical officers would be displaced under such a scheme.

Dr. Bolam said that the Association would keep an eye on all interests affected.

Sir Richard Luce, speaking with regard to paragraph 24, said that he did not like this proposal for panel consultants. It would be very much better if it were left to any registered medical practitioner who was willing to undertake this service. There was only one exception he would suggest—namely, that it should not be considered right, save in very exceptional circumstances, for a practitioner to call in his partner.

Dr. Brackenbury said that no Government would pay specialist fees without being assured of some satisfactory standard of specialist knowledge and experience. There might, however, be a system of general practitioner consultation, with fees.

Dr. Radcliffe pointed out that there were many members of the profession who were part-time specialists and part-time general practitioners.

A long discussion then ensued on paragraph 29, relating to maternity work. Dr. Johnson expressed himself as totally opposed to the bringing in of maternity work under the Insurance Act. He could not see what benefit the proposals would confer, other than those available already, to the pregnant or parturient woman, and to the practitioner any such scheme must be accompanied by harsh restrictions; moreover, nothing was said about the amount of remuneration.

Dr. Brackenbury pointed out that the Council agreed to these proposals on the last occasion, and this agreement had since been emphasized at meetings throughout the country. An important point in the scheme was that there would be complete liberty for a practitioner to accept or refuse this kind of work. But he thought it would be a mistake to let the Government regard maternity work as something completely separated from ordinary practice or that it should proceed upon lines of its own without reference to other provisions made for public health. He was well aware of the difficulties attaching to this subject. The phrase "for maternity purposes only" did not mean attendance at the confinement only.

Dr. Flemming thought that the instances in which a woman would call in another medical man, not her insurance practitioner, to carry out this supervision would be very few. He thought that the scheme set out in paragraph 29 would have the result of bringing the general practitioner to a very much larger extent into the area of maternity work than in the past. Dr. Bolam expressed the hope that the Council would leave this paragraph as it stood. He believed that the situation was governed by the phrase, "any practitioner should be at liberty to place his or her name upon the list for maternity purposes only." Nine times out of ten no difficulty would arise, because the practitioner having the maternity supervision would also be the insurance doctor of the woman concerned.

Dr. Fothergill moved an amendment to substitute for the word "supervision" ["supervision during pregnancy"] the phrase "medical attendance," but this was lost.

Dr. Brackenbury said that it was possible to pose all sorts of different conundrums with regard to this paragraph, but in the great majority of cases, as Dr. Bolam had said, no difficulty would arise because it would be the ordinary insurance doctor who was in attendance. It was impossible to draft any paragraph dealing with the question of maternity without raising difficulties in one direction or another, but although these theoretical difficulties might seem to be formidable, in practice he believed they would not arise to any great extent.

The paragraph dealing with maternity work was, after some further discussion, agreed to. On paragraph 37 Dr. Fothergill moved to insert a third requirement on the part of the insured person—namely, "where his condition requires a home visit, to give notice to his doctor before . . . n.m., except in case of accident or other sudden emergency." Dr. Bolam thought that on a proper perspective this was a minor detail as compared with the importance of the general mass of evidence. The amendment was lost.

The remainder of the memorandum with the three appendices was then approved with one dissentient.

Discussion then took place on a second recommendation from the joint meeting of the Insurance Acts and Royal Commission Committees, that honorary secretaries of Divisions and of Local Medical and Panel Committees be requested to call further meetings of the local profession for the purpose of informing their representatives on the draft Memorandum previous to the joint conference to be held on March 12th. Dr. Brackenbury hoped that the matter would be left sufficiently fluid in the local meetings, and that not too rigid instructions would be given. Dr. Bolam also hoped that nobody would try to stand on technicalities or on dignity in this particular matter, so that the discussion at the joint conference might be as unfettered as possible.

The recommendation was agreed to.

Dr. Bolam then returned to the chair of the Council.

#### *Request for Representative Meeting.*

Three motions by Divisions—Eastbourne, Hastings, and Kensington—were on the agenda requesting that a special meeting of the Representative Body be called to consider and decide upon the evidence to be submitted by the Association to the Royal Commission. There was also a motion by Mr. Turner to the same effect.

Dr. Murrell moved the Kensington resolution. She said that the Kensington Division felt very strongly that a Representative Meeting would have a much more official status in dealing with this matter than any joint conference could have. Dr. Goodbody seconded. Dr. Fothergill pointed out that a report from the forthcoming conference could by one resolution be put to the Representative Body, and the likelihood was that it would be accepted. He was very jealous of the constitutional procedure. At present the Association had got not only a very large number of its members to acquiesce in its decisions so far formulated, including members ordinarily indifferent to medical politics, but it had also commanded the support of many non-members. He was perfectly certain, however, that if a new form of "medical parliament" were set up to make decisions—a parliament which would be composed to the extent of 80 or 90 per cent. of insurance practitioners—a good deal of unrest would be caused among many who had been entirely loyal to the Association. The Memorandum was going to determine the policy for the future. To have a Special Representative Meeting would involve no expense and no delay, and it would have the advantage of showing that the Council was acting constitutionally.

Dr. Brackenbury said that there was nobody who appreciated the onerous position of Chairman of the Representative Body more than he, its present holder, did. He thought that a Representative Meeting must be called if only to make it possible for the Association to pay the railway fares of those attending

the joint conference. If it was understood from the beginning that the reference to the Representative Body was to be entirely formal there would be no objection; but if it was not formal, and the Representative Body should desire to revise what had been or was to be decided by the conference, there would be difficulty in the conference itself, where the feeling that the Representative Body might override the decisions would be prejudicial to the kind of discussion which was desired. This was a unique occasion. Why not, if necessary, invoke a unique procedure? He hoped it might be felt that there in the conference the two bodies concerned were fully and freely discussing together the important situation which had arisen. Technically the conference would not be determining policy at all; it would be deciding as to the evidence which was to be given before the Royal Commission. It would be giving its imprimatur to a document which embodied in outline the evidence of the profession. He did not think that the call for a special Representative Meeting had any considerable backing. Mr. Turner might say, as he inferred in his motion, that independently of the conference the members of the Representative Body should come to their own conclusions. If that was so, it might possibly lead to disaster, although he did not think that in fact the Representative Body would come to any conclusion different from that of the conference. The important thing was to get all these people together in as free a position as possible without standing too much on technicalities.

Sir Jenner Verrall thought it evident that a decision by this joint conference could not be equivalent to a decision of the Representative Body. Nothing which took place at that conference could prevent individuals in the Representative Body from taking a different line at the next meeting. The proposed conference was really a corollary to the meetings which had been taking place all over the country, and in which it had been sought to express, not the view of the Association only, but of others outside the Association. Dr. Wallace Henry held that the difficulty might be got over by a recommendation to the Representative Body from the Council to accept the resolutions passed by the joint conference. Mr. Bishop Harman said that there was nothing to prevent separate votes being taken at the conference—those of representatives of Divisions on the one hand, and those of representatives of Local Medical and Panel Committees on the other. Then, if differences were found to arise between the two bodies constituting the conference, they might be settled in committee there and then. Mr. McAdam Eccles said that he was about to suggest the same thing. Dr. Hawthorne suggested that the Representative Meeting should take place first; the decision of that meeting, of course, would have great weight with the conference, and if the conference should take a different line it would still be open to those who went before the Royal Commission as witnesses to say that there was a minority who took a different view.

Dr. Bolam pointed out that there was not being put forward a policy which was irrevocable. He thought that the best procedure would be to convene a meeting of the Representative Body half an hour before the conference was due to open, the purpose of which meeting would be to authorize its members to attend the ensuing conference. In the conference itself he hoped there would be no question of the sheep on the one side and the goats on the other, but that a united front would be presented. The draft Memorandum of Evidence, after it had passed through the Council, would come back to the Council, and the Council would then decide definitely and finally the shape in which it would go to the Commission. The Council must take the responsibility of putting up this evidence. It must be borne in mind that a memorandum such as this could not be laid down as policy in every single strand of it; it was simply evidence upon which further evidence to be given verbally would depend.

Dr. Wallace Henry moved, as an amendment to the Kensington motion:

That the Council requests the Chairman of the Representative Body to call a special Representative Meeting for the purpose of authorizing the members to attend a subsequent conference in association with the representatives of Local Medical and Panel Committees.

Dr. Bone seconded, and this was agreed to with two dissents.

#### OTHER COUNCIL BUSINESS.

*The Case of Senior Surgeon Commanders.*  
Sir Richard Luce, M.P., chairman of the Naval and Military Committee, reported that since the last meeting of the Council, as a result of the long-continued efforts made by the Association to secure an increase in the amount paid to senior surgeon commanders on compulsory retirement, the Admiralty had raised its offer by £50; that is to say, instead of £250, these officers were now offered £300 (on a sliding scale) on their compulsory retirement before the normal expectation under the

1920 Regulations. His committee did not feel that this was adequate recompense, but the general belief was that this was all that was likely to be secured, and the committee was of the opinion that the offer should be accepted. He read a letter from the representative of the Navy Medical Service on the Council (Sir Percy Bassett-Smith) stating his view to the same effect and expressing appreciation of the great fight which the Association had put up over this matter. The acceptance of this offer carried with it the non-continuance of the attitude of this Association in advising members of the profession seriously to consider the disadvantages to which they were liable if they placed their careers in the hands of the Admiralty. The relations between the Association and the Admiralty would there and then start again with a clean sheet.

#### Medical Service in India.

Sir Richard Luce introduced the report of the Committee which had been set up by the Council to consider the proposals of the Royal Commission (the Lee Commission) on the Superior Civil Services in India. He said that the Committee was indebted to Sir Gerald Giffard, one of its members, for a very useful memorandum on the position, and this was circulated among the Council. By the Act of India, which was passed in 1919, the work of the medical services was placed entirely under the provincial Governments, save that the personnel of the I.M.S. attached to those provincial services was left to the Secretary of State. The recommendation of the Royal Commission was that the members of that service should in future be transferred to the provincial services and be under their entire control, one point only being reserved—namely, the requirement of the Government that there should be a certain proportion of European medical officers in each of these services, the proportion to be fixed and maintained by the Secretary of State. It appeared that this was being resisted by the provincial Governments, not only in theory but in practice. These Governments were not willing to receive British medical officers into their services, nor to assent to the principle that a fair share of the higher posts should be given them. The Committee in July last had recommended—a recommendation which was adopted by the Council—that the view should be presented to the Government that the transference of these medical officers to the provincial Governments would militate against getting medical officers to join the civil branch of the Indian Medical Service. When the Committee, however, went into the question further, after its reappointment, it came to the conclusion that the matter would have to be surveyed from a rather different point of view. The Committee now felt, after reconsideration, that by the original transference of the medical services to the provinces the damage had already been done, and that the further step recommended by the Lee Commission—the provincialization of the European medical officers—was an almost inevitable consequence. To resist that proposal, in the view of the Committee, would only hamper matters, and the better proposal as a *fait accompli*, to see how various things could be safeguarded. The first question was the provision of European medical attendance for the benefit of the European population. The Committee suggested that official medical attendance should not be provided for any civil servants by the Government of India, and that every civil servant should be free to make his own arrangements, employing for this purpose officers of provincial medical services and of private companies, civil medical practitioners, medical missionaries, or R.A.M.C. officers if and when available. Monetary compensation, of course, must be made to the civil servants for the loss of free medical attendance. With regard to the supply of medical officers for the purposes of the Indian Army, the proposal of the Committee was that the two existing military medical services should be amalgamated by the formation of an Army Medical Corps in India, the officers to consist of properly qualified men of Indian birth, together with R.A.M.C. officers serving under conditions analogous to those now obtaining in the case of officers of the Royal Engineers serving in India. The terms and conditions of service of the R.A.M.C. in India should be made more attractive than at present. The officers should be given permission to attend also held it to be fundamental that there should be in India a tightly qualified teaching staff, which it should be the business of the Government of India and the Secretary of State to maintain. The Government should invade the business of State to the extent of taking under its control all professional appointments, provision for research and public health, and post-graduate teaching. The establishment of a Ministry of Health in India was an immediate necessity. It was also desirable that the Government should encourage in every way possible the training of Indians as medical practitioners for the Indian population, but that no encouragement should be given to obsolete and unscientific systems of medicine.



Colonel Rait, who pointed out that what was now presented to the Council was diametrically opposed to the resolution of last July, moved an amendment, which he said was in the nature of a compromise and did not fully meet his own views, which he proceeded to elaborate in a speech made to the Council *in camera*. His amendment expressed the view that the present state of medical affairs in India should be allowed to continue until the whole situation came up for review in 1929; that in the meantime modern scientific medicine should be encouraged, and the ancient systems of medicine officially discountenanced; that steps should be taken to make the recruitment of medical men more popular by engendering a feeling of security and lessening the difficulty in being seconded to civilian employment; and that inducements should be offered to facilitate the entry of Indian gentlemen into the medical services by examinations in India as well as in London.

Dr. Fothergill urged that a deputation be sent to the Secretary of State to reaffirm the original position taken by the Council in July last, and that in the meantime the present report should be held over. Dr. Morton Mackenzie said that the primary trouble was the classification of the medical department as a "transferred subject" in India. Nothing had yet convinced him that the position ought to be taken as a *fait accompli*. To put forward any proposals without stressing that original source of the difficulty would be a mistake. If he had to choose between the proposals of the Committee and those of Colonel Rait he would favour the proposals of the Committee, because he did not believe it would be well to wait until the whole situation came up for review in four years' time, but some good might be done by a deputation, which would emphasize the trouble arising from the "transferred subject."

Sir Richard Luce said that he could not accept the amendment, and he remarked that on the Committee Sir Gerald Giffard, Colonel Elliot, and others who had had great experience of India were absolutely in accord with the findings. The opinions on which the Committee had founded its report were, indeed, based entirely on Indian experience. Medicine had already been for five years a "transferred subject." Was it likely that the Government could ever be persuaded to go back on this question? The decision to make medicine a "transferred subject" was, of course, in the Committee's view, a wrong one at the time; it should not have been transferred before the other services were transferred. But if India was ever to be "Indianized" medicine must be transferred some day.

Colonel Rait's amendment was lost.

Colonel O'Kinealy said that he was against Colonel Rait's proposal to allow the present state of affairs to continue until 1929, nor was he in sympathy with the Committee's recommendations. He thought the report had better be deferred until such time as it was known exactly what the Government of India proposed. Sir Richard Luce deprecated a deputation at the present moment, because he believed that it would be told only that the Secretary of State had no knowledge of the subject.

It was agreed eventually to take back the report and bring it up again at the March meeting of Council, and in the meantime, in view of the change which had taken place in the Secretaryship of State for India, consequent upon the change in the British Government, to send in again the resolution passed by the Council in July last, against the provincialization of the superior civil medical services, and request a reply.

#### *The New Building: An Australian Gift.*

Dr. Bolam, from the chair, moved that a special committee be formed to consider the arrangements to be made for the official opening of the new building. This was agreed to, and in addition to the officers and certain members of Council, it was agreed that Sir Humphry Rolleston, Sir John Bland-Sutton, Lord Dawson of Penn, Dame Louisa Aldrich-Blake, and Dr. Charles Buttar (President of the Metropolitan Counties Branch) should be asked to serve.

Dr. Bolam stated that he had a very pleasant circumstance to report in connexion with the furnishing of the building. The Medical Secretary had received a letter from Dr. Todd of Sydney, with regard to a proposal from the Australian Branches, in token of their kinship, to present the Association with something acceptable for the new house, such as a chair, rostrum, or table for the Council chamber, which should be made of Australian timber. On receipt of this letter a cablegram was sent to Australia saying that a President's chair for the Great Hall would be very acceptable. The Australian chair had thereupon cabled £100, with a request that the chair be made in this country, and that the High Commissioner for Australia (Sir Joseph Cook), and also Mr. Joseph Davis of Australia House, should be consulted with regard to material

and emblems. These gentlemen had very willingly responded and made suggestions.

The Council authorized a letter to be sent to Australia conveying its cordial thanks for this inspiring gift.

#### *"Birth Control."*

Dr. Fothergill brought forward the following motion:

That a group of registered medical practitioners be formed to consider and report to the Council whether the Association could usefully issue under its auspices a medical pronouncement to the profession and the public on the question of birth control; and if so, how and in what manner it is recommended that steps should be taken in order to prepare and issue such a pronouncement.

Dr. Fothergill reminded the Council that "birth control" was a subject upon which the public was expecting, and rightly, guidance from the medical profession. At present an enormous amount of harm was being done by unauthorised and uneducated propaganda. The question was being wasted hither and thither by the caprice of public opinion. The medical profession itself wanted educating. What was needed was research to establish the facts of the case, the inferences to be drawn from the facts, and the information which was to be based upon them. It was a necessary subject of inquiry how conception control was operating at present on the married woman, on the child, and on the nation. It was necessary to find out in what sections of the community this practice was mostly going on, with what frequency, and with what results; further, was "spacing" of families desirable, and should it be confined to cases of organic disorder, psychic disorder, and permanent obstetric difficulty? Again, did a fall in birth rate necessarily mean a less efficient race? He urged the Council to take steps to find out whether a useful pronouncement could be made on this question. He had begun by thinking that it was an ethical question simply, but he had come to the conclusion that it was almost entirely a psychological one. If his motion were carried he had a second motion setting out the names of fifteen medical men and women, including four members of the Council, who might form the proposed group.

Mr. Turner, in the place of Dr. Wallace Henry, who had had to leave the meeting, seconded the motion. He believed that there was a definite need for guidance from the Association.

Dr. Hawthorne moved as an amendment:

That as it is within the duty and competence of the Council to advise the Representative Body on the policy of the Association, the Council does not consider it necessary to solicit extramural advice on the definition of an official announcement on the subject of birth control, seeing that the Council had formed no conclusion that such an announcement would be advisable.

He considered that this motion was an invitation to members of the Council to avoid a responsibility which was placed upon them by the terms of the constitution. It was the duty of the Council to initiate policy and commend it to the Representative Body; but, instead of the proper machinery provided by the constitution, Dr. Fothergill proposed to set up some external organization consisting of fifteen selected practitioners. It might be a proper course for the Council to appoint a committee and to bring in experts, but that was not the proposal now before the Council. The proposal was to set up a specially appointed *ad hoc* body, not to inform the Council how a particular policy was to be carried out, but first of all to determine whether the Association should have a policy on the subject at all. He submitted that it was an improper thing to suggest that, before the Council had determined its policy, this extramural organization, which the Council could not possibly control, should be set up in the way Dr. Fothergill proposed. Looking at the names of members of the proposed group, he estimated that at least eight out of the fifteen were already more or less openly advocates of the practice of "birth control." Certain of them were not even members of the Association. He considered that the competence of the Council was challenged by this proposal.

Dr. Fothergill said that if any constitutional objection was raised he was quite ready to substitute for the proposed group a special committee of the Council, of which, of course, the officers would be members.

The Chairman suggested to Dr. Fothergill that, in view of the lateness of the hour and the diminished number of members remaining, it might be well if consideration of his motion were adjourned to the next meeting of the Council on March 25th, when he would promise to give it an early place on the agenda.

Dr. Fothergill signified his assent, and this course was agreed to.

This concluded the business before the Council, which had occupied seven hours.

# British Medical Association.

## NINETY-THIRD ANNUAL MEETING, BATH, JULY 21st to 24th, 1925.

Patron: HIS MAJESTY THE KING.

President: J. BASIL HALL, M.Chir.Cantab., Consulting Surgeon, Royal Infirmary, Bradford.

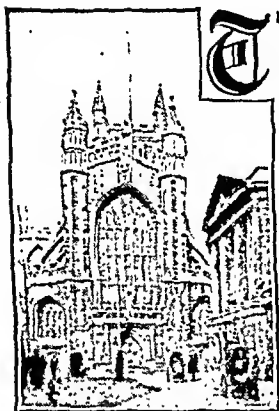
President-Elect: FREDERICK GEORGE THOMSON, M.A., M.D., M.R.C.P., Physician, Royal United Hospital, Bath.

Chairman of Representative Body: HENRY BRITTEN BRACKENBURY, M.R.C.S., L.R.C.P.

Chairman of Council: ROBERT ALFRED BOLAM, M.D., LL.D., F.R.C.P.

Treasurer: N. BISHOP HARMAN, M.A., M.B., F.R.C.S.

### PROVISIONAL PROGRAMME.



BATH ABBEY.

**T**HE incoming President will deliver his address to the Association on Tuesday, July 21st.

THE ANNUAL REPRESENTATIVE MEETING will begin on Friday, July 17th, at 10 a.m., and be continued on the three following week-days.

The statutory ANNUAL GENERAL MEETING will be held on July 21st at 2 p.m., and the adjourned general meeting at 7.45 p.m.

The Annual Dinner of the Association will take place on Thursday, July 23rd.

The Conference of Secretaries will be held at 2.30 p.m. on Wednesday,

July 22nd, and the Secretaries' Dinner at 6.30 the same evening.

The Annual Exhibition of surgical appliances, foods, drugs, and books will be opened by the President-Elect on July 21st at 9.30 p.m., and will remain open on July 22nd, 23rd, and 24th.

A Popular Lecture will be delivered by Sir W. H. Bragg, K.B.E., F.R.S., on Friday, July 24th, at 8 p.m.

Saturday, July 25th, will be given up to excursions to places of interest in the neighbourhood.

A provisional time-table of the principal events appears on page 92.

### THE SECTIONS.

The Scientific Sections will meet from 10 a.m. to 1 p.m. for papers and discussions, and it is hoped that laboratory and clinical demonstrations will be arranged for the afternoons of July 22nd, 23rd, and 24th.

The following Sections will meet on Three Days—Wednesday, Thursday, and Friday, July 22, 23, and 24.

#### MEDICINE.

President: The Right Hon. Lord DAWSON OF PENN, G.C.V.O., K.C.M.G., C.B., M.D., F.R.C.P. (London).

Vice-Presidents: E. J. CAVE, M.D., F.R.C.P. (Bath); T. R. ELLIOTT, D.S.O., C.B.E., M.D., F.R.C.P., F.R.S. (London); Professor J. A. NIXON, C.M.G., M.D., F.R.C.P. (Bristol); Professor ADAM PATRICK, M.D., M.R.C.P. (Dundee); W. N. WEST WATSON, M.D. (Bradford).

Honorary Secretaries: F. G. CHANDLER, M.D., M.R.C.P., 1, Park Square West, Portland Place, London, N.W.1; JAMES LINDSAY, M.D., M.R.C.P., 1, The Circus, Bath.

#### SURGERY.

President: Sir BERKELEY MOYNIHAN, Bt., K.C.M.G., C.B., M.S., LL.D., F.R.C.S. (Leeds).

Vice-Presidents: A. H. BURGESS, M.B., F.R.C.S. (Manchester); FREDERICK LACE, F.R.C.S. (Bath); H. S. SOUTAR, C.B.E., M.Ch., F.R.C.S. (London); C. F. WALTERS, F.R.C.S. (Bristol).

Honorary Secretaries: A. DE V. BLATHWAY, M.R.C.S., L.R.C.P., 6, Brock Street, Bath; A. L. FULLER, F.R.C.S., 9, Gay Street, Bath; R. M. VICK, O.B.E., M.Chir., F.R.C.S., 152, Harley Street, London, W.1.

#### OBSTETRICS AND GYNAECOLOGY.

President: Lady BARRETT, C.B.E., M.D., M.S. (London).

Vice-Presidents: H. S. DAVIDSON, O.B.E., M.B., F.R.C.S. (Edinburgh); EARDLEY L. HOLLAND, M.D., F.R.C.P., F.R.C.S. (London); W. F. RAWSON, F.R.C.S. (Bradford); D. C. KAYNER, F.R.C.S. (Bristol).

Honorary Secretaries: J. BRIGHT BANISTER, M.D., M.R.C.P., 19, Harley Street, London, W.1; W. H. DUNCAN, F.R.C.S. (Bristol), 33, Gay Street, Bath.

#### PATHOLOGY AND BACTERIOLOGY.

President: Professor J. C. G. LEDINGHAM, C.M.G., D.Sc., M.B., F.R.C.P., F.R.S. (London).

Vice-Presidents: J. A. BRANTON HICKS, M.D., M.R.C.P. (London); Professor E. H. KETTLER, M.D. (Cardiff); RUPERT WATERHOUSE, M.D., M.R.C.P. (Bath).

Honorary Secretaries: Lieut.-Colonel JAMES COWAN, M.B., R.A.M.C. (ret.), 44, Combe Park, Bath; C. C. OKELL, M.B., M.R.C.P., Wellcome Physiological Research Laboratories, Langley Court, Beckenham, Kent.

#### NEUROLOGY AND PSYCHOLOGICAL MEDICINE.

President: Sir MAURICE CROMBIE, M.D., F.R.C.S. (London).

Vice-Presidents: EDWIN B. ARTHUR, F. HURST, M.D., M.D. (Bath); S. A. K. WILSON, M.D., F.R.C.P. (London).

Honorary Secretaries: RAY EDWARDS, M.R.C.S., L.R.C.P., 29, Gay Street, Bath; EDWARD MAPOTHER, M.D., M.R.C.P., Maudsley Hospital, Denmark Hill, London, S.E.5.

#### THERAPEUTICS (INCLUDING BALNEOLOGY AND RADIO-THERAPY).

President: Professor R. B. WILD, M.D., F.R.C.P. (Chinley, Derbyshire).

Vice-Presidents: PRESTON KING, M.D. (Bath); W. MITCHELL, M.B., C.M. (Bradford); NATHAN MITCHELL, M.D., F.R.C.P. (London).

Honorary Secretaries: DOROTHY C. HARE, C.B.E., M.D., M.R.C.P., 1, Bickenhall Mansions, London, W.1; CECIL H. TERRY, M.B., 15, The Circus, Bath.

#### LARYNGOLOGY, OTOTOLOGY, AND RHINOLOGY.

President: ARTHUR H. CHEATLE, C.B.E., F.R.C.S. (London).

Vice-Presidents: NEIL MACLAY, M.B. (Newcastle-upon-Tyne); IRWIN MOORE, M.B., C.M. (London); SYDNEY R. SCOTT, M.S., F.R.C.S. (London).

Honorary Secretaries: H. N. BARNETT, F.R.C.S. (London), 27, The Circus, Bath; R. SCOTT STEVENSON, M.D., 30, New Cavendish Street, London, W.1.

The following Sections will meet on Two Days.

#### DISEASES OF CHILDREN.

President: ROBERT HUTCHISON, M.D., F.R.C.P. (London).

Vice-Presidents: CAREY F. COOMBS, M.D., F.R.C.P. (Bristol); P. T. CRYNELL, F.R.C.S. (Belfast); CHARLES MCNEIL, M.D., F.R.C.P. (Edinburgh); REGINALD H. MILLER, M.D., F.R.C.P. (London).

Honorary Secretaries: VINCENT COATES, M.C., M.D., 10, The Circus, Bath; R. A. RAMSAY, M.Ch., F.R.C.S., 123, Gloucester Terrace, Hyde Park, London, W.2.

#### OPHTHALMOLOGY.

President: W. MARDON BEAUMONT, M.R.C.S. (Bath).

Vice-Presidents: R. WALLACE HENRY, M.D. (Leicester); A. W. ORMOND, C.B.E., F.R.C.S. (London); C. H. WALKER, F.R.C.S. (Bristol).

Honorary Secretaries: R. COLLEY, M.B., D.O.M.S., 30, The Circus, Bath; P. G. DOYNE, M.B., F.R.C.S., 8, Harley Street, London, W.1.

#### ORTHOPAEDICS.

(One day being combined with Surgery.)

President: Professor E. W. HEY GROVES, M.S., F.R.C.S. (Bristol).

Vice-Presidents: NAUGHTON DUNN, M.B., Ch.B. (Birmingham); G. R. GARDLESTONE, M.B., F.R.C.S. (Oxford); E. MUIRHEAD LITTLE, F.R.C.S. (London).

Honorary Secretaries: T. TWISTINGTON HIGGINS, O.B.E., F.R.C.S., 27, Harley Street, London, W.1; J. S. LEVIS, M.C., M.B., 20, Gay Street, Bath.

## PUBLIC MEDICINE.

President: T. EUSTACE HILL, O.B.E., M.B., D.Hy. (Durham).  
 Vice-Presidents: T. W. NAYLOR BARLOW, O.B.E., M.R.C.S.,  
 L.R.C.P. (Wallasey); J. F. BLACKETT, M.D. (Bath); W. A. BREND,  
 M.D. (London); S. NOY SCOTT, M.R.C.S., L.R.C.P. (Plymouth).  
 Honorary Secretaries: A. NEVILLE COX, M.D., M.R.C.P., 21, Corn-  
 wall Gardens, Preston Park, Brighton; R. E. THOMAS, M.D.,  
 11, Darlington Place, Bath.

The following Section will meet on One Day.

## MEDICAL SOCIOLOGY.

President: CHARLES E. S. FLEMING, M.R.C.S., L.R.C.P.  
 (Bradford-on-Avon).  
 Vice-Presidents: J. W. BONE, M.B., C.M. (Luton); WILFRED  
 BUCKLEY, C.B.E. (London); G. P. MALE, M.R.C.V.S. (Reading);  
 E. A. STARLING, M.B., M.Ch. (Tunbridge Wells).  
 Honorary Secretaries: C. J. BUCHAN, M.B., 326, Brownhill Road,  
 Catford, London, S.E.6; C. A. MARSH, M.D., The Roseries, English-  
 combe, Bath.

## PROVISIONAL TIME-TABLE.

## FRIDAY, JULY 17TH.

10.0 a.m.—Representative Meeting.  
 7.15 p.m.—Representative Dinner.

## SATURDAY, JULY 18TH.

9.30 a.m.—Representative Meeting.  
 8.0 p.m.—Smoking Concert.

## SUNDAY, JULY 19TH.

10.0 a.m.—Excursion to Cheddar, Glastonbury, and Wells.

## MONDAY, JULY 20TH.

9.0 a.m.—Council Meeting.  
 10.0 a.m.—Representative Meeting.  
 7.45 p.m.—Gala Performance, Theatre Royal.

## TUESDAY, JULY 21ST.

9.30 a.m.—Official Opening of Annual Exhibition.  
 10.15 a.m.—Representative Meeting.  
 2.0 p.m.—Annual General Meeting, followed by Representative  
 Meeting. Abbey.  
 President's Address.

## WEDNESDAY, JULY 22ND.

1.0 p.m.—Representative Meeting.  
 7.15 p.m.—Gala Performance, Theatre Royal.

## THURSDAY, JULY 23RD.

9.0 a.m.—Representative Meeting.  
 10.0 a.m.—Representative Meeting.  
 2.0 p.m.—Representative Meeting.  
 7.15 p.m.—Gala Performance, Theatre Royal.  
 7.45 p.m.—Gala Performance, Theatre Royal.  
 10.0 p.m.—Reception by Bath Division.

## FRIDAY, JULY 24TH.

10.0 p.m.—Representative Meeting.  
 2.0 p.m.—Representative Meeting.  
 8.0 p.m.—Representative Meeting.  
 9.0 p.m.—Representative Meeting.

The Honorary Local General Secretary is Mr. W. G. MUMFORD, O.B.E., F.R.C.S. (British Medical Association Committee Rooms, Assembly Rooms, Bath); and the Honorary Assistant Secretary is Dr. R. G. GORDON.

## British Medical Association.

## CURRENT NOTES.

## Summer Time.

THE British Medical Association is pledged to help in securing permanent summer time legislation, and has already taken action in combination with the Early Closing Association, which has acted as the pioneer in this matter. Colonel Lambert Ward, M.P., will introduce the Summer Time Bill on March 13th, and it is believed that the decision of the House of Commons on that evening "will practically decide the fate of the bill for all time. In other words, if this bill is lost on March 13th there is no possible hope of the Government carrying any bill for summer time this year, and this great boon may be lost for many years, if not altogether." Members of the Association are requested to write to their members of Parliament asking them to be in the House on March 13th next to support Colonel Lambert Ward.

## The Life Extension Institute.

The "Life Extension Institute of Great Britain, Ltd.," appears from documents it issues to have been formed to provide members of the public with a detailed report of their state of health, made after medical examination by "fully qualified physicians of the highest skill," who are also spoken of as "our examiners." According to the scale of charges issued by the Islington branch of the institute, the fee for "standard full physical examination, including x-ray check up" is three guineas for an adult; reduced fees are charged for young persons, and clergymen and their wives, doctors, pharmacists, and ex-service men. The inference to be drawn from the documents issued is that the profits of the company will be derived from the difference between fees charged to the persons examined and those paid to the qualified physicians who make the examinations. The matter has been brought under the consideration of the Central Ethical Committee of the British Medical Association, which is of opinion that a practitioner who associates himself with this institute by way of examining patients does so with risk to his professional good name and reputation.

## Salaries of Assistants.

The British Medical Association has often been pressed lately to try to fix some minimum salary for the payment of assistants in medical practices, and the problem is at present under consideration. Any delay in dealing with it arises, not from any want of sympathy, but from an acute apprehension of the difficulties surrounding the subject. The circumstances of medical practices differ so much that what would be a fair salary for a man or woman helping in a busy general practice in an industrial area would be inappropriate for one helping a doctor who wished to have an assistant in a not very hard-worked practice so that the principal could take things a little easier. It would be unwise to fix a rate which would discourage practitioners in the circumstances just mentioned from employing assistants, for this would contract the field in which young practitioners, to their great future benefit though with only a small present financial return, expect to gain experience. The Medical Secretary would be glad to hear from medical men and women who have recently been assistants or have employed them and who have views as to the practicability of fixing a minimum commencing salary.

## Salaries of Whole-time Public Health Officers employed by Joint Committees.

A conference of representatives of the British Medical Association, the Society of Medical Officers of Health, and the Medical Women's Federation, recently considered the question of what should be the salaries of medical officers employed either by two or more district councils, or by a district council which arranges with the county council to allow one of its assistant medical officers to become a district medical officer of health for a definite proportion of his time. It was agreed—

(1) That where two or more districts combine to appoint a medical officer of health to serve under a joint committee, such M.O.H. being permitted to accept part-time duties (for example, as tuberculosis officer, school medical officer, etc.) under a county council, the combined remuneration should not be any less than the minimum commencing salary of a whole-time medical officer of health as indicated by the population of the combined areas in the scale of commencing salaries approved by the Association.

(2) That where an assistant medical officer under a county council is allowed to become a district medical officer of health for a definite proportion of his time, such assistant medical officer should receive at the rate of £80 per annum for each half-day per week allocated for his duties as district medical officer of health, and his salary as assistant medical officer to the county council should be reduced by one-eleventh for each half-day per week that he serves as district M.O.H.

It is believed that these suggestions, which apply only to whole-time appointments, should be of considerable assistance to county and district councils in making such arrangements as are indicated above. It is also believed that if such arrangements were to become more common it would be greatly to the benefit of the public health service, as the assistant medical officer under the county council would benefit by the wider experience and greater responsibility that he would gain from the district appointment, while the fact that, besides holding the district or combined

appointment, he had been an officer under the county council and thus able to get a knowledge of county administration, would be of distinct advantage to him were he to apply for a higher position. Members of the profession, and particularly those in the public health services, will be glad to know that as a result of the various conversations that have taken place under the auspices of the Ministry of Health, it is felt that the time has now arrived when the scale of commencing salaries as modified by those conversations may be issued to all local authorities in a definitive form.

## Association Notices.

### SPECIAL REPRESENTATIVE MEETING.

NOTICE is hereby given that a Special Representative Meeting of the Association will be held in the Wesleyan Central Hall, Westminster, London, on Thursday, March 12th, 1925, at 9.30 in the forenoon, on the requisition of the Council, to consider the following motion:

That the members of the Representative Body present be authorized to attend a Conference called for Thursday, March 12th, and (if necessary) Friday, March 13th, 1925, at 10 a.m., in association with representatives of Local Medical and Panel Committees, to consider a Memorandum of Evidence proposed to be submitted to the Royal Commission on National Health Insurance.

By order of the Chairman of the  
Representative Body,  
ALFRED COX,  
Medical Secretary.

February 18th, 1925.

### TABLE OF DATES.

Mar. 16, Mon.	Branch Reports for 1924 due by this date.
Mar. 25, Wed.	Council.
Mar. 30, Mon.	Nomination papers available for election of 24 members of Council by grouped Home Branches, 2 Public Health members of Council, and 4 Public Health Service representatives.
April 11, Sat.	Annual Report of Council.
April 25, Sat.	Last day for receipt of 24 members of Council by grouped Home Branches, and of 2 Public Health members of Council, and 4 Public Health Service Representatives.
May 9, Sat.	Publication in SUPPLEMENT of nominations for election of 24 members of Council by grouped Home Branches, 2 Public Health members of Council, and 4 Public Health Service Representatives. Voting papers posted.
May 12, Tues.	Independent motions for A.R.M. Agenda must be received at Head Office by this date.
May 16, Sat.	Last day for receipt of voting papers for election of 24 members of Council by grouped Home Branches, 2 Public Health members of Council, and 4 Public Health Service Representatives.
May 30, Sat.	Publication in SUPPLEMENT of independent motions for A.R.M. Agenda. Representatives and Deputy-Representatives must be elected by this date.
	Publication in SUPPLEMENT of results of Council elections by grouped branches, and of election of members of Council and Representatives in Representative Body by Public Health Service members.
June 4, Thurs.	Nomination papers available for election of 12 members of Council by grouped Home Representatives must be received by this date.
June 10, Wed.	Council.
June 16, Thurs.	Meetings of Constituencies must be held between this date and July 17th to instruct Representatives.
June 27, Sat.	Supplementary Report of Council appears in SUPPLEMENT.
July 3, Fri.	Amendments and riders for issue in A.R.M. Agenda must be received by this date.
July 17, Fri.	Annual Representative Meeting opens at Bath. Nominations for election of 12 members of Council by grouped Representatives must be received (at A.R.M., Bath) by this date.

ALFRED COX, Medical Secretary.

### BRANCH AND DIVISION MEETINGS TO BE HELD.

**KENT BRANCH.**—The quarterly meeting of the Kent Branch will be held at the Royal Crown Hotel, Sevenoaks, on Thursday, March 12th, at 2.45 p.m. Dr. T. A. Ross, medical director of the Cassel Hospital for Functional Nervous Disorders, Petersham, will read a paper on neurasthenia. Lunch at the Royal Crown Hotel at 1.45 p.m.; charge, 3s. 6d. each. Members intending to be present at the lunch are requested to notify the hotel management not later than Tuesday, March 10th.

**LANCASHIRE AND CHESHIRE BRANCH: HYDE DIVISION.**—At a meeting of the Hyde Division to be held at the Hyde Town Hall on Thursday, March 12th, at 8.30 p.m., Dr. Ralphs will give his impressions of a short visit to the United States of America.

**METROPOLITAN COUNTIES BRANCH: CITY DIVISION.**—A meeting of the City Division will be held at the Metropolitan Hospital, Kingsland Road, on Tuesday, March 10th, at 9.30 p.m., when Sir H. E. Bruce-Porter will read a paper on medical practice and its pitfalls.

**METROPOLITAN COUNTIES BRANCH: KENSINGTON DIVISION.**—The Kensington Divisional dance will be held at the Kensington Town Hall

on Thursday, May 7th. All money over after expenses have been paid will be handed to the Royal Medical Benevolent Fund and the Royal Medical Benevolent Guild. Further details will appear later, or can be obtained from the Honorary Secretary, 20, Upper Phillimore Place, W.8.

**METROPOLITAN COUNTIES BRANCH: SOUTH MIDDLESEX DIVISION.**—A meeting of the South Middlesex Division will be held at St. John's Hospital, Twickenham, on Wednesday, March 25th, at 8.30 p.m., when Dr. C. E. Herington will open a discussion on early diagnosis of syphilis.

**MIDLAND BRANCH: CHESTERFIELD DIVISION.**—At the meeting of the Chesterfield Division, to be held at the Internity Hospital, Chesterfield, on Friday, March 13th, Dr. A. J. Hall, professor of medicine, University of Sheffield, will give an address on "Diagnostic Bunkers."

**MIDLAND BRANCH: LEICESTER AND RUTLAND DIVISION.**—A meeting of the Leicester and Rutland Division, to which all members of the profession are invited, will be held at the Medical Club, Bond Street, Leicester, to-day (Friday, March 6th), at 8.30 p.m. Agenda: Election of Representatives to the Representative Body; consideration of amended report to the Royal Commission on the working of National Health Insurance Acts; an address will be given by Dr. R. Sevestre on cardiac pain.

**NORTH OF ENGLAND BRANCH: GATESHEAD DIVISION.**—A second meeting of the members of the medical profession residing or practising in the area of the Gateshead Division has been called for to-day (Saturday, March 7th), at 8.30 p.m., at 9, Walker Terrace, Gateshead. Agenda: Further consider the draft Memorandum of Evidence to be placed before the Royal Commission on the National Health Insurance Acts; instruct the local representatives prior to the Central Joint Meeting of Representatives of Divisions and of Panel Committees to be held on March 12th. Members are requested to bring to the meeting the BRITISH MEDICAL JOURNAL SUPPLEMENT of February 28th, 1925.

**SOUTH WALES AND MONMOUTHSHIRE BRANCH: SWANSEA DIVISION.**—A meeting of the Swansea Division will be held at the General Hospital, Swansea, on Thursday, March 12th, at 8.15 p.m., when Mr. T. Bernice Tustian, L.D.S., will read a paper on oral examination and diagnosis as carried out by a dentist.

**SOUTHERN BRANCH: WINCHESTER DIVISION.**—A meeting of the Winchester Division will be held at 4, The Square, Winchester, on Thursday, March 19th, at 3.30 p.m., when a British Medical Association Lecture will be given by Professor H. Maclean on the present position of endocrine diseases from a clinical standpoint.

**SOUTH-WESTERN BRANCH: EXETER DIVISION.**—A meeting of the Exeter Division will be held in the Library of the Royal Devon and Exeter Hospital on Monday, March 9th, at 4 p.m., to consider the revised draft Memorandum of Evidence proposed to be placed before the Royal Commission on National Health Insurance, and to instruct the Representative thereon.

**SUFFOLK BRANCH: SOUTH SUFFOLK DIVISION.**—A general meeting of the South Suffolk Division will be held in the Town Hall (Magistrates' Room), Ipswich, to-day (Friday, March 6th), at 2.30 p.m. Agenda: Business arising out of minutes; amended evidence to be placed before the National Health Insurance Royal Commission (SUPPLEMENT of the BRITISH MEDICAL JOURNAL, February 28th) to be fully discussed and the Division's Representative instructed how to vote at the forthcoming Conference in London on March 12th.

**SURREY BRANCH: CROYDON DIVISION.**—A meeting of the Croydon Division will be held at the Croydon General Hospital on Tuesday, March 31st, at 8.30 p.m., when Dr. H. W. Barber will deliver an address on diseases of the skin.

**SURREY BRANCH: GUILDFORD DIVISION.**—The Guildford Division will hold a clinical meeting in the wards of the Royal Surrey County Hospital, Guildford, on Thursday, April 2nd, at 4 p.m.; tea at 3.45 p.m.

**YORKSHIRE BRANCH: WAKEFIELD, PONTEFRAC, AND CASTLEFORD DIVISION.**—At the meeting of the Wakefield, Pontefract, and Castleford Division, to be held at the Bull Restaurant, Wakefield, on Thursday, March 12th, Mr. E. W. Bain, F.R.C.S. (Leeds), will give a lecture on middle-ear suppuration.

**YORKSHIRE BRANCH: SHEFFIELD DIVISION.**—A general meeting of the profession will be held at the Church House, St. James's Street, Sheffield, to-day (Friday, March 6th), at 8.30 p.m. Agenda: Consider draft Memorandum of Evidence to be presented before the Royal Commission on the National Health Insurance Acts as revised in accordance with the views of the recent local meetings of the profession (SUPPLEMENT, February 28th); instructions to Representatives of the Sheffield Division and of the Panel Committee.

## Meetings of Branches and Divisions.

**BIRMINGHAM BRANCH: NUNSTON DIVISION.**—A meeting of the Nunston Division was held at Atherstone on February 25th. were then demonstrated: Dr. Jones—circoid aneurysm of supracondylar fracture of humerus; Dr. E. N. Nason—photographs and microscopic slides of a case of osteitis deformans. A vote of thanks to Mr. D. S. Pracy for arranging the demonstration and to the Atherstone members for entertaining the Division concluded the meeting.

Proof copies of the oral evidence and the relative statements submitted at the meetings of February 5th and of February 22th may be obtained from H.M. Stationery Office, Adnstral House, Kingsway, London, W.C.2, on remittance of cost (2s. 3d. each) and postage.

**LONDON PANEL COMMITTEE.**  
At a meeting of the London Panel Committee on February 24th, Dr. H. J. CARDALE presiding, the question of the constitution and work of the Committee came forward for discussion, and certain recommendations relating to the work of subcommittees, and to secretarial duties were adopted. It was agreed to consider the appointment of an assistant secretary, one of whose duties would



be the general organizing of the profession in London in the local areas. A proposal to remunerate the members of the Committee fell through.

**Tuberculosis Care Committees.**—The question of representation on tuberculosis care committees was discussed. It was stated that the duties of these committees were purely routine and that the attendance of medical members thereon was entirely unnecessary. The Committee agreed that "having considered the present unsatisfactory working of tuberculosis care committees, due to their limitations," it was of opinion that the London County Council should be urged to take steps so to amend the regulations under which the committees worked that medical men might find their services better utilized. It was agreed also to bring this decision of the Committee to the notice of an impending conference of London care committees.

**Unsuitable Conditions of Practice.**—The Committee had before it the case of a practitioner whose surgery and waiting-room accommodation was alleged to be not of a proper and sufficient nature. It had been referred by the Insurance Committee to the Panel Committee. Some very undesirable conditions were found on the occasion of a visit of inspection. On a further report from members who had been delegated to visit the premises, the Panel Committee passed a resolution expressing the opinion that the conditions were due to certain physical ailments from which the practitioner was suffering and also to the prolonged and serious illness of a member of his family. It was stated that the practitioner was now in hospital, and that arrangements had been made for a neighbouring practitioner to attend to the practice during the illness.

#### LONDON INSURANCE COMMITTEE.

A MEETING of the London Insurance Committee was held on February 26th. There was again no report from the Medical Service Subcommittee, owing to the controversy as to its chairmanship and its failure to form a quorum (SUPPLEMENT, January 31st, p. 53). It was decided to call a special meeting of the Insurance Committee to consider the situation.

**Improper Use of Certification Form.**—It was reported that the Ministry of Health had dismissed an appeal by a practitioner against a decision of the Committee, the costs of the Committee, not exceeding £2, to be paid by the practitioner. It appeared that an insured member of an approved society, who had been receiving certificates of incapacity from the doctor, stated that she wished to declare off benefit because she dreaded the visits of the society's sick visitor, who, she alleged, bullied her. The doctor was unwilling to take her off, but on her persisting, he gave her a final certificate, with some alteration of the words of the form, and inserted the remark, "You are not fit for work, but want to sign off owing to your being bullied and harassed and annoyed by your sick visitor." The Medical Service Subcommittee recommended cautioning the practitioner, but the full committee altered the caution into a censure. The Ministry of Health stated in its report that two courses were open to the practitioner. He was under no obligation to give any certificate at all, and might so have informed the patient, or, if he was anxious, as it was believed he was, to further the patient's interests, he might have written a letter to the society suggesting that it could with advantage alter its arrangements for having her visited. It was added that he had been warned in a previous case of a somewhat similar character against the improper use of certification forms.

**Interpretation of the Term "Aqua."**—It was announced that the Ministry of Health had formulated an interpretation of the term "aqua." Where this term was used on a prescription without qualification it should be interpreted by the chemist to mean ordinary potable water, except that it should be interpreted to mean distilled water (1) where the Insurance Committee, after consultation with the Panel and Pharmaceutical Committees, had decided, with the Minister's approval, that the water ordinarily available was unsuitable for dispensing purposes, (2) in the case of all preparations intended for application to the eye, and (3) in cases where, in the opinion of the chemist, the use of ordinary water would result in an undesirable alteration in the character of the medicament prescribed, in which last case the use of distilled water should be recorded by the chemist on the prescription form. The Pharmaceutical Committee agreed with the interpretation.

## Naval and Military Appointments.

#### ROYAL NAVAL MEDICAL SERVICE.

To be Surgeon Lieutenant: W. H. Bradfield, and appointed to R.N. Hospital, Haslar, for course.

#### ROYAL NAVAL VOLUNTEER RESERVE.

Surgeon Lieutenant Commander A. G. V. Elder, D.S.C., to the Victory for R.N. Barracks, for fourteen days' training.

Late temporary Surgeon Lieutenant (R.N.) H. E. Hall entered as "attached to Ulster Division," Lieutenant H. M. Willoughby to the Tiger, days' training.

#### ROYAL ARMY MEDICAL CORPS.

Major M. D. Aherne, O.R.E., is seconded for service under the Colonial Office, November 12th, 1924. (Substituted for notification in the London Gazette, December 16th, 1924.)

Captain D. W. M. MacKenzie is seconded for duty with the Sudan Defence Force.

The following Lieutenants are confirmed in their rank: K. Fletcher-Barrett, C. W. Greenway, A. E. Campbell, G. C. Phillips.

The following to be Lieutenants on probation: T. A. J. M. Dodd, R. A.

Bennett, Lieutenant W. D. Speedy (Res. of Off. R.A.), J. N. Atkinson, W. A. D. Drummond, J. D. Corner, W. H. Carter, J. G. E. Vachell, J. T. Smyth.

#### ROYAL AIR FORCE MEDICAL SERVICE.

Flight Lieutenants H. B. Trapp to R.A.F. Depot (Non-effective Pool) on transfer to Home Establishment; E. N. H. Gray and J. D. Leahy, M.C., to Headquarters, Iraq.

Flying Officers C. J. MacQuillan to R.A.F. Depot; L. C. Palmer-Jones and T. W. Wilson to Research Laboratory and Medical Officers' School of Instruction, Hampstead, on appointment to short-service commissions, for short course.

G. J. Griffiths is granted a short-service commission as a Flying Officer, for three years on the active list.

#### REGULAR ARMY RESERVE OF OFFICERS.

##### ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel A. R. O'Flaherty, having attained the age limit of liability to recall, ceases to belong to the Reserve of Officers.

#### INDIAN MEDICAL SERVICE.

Major-General R. Heard, C.I.E., K.I.L. is granted eight years' pay, with effect from January 15th, and Lieut. Colonel J. S. G. is appointed to officiate as Surgeon-General with the Government of Bengal during his absence.

Colonel H. Atkinson, Inspector-General of Civil Hospitals, Bihar and Orissa, is granted leave on average pay for five months and twenty-four days and leave on half average pay for the remaining period up to eight months.

Colonel C. H. Bensley to be Honorary Physician to the King, vice Colonel Bhola Nauth, C.I.E., retired.

Lieut.-Colonel G. G. Hirst, Assistant Director-General, I.M.S. (Stores), is granted leave on average pay for four months, and leave under military rules for remaining period up to eight months.

Lieut.-Colonel J. Masson appointed to officiate as Inspector-General of Civil Hospitals, Bihar and Orissa.

Lieut.-Colonel A. E. Waller, O.B.E., has retired from the service.

The services of Lieut.-Colonel E. C. Hodgson, D.S.O., an officer of the Medical Research Department, are placed at the disposal of the Government of Assam, with effect from December 26th, 1924, for appointment as Officiating Director of Pasteur Institute, Shillong.

Major F. C. Fraser, Civil Surgeon, Coorg, is granted leave on average pay for eight months, and in continuation leave on half average pay for ten months, with effect from February 1st, or date of relief.

Major J. B. Lapsley, M.C., Officer-in-Charge, Medical Store Depot, Madras, is appointed to officiate as Assistant Director-General, I.M.S. (Stores), vice Lieut.-Colonel G. G. Hirst, granted leave.

Captain F. R. Thornton, M.C., is appointed as Civil Surgeon, Coorg. Captain H. Watts-Taylor has resigned (December 1st, 1924).

#### MILITIA.

##### ROYAL ARMY MEDICAL CORPS.

Captain J. A. Pridham, M.C., to be Major.

#### VACANCIES.

AYA COUNTY HOSPITAL.—(1) House-Surgeon. (2) Junior House-Surgeon. (Males.) Salary for (1) at the rate of £100 per annum, and (2) £80 per annum, with prospect of increasing to £100.

ASHTON-UNDER-LYNE: DISTRICT INFIRMARY.—House-Surgeon. Salary at the rate of £150 per annum.

BIRKET: WELSHCOSE HOSPITAL.—Assistant Resident Medical Officer. Salary £150.

BIRMINGHAM CITY.—Consulting Surgeon to three Mental Hospitals.

BIRMINGHAM: QUEEN'S HOSPITAL.—Third Physician for Out-patients. Honorarium £50 per annum.

BRISTOL ROYAL INFIRMARY.—Honorary Medical Registrar.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE HEART AND LUNGS, Victoria Park, E.2.—Anaesthetist.

DERBYSHIRE COUNTY COUNCIL.—County Medical Officer of Health. Salary £1,400 per annum.

DONCASTER ROYAL INFIRMARY.—Honorary Ophthalmic Surgeon (male).

FEDERATED MALAY STATES.—Research Studentship in Tropical Medicine. Salary 500 dollars a month (£700 a year).

FREEMASONS' HOSPITAL AND NURSING HOME, 237, Fulham Road, S.W.3.—Resident Medical Officer (male). Salary at the rate of £250 per annum.

HOSPITAL FOR DISEASES OF THE THROAT, Golden Square, W.1.—Honorary Surgical Registrar.

HOSPITAL FOR EPILEPSY AND PARALYSIS, Maida Vale, W.—(1) Resident Medical Officer. (2) House-Physician. Salary at the rate of £150 and £100 per annum respectively.

INVERNESS: NORTHERN INFIRMARY.—Junior Medical Resident (male, unmarried). Salary £100 per annum.

LIVERPOOL OPEN-AIR HOSPITAL FOR CHILDREN, Leasow.—Junior Medical Officer. Salary £200 per annum.

LONDON HOMOEOPATHIC HOSPITAL, Great Ormond Street, W.C.1.—Third Anaesthetist. Honorarium £50 per annum.

MANCHESTER: CHRISTIE HOSPITAL.—Cancer Research Worker. Stipend £500 per annum.

MANCHESTER: ST. MARY'S HOSPITALS.—(1) Two House-Surgeons for the Whitworth Street West Hospital (Maternity). (2) House-Surgeon for the Whitworth Park Hospital (Gynaecological). Salaries at the rate of £50 per annum.

MANCHESTER UNIVERSITY.—Lecturer in Morbid Anatomy and Histology. Stipend £500 per annum.

METROPOLITAN ASYLUM BOARD.—Assistant Medical Officers of the Infectious Hospitals Service. Salary £500 per annum.

METROPOLITAN HOSPITAL, Kingsland Road, E.8.—(1) Surgeon for Diseases of the Nose, Throat, and Ear. (2) Honorary Anaesthetist (male).

MIDDLESEX HOSPITAL AND MEDICAL SCHOOL, W.1.—Obstetric and Gynaecological Registrar. Salary £300 per annum.

NATIONAL HOSPITAL FOR DISEASES OF THE HEART, Westminster Palace Street, W.1.—(1) Resident Medical Officer. (2) Out-patient Medical Officer. (Males.) Salary at the rate of £150 and £125 per annum respectively.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.1.—Assistant Ophthalmic Surgeon.

PORTSMOUTH: ROYAL PORTSMOUTH HOSPITAL.—Senior House-Surgeon (male). Salary at the rate of £200 per annum.

QUEEN'S HOSPITAL FOR CHILDREN, Hockney Road, E.2.—(1) Resident Medical Officer. (2) Two House-Physicians. (3) Casualty House-Surgeon. Salary at the rate of £200 per annum for (1) and £100 per annum for (2) and (3).

ROYAL GUEST HOSPITAL, City Road, E.C.1.—Physician with charge of Out-patients.

ROYAL HOSPITAL, Richmond, Surrey.—Assistant House-Surgeon (male). Remuneration £100 per annum.

ST. PETER'S HOSPITAL FOR STONE, etc., Henrietta Street, W.C.2.—House-Surgeon. Salary at the rate of £75 per annum.

SEMMEN'S HOSPITAL SOCIETY.—(1) House-Physician and House-Surgeon at the Dreadnought Hospital; salary at the rate of £100 per annum and a proportion of fees. (2) House-Surgeons at the Albert Dock Hospital; salary at the rate of £100 per annum and a proportion of fees.

SHEFFIELD ROYAL HOSPITAL.—Honorary Radiologist in charge of Electro-therapeutic Department.

SOUTH LONDON HOSPITAL, Clapham Common, S.W.—(1) House-Physician. (2) Three House-Surgeons. Salary at the rate of £50 per annum each.

STOCKTON AND THORNHAY HOSPITAL.—Secretary.

STVA.—Medical Officer of Health. Salary £750 per annum, rising to £800.

WAKEFIELD: WEST RIDING COUNTY COUNCIL.—District Tuberculosis Officer for the Dewsbury Area. Salary £600 per annum, rising to £750.

WEST LONDON HOSPITAL, Hammersmith Road, W.6.—(1) House-Physician. (2) Two House-Surgeons (Male). Salary at the rate of £100 per annum.

CERTIFYING FACTORY SURGEONS.—C. Ryan, M.B.Belf., for the Shochbury District, co. Essex; W. Simpson, M.B., Ch.B.Glas., for the Great District, co. York, West Riding.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Tuesday morning.

### APPOINTMENTS.

SMITH, N. Ross, M.B., Ch.M.Svd., F.R.C.S.Eng., Honorary Surgical Registrar to the West London Hospital, and Surgical Registrar to the Royal National Orthopaedic Hospital, London.

CERTIFYING FACTORY SURGEONS.—J. Lunn, M.B.Glas., for the Brinton District, co. Somerset; W. M. McIlraith, L.R.C.P. and S.E.D., for the Frodoheim District, co. Forfar; D. McIlraith, M.D.Belf., for the Shillingham District, co. Durham; A. R. Wade, L.M.S.S.A., for the Highbridge District, co. Somerset; R. T. Williams, M.B., B.S.Lond., for the Llanfairfechan District, co. Carnarvon.

### DIARY OF SOCIETIES AND LECTURES.

#### ROYAL SOCIETY OF MEDICINE.

War Section: Mon., 5 p.m., Presentation by Sir St. Clair Thomson, President of the Society, of the North Persian Forces Memorial Medal for 1923, awarded to Wing Commander Harold E. Whittingham, R.A.F.M.S. Paper by Wing Commander H. E. Whittingham: Treatment of Malaria by Novarsanobillon.

Section of Therapeutics and Pharmacology: Tues., 4.30 p.m., Dr. J. Trevan, Mr. W. H. Gray, and Miss E. Boock: Physiological Properties of Some Derivatives of Cocaine. Dr. W. J. Smith Jerome: The Unknown Factors of Gout. Miss Steadman: Action of Colloidal Substances on Blood Elements and Antibody Content.

Section of Psychiatry: Tues., 8.30 p.m., Dr. T. W. Mitchell: The Psycho-analytic Theory of Suggestion and Hypnosis.

Sections of Comparative Medicine, Tropical Diseases, and Obstetrics and Gynaecology: Thurs., 5.30 p.m., Special Discussion: Infective Abortion in Cattle and its Relation to Mediterranean Fever; to be opened by Professor John Eyre, followed by Mr. L. E. W. Bevan, Sir Percy Bassett-Smith, Colonel J. C. Kennedy, Professor Louise McIlroy, Mr. J. T. Duncan, Mr. Leslie Pugh.

Section of Neurology: Thurs., 8 p.m., Clinical Meeting at the National Hospital for the Paralyzed and Epileptic, Queen Square, W.C.1.

Clinical Section: Fri., 5 p.m., Cases.

Section of Ophthalmology: Clinical Meeting at Guy's Hospital, S.E.1, Fri., at 5 p.m.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East, S.W.1.—Thurs. and Thurs., 5 p.m., Milroy Lectures by Dr. Salisbury MacNalty: Epidemic Diseases of the Central Nervous System.

BIOCHEMICAL SOCIETY, Lister Institute, S.W.1.—Mon., 5 p.m., F. W. Fox: Cholesterol Content of Bile, its Bearing on the Metabolism of Cholesterol and Bile Acids; J. R. Marrack: Total Base Content of Plasma; D. Hoffer and I. S. Maclean: Action of Yeast on Lactic Acid; E. H. Capper and C. J. Martin: (a) Influence of Salt Concentrations on the C<sub>12</sub> in High Dilutions be Determined by the Hydrogen Electrode? (b) Can the C<sub>12</sub> in High Dilutions be Determined by the Hydrogen Electrode?

AFRICAN SOCIETY OF LONDON, 11, Chandos Street, W.1.—Mon., 8.30 p.m., Discussion: The Fundus Oculi in General Medicine; to be introduced by Mr. Ernest Clarke, followed by Mr. R. Foster Moore, Dr. James Collier, and others.

### POST-GRADUATE COURSES AND LECTURES.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION, 1, Wimpole Street, W.1.—Wed., 5.30 p.m., Lecture: Cleft Palate. Convention each afternoon. Royal Waterloo Hospital, Waterloo Road, S.E.1: Special Course in Medicine, Surgery, and Gynaecology. Lecture Demonstrations at the Wards and Out-patient Departments. North-Eastern Fever Hospital, St. Ann's Road, N.15: Wed. and Sat., 11 a.m., Diagnosis and Treatment of the Acute Infectious Diseases.

CENTRAL LONDON THROAT, NOSE, AND EAR HOSPITAL, Gray's Inn Road, W.C.1.—Fri., 4 p.m., Acute Mastoiditis.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.1.—Thurs., 4 p.m., Affections of the Gums in Children.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.1.—Mon., Tues., Thurs., and Fri., 2 p.m., Out-patient Clinics. Mon., Tues., 3.30 p.m., The Myopathies. Wed., 3.30 p.m., The Oculomotor Nerves. Thurs., 12 noon, The Nerve; 3.30 p.m., Recovery of Function System. Operations: Tues. and Fri., 9 a.m.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.15.—Daily: In-patient and Out-patient Clinics, Operations, Clinics in Special Departments. Lectures and Demonstrations: Tues., 4.30 p.m., The Month as an Aid to Diagnosis; Fri., 4.30 p.m., Enlargement of the Prostate.

QUEEN CHARLOTTE'S MATERNITY HOSPITAL, Marylebone Road, N.W.1.—Thurs., 5 p.m., Venereal Disease in Pregnancy.

ST. JOHN'S HOSPITAL, 42, Leicester Square, W.C.2.—Chesterfield Lectures: Tues., 5 p.m., Recent Ulcer. Thurs., 5 p.m., Malignant Growths.

SOUTH-WEST LONDON POST-GRADUATE ASSOCIATION, St. James's Hospital, Ouseley Road, Batham, S.W.12.—Fri., 4 p.m., Demonstration of Skin Cases.

WEST LONDON HOSPITAL POST-GRADUATE COLLEGE, Hammersmith.—Mon., 12 noon, Applied Anatomy. Tues., 12 noon, Chest Cases. Wed., 2 p.m., Medical Wards. Thurs., 12 noon, Abdominal Surgery (Lecture). Fri., 10.30 a.m., Skin Department. Sat., 10 a.m., Medical Diseases of Children. Daily 10 a.m. to 6 p.m., Sat. 10 a.m. to 1 p.m., In- and Out-patients, Operations, Special Departments.

GLASGOW POST-GRADUATE MEDICAL ASSOCIATION.—At Western Infirmary: Wed., 4.15 p.m., Venereal Diseases (Female).

JAMES MACKENZIE INSTITUTE FOR CLINICAL RESEARCH, St. Andrews.—Tues., 4 p.m., Albuminuria and the Specific Fevers. (March 17th, Bureau.)

MANCHESTER: ANCOATS HOSPITAL.—Thurs., 4.30 p.m., Dyspepsia.

MANCHESTER ROYAL INFIRMARY.—Tues., 4.15 p.m., Cancer of the Breast—a Review of the Results of Treatment. Fri., 4.15 p.m., Cases.

### British Medical Association.

OFFICES AND LIBRARY, 122, STRAND, LONDON, W.C.1.

#### Reference and Lending Library.

THE READING ROOM, in which books of reference, periodicals, and standard works can be consulted, is open to members from 10 a.m. to 6.30 p.m., Saturdays 10 to 2.

LENDING LIBRARY: Members are entitled to borrow books, including current medical works; they will be forwarded if desired, on application to the Librarian, accompanied by 6d. for each volume for postage and packing.

#### Departments.

SUBSCRIPTIONS AND ADVERTISEMENTS (Financial Secretary and Business Manager. Telegrams: Articulate Westrand, London).

MEDICAL SECRETARY (Telegrams: Medisera Westrand, London).

EDITOR, British Medical Journal (Telegrams: Aitology Westrand, London).

Telephone number for all departments: Gerrard 2630 (5 lines).

SCOTTISH MEDICAL SECRETARY: 6, Rutland Square, Edinburgh (Telegrams: Associate, Edinburgh. Tel.: 4361 Central).

IRISH MEDICAL SECRETARY: 16, South Frederick Street, Dublin. (Telegrams: Baillius, Dublin. Tel.: 4737 Dublin.)

#### Diary of the Association.

##### MARCH.

- 6 Fri. London: Dominions Committee, 2.30 p.m.  
Exeter Division: Royal Devon and Exeter Hospital. Lecture by Dr. W. Gordon on the Significance of Recent Work in Cardiology, 3.30 p.m.  
Leicester and Rutland Division: Medical Club, Bond Street, Leicester, 8.30 p.m.  
Sheffield Division: Church House, St. James's Street, Sheffield, 8.30 p.m.  
South Suffolk Division: Town Hall, Ipswich, 2.30 p.m.  
Gateshead Division: 9, Walker Terrace, Gateshead, 8.30 p.m.  
Exeter Division: Royal Devon and Exeter Hospital, 4 p.m.  
10 Tues. London: Ethical Committee, Special Meeting, 2.30 p.m.  
London: Naval and Military Committee, 2.30 p.m.  
City Division: Metropolitan Hospital, Kingsland Road. Paper by Sir T. G. Bruce-Porlock on Medical Practice and its Pitfalls, 9.30 p.m.  
11 Wed. London: Finance Committee, 7.30 p.m.  
12 Thurs. London: Joint Committee of Divisions and of Local Medical Committees, together with Members of Council, Insurance Acts and Royal Commission Committees, to consider Evidence to be given before Royal Commission on National Health Insurance, Wesleyan Central Hall, Westminster, London, 10 a.m.  
Isle Division: Hyde Town Hall, 8.30 p.m.  
Kent Branch: Royal Crown Hotel, Sevenoaks. Paper by Dr. T. A. Ross on Neurasthenia, 2.45 p.m. Lunch, 1.45 p.m.  
Swansea Division: General Hospital, Swansea. Paper by Mr. T. B. Tustian on Oral Examination and Diagnosis, 8.15 p.m.  
Wakefield, Pontefract, and Castleford Division: Bull Restaurant, Wakefield. Lecture by Mr. E. W. Bain on Middle-ear Suppuration.  
15 Fri. Chesterfield Division: Maternity Hospital, Chesterfield. Address by Dr. A. J. Hall on I.A.  
19 Thurs. Winchester Division: 4, The Lecture by Professor H. MacL. Endocrine Diseases from the C  
25 Wed. London: Council, 10 a.m.  
South Middlesex Division: St. John's Hospital, Twickenham. Discussion on Early Diagnosis of Syphilis, to be opened by Dr. C. E. Herington, 8.30 p.m.  
31 Tues. Croydon Division: Croydon General Hospital. Address by Dr. H. W. Barber on Diseases of the Skin, 8.30 p.m.

### BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcement of Births, Marriages, and Deaths is 2s., which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.

#### BIRTH.

MENZIES.—On February 25th, at Rutherglen, Woodside, South Norwood, 10 Dr. and Mrs. J. L. Menzies, a son.

#### MARRIAGE.

BRIGGS-BELL.—On February 7th, at St. John's Church, Eastbourne, Captain Norman Briggs, I.M.S., to Olive Margaret (Mollie), daughter of Mr. and Mrs. Irving Bell of Eastbourne.

# SUPPLEMENT

TO THE

# BRITISH MEDICAL JOURNAL.

LONDON, SATURDAY, MARCH 14th, 1925.

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### British Medical Association.

#### CURRENT NOTES.

#### Election of the Twenty-four Members of Council, 1925-26

NOMINATION forms for election of the twenty-four members of Council, 1925-26, (a) by a Division, and (b) by not less than three members of a Branch, are now available on application to the Medical Secretary, British Medical Association, 429, Strand, W.C.2.

#### Election of Public Health Service Members on the Council and Representative Body.

The constitution of the British Medical Association provides for nomination and election by the Public Health Service members of the Association as a whole, in the United Kingdom, of (1) two members of the Council, and (2) four Representatives (and four Deputy-Representatives) in the Representative Body of the Association. A Public Health Service member is defined (By-laws 1 and 10) as a member of the Association permanently employed in the whole-time medical service (other than service at a mental hospital) of any council or education authority of any county, county borough, municipal borough, metropolitan borough, burgh, urban district, rural district, parish, or port sanitary authority in the United Kingdom whose name appears as such member in the annual list of members of the Association. The term of office of those elected begins with the commencement of the Annual Representative Meeting at Bath this year, and terminates at the commencement of the Annual Representative Meeting, 1926.

Nomination papers are now available on application to the Medical Secretary, and must be returned to him not later than Saturday, April 25th, 1925. Separate nomination papers are necessary for nominations for the Council and for the Representative Body. Members elected to the Council are *ex officio* members of the Representative Body. If more candidates are nominated than vacancies exist, voting papers containing the names of all candidates will be issued through the post to all Public Health Service members of the Association on May 9th, and must be returned so as to reach the Medical Secretary not later than May 16th, 1925. The counting of the votes will be conducted in accordance with, and the result of the election ascertained by, the method of the single transferable vote. In the election of Representatives, first preferences given for any candidate who is elected to one of the two seats on the Council will be ignored, as such member of Council becomes *ex officio* a member of the Representative Body. The voting papers affected will not be invalidated, as the remaining preferences shown thereon will be used. The four candidates who head the poll for election of Repre-

sentatives will be elected Representatives, and the next four will be elected Deputy-Representatives, the fifth successful candidate acting as deputy for the first successful candidate, the sixth as deputy for the second, the seventh as deputy for the third, and the eighth as deputy for the fourth.

#### West Riding County Council and its Medical Staff.

The West Riding County Council is at the present moment advertising for five school medical inspectors at a salary of £500 a year, rising by £25 a year to £650. These advertisements do not appear in the *BRITISH MEDICAL JOURNAL* because the appointments are offered at a rate less than that agreed by the Association, and the county council knows from past experience that it is useless to offer such advertisements to the *JOURNAL*. It is very discouraging to find a public authority of the size and importance of the West Riding County Council following so short-sighted a course, when it must know that it is not only restricting its choice of medical officers, and thereby deliberately lowering the standard of the medical service of the county, but is taking a view which does not meet with the sympathy of the Ministry of Health. The Ministry, in a circular letter, has declared that it considers the scale of the Association, as now modified and safeguarded, to be not unreasonable, and the Association of Municipal Corporations is, we understand, circulating the scale with an intimation that it considers it to be not unreasonable as a guide to employing authorities. During the past twelve months over eighty appointments of assistant medical officers have been made at the rate of £600 a year, which the Association considers to be reasonable as a commencing salary for a fully qualified medical man or woman with at least three years' clinical experience. Thus members of the profession who have trained with the idea of entering the public medical service, and who may be tempted by the prospect of immediate appointment at £500 a year, may well hesitate before they fly in the face of the expressed opinion of their own professional organizations. Apart from loyalty to their own profession, they should remember that they are entering on a career in which the prizes are extremely few, and with a decided probability that the £650 a year to which they may aspire if they remain with the West Riding County Council for six years is the financial end of their professional career. The British Medical Association, in conjunction with the Society of Medical Officers of Health, and with the valued assistance of the *Lancet* and the *Medical Officer*, has fought and will continue to fight for the improvement of the salaries and status of members of the public health services, but its task will be rendered much more difficult if the very people for whom the fight is being waged are not loyal enough or not far-sighted enough to resist temptations held out to them by cheese-

### The Sir Charles Hastings Clinical Prize for General Practitioners.

The Council of the British Medical Association has decided to establish experimentally an annual prize—"The Sir Charles Hastings Clinical Prize"—of fifty guineas for an essay or lecture for the purpose of stimulating systematic observation, research, and record in general practice. The Council believes that systematic observation by general practitioners, along selected lines of clinical study, may result in the production of practical contributions of great value by those who are in a favourable position for following disease through its various stages.

The first prize will be awarded in 1926, and the conditions governing its award, as adopted by the Council on April 16th, 1924, are as follows:

#### Regulations.

1. This prize is established by the Council of the British Medical Association for the promotion of systematic observation, research, and record in general practice; it includes a money award of the value of fifty guineas.

2. Any member of the Association who is engaged in general practice is eligible to compete for the prize.

3. The work submitted must include personal observations and experience of the candidate collected in general practice, and a high order of excellence will be expected. If no essay entered is of sufficient merit no award will be made.

4. Essays, or whatever form the candidate desires his (or her) work to take, must be sent to the Medical Secretary, British Medical Association, 429, Strand, W.C.2, not later than December 31st, 1925, and the prize will be awarded at the Annual General Meeting of the Association. The first award will be made in 1926.

5. If any question arises in reference to the eligibility of the candidate or the admissibility of his essay, the decision of the Council on any such point shall be final.

6. Each essay must be distinguished by a motto, and must be accompanied by an envelope marked with the same motto and including the candidate's name and address.

7. The candidate who gains the award shall, if the Council so desires, publish his paper in the *BRITISH MEDICAL JOURNAL* or deliver a lecture on the subject thereof at a meeting of the Association.

8. Inquiries relative to the prize should be addressed to the Medical Secretary, 429, Strand, London, W.C.2.

### Association Notices.

#### BRANCH AND DIVISION MEETINGS TO BE HELD.

**BIRMINGHAM BRANCH: NUNEATON AND TAMWORTH DIVISION.**—At the meeting of the Nuneaton and Tamworth Division, to be held at the Nuneaton General Hospital on Wednesday, April 1st, Mr. C. A. Raison, F.R.C.S. (Birmingham), will read a paper on the acute abdomen in the child.

**METROPOLITAN COUNTIES BRANCH: CITY DIVISION.**—A meeting of the City Division will be held at the Metropolitan Hospital, Kingsland Road, E.8, on Tuesday, April 14th, at 9.30 p.m., when Dr. H. Maclean will read a paper entitled "Diabetes—its treatment: insulin up to date."

**METROPOLITAN COUNTIES BRANCH: KENSINGTON DIVISION.**—The Kensington Divisional dance will be held at the Kensington Town Hall on Thursday, May 7th. All money over after expenses have been paid will be handed to the Royal Medical Benevolent Fund and the Royal Medical Benevolent Guild. Further details will appear later, or can be obtained from the Honorary Secretary, 20, Upper Phillimore Place, W.8.

**METROPOLITAN COUNTIES BRANCH: LUTON DIVISION.**—A meeting of the Luton Division will be held at the Luton Hospital, 8.45 p.m., at the Parish Room, St. Peter's Church, Luton, on Wednesday, April 15th, when Dr. F. A. Cook, F.R.C.S., will read a paper on "Painful menstruation."

**METROPOLITAN COUNTIES BRANCH: SOUTH MIDDLESEX DIVISION.**—A meeting of the South Middlesex Division will be held at St. John's Hospital, Twickenham, on Wednesday, March 25th, at 8.30 p.m., when Dr. C. E. Herington will open a discussion on the early diagnosis of syphilis.

**MIDLAND BRANCH: CHESTERFIELD DIVISION.**—A meeting of the Chesterfield Division will be held at the Maternity Hospital, Chesterfield, on Friday, April 3rd, at 8.30 p.m., when Dr. A. E. British Medical Association Lecture on some recent advances in endocrinology.

**NORTH OF ENGLAND BRANCH: SUNDERLAND DIVISION.**—A scientific meeting of the Sunderland Division will be held at Highfield

Hospital, Sunderland, on Wednesday, March 25th, at 7.30 p.m. The Division will also hold a scientific meeting at the Mental Hospital, Ryhope, on Wednesday, May 27th, at 3.30 p.m. All members of the Division are invited to be present at the meetings.

**SOUTH WALES AND MONMOUTHSHIRE BRANCH: SWANSEA DIVISION.**—A meeting of the Swansea Division will be held at the General Hospital, Swansea, on Thursday, March 26th, at 8.15 p.m., when a series of short papers will be read.

**SOUTHERN BRANCH: WINCHESTER DIVISION.**—A meeting of the Winchester Division will be held at 4, The Square, Winchester, on Thursday, March 19th, at 3.30 p.m., when a British Medical Association Lecture will be given by Professor H. Maclean on the present position of endocrine diseases from a clinical standpoint.

**SURREY BRANCH: CROYDON DIVISION.**—A meeting of the Croydon Division will be held at the Croydon General Hospital on Tuesday, March 31st, at 8.30 p.m., when Dr. H. W. Barber will deliver an address on the etiology and treatment of some common diseases of the skin.

**SURREY BRANCH: GUILDFORD DIVISION.**—The Guildford Division will hold a clinical meeting in the wards of the Royal Surrey County Hospital, Guildford, on Thursday, April 2nd, at 4 p.m.; tea at 3.45.

**YORKSHIRE BRANCH: WAKEFIELD, PONTEFRAC, AND CASTLEFORD DIVISION.**—A meeting of the Wakefield, Pontefract, and Castleford Division will be held at the Ball Restaurant, Westgate, Wakefield, on Thursday, April 23rd, at 8.30 p.m., when Mr. J. F. Dobson, F.R.C.S. (Leeds), will read a paper on urological diagnosis (illustrated with lantern slides). Supper at 8 o'clock.

#### TABLE OF DATES.

Branch Reports for 1924 due by this date.	
Mar. 16, Mon.	Council.
Mar. 25, Wed.	Nomination papers available for election of 24 members of Council by grouped Home Branches, 2 Public Health members of Council, and 4 Representatives of Public Health Service in Representative Body.
Mar. 30, Mon.	Annual Report of Council appears in SUPPLEMENT.
April 11, Sat.	Last day for receipt of nominations for election of 24 members of Council by grouped Home Branches, and of 2 Public Health members of Council, and 4 Public Health Service Representatives.
April 25, Sat.	Publication in SUPPLEMENT of nominations for election of 24 members of Council by grouped Home Branches, 2 Public Health members of Council, and 4 Public Health Service Representatives. Voting papers posted.
May 9, Sat.	Independent motions for A.R.M. Agenda must be received at Head Office by this date.
May 12, Tues.	Last day for receipt of voting papers for election of 24 members of Council by grouped Home Branches, 2 Public Health members of Council, and 4 Public Health Service Representatives.
May 16, Sat.	nt motions for Deputy-Representatives must be elected by this date.
May 30, Sat.	Publication in SUPPLEMENT of results of Council elections by grouped Branches, and of election of members of Council and Representatives in Representative Body by Public Health Service members.
June 4, Thurs.	Nomination papers available for election of 12 members of Council by grouped Home Representatives.
June 10, Wed.	Names of Representatives and Deputy-Representatives must be received by this date.
June 18, Thurs.	Council.
June 27, Sat.	Meetings of Constituencies must be held between this date and July 17th to instruct Representatives.
July 3, Fri.	Supplementary Report of Council appears in SUPPLEMENT. Amendments and riders for issue in A.R.M. Agenda must be received by this date.
July 17, Fri.	Annual Representative Meeting opens at Bath. Nominations for election of 12 members of Council by grouped Representatives must be received (at A.R.M., Bath) by this date.
July 18, Sat.	Annual Representative Meeting, Bath.
July 20, Mon.	Council, and Annual Representative Meeting, Bath.
July 21, Tues.	Annual Representative Meeting. Annual General Meeting, Bath, President's Address.
July 22, Wed.	Council, Meetings of Sections, Conference of Honorary Secretaries, Bath.
July 23, Thurs.	Meetings of Sections, etc., Bath.
July 24, Fri.	Meetings of Sections, etc., Bath.

ALFRED COX, Medical Secretary.

#### Meetings of Branches and Divisions.

**BORDER COUNTIES BRANCH: DUMFRIES AND GALLOWAY DIVISION.** A very successful meeting of the Dumfries and Galloway Division was held in the Royal Infirmary, Dumfries, on February 26th, when Dr. P. M. Kerr presided. Lecture arrangements were discussed, and it was agreed to have a social meeting at Dalry, either in June or early July.

An advance copy of the revised evidence before the Royal Commission on National Health Insurance, together with a typescript by Dr. Anderson, Deputy Medical Secretary, setting out in detail the alterations, was before the meeting. After discussion the opinion was expressed that the attitude towards dependants now taken up was not logical.

The discussion on the Scottish Departmental Committee's report on puerperal morbidity and mortality was resumed, and it was decided to offer no objection to the recommendations on pages 30 and 31 of the report, except Nos. 5 and 15, to both of which it was agreed, after a vote, that opposition should be offered.

## METROPOLITAN COUNTIES BRANCH: CAMBERWELL DIVISION.

A MEETING of the Camberwell Division was held at the Brompton and Rotherhithe Hospital on March 4th. The revised draft Memorandum of Evidence proposed to be placed before the Royal Commission on National Health Insurance was considered and approved.

The HONORARY SECRETARY reported that the Divisional stage of the Treasurer's Cup golf competition had been completed, and that Dr. Clatworthy would represent Camberwell in the Branch stage of that competition.

Dr. N. MURCH, assistant physician to Guy's Hospital, gave an address on rheumatoid arthritis, and was listened to with great interest. A discussion followed, and questions were asked, to which Dr. Mutch replied. The meeting closed with a hearty vote of thanks to the lecturer.

## METROPOLITAN COUNTIES BRANCH: SOUTH MIDDLESEX DIVISION.

A MEETING of the South Middlesex Division was held at St. John's Hospital, Twickenham, on February 25th, when Dr. G. S. EWIN was in the chair.

Dr. SHORE read a paper on hilum tuberculosis, with some observations on artificial pneumothorax. He mentioned the various methods of classification of tuberculosis, and drew attention to the existence of a unilateral type of this disease. He regarded apical phthisis as being an inhalation phenomenon, and considered that animal experiments had proved this. The extreme apex was seldom attacked; the mode of spread was definite; several skiagrams were shown to demonstrate this type. Dr. Shore gave figures dealing with the unilateral type of tuberculosis, and remarked on skiagrams of four cases. He next dealt with tuberculous glands in the mediastinum, and stated that this might occur either by blood infection or from the lung itself. He gave figures of Anton Ghon, who made 724 autopsies on children under 10 years of age; 184 had tuberculous glands in the mediastinum, and of these 170 had lung involvement. He classified the groups of glands found here and quoted Ghon: (a) lung focus gives glands in mediastinum; (b) if the position of affected glands is known, the lung lesion can be forecast. In discussing the nomenclature of hilum, Dr. Shore suggested that a back flow occurred at the hilum of the lungs, and showed two specimens of apparently normal intestine with diseased glands and enlarged lymphatics. Skiagrams were shown relating to hilum cases.

A discussion followed, and the CHAIRMAN thanked Dr. Shore for his excellent paper.

## METROPOLITAN COUNTIES BRANCH: SOUTH-WEST ESSEX DIVISION.

A MEETING of the South-West Essex Division was held at the Jubilee Hospital, Woodford, Essex, on March 3rd.

Among the local business discussed was the proposition for holding an annual dinner of the Division in conjunction with the Essex Panel Committee.

Dr. C. H. PANTING was elected as Representative of the Division for 1924-25, and was instructed to attend the Special Representative Meeting on March 12th.

Mr. C. H. S. FRANKAU, C.B.E., D.S.O., read a paper on tuberculous glands of the neck. This was followed by a discussion in which several members took part.

## METROPOLITAN COUNTIES BRANCH: WILLESDEN DIVISION.

Dr. C. F. T. SCOTT presided at the February meeting of the Willesden Division, when Dr. Lock read a lucid report on the conference on venereal disease held at Wembley Exhibition last summer, and received a hearty vote of thanks.

It was decided to remit to the Organization Committee Dr. Gillbard's proposal that copies of the lists of members should be sent to members once a year. Dr. Lock's report of the Entertainments Committee showed that the first dinner of the Division had been a success in every way, and he was thanked for the trouble he had taken.

Dr. Skene, Chairman of the Willesden Public Health Committee, having intimated that he would again seek election to the Urban District Council on April 6th, it was decided to support Dr. Skene in every way possible, and also Dr. Lock, should he decide to stand.

The CHAIRMAN, in presenting Mr. S. Coulson with a silver cigarette case and fountain pen as tokens of appreciation, referred to the assistance Mr. Coulson had given with the work of the Division and the great interest he took in everything connected with the profession. The HONORARY SECRETARY (Dr. William Paterson) added a word of thanks, saying that Mr. Coulson had lightened his labours very considerably. Mr. COULSON, in thanking the members, said that it had been a pleasure for him to attend the meetings of the Division and to gain a knowledge of the work locally as distinct from that at the Central Office.

## ORANGE FREE STATE AND BASUTOLAND BRANCH.

The annual general meeting of the Orange Free State and Basutoland Branch was held in the Bloemfontein Club on February 12th, when Mr. VELLACOTT was in the chair.

In making his report the SECRETARY enumerated the meetings held during the year, and described briefly the work of the Branch Council in ethical and other matters. The report was, on the motion of Dr. BIDWELL, adopted.

The Treasurer's report was adopted on the motion of Dr. DE KOCK. In this connexion it was resolved that in future some provision should be made towards the payment or part payment of delegates' expenses to the South Africa Committee or other conferences—the method of provision to be decided by the Branch Council.

Mr. VELLACOTT, in the course of his presidential address, reviewed the meagre account of the year's work, and contrasted it with that

of the British Medical Association in England, which he asserted was a busy, flourishing, and extremely influential body. He referred to the panel system as another successful institution, which, though much grumbled at, had proved inestimably useful to England, and he suggested that it might be profitably copied in South Africa. He then gave an account of a very interesting and unusual case of gastric ulcer. The ulcer was in the lesser curvature in a child of 5 years; after treatment in the usual way the child underwent a slow but uneventful convalescence. Mr. VELLACOTT closed his remarks by contrasting the first operation he had ever witnessed, with its carbolic sprays, sponges, wooden table, etc., and the wonderful modern surgery he had recently seen in Europe. On the motion of Dr. EDWARDS a very hearty vote of thanks was accorded to Mr. VELLACOTT for his address.

The following office-bearers were elected for the coming year:

President, Mr. H. A. BODKIN. Vice-President, Dr. H. C. WATSON. Secretary, Dr. ALICE COX. Treasurer, Dr. R. Theron.

Dr. BONNIE thanked the Branch for doing him the honour of electing him President; and in response to his request for an instruction with regard to the meetings to be held during the year it was resolved to instruct the President and Secretary to call general meetings on the second Fridays of alternate months, and to invite non-members to such meetings as should be clinical in character.

The following motion, proposed by Dr. BIDWELL, was carried:

That this Branch is prepared to attend members of the Public Service Medical Benefit Association at the minimum fees agreed upon by the Branch in 1920, and it agrees to the deduction of 10 per cent. for collection on the understanding that accounts are paid promptly every month.

The proposal of the South Africa Committee to transfer the power of expulsion from Branches to itself was discussed and approved.

The meeting closed with a hearty vote of thanks for his services to the retiring President.

## SOUTH-WESTERN BRANCH: TORQUAY DIVISION.

A MEETING of the Torquay Division was held on March 6th at the Torbay Hospital, to which non-members as well as members of the Association were invited. The revised draft Memorandum, which appeared in the SUPPLEMENT of February 28th, was discussed, and the opinion was expressed that it was preferable to extend the scope of service to those persons at present insured, rather than to include dependants of insured persons.

## YORKSHIRE BRANCH: WAKEFIELD, PONTEFRAC, AND CASTLEFORD DIVISION.

The fifth of the seven monthly lecture meetings arranged by the Wakefield, Pontefract, and Castleford Division for the present winter session was held at Wakefield on February 12th, under the chairmanship of Dr. WILLIAM STEVEN (Featherstone), when Mr. S. W. DAW, F.R.C.S. (Leeds), gave an address on modern treatment of fractures. Mr. Daw first dealt with the points generally to be aimed at in the treatment, and then with the actual methods employed at Leeds General Infirmary. The address, which was interesting and useful, was illustrated by a number of skiagrams. Dr. STEVEN, Dr. CLAYTON, Dr. DUFF, Dr. HILLMAN, and others joined in the subsequent discussion, and Mr. Daw was heartily thanked for his address.

## MATERNAL MORTALITY.

## MISS BONDFIELD'S CRITICISMS.

A MEDICAL man recently directed the attention of the Medical Secretary of the British Medical Association to the following extract from the *Daily Mail* of February 27th, which appeared under the headings "Death Rate of Mothers. Miss Bondfield and Careless Doctors":

"Miss Margaret Bondfield, addressing a conference of the National Association of Trade Union Approved Societies at York yesterday, said that of 700,000 mothers who gave birth to children annually 3,000 died and a vastly greater number were injured."

"While there had been a remarkable decline in the infantile mortality in the last twenty years, there had been practically no diminution in the maternal mortality. Nine of 10 boroughs with the heaviest death rates from this cause were textile towns of Lancashire and Yorkshire. There was evidence of it being due to definitely bad and careless doctoring."

"It made one's blood boil, she said, to hear of case after case of death through the failure of doctors properly to sterilize instruments and their hands. There were few—but too many—cases of lives being lost through the downright neglect of doctors who gave too little attention to cases and failed to come at the danger period."

The Medical Secretary thereupon wrote to Miss Bondfield (who, it will be remembered, was a member of the Cabinet in the late Labour Government, holding the office of Parliamentary Secretary, Ministry of Labour), and received from her the following letter in reply:

Dear Dr. Cox,

March 5th, 1925.

With reference to your letter of the 2nd inst., I have to inform you that the occasion of my speech was the Annual Conference of the National Association of Trade Union Approved Societies, where I spoke for upwards of an hour on the subject of maternal mortality.





following day, when the further message should have aroused his suspicion and induced him to make a call at least earlier than 12.30 in the day.

(iii) At the same time we doubt whether the word "negligence" is apt as a description of the criticism set out in the preceding paragraph. Certainly gross negligence as alleged in the representation cannot be imputed to the respondent. We would rather describe our criticism as connoting an error of judgement as to the urgency of the case having regard to the information possessed by the respondent on the evening of June 30th and the morning of July 1st.

(iv) It is quite impossible to attribute the death of the deceased to anything done or left undone by the respondent. It is equally impossible to put forward an accurate opinion as to the time at which the onset of appendicitis occurred. It is only fair to the respondent to discount the fact that the patient died. He might have died in any event, and his death might equally have been attributable to the six hours' interval which occurred between the time of his admission to the infirmary and the time of the operation. These are matters of speculation which, in our view, particularly having regard to the conditions found at the operation, do not assist in determining the issues raised in the representation.

(v) We observe that the representation was based upon a charge of negligence in relation only to a single case.

"7. Evidence was tendered on the respondent's behalf to show that he was generally careful and skilful in his insurance practice. We rejected this evidence (a) as irrelevant in law to a charge of negligence in a single specific case and where no question of credibility or honesty as a witness was in question; (b) as directed to the issue whether or not the respondent's continuance on the list of insurance doctors was desirable. We respectfully submit that under the present regulations we were correct in our ruling, and in explanation of (b) above we observe that in our view the functions of the Inquiry Committee are limited to an investigation of particular facts stated in the representation, and are not extended to the consideration of matters inherent in the decision at which the Minister arrives. At the same time the division of the functions of inquiry and decision between the Committee and the Minister involve, under the present regulations, a certain hardship upon a respondent in that the inquiry represents to him the last and only occasion at which he can adduce sworn evidence of past good conduct in a professional respect, which evidence may have great weight in determining whether or not, for example, a single case of neglect or even conduct open to criticism would justify the extreme penalty of removal from the list of insurance doctors. We hardly doubt that the Minister would always be ready to receive reports of such good conduct, although not based upon sworn evidence, but the present regulations scarcely contemplate this course nor the difficulty raised in these cases of which the present one clearly exemplifies the problem here indicated. We desire, therefore, in addition to these observations, to draw attention to pages 52-63 inclusive of the shorthand note of the proceedings in case any amendment of the regulations may appear desirable.

"8. We are of opinion that the charge of gross negligence put forward in the representation fails. We cannot, however, hold that the complainants were not justified in all the circumstances in presenting their representation, and in this sense asking for an inquiry. And we think that the justice of the case will be met by our recommending that each party should bear their own costs of the inquiry."

#### *The Minister's Decision.*

The formal document conveying the Minister of Health's decision states that, having considered the report made by the Committee of Inquiry, the Minister has decided not to remove the practitioner's name from the medical list of the London Insurance Committee, and he directs further that no order be made as to the costs of the inquiry. A letter from the Ministry, addressed to the London Insurance Committee, contains the following paragraph:

"While the findings of the Inquiry Committee do not, in the Minister's opinion, justify the conclusion that Dr. Y's continuance on the medical list would be prejudicial to the efficiency of the medical service, he considers that the inferences of fact contained in paragraph 6 (ii) of the report indicate a failure to provide a proper standard of medical treatment, and he has accordingly decided that £10 must be withheld from the money payable to the Insurance Committee in respect of Medical Benefit. This sum should, in accordance with Article 36 of the Medical Benefit Regulations, be recovered from Dr. Y by deduction from his remuneration."

## Correspondence.

### *The Record Card.*

SIR,—The rural insurance practitioner, whose severe indictment of the present system of medical records is published in the SUPPLEMENT of February 14th, limits the possible solutions to two. Total abolition of records will never be granted by the powers that be, and many practitioners would be opposed to it. The impracticability of his other suggestion—that of the patient being made responsible for carrying with him his own record card—is sufficiently demonstrated by his own account of the failure of his multitudinous Samuel Halls to produce on demand the smaller-compacted medical card.

Before suggesting another solution, I would point out that the present record card serves two distinct and separate purposes—(1) a purely numerical record of all attendances, visits, etc., (2) a more or less scientific record of symptoms, etc. Presumably No. 2 is for the benefit of the patient, while No. 1 can be for statistical purposes only—that is, for the purposes of the State. Accurate recording of No. 1 under the present system involves the search for the card of each individual attended on any one day, for any and every ailment, however trifling.

The comparatively rare practitioner who prides himself on the accuracy of his day-by-day record-keeping must necessarily be devoting to the clerking process valuable time, which if spent in reading or recreation would be of real benefit to himself and his patients. Admittedly the statistical side of the card is neither of benefit nor of interest to doctor or patient, and I submit that statistics—at least equally and probably much more reliable—can be procured with a tithe of the expenditure of clerking time.

The first point is to separate the statistical from the clinical records. The clinical side will be considered later. The only statistical record required should be a day-by-day record of the total visits and surgery attendances for each day, and the entry of recurring attendances and visits on individual record cards should be abolished. For the purpose some such card as I enclose herewith would suffice.

The collection of these cards at the end of each year would furnish the Government with statistics of the actual work done by all panel practitioners, instead of the present method of rough-and-ready calculations from isolated samples.

The clinical record should be a separate document from the statistical, and should have a more convenient form than the present envelope. It would be an easy matter to devise one which could be inserted in these envelopes, and arrangements should be made for the possible duplication of such records as the practitioner may desire to retain for his personal use.

Obviously there would be no gain if a clinical entry were demanded for each interview with a patient; on the other hand, some definite minimum standard is necessary. I suggest that every case placed on certificate should have at least two entries—the dates of the first and final certificates (that is, duration of disability), and the diagnosis. Other details should be left to the discretion of the practitioner, and the futile entering of intermediate visits and certificates should be abandoned. The present time, when so many schemes for the benefit of the panel patient are in the air, seems opportune for urging on behalf of the panel doctor the adoption of any scheme which will retain the essentials and get rid of the time-fritting and temper-fraying facilities.—I am, etc.,

WM. CRAIG.

Bingley, Yorks.

\* The card enclosed by Dr. Craig is ruled on one side to provide spaces for a daily record of attendances and visits during one year. Twelve vertical columns, headed "Jan.," "Feb.," and so on, represent the months, and thirty-one horizontal columns the days of the month. Each of the main vertical columns is subdivided by a thin vertical line into two, headed respectively A and V, to denote the attendances and visits of each day. Space is provided at the bottom of the card for the total numbers of A's and V's in each month, and for the grand total of each for the year. On the back of the card are spaces for entering the doctor's name and address, the nature of his panel (main industry), and the number on his panel for each of the four quarters of the year.

SIR,—The heart of every doctor practising under the Insurance Act will go out to the West Country practitioner whose admirable, wise, and amusing note you published in the SUPPLEMENT of February 14th (p. 62). His experiences are those of all of us. If there is any sense of reality in Whitehall, this letter should send the existing Record Cards to the pulpers straight away.

The only practicable system of record-keeping by busy practitioners, each responsible for thousands of individual patients, is, as our West Country colleague suggests, by means of cards of which the patients themselves are the custodians. I and my partners are responsible for some ten thousand insured persons, and, in order to fulfil our legal obligations, we, with the help of secretaries, make the statutory entries on the official "F.M.R." forms. But we never refer to them, and I am sure that no official statisticians will ever refer to them. Quite independently of the official forms, we have our own record cards (of which I enclose a specimen), which we attach to the patient's medical card, to be produced by him whenever he visits us or we visit him. Additional cards are attached to the old one when necessary. We see at a glance the patient's history ever since he came under our care, with the various comments and opinions of each one of us. All

prescriptions are shown, and can be repeated or modified at need. By this means we are able to devote our time to the patient, instead of wasting three-quarters of it in groping through ten thousand official cards. This useless task we depute to secretaries, who copy on to them the necessary items from the patients' cards. We have worked this system since the Insurance Act came into operation, to our complete satisfaction. Our experience is that the patients never lose these cards, and always have them in their hands when they enter the consulting-room. A minor advantage is—or perhaps it is a major one—that, nothing being concealed, it promotes a candid relation between us and our patients. Personally, I never can understand how a large practice, especially if two or more men are working together, can be conducted otherwise.—I am, etc.,

London, E.1.

HARRY ROBERTS.

#### Insurance Remuneration.

SIR,—I have to thank the Scottish Medical Secretary for his explanation appended to my letter published in the SUPPLEMENT of February 28th (p. 81). If, however, lists are inflated to the extent of 12½ per cent. the situation becomes a very serious one for the practitioner. Only a trivial percentage of that inflation is due to persons who are dead; the remainder, who are "not entitled to medical benefit," are ignorant of that important fact, and we still continue to treat them apparently gratuitously. It seems scarcely just that, owing to faulty administration of approved societies or bad calculations by Government actuaries, the doctor should be penalized to the extent of at least 10 per cent. of his income.

It would be well that panel practitioners should know, and that those tendering evidence on their behalf to the Royal Commission should emphasize, that when a capitation fee of 9s is awarded, in reality it means a payment of about 8s. For obviously, as the Regulations stand at present, a practitioner is obliged to attend all persons who hold his panel card, although it transpires afterwards that the person "is not entitled to medical benefit." A partial solution of the problem would be that before any patient is removed from the doctor's list the society concerned must recall the medical card and notify the patient that he or she has now "ceased to be insured."

The fact I would most strongly emphasize is that panel practice does not mean either a fixed income or freedom from bad debts.—I am, etc.,

Govan, March 6th.

IAN D. GRANT.

\*\* We have referred this letter also to Dr. J. R. Drever, Scottish Medical Secretary, who writes:

If the writer had been following the published reports of the Insurance Acts Committee and the Conference, he would know that he is not posing a new problem. The defects of the present system are quite well known to all concerned, as is also the difficulty of finding a solution. His own "partial solution" would obviously increase, not diminish, the inflation. The important point is that, so far as can be ascertained, all the money which is due to the doctors is paid into the Central Pool and is all distributed to the doctors. If Dr. Grant will furnish specific instances of persons treated by him who are found to be not entitled to medical benefit he will be doing a useful service.

#### Maternity Benefit.

SIR,—In the revised draft Memorandum of Evidence to the Royal Commission on National Health Insurance is to be found a paragraph (No. 29) which sets out a scheme of maternity services. The precise implications of this paragraph are not very clear, and I should be glad if I might use your columns to seek further information on the point.

1. It is proposed to extend this service to, amongst others, the "wives of insured men." Does this mean all such wives or only those of the poorest? If it means (as it says) all of them, difficulties must arise in claiming that any of them should be excluded from other benefits now proposed to be given to some dependants. If it does not mean all, are we to infer that the institutional treatment, specialist advice, etc., proposed as "essential" to the scheme is such as the less poor will be able to provide for themselves? I must admit that I find it difficult to suppose that it would be possible to confine a full maternity service (including institutional treatment) to the wives of the less highly paid on the ground that those whose husbands had an income of £250 could afford it for themselves. In the same way it may be noted that a full service of consultants, etc., for services other than maternity would give much greater benefit than even the insurance and bank clerk can hope to provide for himself—and yet it is

suggested that the inauguration of a full service shall be signaled by the exclusion of these from benefit.

2. What exactly is meant by supervision during pregnancy? Does it entail advice as to morning sickness and such complications as pyelitis, etc.? There are two practitioners concerned—the insurance practitioner on whose list the patient is but who has declined maternity work, and the private practitioner whose name is on the list for maternity work only. It is commonly believed that pregnancy endures for some nine months. Do these two consult together throughout this period, and, if so, who gets the fee? I must admit that the idea of including supervision during pregnancy as part of the maternity service and then suggesting that the patient's ordinary medical attendant should contract out of maternity service at his own option seems to me calculated to cause the maximum of confusion with the minimum of gain.

3. What happens under this scheme to the theory that all practitioners collectively are responsible for all the insured persons collectively? If all the doctors in a country town contract out of giving maternity services (as they will do, by agreement, if they are wise), to whom are maternity cases to be allocated? This seems to me a very real difficulty and quite sufficient to wreck the proposed scheme. Was this difficulty ever placed before those meetings of the profession which have accepted the scheme?

4. Complaints are to be referred to a purely professional committee. That sounds right enough; but by what process of logic or otherwise is this to be recommended to a lay commission which is at the same time to be told that the existing procedure, with certain modifications, will suffice very well for all other complaints? Are not complicated scientific questions involved in both cases? If I were a layman, I think I should draw the conclusion that the doctors' midwifery work was so bad that they were afraid of its investigation by anyone but themselves. I might draw the further conclusion that they meant to hush up complaints on this score—and I should be at least as well justified as anyone who chose to draw any different conclusion.

5. The whole scheme is conditional on certain "essential" auxiliary services. One of these is the provision of institutional treatment for those whose homes are very unsuitable for maternity work. It has yet to be proved that maternal sepsis is any more frequent in dirty homes than in clean; but apart from that, and apart also from the fact that the worst homes are often those of the most highly paid manual labourers, I would ask whether it is at all possible that such provision can be made for many years or as part of any insurance scheme. The answer seems to me to be in the negative, and I am frankly very doubtful whether it is wise to speak to a Royal Commission on National Health Insurance of any scheme which is conditional on something not likely to occur for many years, and even then not likely to be under the control of any insurance authority.

6. I would further like to ask, Why is this or any scheme put forward in place of existing arrangements? Those who have advocated the inclusion of maternity services before the Royal Commission have had only two arguments. These are literally and fully as follows: (a) That they do not see why it should not be included; and (b) that the whole of the existing cash maternity benefit is swallowed up by doctor's fees, which have risen directly in proportion to the amount of this cash benefit. The second is the real point, but it is absolutely buried by the revised draft Memorandum. But it will not be so easy to burke it in cross-examination, and one would like to feel sure that the British Medical Association has figures in reserve to refute this accusation. I am not aware that any wife of any insured person is now without the aid of a doctor during her confinement if his services are needed, and I am still looking for any adequate reason for the vast dislocation of existing health services and the excessive inconvenience to doctors which this scheme must so surely bring in its train.

7. Finally, I crave permission to make one remark of a general character. No fair-minded person can deny, I think, that some, if not all, of the points which I have made are not without sufficient importance to sway the views of a meeting called to consider the scheme; an explanation in one direction might sway the meeting to accept the scheme, while an explanation in another sense might lead them to reject it altogether. I suggest that meetings before which these points have not been discussed were necessarily so far unaware of the meaning of paragraph 29 that any assent they may have given can be considered of but little value.

Unfortunately much the same is true of very many other paragraphs in the Memorandum. We have been asked to vote for hands of which we have only seen a few cards, and our votes are useless as expressions of professional opinion. The other cards (if ever we are allowed a sight of them) may entirely alter our views. It is extremely unfortunate that there is scarcely a single firm recommendation in the whole

Memorandum. It cannot be by accident that one may read into almost every paragraph exactly what meaning one wishes. I take it that this is the practical working of the theory that there is some essential difference between evidence and policy. I think it is mistaken, and that, having asked for a Royal Commission, we should at least go before it with something definite to urge. There is still time to do so.—I am, etc.,  
Sevenoaks, March 1st.  
GORDON WARD.

## Naval and Military Appointments.

### ROYAL NAVAL MEDICAL SERVICE.

SURGEON COMMANDERS W. K. D. BRYTON to the Pembroke for R.N. Barracks, Chatham, and as specialist in Ophthalmology; R. Willan to the *Agamemnon*; C. J. O'Connell to the Victory for Portsmouth Dockyard; A. R. Davidson to the *Tiger*.  
SURGEON LIEUTENANT H. E. M. MARTIN to the *Clematis*.  
MR. E. R. SORLEY has entered as Surgeon Lieutenant for short service, and appointed to R.N. Hospital, Haslar, for course.  
To be Surgeon Lieutenants: R. M. L. Still, W. H. Bradfield.

### ROYAL AIR FORCE MEDICAL SERVICE.

Flight Lieutenants E. A. Lumley, M.C., to Headquarters, Iraq; D. McLaren to Aircraft Depot, Egypt; W. J. G. Walker to Palestine General Hospital.  
Flying Officers C. J. McQuillan to Headquarters, Iraq; C. G. J. Nicolls to Electrical and Wireless School, Fallowdown.  
The following are granted short-service commissions as Flying Officers for three years on the active list: L. C. Palmer-Jones, T. W. Wilson.

### INDIAN MEDICAL SERVICE.

Lieut.-Colonel J. C. H. Leicester to be Honorary Surgeon to the Viceroy and Governor-General, vice Lieut.-Colonel R. McCarrison, C.I.E., tenure expired.  
Major F. A. Barker, O.B.E., Senior Medical Officer, Port Blair, is granted leave on average pay for one month and fifteen days; on expiry thereof his services are replaced at the disposal of the Government of Madras.  
Major J. R. D. Webb, O.B.E., is appointed permanently as Health Officer, Simla, with effect from July 5th, 1923.  
The undermentioned officers relinquished their acting or temporary ranks, with effect from the dates specified: Lieut.-Colonels H. Boulton, C.B.E. (Dec. 15th, 1920), F. A. F. Barnardo, C.I.E., C.B.E. (March 15th, 1920); Majors C. A. Godson, M.C. (Jan. 5th, 1920), H. R. B. Gibson (June 10th, 1920), P. F. Wernicke (now F. P. Wernicke, D.S.O.) (April 2nd, 1920); H. B. Scott, O.B.E. (Aug. 6th, 1920), D. F. Murphy, M.C. (July 28th, 1920), C. McG. Millar, O.B.E. (Feb. 10th, 1919), W. L. Harnett (Oct. 22nd, 1921), G. Holroyd (Sept. 13th, 1920), E. B. Munro, O.B.E. (March 9th, 1921), A. N. Dickson, M.C. (Dec. 6th, 1919), A. C. Coullie (Dec. 4th, 1919), J. B. Hansfin, C.I.E. (Aug. 24th, 1919), C. H. Fielding (May 22nd, 1920), J. V. Macdonald, M.C. (May 9th, 1919), P. B. Bharucha, O.S.O., O.B.E. (Aug. 24th, 1920), J. B. Hance, O.B.E. (Oct. 10th, 1919); Captains J. P. Huban, O.B.E. (Nov. 15th, 1920), J. C. Vaidya (May 12th, 1920), G. H. Mahony (Sept. 6th, 1919), R. R. Sweet, D.S.O. (April 1st, 1921), W. R. Stewart (April 6th, 1919), K. R. Batra (May 4th, 1921), W. F. Hogg, D.S.O., M.C. (Aug. 10th, 1920), P. A. Dargan (Dec. 31st, 1921).

### TERRITORIAL ARMY.

#### ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel H. J. Walker resigns his commission and retains his rank.  
Captain R. W. Smith resigns his commission and retains his rank.  
To be Captains: Lieutenants A. S. Pern and J. Broadfoot.  
To be Lieutenants: Captain J. H. Hes (late R.A.M.C.), with precedence from October 7th, 1915, and relinquishes the rank of Captain; Leslie C. F. Cheverton, Lieutenant F. B. Daniel (late R.F.A.T.F.), with precedence as from October 12th, 1921.  
General Hospitals.—Captain W. T. Gardiner, M.C., to be Major.  
Superintendence for Service with O.T.C.—Captain A. Balfour (late R.A.M.C.S.R.) to be Captain, December 22nd, 1924, with precedence as from February 8th, 1917, for service with the Medical Unit, Aberdeen University O.T.C. (Substituted for notification in the *London Gazette*, February 17th, 1923).  
Sanitary Companies.—Captain (prov.) A. Massey resigns his commission.

### TERRITORIAL ARMY RESERVE OF OFFICERS.

#### ROYAL ARMY MEDICAL CORPS.

Lieutenant M. D. Mackenzie, from the active list, to be Captain.  
Sanitary Companies.—The announcement regarding Captain (prov.) A. Massey, which appeared in the *London Gazette* of February 6th, 1923, to be cancelled.

### COLONIAL MEDICAL SERVICES.

Drs. H. C. Hopkins and F. McKernan appointed Medical Officers, Nigeria.  
Dr. E. M. Franklin appointed Senior Medical Officer, Gold Coast.  
Dr. C. Robinson and Blanche de Bono appointed Medical Officers, Gold Coast.  
Dr. D. C. Ogilvie, M.C., has resigned his appointment as Government Medical Officer, Fiji.  
Dr. J. F. Corson transferred from Nigeria to Tanganyika.  
Mr. H. MacDonald appointed District M.O. and M.O.H. Ra, Fiji.  
Dr. D. V. Latham appointed M.O. Lushoto, Tanganyika.

## VACANCIES.

BARNSTABLE: NORTH DEVON INFIRMARY.—House-Surgeon (male). Salary £150 per annum.  
BELFAST: MATER INFIRMORUM HOSPITAL.—Honorary Assistant Gynaecologist.  
BELFAST: ULSTER HOSPITAL FOR CHILDREN AND WOMEN.—Honorary Assistant Physician to the Children's Department.  
BIRMINGHAM: QUEEN'S HOSPITAL.—(1) Third Physician for Out-patients; honorarium £50 per annum. (2) Clinical Assistant in Out-patient Department of the Birmingham and Midland Hospital for Diseases of the Nervous System; honorarium £50 per annum.  
BOYLEBOROUGH HOSPITAL.—Honorary Surgeon.  
BOURNEMOUTH: ROYAL VICTORIA AND WEST HANTS HOSPITAL.—Male Resident Surgeon. Salary at the rate of £150 per annum.

BRIDGE-OF-WEIR: CONSUMPTION SANATORIA OF SCOTLAND.—Resident Medical Officer. Salary at the rate of £200—£250 per annum.  
BRIGHTON: NEW SUSSEX HOSPITAL.—(1) Honorary Assistant Physician to Out-patients. (2) Honorary Assistant Surgeon (temporary).  
BRITISH GUANA.—Assistant Medical Officer. Salary £500 per annum, rising to £700.  
BROMLEY BOROUGH.—Medical Officer of Health. Salary £800 per annum.  
BURTON-ON-TRENT INFIRMARY.—Junior Resident House-Surgeon (male). Salary £150 per annum.  
BUXTON: DEVONSHIRE HOSPITAL.—Assistant House-Physician. Salary at the rate of £150 per annum, rising to £175 after three months.  
CENTRAL LONDON OPHTHALMIC HOSPITAL, Judd Street, W.C.1.—(1) House-Surgeon. (2) Junior House-Surgeon. Salary at the rate of £100 and £50 per annum respectively.  
CHORLEY HOSPITAL, Lancs.—House-Surgeon. Salary £150 per annum.  
COUNTY MENTAL HOSPITAL, Birtwood, near Lichfield.—Male Senior Assistant Medical Officer. Salary £750 per annum, rising to £850, with £50 additional to those possessing or obtaining D.P.M.  
COVENTRY AND WARWICKSHIRE HOSPITAL.—Resident House-Physician (male). Salary £125 per annum.  
DOVERCASTER ROYAL INFIRMARY.—Honorary Ophthalmic Surgeon (male).  
ELIZABETH GARRETT ANDERSON HOSPITAL, 143, Euston Road, N.W.1.—Female Clinical Assistant in the Venereal Diseases Department. Fee £1 ls. per session.  
EVELING HOSPITAL, Southwark, S.E.—Anaesthetist. Honorarium 25 guineas per annum.  
EXETER: ROYAL DEVON AND EXETER HOSPITAL.—House-Physician (male). Salary at the rate of £150 per annum.  
FEDERATED MALAY STATES.—Research Studentship in Tropical Medicine. Salary 500 dollars a month (£700 a year).  
FOLKESTONE: ROYAL VICTORIA HOSPITAL.—Resident Medical Officer. Salary at the rate of £150 per annum.  
HOSPITAL FOR EPILEPSY AND PARALYSIS, Maida Vale, W.—(1) Resident Medical Officer. (2) House-Physician. Salary at the rate of £150 and £100 per annum respectively.  
HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.1.—(1) House-Surgeon. (2) House-Physician and Assistant Casualty Officer. Salary £50 per annum each.  
KENY COUNTY MENTAL HOSPITAL, Maidstone.—Assistant Medical Officer (male). Salary £200 per annum.  
LEWIS CITY.—Assistant Medical Officer for Maternity and Child Welfare. Salary £600 per annum.  
LICHFIELD RURAL DISTRICT COUNCIL.—Medical Officer of Child Welfare Centres (part-time). Fee 3ls. 6d. each attendance.  
LONDON HOMOEOPATHIC HOSPITAL, Great Ormond Street, W.C.1.—Pathologist. Salary £200 per annum.  
LONDON HOSPITAL, E.1.—First Assistant to one of the five Surgical Firms. Salary £400 per annum.  
LONDON LOCK HOSPITAL, Dean Street, W.—Surgical Registrar to the Male Lock Hospital. Honorarium £100 per annum.  
MANCHESTER: ST. MARY'S HOSPITALS.—(1) Two House-Surgeons for the Whitworth Street West Hospital (Maternity). (2) House-Surgeon for the Whitworth Park Hospital (Gynaecological). Salaries at the rate of £50 per annum.  
MANCHESTER UNIVERSITY.—Lecturer in Morbid Anatomy and Histology. Stipend £500 per annum.  
METROPOLITAN HOSPITAL, Kingsland Road, E.8.—Surgeon for Diseases of the Nose, Throat, and Ear.  
MILLER GENERAL HOSPITAL FOR SOUTH-EAST LONDON, Greenwich Road, S.E.10.—House-Physician (male). Salary £125 per annum.  
NATIONAL HOSPITAL FOR DISEASES OF THE THROAT AND NOSE, W.1.—(1) Resident Medical Officer. (2) Assistant Medical Officer (Males). Salary at the rate of £150 and £125 per annum.  
NEWCASTLE-UPON-TYNE: ROYAL VICTORIA INFIRMARY.—(1) Medical Registrar; remuneration at the rate of £50 per annum. (2) Honorary Assistant to the Electrical and Massage Departments.  
NOTTINGHAM CHILDREN'S HOSPITAL.—Resident House-Surgeon (woman). Salary at the rate of £150 per annum.  
PLYMOUTH: SOUTH DEVON AND EAST CORNWALL HOSPITAL.—(1) House-Physician. (2) Assistant House-Surgeon. Salary at the rate of £50 per annum each.  
PUTNEY HOSPITAL, S.W.15.—Resident Medical Officer (male). Salary £150 per annum.  
QUEEN'S HOSPITAL FOR CHILDREN, Hackney Road, E.2.—(1) Resident Medical Officer. (2) Two House-Physicians. (3) Casualty House-Surgeon. Salary at the rate of £200 per annum for (1) and £100 per annum for (2) and (3).  
ROYAL CHEST HOSPITAL, City Road, E.C.1.—Physician with charge of Out-patients.  
ST. PANCRA'S DISPENSARY, 39, Oakley Square, N.W.1.—Honorary Physician.  
SEAMEN'S HOSPITAL SOCIETY.—(1) House-Physician and House-Surgeon at the Dreadnought Hospital; salary at the rate of £100 per annum and a proportion of fees. (2) House-Surgeons at the Albert Dock Hospital; salary at the rate of £110 per annum and a proportion of fees.  
SHEFFIELD: ROYAL HOSPITAL.—Honorary Radiologist in charge of Electro-therapeutic Department.  
SOUTH LONDON HOSPITAL, Clapham Common, S.W.—(1) House-Physician. (2) Three House-Surgeons. Salary at the rate of £50 per annum each.  
SPRINGFIELD MENTAL HOSPITAL, Wandsworth Common, S.W.17.—Assistant Medical Officer. Salary £400 per annum.  
SUDBURY MEDICAL SERVICE.—Two Medical Inspectors. Pay £E.720 per annum, rising to £E.1,200.  
SUVA.—Medical Officer of Health. Salary £750 per annum, rising to £900.  
WEST HAM UNION.—Assistant Medical Officer. Salary £100 per annum, rising to £150.  
WEST LONDON H.—(2) Two House-Physicians. Salary £100 per annum.  
WIMBORNE: ROYAL HAMPSHIRE COUNTY HOSPITAL.—Sister Tutor. Salary £150 per annum, rising to £150.  
WORTHING HOSPITAL.—House-Surgeon. Salary £150 per annum.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces the following vacant appointments: Coxhoe (Durham), Brigstock (Northampton).

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Tuesday morning.



## APPOINTMENTS.

BARR, William, M.D.Glas., Medical Officer of Health to the County Borough of Rotherham.

BEALE, Peyton T. B., F.R.C.S.Eng., Consulting Surgeon to King's College Hospital.

CAMLEN, Harold E., M.B., B.S.Durh., D.P.H., Honorary Physician in charge of the Electrical and Massage Departments, Royal Victoria Infirmary, Newcastle-on-Tyne.

HOLDEN, O. M., M.D.Birm., D.P.H., Medical Officer, Borough of Blackburn, vice W. A. Daley, M.D.Lond., D.P.H.Camb.

LAMBERT, Miss Marjorie A. M., M.R.C.S.Eng., L.R.C.P.Lond., House-Surgeon to the New Sussex Hospital for Women and Children, Brighton.

FREEMANSONS HOSPITAL AND NURSING HOME, London, S.W.—Physicians: C. R. Box, M.D., F.R.C.P., C. E. Benumot, M.D., F.R.C.P. Tropical Diseases; J. B. Christopherson, M.D., F.R.C.P. Surgeons: Arthur Evans, M.S., F.R.C.S., H. Tyrrell Gray, M.Chir., F.R.C.S., Duncan O. L. Fitzwilliams, C.M.G., Ch.M., F.R.C.S. Gynaecologists: Veleor Bonney, M.S., F.R.C.S., L. Carnae Rivett, M.Chir., F.R.C.S. Genito-urinary: S. G. MacDonald, F.R.C.S. Throat and Ear: J. Cny French, M.S., F.R.C.S., D. F. A. Neilson, F.R.C.S. Ophthalmic: M. S. Mayou, Batten, F.R.C.S. Radiologist: H. M. Dobson, M.D., Eric W. Gandy, L.R.C.P., H. R.

## DIARY OF SOCIETIES AND LECTURES.

## ROYAL SOCIETY OF MEDICINE.

*Social Evening*: Mon., 8.30 p.m., Reception by the President, Sir StClair Thomson; 9.30 p.m. Address by Dr. H. Charles Cameron on John Locke, the Philosopher (1690), on the Upbringing of Children. The Library will be open, and various objects of interest will be exhibited. Music, light refreshments, and cigarettes.

*General Meeting of Fellows*: Tues., 5.30 p.m.

*Section of Pathology*: Mon., 8.30 p.m., Annual General Meeting. A. Piney: (1) Morphological Factors concerned in the Incidence of Pernicious Anemia; (2) The Blood in Rubella. W. Craner: The Relation of Innervation to the Experimental Production of Cancer.

*Section of History of Medicine*: Wed., 6 p.m., Professor J. S. Dabson: On Herophilus of Alexandria. Mr. C. J. S. Thompson: Some Historic Remedies and their Origins.

*Section of Dermatology*: Thurs., 4 p.m., Cases.

*Section of Electro-Therapeutics*: Fri., 8.30 p.m., Dr. Gilbert Scott: Radiation with Special Reference to Treatment of Carcinoma of the Breast by X-rays. Dr. J. H. Douglas Webster: Results and Problems in Deep Therapy.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East, S.W.—Tues. and Fri., 5 p.m., Goulstonian Lectures by Dr. J. A. Ryle: The Study of Gastro Function in Health and Disease.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.—Fri., 5 p.m., Museum Demonstration by Sir Arthur Keith: Specimens illustrating the Surgical Anatomy of the Middle Ear.

ROYAL SOCIETY OF TROPICAL MEDICINE AND HYGIENE—Laboratory Meeting at Royal Army Medical College, Grosvenor Road, Millbank, S.W.—Thurs., 8.15 p.m., Demonstrations by Drs. Douglas Adams, A. W. Craze, E. Hindle and J. T. Duncan, H. B. Newham, A. S. Burgess, Colonel Marrian Perry, Drs. H. Seidlin, A. C. Stevenson, J. Gordon Thomson, C. M. Venyon, and Mr. A. L. Sbeather and Professor Warrington Yorke.

CHELSEA CLINICAL SOCIETY, Club Room, St. George's Hospital—Tues., 8.30 p.m., Discussion: Some Diseases Common to Old Age; to be opened by Dr. Leonard Williams and Mr. Kenneth Walker, F.R.C.S.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, W.1.—Mon., 9 p.m., Third Lettsomian Lecture by Sir Bernard Spilsbury: Wounds and Other Injuries in their Medical-legal Aspect.

MEDICO-LEGAL SOCIETY, 11, Chandos Street, W.1.—Tues., 8.30 p.m., Dr. Nathan Raw, C.M.G.: Three Suggested Grounds for Divorce—(1) Hopeless Insanity, (2) Chronic Inebriety, (3) Sentence of Penal Servitude for Life. A discussion will follow.

TUBERCULOSIS SOCIETY, 1, Upper Montague Street, Russell Square, W.C.1.—Fri., 8 p.m., Dr. W. H. Dickinson: The League of Nations Post-Graduate Course for Tuberculosis Workers.

## POST-GRADUATE COURSES AND LECTURES.

FELLOWSHIP OF MEDICINE AND SURGERY, 1, Wimpole Street, W.1.—Wed., Teaching in London. All member to attend. Central London Oph. Lecture Demonstrations in Diseases of the Eye. Chelsea Hospital for Women: Spec. Demonstrations, Operations, etc. Special Course in all Departments: ment of Phthisis by Artificial Hospital, St. Ann's Road, N.15: Lecture: . . . . . and Out.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.1.—Thurs., 4 p.m., X-ray Diagnosis of Diseases of the Chest.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.1.—Mon., Tues., Thurs., and Fri., 2 p.m., Out-patient Clinics. Mon., 12 noon, Cerebral Cortex and Cerebral Localization; 3.30 p.m., Syphilis of the Nervous System. Tues., 3.30 p.m., Disseminated Sclerosis. Wed., 3.30 p.m., Friedrich's Ataxia. Thurs., 12 noon, The Neuroglia; Physical Exercises. Fri., 3.30 p.m., Demonstration of

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.15.—Daily: In-patient and Out-patient Operations, Clinics in Special Departments. Tues., 4.30 p.m., Rheumatoid and 4.30 p.m., Some Uses of Orthopaedic Surgery.

St. John's Hospital, 49, Leicester Square, W.C.2.—Chesterfield Lecture: Tues., 5 p.m., Scleroderma, Neurofibromatosis.

SOUTH-WEST LONDON POST-GRADUATE MEDICAL ASSOCIATION, St. James's Hospital, Ouseley Road, Batham, S.W.12.—Wed., 4 p.m., Pain.

West London Hospital Post-Graduate College, . . . . . Mon., 12 noon, Applied Anatomy. Tues., 12 noon, . . . . . p.m., Surgical Wards. Thurs., 11 a.m., . . . . . p.m.,

Throat, Nose, and Ear Department. Sat., 10 a.m., Operations on Throat, Nose, and Ear. Daily 10 a.m. to 6 p.m., Sat. 10 a.m. to 1 p.m., In-patients, Out-patients, Operations, Special Departments.

GLASGOW POST-GRADUATE MEDICAL ASSOCIATION.—At Victoria Infirmary: Wed., 4.15 p.m., Surgical Cases.

JAMES MACKENZIE INSTITUTE FOR CLINICAL RESEARCH, St. Andrews.—Tues., 4 p.m., Diuretics.

MANCHESTER ROYAL INFIRMARY.—Thurs., 4.15 p.m., Oesophageal Diverticula and Cardiospasm. Fri., 4.15 p.m., Clinical Cases.

MANCHESTER: ST. MARY'S HOSPITALS.—Whitworth Street West Branch: Fri., 4.30 p.m., Visit to the Obstetric Wards.

## British Medical Association.

OFFICES AND LIBRARY, 429, STRAND, LONDON, W.C.2.

## Reference and Lending Library.

THE READING ROOM, in which books of reference, periodicals, and standard works can be consulted, is open to members from 10 a.m. to 6.30 p.m., Saturdays 10 to 2.

LENDING LIBRARY: Members are entitled to borrow books, including current medical works; they will be forwarded if desired, on application to the Librarian, accompanied by 6d. for each volume for postage and packing.

## Departments.

SUBSCRIPTIONS AND ADVERTISEMENTS (Financial Secretary and Business Manager. Telegrams: Articulate Westrand, London).

MEDICAL LIBRARY (Telegrams: Medicivera Westrand, London).

LONDON, British Medical Journal (Telegrams: Aitiology Westrand, London).

Telephone number for all departments: Gerrard 2530 (5 lines).

SCOTTISH MEDICAL SECRETARY: 6, Rutland Square, Edinburgh (Telegrams: 4261 Central).

IRISH MEDICAL SECRETARY: Frederick Street, Dublin. (Telegrams: 4737 Dublin.)

## Diary of the Association.

## MARCH.

- 13 Fri. Chesterfield Division: Maternity Hospital, Chesterfield. Address by Dr. A. J. Hill on Diagnostic Bunkers, 8.30 p.m.
- 17 Tues. Lewisham Division: Parish Room, St. Laurence Vicarage, Bromley Road, Catford, S.E.6. Paper on "Painful Women," by Mr. Frank Cook, 8.45 p.m.
- 19 Thurs. Winchester Division: 4, The Square, Winchester. B.M.A. Lecture by Professor H. Maclean: The Present Position of Endocrine Diseases from the Clinical Standpoint, 3.30 p.m.
- 25 Wed. London: Council, 10 n.m.
- South Middlesex Division: St. John's Hospital, Twickenham. Discussion on Early Diagnosis of Syphilis, to be opened by Dr. C. E. Herington, 8.30 p.m.
- Sunderland Division: Scientific Meeting, Highfield Hospital, Sunderland, 7.30 p.m.
- 26 Thurs. Swansea Division: General Hospital, Swansea, 8.15 p.m.
- 31 Tues. Croydon Division: Croydon General Hospital. Address by Dr. H. W. Barber on The Etiology and Treatment of Some Common Diseases of the Skin, 8.30 p.m.

## APRIL.

- 1 Wed. Nuneaton and Tamworth Division: Nuneaton General Hospital. Paper by Mr. C. A. Raison on the Acute Abdomen in the Child.
- 2 Thurs. Guildford Division: Clinical Meeting, Royal Surrey County Hospital, Guildford, 4 p.m.
- 3 Fri. Chesterfield Division: Maternity Hospital, Chesterfield. B.M.A. Lecture on Some Recent Advances in Endocrinology by Dr. A. E. Cow, 8.30 p.m.
- 14 Tues. City Division: Metropolitan Hospital, Kingsland Road, E.8. Paper by Dr. H. Maclean on Diabetes—its Treatment: In-sulin up to Date, 9.30 p.m.
- 23 Thurs. Wakefield, Pontefract, and Castleford Division: Bull Restaurant, Westgate, Wakefield. Paper by Mr. J. F. Dobson on Urological Diagnosis, 8.30 p.m. Supper, 8 p.m.

## MAY.

- 7 Thurs. Kensington Division: Divisional Dance, Kensington Town Hall.
- 27 Wed. Sunderland Division: Scientific Meeting, Mental Hospital, Ryhope, 3.30 p.m.

## BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcement of Births, Marriages, and Deaths is 9s., which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.

## BIRTH.

KERR MUIR.—On March 7th, at Melbourne Lodge, Stockton Road, West Hartlepool, to Dr. and Mrs. J. Kerr Muir, a son.

## MARRIAGE.

NEEDHAM—EDWARDS.—At St. George's Church, Agra, India, on February 14th, 1925, by the Rev. A. D. Talbot, Colonel Richard Arthur Needham, C.I.E., D.S.O., M.D., F.R.C.P. Ed., D.P.H., Indian Medical Service, to Lady Rice Edwards, widow of Major-General Sir W. R. Edwards, K.C.B., K.C.I.E., G.M.C.

## DEATHS.

BURROWS.—On March 8th, at Devonshire House, Southsea, Lucy Mary Elizabeth, the beloved wife of Harold Burrows.

HACKETT.—February 15th, at Ocala, Eldorado Road, Cheltenham, Colonel R. I. D. Hackett, C.B.E., M.A., M.D., late Army Medical Service.

OWEN.—On February 14th, at Fitzroy House, London, John Lewis Owen, M.R.C.S.Eng., L.R.C.P. Lond., aged 57, of Holyhead, Anglesey.

SMITH.—At West View, Radcliffe, Lancs, on February 28th, accidentally gassed, John Williamson Smith, M.D.Glasg., aged 45, Honorary Ophthalmic Surgeon, Bury Infirmary.



# SUPPLEMENT

TO THE

# BRITISH MEDICAL JOURNAL.

LONDON, SATURDAY, MARCH 21st, 1925.

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## THE FUTURE OF NATIONAL HEALTH INSURANCE.

### JOINT MEETING OF MEMBERS OF THE REPRESENTATIVE BODY AND OF THE PANEL CONFERENCE.

#### THE EVIDENCE TO BE TENDERED TO THE ROYAL COMMISSION.

THE joint Conference of members of the Representative Body of the British Medical Association, of the Conference of Local Medical and Panel Committees, and of the Royal Commission Committee of the Association, was held at the Central Hall, Westminster, on March 12th. It was called on the requisition of the Council to consider the Memorandum of Evidence proposed to be submitted to the Royal Commission on National Health Insurance. The revised draft of the Memorandum appeared in the SUPPLEMENT to the BRITISH MEDICAL JOURNAL of February 28th, 1925 (pp. 69-78).

The attendance was very large, not many short of 300 being present, and the discussions were well sustained throughout. Although almost half of those attending represented Divisions of the Association, and almost half represented Local Medical and Panel Committees, the distinction between the two kinds of constituencies was not apparent in the assembly itself, the members sitting and voting as one body.

Those on the platform were: Dr. H. B. Brackenbury (Chairman of Representative Meetings), Dr. R. A. Bolam (Chairman of Council), Dr. E. Kaye Le Fleming (Chairman of the Conference of Local Medical and Panel Committees), Dr. H. G. Dain (Chairman of Insurance Acts Committee), Mr. N. Bishop Harman (Treasurer of the Association), Dr. Alfred Cox (Medical Secretary), Dr. G. C. Anderson (Deputy Medical Secretary), and Mr. W. E. Hempson (Solicitor).

Dr. LE FLEMING proposed that Dr. Bolam take the chair, and this was seconded by Dr. D. F. Todd and carried unanimously.

Dr. BOLAM, on taking the chair, said that as Chairman of the Committee which had been gathering material for the evidence it was probably his duty to place the matter of the Memorandum before the conference, but Dr. Brackenbury was more familiar with the whole subject, and

the advantage of the arrangement now adopted was that Dr. Brackenbury, otherwise the most fitting person to preside, would be free to place the document before the Conference, to take part in the debate, and to answer questions. He hoped that, as the Memorandum had now been before the profession for a considerable time, minor matters of criticism would be left alone, and the Conference would address itself to the main issues.

It was agreed, on a proposal from the chair, to receive the revised draft Memorandum as published in the SUPPLEMENT of February 28th.

#### DR. BRACKENBURY'S PRELIMINARY STATEMENT.

Dr. BRACKENBURY then asked the Conference to approve the Memorandum. He believed the present meeting to be unique in the history of the medical profession. It was to a large extent informal, but he hoped it represented professional opinion of all kinds, both within and without the British Medical Association, and within and without insurance practice. The Council of the Association took responsibility for the Memorandum. It was the Council which would decide who should be the witnesses, and it wanted to be able to tell the Royal Commission that the opinion of the whole profession, so far as that opinion could be expressed by any small body of persons, was behind this evidence. In formulating the proposed evidence, the Council had appointed a special committee, distinct from but associated with the Insurance Acts Committee. The Insurance Acts Committee itself was not entirely composed of insurance practitioners, and the special committee included a number of persons who had not been accustomed to take any part in the official business of the Association, but who, because of their eminence and knowledge in certain particular respects, or because of their representative capacity, were likely to help very greatly in the matter of drafting and in giving a proper balance to the document. The Council, having itself reviewed the first draft formulated by these committees, sent it down for consideration by meetings of the profession throughout the country, held under the joint auspices of the Divisions of the Association and the Local

Medical and Panel Committees. The reports of these local meetings were very valuable, though he asked the Conference not to attach too much importance to mere numbers in voting one way or the other, seeing that the meetings represented entirely different kinds of constituencies, and carried resolutions by various majorities. But the general body of opinion was fairly evident, and in view of it the Council again revised the Memorandum, altered it in certain particulars, varied its emphasis a good deal in places, and again submitted it to local meetings for their consideration. This Memorandum of Evidence was now before the Conference, and the opinion of the Conference would come before the Council at a meeting to be held shortly. It did not follow that any resolution carried by the Conference would necessarily be adopted by the Council, but when he said that the Council would give full weight to expressions of opinion from that conference the difference was not great. Technically this was a Memorandum of the Council of the British Medical Association, which the Council would revise in the light of these expressions of opinion. All that was now under consideration was the statement which it was desirable to put before the Royal Commission. It did not follow that the profession would get what it asked for in that statement, nor should it be influenced by the feeling that it would not be likely to get what it asked for. It might be considered that some of the proposals in the Memorandum were impracticable for financial or administrative reasons. All that was said was that if the proposals could be carried out financially and administratively, those were the kind of proposals which ought to be furthered in the interests of the national health and of the profession. This was an opportunity for the profession to make public what it believed to be the right lines on which a national health insurance scheme should go forward. It was merely an outline of evidence. Too much importance should not be attached to particular details, and no one should be unduly anxious because certain things were not amplified in the Memorandum in the way in which he or his constituency might desire. The Memorandum must be taken as a whole; a sense of proportion must be preserved in reviewing its different parts; and the emphasis and amplification must be entrusted very much to those who went before the Commission, sat in the witness chair, and answered the questions of members of the Commission. The witnesses would be bound by the Memorandum. It would not be open to them to give evidence conflicting with the opinions expressed in the Memorandum. But there might be all sorts of things in a detailed way which they would have to go into and explain, and which need not be explained in the printed document. If the way in which the Memorandum had been compiled was borne in mind it would be seen that it was not worth while to devote much attention in the Conference to verbal changes, knowing that such amendments as were necessary in these respects would be dealt with by the Council or by those who acted on its behalf. He did not know whether the meeting would wish to take the Memorandum paragraph by paragraph, or whether it would be desirable to direct attention to the amendments, or to those parts of the Memorandum which were the subject of amendments of which notice had been given.

The CHAIRMAN thought it would be convenient to assume that where no amendment had been handed in the meeting was of opinion that the draft evidence did not need revision, and that the draft should be taken page by page until the first amendment was reached. The first part of the Memorandum set out the place of the Association in coming forward to give evidence, and the steps which had been taken to assure that evidence being, so far as possible, representative of the feelings of the profession, so he would take it that the meeting approved Part I without comment. (Agreed.)

Dr. DAIN suggested that, with a view to focusing the attention of the meeting on what he was sure would be regarded as seriously important things, the large principles raised should be dealt with before matters of detail. ("Hear, hear.") He would therefore suggest that the question of inclusion of dependants, the inclusion of Poor Law cases, and the position of the maternity service, should be

taken in that order before the detailed amendments. He would like to suggest that the question of the inclusion of dependants on Mr. E. B. Turner's amendment should be taken as the first business. Dr. LE FLEMING supported that method, and it was agreed to.

Dr. F. RADCLIFFE rose on a point of order. There were a number of representatives, he said, who were representatives of Divisions, and a number who were representatives of Local Medical and Panel Committees, each of whom was entitled to one vote. There were also a number of men representing both Divisions and Local Medical and Panel Committees. Should these have one vote or two?

The CHAIRMAN said he hoped that point would not arise. He thought the principle of "one man, one vote" in a meeting of that kind was an excellent principle. He trusted the Chairman would not be pushed to the extremity of counting the number of constituents represented by particular individuals.

Dr. TODD asked what standing orders would govern the conduct of the meeting.

The CHAIRMAN replied that the meeting was under the standing orders of the Chairman. (Laughter.) He proposed to be guided in the main by the standing orders of the Representative Body and of the Local Medical and Panel Conference, which were almost identical.

#### THE INCLUSION OF DEPENDANTS.

Dr. BRACKENBURY, in introducing the question of dependants, said that this really arose on Section A of the Memorandum, paragraphs 10 to 18. It was perfectly true that that section did contain something besides the question of the inclusion of dependants. It included the question whether everybody who was at present under the Act ought to remain in insurance, and the question of dependants could scarcely be separated from that aspect of the matter, because it seemed obvious that if certain persons who were at present included were ruled out, the dependants of those persons at all events would not be included. Therefore several points were made in the section. First of all, it was said that there were a good many people under the Act at present who did not need, for economic reasons, to be under the Act at all, and that certain classes of those persons and certain individuals among them ought to be excluded from the insurance scheme; it should be remembered that the first proposal under that section was that the personnel of those who were at present included should be reduced by the application of the first general principle—namely, that only those persons should be included who could not provide for themselves. He did not think that there would be much difference of opinion about that. Then the question of the inclusion of dependants was dealt with, and it was said in the Memorandum that it would be a contravention of the first principle if the proposal was adopted which had been made, that all the dependants of insured persons as at present defined should be included. There was a certain body of opinion in the profession which was in favour of that; but the Council was proposing to give evidence against it. They were not in favour of including all the dependants of all insured persons as at present defined. They stated in those paragraphs that that would be to make the contravention of the first principle worse; it would not merely be retaining persons under the Insurance Act who need not be under it, but it would be including other persons, fresh persons, under the insurance system who need not be under it. So the Council held that the first principle ought to be applied as far as was administratively possible: that only those persons should be included who could not make provision for themselves or for whom provision could not be made outside the insurance scheme; and that, in the opinion of the Council, and apparently in the opinion of the profession, carried with it the corollary that the scheme must include the dependants of persons who were themselves rightly included. The Council was therefore proposing to put up, as practicable or otherwise, to be adopted or perhaps to be turned down, but as being the right thing for the Association to suggest, that the lower paid among the existing insured persons should alone be included, and that any extension to dependants should be only to the dependants of those lower paid persons; that in the interests

of national health it was as important to make public provision under the insurance scheme for the dependants of the person who could not make provision for himself as it was to make provision for that person. That could not be escaped on the logical ground of the application of the first principle; nor could they get away from it on another ground which was put forward in the paragraphs to which he had referred, that the State must interest itself in the health of the poorly paid persons and their dependants, and that if it did not make provision for them in one way, it was certain that it would make provision for them in another. So great an advance had been made in the social economy of this country that the State was not going to allow any considerable section of the population to go under in the matter of health without making some provision for them, and the tendency at the present time was to make provision of a very limited and unsatisfactory character—good as it was as far as it went—by way of municipal clinics and treatment centres, worked, very largely, by whole-time officers. The Council believed, and apparently the profession believed, that in putting forward those paragraphs they made it clearer than it was in the first draft that they believed the method of private practice, or a method approximating to private practice, was both better for the national health and more consistent with the interests of the profession than was the method of providing treatment clinics worked by whole-time officers. They were faced with two things in accordance with their principle—(1) that only those persons should be provided for who could not provide for themselves, but that (2) all those persons should be provided for who could not provide for themselves. They must include the dependants of the lower paid persons, and if they had to choose between alternative methods of making provision for those persons, they believed the method of private practice and the family doctor was the method they should put forward in evidence as being the right method by which the State should see that those persons were provided for. ("Hear, hear.") That was the gist of the paragraphs so far as that principle was concerned. The proposal had been through the mill; they had discussed it over and over again in Council, and in meetings throughout the country; and he would therefore ask the Conference very earnestly indeed to authorize the Council to go forward on those lines. (Applause.)

Mr. E. B. TURNER, speaking as representative of the Kensington Division and, he said, of practically all the non-insurance general practitioners in the kingdom, moved:

That this Conference, while in favour of the provision of a complete and properly extended medical service for those at present insured, is not at the moment, for various good reasons, in favour of the extension of that service to any of the dependants of such persons, and therefore desires the Memorandum of Evidence to be amended accordingly.

Mr. Turner said he had good reasons to put forward why the recommendation that dependants should be included should not go forward in the evidence of the Association. If that evidence was given on behalf of the Association, if the Royal Commission accepted it, if it came before Parliament and Parliament granted it, there would at once be an absolute line of demarcation between two portions of the profession—a line that would never afterwards be bridged. He had heard a great number of gentlemen who were working under the Insurance Acts urge that although they were insurance practitioners they were private practitioners as well. If dependants were put in, even to such an extent as to bring up the total number of insured persons to 30,000,000—the smaller number—there would be a certain number of men in rural districts and in residential districts who would still have a certain amount of private practice; but in the densely populated industrial districts in the Midlands and in the East End of London there would not be "one rag" of private practice left. The whole of the work of practitioners in those districts would be contract work, panel work, and they would be cut off from the rest of the profession. That, to his mind, was disastrous and most repellent, for he thought it would be bad in the eyes of the profession, and even worse in the eyes of the public.

Furthermore, the Memorandum went against including the whole of the dependants, and recommended the inclusion only of a certain number; and an attempt was made to get that certain number fixed by various safeguards, which were set out in paragraphs 14 and 15 of the Memorandum. Practically the whole thing hinged on income limit. The Memorandum suggested, first of all, that the number of the present-day insured persons should be cut down by fixing an income limit to cut out the highly paid manual workers. If anyone thought for one moment that that recommendation would be accepted, then he did not think much of his intelligence. ("Hear, hear.") The speaker had had to fight that question when the insurance scheme first came on with the then Chancellor of the Exchequer. Everyone knew that no Royal Commission, especially one constituted as the present one was constituted, would dare to recommend that an income limit should be put on, cutting off a large number of the better paid workers. No Government would dare to bring it forward; they would not jeopardize the votes of potential millions to satisfy a possible 10,000 or 15,000 men. Even if there were an income limit below which the dependants should be taken in, it was a practical administrative impossibility to fix it. How could the border-line man be dealt with—the man whose income was so much one week and so much another week? It would necessitate a continual inquiry as to what the man's income was, and whether it was above or below the line. That would mean an enormous increase of officials and of expense, and it would be eminently unsatisfactory in every way, to say nothing of the fact that no Government would dare to face it. If the Council of the British Medical Association went forward, speaking on behalf of the profession, or of a considerable body of the profession, and said it was ready to take on two-thirds, then the Commission, if it was going to make any recommendation at all with regard to the inclusion of dependants, would recommend that everyone should be put in. That might be taken as a certainty; the Commission would not recommend that a portion of the dependants only should be included. The proposal to include dependants gave a distinct lead to those who wished for a whole-time salaried service. He joined issue with those who said that by taking those persons in a better attendance would be provided. He thought the amount of work that would be entailed upon the men who undertook the treatment of the women and children would be such that they would not have the time to give as much real attendance as they ought to. He did not know what the figures were in the industrial practice, but in his own sheltered practice he saw twenty-five women and children to one man. Among workmen it was different; the professional and leisured classes were not so liable to illness; but even if one saw five times more women and children than men, what would that mean in an insurance practice? The practitioner would have no peace at all. They were asked to take on, in addition to their working-men panels, these women and children, the very people who would rightly require much more attention than they got at present. It was said that these people could not afford to pay anything for themselves, but he had asked the Council to say whether it was not a fact that they would have to pay, and the Council had replied that it would probably be by an increase of the premium paid by the breadwinner. That meant that these families would have to spend money—there were no employers to make a contribution—and the State would have to spend money. If dependants were compulsorily insured, and if the meeting voted for it, and the Council put it up, and it was carried, they were voting for a legal and compulsory removal of a large number of patients from the private practices of their non-panel brethren, to be transferred to the panel lists. This would mean that the division in the profession would be accentuated, and the feeling would become exceedingly bitter. Dr. Brackenbury had spoken of the Government doing something for the dependants if the Association did not say it would take them on, and had hinted that the maternity and child welfare clinics and school clinics would be extended. He quite agreed with the objection to that. There was nobody who believed more strongly than himself that the work should be done by general practitioners, and that the work

done by whole-time officers in clinics should be reduced to a minimum; but among the safeguards in paragraph 17 was a recommendation that in suitable populous areas infant welfare centres should be continued, provided that the practitioners had reasonable access to the records of cases under their care. He knew a good deal about the maternity and child welfare centres, as he was on the executive committees of two of the bodies that worked them, and he had had a very hard task in keeping up the end of the Association when speaking at meetings of those bodies; yet the continuance of those centres was put forward as one of the reasons for asking the representatives to vote for the inclusion of dependants. The Association had a big opportunity before it to improve the insurance service, to let the service be such as the insured persons might expect, and had a right to expect, and at the same time to bring home to the Commission the necessity that, if such a service was desired, the red tape, the iniquitous conditions, the £1,000 fine, and all that sort of thing, which so oppressed the practitioner at present, must be removed. If the Association took that line it would do infinitely more good to the profession, to the public, and to the sick people, than if it followed an illusory will-o'-the-wisp of nationalization of two-thirds of the population and 15,000 of the profession. (Applause.)

Dr. J. STEVENS (Edinburgh) supported Mr. Turner's amendment. When the wage limit for manual workers was discussed in the original Insurance Act there was nothing the profession was told more definitely than that they would not get a wage limit. The proposal was impracticable, and it would injure the prestige of the Association if impracticable proposals were put forward. Even if only a proportion of the dependants were proposed to be included, the result would be that, as there would be no clear dividing line, the whole of them would be sooner or later included. Dr. Brackenbury had said that they ought to ask for what they wanted, whether they thought they would get it or not. But if they asked for what they could not get, that was the very way to get what they did not want. (Laughter.) State provision should be made only for those who were necessitous, and those who needed it should be left to come forward and say they could not provide for themselves. That would leave all the others, all except perhaps four or five million, to look after themselves, and they would look after themselves as regards their health far better than the State would ever do it for them. If a strict line of principle were drawn in that way there would be unity in the profession, because the non-insurance practitioners who had stood out against the Insurance Act would agree to provide for the necessitous, and for them only.

Dr. C. H. PARRING (Insurance Acts Committee) said it was lamentable that speeches should be made like those to which the Conference had just listened. It reminded him of the old days, before the Insurance Acts came in. There was only one thing that could be said for those speakers: they were perfectly consistent; they were up against every extension of national health insurance. But those who had had ten years' experience of the Insurance Act were not going to endorse the words of the "die-hards." Everyone who had worked the Act—and it was endorsed by everybody who went before the Commission—acknowledged that the bulk of the work of the insurance practitioners had been done thoroughly well, and that it was improving year by year as the old prejudice died out. Most of the bad work had been due to prejudice, and all the young men who were coming into practice at present were working their insurance practices in a way which those who watched it were proud of. If the profession set out to oppose the inclusion of dependants they would be in a hopeless position, because it was already said in the draft Memorandum, and everybody admitted, that it had been a good thing for the population as a whole; and everyone who had worked conscientiously in an industrial area knew that the people were getting better attention; the people were coming for the treatment of their small ailments, which was desirable so as to get as near preventive treatment as possible. Patients who came readily were less likely to come with bad illnesses; and the insurance societies acknowledged the fact that it was due to the working of the Insurance Acts that their sickness benefits were going down. It was

admitted that the panel scheme had been a good thing for the 14,000,000 already under it: would not it be better still to get some of the rest of the population treated properly? It stood to reason that if one section benefited the others must. Some people said that there was no need for the dependants to come in, because the poor people got attention provided. But did they? He had had twelve months' experience of a public medical service, and he was speaking from practical experience, not theory. His experience had shown him the tremendous number of the population who were not getting any treatment. ("Hear, hear.") In an ordinary working-class family the man took his beer money and his tobacco money, gave what was over to his wife, and she did all the rest: she even paid his club subscriptions. She provided everything for her husband and for her children, but she did not provide for herself. She could not pay two shillings or half a crown to go and see a doctor and get his advice and a bottle of medicine. He had not found insurance patients and their dependants any more unreasonable than private patients, so that he was not afraid that the new work could not be done. Another thing was that the Government was going to provide these people with treatment; and the question for the ordinary practitioners was whether they preferred that these people should go to the clinics, which had already taken away a good deal of work, or whether they would suggest some other way of dealing with them. They would have only themselves to blame if the Government provided treatment through the clinics. If the Association was prepared to do its share, it had a very strong argument in favour of cutting the clinics off. The only alternative to the co-operation of the Association was the whole-time salaried officer.

Dr. C. E. S. FLEMMING (Salisbury, Swindon, and Trowbridge Divisions) said that according to Mr. Turner's argument, if the scheme was carried through, practically every practitioner would have to become an insurance practitioner, practically the whole population would become insured, and the difference between the insurance practitioner and the non-insurance practitioner would be accentuated. But in the part of the country where he lived they were practically all insurance practitioners, and he had not seen that difference between the men in the town who were consultants and others, in perhaps the larger towns, who were not insurance practitioners. He believed that was one of the bogies that had been set up to frighten them. Mr. Turner had also said that it would mean the taking away of a large number of patients from the non-insurance practitioners; but how many dependants of insured persons were attended by non-insurance practitioners? He could not believe that it was really a large number. ("Hear, hear.") From his own experience he felt sure it was a very small number; and even if that were not so, the class of persons to whom Mr. Turner had referred as not being able to pay, or grudging the payment of the small extra premium required for their insurance, were not remunerative. Most people would admit that at present the dependants of insured persons were not receiving adequate treatment. Mr. Turner must admit it, because he had said that if they were included it would not be possible to give the attendance they would require. The attendance they required was only the attendance they ought to have. On the question of the income limit, Dr. Flemming did not think that was absolutely impossible. It was a difficult question, but at the present time it was carried out in hospitals; it was carried out by local authorities in requiring repayment of fees for attendance in midwifery or treatment of school children, and so on. He did hope that the representatives would remember the words of the Chairman of the Representative Meeting with regard to the work being done by the clinics. It was absolutely essential that practitioners should take their part; otherwise the Government would be compelled to increase the work of the clinics. There were not only the school clinics, where perhaps half a million children a year were attended, but there were also maternity and child welfare, tuberculosis, venereal disease centres, and there was now a proposal to include rheumatism and heart disease, and a long list of diseases, which really meant half the work of the general practitioner. The Association had its chance

now to take a part in the preventive side of medicine, which was of increasing importance every day. (Applause.)

Dr. W. MERV SMITH (Eastbourne Division) said the scheme of proposals embodied in the Memorandum was ideal from a national health point of view; they might even be regarded as a compendium of the collective wisdom of the personnel representative of the various sections of the medical profession included in the composition of the Royal Commission Committee. But, having regard to the arbitrary injunctions, the punitive menaces, and the unreasonable restrictions imposed upon the liberty and the judgement of the practitioner in his terms of service agreement, the offering of the Memorandum at the present juncture would constitute a violation of the conscientious opinion of the insurance practitioners' twelve years' experience of the National Health Insurance medical service. It would be derogatory to the dignity, subversive of the independence, and sacrilegious to the traditions of the profession. What guarantee had they that, should the scheme be accepted and recommended by the Royal Commission, and finally implemented by Parliament in a consolidated Act, those pernicious influences and factors would be eliminated? That ought to be the first consideration of the Conference. Moreover, was it likely, with all due respect to the inestimable services which the Insurance Acts Committee had rendered to insurance practitioners, that in future the Committee would succeed where it had failed in the past? In those circumstances he asked the meeting to take into consideration the various questions arising out of the fundamentals of the Memorandum; and should the verdict of the meeting be in favour of its adoption and presentation, it would carry with it all the elements, potentially, of intercollegiate strife in the ranks of the Association.

Dr. G. W. R. SKENE (Willesden Division) spoke in favour of Mr. Turner's amendment. He was not a "die-hard." He opposed the Insurance Act when it was first introduced. He was not working it, and his intention was never to touch it. But his antagonism to the Act and its working did not debar him from looking at things from a reasonable point of view. (Laughter.) In the few years of smooth working of the Act matters had not yet settled down, and therefore it was not the time to talk about extending its benefits and increasing patients from 15 to over 30 million. His practice was in the slightly better part of an industrial district, and 90 per cent. of the people came under the Act. The majority of the male persons and the workers who went to him were entitled to insurance benefits, but preferred to go to him, for reasons that they themselves knew. (Laughter.) Their dependants also went to him. It was true, of course, that a considerable number of the workers went to their insurance practitioner, but even where the workers went to their insurance practitioner the dependants went to him (the speaker), and probably his experience was not unique. Among the people who were having benefits under the Act there was a considerable amount of dissatisfaction with the treatment they received, because it was not sufficient. The scheme was but a patchwork affair, dealing only with certain kinds of diseases. If the time had come for any extension at all, it was to make the Act a thoroughgoing thing from a medical point of view and to extend the benefits now given to the present insured persons. When they had a scheme which the people would appreciate, taking in all their complaints, rendering specialist, dental, and other services, it would be time to talk about extending it to dependants. There were many difficulties in the way of doing that at present. He was suggesting that for the honour and good name of the profession they should take on a small piece of work and do it thoroughly, and not, by attempting too much, spoil the whole thing.

Dr. C. SANDERS (Stratford Division) said that the previous speaker declared he would have nothing whatever to do with the National Health Insurance scheme, and used that as an argument for voting for the amendment. The man sitting on the five-barred gate knew better how to get the hay up than the man with the rake in the field! He (the speaker) was not a private practitioner, he was not in contract practice, and he was not now a whole-time official, but had had considerable acquaintance with all those pieces

of practical work during his long experience. He pressed two points. First, the Memorandum had gone through the length and breadth of the land, meetings had been held in all constituencies, and the Council of the British Medical Association was in possession of the results. The majority of the profession throughout the country had supported the proposals outlined by Dr. Brackenbury. In the second place, they should not be frightened by the bogey set up by Mr. Turner, that the result of voting as the Council desired would take away the practice of the private practitioner. Mr. Turner was a very able debater, but his experience, he suggested, was almost entirely confined to the West End of London; yet he took upon himself to decide what would happen in industrial areas and in the East End. For forty years the speaker had lived in the East End, and knew more about it than Mr. Turner.

Dr. F. REES (South Essex Division) said they had reached a very important crisis. They had to consider, not only their personal interests, but the good of the profession and those who would come after them. He could not but admire the consistency of men like Mr. Turner, who had opposed the Insurance Act from the beginning, and was against anything savouring at all of a national health service. But the country was now living under a National Health Insurance service, and, once started, it was inevitable that it must progress. Either they should not have touched it, or they should intend to make it as fine a service as was possible. They could not go back. It was not the profession that was insisting on taking in dependants of insured persons, it was the public. If they refused to extend the benefits of the excellent medical service to any other portion of the population, he did not believe they would have the country behind them. But they ought to take the opportunity of trying to mitigate the evils inherent in a State national service—the autocratic, bureaucratic system. He believed they could do it. The Council in the Memorandum called attention to the autocratic position of the Minister of Health, who could wipe men off the panel and had the final authority. The Council pleaded that the doctor taken off the panel should have the protection of the common law. If they adopted the Insurance Acts Committee's plan with regard to the governing of the service—that the governing body of the National Health Insurance service should consist of equal numbers of the members of the Insurance Acts Committee, of the insured persons' representatives, and representatives of the general public, and that the Minister of Health should only act in the capacity of chairman—he believed that would be the best system for them to work under. With regard to regional medical officers, he saw no reason why these offices should provide a large amount of additional patronage for any Minister of Health. The regional medical officers ought to be elected by the men in the region. ("No.")

Dr. A. G. NEWELL (North Middlesex) said that as an insurance practitioner he had no objection to the proposal to increase and perfect the system of National Health Insurance. But their prime duty was to perfect the existing system, to remove all the difficulties, and to give every insured person equal and extended benefits. He did not think the time was ripe for the inclusion of dependants. The economic condition of industry, of the workers, and of the country generally would not stand so heavy a cost, and he doubted the wisdom of putting before the Royal Commission a proposal of such far-reaching importance. It was proposed that the dependants, their wives, and their children should all be taken in free, without contributions, because a large proportion of the workers could not give contributions, and therefore the cost of the treatment of wives and children should be State-borne. That was asking for a State medical service. They practically had no answer to the Government if it said, "We will extend this into a full State medical service." It was not true that at present there was no provision for dependants and children. In certain areas—Southampton and Essex—there was a medical service for dependants. He believed in Essex adults paid 4d. a week, married couples 6d., and for each child, up to three children, 3d. each was paid. At that rate 400 families would give a doctor £1,000 a year. Treatment at clinics was abused by a large number of people who could afford to



## Evidence to the Royal Commission:

pay. They were told in paragraph 5 of the Memorandum that only during the last three years the National Health Insurance scheme had been working smoothly, and yet they were asked to go further into a wide field of treatment for dependants on that short experience.

Dr. TWISS (Devonshire) asked whether there were any documents to show the answers of Divisions, or of the meetings that were held in the Divisions, to the question whether they preferred the extension of specialist services or the inclusion of dependants. The CHAIRMAN said that strictly the point was not relevant, but the information was available when the question of the relative order of services was considered. Dr. FOTHERGILL (Brighton) said that though the Council might have the figures, everybody had not. The CHAIRMAN thought the question was really irrelevant to the particular matter at issue; the figures, however, could be given.

The MEDICAL SECRETARY then read the following question which had been put at local meetings:

"If financial or other circumstances should make it impossible at the same time to insure dependants and also to extend the medical provision for insured persons to include specialist and consultant services, which would the meeting put first: (a) the extension of the provision made for the present insured persons so as to include specialist and consultant services; or (b) the inclusion of dependants?"

The returns showed that 130 favoured the provision of consultant services first, and 60 areas wanted the inclusion of dependants first.

Dr. F. RADCLIFFE (Oldham Division) said he did not want to repeat points that had been raised by Mr. Turner, but he was instructed by his Division to bring forward some other points. If the dependants, whether the whole of them or only the poorer paid, were included under the Insurance Acts, it would make it grossly inequitable as between area and area, because in certain industrial areas the percentage of the population which was insured was very much greater than in other areas. In the textile areas of Lancashire there was a large proportion of female labour; so the whole of those women would have to contribute for the dependants they could never have. (Laughter.) Immediately they became married the children would be dependent on the husbands, so they would be paid for twice over—by their mothers when they were single—(laughter)—or rather their potential mothers before they were married—and later by their fathers. That was grossly unfair.

Dr. H. J. CARDALE (London Panel Committee) said it was a pleasure to meet some of the old "dic-hards" again, whom he thought he should never have seen again except possibly in a museum. (Laughter.) It was also a pleasure to have heard again the word "derogatory," which he had almost forgotten how to spell. (Laughter.) The serious business before the meeting was to decide whether there was any necessity from the point of view of public health for the inclusion of any class of dependants. He did not believe there was a man who had practised in an industrial area who would not say that there was a crying necessity for the inclusion of the dependants of the lower paid workers. ("Hear, hear.") Mr. Turner had suggested that they should go on getting the private treatment of the general practitioner—which they did not get; Mr. Turner suggested no alternative. He (Dr. Cardale) had not heard a word of any constructive proposal put up at all. It seemed to him there were only two ways open: one was to have the people attended under the Insurance Act, and the other was to have them attended under a State medical service. He did not agree that the Council's proposal would lead to a line of demarcation in the profession; he thought it would rather tend to wipe it away.

Dr. J. HOLMES (Bury Panel Committee) said there were three reasons, to his mind, why the draft evidence could not be accepted. It was impossible to decide who were and who were not the lower paid workers. They did not want an extension of the Act to anybody so long as the list of those who were insured was not acceptable. They did not want any extension of work until the conditions under which they did the work were satisfactory to the practitioners. Their attention should be turned to improving the conditions before extending the work.

Mr. H. CAIRNS (Sheffield Division) said that his instructions were to vote against the inclusion of dependants; but he and his co-representative, Dr. Forbes, had a free hand to vote according to the arguments put before the meeting. After hearing the speeches of Mr. Turner and the others in favour of excluding the dependants, he felt that he must vote in favour of their inclusion. (Laughter.) He thought that to refrain from doing something which was worth doing because there was a certain amount of difficulty had a spice of cowardice about it.

Dr. W. I. GORDON (Northumberland Panel Committee), in opposing the proposal of the poorly paid worker was very different from his. Dr. BRACKENBURY interposed to say he had given no definition. Dr. GORDON said that was so—(laughter)—but that was the point he wanted made clear. At present, with half their practice of a private nature, the practitioners had some freedom; but if practically the whole of their practice was panel practice the independence of the profession would be ground them down to 4s. a head.

Dr. J. P. WILLIAMS-FREEMAN (Insurance Acts Committee) said he wished to put the rural aspect of the matter before the meeting. He had heard a great deal from other rural practitioners, and his impression was that on the whole they wished to have the dependants included. There were a great number of dependants in the country who suffered because the doctor was not sent for owing to the inability of the family to pay him. Those were the people who ought to be catered for. It would add to the work, of course; it would add a certain amount of frivolous work, and that kind of thing would have to be guarded against; but it would add also to the necessary work, the proper work, and practitioners would have to adapt themselves to that. That class of work would not absorb the whole of the practice. There would be a fair number of private patients left in the villages and in the agricultural districts. The proposal would bring in for some sort of payment a very large number of dependants of the agricultural labourers for whom at present the practitioner received little or nothing. Then undoubtedly rural practitioners were being threatened, not as much as the town practitioners, but to some extent, by having their proper legitimate family doctor work taken out of their hands into the clinics; and for that reason alone he would be in favour of including the dependants. He believed that the clinic was the thin end of the wedge of a State-salaried service; though he was thankful to believe that such a service in rural districts was practically impossible.

Dr. A. E. LARKIN (Hastings Panel Committee) deprecated the insinuation that had been made that the proposal of the Council was only opposed by non-insurance practitioners. Not half the men were on the panel, and the proposal meant that the panel men were going to "sneak and collar" the patients of the non-panel practitioners. ("No, no.") Perhaps he ought not to say "sneak and collar"; but he wanted to avoid the imputation of such "sneaking and collaring." From a different point of view, his objection to the proposal was that having been on the panel for some years the insurance practitioners ought to recognize that an immense shackle was being bound round their necks. He had in his hand three volumes of inquiries and appeals that had been made under the Insurance Act. The first volume in point of size was a small one; the second was also small, but the latest was much larger. The price of the small one was 9d., and of the large one 3s. If the dependants were included they would have a 5s. book and an extra edition. Furthermore, who was going to pay for the cost of including the dependants—the employers, the workers, or pay, and doctors were in the middle classes, and they could not stand any more taxation. The proposal might be practicable in twenty years, but not at present. (Laughter.) He begged the meeting to exercise its freedom of choice, and to vote at all events against the inclusion of dependants.

Dr. BRACKENBURY drew attention to a sentence which the

Council had deliberately put in at the beginning of Part II:

"The following sections of this Memorandum are not self-contained, and must be read in connexion with each other."

The proposal, therefore, for the inclusion of the lower class dependants was coupled with recommendations for reforms on which everyone was agreed, as to records, as to complaints, as to judgements, as to administration. In paragraph 8 it was stated:

"The medical provision should be available for those persons, and only for those persons, who would be unable to obtain it without the help of the insurance scheme."

Nobody had controverted that principle; but it would be going against that principle if the wives and children of the lower paid insured persons were not included, because obviously they did need attention and help. The proposal went a good way towards preventing a State medical service. In Hastings—thmt favoured town—they had had trouble over the school medical clinic; they had had to help the Hastings men to prevent the school medical clinic being extended in ways which the local men did not like. But if the men there were not going take on the treatment of those who legitimately attended the school medical clinic, the dependants of the lower paid insured persons, then the alternative method must be adopted. In his opinion the profession was faced with a most important crisis. If the inclusion of the dependants of the lower paid insured persons was repudiated, they were defenceless—he was defenceless himself in face of the clinics. He could not go to a place and protest against the taking of this, that, and other work by the clinics if he had to admit that the Association had deliberately repudiated the only alternative it could offer. He would have to go and say, "By all means extend your clinics; the profession has said it will not do the work by the family doctor method; it has chosen the clinic method." If this alternative was repudiated, the only thing for a State which cared for the health of the people was to go ahead with the clinic system. At present the treatment was limited to treatment at the clinic, but if the amendment of Mr. Turner were carried it would tend to sweep away that restriction, and the clinic would have to extend its activities into the household, and attend a child with bronchial pneumonia, for example. If the Association at the present stage said it repudiated an alternative method of providing for the attention to the poorly paid persons, what defence could it have against all the proposals which led directly to the worst form of State medical service?

Sir JENNER VERRALL asked that the Conference might be assured that if it voted for the inclusion of dependants the extension to include specialist services would still be given at least an equal place of importance. Dr. BRACKENBURY said that the Conference might be assured on that point. It was merely a question of priority.

Mr. TURNER said that he had very few remarks to make in reply, because very few speakers had attempted to answer the points he had put up to the Conference. He protested against Dr. Panting's assumption that he (the speaker) was speaking out of merely theoretical knowledge. Dr. Flemming had expressed the view that he had exaggerated the division between the insurance and non-insurance practitioners. The division might not be very marked in the profession, but it hulked largely in the public eye, and that was more important. The non-insurance practitioners were not greatly in evidence in this matter: Dr. Stevens, Dr. Radcliffe, and himself were the only non-insurance general practitioners who went through the mill of the committees which had considered the question. With regard to the statements made by Dr. Sanders as to the voting in the areas, he agreed that the number of areas in favour of the inclusion of dependants was greater than the number of areas opposed to inclusion, but if the expressions of opinion were analysed on the basis of votes in the Representative Meeting there was a majority against inclusion. He also wanted Dr. Brackenbury to remember that nothing they could propose would make the bureaucrats do away with the red tape, and that all the clerical work connected with dependants would be added on to the clerical work practitioners already had to do.

The vote on Mr. Turner's amendment, proposing that dependants be not included, was then taken. There voted in favour of the amendment 75. Owing to the difficulty of counting the hands the number of those voting against could not be exactly stated, but it was announced as approximately 170. The amendment was, therefore, decisively lost.

#### Inclusion of Poor Law Cases.

Dr. BRACKENBURY said that the proposals of the Memorandum were that if financial and administrative difficulties could be overcome the profession would have no objection to the inclusion of Poor Law cases in an insurance system. It was recognized that there were great financial and administrative difficulties—he thought also there might be great legislative difficulties—but all that was said in the Memorandum was that, looking at the subject from the professional point of view, if those difficulties could be overcome and the Government of the day thought that the Poor Law medical service ought to disappear, the profession would have no objection to dealing with that class of persons under an insurance system. The profession made very strong representations to the Government at the time when the Poor Law was being considered, and when it was proposed to carry out many of the recommendations of the Poor Law Commission—which had not been carried out yet—and urged upon the Government an emphatic opinion in favour of separating the medical side of the Poor Law from the other side and of associating the medical side with general public health administration. That representation was made very strongly when the Ministry of Health was being set up, and so impressed the Government that Dr. Addison, then the Minister of Health, read in Parliament a form of words which had been agreed with the British Medical Association and others in which the Government pledged itself to make its first business that of dealing with the Poor Law medical service and the reform of the Poor Law so as to separate the medical service from the rest of Poor Law administration. How, then, were these Poor Law cases to be dealt with if not through the National Health Insurance system? The simple proposal of the Memorandum was that if the difficulties were removed the profession was prepared to accept the inclusion.

Dr. D. O. TWINING (Devonshire Panel Committee) moved:

That this Conference considers that there is a serious objection to the inclusion of Poor Law cases under the National Health Insurance Acts, as such cases are not suitable for treatment at a practitioner's surgery.

He said that his Committee was against the inclusion of patients who at present came under the Poor Law, and that for more than one reason. In Plymouth it was stated that the people who came in under the Poor Law were not the kind of people whom it was suitable to have with other patients in their surgeries. Some were verminous and dirty, and it was necessary to deal with them at separate times. To include them in the same status as the present insured patients was not fair to the latter. Moreover, all who came in under the Poor Law were actual patients, not potential patients—they were all of them ill—and the average number of attendances, which in the case of the ordinary insured person was about six a year, would be in the case of the Poor Law patient about one a week.

Dr. C. E. S. FLEMING asked how many Poor Law medical officers at present in practice did provide separate waiting rooms and surgeries for their verminous and dirty patients.

Dr. T. WOOD LOCKET (Insurance Acts Committee) said that he was in favour of the policy of the Memorandum. He thought it would be necessary to accept Poor Law patients under some insurance scheme. He wanted the Conference to appreciate, however, the position of Poor Law medical officers in country districts. They had been treated in a preferential way in order to retain doctors in such districts. While it might pay the urban men very well indeed to go on a capitation basis, if the preferential treatment hitherto accorded to men in country districts, in the shape of a higher rate paid per unit of population, were abolished it would be necessary to consider very carefully what compensation was to be accorded to the men who were affected.

Dr. A. E. COPE (Westminster and Holborn Division) insisted that attention ought to be paid to the conditions under which any change of this kind was brought about, because even the urban officers were likely to suffer very considerably unless their interests were safeguarded. In any change that took place by Act of Parliament the existing officers would be practically robbed of their superannuation benefits, and would be able to claim only about two years' salary as bonus.

Dr. TWINING said that the easiest way to ensure that the Poor Law medical officers were not hardly treated was to keep the existing system going.

The Devonshire amendment was lost by an overwhelming majority.

#### Medical Records.

Dr. TWINING next moved the deletion from paragraph 6 of the Memorandum of the words "clinical records have been or are being provided which may be made of great service in relation to medical research and public health." He objected to this implicit blessing being given on the cards as they were at present, for he thought them pretty useless.

Dr. DAIN hoped the Conference would not adopt this amendment. Surely it could agree to such a sentence as Dr. Twining wished to delete. The Conference of Local Medical and Panel Committees had objected to the constant recording of "A's" and "V's," but that was not the clinical part of it. The Insurance Acts Committee would be only too delighted if the Government took advantage of clinical records and used them for some practical purpose.

This amendment also was rejected by an overwhelming majority.

#### Voluntary Contributors.

Dr. TWINING's next amendment called for the abolition of all provision for voluntary contributors under the Insurance Acts. He considered that such provisions violated the principles of insurance, owing to the fact that unhealthy persons alone sought to continue under the Act as voluntary contributors after ceasing to be compulsorily insured. He hoped that this point would be borne in mind when the witnesses came to give their evidence before the Commission.

The CHAIRMAN pointed out that what the Memorandum said was that the problem was a small and diminishing one, and it was not proposed to take such drastic steps as Devonshire suggested. Dr. TWINING urged that although the point was small it was very irritating. Dr. DAIN said that the voluntary contributors were so small in number that they scarcely appeared in the scheme at all. He did not think that the witnesses before the Commission ought to be tied down in this particular.

The amendment was lost.

#### Specialist Services.

The CHAIRMAN then stated that paragraphs 1 to 18 of the Memorandum had been implicitly approved. These included the question of persons to be provided for; the next question was the extent of the provision to be made. Here an amendment from the West Bromwich Division was referred to Council for its consideration. It asked that paragraph 20 might be revised to read as follows:

"That benefits be urged in the following order of importance, with special stress on the first and second: (1) domiciliary consultations; (2) ophthalmic, dental, x-ray, and pathological service; (3) out-patients."

Dr. J. S. MANSON (Warrington Division) moved to amend paragraph 24 so that specialist service should include the operations of major surgery performed on insured persons by general practitioner surgeons as well as those by specialist surgeons. It was felt in his area that the general practitioner who undertook an operation would, as matters stood, receive no recognition at all unless he became a specialist. He thought it ought to be made clear to the Commission that general practitioners who did not become specialists or did not want to be recognized as such, and performed urgent and life-saving services on behalf of insured patients, should have proper recognition.

Dr. W. HAIG (Perth Division) did not think that such operations of urgency, which the practitioner must undertake if he was to save his patient's life, ought to be included in this category.

Dr. DAIN said that the representatives of insurance practitioners, in dealing with this question, had always held the position that a general practitioner who specialized in any department should be recognized as such, and entitled to charge fees for such services. The position of the general practitioner who performed specialist services would be fully protected in any arrangements put forward.

The CHAIRMAN said he rather gathered that there was a fine point in this which was not covered by the Memorandum. It was true that in the Memorandum provision was made for the general practitioner serving as a general practitioner and as a specialist in a specialism in which he satisfied certain criteria, but he gathered that Dr. Manson was desirous that an emergency operation undertaken by a practitioner who was not habitually performing major or specialist operations should in some way be brought within the sphere of specialist remuneration. That was a difficult point, and the matter might well be referred to the Council.

It was agreed to refer this matter to the Council.

On the Conference adjourning for the luncheon interval, it was announced that Dr. Brackenbury had had to leave owing to the dangerous illness of his daughter. It was at her special request that he had attended the Conference at all. On the motion of Dr. WALLACE HENRY, seconded by Dr. J. A. MACDONALD, the members passed a vote of sympathy. Dr. Brackenbury was able to attend in the afternoon again for a part of the session.

#### MATERNITY SERVICE.

The first business taken on the reassembling of the Conference was the relationship of maternity work to National Health Insurance, as set out in paragraph 29 of the Memorandum.

Dr. BRACKENBURY said that this was an extremely difficult matter to put clearly, and he was not sure that the paragraph itself put it as clearly as it should. There was a paragraph on this subject about three years ago in a report which was passed unanimously by the Conference of Local Medical and Panel Committees. That paragraph was practically identical with the paragraph which appeared in this place in the original Memorandum. The paragraph afterwards came up in a more comprehensive report to the Representative Body, and the report in which it appeared was approved without opposition, although he was not sure that the Representative Body had its attention directed particularly to it. This paragraph, after reappearing in the original draft of the present Memorandum, was considered by the Divisions, and although in some cases there was serious opposition, a large majority of the meetings throughout the country endorsed the paragraph, some putting in provisos, and in certain respects these had been incorporated in the paragraph now before the Conference with a view to strengthening the position which it set out. One of the difficulties was that professional opinion appeared to vary so enormously in different parts of the country. In large numbers of areas the practitioners regretted any loss of touch with maternity work in its normal aspects. On the other hand, certain legal developments had made it almost dangerous for a man to touch maternity work at all. Therefore it was necessary to be very careful in framing proposals, and to maintain a very broad outlook, bearing in mind that large numbers of doctors in different parts of the country took diametrically opposite views as to the undertaking of this work. On going before a Royal Commission offering evidence on the relationship of maternity work to a National Health Insurance scheme it was necessary first of all to consider the public and general health aspect. It was not desirable that maternity work should be considered a thing apart, unrelated to other national health activities. It was, in fact, an intimate part of national health work, and it ought to be kept in close touch with other health services, whether under the Act or not. At present the provision for attendance on mothers before and after confinement was very partial and incomplete; it was unrelated also to the other activities of ordinary medical practice. Three things at least were felt to be wanting in the provision made. First, it was a national necessity that if there was any abnormality in the woman about to become a mother, that abnormality should be discovered before the time of confinement.

Secondly, any doctor called in to attend the woman at the confinement in abnormal circumstances should, if possible, have had some previous knowledge of the patient; he should not be called in at haphazard by a midwife. Thirdly, the provision should be more complete, so that if the doctor who was attending the patient in an abnormal confinement wanted specialist advice or institutional treatment, this should be forthcoming. What seemed to be most desirable was that before the confinement some doctor should be made responsible for the case, even though he was never actually called into it at all—that was to say, even though the confinement was normal and the preceding and ensuing circumstances called for no medical assistance. These were the proposals of this paragraph. But from the professional point of view certain difficulties arose. It was necessary to put in the forefront the right of any doctor to refuse this work if he did not want to do it, and it was proposed to make that an essential condition of any association between maternity work and the insurance scheme. Then it had to be made quite clear that there should be no question of complaint in connexion with this service going before any other than a purely professional committee. ("Hear, hear.") Further, there must be some assurance of an adequate supply of competent midwives or nurses and of the accessibility when needed of specialist services and institutional accommodation. Those were important provisions, of which some could be met at once, but all could not be met for some considerable time. A great difficulty arose owing to the different points of view in the profession with regard to maternity work. A pregnant woman, whose insurance practitioner had signified that he was not prepared to undertake maternity work, should have an opportunity of choosing another doctor for that purpose, one who was willing to undertake the responsibility for her confinement. It was important that this doctor should, before the contingency arose, be brought into contact with the prospective patient. This could be done either by the woman having a fresh choice during pregnancy—handing herself over as a kind of "temporary resident," as someone had said, to the new doctor, and resuming her place on the list of her former doctor when the puerperal period was over; or by some system of consultation in which the insurance practitioner would remain responsible for the patient up to a certain period before the confinement, and the other doctor would "take over" the patient during the period itself. He confessed that the statement in the paragraph itself pointed almost entirely to the former of these two methods; he himself was more partial to the latter. It was important, if the general principle was accepted, that the Conference should indicate to the Council which of these two methods it preferred, so that the wording of the paragraph could be amended to remove any ambiguity.

Dr. FOTHERGILL asked whether the conditions set out in paragraph 40 (4) and (5), relating to appeals to the Courts in one case and to a duly constituted professional committee in another, would apply to this proposed arrangement. Dr. BRACKENBURY said that these conditions would apply to the whole service, but in the maternity case the tribunal should be a purely professional committee.

Dr. WALLACE HENRY asked whether it would be open to the doctor who had declined to go upon the panel to accept individual cases, in the same way as in private practice. Many men who did not in the ordinary way undertake maternity work were willing to attend special patients. Dr. BRACKENBURY said that that conundrum required a good deal of consideration, but on the spur of the moment he would say that the doctor should be at liberty to do so.

Dr. J. A. MACDONALD asked whether it would be possible for a woman to engage a doctor not on the panel to attend her during the maternity period. Dr. BRACKENBURY replied: Oh, yes.

Sir JENNER VERRALL asked whether he was right in assuming that there would be a special sum available out of which the woman could pay a fee if she chose. Dr. BRACKENBURY said that she would have a cash benefit.

At this point the MEDICAL SECRETARY read a revised paragraph 29 which Dr. Brackenbury had drafted, and which

might be regarded as meeting the case better than the paragraph in the Memorandum:

29. The relationship of maternity work to the health insurance scheme requires special mention. At present attendance in connexion with confinement is expressly excluded from medical benefit, and such public provision as insured women and the wives of insured men can avail themselves of is under other auspices and is not complete in character. The Association is of opinion that attendance in connexion with confinement should be brought into close and proper relationship with medical benefit in general, and that, in addition to a cash payment, provision should be made under the insurance scheme whereby insured women and the wives of insured men should be entitled both to suitable ante-natal supervision and to attendance at confinement and during the puerperal period. It would be no doubt be preferable, if possible, that this attendance should be given throughout by a registered medical practitioner. A large proportion of normal births are, however, at present attended by midwives only, and as this appears generally to be satisfactory an insurance scheme can scarcely be expected to provide more than this in such normal cases. Nevertheless, it is clearly desirable that any abnormality that could be discovered before the actual confinement should have been noted, that any practitioner consenting to be called in by the midwife in any abnormal condition should have had previous knowledge of the case, and that there should be proper means for dealing with any abnormality that may arise. Within these limits, therefore, every maternity case should be in relationship with a responsible medical practitioner, though if the mother asked for the actual attendance of such practitioner at a normal confinement this would be an arrangement outside the insurance provision. Provision for a woman within the insurance scheme would thus be for (a) ante-natal examination (if desired) and supervision; (b) attendance by a registered midwife during normal labour and the puerperal period; (c) attendance by the practitioner of her choice during labour and the puerperal period when his attendance is requested by the midwife under defined conditions or when, as the result of his ante-natal examination, he has declared his personal attendance to be necessary. Professional services under these headings would be remunerated, as in the case of the other extra services, by a special scale of fees.

29a. Certain conditions are absolutely essential if any arrangement of this kind is to be effective. Such conditions are:

- (1) as in 29 of Memorandum.
- (2) as in 29 of Memorandum.
- (3) as in 29 of Memorandum.
- (4) the consultant and specialist service should be available.
- (5) as 29 (4) of Memorandum.
- (6) as 29 (5) of Memorandum.

The procedure would thus be for the insured woman, at an early stage of pregnancy, to consult the insurance practitioner, who, in the great majority of cases, would accept the responsibility for maternity attendance. If the insurance practitioner did not accept this responsibility it would be his duty to arrange for consultation with (and, if desired, ante-natal examination by) another practitioner chosen by the woman, who was prepared to accept this responsibility in accordance with the scheme. If, during pregnancy, at confinement, or during the puerperium, conditions arose which, in the opinion of the practitioner, necessitated consultation with a specialist or institutional treatment, such consultation or treatment would be available under the ordinary conditions of the service as set out in other paragraphs of this Memorandum.

Dr. I. W. JOHNSON (Bury Division) moved:

That in the opinion of this Conference, under any proposed extension of medical benefits, it is neither necessary nor desirable to include medical attendance under any scheme of maternity benefit.

He said that this practically wiped out paragraph 29 in its entirety. He congratulated Dr. Brackenbury on his able pleading for a bad case. The Bury Division took the view that to include the provision of maternity benefit was neither necessary nor desirable. In the action which the Conference had taken that morning, in assenting to the inclusion of dependants, it had affirmed no new principle; it had only extended a service already existing to another class of the community. But paragraph 29 broke new ground. He claimed that there was no necessity for the inclusion of this provision under any extension of insurance work. All the treatment foreshadowed either already existed under arrangements made by the Ministry of Health, or, with a very slight modification, was available through the machinery which they had carefully built up for dealing with maternity cases. Ante-natal work was an exception, but no doubt the Ministry could be persuaded by the representations of the profession to include that also in the present system. Under this proposed scheme a machine which was working smoothly was being sacrificed and another machine constructed about which they knew nothing at all. If this scheme were adopted, innumerable new Regulations would be foisted upon practitioners, all

sorts of penalties and obligations would materialize. It was all very well to say that complaints would go before a professional committee. A sop was thrown out to the non-panel practitioner, but he could not imagine any non-panel practitioner coming in under the obnoxious regulations which would attend the whole subject. These proposals were carried by only a small majority in the country, and he hoped they would be decisively rejected by the present Conference.

Dr. LOCKHART LIVINGSTON (Winchester Division) said that he was instructed to vote against the inclusion of maternity practice. There were three reasons why this should not be included in an insurance medical service; (1) it was already sufficiently provided for under the county council maternity and child welfare schemes; (2) it would introduce bureaucratic methods into midwifery practice; (3) men who had the biggest general practices stated that women would not have these matters arranged for them—they insisted on making their own arrangements.

Dr. GORDON WARD (Kent) thought much of what Dr. Brackenbury had said was doctrinaire rather than practical. The paragraph was such as he would expect to come from a Committee the majority of whose members had no experience of maternity work, but in insurance practitioners another point of view was essential. He denied that there was any demand by the profession for the inclusion of this service, nor did he find any great demand from the laity. Those who had appeared before the Commission had pleaded for the inclusion of the service on two grounds only: one, that they did not see why it should be excluded—these were approved society representatives; and the other—which contained an aspersion on the profession they ought to meet—that as soon as the maternity grant was increased the doctor's fee also rose. He would like to be sure the Committee had figures to put before the Royal Commission to refute the accusation; if they had not, another body had. (Laughter.) He did not believe the ordinary practitioner would willingly take the work at the usual county council fee. In that case the Government would be unable to provide the benefit. It might be that some of the essentials named were not in the power of any national health authority to provide—for example, institutional treatment—and hence it would be very difficult for the Commission to put up to Parliament a scheme containing the Committee's essentials. Coming to the question of the outside practitioner, who, if a doctor refused the service, was for nine months to exercise supervision over his patient, he considered the provision was opposed to the ethics of the profession. It was an amazing suggestion that a woman should be the patient in two different systems. As to fees, no scale was suggested, but it would be difficult for them to ask for a higher scale than that accepted by the county council. That scale, in the opinion of his Committee, was insufficient. The professional complaints tribunal could not, he thought, be defended to the public, who would say, "The doctors have something to hide." Finally, he asked, was the provision to apply to the wives only of those who were less well paid or to wives of all insured persons? In either case they were faced with difficulties. He asked the Conference utterly to reject maternity service as part of the Insurance Act.

Dr. C. E. S. FLEMMING (Bradford-on-Avon) could not agree that there was no demand from the public for an improved midwifery service. During the last year or two there had been an outcry from many public bodies as to the unsatisfactory condition of the present midwifery service. The ante-natal part of the service was to a large extent new, and it was getting into the hands of the public health authorities. It was being done by maternity and child welfare committees. That was exactly what they did not want, or at least, if it got into the hands of such committees, the work should be done by the general practitioner. Most of the work could be properly done in the homes of the patients, or the medical man could judge whether extra apparatus or specialist service was required, and these cases could be referred to the maternity clinic. General practitioners should not allow this new work to slip out of their hands. Actual midwifery work was passing into the hands of the midwives; the proposed scheme would give the doctors an opportunity of retaining

it. He would like to see it made compulsory for pregnant women to see a medical man before receiving maternity benefit. Under the scheme, it would cost an insured person no more to be attended by a medical man than at present, so that he would probably have more cases to attend; in addition, he would have the fee for ante-natal attendance. Dr. Flemming hoped the practitioner selected by a woman to attend her would, if not an insurance practitioner, only be expected to attend her in so far as her pregnancy and illnesses in connexion with it were concerned. He did not think there would be any difficulty in attendance by two medical men.

Dr. MANEL RAMSAY (Insurance Acts Committee) hoped that the meeting would consider not only the interests of the profession but the interests of the insured women. They could not go before the Commission without trying to do something fundamental for the maternity service of the country. No doctor could look on the results as published in *Damo Janet Campbell's* Report with any sense of pride. The fact that maternity mortality figures to-day were no better than twenty years ago showed the urgent need for improvement. The Committee had put forward an adequate scheme. Having done midwifery in public health service, as a general practitioner, and as a specialist, she desired to see the service greatly improved. It was a comparatively small extension to take full charge of the insured person in all phases. She rebutted the charge that they were trying to place the care of maternity in the hands of the midwife. On the contrary, they claimed throughout that the supervision of the pregnant woman, ante-natally and during and after parturition, should be the care of the medical man or woman. All that was needed was that the woman should have a good midwife, and that a doctor was available when she needed one.

Dr. H. D. WOODNORR (East Norfolk) opposed the retention of paragraph 29. If this scheme was put into effect a very much larger number of women would be attended by midwives. He thought that those who had drafted the Memorandum had underrated the work done by insurance practitioners. They did see their confinement cases before attending them. In the country the supply of nurses was inadequate because there was no possible method whereby nurses could be remunerated sufficiently to maintain an adequate supply. District nurses were willing to work under local committees whom they knew, but if they were put under the control of the county council they would jib at once, and one would lose them, and the supply would be still more inadequate. It seemed to be assumed that normal confinements would be invariably attended by midwives. But how were young practitioners to gain the ability to tackle abnormal cases if they were denied experience of the normal?

Dr. J. G. McCUTCHEON (Glasgow) strongly approved of paragraph 29. Much had been said in the course of the discussion that morning as to the possibility of losing patients through their going to various treatment centres. In one of the suburbs of Glasgow—the constituency of Mr. Wheatley, lately Minister of Health—it had been decided to establish a maternity home in association with maternity centres, and at the home there would very likely be a whole-time maternity officer. In Glasgow only 38 per cent. of maternity cases were attended by practitioners. This was largely due to two factors—in the first place, because practitioners did not get paid their fees, and, in the second, because they were busy men and could not afford what were called the "false runs" so frequently occurring in a maternity case both night and day. On the other hand, if a midwife who knew her business was in attendance, the doctor was not likely to get a call unless he was really needed. It had been said by a former speaker that new grounds were opened up under paragraph 29. The only new ground was that a custom which was already in being in large industrial centres was openly acknowledged. If the maternity work was done by a midwife it could surely be left to her to call the practitioner in for anything abnormal, and the patient could be assured to that effect. He asked for strong support of the paragraph.

Dr. T. WOOD LOCKER (Insurance Acts Committee) asked the Conference to think seriously before voting down the proposals in the Memorandum. Women of the insured class



went increasingly to the midwife rather than to the doctor. Under this scheme the doctor would be brought in touch with the insured pregnant woman before the midwife had anything to do with the case. The doctor would have the opportunity of saying whether it was necessary, in view of the condition and history of the woman, that she should have medical attendance at her next confinement, and if it was decided that the presence of a doctor was necessary the midwife would be instructed to send for him as soon as the confinement occurred. Of the two alternatives stated at the end of Dr. Brackenbury's speech, he favoured the second.

Dr. J. W. BOXE (Insurance Acts Committee) said it was with considerable reluctance that he rose to support the motion for the deletion of paragraph 29. He was on the subcommittee which originally considered this question, and consequently he found himself in the painful position of asking for the deletion of a clause which the committee and the Council had approved. He wanted to put his case from three points of view. First, the paragraph was not a scheme, because nobody understood it. Some people thought that it was intended to have two doctors during the period of pregnancy, one of them chosen by the patient for the purpose of the maternity period, and the other the ordinary insurance practitioner, and that both were to act in different capacities on behalf of the woman. The paragraph embodied a series of propositions which had been put in to please a multitude of counsellors, but no concrete scheme. Secondly, this was the first time in the history of the Association that it had repudiated the practice of normal midwifery. It had previously affirmed its belief that normal midwifery, like every other kind of midwifery, should be kept in the hands of the profession; now it was proposed to hand it over to midwives. There were in this country about 54,000 midwives; many of them were ex-domestic servants, who had had six months' training. Thirdly, the insured woman had certain rights. She had the right to have a doctor to attend her in her first confinement. By this paragraph that right was being deliberately taken away from her. ("No.") It was laid down that in her normal confinement provision was to be made for a midwife. Who was going to pay for this? Why, the woman, of course. Supposing she said, "I do not want a midwife, I want a doctor." She could have one, but she must pay for him out of her benefit, and therefore she was paying twice—paying through the capitation fee for the midwife whom she did not want, and paying from her ordinary resources for the doctor whom she did want.

Dr. BRACKENBURY submitted that Dr. Bone had not given any reasons why the whole of paragraph 29 should be deleted, and he had given several reasons why it should be retained. With regard to Dr. Woodroffe, either the paragraph was ambiguous or the explanations had been imperfect, for all the things of which Dr. Woodroffe had spoken in describing the present position seemed to the speaker to be arguments in support of this paragraph. It was stated in the paragraph—more clearly in the paragraph as revised—that the best thing was for the woman to have a doctor. It was desired to encourage her to have a doctor, and this at least was secured, that a doctor was brought into association in every maternity case. All that was said was that in existing circumstances it could not be expected that a doctor should be provided by the insurance scheme for every case of normal confinement. That was a proposition which in the existing state of affairs could not be put to the Ministry of Health. And if every case of normal confinement had to be attended by a doctor he wondered whether that would be really acceptable and agreeable to the profession. It would mean attending three times as many midwifery cases as they did at present. But it was important that the doctor should be brought into association in every maternity case. To ask that the fee for attendance by a doctor in every normal case should be provided by the insurance scheme was altogether too big a demand on the scheme as it existed at present. But the Association's witnesses must not be required to go before the Royal Commission and say that they had nothing to propose with regard to maternity benefit. He begged that the witnesses might be allowed to go and say that the profession wanted certain improvements, particularly with regard to ante-natal work and institutional provision, and

so on, and desired that a doctor should be associated with every maternity case.

Dr. JENKINSON, who had moved the amendment, said that with much that Dr. Brackenbury had stated everybody would agree. There was room for improvement in the maternity service. But by bringing midwifery in any scheme of national insurance the ideal was not going to be achieved.

The Bury amendment was then put to the Conference and lost by a very large majority.

Dr. FOTHERGILL had an amendment expressing the view that the general practitioner part of a complete maternity service should be limited to pre-natal examination with subsequent attendance for that period of time during which, under Clause 8 (3), Part I, First Schedule, of the Medical Benefit Regulations, an insurance practitioner at present is not responsible for treatment. He said that the first time the draft came forward for criticism it was thought that the word "supervision" in paragraph 29 meant a general looking after the pregnancy of the woman; but later Dr. Brackenbury had put forward quite another interpretation, that the maternity doctor was to attend the woman for every complaint or accident, however unrelated to pregnancy, during the period in question, which under this arrangement might be eight or nine months. This would mean that those doctors who did not do maternity work would eventually lose the mothers of families as patients altogether, and with them would go the other members of their household, so that the practitioner would be left to attend only bachelors and spinsters. He wanted to know exactly what Dr. Brackenbury meant by "supervision."

Dr. BRACKENBURY said that it was not a question of what he meant but of what the Conference meant. There were two alternative methods of providing for this pre-natal attendance. If the Conference would indicate its preference the Council could be left to revise the wording of the paragraph. The number of cases in which any question of an alternative would arise would be very small, for in most cases the woman's insurance practitioner would be the practitioner in charge during the pregnancy. It was only when the practitioner refused maternity work that any question would arise. But the issue was this: Did the Conference prefer that from the time the woman recognized that she was pregnant and desired attention in connexion with maternity she would go over entirely for this period to a new doctor of her choice, or that there should be an obligation on the insurance practitioner on whose list she was, but who was not willing to attend her during confinement, to make arrangements to consult with and to inform the doctor whom she did choose to attend her, if necessary, during her confinement of all those conditions which it was important for him to know about? Personally he preferred this second alternative.

Dr. J. A. MACDONALD asked at what period this consultation service would cease. Dr. BRACKENBURY answered: Ten days after the confinement.

Dr. BOXE asked what would happen in a case of premature labour. Dr. BRACKENBURY said that if the woman had a miscarriage before the twenty-eighth week the insurance practitioner would attend her as he now did. If there was premature labour after the twenty-eighth week she would call in the maternity doctor, her insurance doctor having ceased to act in such a contingency.

After some discussion it was thought well, Dr. Fothergill agreeing, to put the question to the Conference in this form: Did it favour (1) the transference of the pregnant woman from the ordinary practitioner's list to another doctor on a maternity list for a specific period for all purposes, or (2) making it obligatory on the insurance practitioner during the maternity period to arrange for the consultative service of another general practitioner who did not refuse to take maternity cases?

The voting was almost unanimously in favour of the second of these alternatives, and it was left to the Council to adjust the wording of the paragraph in view of this vote.

Dr. GEDDON WARD (Kent Panel Committee) moved:

That midwifery services should be provided on the basis that payment therefor is to be drawn from cash benefit payable to the person benefited on such conditions as may be decided.

He regretted that on the spur of the moment he could not

state the conditions, but he thought the cash benefit basis would offer a possible means of reconciling divergent opinions in that Conference. After a short discussion the amendment was lost.

Dr. TWINING brought forward an amendment the purpose of which was to make it quite clear in the Memorandum that any extra services would be paid out of special funds, in order that the general practitioners' fund should remain intact. Dr. BRACKENBURY agreed to add some words to the appropriate paragraph making this quite clear.

#### Complaints.

Dr. GORDON WARD criticized the Memorandum on account of the procedure it suggested for dealing with complaints; he urged that in this respect it was not sufficiently definite. Dr. BRACKENBURY read paragraph 40, and described the procedure laid down. Dr. WARD asserted that the function of the purely professional committee set out in the Memorandum could only be interpreted as that of "reporting" on the case; Dr. BRACKENBURY and others maintained that it meant "judging" or "deciding." An amendment by Dr. WARD was lost.

Dr. L. J. PICTON (Cheshire Panel Committee), referring to the statement in paragraph 40—"that an appeal to the Courts should be possible not only on the ground of improper procedure as at present, but also on the ground that the penalty inflicted was out of proportion to the offence"—said that his Division had always been exceedingly keen on this matter, and they were glad that the principle of an appeal to the Courts was embodied in the Memorandum. But they wished it to be extended, so as to cover not only an appeal for mitigation of penalty, but an appeal on the merits of the case. He moved:

That paragraph 40 (4) be so altered that an appeal may be made not only with the object of mitigation of penalty, but on the merits of the case.

What the Conference had already done, greatly enlarging, as it would if carried out, the scope of the Insurance Act, made the resolution all the more important. Doctors should be placed on the same footing as any ordinary citizen; there ought to be the possibility of an eventual appeal to the Courts. It would seldom be used, but it would confer a sense of freedom and provide a safeguard against harsh, tyrannical action of any Ministry.

Dr. BRACKENBURY said that the Insurance Acts Committee had discussed the matter for more than ten years, always deliberately coming to a conclusion opposite to that of Cheshire. Two considerations, the first not easy to make clear, both important, had always decided the action of the Committee. First, Parliament voted money for the insurance service, and entrusted to a Government department the administrative duty of seeing that it was properly used. They could not do away with the administrative part of the monetary machinery of the country by saying that in all the cases under consideration the Law Courts should have the final say. As long as the Ministry of Health had the duty of seeing that moneys voted by Parliament for the purposes for which they were voted, the Ministry must have a certain amount of quasi-judicial authority as regards the granting to or the withholding of money from authorities which did not use it properly. Secondly, if there was unlimited appeal, it could be used by both parties. At present there was a right to an appeal to the Courts from the decision of the Ministry if the proper procedure had not been adopted. If it was alleged that the Ministry had not carried out the Regulations, or even if it was alleged that the atmosphere of the court or committee in which they were carried out was not a judicial atmosphere, they could go to the Courts and claim that the procedure was irregular and that the penalty should be quashed. The paragraph suggested that, in addition, they should be able to go to the Courts on the ground that the penalty inflicted was out of all proportion to the offence alleged or proved. That was safe, but if they did what Cheshire wanted, and there was an appeal to the Courts on all grounds on all occasions, not only the doctor but the patient could appeal, the approved society could appeal; and they had always come to the conclusion that that would be worse for the profession than if there were no appeal at all. They did

not want to give insured persons or approved societies or officials on their behalf the unlimited right of appealing to the Courts in every case in which a doctor had been acquitted by the Medical Service Subcommittee.

Dr. GORDON WARD (Kent Panel Committee), supporting very strongly the Cheshire resolution, said he was aware of the administrative argument advanced by Dr. Brackenbury, and that held so long as the Minister of Health behaved in a reasonable, tolerable fashion. But if he did not so behave, then it was for them to press for whatever means were available to make him do so. Such means were an appeal to the Courts. That that was necessary in some cases was admitted by the recommendation of the Memorandum, to which Dr. Brackenbury subscribed. The administrative considerations no longer sufficiently protected them, and he cited a case which was not one of excessive penalty or involving a point of law, and yet one that ought to be brought before the Courts.

Dr. PICTON replied that every word Dr. Brackenbury had said about the administrative difficulty, and the Ministry of Health being responsible to Parliament, operated equally against the recommendation of the Council, that the appeal should be for mitigation of penalty. His argument was either true in both cases or not at all.

The amendment was then put and lost, 65 voting in its favour, and 79 against.

#### Administration.

Dr. TWINING (Devonshire) moved to delete the final clause in paragraph 44, which stated that county and county borough councils were probably the least unsuitable bodies to have the administration of health services. Those for whom he spoke preferred Insurance Committees.

Dr. D. F. TODD (Durham Panel Committee) supported this amendment. County and county borough councils were the worst possible bodies. In a great part of the country they were constituted on political lines. He preferred to keep the Insurance Committees, though these should be reconstituted in certain respects. Many medical officers of health, again, were all that could be desired, but there were a large number of others who had no knowledge of or sympathy with general practice.

Dr. H. J. CANDALE (London Panel Committee) could not endorse this laudation of Insurance Committees. They were bodies with a large number of members who were supposedly representative of insured persons, but who really represented the bureaucratic staffs of approved societies. In his own experience the only lay members of the Insurance Committee who were at all sympathetic with the medical profession were the representatives appointed by the county councils.

Dr. BRACKENBURY asked whether it was really proposed by those who loved Insurance Committees so much that they should have, what was set out in these paragraphs, the control of all public health administrative matters. If there was to be a unification of administration of all health services, including the insurance service, the administration must be ultimately in the hands of one body. The Insurance Committees consisted largely of officials of approved societies, together with a number of representatives of county or town councils. The policy of unification had been endorsed by the Council, the Representative Body, and all bodies within the profession. The proposal was not that these authorities, the county or town councils, should have unlimited power, but that they should act through a statutory committee upon which there would be proper representation of all interests concerned, including the medical profession.

The amendment by Devonshire was lost by a very large majority.

Dr. O. R. M. WOOD (West Suffolk Division) moved, in connexion with paragraph 46, that the general administrative officer should be an officer who had had experience of general practice.

Dr. MORTON MACKENZIE (Reigate Division) supported this amendment. The Memorandum, he said, was not very clear on this point. If there was going to be any question of control of the insurance service it should be in the hands of a man who had had some recent experience of general practice.

Dr. FORTMEYER said that regard must be had to the fact that this was an endeavour to get the whole of the health services under one control. If the public health services as at present existing were to be taken in it must be recognized that the medical officer of health had a status. It was laid down in the Memorandum that with the medical officer should be associated the chairman of the local medical committee in its new form, a man who would be a clinician, and any reasonable medical officer of health who wanted an efficient service would be bound by his advice on clinical questions.

The CHAIRMAN said that this chief administrative medical officer would supervise all the work under the unified health services. Some districts in the country might be unfortunate in their experience, but, generally speaking, the public health service contained most admirable officers.

The West Suffolk amendment was lost by a considerable majority. An amendment by Devonshire similar in effect was also lost.

#### Certification.

Dr. H. C. JONAS (North Devon Division) moved:

That this Conference is of opinion that paragraphs 50 and 51 do not adequately express the objections of the medical profession to the present certification rules obligatory on insurance practitioners, and therefore desires the Memorandum of Evidence to be amended accordingly.

Dr. Jonas said that once again the question of certification was going to suffer through coming on at the very end of the agenda, but, anxious as members were to get away, he did wish to make out a case for the general revision of the certification rules. The rules as they stood at present were objectionable in several ways. If they were to be kept properly they necessitated a knowledge on the part of the insured person as to their exact nature, and at present no effort was made to acquaint the insured person with the rules. Even the higher officials of approved societies did not know so much about the certification rules as the medical members of Insurance Committees. A great deal was said about these certificates being a check on the funds of the societies. To hear people talk one would imagine that the proper object of those funds was that approved society reserves might be accumulated. But actually the approved societies were in the position of public trustees for insured persons, who were entitled to the money as soon as they became sick. He went on to argue that the certificate was twofold. In the first place, it was a medical opinion that a person was suffering from some condition, and in the second place, a non-medical statement, "I have to-day examined." Nearly all the complaints about certification related to this non-medical part of the certificate. By the certification rules the doctor was obliged to see the patient every time the certificate was given. These regulations as to certificates kept many doctors from entering the insurance service. He urged that the whole question of certification was suitable for inquiry before the Commission.

The CHAIRMAN said that it was obvious that Dr. Jonas and his constituents had taken a great deal of trouble over this matter. Would Dr. Jonas be content with an assurance that the Council, in finally drafting the Memorandum, would take this matter into consideration and see what safeguards could be incorporated?

Dr. Jonas said he was willing to accept that assurance. He maintained that it was quite possible for a medical man to say that a person was unfit for work even though he had not seen him on that actual day, nor perhaps for a week or a fortnight previously. Dr. Jonas, who was given an extension of time by the Conference that he might elaborate his point, went into the matter somewhat exhaustively, and submitted to the Chairman a document which he and others in his area had drawn up. (See SUPPLEMENT, January 31st, 1925, p. 53.)

Dr. J. CASTLEY (Salford Panel Committee) supported the North Devon resolution, as also did Dr. WILLIAMS-FREEMAN, who said that he believed Dr. Jonas had behind him all the rural practitioners of the country. Often they found themselves obliged to go and visit a man eight miles away to give a weekly certificate, simply to satisfy the approved society.

The amendment was referred to the Council.

#### Age of Entry into Insurance.

Dr. J. M. MITCHELL (West Bromwich Division) moved a resolution expressing the view that the age of admission to medical benefit should be 14 instead of 16 years, thus avoiding the hiatus of two years between the school medical service and the insurance service. Fourteen years was a very usual age for youths to start work, and it was at this time that they were liable to develop scoliosis or incipient phthisis or other conditions.

Mr. BISNOR HARMAN took exception to the resolution, which appeared to him to state that 14 years was considered a suitable age for a lad to go to work. He dissented from that view. By making the age 16 there was an implication that 16 was the earliest age. To prevent any gap, would it not be well simply to say that a worker should be entitled to medical benefit as soon as he or she commenced work?

Dr. J. HOLMES (Bury) spoke, as a certifying surgeon, of the many slight but potentially serious ailments he had seen in young persons under 16 which certainly required the attention such persons would receive were they eligible for national insurance and placed upon an insurance practitioner's list.

The CHAIRMAN asked whether Dr. Mitchell would accept as an alternative to his resolution: "That a worker should be entitled to medical benefit as soon as he or she commences work, irrespective of the question of age."

Dr. MITCHELL agreed, and this was accepted with one dissentient.

#### Limitation of Lists.

Dr. M. W. RENTON (Kent Panel Committee) had a motion which asked that any proposed legislation controlling further the limitation of medical practice (as, for example, limitation of lists under National Insurance), and which interfered with the accepted principle of the medical profession, should be opposed, and that there should be free choice of doctor and patient respectively. He could find no reference in the Memorandum to any means for safeguarding general practitioners from curtailment of legitimate practice. It was not so much the mere size of the list as the personal factor, the nature of the practice, and the free choice of doctor which determined efficiency or otherwise. His Committee desired to have a clear expression of opinion from the Conference as to whether it approved or disapproved the limitation of the rights of the practitioner to reap the fruits of his earlier efforts, his experience, and his industry.

Dr. J. C. MATTHEWS (Liverpool Division) said that his Division had intended to put up a similar amendment. At the meeting in his area the inclusion of dependants was only accepted on the understanding that limitation of lists would be abolished in the future. It was disappointing to find that there was no reference to this in the Memorandum. It was quite clear, in any event, that the limiting number would have to be increased.

The CHAIRMAN said that Dr. Renton appeared to propose that beyond the existing limitation there should be no further limitation (that is, with regard to dependants), whereas Dr. Matthews wished to abolish all limitation if dependants were included.

Dr. MATTHEWS said that his Division would be content if the Council would take the question into consideration, and, Dr. RENTON speaking to the same effect, this was agreed to as a reference to the Council.

#### APPROVAL OF THE MEMORANDUM.

The Conference then, by a unanimous vote, approved the revised Memorandum of Evidence as amended, and requested the Council of the British Medical Association to place the same before the Royal Commission as the considered opinion of the medical profession of Great Britain upon the matters contained therein.

It was agreed that if there were a full report of the Conference in the SUPPLEMENT it would be unnecessary to print and circulate the minutes, the settling of which was left to the Chairman and Medical Secretary.

A hearty vote of thanks to the Chairman (Dr. Bolam) for the businesslike way in which he had conducted the proceedings was proposed by Dr. D. F. TOWN, and accorded by acclamation.

## SPECIAL REPRESENTATIVE MEETING.

### AUTHORIZATION OF REPRESENTATIVES TO ATTEND CONFERENCE.

THE Special Representative Meeting of the British Medical Association, called on the requisition of the Council, was held in the Central Hall, Westminster, on the morning of Thursday, March 12th, under the chairmanship of Dr. H. B. BRACKENBURY. Its single purpose was to authorize the members of the Representative Body to attend a Conference the same day in association with representatives of Local Medical and Panel Committees to consider the Memorandum of Evidence proposed to be submitted to the Royal Commission on National Health Insurance.

The CHAIRMAN said that a notice of amendment had been given by Dr. Fothergill and Mr. Turner, and after consideration he had ruled it out of order. It had now been sent up again.

Dr. FOTHERGILL, on a point of order, said that it was unfortunate that the Chairman should rule a motion out of order before some explanation was forthcoming from the mover and seconder.

The CHAIRMAN said that this was quite contrary to the ordinary procedure of public business. If a motion which was inherently out of order was allowed to be discussed by its mover and seconder before it was ruled out of order very little progress would be made. But this was a serious matter. A letter had been sent to him by Dr. Fothergill, which was to him painful and extraordinary; it stated that in ruling this amendment out of order he had made himself the partisan of a group of which he was an active member, and that the writer could not see how the members of the Representative Body could have any confidence in their Chairman, whose duty it was to conduct the business without fear or favour. Dr. Brackenbury said that anybody had a right to object to his judgement, but if there was any body of opinion, even a small body, among the representatives in accordance with these views, there would be only one course for him to take. The motion which had been sent in was to the effect that the Representative Meeting should reassemble immediately after the Conference in order to consider the Conference decisions and to determine what action might be taken. He considered, however, with a sincere desire personally to have such a motion on the agenda and get it determined by the meeting, that under By-law 46 he had no option save to rule the amendment out of order. That by-law stated that the business of the meeting must be confined strictly to the specific purpose for which it was called—namely, to authorize the members to attend the Conference, not to authorize the members to review the decisions of the Conference. He had no option in view of that by-law but to rule out the amendment, and because he had done so he was accused by an important and influential member of the Representative Body of an abuse of his position. The question was whether that was endorsed by any considerable section of the meeting. (Loud cries of "No.")

Dr. P. MACDONALD asked whether it would be in order to propose a resolution of confidence in the Chairman. ("Hear, hear.")

Dr. FOTHERGILL asked the opinion of the Solicitor on the point at issue.

The CHAIRMAN said that he did not think this was a question for the Solicitor, though he was quite willing for him to answer it. He took full personal liberty in ruling this motion out of order. The amendment was in fact to call a Special Representative Meeting for a different purpose.

The SOLICITOR (Mr. W. E. HEMPSON) said that he had seen the correspondence which had taken place on this matter. He had considered the position in the light of By-law 46 and also By-law 67. The concluding paragraph of the latter by-law was that no business should be transacted at a special meeting other than that for which the meeting was called. In By-law 46 the terms were drawn very much closer, and, he thought, intentionally so. It was laid down that no business

should be dealt with by a Special Representative Meeting other than that for which it was specifically called. These imperative words had to be weighed in the light of the notice of motion which had been placed on the agenda by the Council. The motion or amendment twice handed in by Dr. Fothergill appeared to him to be entirely outside the terms of the motion which the meeting was summoned to consider, and to bring in definitely fresh material. The word "specifically" used in the by-law was a word of great significance. In his view the by-law made it impossible for the amendment to be allowed.

Dr. FOTHERGILL said that in view of the Solicitor's statement he wished to withdraw his amendment at once, and to apologize to the Chairman for the indiscreet way in which he wrote that communication. (Loud applause.)

The CHAIRMAN said that he was very much obliged to Dr. Fothergill for that expression. It was painful to him to begin his chairmanship of the Representative Body with a collision with a member, especially one so jealous of the rights and privileges of the Representative Body as Dr. Fothergill. At this time particularly it was necessary to emphasize agreements rather than differences. He accepted fully what Dr. Fothergill had said. He could assure Dr. Fothergill that he (the Chairman) was equally jealous of the rights of the representatives.

Mr. E. B. TURNER asked for some guidance as to the nature of the Conference. Was it a fact that it was called simply for consultation, and that it had not the slightest power to determine or alter the policy of the Association?

The CHAIRMAN said that Mr. Turner had correctly stated the position. The Memorandum of Evidence was the Council's document. The Council had been very anxious throughout to take responsibility for the giving of that evidence, but it had equally desired to have the opinion of the profession behind the evidence to be put forward. The programme which it had laid down whereby that evidence was drafted, and then submitted to the widest possible criticism, and finally adjusted in the light of that criticism, was designed with that end in view. The Conference had nothing to do with the policy of the Association. The Representative Body would have a perfectly free hand hereafter. The purpose of the Conference was simply to afford guidance to the Council as to the feeling of the profession.

Dr. FOTHERGILL asked whether the Representative Body as such had a policy with regard to the extension of the Acts to dependants and also with regard to the maternity service, and if, in the course of the Conference, a vote should be taken which negatived this policy, what would be the position of the Council in presenting the evidence?

The CHAIRMAN said that there was no resolution of the Representative Body dealing with the question of dependants. With regard to the maternity service, there was a resolution endorsing a paragraph in a report which was almost exactly on the lines of the paragraph on maternity service in the present Memorandum. That, however, was adopted, not as a special resolution, but as part of a report which was approved. But whatever happened to this evidence, the Association would have a free hand in determining matters of policy, although, no doubt, should the arrangements which had been suggested in evidence be recommended by the Commission as they stood and embodied in an Act of Parliament it would be difficult for the Association to do other than support it; even in that event it would not be technically the policy of the Association. The policy which was to govern a particular situation would have to be decided hereafter. The Royal Commission had to inquire into what, if any, alterations, extensions, and developments might be made in the scheme of National Health Insurance, and this evidence merely stated what the Association considered desirable if it could be obtained. The suggestions were, of course, accompanied by various provisos and conditions, and those who put forward the evidence were in no way committed to any suggested scheme unless it was accompanied by all the provisos and conditions set out.

Dr. J. STEVENS: Will it be within the power of the Association at a future date to change its mind?

The CHAIRMAN: Absolutely.

Mr. TURNER wished to ask the Chairman of Council whether, should the Conference send up decisions contrary to the declared policy of the Association with regard to contract practice, and the Council submitted that as evidence to the Royal Commission, the Council would not be going beyond its powers as a purely executive body. He wished also to ask the Solicitor whether in those circumstances an injunction would lie against the Council. He had a letter from a member who was prepared to ask for an injunction.

The CHAIRMAN OF COUNCIL (Dr. Bolam) thought that the maxim "wait and see" was appropriate in the circumstances. Mr. Turner had supposed a situation which probably would not arise. If it did arise Mr. Turner would be one of the members of the Council who would have to decide on the action to be taken. The Council was bound by the decisions of the Association. If it did not abide by those decisions it took its life in its hands. The Council, however, was not the executive body of the Conference—there must be no mistake about that. The Council was endeavouring to elicit the opinion of the profession throughout the country by taking a new and, he thought, an advisable course of procedure. It would be guided by the opinion of the Conference, but not bound by it in the sense in which it was bound by the opinion of the Representative Body. Mr. Turner might be satisfied that the Council would endeavour to do the statesmanlike thing.

The CHAIRMAN reminded the meeting that the Conference of Local Medical and Panel Committees had its own executive body, the Insurance Acts Committee, fortunately in intimate association with the Council, and the last thing the profession wanted was that the Representative Body should go one way and the Conference of Local Medical and Panel Committees another. That would be a supreme disaster. This would be a Conference representative of the whole profession such as had never been got together before. It was necessary that they should try to see one another's point of view and not stand too much upon technicalities as to the position of the Representative Body on the one hand or of the Panel Conference on the other. He then put the motion authorizing the members of the Representative Body to attend the Conference in association with representatives of Local Medical and Panel Committees to consider the Memorandum of Evidence.

The motion was carried unanimously, and this concluded the business of the Special Representative Meeting, the Conference immediately following, as reported on the previous pages of this issue of the SUPPLEMENT.

## British Medical Association.

### CURRENT NOTES.

#### Fees for the Examination of Emigrants.

WHEN fees for the medical examination of emigrants were arranged after consultation with the officials at the Overseas Settlement Office, it was agreed that the charge should be 10s. 6d. for an adult, and 2s. 6d. for a child under 16 years of age; but in order that the aggregate charge in a case where a family was going overseas should not be too high it was agreed that not more than two children in a family should be charged for. It was believed that all concerned understood that this would mean a maximum charge of 26s. for a man and his wife and children under 16. The following statement in regard to fees was designed to give effect to the agreement:

The fees for the medical examination of migrants should be 10s. 6d. for each person over 16, and 2s. 6d. for each child under 16 years of age, and not more than two children should be charged for in any one family.

The statement is evidently capable of two interpretations. One is that it includes all children whatever their age, the other that it only includes children under 16. Local emigration officers have in some instances insisted that 26s. is the maximum charge for any family with more than two children whatever their age, and refunds of a higher charge have been demanded.

The matter has been brought to the notice of the Chief Medical Officer, and in order to remove all misunderstanding he has promised to have the wording altered so as to read as follows:

- 10s. 6d. for an adult, 16 years of age or over.
- 2s. 6d. for each child under 16 years, provided their parents or guardian are sailing with them.
- Not more than two children under 16 years of age in one family to be charged for.
- Applicants under 16 years proceeding alone will be charged 10s. 6d.

This will make it quite clear that the maximum of 26s. only applies where children under 16 are concerned. Should any difficulty arise before the new forms are issued members of the British Medical Association are requested to communicate at once with the Medical Secretary, who will take the matter up with the Overseas Settlement Office.

## Association Notices.

### SCHOLARSHIPS AND GRANTS IN AID OF SCIENTIFIC RESEARCH.

#### SCHOLARSHIPS.

THE Council of the British Medical Association is prepared to receive applications for Research Scholarships, as follows:

1. An ERNEST HART MEMORIAL SCHOLARSHIP, of the value of £200 per annum, for the study of some subject in the department of State Medicine.
2. THREE RESEARCH SCHOLARSHIPS, each of the value of £150 per annum, for research into some subject relating to the Causation, Prevention, or Treatment of Disease.

Each Scholarship is tenable for one year, commencing on October 1st, 1925. A Scholar may be reappointed for not more than two additional terms. A Scholar may hold a junior appointment at a University, Medical School, or Hospital provided the duties of such appointment do not interfere with his work as a Scholar.

The conditions of the award of Scholarships are stated in the Regulations, a copy of which will be supplied on application to the Medical Secretary of the Association, 429, Strand, London, W.C.2.

#### GRANTS.

The Council of the British Medical Association is also prepared to receive applications for Grants for the assistance of research into the Causation, Treatment, or Prevention of Disease. Preference will be given, other things being equal, to members of the medical profession and to applicants who propose as subjects of investigation problems directly related to practical medicine.

The conditions of the award of Grants are stated in the Regulations, a copy of which will be supplied on application to the Medical Secretary of the Association, 429, Strand, London, W.C.2.

#### Applications.

Applications for Scholarships and Grants for the year 1925-26 must be made not later than Saturday, June 6th, 1925, on the prescribed form, a copy of which will be supplied by the Medical Secretary on application.

Applicants are required to furnish the names of three referees who are competent to speak as to their capacity for the research contemplated to whom reference may be made.

ALFRED COX,

Medical Secretary.

March 21st, 1925.

### BRANCH AND DIVISION MEETINGS TO BE HELD.

**BIRMINGHAM BRANCH: NUNEATON AND TAMWORTH DIVISION.**—At the meeting of the Nuneaton and Tamworth Division, to be held at the Nuneaton General Hospital on Wednesday, April 1st, Mr. C. A. Raison, F.R.C.S. (Birmingham), will read a paper on the acute abdomen in the child.

**METROPOLITAN COUNTIES BRANCH: CITY DIVISION.**—A meeting of the City Division will be held at the Metropolitan Hospital, Kingsland Road, E.8, on Tuesday, April 14th, at 8.30 p.m., when Dr. H. Maclean will read a paper entitled "Diabetes—its treatment: insulin up to date."

**METROPOLITAN COUNTIES BRANCH: KENSINGTON DIVISION.**—The Kensington Divisional dance will be held at the Kensington Town Hall on Thursday, May 7th. All money over after expenses have been paid will be handed to the Royal Medical Benevolent Fund and the Royal Medical Benevolent Guild. Further details will appear later, or can be obtained from the Honorary Secretary, 20, Upper Phillimore Place, W.8.

**METROPOLITAN COUNTIES BRANCH: SOUTH MIDDLESEX DIVISION.**—A meeting of the South Middlesex Division will be held at St. John's Hospital, Twickenham, on Wednesday, March 25th, at 8.30 p.m., when Dr. C. E. Herington will open a discussion on the early diagnosis of syphilis.



**MIDLAND BRANCH: CHESTERFIELD DIVISION.**—A meeting of the Chesterfield Division will be held at the Maternity Hospital, Chesterfield, on Friday, April 3rd, at 8.30 p.m., when Dr. A. E. Cow, physician to St. Bartholomew's Hospital, will deliver a British Medical Association Lecture on some recent advances in endocrinology.

**NORFOLK BRANCH.**—A meeting of the Norfolk Branch will be held at the Norfolk and Norwich Hospital at 3.30 p.m. on Wednesday, April 15th, when an address will be given by Dr. William Norwood East, Chief Medical Officer of H.M. Prisons Commission, on the interpretation of some sexual offences.

**NORTH OF ENGLAND BRANCH: NORTH NORTHUMBERLAND DIVISION.**—A meeting of the North Northumberland Division will be held in the Infirmary, Alnwick, on Tuesday, March 24th, at 3 p.m., when an address, entitled "The early diagnosis of nervous diseases," will be given by Dr. George Hall, and illustrated with special lantern slides. A large attendance of members is hoped for. The business agenda of the meeting will be issued later.

**NORTH OF ENGLAND BRANCH: SUNDERLAND DIVISION.**—A scientific meeting of the Sunderland Division will be held at Highfield Hospital, Sunderland, on Friday, March 27th, at 7.30 p.m. (not Wednesday, March 25th, as previously announced). Scientific meetings will also be held at the Durham County and Sunderland Eye Infirmary, Sunderland, on Wednesday, April 22nd, at 7.30 p.m., and at the Borough Sanatorium, Hylton Road, Sunderland, on Tuesday, June 23rd, at 3.30 p.m.

**OXFORD AND READING BRANCH: OXFORD DIVISION.**—The next meeting of the Oxford Division will be held at the Radcliffe Infirmary on Wednesday, March 25th, at 2.30 p.m. Clinical cases.—Dr. A. M. H. Gray: The diagnosis and treatment of some common diseases of the skin; Dr. Collier, jun.: The diagnosis of the enteric group by laboratory methods.

**SOUTH WALES AND MONMOUTHSHIRE BRANCH: SWANSEA DIVISION.**—A meeting of the Swansea Division will be held at the General Hospital, Swansea, on Thursday, March 26th, at 8.15 p.m., when a series of short papers will be read.

**SURREY BRANCH: CROYDON DIVISION.**—A meeting of the Croydon Division will be held at the Croydon General Hospital on Tuesday, March 31st, at 8.30 p.m., when Dr. H. W. Barber will deliver an address on the etiology and treatment of some common diseases of the skin.

**SURREY BRANCH: GUILDFORD DIVISION.**—The Guildford Division will hold a clinical meeting in the wards of the Royal Surrey County Hospital, Guildford, on Thursday, April 2nd, at 4 p.m.; ten at 3.45.

**YORKSHIRE BRANCH: WAKEFIELD, PONTEFRAC, AND CASTLEFORD DIVISION.**—A meeting of the Wakefield, Pontefract, and Castleford Division will be held at the Bull Restaurant, Westgate, Wakefield, on Thursday, April 23rd, at 8.30 p.m., when Mr. J. F. Dobson, F.R.C.S. (Leeds), will read a paper on urological diagnosis (illustrated with lantern slides). Supper at 8 o'clock.

### TABLE OF DATES.

Mar. 25, Wed.	Council Meeting
Mar. 30, Mon.	Nomination papers available for election of 24 members of Council by grouped Home Branches, 2 Public Health members of Council, and 4 Representatives of Public Health Service.
April 11, Sat.	Annual Report of Council.
April 25, Sat.	Last day for receipt of nominations for election of 24 members of Council by grouped Home Branches, and of 2 Public Health members of Council, and 4 Public Health Service Representatives.
May 9, Sat.	Publication in SUPPLEMENT of nominations for election of 24 members of Council by grouped Home Branches, 2 Public Health members of Council, and 4 Public Health Service Representatives. Voting papers posted.
May 12, Tues.	Independent motions for A.R.M. Agenda must be received at Head Office by this date.
May 16, Sat.	Last day for receipt of voting papers for election of 24 members of Council by grouped Home Branches, 2 Public Health members of Council, and 4 Public Health Service Representatives.
May 30, Sat.	Publication in SUPPLEMENT of results of Council elections by grouped Branches, and of election of members of Public Health Service in Representative Body by Nomination papers available for election of 12 members of Council by grouped Home Representatives must be received by this date.
June 4, Thurs.	Council Meeting
June 10, Wed.	Meetings of Constituencies must be held between this date and July 17th to instruct Representatives.
June 27, Sat.	Supplementary Report of Council appears in SUPPLEMENT.
July 3, Fri.	Amendments and riders for issue in A.R.M. Agenda must be received by this date.
July 17, Fri.	Annual Representative Meeting opens at Bath. Nominations for election of 12 members of Council by grouped Representatives must be received (at A.R.M., Bath) by this date.
July 18, Sat.	Annual Representative Meeting, Bath.
July 20, Mon.	Annual Representative Meeting, Bath.
July 21, Tues.	Bath, President's Address.
July 22, Wed.	Council, Meetings of Sections, Conference of Honorary Secretaries, Bath.
July 23, Thurs.	Meetings of Sections, etc., Bath.
July 24, Fri.	Meetings of Sections, etc., Bath.

ALFRED COX, Medical Secretary.

## Meetings of Branches and Divisions.

### NORTH LANCASHIRE AND SOUTH WESTMORLAND BRANCH: FURNESS DIVISION.

A MEETING, to which all medical men in the Furness area had been invited, was held in the Masonic Hall, Barrow, on March 4th, when Dr. ALEXANDER was in the chair.

The revised draft Memorandum of Evidence to be submitted to the Royal Commission on National Health Insurance was discussed at some length. The decisions of the previous meetings to the answers to the questions were confirmed. The Executive was authorized to hold a joint meeting with the Barrow Panel Committee to consider the agenda of the Conference in London and instruct the representatives thereon.

### YORKSHIRE BRANCH: WAKEFIELD, PONTEFRAC, AND CASTLEFORD DIVISION.

The sixth of the seven monthly lecture meetings, arranged by the Wakefield, Pontefract, and Castleford Division for the present winter session, was held at Wakefield on March 12th, under the chairmanship of Dr. J. J. W. CAMPBELL (Castleford), when, in the unavoidable absence through illness of Mr. E. W. Bain, F.R.C.S. (Leeds), who was to have read a paper on middle-ear suppuration, Dr. P. L. STRICKLAND, bacteriologist to the West Riding County Council, read a paper on the limitations of routine laboratory diagnosis.

Dr. Sutherland pointed out the need for greater appreciation of the limitations of routine laboratory diagnosis, and suggested that this would be helped by a closer association between clinical and laboratory work. He then illustrated his subject by numerous and apt references to diphtheria, tuberculosis, typhoid, and paratyphoid fevers, syphilis, gonorrhoea, urinary and blood examinations, and showed the fallacies which might ensue from a too literal acceptance of reports from laboratories.

The CHAIRMAN, Drs. BUTLER, GIBSON, READER, TWIST, and others took part in the subsequent discussion, and it was agreed that no more important or useful paper had ever been read to the Division.

## GENERAL MEDICAL COUNCIL.

### EXECUTIVE COMMITTEE.

THE minutes of a meeting of the Executive Committee of the General Medical Council held on February 23rd, under the chairmanship of Sir DONALD MACALISTER, have been issued.

### Reciprocity with Italy

The President, who had explained in his address at the last session of the Council (SUPPLEMENT, November 25th, 1924, p. 201) the position with regard to reciprocity with Italy, now reported that the Italian Government had forwarded a draft agreement for the consideration of the British Government, the purport of which was quite satisfactory, though he had suggested some verbal changes. The proposed agreement is that registered medical practitioners holding diplomas issued by licensing bodies in Great Britain, in the Colonies, in India, and in British possessions between which and Great Britain reciprocity exists, may be inscribed on the professional registers of the "Ordini dei Medici" in Italy, and may practise in that country and its colonies without further examination or the necessity for obtaining new qualifications. Similarly practitioners holding diplomas issued by the Italian institutes and legally entitled to carry on practice can be inscribed in the Foreign List of the British Medical Register and practise in Great Britain and in any part of the British Empire where reciprocity exists, again without further examination or new qualifications. It was understood that the agreement will shortly be ratified. The Executive Committee expressed its satisfaction at the approaching successful conclusion to the negotiations.

### Irish Free State Medical Act.

We reported in the JOURNAL of February 21st (p. 383) that the Irish Free State Medical Bill, which provides for the continuance of the existing arrangements for medical registration, had passed through its final stages in the Senate. It has now been passed by both Houses of the Legislature, and on the day on which the Privy Council made a communication on the subject to the General Medical Council (February 21st) was expected to be presented to the Governor of the Free State for signification of the King's assent, so that presumably it is now law. A draft bill will be introduced into the Imperial Parliament on the subject. A copy of the new Irish Act was laid before the Committee. Its title is "An Act to authorize the General Council established by the Medical Acts to continue temporarily to exercise jurisdiction and authority under those Acts in respect of medical practitioners in Saorstát Éireann"—that is, the Irish Free State—and its provisions are as follows:

BE IT ENACTED by the Oireachtas of Saorstát Éireann as follows:  
1. Rights, etc., of Persons Registered and of Registration Authorities under Medical Acts.—(1) All persons registered under the Medical Acts (whether admitted to the register before or after the passing of this Act) shall in Saorstát Éireann have the like

rights, privileges, and immunities and be subject to the like obligations as persons so registered had and were subject to in Ireland prior to the establishment of Saorstát Éireann.

(2) The General Council and its officers shall have and may exercise in relation to persons and matters in Saorstát Éireann all the like powers, jurisdictions, and authorities under the Medical Acts as that Council and its officers prior to the establishment of Saorstát Éireann had and might exercise under those Acts in relation to persons and matters in Ireland.

(3) The Branch Council for Ireland and its officers shall have and may exercise in relation to persons and matters in Saorstát Éireann the like powers, jurisdictions, and authorities under the Medical Acts as that Branch Council and its officers prior to the establishment of Saorstát Éireann had and might exercise under those Acts in relation to persons and matters in Ireland.

**2. Continuance of Constitution of Councils and of Qualifications for Registration.**—(1) The General Council and the Branch Council for Ireland shall respectively continue to be constituted and the members thereof shall continue to be nominated, chosen and elected in like manner as those Councils and members respectively were constituted, nominated, chosen, and elected prior to the establishment of Saorstát Éireann.

(2) Universities and medical corporations in Saorstát Éireann shall continue to have the like powers of granting diplomas and holding qualifying examinations for registration under the Medical Acts as they respectively had prior to the establishment of Saorstát Éireann.

**3. Effects of Medical Acts in Saorstát Éireann.**—The Medical Acts shall have effect in Saorstát Éireann subject to and in accordance with the provisions of this Act.

**4. Short Title, Construction, Citation, and Duration.**—(1) This Act may be cited as the Medical Act, 1925.

(2) This Act shall be construed as one with the Medical Acts, and those Acts and this Act may be cited together as the Medical Acts.

(3) This Act shall continue in force for one year from the passing thereof and shall then expire.

The Committee directed that the Privy Council be informed of its satisfaction that for the time being a solution of the difficulty had been found.

Another Irish matter reported was that the joint committees of the Oireachtas had unanimously refused approval to the preamble of the Apothecaries' Hall (Dublin) Bill, which sought to change the title of licentiate from "Licentiate, Apothecaries' Hall, Dublin," to "Licentiate in Medicine and Surgery, Apothecaries' Hall, Dublin."

#### Conditions of Practice in Greece.

Some time ago a communication was received by the Council from the Greek Minister expressing a desire for the extension of Part II of the Medical Act, 1886, to Greece, and the Greek Legation was asked for information as to the practice of medicine in that country. The Legation had replied that foreign subjects could be registered in Greece subject to the following conditions:

(1) If they belonged to States which admitted Greek doctors into their territories; (2) if they were in possession of the "grade" of doctor from a foreign university of equal qualification to that of the University of Athens. Such a "grade," if granted before September, 1922, was recognized by the University of Athens upon deposit of a small fee, and if obtained after that date it was necessary for the recipient to undergo an examination stipulated by the statute of the university. The qualifications required for Greek subjects to practise in Greece were that, following a five years' course at the Faculty of Medicine, and the obtaining of a relative grade, they must undergo an examination before the General Medical Council of Athens, the body specially authorized by law to grant permission to practise.

The Committee resolved that the information respecting conditions of practice afforded to foreign practitioners in Greece did not afford a suitable basis on which to establish reciprocity in this country.

#### Calcutta University.

Further correspondence was read following the recent decision of the General Medical Council to discontinue the recognition of the M.B. degree of Calcutta University from November last. A remonstrance was forwarded from the university, stating that the governing body had always shown its willingness to fall in with recommendations of the Council concerning the standard of medical education, and that it had never been directly informed that the recognition of the medical degrees of the Indian universities (which came under Part II of the Medical Act) depended on inspections of examinations as laid down in Part I, which applied to examining bodies in the United Kingdom. The General Medical Council was asked to continue to recognize the medical degrees of the university until November next, by which time the revised curriculum would have been adopted in the affiliated medical college, and the necessary alterations made in the regulations for the M.B. degree. The Committee passed a resolution stating its inability to recognize, for the time being, the medical diplomas of the University of Calcutta as furnishing a sufficient guarantee of the possession of the requisite know-

ledge and skill for the efficient practice of medicine, surgery, and midwifery, but that it would welcome and give most careful consideration to any further information on the subject.

#### Medical Council for Ceylon.

It was reported that an ordinance had been passed constituting a Ceylon Medical Council. The work of registration in Ceylon has hitherto been done by the Ceylon Medical College, but it was felt that the college council was not sufficiently representative. The Medical Council is to consist of eleven members—five, including a president, nominated by the Governor, four elected by registered medical practitioners, one by registered dentists, and one by the lecturers of the college.

#### The Midwives Act.

The Committee considered certain new rules, transmitted by the Ministry of Health, involving an extension of the training required for candidates for the examination of the Central Midwives Board.

The principal alterations are that the period of training is to be six months instead of four for trained nurses, and twelve months instead of six for other pupils, and that all pupils are to be required to attend cases both within an institution and in the homes of patients, the first five cases to be attended within the institution. The Committee approved these rules, and, with some qualification, approved some new rules for midwives issued by the Joint Nursing and Midwives Council for Northern Ireland.

#### The Society of Radiographers.

At the previous meeting of the Committee an objection was taken to a proposed alteration in the articles of the Society of Radiographers. It was now reported that a letter had been received from the Institution of Electrical Engineers, at whose instance largely, and with whose assistance, the society was incorporated in 1920. The objection of the Committee was to a proviso at the end of an article which laid down the conditions under which a non-medical member of the society should work; the proviso ran as follows:

"This regulation so far as relates to prohibiting any non-medical member from making any report or diagnosis on any radiograph or screen examination shall not apply to such members of the society on January 1st, 1924, as have been employed in x-ray work for not less than fifteen years prior to that date, the names of such members being embodied in a schedule and entered on the minutes of the society."

It appeared that this proviso was inserted to meet the views of the representatives of the Institution of Electrical Engineers on the society's council, and that the Board of Trade had refused approval because objection had been taken by the General Medical Council. The Institution informed the Council that this proviso was designed to safeguard the interests of a number of well established and successful independent radiographers who for many years had been carrying on radiographic work in private both for doctors and hospitals, and whose business would be destroyed by any general restrictive provision which prevented them from making diagnoses or reports. It had been put in as a compromise, because, in the opinion of the representatives of the Institution, another part of the article would have the effect of reducing the status of non-medical radiographers to that of mere laboratory assistants, and it was desired to exempt from the general restriction those who had had long experience.

The Committee resolved to inform the Institution that it did not desire to make any comments on the subject other than those already submitted to the Board of Trade.

**Other Business.**—Other business which occupied the Committee included the finances of the Council. In 1924 the total income of the General Council was £8,335. The expenditure on fees to members and similar outgoings was £5,348. The English Branch Council received in registration fees £6,789, the Scottish Branch Council £5,104, and the Irish Branch Council £2,308. It was reported that at the forthcoming conference at Brussels to consider the establishment of an International Pharmacopoeial Bureau the British Government would be represented by Sir Nestor Tirard (General Medical Council), Mr. Edmond White (Pharmaceutical Society), and Dr. G. F. McCleary (Ministry of Health), accompanied by Mr. R. D. Hutchinson as technical adviser. In reply to a practitioner who had asked if it was permissible to give an anaesthetic for a rabbi who stated that he held a certificate for performing the rite of circumcision for Jewish children, the President had directed a reply to be sent—which was approved by the Committee—that the practitioner should stipulate that from the surgical point of view the patient should be under his professional supervision so that he might safeguard life and health should the official operation endanger either. A practitioner who had been in the habit of charging 2s. for death certificates had been asked by the Registrar-General to give an assurance that he would cease this practice. He had replied that there was nothing in the Act forbidding the acceptance of a fee, and he refused to give such an undertaking. By the

President's direction—again endorsed by the Committee—an answer was sent in reply to an inquiry that the Council had no jurisdiction to enforce the law, if it was the law, that certificates must be given without fee.

The Committee congratulated Sir Holburt Waring on his knighthood, and thanked him for his good offices in representing the Council at the jubilee celebration of Leeds University.

### DENTAL BOARD.

A MEETING of the Dental Board of the United Kingdom, "in committee of the whole Board," was held on February 10th, under the chairmanship of the Right Hon. F. D. ACLAND.

**Police Notification of Convictions.**—Some correspondence was read with regard to the notification by the police of convictions of medical and dental practitioners. It appeared that a dentist in Scotland had been convicted, but that the conviction had not been officially reported to the Board. The local chief constable, on being communicated with, stated that the instructions from the Secretary for Scotland were that reports should be made to the Board only in cases where fines were imposed. On representations from the Board, the Secretary for Scotland has now issued a new instruction that all convictions of medical and dental practitioners, however trivial, whether a fine is imposed or not, shall be reported to the General Medical Council and the Dental Board respectively. An exception is made in cases where imprisonment follows the conviction, when the notification will, as formerly, be reported by the prison governor. The Ministry of Home Affairs of Northern Ireland has agreed to issue similar instructions to its police. So far as England and Wales are concerned, the Home Office instructions already meet the case.

**Registration Fees and Income Tax.**—A letter was read from the principal Inspector of Taxes stating that instructions had recently been issued by the Board of Inland Revenue to the effect that no objection would be raised to the allowance as an expense in the assessments under Schedules D and E of the statutory fees payable to the Dental Board for general registration, annual retention, or restoration to the Register.

**Minor Dental Work.**—In view of a proposal to make certain alterations in the circular issued by the Board of Education in 1922 dealing with minor dental work in the public dental service by persons not registered dentists, a committee of the Board which had had this matter under consideration met the Ministry of Health and the Board of Education, and strongly deprecated any modification of the terms of the circular. The Board approved this action of its committee.

**Registration.**—It was reported that on January 15th a letter was sent to 513 practitioners who had not paid the annual fee for the retention of their names on the *Dentists Register*, and that at the beginning of February a list of all the names still outstanding was sent to the chief constables with a request to report all cases in which the Act was being contravened. These figures exclude some 239 practitioners resident in the Irish Free State, to whom a special notice has been sent, stating that unless and until they desire to practise in Great Britain or Northern Ireland it is not necessary, so far as the Board is concerned, for them to retain their names on the Register. At the May session, 1924, Mr. Alfred Imrie Lounon applied for registration thirteen months after the expiration of the interim period allowed, his explanation for the delay being that he did not know the Act. The Board refused registration, although it found that in all other respects his application was in order, and Mr. Lounon appealed to the courts, and it was reported that his appeal had been allowed.

**Dentists in the Straits Settlements.**—The first Ordinance passed for the registration of dentists in the Straits Settlements was reported to the Board. It forbids the practice of dentistry within the colony by unregistered persons, and provides for the registration of any person who holds a degree or diploma from any examining body in the British Empire or any foreign country so long as such degree or diploma is recognized by the General Medical Council as registrable.

**Educational Grants.**—Grants of an aggregate amount of £24,300 have been offered to the dental schools by the Board, but, pending fulfilment of the Board's conditions and the necessary preliminary arrangements, no payments have yet been made. The Medical School of Guy's Hospital has intimated its acceptance, on the Board's conditions, of the grant of £5,000 towards the cost of the proposed extension of the Dental School. The University of Leeds had accepted a grant of the same amount towards the cost of a new building for the Dental School. On an intimation that the University College Hospital Medical School is considering the question of improving the Dental School, the Board agreed to consider an application for a grant towards the cost of a comprehensive scheme of improvements in the accommodation and teaching facilities.

## National Insurance.

### THE ROYAL COMMISSION.

THE twenty-first meeting of the Royal Commission on National Health Insurance was held at the Home Office on March 12th, Sir Andrew Duncan in the chair. The National Federation of Rural Approved Societies, represented by Mr. W. Wood and Mr. W. Hyde, gave evidence on the position and experience of rural societies under the insurance scheme. Evidence relating to a particular society—the Scottish Rural Workers' Society—was given by Mr. James Falconer and Mr. Wood. Thereafter Sir Norman Hill, Bt., was examined on the working of the Seamen's National Insurance Society.

Proof copies of the oral evidence and the relative statements submitted at the meeting of February 26th may be obtained from H.M. Stationery Office, Adelphi House, Kingsway, London, W.C.2, on remittance of cost (3s.) and postage.

### NATIONAL INSURANCE INQUIRIES.

#### A FATAL CASE OF DIPHTHERIA.

WE have received this week from the Ministry of Health a set of documents relating to a Committee of Inquiry appointed by the Minister to investigate the professional conduct of a London insurance practitioner, Dr. Z, in respect of his treatment of a male patient, A. B., aged 18, who died of diphtheria on May 5th, 1924.

The complainants were the London Insurance Committee, who charged the respondent, Dr. Z, with gross negligence in that he failed (a) to take a swab of the patient's throat; (b) to diagnose that he was suffering from diphtheria; and (c) to arrange for his removal to hospital as a suspicious case between April 5th and 30th. The complainants alleged that the continuance on the medical list for the County of London of Dr. Z would be prejudicial to the efficiency of the medical service of the insured. The inquiry was held in public on December 19th last. The Committee of Inquiry consisted of a barrister-at-law (chairman) and two medical practitioners. The complainants were represented by counsel and the respondent by a solicitor. The alleged facts of the case and the grounds of complaint were formulated by the complainants in twenty paragraphs, which are included in the Committee's report.

#### Findings of Fact.

The following is a summary of the earlier findings of fact by the Inquiry Committee. The patient, A. B., had on more than one occasion been treated by Dr. Z for septic sore throat. On April 5th, 1924, A. B. attended at Dr. Z's surgery for treatment of a sore throat. He was then suffering from acute follicular tonsillitis, but without any marked fever. Dr. Z prescribed suitable medicine and treatment, visited A. B. at his home on April 7th, 8th, 9th, 11th, 14th, 15th, 16th, 17th, 19th, 21st, 23rd, 25th, 26th, and continued to treat him for tonsillitis, and issued certificates to that effect. On April 9th there were signs of a broken quinsy. The Committee continues:

"At some date in the middle of April which it is impossible to fix with certainty, but which from the condition of the deceased when he was removed to hospital may be placed on April 12th, or a few days thereafter, the deceased was attacked by diphtheria. On April 14th he had one single attack of nasal haemorrhage, and on the night of that day suffered from regurgitation in an attempt to take some liquid food, and on two subsequent days suffered the same experience. These symptoms were made known to the respondent. During the earlier part of the illness the deceased's throat was extremely swollen and painful. From about April 15th onward his speech was affected. On or about April 21st the deceased suffered from pains in his chest. During the first three weeks of the illness there were signs of a white or yellow-white patch on one or other side of the throat internally. The temperature of the deceased never rose much, although on April 18th the respondent found a temperature of 100° or 101°. The respondent tested for the possibility of paralysis of the soft palate on more than one occasion.

"At some of the symptoms indicated the being present, the respondent continued to follicular tonsillitis, and regarded the condition of the deceased as improving. On April 26th, at his visit, the respondent recommended a change of air, and permitted the deceased to be out of bed on the three succeeding days. The deceased had then no temperature. The respondent viewed the difficulty of speech and the regurgitation as due to spasm produced by the tonsillitis. In fact, the condition of the deceased was not improving, and he was worse during the days April 26th-29th, and was seriously ill when he visited the respondent's surgery on April 30th. On that day the respondent diagnosed the case as probably one of diphtheria, mainly owing to a test of the soft palate, which showed signs of paralysis. His suspicion of diphtheria was heightened by a suggestion of the mother of the deceased, who accompanied her son to the surgery, to the effect that the illness might be due to diphtheria.

"Following upon this diagnosis the respondent gave the necessary certificate for diphtheria, which enabled the removal of the deceased

to the Eastern Hospital at Homerton. The deceased was then in a comparatively advanced stage of the disease, and died from its effect, coupled with that of Vincent's angina, which had probably supervened towards the end of April.

"It is not possible in practice for a doctor to arrange for the removal to a diphtheria hospital of 'a case of suspicion.' Before a patient can be so removed the doctor must give a definite certificate of diphtheria.

"The respondent did not throughout the period of his treatment take a swab of the throat for the purpose of ascertaining whether or not diphtheria was at any time present. The respondent did not, until April 30th, suspect diphtheria, but adhered until that date to his original diagnosis of follicular tonsillitis. The respondent was not averse in his ordinary practice to the taking of swabs or to the serum treatment in cases of suspected or proved diphtheria."

#### Observations by the Committee.

Before submitting its inferences of fact the Committee of Inquiry says that it thinks it right to offer the following observations:

"We were enabled to view the whole case in the light of expert evidence bearing both upon the possibility of a correct diagnosis in the earlier stages of the illness and the possible result of an incorrect diagnosis.

"When a charge of gross negligence is made against a doctor it seems just to avoid an attitude of mind which—to use a colloquial phrase—savours of being wise after the event, and not to attach undue weight to the death of the patient with the obvious exception of cases in which the death can be proved to be attributable to such negligence.

"Evidence was adduced as to conversations between the mother of the deceased and the respondent as to the insistence by the respondent throughout that the illness was not caused by diphtheria, although some of the symptoms were consistent with that disease. We formed the opinion that as a matter of fact the respondent never suspected diphtheria until April 30th, and our findings of fact expressed . . . above seem to render specific findings of fact as to those conversations unnecessary."

#### Inferences of Fact.

The Committee submits the following inferences of fact:

- (i) The respondent probably regarded the deceased as a person liable to suffer from a septic form of sore throat, and was influenced in forming this opinion by the fact that he had on two previous occasions attended the deceased for acute follicular tonsillitis.
- (ii) The respondent was correct in his original diagnosis of follicular tonsillitis. In so far as he was guilty of any failure to diagnose the subsequent onset of diphtheria, the case was one in which such onset may well have been masked by the presence of tonsillitis and the further complication of Vincent's angina.
- (iii) It is impossible to state with certainty whether a swab taken at the appropriate time would have given a sure indication of the presence of diphtheria, but we can only describe the fact as unfortunate that the respondent, in his persistent diagnosis of tonsillitis, did not adopt this further test for the purpose of checking his opinion.
- (iv) Apart from any question as to the degree of skill possessed by the respondent, no possible suggestion can be made against the respondent for any neglect in attendance. It was clear from the evidence that, even assuming his failure until April 30th to detect the presence of diphtheria, he exercised great care in the case, as is shown *inter alia* by the number of visits which he paid.
- (v) It is impossible to hold that the death of the deceased was due to negligence on the part of the respondent—that is, to the exclusion of other possible causes.
- (vi) We observe from the form of the representation that the charge relates only to the conduct of the respondent with respect to one case.

"In our opinion," the Committee concludes, "the charge of gross negligence wholly fails. The facts indicate the possibility of criticism of the respondent in the matter of his professional skill, but an illness which commences with tonsillitis and is complicated by the subsequent onset of diphtheria and Vincent's angina is probably not of common experience and adds to the difficulty of making a correct diagnosis. We think that the complainants were not justified in making their representation and thus putting in motion the machinery which involved the inquiry heard by us. In pursuance of this view we recommend that the complainants be ordered to pay to the respondent his taxed costs of the inquiry."

#### The Minister's Decision.

The formal document conveying the Minister of Health's decision states that the Minister has decided not to remove Dr. Z's name from the list of the London Insurance Committee, and directs that Dr. Z's costs in connexion with the inquiry (to be taxed as between party and party) shall be paid by the Insurance Committee. A letter from the Minister, addressed to the London Insurance Committee, contains the following observations:

"While the findings contained in the report do not justify the conclusion that the practitioner's continuance on the list would be prejudicial to the efficiency of the service, the Minister has felt bound to consider whether the standard of treatment provided by the practitioner in the case in question was such as an insurance practitioner may reasonably be expected to provide for his patients.

"The Minister is advised that some of the symptoms from which, according to the report of the Inquiry Committee, this patient suffered, were such as should have suggested the presence of diphtheria to any practitioner exercising a reasonable degree of care and skill in his attendance on the patient with sufficient force to make it incumbent upon him to take such steps as were reasonably open to him to ascertain whether he was justified in his view that the case was not one of diphtheria. The Minister is therefore of the opinion that Dr. Z, in omitting to take such steps, failed to take precautions which any reasonably prudent medical practitioner would have taken.

"The Minister is therefore in agreement with the original recommendation of the Medical Service Subcommittee, that a substantial deduction should be made from the practitioner's remuneration. He has accordingly decided that £20 must be withheld from the money payable to the Insurance Committee in respect of medical benefit. This sum should, in accordance with Article 36 of the Medical Benefit Regulations, be recovered from Dr. Z by deduction from his remuneration."

## Naval and Military Appointments.

### ROYAL NAVAL MEDICAL SERVICE.

**Surgeon Captain R. W. G. STEWART, O.B.E.,** to R.N. Hospital, Plymouth.  
**Surgeon Lieutenant J. A. E. TANNIAN** to the *Cricketer* (appointment to the *Mantis* cancelled).

### ROYAL ARMY MEDICAL CORPS.

**Major and Brevet Lieutenant-Colonel C. W. HOLDEN, C.M.G., D.S.O.,** to be Colonel J. Dorgan, to retired pay.  
"T. V. OLHAM, receiving a gratuity, and  
"G. DRESSING, M.C., receiving a gratuity;  
**J. B. WILLIAMSON** on account of ill health.

### ROYAL AIR FORCE MEDICAL SERVICE.

**Group Captain H. COOPER, D.S.O.,** to Headquarters, Inland Area.  
**Group Captain N. J. ROOPE, O.B.E.,** is placed on half-pay, Scale A.  
**Flight Lieutenant A. F. ROOK** is promoted to the rank of Squadron Leader. **Flight Lieutenant P. A. HALL** to No. 1 School of Technical Training (Boys), Halton.  
**Flying Officer L. C. PALMER-JONES** to No. 1 School of Technical Training (Boys), Halton.

### REGULAR ARMY RESERVE OF OFFICERS.

#### ROYAL ARMY MEDICAL CORPS.

**H. L. Oldershaw** to be Lieutenant.

### TERRITORIAL ARMY.

#### ROYAL ARMY MEDICAL CORPS.

**Second Lieutenant K. V. MILBURN** (late R.F.A., T.F.) to be Lieutenant.

### TERRITORIAL ARMY RESERVE OF OFFICERS.

#### ROYAL ARMY MEDICAL CORPS.

**1st London Field Ambulance.**—The announcement regarding Captain (now Major) D. S. Sutherland, which appeared in the *London Gazette* of December 30th, 1918, is cancelled.

### COLONIAL MEDICAL SERVICES.

**Dr. H. C. E. QUIN** appointed M.O.H., Medical Department, Gold Coast.  
**Dr. F. McGarth** appointed M.O., Nigeria. **Dr. J. M. Semple**, Medical Officer, transferred from Tanganyika to Zanzibar.

## VACANCIES.

**BELFAST:** MAIER INFIRMARY HOSPITAL.—Honorary Assistant Gynaecologist.  
**BELGRAVE HOSPITAL FOR CHILDREN,** Clapham Road, S.W.9.—(1) House-Physician. (2) House-Surgeon. (3) Assistant House-Physician. (Males.) Salary at the rate of £100 per annum each.

**BRIDGE OF WEIR:** CONSUMPTION SANATORIUM OF SCOTLAND.—Resident Medical Officer. Salary at the rate of £200-£250 per annum.

**BRITISH GUJANA:** Assistant Medical Officer. Salary £500 per annum, rising to £700.

**BROMLEY BOROUGH:** Medical Officer of Health. Salary £800 per annum.  
**EDINBURGH:** ROYAL EDINBURGH HOSPITAL FOR SICK CHILDREN.—Vacancy on the Surgical Staff.

**EVELINA HOSPITAL FOR CHILDREN,** Southwark, S.E.1.—House-Surgeon (male). Salary at the rate of £120 per annum.

**EXETER:** ROYAL DEVON AND EXETER HOSPITAL.—Assistant House-Surgeon. Salary at the rate of £150 per annum.

**FOLKESTONE:** ROYAL VICTORIA HOSPITAL.—Resident Medical Officer. Salary at the rate of £150 per annum.

**KERTFORSBURGH COUNTY SANATORIUM,** Ware Park.—Matron. Salary £140 per annum, rising to £170.

**HOSPITAL FOR SICK CHILDREN,** Great Ormond Street, W.C.1.—(1) House-Surgeon. (2) House-Physician and Assistant Casualty Officer. Salary £50 per annum each.

**HULL AND GOOLE PORT SANITARY AUTHORITY.**—Assistant Medical Officer of Health. Salary £750 per annum.

**HULL ROYAL INFIRMARY.**—Assistant House-Surgeon (male). Salary £150 per annum.

**JOHANNESBURG:** UNIVERSITY OF WITWATERSRAND.—Senior Lecturer in Dental Anatomy, Physiology, and Histology. Salary £450 per annum, rising to £650, plus relative local allowance.

**LEDS CITY:** Assistant Medical Officer for Maternity and Child Welfare. Salary £600 per annum.

**LEICESTER ROYAL INFIRMARY.**—House-Surgeon. Salary at the rate of £125 per annum.

LIVERPOOL COUNTY BOROUGH.—Three Junior Assistant School Medical Officers. Salary £600 per annum each.

LIVERPOOL SANATORIUM, Delamere Forest, Frodsham.—Assistant Medical Officer. Salary £200 per annum.

LONDON HOMOEOPATHIC HOSPITAL, Great Ormond Street, W.C.1.—Third Anaesthetist. Honorarium £50 per annum.

LONDON LOCK HOSPITAL, Dean Street, W.—Surgical Registrar to the Male Lock Hospital. Honorarium £100 per annum.

MAIDSTONE: WEST KENT GENERAL HOSPITAL.—House-Surgeon (male). Salary at the rate of £220 per annum.

MILDMAY MEDICAL MISSION.—Dental Surgeon to Out-patients.

MINISTRY OF HEALTH.—Deputy Regional Medical Officers (twelve for England and one for Wales). Remuneration £800 per annum, rising to £1,100.

NATIONAL SANATORIUM, Benenden, Kent.—Resident Assistant Medical Officer (male). Salary £300 per annum, rising to £350.

NEWCASTLE-UPON-TYNE: ROYAL VICTORIA INFIRMARY.—(1) Four House-Physicians. (2) Six House-Surgeons. (3) Junior House-Surgeons. (4) Departments. (5) House-Surgeon to Skin and V. (6) House-Surgeon to Out-patient Dressing Department. Residents remunerated at the rate of £50 per annum.

PADDINGTON GREEN CHILDREN'S HOSPITAL, W.2.—(1) House-Physician. (2) House-Surgeon. Salary £150 per annum each.

PRINCE OF WALES'S GENERAL HOSPITAL, Tottenham, N.15.—(1) House-Surgeon. (2) Special House-Surgeon. (3) House-Physician. (4) Junior House-Surgeon. (5) Junior House-Physician. Salary for (1), (2), and (3) £150 per annum, and for (4) and (5) £110 per annum.

POTLEY HOSPITAL, S.W.15.—Resident Medical Officer (male). Salary £150 per annum.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney Road, E.2.—(1) Resident Medical Officer; salary £200 per annum. (2) House-Surgeon; salary £100 per annum.

QUEEN MARY'S HOSPITAL FOR THE EAST END, Stratford, E.15.—Honorary Assistant Physician.

ROTHESMAN CORRY BOROUGH.—Assistant Medical Officer of Health (male). Salary £650 per annum.

ROYAL CHEST HOSPITAL, City Road, E.C.1.—Physician with charge of Out-patients.

ROYAL ELSWOOD INSTITUTION, Redhill.—Junior Assistant Medical Officer (male, unmarried). Salary at the rate of £250 per annum.

St. PANCRA'S DISPENSARY, 39, Oakley Square, N.W.1.—Honorary Physician.

St. VINCENT'S ORTHOPAEDIC HOSPITAL, Eastcote, Pinner.—Resident Medical Officer (male). Salary £150 per annum.

STREWSBURY: ROYAL SALOP INFIRMARY.—House-Physician (male). Salary at the rate of £160 per annum.

SUVA.—Medical Officer of Health. Salary £750 per annum, rising to £900.

WALLASEY: VICTORIA CENTRAL HOSPITAL.—Honorary Assistant Ophthalmic Surgeon.

WEST AFRICAN MEDICAL SERVICE.—Medical Officers. Initial salary £660 a year.

WEST DERBY HOSPITAL.—Resident Assistant Medical Officer at the Mill Road Infirmary, Liverpool. Salary £200 per annum.

WILKINSHIRE: ROYAL HAMPSHIRE COUNTY HOSPITAL.—Sister Tutor. Salary £150 per annum, rising to £160.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces the following vacant appointments: Horncastle (Lincoln), Nelson (Glamorgan).

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Tuesday morning.

## DIARY OF SOCIETIES AND LECTURES.

### ROYAL SOCIETY OF MEDICINE.

Mon., 5.30 p.m., Resumed Discussion: Non-specific Disturbances of Health due to Vitamin Deficiency. Speakers: Dr. William Hunter, Dr. Robert Hutchison, and others.

Section of Ontology: Mon., 8 p.m., Mr. G. J. Harbrow: A Dental Cyst in connexion with a Deciduous Tooth; Mr. A. Livingston: The Permeability of Enamel.

Sections of Surgery, Medicine, and Pathology: Tues., 8 p.m., Special Discussion: The Treatment of Septicæmia. Openers: Sir Thomas Horder, Mr. E. P. Rowlands, and Dr. L. Colbrook.

Section of Comparative Medicine: Wed., 5 p.m., Sir Stewart Stockman: Some Problems of Foot-and-mouth Disease.

Section of Epidemiology and State Medicine: Thurs., 5.30 p.m., Dr. W. L. Burgess (M.O.H. Dundee): An Outbreak of Food Poisoning.

Section of Orology: Thurs., 8.30 p.m., Clinical and Pathological Evening.

Section of Study of Disease in Children: Fri., 4.30 p.m., Clinical Meeting at the National Hospital for the Paralysed and Epileptic, Queen Square, W.C.1. Cases will be shown.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East, S.W.1.—Tues., 5 p.m., Third Lecture: Gastric Disease. Thurs., 5 p.m., Luncheon On Some Forms of Vomiting in Infancy.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.1.—Fri., 5 p.m., Sir Arthur Keith: Museum Demonstration of Specimens illustrating the Commoner Congenital Malformations of the Lower Limb.

HARVEY SOCIETY OF LONDON, Town Hall, Finsbury Green, W.—Thurs., 8.30 p.m., Discussion: Obstruction of the Colon; to be opened by Sir Lockhart-Mummery. Mr. Gordon-Taylor, Dr. Montague Smith, and others.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, W.1.—Mon., 8.30 p.m., Discussion: Oxaluria; to be introduced by Mr. L. Battle Rawling, followed by Sir William Wilcox and others.

### POST-GRADUATE COURSES AND LECTURES.

CENTRAL LONDON THROAT, NOSE, AND EAR HOSPITAL, Gray's Inn Road, W.C.1.—Fri., 4 p.m., Muscularity of the Larynx.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION, 1, Wimpole Street, W.1.—Brompton Hospital for Diseases of the Chest: Second week as per syllabus. Central London Ophthalmic Hospital, Judd Street, W.C.1. Lecture Demonstrations in Diseases of the Eye,

daily from 2.30 p.m. North-Eastern Fever Hospital, St. Ann's Road, Tottenham: Wed and Sat., 11 a.m., Demonstrations in Treatment of Acute Infectious Diseases. Royal Northern Hospital, Holloway Road, N.7: Intensive Course. Chelsea Hospital for Women: Special Course; mostly afternoon work.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.1.—Thurs., 4 p.m., Chief Palace.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.1.—Mon., Tues., Thurs., and Fri., 2 p.m., Out-patient Clinics. Mon., 12 noon, Reflexes; 3.30 p.m., Syphilis of the Nervous System. Tues., 3.30 p.m., Disseminated Sclerosis. Wed., 3.30 p.m., The Oculomotor Nerve. Thurs., 12 noon, Inflammatory Reactions in the Central Nervous System; 3.30 p.m., Cerebral Disease. Fri., 3.30 p.m., Demonstration of Physical Exercises. Operations, Tues. and Fri., 9 a.m.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.15.—Daily: In-patient and Out-patient Clinics, Operations, Clinics in Special Departments. Lectures and Demonstrations: Tues., 5 p.m., Treatment of the Toxæmia of Pregnancy. Fri., 4.30 p.m., Some Common Dermatoses of Children.

## British Medical Association.

OFFICES AND LIBRARY, 429, STRAND, LONDON, W.C.2.

### Reference and Lending Library.

THE READING ROOM, in which books of reference, periodicals, and standard works can be consulted, is open to members from 10 a.m. to 6.30 p.m., Saturdays 10 to 2.

LENDING LIBRARY: Members are entitled to borrow books, including current medical works; they will be forwarded if desired, on application to the Librarian, accompanied by £1 for each volume for postage and packing.

### Departments.

SUBSCRIPTIONS AND ADVERTISEMENTS (Financial Secretary and Business Manager): Telegrams: Articulate Westrand, London.

MEMBER SECRETARY (Telegrams: Medicebra Westrand, London).

EDITOR, *British Medical Journal* (Telegrams: Altiology Westrand, London).

Telephone number for all departments: Gerrard 2539 (3 lines).

SCOTTISH MEMBER SECRETARY: 4, Portland Square, Edinburgh (Telegrams: el: 4561 Central).

IRISH MEMBER SECRETARY: Frederick Street, Dublin (Telegrams: 4737 Dublin).

### Diary of the Association.

#### MARCH.

- 20 Fri. London: Routine Clinical Pathological Work Subcommittee, 2.30 p.m.
- 24 Tues. North Northumberland Division: Infirmary, Alnwick. Address by Dr. George Hall on the Early Diagnosis of Nervous Diseases, 3 p.m.
- 25 Wed. London: Council, 10 a.m. Oxford Division: Radcliffe Infirmary. Clinical Cases, 2.30 p.m. South Middlesex Division: St. John's Hospital, Twickenham. Discussion on Early Diagnosis of Syphilis, to be opened by Dr. C. E. Herington, 8.30 p.m.
- 26 Thurs. Swansea Division: General Hospital, Swansea, 8.15 p.m.
- 27 Fri. Sunderland Division: Scientific Meeting, Highfield Hospital, Sunderland, 7.30 p.m.
- 31 Tues. Croydon Division: Croydon General Hospital. Address by Dr. H. W. Barber on The Etiology and Treatment of Some Common Diseases of the Skin, 8.30 p.m.

#### APRIL.

- 1 Wed. Nuneaton and Tamworth Division: Nuneaton General Hospital. Paper by Mr. C. A. Reason on the Acute Abdomen (a la Child).
- 2 Thurs. Guildford Division: Clinical Meeting, Royal Surrey County Hospital, Guildford, 4 p.m.
- 3 Fri. Chesterfield Division: Maternity Hospital, Chesterfield. B.M.A. Lecture on Some Recent Advances in Endocrinology by Dr. A. E. Gow, 8.30 p.m.
- 14 Tues. City Division: Metropolitan Hospital, Kingsland Road, E.8. Paper by Dr. H. Maclean on Diabetes—its Treatment: Insulin up to Date, 9.30 p.m.
- 15 Wed. Norfolk Branch: Norfolk and Norwich Hospital. Address by Dr. W. Norwood East on the Interpretation of Some Sexual Offences, 5.30 p.m.
- 23 Thurs. ... Castleford Division: Bull Restaurant, Paper by Mr. J. F. Dobson on 30 p.m. Supper, 8 p.m.
- 7 Thurs. Kensington Division: Divisional Dance, Kensington Town Hall.

SOUTH-WEST LONDON POST-GRADUATE ASSOCIATION, St. James's Hospital, Ouseley Road, Balham, S.W.12.—Wed., 4 p.m., Demonstration of Medical Cases.

WEST LONDON HOSPITAL POST-GRADUATE COLLEGE.—W.—Mon., 12 noon, Applied Anatomy. Tues., 2 p.m., 2 p.m., Medical Wards. Thurs., 2 p.m., Fri., 10.30 a.m., Skin Department. Sat., Children. Daily 10 a.m. to 6 p.m., Sat. 10 a.m. to 1 p.m., In-patient patients, Operations, Special Departments.

GLASGOW POST-GRADUATE MEDICAL ASSOCIATION.—At Royal Infirmary: Wed., 4.15 p.m., Medical Cases.

MANCHESTER ROYAL INFIRMARY.—Tues., 4.15 p.m., Drugs of Power. Fri., 4.15 p.m., Electro-cardiographic Demonstration; Surgical Cases.

## BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcement of Births, Marriages, and Deaths is 2s., which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.

### BIRTH.

CURRIE.—At Kelowna Nursing Home, Colwyn Bay, on March 16th, the wife of Donald I. Currie, M.B., F.R.C.S., a son, (James).



# SUPPLEMENT TO THE BRITISH MEDICAL JOURNAL.

LONDON, SATURDAY, MARCH 28TH, 1925.

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### SCHOLARSHIPS AND GRANTS IN AID OF SCIENTIFIC RESEARCH.

#### SCHOLARSHIPS.

THE Council of the British Medical Association is prepared to receive applications for Research Scholarships, as follows:

1. AN ERNEST HART MEMORIAL SCHOLARSHIP, of the value of £200 per annum, for the study of some subject in the department of State Medicine.
2. THREE RESEARCH SCHOLARSHIPS, each of the value of £150 per annum, for research into some subject relating to the Causation, Prevention, or Treatment of Disease.

Each Scholarship is tenable for one year, commencing on October 1st, 1925. A Scholar may be reappointed for not more than two additional terms. A Scholar may hold a junior appointment at a University, Medical School, or Hospital provided the duties of such appointment do not interfere with his work as a Scholar.

The conditions of the award of Scholarships are stated in the Regulations, a copy of which will be supplied on application to the Medical Secretary of the Association, 429, Strand, London, W.C.2.

#### GRANTS.

The Council of the British Medical Association is also prepared to receive applications for Grants for the assistance of research into the Causation, Treatment, or Prevention of Disease. Preference will be given, other things being equal, to members of the medical profession and to applicants who propose as subjects of investigation problems directly related to practical medicine.

The conditions of the award of Grants are stated in the Regulations, a copy of which will be supplied on application to the Medical Secretary of the Association, 429, Strand, London, W.C.2.

#### Applications.

Applications for Scholarships and Grants for the year 1925-26 must be made not later than Saturday, June 6th, 1925, on the prescribed form, a copy of which will be supplied by the Medical Secretary on application.

Applicants are required to furnish the names of three referees who are competent to speak as to their capacity for the research contemplated to whom reference may be made.

ALFRED COX,  
Medical Secretary.

March 21st, 1925.

### National Insurance.

#### THE ROYAL COMMISSION.

THE twenty-second meeting of the Royal Commission on National Health Insurance was held at the Home Office on March 19th, Sir Andrew Duncan in the chair. The examination of Sir Norman Hill, Bt., on the working of the Seamen's National Insurance Society was resumed, and at its conclusion he gave evidence as to the Special Fund for Seamen. Thereafter the Insurance Committees of Coventry (Mr. H. W. Vale and Mr. Lee Gordon), Cheshire (Mr. G. Wright and Mr. F. T. West), and Leicestershire (Alderman Goodacre and Mr. T. Crew) gave evidence on the constitution and administrative work of Insurance Committees, particularly with reference to the medical and treatment benefits.

Proof copies of the oral evidence and the relative statements submitted at the meeting of March 5th may be obtained from H.M. Stationery Office, Adastral House, Kingsway, London, W.C.2, on remittance of cost (2s. 3d.) and postage.

### Correspondence.

#### The Joint Conference and the Capitation Fee.

SIR.—There were at the Conference (reported in the SUPPLEMENT of March 21st) such a number desirous to speak, and so little inclination to hear them, that I curbed my own desire to take a part. Therefore I would now add a few comments. I was one of the few who opposed to the last possible moment the fatal strike of 1913, and in listening to the debate on March 12th I could not but recall old arguments. For instance, Mr. Turner would have us believe that dependants would take at a minimum five times the attendances required at present, and he hinted at twenty-five times this number. In 1912 Dr. Lowry, in a pamphlet which attracted considerable notice, predicted 18 attendances per insured person per annum. The Council of the British Medical Association predicted 5.3. I, on the other hand, observing that there was already considerable, and in many places gross, overattendance in clubs, ventured, at a big meeting at Worthing, to reject both figures, and prophesied that attendances would not exceed 4, and would probably be about 3.75, the average of private clubs; and it was so.

Addressing myself to the present problem, the only published figures I know of dealing with attendances in private practice, mainly among industrial classes, and including women and children, are those of the Plender report. The average attendance per head per annum in the five towns investigated was 1.48. Bearing this in mind, and noting also the fact that a large proportion of the present National Health Insurance attendances are purely for the purpose of obtaining sickness benefit, which will not be given to dependants, I would predict that the attendances on dependants per head per annum will certainly not exceed 2 in rural areas, where children are under healthy conditions, 3.5 in average urban areas, and 6 in slums.

It was most unfortunate, and I do not know to whom the blame attaches, that the paramount question as to whether priority should be given to providing a complete service or to including dependants was never discussed at all, and no instruction has been given to the Council on this essential point. The opinion of the constituencies was, however, clearly in favour of a complete service first, and I trust that the Council will strongly emphasize this. In this respect I am in agreement with Dr. Skene. Yet it influenced me to vote against him, for it has an immense influence upon the problem in debate. Hitherto successive Chancellors of the Exchequer have refused a complete service, solely on the score of expense. Further, so far as I have followed evidence before the Royal Commission, there is no strong desire among approved societies or their members to include dependants, but a very strong disinclination to increase contributions. Therefore, it seems likely that, if a complete service is first guaranteed, so little money will be left for other purposes that the number of dependants to whom such complete service can be extended will be very limited indeed, and so far from all sorts of pressure being brought to bear to include the maximum number, every kind of influence will be exerted to ensure that the number be a minimum, and therefore none of those fears which exercise the minds of Mr. Turner and his supporters are likely to materialize. As regards the opinions expressed by Dr. Larking, I am with him whole-heartedly. I consider the removal of the present objectionable despotism as of first-class importance, and it seems to me that here is an excellent opportunity to press for it. We can say it will be impossible to include dependants

unless this tyranny is removed. If, on the other hand, we decline, as he recommends, to accept any dependants, we throw away our principal weapon for the achievement of his own end.

I wish to supplement the two letters of the Scottish Medical Secretary on the subject of capitation (SUPPLEMENT, February 28th, p. 81, and March 14th, p. 102). It has never been explained how the grave loss introduced by the ever steadily increasing number of disablement benefit cases, for whom no money was paid into the medical pool, is got over. The original explanation offered—that the loss was balanced by other gains—was patently inadmissible, for there is no gain having the same progressive character, and one of the alleged gains was really a loss. As far as I can ascertain, from evidence before the Royal Commission, some additional returns are now extracted from approved societies to furnish the necessary information to the actuary, but the matter is distinctly obscure. Perhaps Dr. Drever can throw light upon it. I would point out, in addition, that whether a district gets more or less than the full capitation depends on several factors. Most, as a matter of fact, get more. The more accurate the work of the Insurance Committee office in keeping its registers compared with the returns from the Central Index Committee, and so reducing inflation, and the fewer demands for temporary residents, anaesthetics, and emergencies, the larger the capitation, and conversely. Again, the greater the effort made to secure allocation to doctors of all the insured, and the smaller the residue of unallocated who swell the capitation, the smaller the capitation will be.

Districts where the capitation is unduly small should look to the office work of their Committee, and should also try to curtail demands for anaesthetics and the like. Districts where the capitation is unduly large should try to speed up the allocation of the unallocated, as the gain under this head is not fairly distributed. Moreover, inasmuch as no payment for drugs is attached, the presence of a large unallocated residue in a rural area inflicts a definite hardship and injustice on those doctors who dispense, and who should receive payment for drugs for all persons, allocated or otherwise, for whom they are, in fact, responsible when they are ill, just as payment for treatment is made for all alike.—I am, etc.,

Chichester, March 23rd.

G. C. GARRATT.

#### Insurance Remuneration.

SIR,—With reference to the letters of Dr. Ian D. Grant and the remarks of Dr. J. R. Drever (Scottish Medical Secretary) published in the SUPPLEMENT of February 28th and March 14th, it is impossible for Dr. Grant, or any other practitioner in a capitation area, to furnish many specific instances of persons treated who have, in point of fact, ceased to be entitled to medical benefit, inasmuch as practitioners are not notified by the Insurance Committees of the actual dates upon which insured persons so cease, or have ceased, when applying for the return of the appropriate medical record cards. Under the Medical Benefit Regulations the deletion of an insured person's name from a doctor's list takes effect as from the date specified on the Insurance Committee's notice, or from such other date, not being earlier than that date, as may be specified thereon; and this date does not necessarily coincide with the date the person actually ceases, or has ceased, to be entitled to medical benefit.

Under the Manchester system of medical benefit all the medical record cards of practitioners in the area are kept in a central office maintained by the Panel Committee, and the actual dates insured persons cease, or have ceased, to be entitled to medical benefit are notified by the Insurance Committee, thus enabling the Manchester Panel Committee to be in a position to furnish specific cases of persons who have received treatment although not entitled thereto.

One would like to know what use Dr. Drever has made of the following number of specific instances of persons who have received treatment in the Manchester area after ceasing to be entitled to medical benefit, which have been at his disposal for some years, and to ask what useful service Dr. Grant would be doing by furnishing a few isolated cases, which, indeed, he is obviously unable to do for the reasons stated above.

Year.	No. of Specific Cases.
1921 (last two quarters) ... ..	252
1922 (first three quarters) ... ..	758
1923 ... ..	1,290
1924 (first three quarters) ... ..	796

In the majority of the above cases the cause is due to the delay (varying from a few days to eight years) on the part of approved societies in notifying the Insurance Committee of the suspension of their members from medical benefit.

Three examples of these cases are as follows:

Insured Persons.	Date Ceased to be Entitled to Medical Benefit.	Date Notification Received by Insurance Committee.
A. B. ... ..	April 13th, 1913	July 14th, 1921.
C. D. ... ..	December 31st, 1915	May 24th, 1921.
E. F. ... ..	December 31st, 1918	January 12th, 1922.

(There is actual evidence of the patients receiving treatment in 1921.)

Under the Manchester system of payment per attendance the risk involved is carried by the practitioners as a whole, and not by individual doctors as in a capitation area. The question of procedure in connexion with the suspension of persons from medical benefit and its effectiveness calls for very serious consideration, as all areas are affected, and it is doubtful to see any practical outcome of this correspondence unless the Insurance Acts Committee can induce the Minister of Health to arrange for the penalization of those approved societies who fail to carry out their statutory duties efficiently. As matters stand at present it seems to be a cardinal feature of the Insurance Acts that only panel doctors must be penalized.

The immediate suggestion I would make is that every Insurance Committee should state, on the notice to practitioners requesting the return of medical record cards, the actual dates insured persons cease, or have ceased, to be entitled to medical benefit. This could be done in every insurance area without any difficulty, and the practitioners would then be in a position to see to what extent treatment (if any) has been given subsequent to date of suspension.—I am, etc.,

JNO. D'EWRANT,  
Honorary Treasurer, Manchester Medical  
and Panel Committee.

Manchester, March 17th.

#### Association Notices.

##### BRANCH AND DIVISION MEETINGS TO BE HELD.

BATH AND BRISTOL BRANCH.—A meeting of the Bath and Bristol Branch will be held at the Cottage Hospital, Wells, on Wednesday, April 8th, at 3.30 p.m., when Dr. W. A. Bond will give a British Medical Association Lecture on the legal obligations of the medical man. Tea will be provided.

BIRMINGHAM BRANCH: NUNTON AND TANWORTH DIVISION.—At the meeting of the Nunton and Tanworth Division, to be held at the Nunton General Hospital on Wednesday, April 1st, Mr. C. A. Raison, F.R.C.S. (Birmingham), will read a paper on the acute abdomen in the child.

BIRMINGHAM BRANCH: WEST BROMWICH DIVISION.—The second regular meeting for 1925 of the West Bromwich Division will be held at the District Hospital, West Bromwich, on Wednesday, April 1st, at 8 p.m. Agenda: (1) To form a Local Hospitals Committee. (2) At 8.30 p.m. Mr. Herbert Potter, F.R.M.S., will give an informal chat on marine zoology, and will illustrate his address with his microprojector.

METROPOLITAN COUNTIES BRANCH: CITY DIVISION.—A meeting of the City Division will be held at the Metropolitan Hospital, Kingsland Road, E.8, on Tuesday, April 14th, at 9.30 p.m., when Dr. H. Maclean will read a paper entitled "Diabetes—its treatment: insulin up to date."

METROPOLITAN COUNTIES BRANCH: KENSINGTON DIVISION.—A general meeting of the Kensington Division will be held on Thursday, April 23rd, at the Kensington Palace Mansions Hotel, De Vere Gardens, W.8, at 8.45 p.m. An address will be given by Dr. Seymour Taylor, consulting physician to the West London Hospital, entitled "Some medical aphorisms."

METROPOLITAN COUNTIES BRANCH: SOUTH MIDDLESEX DIVISION.—A meeting of the South Middlesex Division will be held at St. John's Hospital, Twickenham, on Wednesday, April 15th, at 8.15 p.m., for general business. At 8.30 p.m. Dr. H. C. Corry Mann, O.B.E., will read a paper on dietary during the school age.

MIDLAND BRANCH: CHESTERFIELD DIVISION.—A meeting of the Chesterfield Division will be held at the Maternity Hospital, Chesterfield, on Friday, April 3rd, at 8.30 p.m., when Dr. A. E. Gow, physician to St. Bartholomew's Hospital, will deliver a British Medical Association Lecture on some recent advances in endocrinology.

NORFOLK BRANCH.—A meeting of the Norfolk Branch will be held at the Norfolk and Norwich Hospital at 3.30 p.m. on Wednesday, April 15th, when an address will be given by Dr. William Norwood East, Chief Medical Officer of H.M. Prisons Commission, on the interpretation of some sexual offences.

NORFOLK BRANCH: NORWICH DIVISION.—A meeting of the Norwich Division will be held to-day (Friday, March 27th) in the Medical Library, at 8.30 p.m. Agenda: To receive reports of (a) the Dinner Committee; (b) the Representative to the Special Representative Meeting held in London on March 12th; and (c) the Executive Committee.

**LIVERPOOL COUNTY BOROUGH.**—Three Junior Assistant-School Medical Officers. Salary £600 per annum each

LIVERPOOL EYE AND EAR INFIRMARY.—House-Surgeon (male) Salary £100 per annum.

MANCHESTER AND DISTRICT RADIUM INSTITUTE.—Assistant Radiologist. Salary £500 per annum.

MANCHESTER ROYAL INFIRMARY.—Assistant Resident Surgical Officer. Salary at the rate of £200 per annum.

MINISTRY OF HEALTH.—Deputy Regional Medical Officers (twelve for England and one for Wales).—Remuneration £800 per annum, rising to £1,200.

MINISTRY OF PENSIONS.—Senior Resident Medical Officer at the Highday Group of Hospitals, Birmingham. Salary £500 per annum.

NATIONAL SANATORIUM, Benenden, Kent.—Resident Assistant Medical Officer (male). Salary £200 per annum, rising to £350.

NEWCASTLE-UPON-TYNE CITY HOSPITAL FOR INFECTIOUS DISEASES.—Resident Medical Assistant (male) Salary £350 per annum.

NEWCASTLE-UPON-TYNE HOSPITAL FOR SICK CHILDREN.—Honorary Physician to the Electrical Department.

NORFOLK COUNTY MENTAL HOSPITAL, Thorpe, Norwich.—Junior Assistant Medical Officer. Salary £350 per annum.

PODDINGTON GREEN CHILDREN'S HOSPITAL, W.2.—(1) House-Physician. (2) House-Surgeon. Salary £150 per annum each.

PRINCE OF WALES'S GENERAL HOSPITAL, Tottenham, N.15.—(1) Honorary Medical Registrar. (2) Honorary Surgical Registrar. (3) Honorary Assistant Surgeon to the Ear, Nose, and Throat Department. (4) House-Surgeon. (5) Special House-Surgeon. (6) House-Physician. (7) Junior House-Surgeon. (8) Junior House-Physician. Honorarium for (1) and (2) £200 per annum; salary for (3), (4), and (5) £150 per annum, and for (7) and (8) £110 per annum.

PURNEY HOSPITAL, S.W.15.—Resident Medical Officer (male). Salary £150 per annum.

QUEEN CHARLOTTE'S MATERNITY HOSPITAL, Marylebone Road, N.W.1.—Obstetric Surgeon to Out-patients.

QUEEN MARY'S HOSPITAL FOR THE EAST END, Stratford, E.15.—Honorary Assistant Physician.

ROCHDALE INFIRMARY AND DISPENSARY.—Junior House-Surgeon. Salary £200 per annum.

ROTHERHAM COUNTY BOROUGH.—Assistant Medical Officer of Health (male). Salary £650 per annum.

ROYAL CHEST HOSPITAL, City Road, E.C.1.—Physician with charge of Out-patients.

ROYAL DENTAL HOSPITAL, Leicester Square, W.C.2.—Honorary Assistant Dental Surgeon.

ROYAL EIMWOOD INSTITUTION, Redhill.—Junior Assistant Medical Officer (male, unmarried) Salary at the rate of £250 per annum.

SHEFFIELD UNIVERSITY.—Assistant Pathologist at the Royal Hospital and Demonstrator of Pathology in the University. Salary £500 per annum.

SHREWSBURY: ROYAL SALOP INFIRMARY.—(1) House-Surgeon. (2) House-Physician. Salary £250 and £160 per annum respectively.

SOUTH LONDON HOSPITAL FOR WOMEN, Clapham Common, S.W.—(1) Female Clinical Assistant (Ophthalmic Department). (2) Clinical Assistant (Surgical Department), to attend at Out-patient Department, Newington Causeway.

STOKE AND WOLSTINGTON UNION.—First and Second Resident Assistant Medical Officers at the London Road Institution, near Newcastle, Staffs. Salary £250 and £200 per annum respectively.

WEST AFRICAN MEDICAL SERVICE.—Medical Officers. Initial salary £650 a year.

*This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Tuesday morning.*

### APPOINTMENTS.

FORRESTER-BROWN, Maud F., M.S., M.D.Lond., Surgeon to the Children's Orthopaedic Hospital, Bath.

HALL, Percy, M.R.C.S., L.R.C.P., Honorary Actino-therapist to the Mount Vernon Hospital, London.

CERTIFYING FACTORY SURGEONS.—R. G. Barnes, L.R.C.P. and S. Edin.; L.R.F.P.S.Glas., for the Teutenden District, co. Kent; T. Elliott, M.R., C.B.Leds., for the Misterton District, co. Nottingham; F. S. Tidcombe, M.R.C.S., L.R.C.P., for the Bognor District, co. Sussex.

### DIARY OF SOCIETIES AND LECTURES.

ROYAL SOCIETY OF MEDICINE.  
Special Discussion: Tues., 5.30 p.m., Endocrine Therapy. Openers: Dr. W. Langdon Brown, Professor Swale Vincent, Mr. Leslie Pugh, Dr. H. Gardner-Hill, Mr. Kenneth Walker. Other Speakers: Dr. Leonard Williams, Dr. H. Crichton Miller. (The meeting, if necessary, can be adjourned at 7 p.m., and resumed at 8.30 p.m.)

Section of Surgery: Wed., 8.30 p.m., Sir Charles Ballance, Mr. Lionel Colledge, and Mr. Lionel Bailey: Some Results of the Experimental Anastomosis at Certain Nerves with Neighbouring Nerves (illustrated by diagrams, microscope slides, lantern slides, and cinema films).

Section of Laryngology: Fri., 4.30 p.m., Discussion: Paroxysmal Rhinorrhoea; to be opened by Dr. J. Freeman and Dr. A. Brown Kelly, followed by Dr. James Adam, Dr. Margaret G. Tod: Results of Operations on the Nose and Throat in Cases of Asthma.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East, S.W.1.—Tues. and Thurs., 5 p.m., Lumsden Lectures by Dr. Hector Cameron: Some Forms of Vomiting in Infancy.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.—Fri., 5 p.m., Museum Demonstration by Sir Arthur Keith: Acromegaly and Allied Disorders of Growth.

HYGIENIC SOCIETY.—Fri., 7.30 p.m., Dinner Meeting at Simpson's Restaurant, Chancery Lane, E.C. Professor W. H. Dixon and Dr. H. H. Dale: The Use and Abuse of Drugs.

MANCHESTER MEDICAL SOCIETY, The University, Manchester.—Wed., 4.30 p.m., Discussion: Encephalitis Lethargica; to be opened by Dr. D. E. Core, W. St. Clair McClure, R. J. Byrie, and J. H. Dible.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, W.1.—Mon., 9 p.m., Third Lettisonian Lecture by Sir Bernard Spilsbury: Wounds and other Injuries in their Medico-legal Aspect.

WEST KENT MEDICO-CHIRURGICAL SOCIETY, Miller General Hospital, Greenwich, S.E.—Fri., 8.45 p.m., Dr. E. S. Royleham: Anaesthetics for Operations in the Region of the Mouth and Nose.

### POST-GRADUATE COURSES AND LECTURES.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION, 1, Wimpole Street, W.1.—Mon., 5.20 p.m., Lecture: Myopia—its Diagnosis and Treatment. Wed., 5.20 p.m., X-rays in Diagnosis of Lesions in Right Upper Quadrant of Abdomen. Central London Ophthalmic Hospital, Judd Street, W.C.1: Lecture Demonstrations in Diseases of the Eye. Daily from 2.30 p.m. Royal Northern Hospital, Holloway Road, N.7: Intensive Course.

CENTRAL LONDON THROAT, NOSE, AND EAR HOSPITAL, Gray's Inn Road, W.C.1.—Fri., 4 p.m., Suppuration of the Middle Ear.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.1.—Thurs., 4 p.m., Fractures.

### British Medical Association.

OFFICES AND LIBRARY, 122, STRAND, LONDON, W.C.2.

#### Reference and Lending Library.

THE READING ROOM, in which books of reference, periodicals, and standard works can be consulted, is open to members from 10 a.m. to 6.30 p.m., Saturdays 10 to 2.

LENDING LIBRARY: Members are entitled to borrow books, including current medical works; they will be forwarded if desired, on application to the Librarian, accompanied by £d. for each volume for postage and packing.

#### Departments.

SUBSCRIPTIONS AND ADVERTISEMENTS (Financial Secretary and Business Manager, Telegrams: Articulate Westland, London).

MEDICAL SECRETARY (Telegrams: Medivocera Westland, London).

EDITOR, British Medical Journal (Telegrams: Attology Westland, London).

Telephone number for all departments: Gerrard 2520 (3 lines).

SCOTTISH MEDICAL SECRETARY: 6, Rutland Square, Edinburgh (Telegrams: 4361 Central).

IRISH MEDICAL SECRETARY: Frederick Street, Dublin (Telegrams: 4737 Dublin).

#### Diary of the Association.

MARCH.

27 Fri. Norwich Division: Medical Library, 8.20 p.m.

Sunderland Division: Scientific Meeting, Highfield Hospital, Sunderland, 7.30 p.m.

31 Tues. London: Grants Subcommittee, 2.30 p.m.

Craven General Hospital. Address by Dr. H. W. Harber on The Etiology and Treatment of Some Common Diseases of the Skin, 8.30 p.m.

West Suffolk Division: West Suffolk General Hospital, 3 p.m.

APRIL.

1 Wed. Nuneaton and Tamworth Division: Nuneaton General Hospital. Paper by Mr. C. A. Raison on the Acute Abdomen in the Child.

West Bromwich Division: District Hospital, West Bromwich, 8.30 p.m.

2 Thurs. Guildford Division: Clinical Meeting, Royal Surrey County Hospital, Guildford, 4 p.m.

3 Fri. Chesterfield Division: Maternity Hospital, Chesterfield. B.M.A. Lecture on Some Recent Advances in Endocrinology by Dr. A. E. Gow, 8.30 p.m.

8 Wed. Bath and Bristol Branch: Cottage Hospital, Wells. B.M.A. Lecture by Dr. W. A. Brand on the Legal Obligations of the Medical Man, 3.30 p.m.

14 Tues. City Division: Metropolitan Hospital, Kingsland Road, E.8. Paper by Dr. H. Maclean on Diabetes—its Treatment: Insulin up to date, 9.30 p.m.

15 Wed. Norfolk Branch: Norfolk and Norwich Hospital. Address by Dr. W. Norwood East on the Interpretation of Some Sexual Offences, 3.30 p.m.

South Middlesex Division: St. John's Hospital, Twickenham. General Business, 8.15 p.m.; Paper by Dr. H. C. Corry Mann on Dietary during the School Age, 8.30 p.m.

23 Thurs. Kensington Division: Kensington Palace Mansions Hotel, De Vere Gardens, W.8. Address by Dr. Seymour Taylor on Some Medical Aphorisms, 8.45 p.m.

Wakefield, Pontefract, and Castleford Division: Bull Restaurant, Westgate, Wakefield. Paper by Mr. J. F. Dobson on Urological Diagnosis, 8.30 p.m. Supper, 8 p.m.

MAY.

7 Thurs. Kensington Division: Divisional Dance, Kensington Town Hall.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.15.—Daily: In-patient and Out-patient Clinics, Operations, Clinics in Special Departments. Lectures and Demonstrations: Tues., 4.30 p.m., Lantern Lecture: Nature's Reminders of the Humble Origin of Man. Fri., 4.30 p.m., Nasal Obstruction, its Causes and Remedies.

GLASGOW POST-GRADUATE MEDICAL ASSOCIATION.—At Royal Maternity and Women's Hospital: Wed., 4.15 p.m., Obstetrical Cases.

MANCHESTER ROYAL INFIRMARY.—Tues., 4.15 p.m., Cutaneous Eruptions of the Skin. Fri., 4.15 p.m., Medical and Surgical Cases.

### BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcement of Births, Marriages, and Deaths is 9s., which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.

#### DEATHS

BRACKENBURY.—On March 21st, at Quernmore Road, Stroud Green, N.1, Joan, elder daughter of Dr. and Mrs. H. B. Brackenbury, aged 23 years.

STEWART.—On March 18th, at St. Mildred's Cottage, Milverton, Somerset, William Stewart, M.D., late of Bank House, Bacup, Lancs.

# SUPPLEMENT TO THE BRITISH MEDICAL JOURNAL.

LONDON, SATURDAY, APRIL 4TH, 1925.

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## British Medical Association.

### PROCEEDINGS OF COUNCIL.

Wednesday, March 25th.

A MEETING of the Council of the Association was held at 429, Strand, on Wednesday, March 25th. Dr. R. A. BOLAM presided, and the following members were present:

Mr. J. Basil Hall (President), Dr. H. B. Brackenbury (Chairman of Representative Body), Mr. N. Bishop Harman (Treasurer), Mr. C. P. Childe (Past-President), Dr. R. Wallace Henry (Immediate Past Chairman of Representative Body), Dr. F. G. Thomson (President-Elect), Dr. C. O. Hawthorne (Deputy Chairman of Representative Body), Dr. G. A. Allan, Surgeon Rear-Admiral Sir Percy Bassett-Smith, K.C.B., C.M.G., R.N.(ret.), Dr. T. Ridler, Bailey, J. R. H. S. Beadles, Dr. J. W. Bone, Dr. H. C. Bristowe, Dr. G. F. Buchan, Dr. H. Guy Dain, Dr. J. Don, Dr. C. E. Douglas, Mr. T. P. Dunhill, Mr. W. McAdam Eccles, Dr. C. E. S. Flemming, Dr. E. R. Fothergill, Dr. T. W. H. Garstang, Dr. J. Giusani, Dr. F. J. Gomez, Dr. F. W. Goodbody, Colonel C. B. Heald, Dr. G. B. Hillman, Dr. I. W. Johnson, Dr. R. Langdon-Down, Dr. David Lawson, Dr. R. W. Leslie, Sir Richard Luce, M.P., K.C.M.G., Dr. A. Lyndon, Dr. J. A. Macdonald, Dr. S. Morton Mackenzie, Dr. A. Manknell, Dr. G. W. Miller, Dr. Hugh Miller, Dr. Christine Murrell, Mr. A. W. Nuthall, Lieut.-Colonel F. O'Kinealy, I.M.S.(ret.), Dr. William Paterson, Dr. R. C. Peacocke, Dr. F. Radcliffe, Lieut.-Colonel J. W. E. Rait, I.M.S.(ret.), Dr. G. Sanders, Dr. John Stevens, Dr. W. E. Thomas, Dr. G. Clark Trotter, Mr. E. B. Turner, Sir Jenner Verrall, Dr. J. F. Walker.

The Chairman reported the deaths of four who had been closely associated with the work of the Council—namely, Sir Clifford Allbutt, the revered ex-President, Colonel R. I. D. Hackett, A.M.S.(ret.), Dr. Evan Jones, and Dr. J. McGregor-Robertson, all past members of Council.

A vote of condolence with the families was carried standing, and a further vote was passed to Dr. Brackenbury on a domestic bereavement. The Chairman mentioned that Dr. Brackenbury's work in the preparation of the Association's evidence to be given to the Royal Commission on National Health Insurance had been carried out while he was suffering great anxiety and grief, and the profession was all the more deeply indebted to him for his labours. ("Hear, hear.")

Congratulations were accorded to members who had received honours.

A message of thanks to the Association for its assistance in obtaining subscriptions was received from the Royal Medical Benevolent Fund.

#### *Award of the Gold Medal to Dr. Bolam.*

The following motion, of which the President had given notice at a previous meeting, came next on the agenda:

That the Gold Medal of the Association be awarded to Dr. Robert Alfred Bolam, F.R.C.P., LL.D., for his distinguished services to the Association and the medical profession, and in special commemoration of his work in connexion with the acquisition of the new House of the Association, 1921-25.

Dr. Bolam left the meeting while the discussion on this motion took place, the Treasurer presiding in his stead.

The President said that Dr. Bolam's work in connexion with the new House was a fitting coping-stone to his other great services. He felt some hesitation in saying anything to his fellow members about the sterling qualities of Dr. Bolam, for most of those present had been longer in association with him than he had himself. He would say only one thing: if Dr. Bolam had a motto in life it must be "Service, not self." (Applause.) Short as his own experience of the Council had been, the patience and skill of the Chairman had made a great impression on his mind. Dr. Bolam was a man who "set the cause above the crown, and loved the game before the prize."

The motion would, of course, have been supported by every member of the Council, but he (Mr. Basil Hall) had chosen to attach to it, with their hearty consent, the names of the Past-President, the President-Elect, the Chairman of the Representative Body, the Chairmen of all the Standing Committees, Dr. Manknell, as representing the Division to which he himself belonged, and Dr. Fothergill, who, he believed, in term of service, was the oldest member of the Council.

Mr. C. P. Childe (Past-President), in seconding the motion, said that it would be waste of time to endeavour to enumerate the many services which Dr. Bolam had rendered to the Association, but if the qualification for the Gold Medal consisted, as he believed it did, of eminent services to the Association, and through it to the medical profession generally, then Dr. Bolam had not only qualified for this distinction, but had qualified with honours. His work in connexion with the acquisition of the new House was only one of his activities on behalf of the Association, and his business capacity, his unremitting attention to affairs, his sound judgement, his firmness (combined with courtliness) in the chair, and his sympathy and kindness of heart, had won for him a unique position on the Council.



Dr. Maedonald, in supporting the motion, said that when Dr. Bolam was suggested as his successor in the chairmanship of the Council he knew at once that he was the most suitable man who could have been chosen. There must be something invigorating about high office in the Association, for although when Dr. Bolam came to the chair he was really very ill, he was now, in spite of his arduous labours, very much better in health.

Dr. Wallace Henry said that during his chairmanship of the Representative Body he was in close association with Dr. Bolam, and realized how keenly he sought to promote the interests of the Association. In doing so he sacrificed time, money, and health.

Dr. Douglas, on behalf of the Scottish members, testified to Dr. Bolam's great help in the purely Scottish affairs of the Association. He attributed some of his excellences to the fact that he was a North Countryman, living close to the Scottish border. He had a shrewd intellect, a sense of humour, a spirit of determination—in fact, he might almost be a Scotsman!

By the regulations governing the award of the medal, the vote on the motion was taken by ballot, and a three-fourths majority was necessary. Forty-one members of Council were present, and the scrutiny showed that forty-one "Ayes" had been recorded.

Dr. Bolam, on returning to the Council, was heartily greeted, and expressed his acknowledgements of the honour done him. He was overwhelmed by the terms of the motion, and by the unanimity of the support which it had commanded. What work he had been able to do for the Association and for the profession—and anything he had done outside the circle of the Association had been in most cases at its instance—was more than rewarded by the appreciation of the members of the Council, who were well aware of the faults, the crudities, and the mistakes (of which he himself was very conscious), and yet continued to give him their confidence. He was deeply grateful to them all for their continued kindness during the five years of his chairmanship. It was possible to do service in face of difficulties, but nothing helped one so much to carry on as the knowledge that one had the support and appreciation of one's colleagues, which had found such kind expression that day. (Applause.)

Dr. Bolam then again took the chair.

#### Nomination of President.

On a communication from the Honorary Secretary of the Nottingham Division, intimating that the Division desired to nominate Mr. R. G. Hogarth, C.B.E., F.R.C.S., as President for 1926-27, the Council unanimously agreed to recommend the election of Mr. Hogarth to the Representative Meeting.

Sir Richard Luce desired to associate himself with this recommendation. He had known Mr. Hogarth very intimately ever since he had been in practice, and he was well aware of the high appreciation in which he was held in Nottinghamshire and throughout the East Midlands. He had the confidence of the whole of the profession, and the Association could not possibly have a better President during the year which began with the Nottingham meeting.

#### "Birth Control."

Dr. Fothergill brought forward the motion, which was postponed from the last meeting of Council, asking that a special committee be formed to consider and report to Council whether the Association could usefully issue a medical pronouncement to the profession and public on the question of birth control; and, if so, how and in what manner steps should be taken to prepare and issue such a pronouncement. Dr. Fothergill recapitulated the arguments which he had advanced on the last occasion (SUPPLEMENT, March 7th, p. 90), and drew attention to a report which was just being issued by the Bishop of Winchester's Committee on the economic, social, and ethical aspects of this problem; the medical aspect had been purposely left alone. The medical profession in America had appointed a Maternal Health Committee, which was elaborating the medical aspect. The speaker maintained that just as the private person was entitled to expect guidance from his doctor on medical questions or sociological questions with a medical side, so public bodies and other groups of the laity had a right to look to representatives of the profession for similar information and guidance. There was no body other than the British Medical Association to speak on this question in the name of the profession. Much harm was being done at the present moment by unauthorized and uneducated propaganda. The profession could not leave alone a subject which involved its prestige. He indicated the several respects in which research on this problem was desirable by a medical group. The only object of the resolution was a preliminary inquiry.

Mr. Turner, in seconding, said that this was one of the "live" questions of the day, about which doctors were continually being interrogated. It was unfortunate that at the present time there was no definite medical pronouncement at

all. Great pressure was being brought to bear upon the Government and the Ministry of Health that the teaching of birth control should be allowed at maternity and child welfare centres, and surely the Association should make some pronouncement on such a question. It was very unfortunate that reports by lay bodies should get the start of pronouncements by the Association. It was a right and proper thing that the Association should face this matter.

Dr. Hawthorne moved us an amendment:

That the Council does not judge the announcement of any formal finding on the policy and practice of birth control to be either necessary or advisable, as the subject is already fully discussed in numerous books and other available publications, as it is the cause of acute controversial differences between different sections of the profession, and as the functions of the British Medical Association do not include the responsibility of suggesting to members of the profession the nature of the advice they should give to their patients.

He pointed out that the terms of the amendment did not involve any expression of opinion upon the desirability or otherwise of birth control. The expression of opinion in the amendment was confined entirely to the question whether it was or was not advisable for the Council to attach its authority to an opinion in one direction or the other. It was unnecessary and inadvisable for the Association to enter upon this controversy. The facts, so far as they could be determined, were already at the disposal of every member of the profession, and as the question was as to the advice which a practitioner should give to his patients it was his duty to equip himself with the information already available if he decided to give advice at all. It was not the function of the Association to set up a standard according to which medical practitioners could advise their patients. Dr. Fothergill had spoken of collecting facts; but the facts were already published and available. The reasons why the course proposed was inadvisable were: (1) that it would seem to interfere with the general doctrine of the freedom of the individual practitioner and with the corresponding individual responsibility; and (2) the question was one of acute controversy, not confined to the calm of the intellectual plane, but engaging emotion and prejudice. It must not be forgotten that large sections of the profession deemed the practice of birth control to be highly immoral—for example, the members of the Roman Catholic Church and of sections of the Anglican Church.

Dr. Maedonald seconded the amendment, supporting heartily what Dr. Hawthorne had said. The Association would be led into difficulties if it took any steps to deal with this subject. The question of birth control *qua* birth control was purely social and political, not medical at all, though, of course, when it came to the actual practice, the view of the medical profession came in. He objected also to the setting up of a new committee to consider this subject, if it was to be considered at all; the members of this proposed committee were all nominated by Dr. Fothergill. If it was necessary to make any reference at all it might well have been to the Medico-Political Committee.

Sir Richard Luce said that this was a subject which was very prominent at the present time, and one in which the education of the medical profession itself was important. There was a strong feeling that the profession ought to be in a position to afford help and information, not on the sociological, but on the scientific side. He was in favour of having some sort of inquiry by the Association, but it should be confined to scientific aspects. The question, which might come forward in the way of proposed legislation, had already been considered by the medical members of the House of Commons, who would gladly be associated with an inquiry of this sort, if the Association saw fit to initiate it.

Dr. Flemming opposed the amendment because it was side-tracking the issue. The issue was not that the Association should lay down a policy with regard to birth control. He hoped that if the motion was passed the reference would be strictly limited to the medical aspects. The social, moral, and economic aspects were for statesmen to consider, but before the statesmen could so consider they must be informed as to the likely effect of birth control on the persons immediately concerned, and the profession ought to be able to give a definite answer without trespassing on the dangerous by-paths indicated in the present debate.

Dr. Langdon-Down said that there were certain matters upon which it was very difficult to get at the facts, because they were widely spread and necessitated a collective investigation. It might be useful for the Association to collect the facts, as, for instance, the actual effects of this practice on the population. The books written on the subject were written for the most part with a bias. Collective inquiries of this kind had been carried out by the Association.

Mr. Bishop Harman said that the burning question was not medical at all, but ethical, and therefore it was not incumbent upon the Association to interfere. He recalled the precedent

of the Council's action with regard to the proposed inquiry on faith-healing, which was turned down, some thought at the time unwisely, but the justification for the Council's action was to be found in the recent pronouncement of the Bishop of Durham.

Dr. Hawthorne pointed out that what Dr. Fothergill's motion aspired to was, not a collection of facts, but the pronouncement of medical opinion, and that being so, it would be impossible to confine the issue within the narrow limits suggested by some supporters of the motion.

Dr. Hawthorne's amendment was carried by a very large majority.

#### Post-Graduate Education.

The Chairman gave an account of certain informal but very important conversations on the subject of post-graduate education in this country which had been proceeding during the past few months. They arose at the suggestion of Sir John Lynn-Thomas, a former member of the Council, who, as a result of a visit to New Zealand, where he acted as the delegate of the Association, was impressed by the lack of machinery for assisting practitioners from overseas who came to this country for educational purposes. The informal meetings, of which four had been held, had been presided over by Sir Thomas Horder, and after various conversations he (Dr. Bolam) undertook to approach the Council of the Association, and to suggest that facilities might be offered to the post-graduate movement in the Association's new House by way of a theatre for lectures and the nucleus of a bureau. The Fellowship of Medicine and Post-Graduate Association of London had done a considerable amount of work on the subject, but much more remained to be done, and the Fellowship had been assured that any new efforts set on foot as the result of these meetings were intended in the spirit of co-operation. It was felt that possibly the Hastings Conference Hall in the new building might form a meeting place for demonstrations and systematic lectures. A certain expenditure would be entailed by the Association, but it would really be an extension of work the Association already undertook in the shape of advice and information to graduates.

Dr. Hawthorne said that the Council would sympathize with efforts from any quarter to increase the facilities for post-graduate teaching. London was the greatest clinical centre in the world, and yet there was no post-graduate scheme at all commensurate with the need and the opportunity. The Science Committee in September last appointed a nucleus Post-Graduate Subcommittee to watch the question and report. He desired to know exactly where the Science Committee stood in relation to these other conversations which had been proceeding independently. He also desired to know whether the facilities which it was suggested might be offered in the Association's House would be independently of or in association with those of the Fellowship of Medicine.

The Chairman said that it might be that the Council would think the question of post-graduate education one of such urgency that whether the co-operation of the Fellowship of Medicine could be secured or not the Association should provide facilities, and then it would be for those who had the matter in hand to try and enlist the co-operation of all those outside the British Medical Association. It was not contemplated that the use of the Association's House and the other facilities would be provided without recognition.

Dr. Morton Mackenzie moved a resolution welcoming the idea that the Association should take a greater interest in post-graduate education, and authorizing the Chairman to confirm the offer of secretarial help, office facilities, and the use of lecture hall. The position of post-graduate work in London was deplorable, and he thought a very great debt of gratitude was owing to Sir Thomas Horder and Sir Dawson Williams—the moving spirits of this new endeavour—for the time and trouble they had devoted to putting things on a better footing. There was something about the organization of post-graduate work which seemed to become sterile at once. He regretted that the Association had not taken advantage of an earlier opportunity to appoint a whole-time officer to deal with this subject. It would have led to a much better co-operation between the Association and the staffs of the large hospitals. The work was not being done as it ought to be done in London. If the Association took it on he believed that, in conjunction with the Fellowship, very good work could be done.

The Chairman suggested and Dr. Mackenzie accepted the following reading of the resolution:

That the Council welcomes the idea of the Association taking a greater interest in the organization of post-graduate work in London, and authorizes the Post-Graduate Subcommittee to continue negotiations to this end, and in the event of a satisfactory scheme being proposed would be prepared to provide facilities in its own House.

Mr. Bishop Harman believed that post-graduate education could be made a "profitable industry." He spoke from an

experience of twenty years of the West London Hospital Post-Graduate College, which paid its way and paid its lecturers. There might be some little deficit at the beginning in the Association scheme, but as graduates were attracted to London their registration fees and payments for facilities would become a valuable source of revenue.

Mr. McAdam Eccles said that after the primary education of the medical student for qualification nothing was so important for the profession at large and for the public as post-graduate teaching, and London certainly had been and still was woefully behind the times. It was apt to be forgotten that there were two sides to this particular type of education—one for those who came from abroad and required very special courses, and the other for the general practitioner at home, a matter to which the Ministry of Health was now turning its attention. If the British Medical Association could take up post-graduate teaching he was a little doubtful as to whether it should embark on the higher teaching, at any rate at present, because the basis of post-graduate teaching was clinical material and teachers; and although a bureau and a lecture hall and social amenities might be provided, unless the hospitals and other centres could be "roped in" and the teachers secured, any scheme of post-graduate education must fail. It was the outstanding wealth of clinical material and the ability of the teachers in some of the foreign centres which had drawn, and in some cases, in America particularly, was still drawing, the students.

Mr. Childs strongly supported the proposal, which he thought would have great propagandist value for the Association. Mr. Nuthall also thought it would be greatly to the advantage of the Association to enlarge this side of its scientific work. Mr. Dunhill said that a bureau in the Association offices would not give the prospective students what they required. They wanted to see clinical material and museums and bacteriological work. Before the Association embarked definitely upon this provision there should be a preliminary survey of the field.

Sir Jenner Verrall thought that the speeches showed the necessity for inquiring more fully into this matter. Certainly no time was to be lost. When visiting Canada the Medical Secretary and he appreciated the fact that members of the profession were anxious for such facilities, and that facilities were being provided elsewhere, to the detriment of the Association if it wanted to provide anything of the kind itself.

Dr. Hawthorne suggested that all the gentlemen who had been engaged in these conversations should be asked to meet the Post-Graduate Subcommittee. In his judgement the spending of money for this purpose could hardly be justified unless it was shown that there would be a reasonable financial return. Allowing something for the propaganda value of work of this kind, to take Association money for this purpose and confine to London what was provided would require very careful consideration before it was permitted. A great deal of work was done, especially through the efforts of Sir Dawson Williams, immediately after the war, when graduates were on their way back after service, but the matter since then had dragged.

The Chairman said that in the conversations it was explicitly laid down that not only London would be considered in affording facilities; it was hoped, for instance, that Oxford and Cambridge would help. The bureau would afford information about all post-graduate facilities throughout the country. A certain amount of information had been obtained as to clinical facilities, and their utilization as a result of these conversations, which would be at the disposal of any joint committee or enlarged committee which might be given the reference.

The principle in Dr. Morton Mackenzie's resolution was then agreed to by the Council, but a slight change was made in the authorization to the committee; the matter was referred to the existing Post-Graduate Subcommittee together with those who, under Sir Thomas Horder's chairmanship, had been engaged in the preliminary conversations referred to. The effect of this was to set up an *ad hoc* committee of Council consisting of the members of the two bodies concerned.

#### Veneral Diseases and Insurance Practice.

Dr. Dain, Chairman of the Insurance Acts Committee, referred to the evidence which the National Council for Combating Veneral Diseases was proposing to give before the Royal Commission on National Health Insurance. It appeared probable that, judging from a circular letter which the National Council had sent to each of its branches, the claim would be made that the treatment of gonorrhoea, although at present, by the ruling of the Ministry of Health, within the competence of the general practitioner, necessitated such lengthy special treatment and such a large number of specialized instruments and apparatus as to render success in general practitioner treatment in the majority of cases an impossibility. Dr. Dain moved a recommendation on behalf of his Committee, "That the treatment of any disease as such should not be removed from the province of the general practitioner's duties, and that the

treatment of syphilis and gonorrhoea does not call for a special modification of this principle." He said that the general practitioner was responsible in the first instance for any and every disease for which a patient came to him. If the disease required the treatment of a specialist, then it was his duty to pass the patient on to a specialist.

Mr. Turner said that it had been his work on the National Council to keep the activities of that body in accordance with the principles of the Association. The question of the treatment of syphilis and gonorrhoea became rather acute about 1920, when large districts were not covered by clinics, and a discussion took place in the Representative Meeting, which practically unanimously agreed with the proposals of the then Local Government Board whereby salvarsan was to be given only to such practitioners as showed themselves to be qualified to administer it. In districts where there was no clinic available the patient was dependent on the general practitioner for his treatment, and the idea of the National Council had been to get men to qualify themselves so as to undertake treatment in those districts. He moved an amendment which would make the latter part of the motion read, "but that the treatment of syphilis and gonorrhoea calls for a special modification of this principle."

Dr. Brackenbury said that Mr. Turner's proposition arose from two assumptions with which he could not agree—one that the general practitioner was always foolhardy, and the other that the specialist never made a mistake. He would, however, suggest some alteration in the wording of the motion, making it plain that the treatment of any disease as such should not be removed from the province of general practitioners as a class, and that syphilis and gonorrhoea did not call for a specific modification of this principle. He understood Mr. Turner to plead that syphilis and gonorrhoea at all stages and in all persons required this special skilled treatment, which general practitioners were not in a position to give. That would involve the removal from the purview of the general practitioner of, for example, locomotor ataxy. He hoped the Council would maintain the principle that there was no disease which, because it was such and such a disease, should therefore, in all its stages and manifestations, be removed from the sphere of the general practitioner.

Dr. Hawthorne agreed with the sound doctrine preached by Dr. Brackenbury, but his explanations would not be available to those to whom this resolution would go. The true position of the profession was not defined by stating that particular diseases should not be removed from the purview of any practitioner. The true position was that in consequence of the training of the practitioner, which enabled him to know what he was competent and not competent to do, every practitioner must be deemed competent to advise any patient, whatever the nature of the patient's complaint. That was the time-honoured tradition of the profession, and was in harmony with the actual facts. The statement of principle which he favoured said nothing about treatment, but everything about advising the patient. Every medical practitioner was continually telling some individual patient that he was not competent to treat the condition which the patient presented. Dr. Dain agreed with Dr. Hawthorne, but said that in this resolution his Committee had been dealing with a specific point submitted to it, and not with the whole question.

Mr. Turner's amendment was lost, and discussion continued on Dr. Brackenbury's alternative wording.

The Chairman of Council said that he was entirely in agreement with the principle enunciated by Dr. Brackenbury. Within his knowledge there were plenty of practitioners at the present day who were doing this work very efficiently, both with regard to syphilis and to gonorrhoea. It would be very unwise to depart from the general principle that the general practitioner must be the guide in the matter of treatment, and very often must be the person actually undertaking the treatment in all these cases.

Dr. Brackenbury's amendment—

That the Association maintains the principle that the treatment of any disease as such should not be removed from the province of general practitioners as a class, and that syphilis and gonorrhoea do not call for special modification of this principle.

was carried.

#### THE EVIDENCE BEFORE THE ROYAL COMMISSION.

The Chairman brought forward a report of the recent Conference of members of the Representative Body and of representatives of Local Medical and Panel Committees (SUPPLEMENT, March 21st, p. 105). He said that it was the largest meeting of representatives of the profession which had been held for many years, and was very cordial and unanimous. On the whole, the Memorandum found general agreement, but there were a few resolutions of the Conference necessitating some alteration to the Memorandum, and some others referred by the Conference to the Council for consideration.

Dr. Brackenbury said that with regard to the suggested provisions for maternity service, the Conference was distinctly in favour of the method of consultation of practitioners during the maternity period rather than that of substitution. He accepted certain amendments by Dr. Fothergill in the new paragraph 29 with the object of making this position quite clear. With these amendments incorporated the latter part of paragraph 29 would read:

"... Within these limits, therefore, every maternity case should be in relationship with a responsible medical practitioner, though if the mother arranged for the actual attendance of such practitioner in respect of a normal confinement this would be an arrangement outside the insurance provision. Provision for a woman within the insurance scheme would thus be for (a) ante-natal medical examination (if requested by her) and supervision, (b) attendance by a registered midwife during normal labour and the puerperal period, (c) attendance by the practitioner of her choice during labour and the puerperal period when his attendance is requested by the midwife under defined conditions or when as the result of his ante-natal examination he has declared his personal attendance to be necessary. Professional services under these headings would be remunerated as in the case of the other extra services, by a special scale of fees."

Dr. Fothergill pointed out that there were two classes of women to be considered in this connexion: one, an insured person in her own right, with regard to whom the Conference said that she should not be removed from the doctor on whose list she was, except during the maternity period; the other, the wife of an insured person, who would not have an insurance practitioner at all and whose private doctor might not undertake maternity work.

Dr. Brackenbury said that this was a considerable difficulty. It was met, of course, if the suggestion made elsewhere in the Memorandum with regard to the inclusion of dependants was adopted. Otherwise difficulty would arise in the contingency of an insured man's wife, not herself an insured person, about to become a mother, and whose private practitioner did not undertake maternity work, but such cases would be rare.

Dr. Fothergill suggested that after the words "Provision for a woman within the insurance scheme" (in the paragraph quoted above) there should be added the words "as set forth in this Memorandum." Dr. Brackenbury agreed to this, and the revised paragraph thus amended was accepted by the Council.

#### The Liberties of the Profession.

Dr. Brackenbury then brought forward an additional paragraph of great importance, which he had drafted with regard to the judicial or semi-judicial functions of the Ministry:

"There have recently been a number of cases in which the action of the Ministry of Health in imposing penalties on practitioners has appeared to the Association to be of an inexplicable character, and has given rise in the minds of many practitioners to a feeling of injustice, or even of a suspicion of vindictiveness. The Association recognizes the administrative duties of the Ministry in this connexion, and is very anxious to foster in the profession a feeling of confidence in the exercise by the Ministry of its judicial, or quasi-judicial, functions associated therewith. When, however, agreements with the profession have been reached with regard to the machinery and procedure by which decisions shall be arrived at, it is exceedingly disquieting to find that, though the machinery is used and the procedure followed, there are cases in which there seems little or no relationship between the decisions of the Ministry and the reports or recommendations of the bodies on which action is supposed to depend. The Association desires to emphasize its view: (1) that when a complaint has been dealt with by the bodies set up by the Regulations for this purpose there should not be a liability to have the whole matter reopened by separate departmental action, either by the Ministry itself or by those bodies at the instigation of the Ministry; (2) that when the complaint has been made in one prescribed form penalties should not be inflicted in respect of offences not formally alleged or of offences which, if alleged, should have been formulated in a different prescribed way and might have required a different line of defence; (3) that full consideration should be paid to the findings or recommendations of a committee (whether Medical Service Subcommittee or Inquiry Committee) which has itself investigated the details of the case in mitigation of the heinousness of the misconduct even when proved; (4) that it is essential to draw a strict distinction between professional conduct in the attention given to a patient and the nature of the exact professional treatment given to the patient, and that the propriety or otherwise of any particular method or line of treatment should not be made the subject of investigation in connexion with the insurance service."

Dr. Fothergill complained of the unduly moderate language of the proposed new paragraph. He would use a much stronger phrase than "It is exceedingly disquieting."

Dr. Brackenbury, declaring his belief in the virtues of understatement rather than overstatement, said that the witnesses would go armed to the Commission with full particulars of all the cases—five in number, he believed—of extreme importance, which were the subject of complaint in this paragraph, and the grievance would be plainly stated by the witnesses, who would say that the profession could not tolerate this sort

of procedure if it went on without explanation from the Ministry. What he would maintain was that the specific charges must be definitely formulated so that the accused practitioner might have a full opportunity of dealing with them.

Mr. McAdam Eccles pointed out what seemed to him an inordinate length of time between the finding of the Committee of Inquiry and the publication of the Ministry's decision. For six or seven weeks this matter might be hanging over the practitioner's head, and be a matter of comment in his neighbourhood.

Dr. Dain remarked that in addition to the representations which the witnesses would make to the Commission, the Insurance Acts Committee would have some very definite things to say to the Ministry of Health.

The new paragraph was agreed to.

Discussion next took place on the age of entry into insurance, which was the subject of a resolution of the Conference. After some discussion it was agreed to proceed to the next business.

Dr. Brackenbury next brought forward the resolution of the Barnstaple Division, referred by the Conference to the Council for consideration, on the subject of certification, and objecting to the present obligatory certification rules. Dr. Brackenbury said that the Barnstaple Division had devoted a great deal of time to the paragraphs dealing with certification, and had put up a series of amendments which would have resulted in changing what might possibly be underemphasis in the original document into overemphasis, with some inaccuracy of statement. But he thought there were certain things which could be done to meet the Barnstaple position, the principal being a new paragraph which he proposed to insert, protesting against certain non-professional duties and requirements of medical practitioners, which were specially burdensome in rural areas. Dr. Dain and Dr. Bone, however, criticized the proposed insertion, and Dr. Brackenbury said that he would withdraw it, but he took up a suggestion by Dr. Dain that in rural areas it might be sufficient to have in the form of certificate the phrase: "I have satisfied myself that on (date) (person) was incapable of work." On this several members asked why any differentiation should be made between rural and urban practitioners, and urged that if it was safe in the one case it was safe in the other. Dr. Brackenbury pointed out that differentiation already existed in the Memorandum as between country and town in regard to the interval between certificates. It must be recognized that there were things which it was much more difficult for the rural than for the urban practitioner to accomplish.

It was agreed to leave it to the witnesses to make the matter clear in oral evidence.

Dr. Brackenbury then said that with regard to the other suggestions left to the Council's consideration by the Conference, he would propose that they be not adopted, on the ground that most of them were already covered by the Memorandum in some form or other, or that others would be inexpedient and contrary to the spirit of the Memorandum.

Dr. Morton Mackenzie said that the Reigate Division wished to emphasize its opinion that a definite income limit for dependants should be stated, as, for example, £150. Dr. Brackenbury said that when this Memorandum was first discussed the Council decided that it was better not to put down definite figures, and income limits had not been named.

It was agreed to leave this also in the hands of the witnesses.

Four chief witnesses were then appointed to give evidence before the Commission—namely, Drs. Bolam, Brackenbury, and Dain, and the Medical Secretary—and they were given full power to call in other representatives of the profession to deal with special matters.

#### *The Joint Tuberculosis Council.*

Dr. Ridley Bailey, on behalf of the Public Health Committee, brought forward a recommendation to the effect that no useful purpose would be served by the continued representation of the Association on the Joint Tuberculosis Council. One of the Committee's reasons for this recommendation was that the multiplication of bodies doing work of a similar nature was undesirable; another was that the Memorandum which the Joint Council proposed to submit to the Royal Commission on National Health Insurance conflicted at certain points with the views advanced by the Association.

Dr. Lyndon, who was one of the representatives on the Joint Council, said that he saw no reason why the quite recent decision of the Council of the Association to appoint representatives should be reversed. He believed that, save in one respect, the evidence which the Joint Council proposed to give was in harmony with the Association's views, and in any case the Society of Medical Officers of Health, with which the Association continued to work in closest co-operation, was giving evidence, much of which was directly opposed to the Association's views. Dr. Hillman the other representative,

supported Dr. Lyndon's contentions, and said that he regarded the Joint Council as a very useful body. Dr. Brackenbury said that, studying the heads of evidence, he was afraid the Association would disagree, not on one of the points only, but on about half of them. At the same time it might be worth while to appoint representatives on a body with whose general conclusions on a particular matter the Association was not in agreement.

It was agreed that the recommendation should be withdrawn, and that the representatives should continue to attend, and should hold a watching brief in the interests of the Association.

#### *Nursing Homes (Registration) Bill.*

Mr. Turner, on behalf of the Medico-Political Committee, moved, in view of the introduction of the Nursing Homes (Registration) Bill into the House of Commons, a recommendation: "That the Council is of opinion that all nursing homes should be registered."

Dr. Fothergill moved, as an amendment:

That the Council is of opinion that adequate provision has been made for exercising control over registered medical practitioners who receive into their own homes resident patients, and therefore they should be included amongst the exceptions enumerated in Clause 13 of the bill.

Dr. Fothergill said that the definition of a nursing home as set out in the bill included "any premises used or represented as being intended to be used as a place for the reception of women in childbirth or persons suffering from any sickness, injury, or infirmity; for the purpose of the provision of such persons with nursing and medicines or food, either with or without medical or surgical aid, where any payment or reward is made, given, or promised." That definition bore upon three classes of persons whom doctors took into their homes—namely, single certified patients, border-line cases, and oldish persons with heart, rheumatic, or other chronic complaints, who wished to reside with a doctor. Hundreds of doctors would be affected. The doctor who took in such a patient would have to apply for registration and give details of his equipment, and his application could be refused for various reasons, as, for example, that the doctor himself was unsuitable, that anyone he employed was unsuitable or unqualified, that the premises were unsuitable, that the equipment for patients, staff, or domestics was unsuitable, or that too many patients were received. The Minister of Health could make general regulations, administrative and penal; a certificate had to be exhibited in a suitable approved place in the home; the medical officer of health or an appointed State registered nurse might at all reasonable times enter and inspect the premises, and there were other onerous provisions. The whole object of these patients in being with the doctor was in order that they might secure a private life, but under this arrangement they would be subject to various invasions. The medical man's house ought to come under the other exemptions—hospitals, infirmaries, etc.—set out in Clause 13.

Mr. Bishop Harman seconded the amendment, which was accepted by Mr. Turner as an addendum to the recommendation, and so agreed to by the Council, with the instruction that support should only be given to the bill if approved by the Parliamentary Subcommittee of the British Medical Association.

#### *The Finances of the Association.*

The Treasurer (Mr. Bishop Harman) said that the financial statement that he had to submit for the twelve months ending December 31st last was very satisfactory. The late Treasurer budgeted for a surplus of £5,000; the surplus realized was £8,000. The increase of membership had brought with it an increase of revenue, but, of course, of expenditure also. To a large extent the commitments on the new building were being financed out of revenue. Subscriptions in arrears were being realized in a very satisfactory fashion. For next year's budget he again anticipated a surplus, which he put modestly at £4,000.

The Chairman gave an account of the progress of the new building. The architect, Sir Edwin Lutyens, had returned from India, and expressed himself satisfied with the work which had gone on in his absence. The Gates of Honour were practically completed. A report had been made on the flags representing the towns the Association had visited; these would hang in the main hall. He exhibited the handsome flag representing London, with the City arms, presented by the Metropolitan Counties Branch. It was proposed to make suggestions to the places presenting flags as to the groundwork of the devices in order to get a harmonious colour scheme. Dr. Bolam proceeded to give some account of the finance relating to the building.

#### *Individual Medical Defence.*

Dr. Morton Mackenzie brought forward, on behalf of the Organization Committee, an exhaustive report on the question of individual medical defence, which was raised again at the Annual Representative Meeting in Bradford. He said that



this question had often been discussed by the Council, but on this occasion he was able to bring it forward in a more complete form than ever before. His Committee asked that the very important step should be taken of approaching the members by circular to find out how many of them would be prepared to join a defence organization created under the Association's auspices. A great deal of work had been done on this subject since the Representative Meeting, and an extremely able document had been prepared by the Financial Secretary showing clearly the difficulties that would confront the Association in starting medical defence work. In this document Mr. Ferris-Scott had expressed the view that, in all the circumstances, the work could not be safely undertaken on a membership of less than 6,500. A very useful history of the medical defence question had been prepared by the Intelligence Officer, Miss Lawrence; this showed that the point at which his Committee asked the Council to arrive that day had been reached twice before during the last twenty years. He thought he could lay down certain propositions which were incontrovertible. There was no doubt that if there were no societies doing this work the Association ought to take it up, but there were such societies. It was granted that it was impossible for the Association as such to do the work at all; it would have to be done by a linked body of some kind. It was also agreed that every effort had been made to get the existing societies to co-operate, and this had proved fruitless. Any idea of making medical defence compulsory on all members of the Association was out of the question. A partial form of medical defence was found to be quite impracticable if one went into details. The only possible alternative, therefore, was optional full medical defence, which meant medical defence such as was afforded by the societies existing for that purpose. This would satisfy those members who desired that the Association should provide something of this kind, and it would not offend members who already belonged to the existing societies. There were certain difficulties, most of them of a slight or temporary nature, such as the early financing of the venture. His Committee was unanimous in recommending, as a report to the Representative Body:

That, having carefully reviewed the whole question of medical defence, the Council is of opinion: (a) that the only possible form of medical defence which can be afforded to members is full medical defence (as given by the existing societies) to such members as desire it and are willing to pay a separate subscription for it; (b) that it is possible to give such full defence by initiating a separate organization; and (c) that such an organization should not be launched unless a reasonable measure of support is forthcoming.

Dr. Lyndon opposed the recommendation. If such a scheme were started it would have to be pushed, and to push it would be to declare war on the existing defence societies. He did not think that anyone would claim that the British Medical Association would do this work better or more cheaply or with fewer complaints than those special bodies which had done it for so many years. Having allowed these societies to grow up, it would be lamentable to try and suppress them. He could speak for the Medical Defence Union that its membership was increasing; it had elected 500 members since January 1st.

Mr. Bishop Harman supported the recommendation. The agitation in favour of the Association taking up this work had been going on for thirty years, and this was outstanding evidence of the desire of members of the Association for something of this kind. There was now an opportunity to put the matter to the test, and really to ascertain what support the venture would receive.

Dr. Beadles hoped the Council would pass the recommendation. He recalled that this controversy was in being when he joined the Association in 1896, and to him it appeared extraordinary at that time that he should have to go to some outside body to get his individual medical defence.

Mr. McAdam Eccles said that there was no doubt that the first thing that the newly qualified medical man or woman thought about was medical defence. When he was asked questions on this subject by young practitioners he was always sorry that he could not refer them to the British Medical Association. If the Association took up this full optional medical defence it would be an enormous advantage to the Association in its hold over new entrants into the profession.

Dr. Morton Mackenzie said that they were not declaring war on the existing societies. The existing societies had been given every opportunity of entering into co-operation, and had refused.

The recommendation was carried by a large majority, and a further recommendation to the Representative Body was also carried that a draft scheme be prepared, on the basis of an annual subscription of £1, in order to ascertain the number of members who desired the initiation of such a scheme and were prepared to join in its membership.

### Other Business.

Other committee reports, which gave rise to no discussion, were those of the Naval and Military, Science, Dominions, and Journal Committees.

The Council heard with great satisfaction that delegates from the American Medical Association would attend the opening of the new House and the Annual Meeting at Bath. It appointed the President to represent the British Medical Association at the meeting of the American Medical Association at Atlantic City in May next.

The Council congratulated the Irish Medical Secretary, Dr. Hennessy, on his election to the Dail. The Irish Committee was instructed to bring up a report at the next meeting on the Irish secretaryship, in particular on the amount of time which would be required of Dr. Hennessy in the discharge of his new duties and the effect that this might have upon the work of the office.

On the matter of the report of the Royal Commission on the Superior Civil Services in India (which was the subject of a long discussion at the last meeting of Council), Sir Richard Luce stated that the Government had made no pronouncement up to the moment. The Government had decided to bring in a bill embodying a good many recommendations of the Lee Commission, but had expressly left out the recommendations with regard to the medical services. Lord Birkenhead had stated that no steps were to be taken with regard to the medical services until further information was forthcoming from India, and Sir Richard Luce believed that the matter would be left until the return to this country of the Viceroy.

The Chairman brought forward the report of the conference on the public health scale of salaries, and said that it was very satisfactory that the Ministry of Health had agreed that the scale now suggested was a reasonable scale, and that certain provisos appended to it were also reasonable. The scale, as finally agreed for recommendation to the Representative Body, will be published as Appendix V to the Annual Report of Council in the next issue of the SUPPLEMENT, and some account of the negotiations will be found in the appropriate place in the body of the report.

The Council approved the Memorandum on Coroners' Law and Death Certification for recommendation to the Representative Body in substitution for the existing policy. This will be found as Appendix IV to the Annual Report.

The work before the Council at this session was unusually heavy. The meeting began at 10 a.m., and the business was not completed until 10.15 p.m.

## British Medical Association.

### CURRENT NOTES.

#### Annual Meeting, Bath: Ladies' Sports.

Active preparations are being made for ladies' sports in connexion with the Annual Meeting at Bath. The local golf and tennis clubs are making the visitors honorary members, and it will greatly assist in the arranging of matches and competitions if intending players would send their names in advance to Mrs. Dorseton, 16, Queen Square, Bath, who is chairman of the Ladies' Sports Subcommittee.

#### The Dorset County Council and its Medical Service.

We recently drew attention to the efforts of the West Riding County Council to obtain medical officers at a commencing salary less than that of the scale recognized by the British Medical Association, the Society of Medical Officers of Health, and the Medical Women's Federation. The offer of that council was, however, princely compared with one which is now being made by the Dorset County Council, which is advertising in the lay press for an assistant county medical officer of health at £500 per annum, with no suggestion of any regular increments in salary. The County Council goes on to intimate that the possession of a diploma in public health, sanitary science, or State medicine, and special experience in diseases of children, diseases of the eye, tuberculosis, and mental deficiency, will be considered additional qualifications for the appointment. The County Council is probably astonished at its own moderation in not demanding an acquaintance with other specialties. The medical man who gets this appointment will be entitled to regard himself as a complete "all-round specialist," though it may be doubted whether he will



be accepted by the practitioners of Dorset at the County Council's valuation of him. The commencing salary approved by the British Medical Association for a post of this kind is £600 a year, and it is postulated that the officer must have had at least three years' experience since qualification. When it is remembered that the Ministry of Health has agreed that this is reasonable and is prepared to support it, and that the Association of Municipal Corporations is also of opinion that the scale, including this section, is not unreasonable, it is to be hoped that no member of the profession, however unsophisticated, will be taken in by the ridiculous offer of the Dorset County Council.

#### The Profession and Local Authorities.

A notice has been issued to the members of the Willesden Division of the British Medical Association by the Divisional Chairman and the Honorary Secretary, stating that Drs. Lock and Skene, who have represented the profession upon the Willesden Urban District Council for the last three years, and have done good work for the public while carefully guarding professional interests, have both agreed to seek re-election. Polling is on Monday next, April 6th.

### SOUTH AFRICAN COMMITTEE.

#### THE YEAR'S WORK.

THE following is a summary of the proceedings of the South African Committee of the British Medical Association for the year 1924.

**Medical Ethics.**—A *Guide to Medical Ethics* was published early in the year, and has proved to be of great value to practitioners. There has been a growing demand for the book, which has been very favourably reviewed in the medical press. (See *BRITISH MEDICAL JOURNAL*, Supplement, April 12th, 1924, p. 161.)

**Medical, Dental, and Pharmacy Bill.**—This consolidating bill came before Parliament early in the year, and its medical penal clause was sent to a Select Committee. The President of the South African Committee gave evidence before this Select Committee in Cape Town in support of the clause. Very strong exception is now taken to Clause 34, as amended by the Select Committee, as it removed "Christian Scientists" (and other denominationalists) from the operation of the clause, and in effect permitted them to charge fees for their ministrations to the sick. It remains to be seen whether Parliament will accept such amendment.

**Benevolent Fund.**—A handsome donation to this fund was received from one of the members, and it now shows a credit balance of £517.

**New Branch.**—An application to form a new Branch with headquarters at Port Elizabeth was received, and met with the unanimous approval of the Committee. The adjacent Branches were asked to co-operate with Port Elizabeth in defining the area for the new Branch.

**Midwives: Registration and Control by Municipalities.**—As the registration and control of midwives is not provided for by municipalities generally, a motion was passed suggesting that power be taken in the contemplated Public Health Amendment Bill to enable the Minister to issue regulations permitting of this.

**Medical Organization.**—Owing to various circumstances it has not up to the present been found possible to appoint an organizing secretary for the Union of South Africa, and the British Medical Association Council has very willingly agreed to keep the offer of £1,000 a year for three years open for another year. Meanwhile the Committee recommended that for propaganda purposes the Branches should each appoint a Branch Organizing Secretary.

**Propaganda.**—A small subcommittee was appointed to frame a circular, setting forth the objects and advantages of the British Medical Association, for circulation to non-members of the British Medical Association in South Africa, with a view to increasing the membership.

**Annual Medical Lecture.**—It was resolved that a lecturer be appointed to deliver an annual lecture at various centres in the Union, and the first lecturer appointed was Professor G. Ritchie Thomson. The lecturer is to be known as "The South African B.M.A. Lecturer," and it has been decided that local lecturers be appointed by Branches for the purpose of lecturing in the outlying districts of Branch areas.

**Honorary Medical Secretary.**—It was thought that the South African Committee would be strengthened by the appointment of an Honorary Medical Secretary as an additional office-bearer, and Dr. Goldschmidt of Cape Town was unanimously elected to the office.

**Scale of Salaries in Public Appointments.**—A subcommittee was appointed to go into the matter of salaried public appointments and to report to the South African Committee. The report which this subcommittee drew up was an admirable one. It has now been sent to the Branches for their information and remarks.

**Hospitals Commission.**—Dr. Campbell Watt, as President of the South African Committee, appeared before the Hospitals Commission appointed by the Government, at very short notice. His evidence consisted mainly of resolutions passed by medical congresses and by this Committee on the following subjects: Medical Congress Resolutions—hospitals, medical attendance, mental diseases, control of general hospitals, tuberculosis among natives, medical research, and child welfare; South African Committee Resolutions—scale of salaries in public appointments, pensions for medical officers, sharing fees with hospitals.

**South-West Protectorate: Proposed Branch.**—A new Branch of the British Medical Association is about to be formed for the South-West Protectorate, and it is understood that the probable members thereof are willing to come under this Committee's jurisdiction. A letter was sent to the medical profession in the South-West Protectorate congratulating them on the steps they have taken to form a Branch and inviting them to elect their representatives to the South African Committee, if they desired such representation.

**Malaria and Agricultural Development.**—As the outcome of the Empire Parliamentary Delegation, one of whose members (Dr. Chapple) emphasized the paramount importance of combating malaria in the interests of cotton cultivation, a resolution was passed by the Committee urging upon the Government the desirability of taking such steps as will tend materially to diminish the prevalence of the disease.

### Association Notices.

#### SCHOLARSHIPS AND GRANTS IN AID OF SCIENTIFIC RESEARCH.

##### SCHOLARSHIPS.

THE Council of the British Medical Association is prepared to receive applications for Research Scholarships, as follows:

1. AN ERNEST HART MEMORIAL SCHOLARSHIP, of the value of £200 per annum, for the study of some subject in the department of State Medicine.
2. THREE RESEARCH SCHOLARSHIPS, each of the value of £150 per annum, for research into some subject relating to the Causation, Prevention, or Treatment of Disease.

Each Scholarship is tenable for one year, commencing on October 1st, 1925. A Scholar may be reappointed for not more than two additional terms. A Scholar may hold a junior appointment at a University, Medical School, or Hospital provided the duties of such appointment do not interfere with his work as a Scholar.

The conditions of the award of Scholarships are stated in the Regulations, a copy of which will be supplied on application to the Medical Secretary of the Association, 429, Strand, London, W.C.2.

##### GRANTS.

The Council of the British Medical Association is also prepared to receive applications for Grants for the assistance of research into the Causation, Treatment, or Prevention of Disease. Preference will be given, other things being equal, to members of the medical profession and to applicants who propose as subjects of investigation problems directly related to practical medicine.

The conditions of the award of Grants are stated in the Regulations, a copy of which will be supplied on application to the Medical Secretary of the Association, 429, Strand, London, W.C.2.

##### Applications.

Applications for Scholarships and Grants for the year 1925-26 must be made not later than Saturday, June 6th, 1925, on the prescribed form, a copy of which will be supplied by the Medical Secretary on application.

Applicants are required to furnish the names of three referees who are competent to speak as to their capacity for the research contemplated to whom reference may be made.

ALFRED COX,  
Medical Secretary.

March 21st, 1925.

## ELECTION OF REPRESENTATIVE BODY.

## (A) Representatives of Constituencies.

THE Council has grouped the Divisions for election of the Representative Body, 1925-6, in the manner shown below. As will be seen, the 1924-5 grouping has been repeated, except that the Furness and Kendal Divisions of the North Lancashire and South Westmorland Branch have been made independent Constituencies.

Under By-laws 41 and 43. Representatives and Deputy-Representatives of Constituencies require to be elected by May 16th.

It is a matter for the Executive Committee of the Division (or, where the Constituency comprises more than one Division, for a joint meeting of the Executives of the Divisions) to decide whether the Representative(s) and Deputy-Representative(s) shall be elected by a General Meeting of the Constituency or by Postal Vote. The meeting must be called (or, where the election is by voting papers, these must be issued) by the Secretary of the Division (or, in the case of Constituencies consisting of more than one Division, by the Secretary of the Division having the largest number of members).

If election is adopted, a meeting of the Constituency is required to be held in the period June 18th to July 17th, to instruct the Representative(s).

The names of the Representatives and Deputy-Representatives require (By-laws 41 and 43) to be received by me not later than June 4th.

## (B) Representatives of Public Health Service Members.

Notification as regards the election, by public health service members, of 4 Representatives and 4 Deputy-Representatives in the Representative Body, appeared in the SUPPLEMENT of March 14th, 1925.

ALFRED COX,  
Medical Secretary.

## CONSTITUENCIES FOR ELECTION OF REPRESENTATIVE BODY, 1925-6.

## (I) HOME CONSTITUENCIES.

(Divisions bracketed together form one Constituency.)

<b>ABERDEEN—</b> { Aberdeen { Orkney { Shetland	<b>GLASGOW AND WEST OF SCOTLAND—</b> { Argyllshire { Dumfriesshire { Ayrshire { Glasgow Central { Glasgow Eastern { Glasgow North-Western { Glasgow Southern { Lanarkshire { Renfrewshire and Buteshire
<b>BATH AND BRISTOL—</b> { Bath { Bristol	<b>GLOUCESTERSHIRE</b>
<b>BIRMINGHAM—</b> { Bromsgrove { Dudley { Central { Coventry { Nuneaton and Tamworth { Warwick and Leamington { West Bromwich	<b>KENT—</b> { Bromley { Dartford { Rochester, Chatham, and Gillingham { Dover and Folkestone { Isle of Thanet { Maidstone { Tunbridge Wells
<b>BORDER COUNTIES—</b> { Dumfriesshire and Galloway { English	<b>LANCASHIRE AND CHESHIRE—</b> { Ashton-under-Lyne { Glossop { Bickenhead { Blackburn { Blackpool { Isle of Man { Bolton { Burnley { Bury { Chester { Crewe { Hyde { Stockport, Macclesfield, and East Cheshire { Leigh { Wigan
<b>CAMBRIDGE AND HUNTINGDON—</b> { Cambridge and Huntingdon { Isle of Ely { East Hertfordshire	<b>LIVERPOOL—</b> { Liverpool { Manchester { Mid-Cheshire { Oldham { Preston { Rochdale { St. Helens { Warrington { Salford { Southport
<b>CONNAUGHT—</b> { Mid-Connaught { North Connaught { South Connaught	<b>LEINSTER—</b> { Dublin { East Leinster { Mid-Leinster { North Leinster { North-West Leinster { South-East Leinster
<b>DORSET AND WEST HANTS—</b> { Bournemouth { West Dorset	
<b>DUNDEE</b>	
<b>EAST YORK AND NORTH LINCOLN—</b> { East York { North Lincoln	
<b>EDINBURGH—</b> { Edinburgh and Leith { South-Eastern Counties { The Lothians	
<b>ESSEX—</b> { Mid-Essex { North-East Essex { South Essex	

FIX

**METROPOLITAN COUNTIES—**  
{ Camberwell  
{ Chelsea  
{ City  
{ Finchley  
{ Greenwich and Deptford  
{ Hampstead  
{ Harrow  
{ Hendon  
{ Kensington  
{ Lambeth  
{ Lewisham  
{ Marylebone  
{ North Middlesex  
{ South Middlesex  
{ South-West Essex  
{ Stratford  
{ Tower Hamlets  
{ Wandsworth  
{ West Hertfordshire  
{ West Middlesex  
{ Westminster and Holborn  
{ Willesden  
{ Woolwich

**MIDLAND—**  
{ Chesterfield  
{ Derby  
{ Holland  
{ Leicester  
{ Leicester and Rutland  
{ Lincoln  
{ Nottingham

**MONMOUTH—**  
{ North Monmouth  
{ South Monmouth  
{ West Monmouth

**NORFOLK—**  
{ East Norfolk  
{ Norfolk  
{ West Norfolk

**NORTHERN COUNTIES OF SCOTLAND—**  
{ Banff, Elgin, and Nairn  
{ Caithness and Sutherland  
{ Inverness  
{ Islands  
{ Ross and Cromarty

**NORTH LANCASHIRE AND SOUTH WESTMORLAND—**  
{ Furness  
{ Kendal  
{ Lancaster

**NORTH OF ENGLAND—**  
{ Bishop Auckland  
{ Durham  
{ Blyth  
{ Morpeth  
{ Cleveland  
{ Consett  
{ Hexham  
{ Darlington  
{ Gateshead  
{ Hartlepool  
{ Stockton  
{ Newcastle-on-Tyne  
{ North Northumberland  
{ South Shields  
{ Tyneside  
{ Sunderland

**NORTH WALES—**

**OXFORD AND READING—**  
{ Oxford  
{ Reading

**PENRTH**

**SHERBORNE AND MID-WALES**

**SOUTH-EASTERN OF IRELAND—**  
{ Carlow and Kilkenny  
{ Waterford

**SOUTHERN—**  
{ Gwent and Alderney  
{ Isle of Wight  
{ Jersey  
{ Portsmouth  
{ Southampton  
{ Winchester

**SOUTH MIDLAND—**  
{ Bedford  
{ Buckinghamshire  
{ Northamptonshire

**SOUTH WALES AND MONMOUTH—**  
{ Carmarthen  
{ Monmouthshire  
{ North Glamorgan and Brecknock  
{ South-West Wales  
{ Swansea

**SOUTH-WESTERN—**  
{ Barnstaple  
{ East Cornwall  
{ Exeter  
{ Plymouth  
{ Torquay  
{ West Cornwall

**STAFFORDSHIRE—**  
{ North Staffordshire  
{ South Staffordshire  
{ Walsall and Lichfield

**STIRLING**

**SUFFOLK—**  
{ North Suffolk  
{ South Suffolk  
{ West Suffolk

**SURREY—**  
{ Croydon  
{ Guildford  
{ Kingston-on-Thames  
{ Reigate

**SUSSEX—**  
{ Brighton  
{ Chichester and Worthing  
{ Horsham  
{ Louthbourne  
{ Hastings  
{ Lewes and East Griestead

**ULSTER—**  
{ Ballymoney, North Antrim, and South Derry  
{ Derry  
{ Belfast  
{ Enniskillen or co. Fermanagh  
{ Monaghan and Cavan  
{ Omagh  
{ Portadown and West Down

**WEST SOMERSET**

**WILTSHIRE—**  
{ Salisbury  
{ Swindon  
{ Trowbridge

**WORCESTERSHIRE AND HEREFORDSHIRE—**  
{ Hereford  
{ Worcester

**YORKSHIRE—**  
{ Barnsley  
{ Bradford  
{ Dewsbury  
{ Leeds  
{ Halifax  
{ Harrogate  
{ Huddersfield  
{ Rotherham  
{ Scarborough  
{ Sheffield  
{ Wakefield, Pontefract, and Castleford  
{ York

## (II) OVERSEA CONSTITUENCIES.

The Council has made each Oversea Division and Division Branch an independent Constituency, entitled to elect one Representative and one or more Deputy-Representatives (By-laws 40 and 43).

## BRANCH AND DIVISION MEETINGS TO BE HELD.

**BATH AND BRISTOL BRANCH.**—A meeting of the Bath and Bristol Branch will be held at the Cottage Hospital, Wells, on Wednesday, April 8th, at 3.30 p.m., when Dr. W. A. Brend will give a British Medical Association Lecture on the legal obligations of the medical man. Tea will be provided.

**BIRMINGHAM BRANCH: COVENTRY DIVISION.**—A meeting of the Coventry Division will be held on Tuesday, April 7th, at 8.30 p.m., at the Coventry and Warwickshire Hospital. Agenda: Correspondence; election of representatives; report of representative; lecture by Dr. Harrison Butler on modern methods of examining the living eye.

**LANCASHIRE AND CHESHIRE BRANCH: MID-CHESHIRE DIVISION.**—A meeting of the Mid-Cheshire Division will be held on Sunday, April 5th, in the Board Room of the Altrincham General Hospital.

at 4 p.m. Tea will be provided at 3.45 p.m. Lecture by Dr. Meredith Young (County Medical Officer of Health) on the public health services.

**METROPOLITAN COUNTIES BRANCH: CITY DIVISION.**—A meeting of the City Division will be held at the Metropolitan Hospital, Kingsland Road, E.8, on Tuesday, April 14th, at 9.30 p.m., when Professor Hugh Maclean, D.Sc., M.D., M.R.C.P., Director of Medical Unit, St. Thomas's Hospital, will read a paper entitled "Diabetes—its treatment: insulin up to date." A Divisional dinner and fancy dress dance and carnival—fancy dress optional (four prizes)—will be held at the Holborn Restaurant on Thursday, April 30th, from 7.30 p.m. to 2 a.m.; bridge. Refreshments during evening. Tickets 15s.; early application will be greatly appreciated by Dr. Ernest A. Worley (honorary secretary), 43, De Beauvoir Road, N.1.

**METROPOLITAN COUNTIES BRANCH: KENSINGTON DIVISION.**—A general meeting of the Kensington Division will be held on Thursday, April 23rd, at the Kensington Palace Mansions Hotel, De Vere Gardens, W.8, at 8.45 p.m. An address will be given by Dr. Sermour Taylor, consulting physician to the West London Hospital, entitled "Some medical aphorisms."

**METROPOLITAN COUNTIES BRANCH: SOUTH MIDDLESEX DIVISION.**—A meeting of the South Middlesex Division will be held at St. John's Hospital, Twickenham, on Wednesday, April 15th, at 8.15 p.m., for general business. At 8.30 p.m. Dr. H. C. Corry Mann, O.B.E., will read a paper on dietary during the school age.

**METROPOLITAN COUNTIES BRANCH: SOUTH-WEST ESSEX DIVISION.**—A meeting of the South-West Essex Division will be held at the Claybury Mental Hospital, Woodford Bridge, Woodford Green, on Tuesday, April 7th, at 3.30 p.m. Agenda: Correspondence; any other business. At 4.15 p.m. Dr. C. F. Harlam, superintendent of the hospital, will read a paper on the latest treatment of general paralysis of the insane by inoculation with malaria. Cases of interest will be demonstrated and pathological specimens shown. Tea at 3.15 p.m.

**MIDLAND BRANCH: CHESTERFIELD DIVISION.**—A meeting of the Chesterfield Division will be held at the Maternity Hospital, Chesterfield, to-day (Friday, April 3rd), at 8.30 p.m., when Dr. A. E. Gow, physician to St. Bartholomew's Hospital, will deliver a British Medical Association Lecture on some recent advances in endocrinology.

**NORFOLK BRANCH.**—A meeting of the Norfolk Branch will be held at the Norfolk and Norwich Hospital at 3.30 p.m. on Wednesday, April 15th, when an address will be given by Dr. William Norwood East, Chief Medical Officer of H.M. Prisons Commission, on the interpretation of some sexual offences. Afternoon tea, 4.45 p.m.

**NORTH OF ENGLAND BRANCH: SUNDERLAND DIVISION.**—Scientific meetings of the Sunderland Division will be held at the Durham County and Sunderland Eye Infirmary, Sunderland, on Wednesday, April 22nd, at 7.30 p.m., and at the Borough Sanatorium, Hylton Road, Sunderland, on Tuesday, June 23rd, at 3.30 p.m.

**SUFFOLK BRANCH: NORTH SUFFOLK DIVISION.**—By the kind invitation of Dr. Oakden a meeting of the North Suffolk Division will be held at St. Luke's Hospital, South Lowestoft, on Tuesday, April 7th, at 4 p.m. Agenda: Demonstration of methods of the treatment of surgical tuberculosis, by Dr. Oakden.

**SURREY BRANCH: CROYDON DIVISION.**—The annual dinner of the Croydon Division will be held at the Greyhound Hotel, Croydon, on Friday, April 17th, at 8 p.m.

**SURREY BRANCH: GUILDFORD DIVISION.**—A meeting of the Guildford Division will be held at the Royal Surrey County Hospital, Guildford, on Thursday, April 23rd, at 4 p.m., when Mr. Dudley Buxton will read a paper on the treatment of common disabilities of the feet. Tea will be served at 3.45 p.m.

**YORKSHIRE BRANCH: WAKEFIELD, PONTEFRACT, AND CASTLEFORD DIVISION.**—A meeting of the Wakefield, Pontefract, and Castleford Division will be held at the Bull Restaurant, Westgate, Wakefield, on Thursday, April 23rd, at 8.30 p.m., when Mr. J. F. Dobson, F.R.C.S. (Leeds), will read a paper on urological diagnosis (illustrated with lantern slides). Supper at 8 o'clock.

### TABLE OF DATES.

April 11, Sat.	Annual Report of Council appears in SUPPLEMENT.
April 25, Sat.	Last day for receipt of nominations for election of 24 members of Council by grouped Home Branches, and of 2 Public Health members of Council, and 4 Public Health Service Representatives.
May 9, Sat.	Publication in SUPPLEMENT of nominations for election of 24 members of Council by grouped Home Branches, 2 Public Health members of Council, and 4 Public Health Service Representatives. Voting papers posted.
May 12, Tues.	Independent motions for A.R.M. Agenda must be received at Head Office by this date.
May 16, Sat.	Last day for receipt of voting papers for election of 24 members of Council by grouped Home Branches, 2 Public Health members of Council, and 4 Public Health Service Representatives.
	motions for Representative.
May 30, Sat.	Publication in SUPPLEMENT of results of Council elections by grouped Branches, and of election of members of Council and Representatives in Representative Body by Public Health Service members.
	Nomination papers available for election of 12 members of Council by grouped Home Representatives.
June 4, Thurs.	Names of Representatives and Deputy-Representatives must be received by this date.
June 10, Wed.	Council Meeting

June 18, Thurs. Meetings of Constituencies must be held between this date and July 17th to instruct Representatives.

June 27, Sat. Supplementary Report of Council appears in SUPPLEMENT.

July 3, Fri. Amendments and riders for issue in A.R.M. Agenda must be received by this date.

July 17, Fri. Annual Representative Meeting opens at Bath. Nominations for election of 12 members of Council by grouped Representatives must be received (at A.R.M., Bath) by this date.

July 18, Sat. Annual Representative Meeting, Bath.

July 20, Mon. Council, and Annual Representative Meeting, Bath.

July 21, Tues. Annual Representative Meeting. Annual General Meeting, Bath. President's Address.

July 22, Wed. Council, Meetings of Sections, Conference of Honorary Secretaries, Bath.

July 23, Thurs. Meetings of Sections, etc., Bath.

July 24, Fri. Meetings of Sections, etc., Bath.

ALFRED COX, Medical Secretary.

### Meetings of Branches and Divisions.

#### SOUTH WALES AND MONMOUTHSHIRE BRANCH.

The spring meeting of the South Wales and Monmouthshire Branch was held at the Hotel Metropole, Swansea, on March 26th, when the President, Dr. C. A. BRIGSTOCKE (Haverford-west), was in the chair.

#### Results of Insulin Treatment.

After the usual business had been transacted, Dr. A. CLARKE BEGG (Swansea) read a paper on the results of insulin treatment in some two hundred cases of diabetes, with special reference to the problems of diabetic coma. Dr. Begg said he had treated the problems of the course of twenty months; 51 per cent. were males and 49 per cent. females. The ages of the patients varied between 13 and 72 years. In discussing the etiology of the disease he found that heredity played a part in only 7 per cent. The onset was sudden in 6 per cent., and in one case could be attributed to fright. There had been a recent attack of influenza in 5 per cent., and in 2 per cent. there had been an accident shortly before the onset of diabetes. *Symptoms.*—Loss of weight had been a constant symptom; pruritus vulvae was present in most of the female patients; thirst and polyuria were often noted, and nourishment was common, but in no case was there an increase of appetite. The complications were: gangrene, 13 cases (4 deaths); carbuncle, 9 cases (4 deaths); pneumonia, 2 cases (2 deaths); coma, 16 cases (8 deaths); phthisis, 1 case (1 death); boils, 16 cases; cataract, 16 cases; retinitis and albuminuria were sometimes seen. As far as one could ascertain, the average duration of the disease, before the patient reported for treatment, was about six months. Of the total number, 12 had been treated on dietetic lines alone, while 190 had had injections of insulin. As to the course of the disease, 26—that is, 13 per cent. of the cases—were dead (of these a few had been admitted in *extremis*); tolerance had diminished in 29 per cent., had been maintained in 30 per cent., and had increased in 41 per cent. of the remainder. In 5 cases insulin had been discontinued—that is, in 71 per cent. tolerance had been maintained or had increased. *Deductions.*—Dr. Begg mentioned the possible results of sudden cessation of the injections. The necessity of blood tests in certain patients—for example, when a sugar-free urine was obtained—was discussed. Tolerance might be diminished by worry, influenza, boils, etc. Early treatment was essential, and in most cases the urine should be sugar-free in five to six weeks, with dieting, or dieting and insulin. Stout middle-aged women were not good cases for treatment, and the condition of the heart, arteries, and kidneys would influence the prognosis. Coma was then dealt with; Dr. Begg recognized two types: (1) the diabetic coma with acidosis; (2) the post-operative or renal type, where sugar was present in the blood and urine, but no acidosis occurs. In diabetic coma he recommended large doses of insulin (for example, 40 units), the administration of fluids freely, and clearing the bowels.

Dr. J. M. MORRIS demonstrated, among other cases, a cutaneous eruption occurring in a girl who attributed the condition to picking catkins. The distribution of the lesions on the forearms and legs suggested "artefacts." Dr. J. J. HEALY and Dr. A. CLARKE BEGG described a case of pituitary tumour. There had been loss of vision with optic atrophy; vision—R: 3/60, L. less than 1/60. Slight enlargement of the hands and feet had been noticed. Headache and vomiting were absent, but there was a paralysis of the sixth nerve on the left side. Charts and skiagrams were shown. A large tumour was seen obliterating the sella turcica. It was apparently cystic in character, but undergoing calcareous changes.

#### Branch Dinner.

The annual dinner of the Branch was held in the evening, when about sixty members attended; it was a success in every way. The toasts included those of the President, guests, and secretaries. In his reply, the PRESIDENT (Dr. C. A. Brigstocke) mentioned that in his early days as a student at Bart's he had on occasions passed public executions outside Newgate Prison, the bodies being left hanging till 9 a.m. Mr. Cook, the United States consul, was one of the guests of the evening. Musical items were provided.

#### ESSEX BRANCH: SOUTH ESSEX DIVISION.

A MEETING of the South Essex Division was held at the Victoria Hospital, Southend, on February 27th, when Dr. D. G. MACLEON MUNRO, D.C.M.S., gave an address on pulmonary tuberculosis. The meeting, at which Dr. S. G. FLOYD occupied the chair,

was very well attended, but many were unavoidably absent on account of the prevailing influenza. The lecture was greatly appreciated, and a very hearty vote of thanks was accorded to Dr. Munro for attending the meeting and delivering such an instructive address.

Dr. FLOYD compared the present-day treatment of phthisis with that of a generation ago, and thought that there should be legal measures to prevent a person suffering from active tuberculosis from entering the state of matrimony.

Dr. MEACHEN (tuberculosis officer to the county borough of Southend) gave instances of difficult diagnosis in phthisis, and commented on the fact that no mention was made by the lecturer of x-ray examination in the diagnosis of pulmonary tuberculosis. Dr. MUNRO, in reply, said that he did not consider x-ray examination of much value in early phthisis. Drs. HOBGSON and STEPHEN also spoke.

## National Insurance.

### THE ROYAL COMMISSION.

THE twenty-third meeting of the Royal Commission on National Health Insurance was held at the Home Office on March 26th, Sir Andrew Duncan in the chair. Evidence was given on behalf of the Federation Committee of English, Scottish, and Welsh Insurance Committees by the Rev. W. D. Yoward (vice-chairman), Mr. Edwin Potts (honorary secretary), Mr. W. M. Marshall (ex-chairman), and Mr. F. Llewellyn Jones (chairman of the Federation), the administrative work of the Insurance Committees and questions of the extension and improvement of medical and treatment benefits being fully dealt with. Thereafter Mr. Marshall gave evidence on the features peculiar to Scotland and Mr. Llewellyn Jones on the Welsh position. Mr. Eynon Lewis then gave evidence on behalf of the Glamorgan County Insurance Committee, with special reference to the South Wales Medical Institutes.

Proof copies of the oral evidence and the relative statements submitted at the meeting of March 12th may be obtained from H.M. Stationery Office, Adastral House, Kingsway, London, W.C.2, on remittance of cost (3s.) and postage.

### LONDON PANEL COMMITTEE.

A MEETING of the Panel Committee of the County of London was held, under the chairmanship of Dr. H. J. CARDALE, on March 24th. Dr. C. M. Wilson (St. Mary's) and Mr. A. E. Webb-Johnson (Middlesex Hospital) were appointed to serve on the Committee as representatives of the consulting staffs of medical schools, in place of the late Dr. Lauriston Shaw and Mr. T. B. Layton, resigned.

#### Medical Service Subcommittee.

A solution was reported of the difficulty about the chairmanship of the Medical Service Subcommittee of the London Insurance Committee, whereby the subcommittee's work had been held up for some months. To overtake arrears the Minister has consented to the setting up of a second subcommittee as a temporary measure, and the Panel Committee proceeded to appoint its representatives on both these bodies. On the first subcommittee Drs. H. J. Cardale and E. A. Gregg were appointed, with Drs. J. H. Traquair, A. T. Swan, and A. G. Chase as deputies, and on the second subcommittee Drs. R. L. Bell and W. C. Goodden, with Drs. R. Cock, A. F. Heald, and H. C. Dixon as deputies. To represent the Local Medical Committee Drs. T. M. Ness and P. N. Allman were appointed.

#### Cases Reported by the Medical Service Subcommittee.

The Secretary (Dr. Bateson) gave a summary of the cases reported by the Medical Service Subcommittee during 1924. The number of cases reported was 87, of which 55 were substantiated and 32 not substantiated. Of the cases substantiated, 7 were cases of negligence in treatment, 10 of failure to visit insured persons, 13 of irregular issue of certificates, 5 of charging for drugs or treatment, and the remainder for various breaches of regulations, chiefly having to do with records, prescriptions, and certificates. In 1923 the number of cases reported was 104 (61 substantiated); in 1922, 79 (48); in 1921, 71 (44); and in 1920, 59 (23).

#### Alleged Preference of a Chemist.

The case was brought forward by the Ethical Subcommittee of a practitioner of whom the Pharmaceutical Committee complained that he had influenced insured patients to obtain their medicine from a certain chemist. A similar complaint was made against him a year ago, and was dealt with by correspondence with the London Insurance Committee. Upon inquiry the practitioner stated that he had never recommended his insured patients to go to any particular chemist, but when asked by new patients as to which chemist they should go to he had suggested the names of four whom he knew to be reliable. The secretary was instructed to inform the practitioner that in view of the fact that on a previous occasion had been the subject of complaint to the Insurance Committee, it was advisable that he should have the choice of chemist entirely to his patients,

and, further, that should a complaint of a similar nature be made against him in the future the Committee would feel it necessary to refer the matter to the Medical Service Subcommittee for investigation.

#### Tuberculosis Care Committee.

The Committee agreed upon a resolution to be sent to the London County Council for presentation to the forthcoming Conference of Tuberculosis Care Committees. It ran:

The Panel Committee for the County of London, having had under consideration the question of nominating medical representatives to Tuberculosis Care Committees in the London area, have desired the present representatives to report upon the usefulness of this practice. Judging from such reports, it is felt that the limited scope of duties which are at present allotted to such committees render the regular attendance of medical men unnecessary; but as the London Panel Committee desire to associate themselves in all work of this character having for its object the health and the general well-being of the people of London, they respectfully suggest to the London County Council that these committees should be given a far greater share in the carrying out of all the work connected with tuberculosis.

### LONDON INSURANCE COMMITTEE.

#### Insurance Practitioners' Fines.

At the meeting of the London Insurance Committee on March 26th, the two cases in which a practitioner's treatment of an insured person has been investigated by an inquiry committee constituted by the Ministry of Health (as fully set out in the SUPPLEMENT of March 14th, p. 100, and of March 21st, p. 122) came up for report. The Insurance Committee agreed that in the one case the sum of £10 and in the other the sum of £20 which had been withheld by the Minister from the money payable to the Committee in respect of medical benefit owing to the default of the practitioners referred to, should be recovered from the practitioners by deduction from the remuneration payable to them.

Several other cases were reported at the same meeting in which the Committee, having found a practitioner guilty of breach of the regulations, the Minister had imposed a substantial fine. In one case, in which a practitioner had irregularly supplied drugs to an insured person, and charged fees amounting to 16 guineas therefor, which amount the Committee, in censuring him, had ordered him to refund, the Minister had decided that the sum of £15 must be withheld from the money payable to the Committee in respect of medical benefit, which sum, by the regulations, will be recovered from the practitioner. In another case, in which the Committee had found that the practitioner had failed to attend and treat an insured person, notwithstanding the fact that he was aware that the insured person was sufficiently ill to be confined to bed, and that two requests had been made for treatment, the Minister decided that £5 must be withheld. The letter conveying the Minister's decision stated that the Minister had had regard to the fact that this was the first occasion on which a breach by the practitioner of the terms of service had been brought to his notice, and that he would not feel able to take so lenient a view of the matter in the event of any further dereliction. A similar fine was imposed in another case, in which a practitioner had been censured by the Committee for failure to appreciate the gravity of a case and to make further visits. In a case in which the Committee had found that the practitioner had committed a breach of the terms of service by accepting fees for treatment, and had decided to caution him and to require him to refund the money, the Minister, after taking the practitioner's representations into consideration, decided that no fine should be imposed on this occasion, but that in the event of a further breach no such lenient view could be taken. The Ministry added that the charging of fees to insured persons for services which they were entitled to receive free of charge was calculated to bring the insurance medical service into disrepute.

Some cases were also reported in which the complaint against the practitioner was that he had failed to keep records. A regional medical officer having reported that a practitioner was not keeping records properly, the practitioner was afforded an opportunity of giving an oral explanation, of which he did not avail himself, but sent a communication instead, in which he submitted that the record cards made a great demand on the time of a medical man, and that they were of no advantage to anyone. He had not used the record cards, but had entered the names in a daybook, with some particulars. The Minister decided that a sum of £15 must be withheld in this case, and the letter from the Ministry intimated that in deciding the amount the Minister had had regard to the fact that the rate of remuneration for insurance practitioners was fixed after taking into account the obligation to keep the records in question, and that in fairness to other practitioners, who were keeping records at some inconvenience and expense to themselves, it was not possible to overlook the fact that the practitioner had failed to keep records in the prescribed manner, in spite of having had his attention drawn to the matter by the regional medical officer. Another practitioner, who had failed to return certain

of the forms R.M.2 within the time specified and gave no explanation of the delay, and failed to reply to a communication addressed to him on the matter and to give an oral explanation when invited to do so, was fined £5. The Ministry stated that although requests for information on form R.M.2 were normally issued so as to allow sufficient time for practitioners to make a further examination of the insured person before returning the form, such further examination was not essential, and did not justify failure by the practitioner to return the form by the date specified.

#### Remuneration of Practitioners.

It was reported to the Committee that the Minister had advised that the amount of the Central Practitioners' Fund for 1924 had been finally determined at £5,700,300, of which London's share was £757,741. The Committee had already paid to practitioners during the year £723,483, so that £34,258 remains to be distributed by way of final settlement. The total amount paid to practitioners in respect to each unit of credit for 1924 will be a fraction over 9s. 3d.; in 1923 the amount was 9s. 7d., but the fund for that year was constituted on a capitation fee of 9s. 6d., whereas for 1924 the amount is 9s.

#### Scheme for Testing Medicines.

The Ministry of Health has had under consideration the adoption by Insurance Committees of a uniform scheme for the testing of medicines supplied to insured persons by chemists. A scheme has been prepared after consultation with the Retail Pharmacists' Union and the National Association of Insurance Committees, which provides for the taking of periodical samples of medicine dispensed on insurance prescriptions and for the analysis of the medicines to be supplied to the Committee by analysts to be appointed for the purpose by the Minister. The scheme has the Ministry's approval.

### Correspondence.

#### Disciplinary Powers: An Appeal to the British Medical Association.

SIR,—As one of the four elected representatives of the public health service I attended the Conference of the Representative Body of the British Medical Association and the Local Medical and Panel Committees on March 12th. As such I had had no special instructions from the service as a whole on the Memorandum of Evidence to be submitted to the Royal Commission on National Health Insurance, but held with others "watching briefs." I felt myself debarred, therefore, as a person with a grievance from speaking on the resolution taken on the right of appeal to a court of law of panel practitioners from the Ministry of Health's decisions and disciplinary actions taken on their professional conduct (Supplement, BRITISH MEDICAL JOURNAL, D/16, 1924-25, Sec. (c), paras. 37 and 40).

The question raised was the vital one of whether justice was served best by the Ministry's powers of disciplinary action over insurance practitioners to the extent of inflicting heavy fines and penalties, including removal from the list of panel practitioners, without appeal to a court of justice. The question in my mind was the allied one of the position of the Ministry of Health in the case of the summary dismissal of medical officers of the public health service, without reasons being given or inquiry held, by local authorities. All jurisdiction over such actions is disclaimed by the Ministry of Health on a point of law.

At the meeting on March 12th Dr. Braekenbury claimed that the Ministry of Health is bound by the "terms of the British Constitution" (that elastic but malignant nonentity) to exercise supreme disciplinary powers over insurance practitioners, because it was the Government department responsible for the payment of public moneys, and consequently of their efficient administration. The meeting decided by a narrow majority to accept this view.

Yet we have the opposite attitude taken by the Ministry of Health in repudiating any jurisdiction over the tenure of office of public health servants on the legal reading of their contracts of service with local authorities, which is three months' notice on either side. Notwithstanding in such cases they have their powers under the Sanitary Officers Order, 1922, equally with those over insurance practitioners under the Insurance Acts, equally they are responsible for the efficient administration of public moneys paid (in my case half my salary since 1913), and further, they "approve" our appointments by local authorities. Yet they merely state in my case that they have "no power to review a decision of the corporation on a matter concerning the appointment or to hold an inquiry into the circumstances," though I am an officer of fifteen years in the public health service and fifteen years in the hospital service; am dismissed without reasons given, without inquiry, discredited

professionally in the eyes of the public, and more or less broken financially, at 57 years of age.

It is with the hope that out of this sorry business some good may result to others who may follow me in the future that I appeal to the British Medical Association. I ask the Association to use all its forces and powers as a professional union in this issue, which involves justice and fair play to its members, even to the extent of obtaining a decision from a court of law on the points of jurisdiction involved. Will the British Medical Association be content to leave such vital action to an individual to fight out for the profession?

Although I am content to leave my professional reputation to those who have known my work for thirty years, to the 25,000 or more persons who signed the petition for my reinstatement, and to my dispensary patients whom I serve, yet I am entitled, I claim, in the public interest, to an inquiry before a competent tribunal. Shall a medical officer in the health service seek to serve his employers and his own interests first or his patients' interests?—I am, etc.,

Plymouth, March 25th.

F. G. BUSHNELL.

### Naval and Military Appointments.

#### ROYAL NAVAL MEDICAL SERVICE.

**SURGEON COMMANDER E. T. BURTON** is placed on the retired list with the rank of Surgeon Captain.

**Surgeon Commanders C. M. R. Thatcher** to the *Centaur*, and as Squadron Medical Officer on commissioning as ship of Commodore (D); **P. L. Gibson** to the *Diligence*.

**Surgeon Lieutenant Commanders J. R. Brennan** to the *Diligence*; **W. E. Heath** to the *Fird* for R.N. Hospital, Plymouth; **A. Craig** to the *Columbine*, additional for R.N. Hospital, South Queensferry.

**Surgeon Lieutenants H. A. M. Whitby** to the *Elcheim*; **A. G. L. Brown**, D.S.C., to the *Defiance*; **T. N. D'Arcy** to the *Pembroke*, for R.N. Infirmary, Chatham; **C. Keating** to the *Hood*; **W. Tighe** to the *Herald*.

#### ROYAL ARMY MEDICAL CORPS.

**Major-General T. W. Gibbard**, C.B., C.B.E., R.H.S., late R.A.M.C., having attained the age for compulsory retirement, is placed on retired pay.

**Colonel W. H. S. Nickerson**, V.C., C.B., C.M.G., late R.A.M.C., to be Major-General, vice Major-General T. W. Gibbard, C.B., C.B.E., to retired pay.

**Major G. H. J. Brown**, D.S.O., to be Lieutenant-Colonel, vice Lieut.-Colonel V. J. Crawford, D.S.O., promoted.

**Captain F. K. Escriott** is restored to the establishment and relinquishes the local rank of Major.

#### ROYAL AIR FORCE MEDICAL SERVICE.

**Flight Lieutenant J. C. Johnson** relinquishes his temporary commission on ceasing to be employed.

**Flying Officers D. B. Smith** to Research Laboratory and Medical Officers' School of Instruction, Hampstead, on appointment to a short-service commission, for short course; **T. W. Wilson** to R.A.F. Depot.

#### INDIAN MEDICAL SERVICE.

The services of **Captain G. H. Fraser** are placed temporarily at the disposal of the Government of Bihar and Orissa, for employment as Officiating Superintendent, European Mental Hospital, Ranchi.

The services of **Captain N. Briggs** are placed temporarily at the disposal of the Government of the Punjab for employment in the Jail Department.

**Captain A. C. Craighead** is appointed temporarily to the Medical Research Department and posted as a Supernumerary Officer at the Central Research Institute, Kasauli, with effect from the date he takes over charge.

The services of **Lieut.-Colonel H. C. Stiles-Webb** are placed temporarily at the disposal of the Government of the Central Provinces, with effect from February 14th, 1925.

**Colonel J. A. Black**, Inspector-General of Civil Hospitals, C.P., is granted leave on average pay for five months and twenty-seven days combined with leave on half average pay for a total period of eight months.

**Colonel F. Wall**, C.M.G., R.H.S., and **Lieut.-Colonel H. Emslie-Smith** have retired from the service.

**Captain G. H. N. Baker**, M.C., has been appointed Officer-in-Charge, Medical Store Depot, Rangoon, in addition to his other military duties.

**Lieutenant to be Captain: R. C. Phelps** (February 19th, 1924). (The seniority of this officer in the rank of Captain dates from November 1st, 1916, as notified in the *London Gazette* dated January 19th, 1923.)

**Captains to be Majors: E. Calvert**, R. Sweet, D.S.O., F. Phelan, N. C. Kapur, N. R. Bal, M.C., H. S. G. Haji, M.C.

#### TERRITORIAL ARMY.

##### ROYAL ARMY MEDICAL CORPS.

**Captain R. W. Mavston**, having attained the age limit, is retired, and retains his rank with permission to wear the prescribed uniform.

**W. H. Gratrix** to be Lieutenant.

#### COLONIAL MEDICAL SERVICES.

**Dr. F. G. Rose** appointed Deputy instead of Assistant Health Officer for Port of Georgetown, British Guiana. **Drs. H. Fairbairn**, T. Langan, and C. R. Steel appointed Medical Officers, Tanganyika Territory. **Dr. J. Williamson** appointed Medical Officer, Tanganyika Territory (sleeping sickness duty). **Drs. G. A. Sloan** and S. Forrest appointed Medical Officers, Uganda. **Dr. G. Fitzpatrick**, M.O., Tanganyika, transferred from Morogoro to Singida. **Dr. J. F. Corson**, M.O., transferred from Nigeria to Tanganyika.



## VACANCIES.

**BRIGHTON:** ROYAL ALEXANDRA HOSPITAL FOR SICK CHILDREN.—House-Surgeon. Salary £100 per annum.

**BRIGHTON:** ROYAL SUSSEX COUNTY HOSPITAL.—(1) Honorary Physician. (2) Honorary Assistant Physician.

**BRISTOL:** HOSPITAL FOR MENTAL DISORDERS AND NERVOUS DISEASES, 72, Camden Road, N.W.1.—Honorary Physician.

**CILDENSTONES INSTITUTION FOR MENTAL DEFECTIVES,** Whalley, near Blackburn.—Temporary Assistant Medical Officer. Salary £300 per annum.

**CORRY MENTAL HOSPITAL,** Mickleover, near Derby.—Junior Assistant Medical Officer (male). Salary £350 per annum, rising to £450, and £50 extra for D.P.M.

**DERBY CITY BOROUGH:**—Resident Medical Officer (male) at the Isolation Hospital and Sanatorium. Salary £550 per annum.

**DERBY:** DERBYSHIRE ROYAL INFIRMARY.—House-Surgeon. Salary £200 per annum.

**DEWBURY COUNTY BOROUGH:**—Medical Officer of Health. Salary £500 per annum.

**DURHAM COUNTY AND SUNDERLAND EYE INFIRMARY:**—House-Surgeon. Salary £450 per annum, rising to £550.

**EDINBURGH:** ROYAL EDINBURGH HOSPITAL FOR SICK CHILDREN.—Vacancy on the Surgical Staff.

**FULHAM:** PULMONARY INFIRMARY.—Third Assistant Medical Officer (male). Salary £250 per annum, rising to £300.

**HOSPITAL ET DISPENSIRE FARMIS,** 172, Shaftesbury Avenue, W.C.2.—Physician to Out-patients.

**HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST,** Brompton, S.W.3.—House-Physician. Honorarium £50 for six months.

**HOSPITAL FOR DISEASES OF THE THROAT,** Golden Square, W.1.—Honorary Surgical Registrar.

**LEDS PUBLIC DISPENSARY:**—Junior Resident Medical Officer. Salary £150 per annum.

**LIVERPOOL EYE AND EAR INFIRMARY:**—House-Surgeon (male). Salary £100 per annum.

**LONDON LOCK HOSPITAL,** 91, Dean Street, W.1.—House-Surgeon at the Male Lock Hospital. Salary £200 per annum.

**LOWESTOFT AND NORTH SUFFOLK HOSPITAL:**—House-Surgeon. Salary £150 per annum.

**MANCHESTER ROYAL INFIRMARY:**—Assistant Resident Surgical Officer. Salary at the rate of £150 per annum.

**MANCHESTER UNIVERSITY:**—Lecturer in Bacteriology. Stipend £500 per annum.

**MINISTRY OF HEALTH:**—Deputy Regional Medical Officers (twelve for England and one for Wales).—Remuneration £800 per annum, rising to £1,100.

**MINISTRY OF PENSIONS HOSPITAL,** Kirkburton, near Huddersfield.—Senior Medical Officer. Salary £600 per annum.

**NEWCASTLE-UPON-TYNE CITY AND COUNTY:**—Tuberculosis Medical Officer. Salary £750 per annum, rising to £900.

**NEWCASTLE-UPON-TYNE CITY HOSPITAL FOR INFECTIOUS DISEASES:**—Resident Medical Assistant (male). Salary £350 per annum.

**OLDHAM UNION:**—Resident Assistant Medical Officer. Salary £300 per annum.

**PRINCE OF WALES'S GENERAL HOSPITAL,** Tottenham, N.15.—(1) Honorary Medical Registrar. (2) Honorary Surgical Registrar. (3) Honorary Assistant Surgeon to the Ear, Nose, and Throat Department. Honorarium for (1) and (2) £200 per annum.

**POTNEY HOSPITAL,** S.W.15.—Resident Medical Officer (male). Salary £150 per annum.

**QUEEN CHARLOTTE'S MATERNITY HOSPITAL,** Marylebone Road, N.W.1.—Obstetric Surgeon to Out-patients.

**ROYAL CHEST HOSPITAL,** City Road, E.C.1.—(1) Physician with charge of out-patients. (2) Resident Medical Officer; salary at the rate of £150 per annum.

**SHEFFIELD ROYAL INFIRMARY:**—House-Surgeon. Salary £80 per annum.

**SHEFFIELD UNIVERSITY:**—Assistant Pathologist at the Royal Hospital and Demonstrator of Pathology in the University. Salary £500 per annum.

**WEST END HOSPITAL FOR NERVOUS DISEASES,** Welbeck Street, W.—Honorary Registrar.

**WINCHESTER:** ROYAL HAMPSHIRE COUNTY HOSPITAL.—Sister Tutor. Salary £150, rising to £150.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Tuesday morning.

## APPOINTMENTS.

**BEATTIE,** Neil R., M.D.Durh., B.M., D.P.H., Assistant Port Medical Officer, Southampton.

**DODDS,** R. L., M.B., B.Ch., Resident Medical Officer to the Freemasons Hospital and Nursing Home, Fulham Road, S.W.3.

**FRENCH,** Ernest G., M.D., F.R.C.S.E., M.R.C.P.Lond., Dermatologist to the London Temperance Hospital.

**MCMILLAN,** Kenneth, F.R.C.S.Eng., Honorary Surgeon to the Birmingham and Midland Hospital for Women and Honorary Assistant Surgeon to the Birmingham Maternity Hospital.

**SINCLAIR,** A. H. H., M.D., Medical Referee under the Workmen's Compensation Act for the districts of Edinburgh City, Midlothian County, Orkney Islands, Linlithgow County, and Peebles County for Ophthalmic Cases.

**TRENTER,** Adam A., M.C., M.B., Ch.B.Aberd., Medical Officer of Health for Finchley.

**QUEEN CHARLOTTE'S MATERNITY HOSPITAL,** Marylebone Road, N.W.1.—Resident Medical Officer: A. J. Storey, M.A., M.B., B.Ch. Assistant Resident Medical Officer: Roy M. Saunders, M.B., Ch.B., Robert Foote, M.R.C.S., L.R.C.P.

**CERTIFYING FACTORY SURGEONS:**—J. E. Cable, M.B., Ch.B.Aberd., for the Forfar District, co. Forfar; A. W. Ewing, M.R.C.S., L.R.C.P., for the Buntingford District, co. Hertford; J. Warnock, M.D., R.U.L., for the Leeds (South) District, co. York.

## DIARY OF SOCIETIES AND LECTURES.

**ROYAL SOCIETY OF MEDICINE.**  
**War Section:** Mon., 4.30 p.m., Annual General Meeting. Colonel J. Crawford Kennedy, R.A.M.C.; Tuberculosis in the Army. Surgeon-Commander C. H. Dawe, R.N.; Tuberculosis in the Navy. War Commander H. A. Treagold, R.A.F.; Tuberculosis in the Royal Air Force.  
**Section of Orthopaedics:** Tues., 8.30 p.m., Discussion: Differential Diagnosis of Non-tuberculous Cystitis in Children and Adolescents; to be opened by Mr. Alan Todd, followed by Mr. R. C. Elmie and Mr. H. A. T. Fairbank.

**ROYAL SOCIETY,** 32, Welbeck Street, W.1.—Tues., 8.15 p.m., R. Croft Rogers: Organization and Equipment of X-ray Rooms arranged for Private Radiologists; G. T. Longborough: Acute X-ray Burns.

## POST-GRADUATE COURSES AND LECTURES.

**WEST LONDON HOSPITAL POST-GRADUATE COURSE:** Hammersmith W.—Mon., 12 noon, Applied Anatomy. Tues., 1 p.m., Surgical Wards. Thurs., 2 p.m., 10 a.m. to 5 p.m., Sat. 10 a.m. to 1 p.m., Special Departments.  
**GLASGOW POST-GRADUATE MEDICAL ASSOCIATION:**—At Ophthalmic Institution: Wed., 4.15 p.m., Eye Cases.  
**MANCHESTER ROYAL INFIRMARY:**—Tues., 4.15 p.m., Benign Swellings of the Breast.

## British Medical Association.

OFFICES AND LIBRARY, 122, STRAND, LONDON, W.C.2.

## Reference and Lending Library.

**THE READING ROOM,** in which books of reference, periodicals, and standard works can be consulted, is open to members from 10 a.m. to 6.30 p.m., Saturdays 10 to 2.  
**LENDING LIBRARY:** Members are entitled to borrow books, including current medical works; they will be forwarded if desired, on application to the Librarian, accompanied by 6d. for each volume for postage and packing.

## Departments.

**SUBSCRIPTIONS AND ADVERTISEMENTS** (Financial Secretary and Business Manager. Telegrams: Articulate Westrand, London).  
**MEDICAL SECRETARY** (Telegrams: Medisera Westrand, London).  
**LONDON:** British Medical Journal (Telegrams: Articulate Westrand, London).  
 Telephone number for all departments: Gerrard 2530 (5 lines).

**SCOTTISH MEDICAL SECRETARY:** 6, Rutland Square, Edinburgh. (Telegrams: "el," 4261 Central).  
**IRISH MEDICAL SECRETARY:** Frederick Street, Dublin. (Telegrams: 4737 Dublin).

## Diary of the Association.

- 3 Fri.** Chesterfield Division: Maternity Hospital, Chesterfield. B.M.A. Lecture on Some Recent Advances in Endocrinology by Dr. A. L. Gow, 8.30 p.m.
- 5 Sun.** Mid-Cheshire Division: Altrincham General Hospital. Lecture by Dr. Meredith Young on the Public Health Services, 4 p.m. Tea, 3.45 p.m.
- 6 Mon.** London: Standing Ethical Subcommittee, 2.30 p.m.
- 7 Tues.** Coventry Division: Coventry and Warwickshire Hospital. Lecture by Dr. Harrison Butler on Modern Methods of Examining the Living Eye, 8.30 p.m.
- North Suffolk Division:** St. Luke's Hospital, South Lowestoft. Demonstration by Dr. Oakden of Methods of Treatment of Surgical Tuberculosis, 4 p.m.
- South-West Essex Division:** Claybury Mental Hospital, Woodford Bridge, Woodford Green, 3.30 p.m. Paper by Dr. C. F. Barham on the Latest Treatment of General Paralysis of the Insane by Inoculation with Malaria, 4.15 p.m.
- 8 Wed.** Bath and Bristol Branch: Cottage Hospital, Wells. B.M.A. Lecture by Dr. W. A. Brend on the Legal Obligations of the Medical Man, 3.30 p.m.
- 14 Tues.** City Division: Metropolitan Hospital, Kingsland Road, E.8. Paper by Dr. H. Maclean on Diabetes—its Treatment: Insulin up to Date, 8.30 p.m.
- 15 Wed.** Norfolk Branch: Norfolk and Norwich Hospital. Address by Dr. W. Norwood East on the Interpretation of Some Sexual Offences, 3.30 p.m.
- South Middlesex Division:** St. John's Hospital, Twickenham. General Business, 8.15 p.m.; Paper by Dr. H. C. Corry Mann on Dietary during the School Age, 8.30 p.m.
- 17 Fri.** Croydon Division: Annual Dinner, Greyhound Hotel, Croydon, 8 p.m.
- 23 Thurs.** Guildford Division: Royal Surrey County Hospital, Guildford. Paper by Mr. Dudley Buxton on the Treatment of Common Disabilities of the Feet, 4 p.m. Tea, 3.45 p.m.
- Kensington Division:** Kensington Palace Mansions Hotel, De Vere Gardens, W.8. Address by Dr. Seymour Taylor on Some Medical Aphorisms, 8.45 p.m.
- Wakefield, Pontefract, and Castleford Division:** Bull Restaurant, Westgate, Wakefield. Paper by Mr. J. F. Dobson on Urological Diagnosis, 8.30 p.m. Supper, 8 p.m.

## BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcement of Births, Marriages, and Deaths is 2s., which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.

## BIRTHS.

**BARCLAY:**—At 2, Greenhead Road, Huddersfield, on March 26th, 1925, the wife of William Barclay, M.B., F.R.C.S.Ed., of a son.

**CUMWELL:**—On March 29th, 1925, at 69, Holland Park Avenue, London, W.11, to Naude, the wife of Dr. W. K. Calwell, a son.

## DEATH.

**MELVILLE:**—On March 24th, following an operation at a London nursing home, Gordon Moncreiff Melville, M.D., of Ashley Lodge, Basingslake, Hants, aged 42 years.

# SUPPLEMENT TO THE BRITISH MEDICAL JOURNAL.

LONDON, SATURDAY, APRIL 11TH, 1925.

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### SPECIAL NOTICE TO MEMBERS.

Every Member is requested to preserve this "Supplement," which contains matters specially referred to Divisions, until the subjects have been discussed by the Division to which he or she belongs. The Financial Statement will appear next week.

### MATTERS REFERRED TO DIVISIONS.

## British Medical Association:

### ANNUAL REPORT OF COUNCIL, 1924-25.

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### Preliminary.

#### ANNUAL MEETING AT BRADFORD, 1924.

1. The Council has expressed to the President, Mr. Basil Hall, the Honorary Local Secretary, Dr. W. N. West Watson, their medical colleagues and the many lay persons and authorities in Bradford who co-operated with them, the hearty thanks of the Association for their successful efforts to make the Annual Meeting of 1924 a worthy successor in a long line of successful events. The Meeting was from every point of view a credit to our Yorkshire colleagues and a lasting source of pleasure to those who attended it.

#### ANNUAL MEETING AT BATH, 1925.

2. The Annual Meeting, 1925, commences at Bath with the A.R.M. on Friday, July 17th. It will be under the Presidency of Dr. F. G. Thomson, and the Association is assured of a warm welcome, not only from the President and his colleagues, but from the City authorities, who have shown their desire to make the meeting memorable in the annals of the Association and worthy of the hospitable record of the City of Bath.

#### HONOURS.

3. The Council has pleasure in announcing that during the present session honours have been conferred upon the

following Members, to whom the congratulations of the Association have been sent:—

#### K.C.V.O.

Sir Henry John Forbes Simson, F.R.C.S.Ed.

#### D.B.E.

Miss Louisa B. Aldrich-Blake, M.S.

#### Knighthood.

Mr. John Campbell, F.R.C.S.

Professor Frederick Gowland Hopkins, F.R.S.

Dr. Thomas Morison Legge, C.B.E.

Major-General Robert Charles MacWatt, C.I.E., I.M.S.

Dr. Frederic Truby King, C.M.G.

#### OBITUARY.

Sir Clifford Allbutt and Dr. G. E. Haslip.

4. The Association has suffered exceptionally during the past year by the loss of a much loved and honoured ex-President, Sir Clifford Allbutt, and the late Treasurer, Dr. G. E. Haslip. Full of years and honours Sir Clifford Allbutt was not less fortunate in the admiration and affection with which he inspired everyone who came into close personal contact with him. Among his many activities he himself ranked high his close connection with the Association. He was

President for five years, a longer period of office than has fallen to the lot of any other man, and during that time, as for many years previously and right up to the time of his death, he took so active part in the ordinary work of the Association. The Association was indeed fortunate in having for so many years the wise counsel and gracious influence of one who was universally regarded as a great physician and a great man.

Dr. Haslip's untimely death was mourned by all members of the Association for which, as Honorary Treasurer 1916-1924, he worked with a zeal and devotion rarely equalled in the history of the Association. His period of office, coinciding as it did with the death of Mr. Guy Elliston, late Financial Secretary, and with the period of the war, was one of exceptional strain and responsibility which to the great gain of the Association he cheerfully bore.

5. The Association has to deplore the loss of the following Members:—

Naoie.	Offices held in the Association.	
The Right Hon. Sir Thomas Clifford Allbutt, P.C., K.C.B.	President 1915-1921. An early Member of the old Committee of Council; Address in Medicine, 1883; Secretary, 1869, Vice-President, 1878, and President 1882 and 1889, of Section of Medicine	Dr. Clement Dukes ... A former President of the South Midland Branch and at one time Chairman of the Northamptonshire Division
Mr. Arthur Wyndowe Baker ...	Vice-President of Section of Odontology, 1910	Dr. Walter Musgrave Eaton, O.B.E. ... President of the Rhodesian Branch and Chairman of the Matabeleland Division
Dr. Philip Lambert Benson ...	President-Elect of the South Midland Branch; Representative of the Buckingham Division on the Branch Council; a former Chairman of the Division	Dr. Ernest Alfred Edelsten ... A former Member of the Executive Committee of the Lambeth Division of the Metropolitan Counties Branch
Dr. Frederick Henry de Graves Best	A Member of the Executive Committee of the East Hertfordshire Division of the Cambridge and Huntingdon Branch	Dr. John Herbert Evans... A former President of the South Australian Branch
Dr. John Gordon Black ...	A former President of the Yorkshire Branch	Dr. Robert Davies Evans ... A former Chairman and Representative of the South Carnarvon and Merioneth Division of the North Wales Branch
Dr. John James Graham Brown ...	A former President of the Edinburgh Branch; Secretary of Section of Medicine, 1898	Dr. Robert James Farman ... A former Chairman of the Lambeth Division of the Metropolitan Counties Branch
Surg.-Gen. Wm. Richard Browne, C.I.E., I.M.S. (Ret.)	A former Honorary Secretary of the South Indian and Madras Branch	Dr. Wm. Manson Ferguson ... Chairman of the Banff, Elgin and Nairn Division of the Northern Counties of Scotland Branch
Dr. Thomas Lowe Buotlog ...	A former Member of the Post Office Medical Officers and Parliamentary Sub-Committees of the Medico-Political Committee; Secretary of Section of Radiology and Electro Therapeutics, 1921	Dr. James Albert Gibson, M.B.E. ... Chairman and formerly Honorary Secretary of the Isle of Wight Division of the Southern Branch
Dr. Richard Field Castle ...	A former Chairman of the Barosley Division of the Yorkshire Branch	Dr. Stanley Augustine Gill ... A former Chairman and Representative of the Southport Division of the Lancashire and Cheshire Branch
Dr. Francis Bernard Henry Caudwell	A former Member of the Executive Committee of the North-East Division of the Essex Branch	Dr. Frank Wm. Albion Godfrey ... A former President of the Yorkshire Branch and a Member of the Executive Committee of the Scarborough Division
Dr. Quintin Chalmers ...	A former Member of the Executive Committee of the Westminster and Holborn Division of the Metropolitan Counties Branch	Dr. James Hamilton ... A former Member of the Executive Committee of the Chelsea Division of the Metropolitan Counties Branch
Dr. Joseph Adam Clarke ...	Honorary Secretary of the Argyllshire Division of the Glasgow and West of Scotland Branch	Dr. George Ernest Haslip ... Treasurer, 1916-1924, Member of Council, 1916-1925; a former President of the Metropolitan Counties Branch; Vice-President, 1913 and President, 1920, of Section of Medical Sociology
Sir George Anderson Critchett, Bart., K.C.V.O.	Vice-President, 1886, President, 1889, and Vice-President, 1895, of Section of Ophthalmology	Dr. Louis Heory ... A former Member of the Victorian Branch Council
Dr. John Cullen ...	A former Member of the Executive Committee of the Manchester (West) Division of the Lancashire and Cheshire Branch	Sir Andrew John Horne... A former Member of the Executive Committee of the Dublin Division of the Leinster Branch; Vice-President of Section of Obstetrics and Gynaecology, 1903
Dr. Frederick Deighton ...	A former President of the Cambridge and Huntingdon Branch; Vice-President of Section of Obstetrics and Gynaecology, 1920	Dr. Job Medwyn Hughes ... A former Chairman of the Denbigh and Flint Division of the North Wales Branch
Wm. Barrie Dow ...	A former President and Representative of the Fife Branch	Dr. Sydney Jamieson ... A Member of the New South Wales Branch Council
		Dr. Eva Jones ... One of the oldest Members of the Association; Member of Council, 1887-1904; at one time a Member of the Parliamentary Bills, and Journal and Finance Committees; for many years a Member of the South Wales and Glamorgan Branch Council
		Dr. Charles James Lownds ... A former President of the Border, South Africa, Branch Council; at one time Chairman of the East London Division
		Dr. Eneas Donald Mackay MacIntyre ... Vice-Chairman of the Coosett Division of the North of England Branch
		Dr. Duncan John Mackenzie ... A former Chairman of the Glossop Division of the Lancashire and Cheshire Branch
		Dr. John Radley Macnamara ... A former Honorary Secretary of the Assam Branch

- Dr. Henry Carter Maetier, M.B.E. Member of Council, 1913-1921; a former Member of the Central Ethical, Medico-Political and Welsh Committees, and various Sub-Committees; Honorary Secretary and Representative of the South Staffordshire Division of the Staffordshire Branch
- Dr. Joseph McGregor-Robertson Member of Council since 1922; Chairman and Representative of the Glasgow North Western Division of the Glasgow and West of Scotland Branch; a Member of the Scottish Committee
- Dr. Alfred Mantle ... A former Chairman of the Harrogate Division; at one time Representative of the Halifax Division; a former Member of the Yorkshire Branch Council
- Dr. Herbert Markby ... A Member of the Yorkshire Branch Council; a former Chairman of Leeds Division
- Dr. John Charles Martin ... A Member of the Ulster Branch Council; a former President of the Branch
- Dr. George Symers Mill ... A Member of the Executive Committee of the Dewsbury Division of the Yorkshire Branch
- Dr. John Millar ... A former Chairman of the Lanarkshire Division of the Glasgow and West of Scotland Branch
- Mr. John Hammond Morgan, C.V.O. Secretary, 1878, and Vice-President, 1908, of Section of Surgery; President of Section of Diseases of Children, 1895
- Dr. Armitage Morton ... A Member of the Executive Committee of the Halifax Division of the Yorkshire Branch
- Dr. Willie Oliver ... A former Member of the Executive Committee of the Durham Division of the North of England Branch
- Dr. Frederick John Paley ... President of Section of Climatology and Balneology, 1913
- Dr. George Peterkin ... A former President of the Dundee Branch
- Dr. George Douglas Pidecock ... A former Chairman of the Hampstead Division of the Metropolitan Counties Branch
- Dr. Philip Prebble ... A former Chairman and Representative of the Blackburn Division of the Lancashire and Cheshire Branch and for many years a Member of the Branch Council
- Dr. Matthew Henry Raper ... A former Chairman of the South Essex Division of the Essex Branch
- Dr. Ernest Rawson ... A former Member of the New Zealand Branch Council
- Dr. Edgar Reid ... A former Member of the South Wales and Monmouthshire Branch Council and at one time a Member of the Branch Contract Practice Sub-Committee
- Dr. John Lawrence Rentoul ... A Member of the Executive Committee and at one time Chairman of the Belfast Division of the Ulster Branch
- Dr. Richard Holgate Shaw, M.B.E. A former Member of the Executive Committee of the Finchley and Hendon Division of the Metropolitan Counties Branch
- Dr. Thomas Sydney Short ... A former President of the Birmingham Branch; Vice-President of Section of Therapeutics including Dietetics, 1911
- Dr. Percy Slack ... A Member of the Executive and Ethical Committees of the Rothelham Division of the Yorkshire Branch; at one time Assistant Honorary Secretary of the Division
- Dr. Andrew Smith ... A Member of the Insurance Acts Committee; Representative and at one time Chairman of the Newcastle-on-Tyne Division; a former President of the North of England Branch
- Dr. John Williamson Smith ... Vice-Chairman and Deputy Representative of the Bury Division of the Lancashire and Cheshire Branch
- Dr. Percy Wm. Spaul ... Chairman and a former Honorary Secretary of the Chelsea Division of the Metropolitan Counties Branch
- Mr. John Francis Steelman ... A former Chairman of the Wandsworth Division of the Metropolitan Counties Branch
- Dr. Wm. Beeson Crawford Treasurer Member of Council, 1919-1923, Member of Insurance Acts, Welsh, and Medico-Political Committees, and various Sub-Committees; a former President of the South Wales and Monmouthshire Branch
- Dr. Dudley Cox Trott ... President of the Bermuda Branch
- Dr. John George Uppleby ... A former Member of the Border, South Africa, Branch Council
- Dr. Thomas Evered Watts-Silvester A former Member of the Executive Committee of the West Dorset Division of the Dorset and West Hants Branch
- Dr. Montagu Wm. Williams ... Secretary of Section of Obstetrics and Gynaecology, 1905
- Dr. Henry Merrill Williamson ... A former Member of the Mid-Cheshire Division of the Lancashire and Cheshire Branch
- Dr. Herbert Williamson ... President of Section of Obstetrics and Gynaecology, 1920
- Dr. George Rothwell Wilson Adam, Dr. Henry Wilberforce Aikins, Dr. James Hepburn Aitken, Dr. John Aleindor, Dr. Vernon Francis Allen, Dr. Hugh Miller Anderson, Dr. Baman Shah Kharshedji Ankesaria, Dr. George Wm. Armstrong, Dr. Wilberforce John James Arnold, C.M.G., Dr. Walter Atterbury, Dr. Richard Pitt Ballard, M.C., Dr. Walter Herbert Barker, Dr. Francis Duncan Murchison Beaton, Dr. Louis Birch, Dr. Wm. Kenneth Brewer, Dr. David Macdonald Brown, Dr. Francis Frederick Brown, Dr. Robert Charles Brown, Junr., Dr. Thomas Buckham, Dr. Cresswell Burrows, Dr. Wm. Birch Caley, Dr. Ardeshir Pestanji Cama, Dr. Ellison Cansfield, Dr. Raymond Theobald Cassal, Capt. Robert Carlyle Carlyle, R.A.M.C., Dr. George Carruthers, Dr. Walter Chapman, Dr. Cecil Clarke, Dr. Alexander Cochrane, Dr. Wm. Courter Costine, Surg. Lt.-Cdr. Wm. Leckie Coullie, R.N., Mr. John Batten Coumbe, F.R.C.S., Dr. Alan Osborne Courts, Dr. Alfred Cowen, Dr. John Craig, Dr. Egbert Aubrey Lennox Crichtlow, Dr. Sarah Davidson, Dr. Frank Aaron Davies, Dr. Wm. Henry Davies, Dr. Henry George Denny, Dr. Armand de Waterville, Dr. James Thomson Dick, Dr. Lillian Mary Dingle, Dr. Kildare Dixon Borrowes Dobbs, Dr. Thomas Wm. Hardwicke Downes, Dr. Ernest Paul Duncan, Dr. Salv. Ellul-Grech, Dr. Frank Elvy, Dr. Edward Henry Embley, Dr. Joseph Patrick Fagan, Dr. Thomas McCraith Foley, Dr. Edith Emily Fox, Dr. James Alfred Frost, Dr. John Frederick Gordon, Dr. David Craigie Gray, Surg. Capt. Henry Wm. Gordon-Green, O.B.E., R.N. (Ret.), Capt. David Hamilton Hadden, M.B.E., M.C., R.A.M.C., Dr. Robert Hardwick Hall, Dr. Lillian Hamilton, Dr. Wm. Hammond, Dr. Maurice Gilbert Hannay, Dr. Wm. Hanway, Dr. Cecil Randle Harper, Dr. Rowland Edward Harrold, Dr. James Willis Heslop, Dr. Wm. Elisha Huff-Hewitt, Dr. Knikhasu M. Hira-Manek, Dr. Frederick Wm. Hobbs, Dr. Joseph Duncan Howe, Prof. John Irvine Hunter, Dr. Arthur Gerard Cheyne Irvine, Dr. Henry Grattan Johnston, Dr. John Harris Jones, Dr. Wm. Morris Keal, Dr. Michael Wm. Kelly, Dr. John Reginald Lambert, Dr. Henry Christopher Lampport, Dr. Gordon Abercromby Lang, Dr. John Lascelles, Dr. Alfred Lawther, Dr. Basil Stanley Llewelyn, Dr. Wm. Gibbs Lloyd, Dr. Thomas Valient Loekhart-Mure, Dr. David Sanderson Long,

Dr. John Reginald Long, Dr. Wm. Low, Capt. Donald Hector Colliu McArthur, O.B.E., R.A.M.C., Dr. Wm. Neil MacCall, Dr. Eugene Charles McCarthy, Dr. Wm. McDonald, Dr. Lucius Gerald Armstrong MacDonnell, Sir James Mackenzie, Dr. John Mackenzie, Dr. George Douglas Mackintosh, Dr. James MacMunn, Dr. Oliver Henry Arthur Maggs, Dr. Reginald Maples, Surg.-Capt. Horace Bruce Marriott, R.N. (Ret.), Fleet-Surg. Wm. Ernest Marshall, R.N. (Ret.), Dr. James Mason, Dr. Wm. Harrap Mason, Dr. James Wm. Mathewson, Dr. Jhangir Manchershah Meher-Homjee, Dr. Joseph Aloysius Mescall, Dr. David Gregg Metheny, Dr. John Arthur Mills, Dr. Alfred Wm. John Catto Mitchell, Dr. Robert Mitchell, M.B.E., Dr. Jan Marcus Moll, Lt.-Col. Anthony Hickman Morgan, D.S.O., Dr. Edward Hume Morgan, Dr. Reginald Arthur Morrell, Dr. Wm. Robert Nattle, Mr. Thomas Stanley North, F.R.C.S., Dr. Edward Nundy, Dr. John Lewis Owen, Dr. John Wm. Owen, Dr. Wm. Arnot Parker, Dr. John Frederick Fitzgerald Parr, Dr. Charles Octavius Parsons, Dr. Dosabhai Kavasji Patel, Mr. Wm. Bromfield Paterson, Dr. Pantaleon Pelletier, Dr. Charles James Pentland, Dr. Alfred Herbert Peters, Dr. James Farquharson Powell, M.C., Dr. Wm. Graham Putnam, Dr. Eric Burton Reed, Sir Sidney Russell Wells, M.P., Lt.-Col. David Wilson Scotland, I.M.S. (Ret.), Dr. Edward Henry Scott, Dr. Gerald Affleck Scott, Dr. Arthur George Shurlock, Dr. Wm. Henry Simmons, Dr. Francis Odell Simpson, Dr. Thornton Gerald Simpson, Dr. Edmund Moody Smith, Dr. Ferdinand Clarence Smith, Dr. Matthew Baird Smith, Dr. Harold Spurway, Dr. Charles Turner Standring, D.S.O., Dr. John Steel, Dr. Duncan Stewart, Dr. Percy Peter James Stewart, Dr. Frederick Arnott Storr, Dr. John Porter Tannoek, Dr. John Taylor, Dr. John Caldwell Thomas, Dr. George Augustus Thompson, Dr. James Leonard Timothy, Dr. Wm. Fentham Todd, Dr. Charles Molesworth Tuke, Dr. John Grainger Brown Turnbull, Dr. Jalejar Rustamji Vakil, Dr. Henry Charles Varley, Dr. Jerome Stephen Vassalli, Dr. Arthur John Vause, Dr. John Walker, Dr. Henry Craig Wallace, Dr. Wm. Bain Walton, Dr. George de Bourbonlon Watson, Dr. Percy Whitehead, Dr. Noel Stewart Whitten, Dr. John David Williams, Dr. Frank Walter Ernest Wilson, Dr. Gilbert Osborne Wood, Dr. John Maxwell Wood, Dr. Robert Wood, Dr. Arthur George Worrall, Dr. Alexander Wylio, Dr. Andrew Stewart Young.

## ATTENDANCES.

6. The Council submits in Appendix I, a list of attendances at meetings of the Council from the termination of the Annual Representative Meeting, 1924, to March 31st, 1925.

## ANNUAL MEETING, 1926.

7. In connection with the Annual Meeting at Nottingham, the Nottingham Division has nominated Mr. Robert George Hogarth as President for 1926-27.

The Council recommends:—

**Recommendation:** That Mr. Robert George Hogarth, C.B.E., F.R.C.S.Eng., be elected President of the Association for 1926-27.

## ANNUAL MEETING, 1927.

8. Invitations for the Annual Meeting have been received as follows:—Manchester, the date left to the discretion of the Council; Cardiff, as soon as possible after 1927; Edinburgh, 1927; Bournemouth, at an early date; and Winnipeg.

The Council is of opinion that the Association should accept the invitation of the Edinburgh Branch for 1927, which year is the centenary of the birth of Lord Lister whose connection with Edinburgh is historic. The Association last met in Edinburgh in 1898.

The Council recommends:—

**Recommendation:** That the Annual Meeting, 1927, be held at Edinburgh.

**NOMINATION OF MR. C. P. CHILDE, F.R.C.S., AS VICE-PRESIDENT.**

9. The Council recommends:—

**Recommendation:** That Mr. C. P. Childe, B.A., F.R.C.S., M.R.C.P.E. (President of the Association, 1923-24), be elected a Vice-President of the Association under Article 39 and By-law 73 as a recognition of his services as President of the Association during the year 1923-24.

## PRESIDENT'S VISIT TO CANADA AND THE UNITED STATES OF AMERICA.

10. The Council has great pleasure in reporting that the President has accepted an invitation to attend the Annual Meeting of the Ontario Medical Association (a constituent body of the Canadian Medical Association) in May, 1925, and, at the request of that body, will deliver an address before the Academy of Medicine of Toronto. The President has also consented, on the invitation of the American Medical

Association, to represent the Association at the Annual Meeting of that body at Atlantic City. He will carry with him to our Canadian and American colleagues the best wishes of the Association for the continued success of their organisations and the growth of cordial relations between the professions of the old and new countries.

PRESENTATION OF THE GOLD MEDAL OF THE ASSOCIATION TO  
DR. R. A. BOLAM.

11. The Council has decided to present the Gold Medal of the Association to its Chairman, Dr. Robert Alfred Bolam, for his distinguished services to the Association and the medical profession and in special commemoration of his work in connection with the acquisition of the new House of the Association, 1924-25.

In taking this step the Council knows that it will have the cordial approval of the members of the Association, for Dr. Bolam has gained the confidence and affection of the Association to a degree not surpassed by any of his eminent predecessors. These who are most familiar with the extraordinary combination of business acumen, driving force and persuasion which the Chairman of Council has devoted, first to the discovery, then to the acquisition and preparation of the new House of the Association, will best appreciate the peculiar appropriateness of the award of the Medal at this particular juncture.

## REPRESENTATION OF THE ASSOCIATION ON OUTSIDE BODIES.

12. The following appointments upon outside bodies have been made by the Council during the year:—Council of Society of Medical Officers of Health, Drs. T. Ridley Bailey and C. E. S. Flemming; Professional Classes Aid Council, Mr. N. Bishop Harman (Treasurer); Joint Committee on Tuberculosis, Drs. G. B. Hillman and A. Lyndon.

## MEDICAL BENEVOLENT FUNDS.

13. A Special Committee has been appointed to consider and report upon Minute 52 of the A.R.M., 1924, concerning the above question, but owing to the pressure of other business it has not yet met. The Council hopes to be in a position to report hereon in the Supplementary Annual Report.

## SMOKE ABATEMENT LEAGUE OF GREAT BRITAIN.

14. The Council appointed Drs. I. W. Johnson and Frank Radcliffe as delegates to attend the Manchester Conference of the Smoke Abatement League at Manchester in November last and agreed to the Association being included among the Patrons of the League.

CONGRATULATIONS TO DR. COURTENAY LORD ON SUCCESSFUL  
EFFORTS IN LIFE-SAVING.

15. The Council has had great pleasure in putting on record its admiration of the courageous action of Dr. C. Courtenay Lord, Assistant Medical Secretary. Dr. Lord during the Christmas holidays, at Stokesay Bridge, Shropshire, on December 28th, 1924, took the leading part in saving the lives of two persons who were in danger of drowning and in the rescue of a third person who afterwards died.

## OPENING OF THE NEW HOUSE OF THE ASSOCIATION.

16. Arrangements for the official opening of the new House of the Association are under way but are not sufficiently settled to allow of any more definite announcement than that the opening will be in the early part of the week commencing July 13th, 1925. The Council has appointed a special Reception Committee, which consists, in addition to representatives of the Council, of the President of the Royal College of Physicians of London, the President of the Royal College of Surgeons of England, Lord Dawson of Penn, Dame Louisa Aldrich-Blake (Dean of the London School of Medicine for Women), and the President of the Metropolitan Counties Branch of the Association. The Committee has power to co-opt additional members if thought desirable.

17. The Council has issued special invitations to each Oversea Branch of the Association, the Australian Federal Committee and the South African Committee, asking those bodies to send official delegates to the function; also to the Canadian Medical Association and the American Medical Association, and is glad to report that each of these bodies intends to send representatives. As to this a fuller statement will be made in the Supplementary Report of Council. A special invitation was sent also to Sir G. A. Syme, who was President of the first Australasian Medical Congress held under the auspices of the Association in 1923, but Sir George was unfortunately unable to accept the invitation as he has recently been appointed to a Royal Commission which will require his presence in Australia.

18. It has been decided to make the July 18th issue of the *Journal* a "Commemorative Number" with a special plate



showing the frontispiece of the "Book of Honour" and an illustration of the Memorial Gates of the new premises. Copies of the "Book of Honour" are being prepared on art paper for distribution at the Opening Ceremony, to the relatives of the fallen and to those members who desire them. The "Book of Honour" itself is to be placed in the Library, and a tablet of art bronze will be placed in the Entrance Hall stating where the "Book of Honour" is to be found.

#### GIFT FROM THE AUSTRALIAN BRANCHES FOR THE NEW B.M.A. HOUSE.

19. The Council has great pleasure in announcing a most kindly and gracious offer by the Australian Federal Committee of a Presidential Chair for the Great Hall in the new House of the Association. The idea of the Australian Federal Committee is that the Chair should be made of Australian timber with something about it emblematic of Australia. The High Commissioner for Australia is, on the suggestion of the Federal Committee, kindly taking a practical interest in this question, and it is believed that the result will be a production of which both the Association and its Australian Branches may feel proud.

#### NEW ARRANGEMENTS AS REGARDS THE PRINTING OF MINUTES OF COUNCIL AND COMMITTEES, ETC.

20. The Council has been taking into serious consideration the possibility of an economy in the production of the Minutes of the Representative Body and of the Council and Committees. So far as the last-named are concerned, with the exception of the Finance Committee, the printing of all Agenda and Minutes will be discontinued and they will in future be stenilled. As to the daily Minutes of the Representative Body it is suggested that in future they be typewritten while the Meeting is in session and reproduced in lithographic form for circulation to the members of the Meeting each day; that sufficient copies of the lithographed Minutes be bound for office use; and that the subsequent printing and issue of the Minutes to Representatives and Secretaries of Divisions and Branches be discontinued, the need for this having disappeared with the printing each year of the Summary of the proceedings of the R.B. in the Supplement to the B.M.J. and the issue of the Association Handbook. The Council has suggested to the Chairman of the R.B. that he should move the A.R.M. at Bath to amend Standing Order 18 of the R.B. accordingly. It is believed that by carrying out the above-mentioned procedure considerable economies can be effected without any inconvenience.

### Finance.

21. The Financial Statement for the year ending December 31st, 1924, which will appear in the B.M.J. Supplement of April 18th, 1925, discloses a state of affairs giving cause for quiet satisfaction.

22. The forecast for the year 1924 published in the Annual Report of Council for 1923-24 showed an estimated surplus for the year of £5,500; the actual surplus realized as shown by the books was £8,923, a result accounted for almost equally by increases over the estimates in the revenues from subscriptions and advertisements.

23. The membership increased during the year by 2,319, the total of 28,431 constituting a record.

24. The income for the past three years has been as follows:

	£	s.	d.
1922	112,140	18	3
1923	117,509	15	3
1924	122,840	0	3

The expenditure for the same three years was:

	£	s.	d.
1922	102,337	5	3
1923	107,726	15	0
1924	113,917	0	0

#### BALANCE SHEET.

##### Liabilities.

25. The Sundry Creditors stand at a total very similar to that of last year.

The Reserve Account stands at the same figure as last year. It is invested in first-class securities of a market value at 31st December, 1924, of £29,683 10s.

The Surplus Account, including the surplus for the year 1924, stands at £143,601 8s. 9d., making with the Reserve Account a total of £170,848 6s. 3d.

**Loan Account.**—It will be observed that, although a sum of £12,370 has been paid to the contractors on account of completions and decorations at the New House of the Association in Tavistock Square, it has been possible by careful financing to make such payments without increasing the loan from the Bank. A sum of £18,000 was repaid to the Bank by January 23rd, 1925.

##### Assets.

26. **Freehold Premises.**—The usual depreciation of £1,250 has been written off the value of the Strand premises.

**Leasehold Premises.**—A sum of £3,208 has been charged to Profit and Loss Account in respect of expenditure at the New House, and a first £1,000 has been written off for depreciation.

**Subscriptions in Arrear.**—The subscriptions carried forward in arrears have decreased, the number being 1,372 at 31st December, 1924, as against 1,496 at 31st December, 1923. This item of £2,120 7s. 9d. is represented almost entirely by subscriptions of Overseas Members, which may have been paid to the Branch Secretaries abroad, but have not reached the Head Office before the end of the year.

#### INCOME AND EXPENDITURE ACCOUNT.

27. **Subscriptions.**—The subscriptions due for the current year show an increase of £4,268, due to the great increase in membership during 1924. The subscriptions due for previous years which have been recovered in the year under review have again been shown separately, in order to demonstrate that the amounts shown as "subscriptions written off" are by no means lost. Of the sum of £2,481 carried forward in the Balance Sheet of 31st December, 1922, as "Subscriptions in Arrears," no less a sum than £2,229 was recovered during 1923. The balance of £252 was included in the amount of £2,150 5s. 8d. "written off" in the Profit and Loss Account at 31st December, 1923. A further sum of £107 8s. 6d. was received during 1924, which, together with the £1,327 14s. 10d. collected by the Head Office in respect of 1923 subscriptions written off, and £205 6s. 9d. recovered in respect of previous years' subscriptions, makes a total recovery of 627 subscriptions, representing £1,640 10s. 1d.

**Interest on Investments** shows a decrease of £187, no interest having been received upon Bank Deposits.

**Sundry Receipts.**—This figure of £924 includes repayments of amounts expended during 1923 from the National Insurance Defence Trust and the estate of the late Sir William Macewen.

#### TRUST FUNDS.

28. **Office Staff Superannuation Fund.**—It may be noted that the market value of the stock owned by this fund on 30th December, 1924, was £13,121 3s. 11d.

#### APPORTIONMENT OF MEMBERS' SUBSCRIPTIONS.

29. The membership of the Association at the end of 1924 was 28,431, but it must be borne in mind that all members do not now pay the same rate of subscription. Therefore the average amount of revenue per member was less than £3 3s.

The total revenue from subscriptions (excluding arrears) was £68,088 for the year 1924, or roughly £2 7s. 10d. per head of membership.

The following table has been calculated on this basis to show how the subscription of a member was apportionable towards defraying the expenses of the Association for the year ending December 31st, 1924:

	£	s.	d.	1924.	£	s.	d.	1923.
Central Meetings Expenses ...	8,937	0	6	3	0	6	4	0
General Association Expenses ...	4,219	0	3	0	0	3	8	0
Central Staff Expenses ...	15,802	0	11	1	0	11	3	0
Central Premises Expenses ...	3,951	0	2	9	0	3	9	0
Central Printing, Stationery, and Postages ...	3,074	0	2	2	0	2	2	0
Library Account ...	969	0	0	8	0	0	8	0
JOURNAL Account ...	11,496	0	8	1	0	8	1	0
Grant to Irish Committee ...	1,112	0	0	9	0	0	10	0
Grant to Scottish Committee ...	2,022	0	1	5	0	1	7	0
New Premises Account ...	3,209	0	2	3	0	2	3	0
Capitation Grants to Branches	5,309	0	3	9	0	3	10	0
Subscriptions written off for Deaths and Arrears ...	2,415	0	1	8	0	1	9	0
Addition to Bad Debt Reserve	250	0	2	5	0	2	5	0
Depreciation ...	3,119	0	2	5	0	1	8	0
Surplus (part) ...	2,194	0	1	7	0	2	9	0
	£68,088	£2	7	10	£2	8	10	

In comparison with last year's figures it will be seen that the reduction in "Part Surplus" has been transferred to "New Building" and "Depreciation."

## Report of Council :

ESTIMATE OF RECEIPTS AND EXPENDITURE IN 1925.  
30. The following figures represent an approximate forecast of the possible revenue and expenditure for the current year :

Receipts.		1924.		1925.	
	£		£		£
Subscriptions ...	69,728	2,072 Increase ...	71,800		
Advertisements...	39,437	1,063 Increase ...	40,500		
Sale of JOURNALS, etc.	8,587	87 Decrease ...	8,500		
Investments and Rents	4,163	37 Increase ...	4,200		
Sundry Receipts ...	925	925 Decrease ...	—		
	<u>£122,840</u>		<u>£125,000</u>		

Expenditure.		1924.		1925.	
	£		£		£
Central Meetings Expenses ...	8,937	1,313 Increase ...	10,250		
General Association Expenses	4,219	219 Decrease ...	4,000		
Central Staff Expenses ...	15,802	1,193 Increase ...	17,000		
Strand Premises Expenses ...	3,960	1,460 Decrease ...	2,500		
Central Printing, Stationery, and Postages ...	3,074	201 Increase ...	3,275		
Library Account ...	969	81 Increase ...	1,050		
JOURNAL Account ...	59,521	2,479 Increase ...	62,000		
Irish Committee Expenses ...	1,112	38 Increase ...	1,150		
Scottish Committee Expenses	2,022	203 Increase ...	2,225		
Tavistock Square Premises Expenses ...	3,209	2,791 Increase ...	6,000		
Capitation Grants to Branches	5,309	291 Increase ...	5,600		
Subscriptions written off ...	2,410	140 Increase ...	2,550		
Depreciation ...	3,369	369 Decrease ...	3,000		
New Scottish House ...	—	400 Increase ...	400		
	<u>£113,913</u>		<u>£121,000</u>		

Estimated Total Revenue ...	£125,000
Estimated Total Expenditure ...	£121,000
Estimated Surplus, 1925 ...	£4,000

## Organisation.

## MEMBERSHIP FIGURES.

31. The following is a summary of the changes in the membership of the Association during 1924 (the figures for 1923 are given for comparison) :—

1923.		1924.	
New members ...	2,791	New members ...	3,287
Paid arrears... with...	758	Paid arrears... with...	770
Resignations drawn ...	45	Resignations drawn ...	26
	<u>3,597</u>		<u>4,083</u>
Resignations ...	475	Resignations ...	436
Deaths ...	288	Deaths ...	326
Arrears ...	1,003	Arrears ...	1,000
Eased from Medical Register ...	1	Eased from Medical Register ...	2
	<u>1,767</u>		<u>1,764</u>
	1,830		2,319
INCREASE ...	1,830	INCREASE ...	2,319
Membership, December 31st, 1923 ...	26,112	Membership, December 31st, 1924 ...	28,431

The Council is gratified to report that the above membership of 28,431 is higher than the previous highest figure (year 1912) by 1,868.

WORK DONE BY THE DIVISIONS AND BRANCHES IN 1924.  
32. The year 1924 has been one of the most active in the history of the Association. Not only has the membership increased in a highly satisfactory way, but the activities of the Association, local and central, clinical and scientific, medico-political, and social, have developed in all directions.

33. The Council takes special pride in referring to the splendid work now being done by a great many of the Divisions and Branches and by the Australian and South African Federal Committees, as evidenced (*inter alia*) by the reports published in the *Supplement* of the meetings held. An increasing number of Divisions and Branches are adopting, with conspicuous success, the sound plan of arranging in advance a programme for each session, October to October.

THE HONORARY OFFICERS OF THE DIVISIONS, BRANCHES AND FEDERAL COMMITTEES.

34. On behalf of the Association the Council desires warmly to thank the Chairmen, Presidents, Secretaries and Executives of

the Divisions, Branches and Federal Committees for the admirable work being done. While the central work of the Association is increasingly strenuous, the Council well realises that no central efforts can be expected to take the place of the activities of members in their own districts.

## HELP TO INDIVIDUAL MEMBERS.

35. A marked feature of the central work in the year has been the steady increase in the number of applications received from individual members for information, advice, or other help. It will be remembered that besides the information in the possession of the Central Committee, the Intelligence Department of the Association collects, records, and disseminates information on matters affecting professional practice. The Department has a complete set of press-cuttings together with that arriving from the profession, and this information, together with the help of members through the Editor and the Medical Secretary, enquiries by members, whether through Honorary Secretaries of Division or Branch or addressed to the head office, as to matters of doubt or difficulty affecting them in their professional capacity are welcomed. In an increased number of cases the Association has been able to give useful advice or help as regards the obtaining of satisfactory professional work. It is now also a part of its daily work to advise individual members on questions of post-graduation study, buying and selling of practices, as to homes and other institutions for patients, and in short, all matters of professional doubt or difficulty, including also legal advice in respect of matters which affect the general interests of the profession.

## RECRUITMENT OF NEWLY QUALIFIED PRACTITIONERS.

36. The Council is again glad to report good progress in connection with the scheme inaugurated two years ago for interesting final-year medical students and recently qualified practitioners in the work of the Association. The number of newly qualified members of the profession who are joining the Association is steadily increasing. Practically all the Divisions and Branches whose areas contain medical schools are doing excellent work to this end, especially by arranging social meetings of welcome to the newly qualified members of the profession.

## "Handbook for Recently Qualified Medical Practitioners."

37. A new edition of the "Handbook for Recently Qualified Medical Practitioners" is now in course of preparation, and the Council has noted in this connection following Minute 70 of the A.R.M., 1924 :—

That in any addition to, or new edition of, the "Handbook for Recently Qualified Medical Practitioners," it is important that instruction should be given as to the correct and effective way of ensuring the payment of fees for the giving of evidence in the civil law courts. This Handbook has met a real need. The new edition will be slightly enlarged so as to make it still more useful, and will, the Council proposes, include further information as regards the legal aspects of practice, careers open to members of the profession, starting practice, partnerships, etc.

## Prizes to Students for Essays.

38. The following was decided upon as the subject for the Association's 1924-5 Prize Essay competition by final-year medical students :—

"The Diagnosis and Treatment of Chronic Intestinal Obstruction," with illustrative cases.

The following members of the Association have kindly acted as Examiners in connection with the award of the Prizes: The Right Hon. Lord Dawson of Penn (London), Mr. W. F. Haslam (Birmingham), Dr. W. E. Hume (Newcastle-on-Tyne), Mr. H. Wade (Edinburgh). The Council will give the names of the prize winners in its Supplementary Report. The Council has decided that in future years the Prize Scheme shall be advertised in July instead of October, so as to give the essayists more time.

## LOCUM BUREAUX IN TEACHING CENTRES.

39. The Council has considered the following Minute 71 of the A.R.M., 1924 :—

That it be referred to the Council to consider the advisability of a Locum Bureau being formed, under the auspices of the Association, in each teaching centre. Up to quite lately, the question of the supply of locumtenents and assistants, in practically all the Provincial and Scottish centres, was not dealt with on any organised basis. The usual practice was for doctors to telephone to members of the teaching staff asking if they could recommend a locum; instrument makers and wholesale druggists carried on a certain amount of such work for the benefit of their customers; and often the

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## Organization.

hospital hall porter acted as an agent. In London the case is different, there being many medical agencies, old and new.

40. In order to put matters on a better footing, definite action has been taken locally in the interests both of the general practitioners and of the newly qualified members of the profession in Manchester by the Local Medical Committee, in Newcastle-on-Tyne by the Newcastle Division, and in Scotland by a Scottish Medical Bureau at the Scottish Office of the Association independent of the Association but under a Committee which consists of "the members for the time being of the Scottish Committee of the B.M.A."

### Local "Appointments Committees."

41. The difficulties experienced by the newly qualified in obtaining posts have been recognised by a number of Universities, with the result that the Aberdeen, Cambridge, Edinburgh, Glasgow, Oxford and St. Andrews (and possibly other) Universities have set up "Appointments Committees" to assist the local graduates, medical and other, to get work.

### Question of Action by the Association as regards Institution of such Bureaux.

42. At a conference on this and allied subjects held in March 1924, of Secretaries of Divisions and Branches whose areas contain medical schools, many speakers emphasised the need that the Association should do something to assist the newly qualified members of the profession during the difficult period following graduation. In view of the increasing number of newly qualified who are joining the Association, this aspect of the subject is, the Council considers, deserving of special attention by the Association. An increasing amount of such work is already being done by the Association in one way or another, but the need is as yet far from being adequately met. Young medical men and women would be much more easily induced to join the Association, and more firmly attached to it, if it were able to help them more in this critical stage of their professional career.

43. The Council, on careful review of the whole position, has come to the conclusion that the time has arrived when the Association should itself take steps as regards the formation of bureaux, under the control of the Association as far as possible, in such centres as may seem desirable, for supply of locumtenents and assistants.

44. As regards the scope of these bureaux the Council considers that their activities might, in the initial stage at all events, be confined to the supply of locumtenents and assistants; (a) be possibly limited to Provincial and Scottish centres; and it has under consideration whether the organisation should only be for the fourth year after registration of practitioners up to the end of the fourth year after registration under the Medical Acts. It is obviously desirable, however, that any Company or Society formed for these purposes should have powers sufficiently wide to enable the bureaux, if so desired, to widen their scope at a later period. The Council therefore suggests that any such Company or Society should be formed with wide powers, and that a number of matters should be specifically reserved for further consideration by the Council.

45. As such a new organisation as is proposed to be set up would at the outset at all events, deal only with provision of locumtenents and assistants and would probably be subject to the other limitations above indicated, it would not come seriously into competition with existing ordinary agencies.

46. As it is practically certain that the bureaux of any such organisation would be made use of by practitioners who were not the other limitations above indicated, it would not come seriously into competition with existing ordinary agencies.

The Council recommends:

**Recommendation:** That a Bureau for the provision of locumtenents and assistants, with power for further expansion, be formed under the auspices of the Association, to operate in such centres as may be deemed desirable, and that the organisation be set up under the control of the Association by means of (a) a separate Limited Liability Company, or (b) a Society registered under the Friendly Societies Act, whichever may be found the more suitable.

**Recommendation:** That the questions (i.) of confining the activities of the Bureau to provincial centres; (ii.) of the Bureau subsequently taking over the work of transfer of practices; and (iii.) of limiting the activities of the Bureau to newly qualified practitioners up to the end of the 4th year after registration under the Medical Acts, be reserved for further consideration by the Council.

**Recommendation:** That in any such scheme instituted as above, preferential treatment be given to members of the British Medical Association.

## QUESTION OF INDIVIDUAL MEDICAL DEFENCE.

47. As a result of the discussion at the Bradford Representative Meeting, and of proposals since made on the subject, the Council has again considered the question of individual medical defence being undertaken in connection with the Association. It will be remembered that the Council reported on this subject to the A.R.M., 1923, at Portsmouth as follows:—

42. The Council has given careful consideration to the question of individual medical defence for members of the Association. As members know, the Association can and does intervene for the defence of members in cases where the general interests of the profession are affected, but cannot itself under its Memorandum of Association undertake individual medical defence in other cases. The Council came to the conclusion that in view of the recurring evidence of the great need that individual practitioners should be insured in respect of medical defence, the insurance of members of the Association in this respect should be furthered in every possible way, and that to this end use might well be made of the existing medical defence societies. The Council has gone fully into the whole matter, in consultation with the London and Counties Medical Protection Society, the Medical and Dental Defence Union of Scotland, and the Medical Defence Union.

43. As a result the Council has decided that the Association itself should take no action as regards individual medical defence, but wishes to draw the special attention of all concerned to the fact that, inasmuch as, however skilful and careful a member of the profession may be, he (or she) is liable to have his treatment challenged by or on behalf of a patient, every practitioner should make a point of joining one of the recognised medical defence societies named above.

48. The A.R.M., 1923 (Min. 60), considered the following amendment by Warrington and St. Helens:—

That (with reference to above paragraphs 92 and 93 of the Annual Report of Council) this meeting notes with satisfaction that the Council of the Association has given careful consideration to the question of Individual Medical Defence for members, but greatly regrets that the Council has not seen its way to recommend the alteration of the Articles of the Association so that this paramount duty may be undertaken either by the Association itself or by its incorporation with one or more of the existing Defence Societies; further, that this meeting is of opinion that the individual defence of members in professional matters should be one of the functions of the Association, and instructs the Council to prepare statistics of the work and costs of ensuring individual defence, and that these be laid before the Divisions in order that their opinion on this important matter may be obtained.

The amendment was lost, and the above report of the Council was approved.

49. The question was further raised at the A.R.M., 1924, when a proposal by Manchester, to the effect that the Council should be instructed to formulate a scheme for the medical defence of individual members of the Association, either by itself or in co-operation with existing bodies, was lost by 53 votes to 76.

### Present Position as regards Provision for Individual Medical Defence.

50. In cases where questions of principle affecting general professional interests are involved, the Association itself intervenes, but otherwise individual legal defence does not, under its Memorandum, come within the scope of the Association.

51. In Great Britain there are three organisations which enter for individual defence, namely, the London and Counties Medical Protection Society, Ltd., the Medical and Dental Defence Union of Scotland, Ltd., and the Medical Defence Union, Ltd. In each case the entrance fee is 10s. (none to practitioners joining within a year of registration), and the annual subscription of £1. The benefits in each case include an indemnity for the individual member against costs and damages where the case is defended or conducted by the company.

52. It would appear that, in the case of England and Wales, there are approximately some 7,000 practitioners doing medical work, many of them doubtless members of the Association, who are not members of either of the London individual defence societies, and presumably not members of any such organisation. In connection with the foregoing it has to be noted that the work of the profession, and the work of the Association in defence of the interests of the profession, for example, in connection with the National Health Insurance Acts, is bringing members of the profession, both collectively

and individually, more and more into contact with legal questions. Thus it looks as if there is to be, for the present at least, more need for the legal defence of the individual. This applies perhaps especially to newly-qualified members of the profession, who in the nature of the case lack experience and knowledge of medico-legal matters.

*Possible Nature of Provision for Individual Medical Defence in Connection with the Association.*

53. The Council has reviewed the possibilities as regards provision of individual defence facilities by or in connection with the Association, including the following possible alternatives:—

- (a) Full medical defence for all members;
- (b) Optional full medical defence;
- (c) Partial medical defence;
- (d) Extra medical defence expenses; and
- (e) Legal bureau for members.

Of these, if the Association were able, so to speak, to make a fresh start and begin its career under a fresh Memorandum of Association, Scheme (a), i.e., full medical defence for all members, might be the best plan. As matters stand it is not a business proposition, for (1) a considerable number of members do not require individual defence provision and would therefore decline to pay a subscription which would be partly ear-marked for payment of the expense of such a provision, (2) it is practically certain that, under its existing Memorandum, the Association would not be permitted itself to carry out individual medical defence, and (3) it is very improbable that the High Court would agree to a drastic alteration of the Memorandum of Association such as that which would be involved in adding to the present objects of the Association, viz., the maintenance of the honour and interests of the profession, a clause under which individual defence could be undertaken.

54. The Council is of opinion that the only possible workable scheme would be the alternative (b), namely, optional full medical defence for such members of the Association as chose to pay an extra subscription for it. Such a provision would be restricted to those members of the Association who desired it. Its organisation would necessarily be, though connected with, quite separate from the organisation of the Association. It could either be a separate company or a friendly society, probably the former.

55. As regards scope, such a provision would necessarily have to give, at a subscription not higher than that of existing medical defence societies, the same insurance as these do, namely, a practically unlimited cover against costs and damages. The Association could no doubt arrange for unofficial representation, by a majority of members, in the governing bodies of any such new company or society. Its constitution would require to provide for the method by which decisions would be arrived at as to which cases should be taken up, which fought in the courts, which otherwise settled, or which declined. No doubt co-ordination between the work of the Association and the work of the new body could be arranged. Geographically, the main scope of any such new body would doubtless require to be Great Britain and Ulster.

*Question of Probable Support for such a Scheme: Need for Further Information.*

56. The Council considers that it would be a very serious mistake to form any such organisation as above, unless there was a reasonable prospect of adequate support. The extent of the demand could probably best be ascertained by drafting a scheme and submitting it to the members in the United Kingdom, individually, with questions, including the specific question whether he or she would support such a scheme, if formed, by joining the new organisation. If the Representative Body approves this plan, the Council will prepare a draft scheme for the purpose of such a plebiscite. Issue of a draft scheme with questions would not commit the Association to proceed further in the matter, for, according to the nature of the response, it would be open to the Council to rule that formation of such an organisation would not be undertaken, inasmuch as the promises of support were insufficient, or to come to the conclusion that an association should be formed, on the ground that *(inter alia)* by the support were sufficient to justify its formation. A further question is whether such a scheme is adequate.

*Financial Aspect: Drafting a Scheme for Optional Full Medical Defence.*

57. Any such new organisation would require to provide a protection at least as full, at a subscription at least as high, as those given by or paid to the existing defence societies. Any draft scheme prepared as above would be on the basis of a practically unlimited cover, an annual subscription of

£1 and no entrance fee. Some 6,500 would probably be the minimum number of members of any such individual defence organisation required to enable it to be run successfully.

*Conclusions Arrived at by the Council.*

58. To sum up, the Council is of opinion:—

- (a) That the only form of medical defence which could possibly be afforded to members is full medical defence (as given by the existing societies) to such members of the Association as desired it and were willing to pay a separate subscription for it;
- (b) That it would be possible to give such full defence by initiating a separate organisation;
- (c) That such an organisation should not be launched unless a reasonable measure of support were forthcoming.

The Council recommends:—

**Recommendation:** That the Council be authorised to prepare a draft scheme on the basis of an annual subscription of £1, in order to ascertain the number of members who desire the initiation of such a scheme and would be prepared to join in its membership.

*RULES OF ORGANISATION.*

59. The Model Rules of Organisation were amended last year to provide representation, on Division Executive Committees and Branch Councils, of members of the Association employed whole-time in the public health service, and the Council is gratified to note that a considerable number of Divisions and Branches have adopted Rules to give effect to that important principle. A far greater number of Divisions and Branches are now in possession of up-to-date Rules of Organisation than has ever before been the case.

The Council will submit in its Supplementary Report a list of U.K. Divisions and Branches which are, according to the register at the Head Office, not yet in effective possession of any Rules of Organisation.

*AFFILIATION BETWEEN THE ASSOCIATION AND THE CANADIAN MEDICAL ASSOCIATION.*

60. The Bradford Representative Meeting, 1924, on receiving the report of the Delegates on the cordial welcome given by the Canadian Medical Association to the proposals for affiliation of the two bodies, instructed the Council to do its part to carry the proposals into effect. The Council has much pleasure in reporting that the proposals were also approved by the Annual Meeting of the Canadian Medical Association, held in 1924, and that during the past year the two bodies have been in close co-operation on a number of matters of mutual interest.

61. The affiliation proposals provided *inter alia* for (i.) an indication of the fact of affiliation on the official documents of both bodies; (ii.) interchange of official copies of the *British Medical Journal* and the *Journal of the Canadian Medical Association* and of other important publications of both bodies; (iii.) use by the Canadian Medical Association of the "Important Notices" in the *British Medical Journal*; (iv.) right of members of the Canadian Medical Association to attend Sections and functions of the Annual Meeting of the British Medical Association, and to have the use of the B.M.A. House and Library, and the help of the central staff of the Association, with in each case reciprocal advantages to members of the British Medical Association visiting Canada; (v.) interchange of official visits and of information between the two bodies; (vi.) for members of the Canadian Medical Association to receive the *British Medical Journal* at the £1 11s. 6d. subscription rate; and (vii.) discontinuance of Branches of the British Medical Association in Canada.

The Council has arranged accordingly, and as reciprocal arrangements have been made by the Canadian Medical Association, the affiliation between the two bodies is now an accomplished fact.

**Recommendation:** That affiliation of the Association with the Canadian Medical Association be approved on the conditions set out in foregoing paragraph, and more fully in the Report of the Delegates to the Canadian Medical Association (A.R.M. 22) presented to the Bradford Representative Meeting.

A further formal step remains, as below.

The Council recommends:—

**Recommendation:** That the Annual Representative Meeting, 1925, approve and adopt as Articles of Association, the following draft new or amended Articles relating to the affiliation of medical bodies outside the United Kingdom to the Association, and instruct the Council to submit those Articles to

Extraordinary General Meetings of the Association for adoption as Articles of the Association:

(a) *Draft New Article, to follow existing Article 36*

"AFFILIATION.

(1) The Association may admit to affiliation with it any medical Association or similar body established outside the United Kingdom on such terms and with such privileges as may in each case be approved by resolution of the Representative Body passed after consideration of a report by the Council.

(2) The Association may terminate any such affiliation (after due notice on either side) by resolution of the Representative Body passed after consideration of a like report.

(3) Any resolution of the Representative Body under this Article shall be final and shall not require to be approved under Article 34."

(b) *Draft Amended Article 34.*

Existing Article 34 to be amended by inserting after "Representative Body" in line 7—"except as otherwise expressed in the Regulations."

INCORPORATION OF QUEENSLAND BRANCH.

62. As a result of representations made by the Australian Federal Committee the Representative Body in 1921 approved a proposal that provision should be made in the Regulations of the Association to allow Oversea Branches to retain the character, status, rights, powers and duties of Branches, although incorporated, such steps to be, however, taken as might be necessary to protect the Association from liability for any act of the incorporated body. The Australian Federal Committee and some of the Australian Branches attach considerable importance to Branch incorporation, especially from the point of view of the holding of property. Pursuant to the above decision of the Representative Body, there were adopted by the Association in 1922 an Article (12) and By-laws (16 and 17), providing for such incorporation. Subsequently there was prepared by the Australian Federal Committee, and agreed upon with the Council, a model Memorandum and Articles of Association for the use of any Australian Branch which might wish to incorporate itself.

The Queensland Branch has submitted for the approval of the Council a draft Memorandum and Articles based on the above model. These have been approved, and the Council has expressed to the Branch its good wishes for progress under the new arrangement.

QUESTION OF ORGANISATION OF MEDICAL PROFESSION IN SOUTH AFRICA.

63. The Council reported fully last year (see B.M.J. Supplement, May 3rd, 1924, pp. 188-9), in connection with the question of the organisation of the profession in South Africa, and stated that, in order to assist the profession in South Africa to secure the services of an Organising Medical Secretary, it had informed the South African Committee that, on the assumption that such Secretary and necessary expenses would cost something in the neighbourhood of £2,000 per annum, it was prepared to grant a sum of £1,000 per annum for three years on condition that the members of the Association in South Africa supplied the balance and that a suitable Secretary could be found.

The South African Committee has conveyed its thanks to the parent Association for this offer, but has deferred further consideration of it for one year. Meanwhile, the Committee has convened a special meeting of the Presidents and Secretaries of Branches in the area, for the purpose of discussing questions of organisation. The Council has reason to believe that the situation in South Africa, from the point of view of the Association, is steadily improving.

STANDING COMMITTEES.

64. The Council believes that it would be to the great advantage of the Association if a larger number of members could be induced to take a share in the work of the Committees. The work is steadily on the increase, and it throws a heavy strain upon a comparatively small number of members. The Council has therefore amended its Standing Orders so as to provide that no member of the Association shall be appointed by the Council to serve on more than two Standing Committees (exclusive of the Arrangements, Irish, Scottish, Welsh and Insurance Acts Committees). The Standing Orders of the Representative Body already contain provision on these lines.

CONSTITUENCIES FOR ELECTION OF REPRESENTATIVE BODY, 1925-6.

(a) *Home Divisions.*

65. The Council has repeated the 1924-5 grouping of the Home Constituencies for election of the Representative Body,

1925-6, except that the Furness and Kendal Divisions of the North Lancashire and South Westmorland Branch have been made independent Constituencies.

(b) *Oversea Divisions.*

The Council has made each Oversea Division and Division-Branch an independent Constituency.

GROUPING OF BRANCHES FOR ELECTION OF COUNCIL (By-law 53 (a) and (c)).

(n) *Grouping for 1925-6:*

66. Under the authority conferred upon it by the Representative Body, the Council has grouped the Home Branches and the Home Constituencies, respectively, for election of the "24" and "12" members of Council for 1925-6, in the same way as for 1924-5, except that in the "12"—grouping, Chelsea Division has been transferred from the Outer to the Inner Metropolitan Group.

(h) *Grouping for 1926-7.*

67. For several years past, Wales has put forward a request for increased representation on the Council, but the difficulty has always been how to effect this without interfering with the grouping as a whole. The matter has been raised again recently, and the Council considers that the wish of the Welsh members is reasonable and should be satisfied. The grouping of the Home Branches for election of the Council has always, and advisedly, given effect to the principle of very considerable over-representation of those Branch areas which lie further from or of less easy access to London. At present (1924 Annual List), the respective countries are represented on the Council as follows:

	Membership.	No. of Members of Council.
Ireland ... ..	732	6
Scotland ... ..	2,685	6
Wales and Monmouthshire	1,045	2
		(1 is shared with Provinces)
Provinces ... ..	10,387	17
		(1 is shared with Wales)
London ... ..	3,353	6

The Council is of opinion that a seat on the Council may fairly, and without disturbing the grouping as a whole, be given to Wales at the expense of Ireland.

The existing groupings in respect of Wales and Ireland are as follows:

"24" Members of Council. "12" Members of Council.

	No. to be elected.	Members in Group.	Branches in Groups.	Members in Group.	No. to be elected.	
Group F	1	906	Birmingham (629) Staffordshire (277)			
" G	1	1045	North Wales (214) Shropshire and Mid Wales (126) South Wales and Monmouthshire (705)	1951	1	Large Group IV
" Q	1	74	Connaught (34) ... S. Eastern of Ireland (40) ...	274	11	" XI
" R	1	200	Leinster (200) ...			
" S	1	83	Munster (83) ...	458		" XII
" T	1	375	Ulster (375) ...			

As will be seen, the Council, in its recommendation below, proposes a re-arrangement of these groupings and proposes that the Branches in Ireland be re-grouped in the light of the position resulting from the formation of the Irish Free State.

The Council recommends:

**Recommendation:** That as regards the grouping for election of the Council for 1926-27, the following changes be made:

*A regards the "24"—Grouping.*

(a) That the North Wales, and Shropshire and Mid-Wales Branches be made a separate Group, for election of 1 Member of Council;

(b) That the South Wales and Monmouthshire Branch be similarly a separate group;

(c) That the independent grouping (see Group "S") of Munster Branch be discontinued, and that this Branch be added to the Connaught and South-Eastern of Ireland Branches in Group "Q."



*As regards the "12"—Grouping:*

(d) That the suggested two Welsh groups, together with the Birmingham and Staffordshire Branches, constitute (as at present) "Large Group IV.";

(e) That in view of the formation of the Irish Free State, the Connaught, South-Eastern of Ireland, Leinster and Munster Branches constitute "Large Group XI.", and that the Ulster Branch be independent as "Large Group XII."

**"British Medical Journal."**

68. During 1924 the growth in the circulation of the *British Medical Journal* continued; the average number of pages printed weekly increased; and the revenue from advertisements was the largest ever received. The growth in circulation is shown by the following figures, which give the average number of copies printed weekly during the six years since the War: 24,520 in 1919; 26,195 in 1920; 27,247 in 1921; 27,600 in 1922; 29,036 in 1923; and 31,339 in 1924. The total number of pages of text (including Supplement and Epitome) and of advertisements was 5,640 last year as compared with 5,512 in 1923, 5,204 in 1922, and 5,136 in 1921. The revenue from advertisements was £39,437 as compared with £38,818 in the previous year. In the last pre-war year (1913) the revenue from advertisements was £24,169, though the number of pages of advertisements at that time was much greater; thus the policy of increasing the rate of charges has been abundantly justified. The average total number of pages of the *British Medical Journal* each week in 1924 was 106.4, distributed as follows: Journal and Epitome, 49.3; Supplement, 10.5, advertisements, 46.4.

69. Publication of the scientific and clinical proceedings of the Annual Meeting at Bradford, including full reports of the twelve scientific Sections, occupied 256 pages; the reports of the Presidential Address, proceedings of the Annual Representative Meeting, the Annual General Meeting, and various conferences held at Bradford, occupied 65 pages; this making in all 322 pages. Publication of the full reports of the Sections was completed by the end of December. During the year the annual report of the Insurance Acts Committee, the various documents issued by that Committee, the report of the annual and special conferences of Local Medical and Panel Committees, and the evidence given on behalf of insurance practitioners before the Court of Inquiry into the capitation fee made several issues of the Supplement unusually large. A considerable amount of space in the Journal was again devoted to British Medical Association lectures and other papers read to the Divisions and Branches of the Association.

70. The Journal Committee continues to exercise strict supervision over advertisements tendered for publication in the *British Medical Journal*, and has found it necessary to exclude a considerable number, which for one reason or another did not conform to the policy and requirements of the Association. This supervision, as indicated in last year's report, necessarily entails a considerable loss of revenue, but it yields valuable results to the medical profession and, indirectly, the public. While the acceptance of an advertisement for publication in the *Journal* is not to be understood as recommending or guaranteeing the article advertised, yet the appearance of an advertisement indicates that no objection of principle has been taken to it. In many instances the task of discriminating between advertisements, and deciding which of them are admissible and which should be refused, is not easy. All new advertisements tendered for publication are scrutinised in the Medical Department of the Association, and those considered *prima facie* to be misleading or otherwise objectionable are referred for further inquiry and consultation. A detailed statement of advertisements suspended or refused, and of the grounds for the action taken, is presented to every meeting of the Journal Committee, when the circumstances of each case are reviewed. The Committee re-appointed the Foods and Drugs (Advertisements) Subcommittee which continues to advise its chairman in regard to doubtful advertisements of drugs and dietetic preparations. The claims made for particular substances have been reported on by pharmacological and analytical experts.

71. The question of extending and improving the *Epitome of Current Medical Literature* was considered by the Journal Committee, on whose recommendation the Council authorised the occasional enlargement of the *Epitome* to six or eight pages, according to the other demands on space in the particular week.

72. The gross cost of production and distribution of the *British Medical Journal*, including all editorial and a proportion of the managerial expenses, was £59,520 in 1924. Receipts from advertisements, sales to non-members, and a

few small items, amounted to £49,024; so that the net cost of the *Journal* to members of the Association was £11,496, or 8s. 1d. a head for the whole year including postage. Thus while the gross cost of producing a single copy of the *Journal* and supplying it to a member was 8d., the net cost to him was approximately 2d.; to a non-member in Great Britain or Ireland the price of a single copy of the *Journal*, including postage, was 1s. 4½d. The sale of *Journals* to non-members yielded £7,325. The charge for postage of the *Journal* to members continues to form a very heavy item of the total expenditure on the *Journal*. It amounted to £10,635 as against £9,724 in 1923; £8,904 in 1922; and £7,261 in 1921. The increase in postage costs is due mainly to the continued growth in membership, and partly to the growth in size and weight of the *Journals* posted.

**Science.****SCIENTIFIC WORK OF ANNUAL MEETING, 1925.**

73. The Council has decided upon the following Sections for the forthcoming Annual Meeting at Bath. *Three-day Sections:* Medicine; Surgery; Obstetrics and Gynaecology; Pathology and Bacteriology; Neurology and Psychological Medicine; Therapeutics including Balneology and Radiotherapy. *Two-day Sections:* Ophthalmology; Laryngology, Otology and Rhinology; Diseases of Children; Public Medicine; Orthopaedics (one day being combined with Surgery). *Single-day Section:* Medical Sociology.

**THE ASSOCIATION'S SCHOLARS AND GRANTEES.**

74. The Council has again allocated a sum of approximately £1,000 out of the ordinary funds of the Association for the purpose of assisting original research. The following are the awards made for 1924-5:

**Ernest Hart Memorial Scholarship—(Value £200).  
Research.**

Dr. Alexander John Copeland (Cambridge) (Second year)	Completion of the present research— "Value and importance of the Cocaine Substitutes, with special reference to the anaesthesia of the eye and mucous membranes"
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**Ordinary Research Scholarships—(Three, each of the value of £150).  
Research.**

Dr. H. W. Cairns (London) (Second year)	Tuberculosis of the Epididymis and Testicle; the paths of infection, the progress of infection, and the results of methods of treatment.
Miss Alice Bloomfield, F.R.C.S. (London)	The bearing of Embryological detail on Pathological conditions occurring in the Female Genito-Urinary Tract, with especial reference to the causation of Ectopic Gestation.
Mr. Norman McOmish Dott, F.R.C.S. (Edinburgh)	(1) Investigation into the physiological functions of the Pituitary Glands. Observations of general Syndromes of experimental derangements, including observations on bone growth, Polyuria, Adiposity. Enquiry into other endocrine functions. (2) The Secretory and Motor Functions and relations of the Stomach, Pylorus, and Duodenum. (3) The study of, and experimental relief of, Hydrocephalus.

**Research Grants (Total Value £390).**

75. Mr. H. Bailey and Mr. G. P. B. Huddy (London) £50; Prof. J. M. Beattie (Liverpool) £20; Dr. Dorothy C. Hare (London) £30; Dr. O. Inchley (Cambridge) £10; Dr. Mary F. L. Keene (London) £50; Dr. A. P. Mitchell (Edinburgh) £20; Dr. E. P. Poulton (London) £20; Mr. F. C. Pybus (Newcastle-upon-Tyne) £50; Dr. J. M. D. Scott (Cambridge) £120; Prof. M. J. Stewart (Leeds) £20.

**Work of the Scholars and Grantees.**

76. The reports received in respect of the Association's Scholarships and Research Grants are frequently more suitable for publication in the various technical Journals than in the *British Medical Journal*. With the assistance, however, of those gentlemen who have kindly undertaken to review the work of the various Scholars and Grantees, a condensed report of this work will be published in the *Journal*. The Council proposes to arrange, should opportunity arise, that the holder of a B.M.A. Scholarship or Scientific Grant shall be recommended to the Officers of the appropriate Section at the Annual Meeting as a reader of a paper or the opener of a discussion at that Section.

## B.M.A. LECTURES.

77. The Council has set apart a sum of £400 for 1925 for the provision of B.M.A. Lectures and these continue to be most successful. The Council has decided also that the further sum of £50, together with any money left over from the above £400, be placed at the discretion of the Science Committee with a view to meet in part the expenses of any representative of the Association who may be visiting the Dominions and who may be willing to deliver one or more B.M.A. Lectures there.

78. The following have given Lectures during the past year: Dr. W. A. Brend (3 Lectures), Dr. H. C. Cameron, Mr. W. F. H. Coko, Mr. W. McAdam Eccles, Dr. Geoffrey Evans, Dr. J. S. Fairbairn, Sir Henry Gauvain, Prof. A. J. Hall, Col. L. W. Harrison (2 Lectures), Dr. C. M. Hinds Howell, Mr. H. H. Joy, K.C., Dr. W. Langdon Brown, Dr. A. Leitch (2 Lectures), Mr. S. Gordon Luker, Prof. T. J. Maekie, Prof. A. W. Mackintosh, Lt.-Col. R. McCarrison, Prof. Hugh Maclean, Dr. B. E. Myers, Mr. R. P. Rowlands, Mr. H. S. Souttar (2 Lectures), Sir James Purves-Stewart, Mr. P. Jenner Verrall, Mr. H. Wado, Prof. D. P. D. Wilkie, Dr. S. A. Kinier Wilson (2 Lectures), Dr. R. A. Young.

## MIDDLEMORE PRIZE.

79. The Council proposes to award at the Annual Meeting at Bath the Middlemore Prize to the person who is adjudged to have submitted to the Association the best contribution on any Ophthalmological subject, whether previously published or not, provided that the contribution shall not have been published or prepared more than three years prior to the date on which applications are receivable in competition for the Prize. Mr. G. Mackay, F.R.C.S., Edinburgh, Mr. W. T. H. Spicer, F.R.C.S., London, and Dr. A. L. Whitehead, Leeds, have kindly consented to act as Judges in the competition, and the Council will announce the result in its Supplementary Report.

## RESOLUTION OF OPHTHALMOLOGICAL SECTION.

80. The Council on consideration of the following Minute 73 of the A.R.M., 1924:—

That the Council be asked to reconsider its decision in respect of the following para. 76 of the Annual Report of the Council:

*Resolution of Ophthalmological Section.*

76. The Section of Ophthalmology at the Portsmouth Meeting recommended the Council to press strongly upon the Government the great need for research upon many unsolved problems of vision in relation to the requirements of the combatant services. The Council, on consideration of the matter, does not feel that this question is one concerning which it could usefully take action,

decided to forward the resolution to the Admiralty, the War Office, the Air Ministry, the Committee of the Privy Council for Scientific and Industrial Research, and the Medical Research Council. The Council has received replies from each (except the Admiralty) to the effect that the matters raised are under consideration.

## WORCESTERSHIRE MEDICAL SOCIETY'S LIBRARY.

81. The Worcestershire Medical Society, which was formed about 1860, and which has recently ceased its activities, has offered to the Association the books in its Library, many of which were presented to the Society by the late Sir Charles Hastings, the founder of the British Medical Association.

The Council has accepted, on behalf of the Association, the kind offer of the Worcestershire Medical Society and hopes, in view of the special interest attaching to the gift, that it may be possible to house the Hastings' books in a special section of the Library of the Association.

## THE LIBRARY.

82. The Council is gratified to note the rapidly increasing use which is being made of the Association's Library. Since 1922 there has been an increase of nearly 100 per cent. in the number of books sent out on loan, and the Council is making further provision of the expansion of the Lending Library facilities.

The Honorary Librarian, Mr. W. G. Spencer, continues to give the Council much valuable assistance in connection with all matters affecting the Library, and his work during the present transition period has been specially arduous.

## THE "SIR CHARLES HASTINGS CLINICAL PRIZE."

83. The Council reported to the A.R.M. 1924, that it had established a special Prize for the purpose of stimulating systematic observation, research and record in general practice, and the suggestion was made at the Bradford Representative Meeting

(Min. 75) that in the event of more than one essay of merit being sent in the Council should award more than one Prize. The Council has approved of this suggestion and effect will be given to it in considering the merits of the several contributions. The Council is glad to note, from the number of enquiries which it has received on the subject, that its proposal to award a Prize of this character has aroused considerable interest.

## Medical Ethics.

## INDIRECT METHODS OF ADVERTISING.

84. The Annual Representative Meeting at Bradford expressed general approval of the Report of the Central Ethical Committee on Indirect Methods of Advertising, but instructed the Council to reconsider the following paragraphs 12 and 13 of the report (dealing with anonymity in the Press) so as to make more clear the occasions when, and the conditions under which, anonymity might be departed from:

"12. From time to time there are discussed in the papers matters of great public interest or importance regarding which it is to the advantage of the public that the medical considerations involved should be stated either by letter, article or interview. If the only object in view is the proper instruction of the public, it is not necessary that the names of the medical writers or informants should be given. The newspapers can give the necessary assurance to their readers as to the professional standing of the authority quoted without mentioning names. If the journalist were dissatisfied with this course it would probably be due to a desire to satisfy the curiosity of his readers about personalities rather than to a desire to instruct them on important matters. But even from the journalist's point of view adherence to the practice suggested would give him better results, since it would place at his disposal the opinions of men of greater standing and experience than are available now when names are allowed to be bandied about in public. There may be rare exceptions to this rule of anonymity, as when a doctor is himself a principal actor in the circumstances under review. His intervention may be necessary, and would be meaningless if anonymous. In this case the publicity given has already been necessary on public grounds.

"13. Speaking generally, it may be said that the medical men most often quoted in the Press are not those whose opinions carry most weight with the medical profession or with the educated public. It is natural that those whom the Press representatives most eagerly seek to draw into their service and utilise for their own advantage are those who have some recognised position or well-sounding address or title. It is, therefore, especially important that a stand should be made by such practitioners, who perhaps do not realise that the example set by them may well be pleaded in justification by those in a less prominent position."

In the light of the discussion at the Bradford meeting, the Council has drafted a new paragraph 12, which it suggests should be substituted for the original paragraphs 12 and 13. The Council further proposes that the Report be now approved as a whole in its revised form.

**Recommendation:** That the A.R.M., 1925, approve the revised Report of the Central Ethical Committee on Indirect Methods of Advertising (see Appendix II.).

## PROPRIETY OF SETTING UP IN PRACTICE IN AREA AFTER HAVING ACTED AS LOCUM TENENS.

85. The Council is frequently asked to advise on questions relating to the propriety of a doctor setting up in practice in an area where he has acted as locum tenens, and is of opinion that the matter is one upon which a ruling should be laid down by the Association in order that enquiries may be dealt with expeditiously. The Council has endeavoured to formulate a general rule, but it recognises that no rule can be expected to cover all possible circumstances, and it is therefore suggested that, in order to provide for a necessary degree of elasticity, pleas for the relaxation of the Rule should be dealt with by the Central Ethical Committee in the light of the facts of the individual case.

The Council recommends:

**Recommendation:** That the R.B. express the opinion:—

That as a locum tenens is introduced in confidence to the practice of which he takes charge, it must be presumed on principles of common equity that he cannot without dishonour commence practice in the neighbourhood where he has acted unless with a written consent obtained either from the practitioner whose substitute he has been or from the legal representatives of this practitioner. There may, however, be circumstances, for example the lapse of time, which would make the strict application of this Rule an unreasonable interference with the freedom of a practitioner who had acted as a locum tenens. If any such plea for the

relaxation of the Rule in any individual case can be advanced, the facts should be stated to the Central Ethical Committee and the judgment of the Central Ethical Committee on the point should be accepted as final.

#### ETHICAL RULES.

'86. In pursuance of the standing instruction of the Representative Body the Council reports that the following bodies in Great Britain have still not adopted the revised Ethical Rules :

*Divisions :* Argyllshire, Chester, Crewe, Dover and Folkestone, Dumbartonshire, Durham, Edinburgh and Leith, Halifax, Hendon, Islands, Leigh, Ross and Cromarty, Salford, Shetland, South-West Essex, Tower Hamlets, Wandsworth, Winchester.

*Branches :* East York and North Lincoln, Edinburgh.

#### NOTICES REGARDING APPOINTMENTS.

87. The Council has considered the following Minutes 147-8 of the A.R.M., 1924 :

That the Council be instructed to take into consideration the present procedure adopted by Headquarters in dealing with cases arising under the heading of "Important Notices," as regards conformity by the Division reporting the case with the Ethical Rules of the Association, and with a view, if possible, to speeding up the procedure.

That the following motion be referred to the Council for consideration :—That in all cases of Appointments under the Public Health Service to which objection is taken on account of the remuneration offered being insufficient, a binding resolution should be adopted by the Division or Branch concerned previous to the appointment being made.

88. The Council approved, in 1923, the principle of Divisions and Branches adopting binding resolutions under their Ethical Rules in respect of the scale of minimum commencing salaries for Public Health Medical Officers as a whole, but action in respect of this matter was deferred pending final settlement of the scale. Now, however, that the scale has been finally revised, the Council intends to take action at the earliest opportunity on the lines stated above, and this will have the effect of meeting the points raised in the foregoing Minutes 147-8 of the A.R.M.

89. Since the adoption by the Portsmouth Representative Meeting of the new scale of salaries, the greater number of Notices regarding appointments in the *Journal* have had relation to public health appointments, and the Council is gratified to note in this connection that most Divisions and Branches are prepared voluntarily to adopt resolutions under their Ethical Rules in order to promote adherence to the rates of salary laid down in the scale. Cases occur, however, where Divisions are either unwilling or unable to take action on these lines, and this has sometimes given rise to an anomalous position which, it has been suggested, might be avoided if the Association were able to deal with the matter centrally instead of through the Division concerned. Having regard to the facts (i.) that the Association has deliberately chosen a constitution which gives Divisions complete autonomy, and (ii.) that the great majority of the Divisions and Branches loyally follow the lead given by the Representative Body, the Council does not suggest that any change should be made in the existing situation.

#### QUESTION OF PRACTISING IN A LOCALITY AFTER NEGOTIATIONS FOR PURCHASE.

90. The question has been raised with the Council as to the desirability of formulating a rule to deal with situations where a practitioner, having entered into negotiation for the purchase of a practice in a particular locality, subsequently, on the failure of the negotiations, commences practice in that locality.

The Council has expressed the opinion that a medical practitioner who, on information he has received, forms the opinion that he may reasonably expect to make a practice in a given district is quite at liberty to act upon this opinion, provided that such information has not been obtained by enquiries addressed to a practitioner (or to his authorised agent) who is in practice in the district and who desires to sell either the whole or a part of his practice or to establish a partnership. Once such enquiries have been made the enquirer, in the event of negotiations failing, ought not to commence practice in the district without the written consent of the other party to the negotiations; and the principle here stated applies equally to vacancies created by death as it does to those resulting from the voluntary action of the vending practitioner. The adoption of this rule, however, involves the supposition that the vending practitioner (or his agent) has dealt fairly and reasonably with the purchasing practitioner, and has not arbitrarily and without adequate reason broken off negotiations.

#### NURSING HOMES.

91. The Council has expressed the opinion that if a medical practitioner has a financial interest, involving his possible pecuniary gain, in any institution to which he refers a patient, it is desirable that he should disclose this fact to his patient.

#### ANNOUNCEMENT OF SPECIALTIES ON DOOR-PLATES.

92. The question of the announcement of specialties on the door-plates of medical practitioners is a matter which the Council has raised with the General Medical Council. The Association has always maintained the position that it is undesirable that practitioners who confine themselves to certain special departments of medical practice should announce on their door-plates the specialties in which they practice. This opinion would not extend to the designation "Dental Surgeon" on door-plates, as this is information to which it is reasonable that the public should have access and is equivalent to the use of the term "Physician" and "Surgeon" to which there is no objection. But so far as the medical or surgical specialist is concerned the usual and proper procedure is that the patient goes to the specialist on the recommendation of his ordinary medical attendant and therefore there is no need for any announcement of the specialty on the door-plate.

The General Medical Council was asked to support the Association in the attitude which the Association adopted in this matter, and has informed the Council that, although it would be unlikely to find proved a charge of unprofessional advertising in a particular case, it would deprecate any extension of the custom of announcing special departments of practice on the part of medical practitioners.

#### Medico-Political.

##### FEES PAID TO MEDICAL PRACTITIONERS BY SEAMEN'S NATIONAL INSURANCE SOCIETY.

93. This matter has again been under consideration by the Council. The fees paid by this Society, largely on account of representations made by the Association, were increased step by step until on 1st July, 1922, they stood 40 per cent. above the basic rates. On 1st January, 1924, however, they were reduced to 25 per cent. above the basic rates.

Difficulty has arisen particularly in Southampton, where the reduced scale of the Society is below the usual contract fees of the district. The President and the Secretary of the Society met the Contract Practice Sub-Committee of the Association when it was made clear to the former that in the opinion of the Association their fees were too low. The officials of the Society stated that on account of peculiar difficulties in collecting the contributions of their members they were not able to pay more, though they would be willing to do so if these difficulties could be overcome. They were willing to pay a fee per visit with medicine of 3s. 6d. and of 2s. for attendance at the surgery together with a 25 per cent. increase in the rest of their basic scale if they could get the Ministry of Health to approve the arrangement. The matter of the difficulty with the contributions has been raised with the Ministry of Health both by the Society and by the Association.

#### DANGEROUS DRUGS REGULATIONS :

##### (A) Preparations containing Opium, Morphine, etc.

94. In reply to an enquiry from the Home Office asking whether the medical profession would be likely to object strongly if the Dangerous Drugs Regulations were made to apply to all preparations containing opium, morphine, etc., no matter how small a proportion of the drug, the Council considered that as such a provision would include every cough mixture and many other preparations in common use it could not agree to such a restriction, and informed the Home Office accordingly.

##### (B) Committee re supply of Morphine and Heroin to Drug Addicts.

95. In July, 1924, the Minister of Health informed the Association that he had received from the Home Secretary a copy of a letter stating that the Council of the League of Nations had instructed its Secretary-General to ask the various Governments for their views as to the advisability of the total suppression of the manufacture of heroin or of its limitation to the minimum amount required. The Minister asked the Association to state whether in its view it would be desirable (a) that the manufacture of heroin should be prohibited, or (b) that the quantity made available should be limited to the quantity required for legitimate purposes.

96. The Minister was informed that as this drug had a legitimate use in medicine, the Association could not agree that its manufacture should be prohibited, but there would be no objection to such limitation of the manufacture or supply of the drug as would not interfere with its legitimate use either now or in the future.

97. In August, 1921, the Association was invited to nominate a member to serve upon a Committee (Chairman, Sir Humphry Rolleston), appointed by the Minister of Health, the reference of which was as follows:

"To consider and advise as to the circumstances, if any, in which the supply of morphine and heroin (including preparations containing morphine and heroin) to persons suffering from addiction to those drugs may be regarded as medically advisable, and as to the precautions which it is desirable that medical practitioners administering or prescribing morphine or heroin should adopt for the avoidance of abuse, and to suggest any administrative measures that seem expedient for securing observance of such precautions."

The Council nominated Dr. J. W. Bone, of Luton, who was appointed to the Committee.

#### METHYLATED SPIRIT.

98. As instructed in the following resolution of the A.R.M., 1924:—

*Minute 184.*—Resolved: That it be referred to the Council to consider the alteration in the composition of methylated spirit by the addition of pyridine, which renders the spirit unfit for use as an external application to the skin and unpleasant to burn on account of the disagreeable odour produced; and to take such steps as are possible to get the use of pyridine discontinued if the spirit is supplied to the order of a medical practitioner,

the Council has approached the Chancellor of the Exchequer, the Treasury, the Inland Revenue and the Board of Customs and Excise, and has been informed (i.) that the Commissioners of Customs and Excise are in consultation with other departments concerned with regard to draft comprehensive Regulations which have been prepared on the subject of industrial and mineralised methylated spirits; and (ii.) that in the meantime the Commissioners have given facilities to many chemists to obtain industrial methylated spirit for preparing "surgical spirit" by the addition of suitable denaturants, which will render the preparation incapable of being used wholly or partially as a beverage or internally as a medicine, and that in such cases the formula used has to be submitted to, and approved by, the Commissioners. The Council is keeping in touch with the Board in this matter, which appears to be anxious to do all it can to meet the difficulties of the profession.

#### USE OF OPIUM BY MIDWIVES.

99. Pursuant to the following resolution of the A.R.M., 1924:

*Minute 28.*—Resolved: That (with reference to paras. 89 and 90 of the Annual Report of Council) this meeting is of opinion that the protest against the use of opium by midwives should be renewed,

representations, for the third year in succession, have been made to the Ministry of Health and the Central Midwives Board protesting against midwives being allowed to use opium. The position, however, remains unaltered, both authorities having definitely declined to recede from their previous attitude on this question.

#### CORONERS' LAW AND DEATH CERTIFICATION.

100. In the Annual Report for 1923-4 (para. 120) the Council reported that a Special Sub-Committee had been set up for the purpose of considering the question of the amendment of Coroners' and Death Certification law with a view to amending, if thought fit, the 1905 policy of the Association on these matters. This Sub-Committee has now completed its reference and a Memorandum has been drawn up which the Council recommends for adoption as the policy of the Association in substitution for the 1905 policy.

101. The Council has decided to draft a Parliamentary Bill based on the Memorandum and to get the Bill introduced into Parliament at the earliest possible date. It is known that the Government has prepared, and proposes shortly to introduce, a Bill dealing with Coroners' Law. That Bill will be watched with a view to amendments being put forward if any provision therein is found to conflict with the policy of the Association.

The Council recommends:

**Recommendation:** That the Memorandum on Coroners' Law and Death Certification (see Appendix III.) be adopted as the policy of the Association in substitution for the existing policy of the Association on these matters.

#### SUPPLEMENTARY DEATH CERTIFICATES.

102. The Council is in entire agreement with the policy enunciated in the following resolution of the A.R.M., 1924:—

*Minute 35.*—Resolved: That the following motion be referred to the Council for consideration: That (with

reference to para. 120 of the Annual Report of Council) it is desirable to give supplementary death certificates only at the request of the patient's representatives or after their consent had been obtained,

and recommends:

**Recommendation:** That the R.B. is of opinion that additional death certificates should not be given except at the request of the patient's representatives or after their consent has been obtained.

#### COMPOSITION OF GENERAL MEDICAL COUNCIL.

103. Consideration of the proposed addition to the membership of the General Medical Council has been undertaken by the Council in connection with the following resolution of the A.R.M., 1924:—

*Minute 185.*—Resolved: (i.) That this Representative Body considers that the time has arrived when the Medical Acts should be reconsidered with a view to the General Medical Council having a larger direct representation of registered medical practitioners; and (ii.) that it be an instruction to the Council to take all possible steps with a view to bringing this into effect.

104. The composition of the G.M.C. at the present time is as follows:—(i.) Five persons nominated by His Majesty on the advice of his Privy Council (three for England, one for Scotland, and one for Ireland); (ii.) twenty-seven representatives of Universities and Examining Bodies (fourteen for England and Wales, seven for Scotland, and six for Ireland); and (iii.) six Direct Representatives (four for England and Wales and one each for Scotland and Ireland).

105. So far back as 1906 the Association favoured the policy that at least half the members of the General Medical Council should be directly elected by the general body of medical and dental practitioners in the country, and in 1910 a Bill was drafted aiming at the radical amendment of all previous Medical Acts, and providing *inter alia* (i.) that the Direct Representatives should form a majority of the whole Council; (ii.) that there should be one portal for medical qualification; and (iii.) that no unregistered person should be allowed to practise medicine. It has never been found possible to further this policy.

106. If the G.M.C. were a body whose business it was to protect the interests of the medical profession it would probably not be difficult to convince the public and Parliament that the balance of its present composition is wrong, but the purposes for which the Council was instituted are:—

(i.) To keep a register showing those who are properly qualified to practise; (ii.) to impose educational standards on the bodies conferring medical qualifications; (iii.) to discipline the profession, in the interests of the public; and (iv.) to prepare and publish the British Pharmacopoeia.

107. Any attempt seriously to change the character of the G.M.C. from that of a body largely composed of men engaged in teaching and therefore having expert knowledge of the main work of the Council to one of a democratic and representative nature, in which the opinion of the rank and file of the profession could be expressed, would give rise to opposition in several quarters—first, the majority of the present G.M.C., who, presumably, are fairly well satisfied with the body as it is; secondly, the Privy Council, which regards the G.M.C. as its agent in carrying out the objects enumerated above; and, thirdly, the public as represented by Parliament. From time to time incidents occur which show that the present powers of the G.M.C. are regarded very jealously by considerable sections of the public. Any attempt to increase considerably the number of direct representatives would be regarded as an attempt by the profession to get more control of the Council for its own purposes. Those people who have hitherto refrained from assailing the Council or trying to diminish its powers and privileges would no longer be restrained if action were taken which claimed, or seemed to claim, that the Council should be in any way a body for the protection of the interests of the profession. Moreover, if it were decided to ask for a considerable increase in the number of representatives, which could only be secured by an Act of Parliament, the whole position of the G.M.C. would be in the melting pot and it is quite likely that determined efforts would be made to weaken its present powers and privileges. It is doubtful whether the profession on the whole would like to take this risk.

108. If all that is wished is an additional Direct Representative, on the ground that there has been an increase in the constituency, it should be noted that if in 1911 it was regarded as being fair that there should be four Direct Representatives for 25,500 constituents, i.e. one for a little over 6,000, it is not easy to maintain the position that there now ought to be five for 28,500.

109. The Council after very carefully considering the position is of opinion that so far as increasing the efficiency of the G.M.C. is concerned it cannot see that the addition of another Direct Representative, or indeed of any number likely to be accepted without a revolution in the composition of that Body, would be likely to affect the position. The present Direct Representatives have no difficulty in obtaining a hearing on any matter in which the general interests of the profession are involved.

The Council therefore recommends:—

**Recommendation:** That having fully considered the position with regard to the present constitution and the duties and powers of the General Medical Council, the R.B. does not consider that the Association should take steps (as suggested in Min. 185 of the A.R.M., 1924) with the view of obtaining a larger number of Direct Representatives of registered medical practitioners on the General Medical Council.

#### EXAMINATION OF APPLICANTS FOR ENTRANCE INTO FRIENDLY SOCIETIES, APPROVED SOCIETIES AND PUBLIC MEDICAL SERVICES.

110. The A.R.M., 1924 (Mins. 47-8), expressed the opinion that there was no objection to Friendly Societies or similar organisations which required entrance medical examinations insisting upon having these examinations carried out by an appointed doctor or doctors, except in the case of (a) admission of insured persons as such to Approved Societies, or (b) eligibility for membership of Public Medical Services, and left it to the Council to consider whether a minimum fee should be fixed centrally or locally. The Council has decided that it is better that such a minimum fee should be determined locally.

#### MEDICAL CERTIFICATES ON RESUMPTION OF UNEMPLOYMENT BENEFIT.

III. Pursuant to the following resolution of the A.R.M., 1924:

*Minute 57.*—Resolved: That the Council inform the Ministry of Labour that the present practice of Labour Bureaus requesting certificates of fitness of health from individuals re-applying for Unemployment Benefit after illness is unnecessary, and a cause of annoyance to the medical attendants of these individuals; and further, that the Council urge the Ministry of Labour to instruct Labour Bureaus to discontinue the practice,

a letter was sent to the Ministry of Labour (a) objecting to the practice of Labour Exchanges requesting certificates of fitness of health from individuals re-applying for Unemployment Benefit, and (b) urging that the Exchanges should be requested to discontinue the practice.

The Minister of Labour stated that such steps as were possible would be taken to avoid this practice, and that a general instruction to this effect would be issued to Labour Exchanges. Two specific cases have since been reported to the Ministry and have been dealt with by them.

#### INCOME TAX AND SUBSCRIPTION TO THE ASSOCIATION.

112. The Council has to report that, under a ruling given by the Commissioners of Inland Revenue, medical practitioners whose incomes are assessed under Schedule D are entitled to a rebate for Income Tax purposes in respect of their subscription to the British Medical Association, but that practitioners whose incomes are assessed under Schedule E are only entitled to such a rebate if membership of the Association is an essential condition of the terms of employment.

#### FEES TO CIVILIAN MEDICAL PRACTITIONERS FOR ATTENDANCE ON SOLDIERS ON FURLOUGH.

113. In consequence of representations made to the War Office the fee paid in respect of a consultation at a doctor's surgery by a soldier on furlough has been increased from 2s. to 2s. 6d.

#### FEES FOR MEDICAL EXAMINATION OF RECRUITS: REGULAR ARMY AND R.A.F.

114. Following on representations made by the Association, the fee for medical examination of recruits for the Regular Army and for the R.A.F. has been increased from 2s. 6d. to 3s. per recruit examined, subject to a maximum of 27s. 6d. a day.

#### FEES FOR EXAMINATION OF RECRUITS FOR TERRITORIAL ARMY.

115. Steps are being taken to get the fee for examination of recruits for the Territorial Army raised to 2s. All Territorial Army Associations have been approached with

this object in view, but the majority say they cannot pay the fee unless they get a bigger grant from the War Office. The War Office is being asked to increase the grant.

#### CERTIFICATES UNDER CREMATION ACT.

116. In October, 1922, the Council decided that the fee for filling in either of the three certificates under the Cremation Act, 1902, should be one or two guineas, according to the ability of the relatives to pay. It was learned subsequently that the London Cremation Co., in issuing the confirmatory medical certificate (Form C), affixed thereto a notice stating that where the remains of the deceased were within the London District, this Certificate, if desired, would be arranged for at a fee not exceeding One guinea.

As a result of representations the Company has discontinued the use of this slip.

#### ELECTION OF DIRECT REPRESENTATIVES ON G.M.C., 1925-29.

117. The Council is gratified to report that the four nominees selected by the Meeting of the Representatives for England and Wales on 21st July, 1924, namely, Drs. Brackenbury, Bolam, and Macdonald, and Sir Jenner Verrall, were returned at the top of the poll by a greatly increased majority as compared with the last election. The number of those who exercised their right to vote is still small considering the time and energy expended by the central organisation in bringing this duty to the notice of the profession. The percentage of those voting in 1924 was 55 per cent. as against 43.14 per cent. in 1919.

#### NURSING HOMES (REGISTRATION) BILL, 1925.

118. The Council has been asked to support the College of Nursing Bill for the Registration of Nursing Homes, and has decided to do so subject to certain conditions. The Council is of opinion that adequate control is already exercised over medical practitioners who receive into their homes resident patients, but subject to this reservation and to the Bill being approved by the Parliamentary Sub-Committee of the Medico-Political Committee, the Council has promised the support of the Association.

#### PAYMENT FOR HEALTH CERTIFICATES FOR ELEMENTARY SCHOOL CHILDREN.

119. The following resolution of the A.R.M., 1920:—

*Minute 156.*—Resolved: That where an Elementary School Authority requires a medical certificate of the inability of a child to attend school, the fee for such certificate shall be paid by the Education Authority,

is not in accord with an opinion given by the Solicitor to the Association in 1905 wherein he stated that the onus of proof of a child's unfitness to attend school rested upon the child's parents; and there is a good deal of evidence to the effect that in those areas where the practitioners have acted in accordance with the Minute quoted above difficulties have arisen. In some areas Education Authorities have resorted to sending the children to their clinics to get the certificates which the private doctors will not give.

The Council considers that it is unwise for the Association to take up a position which cannot be enforced legally, and it therefore recommends:—

**Recommendation:** That, inasmuch as Minute 156 of the A.R.M., 1920, does not accord with the opinion of the Solicitor to the Association as to the legal position with respect to medical certificates of unfitness of school children to attend school, that Minute be rescinded.

#### FEES FOR MEDICAL EXAMINATION OF EMIGRANTS.

120. In 1923 (Min. 136) the A.R.M. approved an agreement which the Council had arrived at with the Directors of Migration of the Dominions of the Empire and which provided that the following fees should be paid for medical examination of intending emigrants:—

10s. 6d. per adult of the age of 16 years and over;  
2s. 6d. for each child, but in no case more than two children in a family to be charged for.

This wording has proved to be ambiguous, as some emigration agents have held that the provision "but in no case more than two children to be charged for" applies to all children in a family whether over or under 16 years of age. This, of course, was not intended, and the chief M.O. of the Commonwealth of Australia when the position was reported to him suggested the form of words embodied in the following recommendation, which the Council has accepted, with slight verbal modifications.



The Council therefore recommends:—

**Recommendation:** That the fees chargeable by the Medical Referees appointed by the Dominions of the Empiro to examine proposed emigrants should be as follows:—

10s. 6d. for an applicant of 16 years of age or over.  
2s. 6d. for each applicant under 16 years, provided their parents or guardian are sailing with them.

Not more than two applicants under 16 years of age in one family to be charged for.

Applicants under 16 years proceeding alone will be charged 10s. 6d.

In substitution for the fees adopted in Minute 136 of the A.R.M., 1923.

#### MINISTRY OF PENSIONS MEDICAL OFFICERS.

121. The contracts of the M.O.s. to the Ministry of Pensions expired on the 31st March, 1925, and the Ministry decided to establish 48 of these M.O.s.—each to be ex-Service—and to engage the remainder on contracts for periods ranging from three years to six months.

Of the 48 to be established the Ministry decided that 38 should be on the permanent scale of £600-900 as Deputy Commissioners of Medical Services; 8 on a permanent scale of £900-1,000 as Commissioners of Medical Services, Inspectors and Chief Assistants to Directors; and 2 at £1,200 fixed, for employment at Headquarters; pensions to be at the ordinary Civil Service rates.

122. Arising out of consideration of representations by the Ministry of Pensions Medical Association the Council made representations to the Ministry to the following effect:—(a) That the number of M.O.s. in the £600-900 group should be reduced and that a middle group at £800-1,000 should be formed; (b) that the offer to the M.O.s. who were not to be established was inadequate; and (c) that it was unreasonable not to give the two Directors any prospect of advancement. The Minister was also asked to receive a deputation on the whole subject or to submit to arbitration the case of the M.O.s. not chosen for establishment. The Minister (i.) declined both the latter proposals, but granted a small monetary increase to the unestablished M.O.s.; and (ii.) stated that he did not see his way to make the alteration suggested with regard to the £600-900 group.

123. On the advice of the Association the M.O.s. accepted the scheme as a whole, though with considerable reluctance, feeling that they had not been treated as they believed they had a right to expect. The Council hopes to arrange for the Minister of Pensions to be asked in the House why he declined to go to arbitration seeing that the Ministry of Health on a much larger financial issue, and one affecting many more practitioners, has accepted this principle on two occasions.

#### PART-TIME PRISON M.O.s.

124. For many years it has been a regulation that part-time Prison M.O.s. should see all prisoners as soon as possible after their admission to prison. This regulation was, however, not rigidly enforced until after the War, and the M.O.s., of whom there are 23, applied to the Association to bring their case before the Prison Commissioners, chiefly with a view to extra remuneration for the compulsory evening visits.

After full consideration of the position the Council made representations to the Prison Commissioners asking *inter alia* for an addition of £100 per annum to the salary of each part-time Prison M.O. in respect of the compulsory evening visit or visits. The Medical and Assistant Medical Secretaries at an interview with the Chairman of the Prison Commissioners were informed that the Prison Commissioners could not urge the Treasury to grant the general increase of the salary, but would be prepared to give sympathetic consideration to individual cases where it could be shown that the number of evening visits was great. The officers concerned are being advised to send in their claims.

#### FEES FOR MEDICAL PRACTITIONERS CALLED IN ON THE ADVICE OF MIDWIVES.

125. For some time the Council has endeavoured to get the Ministry of Health to rule that a medical practitioner who is called in on the advice of a midwife shall receive the fee prescribed by the official scale for such attendance, whether or not the midwife has acted irregularly in summoning the practitioner, provided the official form is used.

The representations of the Council have now been given effect to in that the Ministry of Health has altered the note which is printed on the back of the official form to read as follows:—

"The medical practitioner responding to a call in the case of any emergency as defined in the Rules framed under

Section three 1 (e) of the Midwives Act 1902 (see Rule E. 20) will be paid his fee by the Local Supervising Authority for his attendance on this case in accordance with the scale prescribed by the Ministry of Health." (Note: The words in italics are additional to the original note.)

This alteration came into effect on 1st January 1925, and the necessary consequential revision has been made in the Rules of the Central Midwives Board.

#### PATENT MEDICINES.

126. The Council is glad to report that there is an increased interest on the part of the public in the question of the advertising of patent medicines, as evidence of which at a Meeting held on 17th November, 1924, after a debate on the subject in which the Medical Secretary took part, the Publicity Club of London (a) recorded its opinion that the present condition of the law in regard to patent medicine advertising called for immediate reform and (b) urged the introduction of legislation along the lines of the recommendation of the Select Committee of the House of Commons in 1914.

This resolution was forwarded by the Club to every member of the House of Commons who was interested in advertising or the press. Arrangements are being made in co-operation if possible with other interested parties, to press on the Government the desirability of the early introduction into Parliament of the Bill which went through the House of Lords in 1920 and to a very great extent carried out the recommendations of the Select Committee of the House of Commons which reported in 1914.

#### FACTORY MEDICAL SERVICE.

127. On 21st March, 1924, the Secretary of State for Home Affairs appointed a Departmental Committee with the following reference:—

To enquire into the working of the provisions of the Factory and Workshop Acts for the medical examination of young persons as to their fitness for employment in factories, and to consider:—

(A) Whether the existing requirement of a certificate of fitness limited to a particular factory should be modified; whether any other changes should be made in the examination and certificate; and what arrangements should be adopted for the future;

(B) What measures should be taken for linking up the examination of young persons under the Factory and Workshop Acts with their examination under the school medical inspection service, and, if considered desirable, with other public health services of the country;

(C) What arrangements could best be made for providing medical supervision of young persons (where such supervision is considered necessary by the Department) during employment in factories or processes where the conditions of work are unfavourable to health or physique,

and asked the Association to suggest a suitable medical practitioner to serve on this Committee. The Council put forward the name of Dr. Wallace Henry, and he was appointed to the Committee. Following on its report the Labour Government introduced a Bill to consolidate and amend the existing Factory Acts. This Bill entailed a radical revision of the provisions for the examination and certification of young persons in regard to their fitness for employment in factories and certain classes of workshops. It was, however, dropped when that Government went out of office in October, 1924. The Council, however, had in the meantime been considering the position and had drawn up certain principles which it considered should form the basis of the policy of the Association in regard to a Factory Medical Service. These principles are as follows:

(i.) That there should be a distinct Department of Occupational Hygiene attached to the Ministry of Health which should include the present Factory Medical Service transferred from the Home Office.

(ii.) That if any changes are made the interests of existing members of the Factory Medical Service should be carefully conserved or compensated.

(iii.) That as a general rule any practitioner hereafter appointed to perform the duties at present performed by Factory Surgeons, or duties analogous thereto, should at the time of appointment be in general practice or have had recent experience of general practice.

(iv.) That opportunity should be given to Local Authorities for submitting schemes for transferring the administration of the work of Occupational Hygiene to the Local Authorities (in so far as it is not already under their administration) and

that if the voluntary trial made by Local Authorities proves successful the transfer of the whole of this work to Local Authorities should be ultimately effected by order of the Departments concerned.

(v.) That whilst of the opinion set out in the preceding paragraph, the Council considers it desirable that any Factories Bill introduced into Parliament should make provision for the setting up of a complete service of Occupational Hygiene.

(vi.) That any Factories Bill should provide for due retention of the powers already possessed by Local Sanitary Authorities in respect of Factories and Workshops.

(vii.) That so far as practicable all supervision of sanitation in factories, workshops and workplaces, as defined in the Factories Act of 1901, should not only be retained by the Local Sanitary Authority, but should be extended to all factories.

(viii.) That any Factories Bill introduced should provide that the Regulations and Orders of the Secretary of State having reference to sanitation in factories shall apply, local By-laws and Regulations notwithstanding, and should be enforceable by the Local Authorities and not by the Factory Department except in cases of default.

128. At the A.R.M., 1924, the following motion was referred to the Council for consideration :—

*Minute 37.*—Proposed by Dr. W. Adam Burns (Glasgow Eastern): That (with reference to para. 273 of Supplementary Report of Council) the Special Sub-Committee appointed to draw up a draft policy of the Association with regard to the provisions of the Factory Acts should contain one Scottish Member who is conversant with the matters involved.

This has been given effect to by the appointment of Dr. David McKail of Glasgow as a member of the Special Sub-Committee which has been appointed to draw up a draft policy of the Association on the general question of the Factory Medical Service, to which Sub-Committee the principles enunciated above have been referred.

**Recommendation:** That the principles set out in para. 127 above as regards a Factory Medical Service be adopted.

#### CENTRAL EMERGENCY FUND.

129. This Fund, formed in 1905, was created and is supported voluntarily with the object of assisting members of the profession in maintaining the interests of the profession against organised bodies of the community, and on many occasions grants from this Fund have been of great assistance in this direction. The Fund is used for purposes to which the funds of the Association may not be applied, and is administered by the members, for the time being, of the Medico-Political and Parliamentary Committee, who act as trustees. A copy of the regulations of the Fund may be obtained from the Medical Secretary, and subscriptions and donations should be sent to the Financial Secretary of the Association. The Council strongly recommends this Fund to the favourable notice of members.

#### CAPITATION FEE OF M.O.s. OF GAS LIGHT AND COKE CO.

130. For the third time within recent years the Association has been able to render assistance to these Medical Officers in maintaining their standard of remuneration.

#### LUNACY LAW AND ADMINISTRATION.

131. It was reported to the Council on 23rd July, 1924, that a Royal Commission had been appointed with the following reference:—

(1) To enquire as regards England and Wales into the existing law and administrative machinery in connection with the certification, detention and care of persons who are, or are alleged to be, of unsound mind.

(2) To consider as regards England and Wales the extent to which provision is or should be made for the treatment without certification of persons suffering from mental disorder;

and to make recommendations.

132. The Council thereupon appointed a Special Committee to consider the question of the alteration of the Lunacy Laws, to prepare evidence for submission on behalf of the Association to the Commission, and to appoint witnesses to give that evidence before the Commission.

The personnel of the Special Committee was as follows:—

The Officers of the Association (*ex-officio*), Dr. R. Langdon-Down (Chairman of the Committee), Dr. G. F. Lusham, Dr. J. W. Bone, Dr. F. H. Edwards, Dr.

Bernard Hart, Dr. C. O. Hawthorne, Dr. J. A. Macdonald, LL.D., Mr. E. W. G. Masterman, Dr. Christine Murrell, Sir Alfred Nee-Oxley, C.B.E., Dr. A. F. Tredgold, Mr. E. B. Turner, and Sir Jenner Verrall, LL.D.

The following resolution of the A.R.M., 1924, was also referred to the Special Committee:—

*Minute 51.*—Resolved (unanimously): That the provision of a certificate under the Lunacy Acts by a qualified medical practitioner should be an act having the legal status of testimony given by a witness in a court of law, and should not render the practitioner liable either to any civil action or to any criminal charge, except in so far as the certificate may be shown to contain statements of essential importance which are proved to be inaccurate and to have been made with a wilful and deliberate intention to deceive.

133. In preparing the Memorandum of Evidence for submission on behalf of the Association to the Commission the Special Committee considered a number of memoranda and reports, the Mental Treatment (M.L.) Bill and the Lunacy Acts of 1890 and 1891. The Committee also, through the medium of the B.M.J., asked members of the profession to send in memoranda dealing with the questions under review. Several of these were sent in and received careful and critical consideration. The Royal Commission specially invited the Association to give evidence, and the dates for receiving this evidence were fixed by the Commission for 14th January, 1925, and 11th March, 1925, thus precluding the Memorandum of Evidence (*see B.M.J. Supplement*, 17th January, 1925, Doc. A.R.M. 2 (a)) is presented herewith to the Representative Body for ratification. Reports of the oral evidence given by the Association's witnesses before the Royal Commission will be found in the B.M.J. Supplement of 17th January, 1925, and 21st March, 1925.

The preparation of this evidence was a very responsible and laborious business, and the Council has on behalf of the Association expressed its great appreciation of the work of Dr. Langdon-Down and his colleagues.

#### PUERPERAL MORBIDITY AND MORTALITY.

134. Arising out of the Report by Dame Janet Campbell on "The State of Health—Reports of the Ministry of Health, 1923"—the Council has appointed a Special Committee to consider and report on the causation of puerperal morbidity and mortality and on the administrative action, if any, that should be taken by the Association in connection therewith. The Council has also referred to this Committee the Report of the Special Committee of the section of Obstetrics and Gynaecology of the Royal Society of Medicine which has been received through the Ministry of Health with a request for the opinion of the Association.

#### MINISTRY OF HEALING.

135. In June, 1924, the Council appointed a Committee "to consider and report in what manner, if any, the B.M.A., as representative of the medical profession, could prove of the greatest assistance in the further elucidation of the subject of the Ministry of Healing."

On 9th July, 1924, a deputation from the Committee was received by the Archbishop of Canterbury and the Bishop of Oxford to discuss the matter.

When the Report of the preliminary investigations of the Committee was considered, the Council, on the 23rd July, 1924, decided not to re-appoint the Committee on the ground that it was believed that the difficulties with which the matter was surrounded were likely to lead the investigation outside the sphere of the recognised activities of the Association.

#### Parliamentary Elections.

136. In connection with the General Election, October, 1924, the Trustees of the Medical Representation in Parliament Fund (the members for the time being of the Council of the Association) considered applications for approval of candidature and financial assistance from Dr. F. G. Bushnell, Labour candidate for the University of London, Mr. Somerville Hastings, Labour candidate for Reading, and Dr. E. J. Luce, K.C.M.G., C.B., Unionist candidate for Derby, a member of Council, also asked for approval of his candidature. The Trustees found it possible to approve, on behalf of the Association, and with due regard to the Objects of the Trust, the candidature of Dr. Spero and Sir Richard Luce,

a grant from the Fund also being made to the former. Sir Richard Luce was elected to Parliament, but Dr. Spero was unsuccessful.

The Trustees while unable to see their way to grant any financial assistance to Dr. Bushnell or to approve his candidature in view of the fact that there were two other medical candidates for the same constituency, were prepared to approve Mr. Somerville Hastings' candidature and grant him financial assistance out of the Fund if he had been able to give general consent to the policy of the Association as regards hospitals and a whole-time salaried State Medical Service, but this he was unable to do.

137. Letters were written on behalf of the Council to Sir Henry Craik (Unionist candidate for the Scottish Universities), Capt. W. E. Elliot, M.C. (Unionist candidate for Kelvingrove, Glasgow), Lieut.-Col. F. E. Fremantle (Unionist candidate for St. Albans), wishing them success and thanking them for all they had done in previous Parliaments to further the interests of the profession. Lieut.-Col. Fremantle asked that a letter should be sent to each of his medical constituents and this was done, and at the request of Sir Henry Craik a paragraph was inserted in the *Journal* recommending support of his candidature to all his medical constituents. The Council is glad to report that all three candidatures were successful.

138. The Representative Body which urged the institution of this Fund will be interested to know that the total number of subscribers from its inception in 1918 is 828. The Financial Statement will be published in the *B.M.J. Supplement*, April 18th, 1925.

### National Health Insurance.

#### ROYAL COMMISSION INTO WORKING OF NATIONAL HEALTH INSURANCE SYSTEM.

139. In 1923, the then Minister of Health (Sir William Jowson-Hicks) in the letter to the Insurance Acts Committee conveying his revised offer in connection with the 1924 capitation fee, stated that an impartial Royal Commission would be appointed "to investigate and report upon the whole system established under the National Health Insurance Acts, including medical benefit and the remuneration of the practitioner," and promised that the terms of reference of the Commission would be agreed with the profession. The Insurance Acts Committee was duly consulted as to the following terms of reference of the Commission:—

"To enquire into the scheme of National Health Insurance established by the National Health Insurance Acts, 1911-22, and to report what, if any, alterations, extensions or developments should be made in regard to the scope of that scheme and the administrative, financial, and medical arrangements set up under it."

and, as a result of consideration thereof, caused the following letter to be addressed to the Ministry of Health on March 21st, 1924:—

"I laid your letter of the 19th inst. before the Insurance Acts Committee at its meeting yesterday, and I was instructed to say that the Committee considers the proposed reference to the Royal Commission to be comprehensive and satisfactory. I am, however, instructed to remind you of paragraph 2 in the formula of the Minister of Health contained in your letter to me of October 31st, 1923. In this paragraph the Minister declared that 'an impartial Royal Commission will be appointed.' We attach a great deal of importance to this question of impartiality, and we should strongly object to a large Commission composed of representatives of the different interests involved. Our idea of an impartial Commission is one the members of which are not committed by their pecuniary or other interests to the present or indeed any particular form of administration of the National Health Insurance scheme. The members of such Commission should be people who approach the question with an open mind and, if it is possible to obtain such persons, with no pre-conceptions either for or against the system."

140. The personnel of the Commission was announced on July 7th, 1924, as follows:—Lord Lawrence of Kingsgate (Chairman), The Rt. Hon. Sir John Anderson, G.C.B., Sir Humphry Rolleston, Bart., K.C.B., Sir Alfred Watson, K.C.B., Sir Arthur Worley, C.B.E., Sir Andrew Duncan, Mr. A. D. Besant, F.I.A., Mr. Fred Bramley, Professor Alexander Gray, Miss Gertrude Tuokwell, Mrs. Harrison Bell, Mr. James Cook, Mr. John Evans and Mr. William Jones.

141. As soon as the terms of reference to the Commission were decided upon the Insurance Acts Committee considered

the lines upon which the profession's case should be prepared and the best means of preparing it. The possibility of extensions of the present Medical Benefit, either in the shape of (1) the additional services, or (2) the inclusion of further sections of the community, and the consequent likelihood of a wider section of the profession becoming thereby directly interested in the matter, raised the question as to whether it was desirable that the Committee, composed as it is of a large majority of insurance practitioners, should undertake the entire preparation and presentation of the profession's case. The Committee had no doubt that its reference was sufficiently wide to enable it to do this, but decided to recommend the Council to appoint a Special Committee to enquire into the extensions of the scope of the N.H.I. system, such a Committee being composed of representatives of all sections of the profession and consisting of a personnel which would impress the Royal Commission and the public as being thoroughly representative of medical opinion. The Council adopted this recommendation, and the result was the appointment of a Special Committee which, in conjunction with the Insurance Acts Committee, prepared a report which after revision by the Council was printed in the *B.M.J. Supplement* of January 3rd, 1925 (Doc. D. 11 and 12), extra copies being issued to non-members and Honorary Secretaries of Divisions and Local Medical and Panel Committees. The Secretaries were requested to arrange joint meetings of the whole of the local profession for the purpose of considering the draft evidence and to forward the views of such meetings thereon. In order to facilitate consideration of the draft evidence by the local meetings of the profession the Council issued questions upon the more important aspects of the evidence. At the same time Honorary Secretaries were informed (i.) that the views of such local meetings would be considered by a joint meeting of the Royal Commission and Insurance Acts Committees on February 5th and by the Council at a special meeting on February 18th, when the draft Memorandum of Evidence would be revised in accordance therewith, (ii.) that the revised evidence would be issued to Divisions and Local Medical and Panel Committees immediately after the Council Meeting on February 18th, in order that it might be considered at further meetings of the local profession when representatives could be instructed thereon, in anticipation of a Conference of Members of the Representative Body of the Association and of the Conference of Representatives of Local Medical and Panel Committees to be called for March 12th, 1925.

142. The Council when it discussed the question of the preparation of evidence gave very careful consideration to the method to be adopted in considering the evidence to be placed before the Royal Commission. The object desired was, of course, to bring into the discussion on the Draft Evidence the views of every school of thought and variety of practice in medicine in order to ensure that when the evidence was placed before the Royal Commission it should represent, so far as possible, the considered opinion of the whole profession. The Council therefore adopted the plan of joint meetings throughout the country under the auspices of the Divisions and of the Local Medical and Panel Committees, followed up by the Joint Conference of representatives of those bodies. It was suggested that a Special Representative Meeting should be held after the Conference in order to confirm the conclusions arrived at by that body and to make those conclusions formally into Decisions of the Association. The suggestion was rejected by the Council as not being in accordance with the plan deliberately adopted from the beginning, and as being likely to cause dissatisfaction on the part of those members of the Joint Conference who are not members of the Representative Body if, in doing their work, they were made to feel that it was to be reviewed by another body. Without derogation from the position of the Representative Body as the body which is responsible for the formulation of the policy of the Association, the Council believed that the evidence should go forward on the responsibility of the Council as the expression of the opinion of the general body of the profession, and that it was unwise and unnecessary to risk the complication of the position which would arise if some parts of the evidence were, and other parts were not technically "the policy of the Association."

143. The views of some 200 meetings of the local profession held in January, 1925, upon the Draft Evidence and the questions submitted with respect to matters dealt with in the Memorandum were considered at a Joint Meeting of the Insurance Acts and Royal Commission Committees on February 5th, and by the Council on February 18th, 1925. The views of the local meetings showed a large measure of general agreement with the draft Memorandum of Evidence, and the amendments which the Council made after considering the views of the meetings were therefore designed mainly to clear up misunderstandings on some points and to give

emphasis to others. The revised draft Memorandum of Evidence was published in the *B.M.J.* Supplement of February 28th, 1925 (D. 16), and Divisions and Local Medical and Panel Committee Secretaries were asked to place it before further meetings of the whole of the local profession at which the representatives of the Conference, to be held on March 12th, could be given any instructions which it was thought fit should be given.

144. The revised Memorandum of Evidence was before the Conference of the members of the Representative Body of the Association and of the Conference of Representatives of Local Medical and Panel Committee held in the Wesleyan Central Hall, London, on March 12th, 1925. A remarkable amount of agreement with the Draft Evidence was shown, some small amendments were made and several suggestions were made which have been considered by the Council. The evidence as amended will now be submitted to the Royal Commission after Easter and circulated to members of the Representative Body with the Agenda of the A.R.M. at Bath. The Council has appointed as its witnesses: the Chairman of Council (Dr. R. A. Bolam), the Chairman of the Representative Body (Dr. H. B. Brackebury), Dr. H. G. Dain (Chairman of the Insurance Acts Committee), and the Medical Secretary (Dr. Alfred Cox), with full power to call in other members to give evidence on any special points.

145. The Council having had an opportunity of considering a circular letter issued by the National Council for Combating Venereal Diseases to its Branches as to the evidence to be given by that body before the Royal Commission, has expressed the opinion that the Association maintains the principle that the treatment of any disease as such should not be removed from the province of general practitioners as a class, and that syphilis and gonorrhoea do not call for special modification of this principle.

#### CONFERENCE OF REPRESENTATIVES OF LOCAL MEDICAL AND PANEL COMMITTEES.

146. The usual Annual Conference of Representatives of Local Medical and Panel Committees was held on October 16th, 1924, under the Chairmanship of Dr. H. G. Dain, of Birmingham, and was well attended. The proceedings of the Conference were fully reported in the *B.M.J.* Supplement, October 25th, 1924. Dr. E. K. Le Fleming, of Wimborne, Dorset, was elected Chairman of the Conference for the ensuing session in place of Dr. Dain who has held the position for the last five years.

#### CONTRIBUTIONS TO THE FUNDS OF THE ASSOCIATION FROM THE FUNDS OF THE NATIONAL INSURANCE DEFENCE TRUST.

147. The National Insurance Defence Trust has again defrayed the cost incurred in connection with (i.) the election of direct Representatives upon the Insurance Acts Committee, and (ii.) the October, 1924, Panel Conference, amounting in all to some £200.

#### OPHTHALMIC BENEFIT.

148. The Council appointed a Special Committee to consider matters specially affecting ophthalmic surgeons and their relation to the public. The chief subject for consideration at the present time is the method of treatment of errors of refraction in insured persons. Some Approved Societies give as an additional benefit what is styled "Optical" Benefit, under which it is the custom of most Societies to refer such of their members as require spectacles to opticians. Representations have been made to the Ministry of Health, jointly with the Council of British Ophthalmologists, urging that in approving schemes for the so-called optical benefit steps should be taken to protect the interests of the patients by ensuring that their eyes are tested by properly qualified practitioners. In this matter the Insurance Acts Committee and the Ophthalmological Committee of the Association co-operated.

149. The reasons given by Approved Societies for the employment of opticians are (1) that they cannot afford to pay the fees for the advice of ophthalmologists, and (2) that the number of these is too small and their distribution throughout the country too uneven to allow of their employment even if the provision of the fee were practicable.

150. The Council has accordingly formed a list of some 500 ophthalmologists throughout the country who are prepared to see insured persons at a uniform fee of £1 ls. on behalf of Approved Societies, and the list of places where ophthalmic surgeons are willing to accept a reduced fee has been forwarded to the Ministry of Health. Some twenty Approved Societies which are either now, have, at their request, been furnished with a copy of the list in the hope that they may be induced to provide for their members expert advice. The general question of the administration of all

additional benefits, with special reference to ophthalmic benefit, is dealt with in the evidence to be given before the Royal Commission on National Health Insurance. The best way in which to deal with the immediate question, which is arising in connection with the recent National Health Insurance valuation, is being discussed with the Ministry of Health.

#### Non Panel.

151. The Council again appointed a Non-Panel Committee, the principal business of which was to draw up suggestions as to the evidence it considered should be given by the Association before the Royal Commission on National Health Insurance. The Committee held two meetings and three meetings of a special Sub-Committee, and the resulting suggestions were considered by the Joint Meeting of the Insurance Acts and Royal Commission Committees when the draft Memorandum of Evidence for submission to the Royal Commission was under consideration.

#### Public Health and Poor Law.

##### MILK AND DAIRIES ACT, 1915, AND TUBERCULOSIS ORDER, 1914.

152. The following Resolution of the A.R.M., 1924 has been considered:—

*Minute 160.*—Resolved: That while appreciating the reasons for paragraph 156 of the Annual Report of Council, this Annual Representative Meeting recommends that the Association press upon the public and the Government that the prevention of the sale of milk infected with tubercle bacilli is an urgent national necessity.

The position is that the operation of Sections 3 and 4 of the Milk and Dairies (Consolidation) Act, 1915, would give Local Authorities all the powers necessary for tracing the sources of tuberculous milk and for dealing with the situation, but the 1922 Act has suspended these powers until 1st September, 1925. The Council has therefore made representations to the Ministry of Health that the operation of the Act should be put into operation at the earliest date. In the House of Commons on 5th March, 1925, the Parliamentary Secretary of the Ministry of Health stated that it was not proposed to ask Parliament to postpone further the operation of the 1915 Act, which would therefore come into operation on 1st September, 1925.

##### VACCINATION ORDER, DATED 22ND AUGUST, 1924.

153. In the Annual Report of 1923-24 (paragraph 161) the Council reported that the form of declaration of conscientious objection to vaccination had been removed from the certificate of vaccination, and that people desiring the declaration had to make special application for it. This met the representations which had been made by the Association. The Council regrets to have to report that in August, 1924, the Minister of Health issued an Order, which came into effect on 1st October, 1924, and which restored the old position. The Minister of Health was informed that it was considered that the step was a retrograde one and very much to be deplored.

##### FACTS ABOUT SMALLPOX AND VACCINATION.

154. The Association's pamphlet "Facts about Smallpox and Vaccination" has been brought up to date by Dr. J. C. McVail and has been reprinted and put on sale at 6d. (post free in the U.K. 7d.).

##### PUBLIC HEALTH APPOINTMENTS.

155. The assistance of the Association has been sought in connection with a very large number of Public Health appointments during the session, and the action taken has, in a majority of the cases, led to successful results. The Council desires to place on record its thanks to those Honorary Secretaries of Divisions and Branches who have done the local work in connection with these cases, sometimes at the cost of very considerable labour. They have the satisfaction of knowing that in addition to improving the financial position of many members of the public health section of the profession their action has greatly increased the power and prestige of the Association and its ability to help other sections of the profession.

##### POOR LAW APPOINTMENTS.

156. A considerable number of Poor Law cases has also been dealt with, in most cases with success.

157. Certain appointments under the West Ham Board of Guardians raised an entirely new point, namely, the right of an employing authority to insist on its officers becoming members of a Trade Union. The West Ham Board of Guardians, which has a strong labour complexion, informed all its existing officers that it was the desire of the Board that each officer should

become a member of a Trade Union affiliated to the Trade Union Congress, and it also decided that in future advertisements it should be intimated that the successful candidate would be required as a condition of appointment to become a member of such a Trade Union. (The same position also arose in connection with Public Health appointments under the West Ham County Borough). As a result of a strong protest from the Association the Board of Guardians amended its Regulation in this respect by recognising as coming within the spirit and meaning of that Regulation those trade or vocational societies not affiliated to the Trades Union Congress with which it was possible for the Board to negotiate on all matters pertaining to staff, and under this section the B.M.A. is recognised as the societies which the Guardians desired their staff to

#### CONGRESS OF ROYAL SANITARY INSTITUTE.

The 36th Congress and Exhibition of the Royal Sanitary Institute will be held in Edinburgh 20th-25th July, 1925. Those members of the Council and Public Health Committee who are going to the Congress will be asked to represent the Association.

#### SUMMER TIME.

In 1923 the A.R.M. passed the following resolution:—

*Minute 104.*—Resolved: That the British Medical Association regrets that "Summer Time" has been curtailed this year, as it is of opinion that "Summer Time" is beneficial to the health of the nation.

Since then the Association has from time to time taken with a view to making "Summer Time" a permanent institution, both by sending representatives to meetings in London and by approaching Members of Parliament on the subject.

Recently the Early Closing Association, the pioneer organisation in this matter, and with which the Association has in active co-operation, informed the Association that the Early Closing Bill for a six months' period would be introduced in the House of Commons on 13th March, 1925. Accordingly a letter was sent to Division Secretaries asking them to urge the members of Parliament for their area to support the Bill, and representatives of the Association took part in a deputation to the Secretary on March 10th at which he promised Government support for the Bill. This obtained its second reading by a majority on March 13th.

#### SCALE OF SALARIES FOR PUBLIC HEALTH APPOINTMENTS.

The A.R.M. in 1923 passed the following resolution:—

*Minute 43.*—Resolved: That the Council be instructed to meet in consultation with representatives of the Associations representing the Local Authorities and be authorised, if necessary, to make such alterations in detail as may be necessary to secure an agreed scale.

Since that date the Council has, through a Conference composed of representatives of the Association, the Society of M.O.H.s, the Medical Women's Federation, taken action, under the authority contained in the above quoted Minute, and conversations have been held under the auspices of the Ministry of Health with representatives of the Association of Municipal Corporations, County Councils Association, Association of Education Committees, Urban District Councils Association, Rural District Councils Association, and the Metropolitan Boroughs Standing Joint Committee. These have resulted in certain modifications of the existing scale, which in its new form has received the approval of the Ministry of Health and was circulated by the Ministry on 4th July, 1924, to Local Authorities asking them to give it careful consideration.

62. The attitude of the Associations representing Local Authorities towards this scale is as follows:

(a) The Association of Municipal Corporations has decided to report to its constituents, the Municipal Authorities, that it considers that the modified scale of salaries is not unreasonable as a guide in making appointments; (b) the County Councils Association has decided against accepting any scale of salaries; (c) it is not known what attitude the Association of Education Committees has adopted. It is probable that the attitude will be unfavourable, though it must be governed to a considerable extent by that of the Municipal Corporations; (d) the Metropolitan Boroughs Standing Joint Committee did not consider it necessary to enter into any agreement in the matter because the Metropolitan Boroughs are already paying rates on the whole equal to or more advantageous than those stated in the modified scale.

163. A considerable number of Urban District Councils passed resolutions asking the Minister to call a conference of such authorities and representatives of the B.M.A. This the

Minister did not see his way to do. Under the auspices of the Ministry a few representatives of the Association of Rural District Councils met representatives of the B.M.A. and Society of M.O.H.s. on February 25th, 1925. The R.D.C. representatives made a strong plea for special consideration, but it was stated on behalf of the profession that it was impossible to make distinctions between whole-time M.O.H.s. doing the same work simply on the ground that they were employed by different classes of authorities. It is believed that some impression was made on the representatives of the R.D. Councils, but it is considered unlikely that their Association will formally approve the scale.

164. The Council has now adopted the modified scale of salaries as approved by the Ministry of Health and this scale will be issued by the Council to all Public Health Authorities, accompanied by a covering letter (a) dealing in a general way with certain important points which are not dealt with in the scale, and (b) intimating that the modified scale has received the support of the Ministry of Health and has been discussed over a long period with representatives of the Associations representing the various authorities employing medical officers, one of which at any rate, viz., the Association of Municipal Corporations, agrees that the scale is not unreasonable, the scale has now been finally adopted by the B.M.A., with the agreement of the Society of M.O.H. and the Medical Women's Federation, and it is hoped to have the help of the Health Authorities throughout the country in operating it.

The Council therefore recommends:

**Recommendation:** That the scale of minimum commencing salaries for whole-time Chief Medical Officers of Health and Medical Officers of Health of other grades, as agreed by the R.B., 1923, amended in 1924, and as modified in accordance with the instruction given in Minute 43 of the A.R.M., 1923, be approved. (See Appendix IV.)

#### SALARIES FOR COMBINED POSTS.

165. The Council has also considered questions dealing with the salaries of Medical Officers of Health employed by Joint Committees, and an explanatory note on this matter was published in the B.M.J. Supplement of 7th March, 1925. A copy has also been forwarded to the Ministry of Health for its information.

166. The representatives of the Association of Rural District Councils, with whom these proposals were discussed on 25th February, 1925, were of opinion that the suggestions may be helpful.

The Council recommends:—

**Recommendation:** That the following principles be adopted as applying to whole-time Medical Officers:—

(a) That where two or more districts combine to appoint a M.O.H. to serve under a Joint Committee, such M.O.H. being permitted to accept part-time duties (e.g., as T.O., S.M.O., etc.), under the County Council, the combined remuneration should be not less than the minimum commencing salary of a whole-time M.O.H., as indicated by the population of the combined areas; and

(b) that where an Assistant M.O. under a County Council is allowed to become a District M.O.H. for a definite proportion of his time (e.g., one half-day per week) such Assistant M.O. should receive remuneration at the rate of £80 per annum for each half-day per week allocated for his duties as District M.O.H., and that his salary as Assistant M.O. under the County Council should be reduced by 1/11th for each half-day per week that he is serving as District M.O.H.

## Hospitals.

#### HOSPITAL POLICY OF THE ASSOCIATION.

167. The Voluntary Hospital Policy (United Kingdom) as approved by the A.R.M., 1924, has again been considered by the Council, especially with regard to para. 10 (now 9) thereof. At the A.R.M., 1924 (Mins. 84-87), the following recommendation of the Council was adopted (on a roll call vote), but not by a two-thirds majority of those present and voting:

That para. 10 (now 9) of the Association's Hospital Policy be rescinded as being no longer applicable and that the following be substituted:

10 (now 9). Contributions to hospitals by employers of labour or massed or periodical contributions by employers should be considered as contributions for services rendered or to be rendered.

The voting was as follows:—for the motion, 88; against the motion, 48; abstentions, 12; which shows that a large majority were in favour of the suggested amendment.



Para. 10, which it was proposed to delete, read as follows:

10. Gratuitous contributions to hospitals by employers of labour or by employees should not be treated as the payment of premiums for insurance against the cost of maintenance and medical treatment for sickness or accident, nor as entitling the contributors to claim hospital treatment, either for themselves or for persons nominated by them, but as charitable contributions to be expended at the discretion of those to whom the management of the hospital is entrusted.

168. The Council now considers that para. 9 as adopted by the A.R.M., 1924, should come up for confirmation. It is therefore proposed first of all to delete the old policy, and secondly to substitute the new. It should, however, be noted that the new has in effect already been adopted by the Representative Body as the "policy" of the Association in the following paragraph of the Hospital Policy which was adopted by Minute 93 of the A.R.M., 1924:

33. When the Board of Management of a Voluntary Hospital accepts contributions for patients from an Approved Society, Insurance Company, Contributory Scheme, employer of labour, and/or by massed or periodical payments by employees, the members of the Visiting Medical Staffs should receive recognition of their services, either in the form of an agreed honorarium, or by means of a percentage of all such payments being passed into a special fund. Such honorarium or fund can be allocated in any manner which the Visiting Medical Staff may determine.

The Council recommends:—

**Recommendation:** That para. 10 (now 9) of the Association's Hospital Policy (as adopted by the Representative Body in 1922, Minute 153), be rescinded as being no longer applicable.

**Recommendation:** That the following new para. 9 of the Association's Hospital Policy (as adopted by the R.B. in 1924, Minutes 84-87), be substituted for the para. 10 (now 9) as adopted by the Representative Body in 1922, Minute 153:

"9. Contributions to hospitals by employers of labour or massed or periodical contributions by employees should be considered as contributions for services rendered or to be rendered."

#### ASSOCIATION'S "POLICY AFFECTING HOSPITALS."

169. During the past four years the R.B. has adopted various policies affecting the different aspects of the hospital question, and these have been reprinted in a handy form and circulated to Divisions and Branch Secretaries and to all hospitals in the United Kingdom. Copies have also been put on sale (price 3d.; post free in U.K. 3½d.).

The policies concerned are: (a) Inter-relation and Co-ordination of Hospital Provision in an Area; (b) Hospital Provision in England and Wales—Standards for Hospitals with 100 or more beds; (c) Report on the Utilisation of Municipal Hospitals for Civil Needs; (d) Report on the Utilisation of Poor Law Infirmarys for Civil Needs; (e) Voluntary Hospitals; (f) Contributory Schemes; (g) Contributory Schemes for Private Patients; and (h) Scheme for formation of Local Hospitals Committees.

Copies of the pamphlet were issued to all London and to the principal Provincial newspapers. The reception by the Press has been very encouraging, many leading articles having appeared, with, so far as is known, no unfavourable comment.

#### UTILISATION OF POOR LAW HOSPITALS FOR CIVIL NEEDS; LOCAL GOVERNMENT (REMOVAL OF DISQUALIFICATION) BILL.

170. This Bill was introduced in the last Parliament and was intended to relieve the disqualification for office on any local authority of any individual who had, personally or through a member of his family, received emergency medical treatment at the charge of the poor rate, but who had repaid the whole cost of such assistance.

The policy of the Association bearing on this point is, that so far as practicable, the spare beds in Poor Law Infirmarys should be utilised for civil needs, but as the law stands at present a person who is an inmate of a Poor Law Institution for the purpose of receiving medical or surgical treatment, even though he or she repays the whole cost involved, becomes disqualified for the receipt of an old age pension at the expiration of three months from the date of entry.

The position was reported to Lt.-Col. Fremantle, M.P., and he and the promoter of the Bill expressed themselves in favour of the Association's policy on this matter, and stated they would do all that was possible with a view to getting the Bill amended accordingly.

The Bill passed second reading and Committee Stage, but dropped with the dissolution of Parliament in October, 1924.

## Naval and Military.

### REPRESENTATIVE OF R.N.M.S. ON THE COUNCIL.

171. The term of office of Surgeon Rear-Admiral Sir Percy Bassett-Smith as the representative of the Royal Naval Medical Service on the Council expires at the end of this session. Under the provisions of the By-laws Sir Percy Bassett-Smith is eligible for re-election for a further period. The Council accordingly recommends:—

**Recommendation:** That Surgeon Rear-Admiral Sir Percy Bassett-Smith, K.C.B., C.M.G., R.N. (ret.), be elected to represent the Royal Naval Medical Service on the Council for the period 1925-8.

### TERRITORIAL ARMY MEDICAL SERVICE.

172. The Council has considered the following Minute 175 of the A.R.M., 1921:—

Resolved: That the following motion be referred to the Council:—

That, in view of the extreme shortage of medical officers in the Territorial Army and the desirability of retaining men of experience in that Army in case of emergency, pressure be brought to bear on those in authority for the age of retirement to be raised—that is, that for a Captain from 45 to 50, and for a Major to 55.

The Council finds that there are many objections to raising the age limit as suggested. In the first place it would, the Council considers, obstruct promotion, and in the second place, it is not satisfactory that an officer over 45 years of age should, in the event of mobilisation, be doing the duties of Captain. The Council accordingly has taken no action on the lines of Minute 175.

### SENIOR SURGEON COMMANDERS COMPULSORILY RETIRED.

173. With the introduction, in 1919, of new rates of pay for the Royal Navy, the Admiralty introduced a Regulation which provided that, as from January 1st, 1920, Commanders (including Surgeon Commanders) were to retire at the age of 50 instead of 55 as was formerly the case. The loss to the officers affected amounted to approximately £440 for each year of service lost, and there was a general feeling in the profession that these officers had been unjustly treated. This feeling of dissatisfaction was moreover aggravated by the small increase in pension (about 10 per cent.) given to Surgeon Commanders in the 1919 revision.

174. As long ago as November, 1919, this matter was taken up with the Admiralty, which declined to make any concession to the officers affected. From that time onwards the Association has continued to press the claims of these officers; the respective First Lords of the Admiralty have been approached, informal meetings have taken place with the Parliamentary Secretary of the Admiralty and with Members of Parliament, and other steps have been taken. The result, however, was always the same—the Admiralty (beyond giving an assurance that in no case would the pension of these officers be reduced below £547. 10s.) declined to remedy the grievance or indeed to acknowledge that there was a grievance. As a result the Council placed the full facts before the profession through the columns of the *Journal* and advised members of the profession who might be considering joining the Navy seriously to consider the disadvantages to which they were liable. This position was approved by the Representative Meeting at Glasgow in 1922, and no statement concerning the conditions of service of the R.N.M.S. has appeared in the *Educational* numbers of the *Journal* for the past three years.

175. As a result of the acute shortage of medical officers in the R.N.M.S., the Admiralty received in January, 1924, a deputation from the Association when the whole position was discussed. Unfortunately the Admiralty was unable to make any statement following on that interview in time for the Bradford Representative Meeting. On November 15th, however, the Council received from the Admiralty a proposal

to pay a maximum gratuity of £250 (on a sliding scale) to those Surgeon Commanders compulsorily retired for age in the five years between July 1st, 1919, and 30th June, 1924.

176. The Council, gratified as it was that the Admiralty had at last made an offer, felt that the above proposal was quite inadequate. Feeling, however, that it was desirable, in the interests of the profession and of the R.N.M.S. that there should be a settlement of this long-continued dispute, the Council informed the Admiralty that it would be prepared to accept a maximum of £500 (on a sliding scale) although it did not consider that even this sum afforded adequate compensation for the loss sustained by the officers affected. The Admiralty replied stating that it was prepared to increase the maximum gratuity from £250 to £300.

177. After consulting the officers affected (the great majority of whom favoured acceptance of the Admiralty's proposal), the Council, feeling that there was little prospect, if any, of obtaining better terms from the Admiralty, and noting that an adequate number of candidates are now coming forward for entry into the R.N.M.S., decided (i.) to accept the revised proposal, and (ii.) that the attitude of the Association of discouraging members of the profession from entering the R.N.M.S. should no longer be continued.

178. The Association at its deputation with the Admiralty in January, 1924, placed before the Admiralty certain suggestions with a view to popularising the conditions of service of the R.N.M.S. The Council has again drawn the attention of the Admiralty to these matters in the hope that something will be done so as to re-establish the position which the R.N.M.S. formerly held.

#### SHORTAGE OF CANDIDATES FOR THE R.A.M.C.

179. The shortage of candidates for the R.A.M.C., concerning which the Council reported fully to the Bradford Representative Meeting, has again engaged the serious attention of the Council. The War Office was informed in December that it was recognised that some of the causes of complaint made by Majors and Captains would be removed, or at any rate mitigated, if recruiting for the Corps again became normal, and the Council accordingly expressed itself as all the more anxious to see the reforms carried out which it had repeatedly, and over a long period of time, urged on the War Office. One of the most important of these reforms is the need for an increase in the pay of Majors between fifteen years' service and the date of their promotion to Lieut.-Colonel.

180. It is, however, not sufficient for the War Office to take steps to remedy the grievances of serving officers. Everything possible must be done to ensure a steady flow of candidates into the Corps. In spite of the over-crowding of the profession young graduates will not enter the Corps in sufficient numbers to fill the vacancies, and the Council has suggested to the War Office that the question of the pay in the junior grades should be given careful consideration.

181. If something be done in this connection and steps be taken to meet grievances of Majors, the Council has assured the War Office that it will do all it can through the columns of the *Journal* and otherwise to induce candidates to come forward. The Army Council has replied stating that it has formulated proposals for improving the conditions of service in the R.A.M.C., which it hopes to be able to communicate to the Association at an early date. The Council now awaits these proposals.

#### RETIRED PAY OF MAJORS, R.A.M.C.

182. The question of the retired pay of Majors, R.A.M.C., is receiving the careful attention of the Council. The pre-war retired pay of these officers with twenty years' service was £365 per annum, but it was found, when the rates were revised in 1920, that they had actually been reduced to £321. When the attention of the War Office was called to the matter, a sum of £75 per annum all round was added, bringing the Major's pension to £396. The reduction in these pensions (in accordance with the cost of living) may reach a maximum of 20 per cent., and a reduction of 5½ per cent. has already been made thus bringing the retired pay very near to the pre-war figure. With the enforcement of the remaining 14½ per cent. (by stages), the retired pay of these officers may possibly be reduced to £326—a figure considerably below what they understood they would receive when they entered the Service. A case has actually occurred in which the new method of reckoning retired pay has

resulted in an officer who had twenty years' service being assessed at £318, which has already been reduced to £328, and can be reduced eventually to £280. This is in spite of the fact that he had served the majority of his time under the old warrant which gave him a fixed £365 per annum.

#### THE ROYAL COMMISSION ON THE SUPERIOR CIVIL SERVICES IN INDIA.

183. The Council appointed a Special Committee to consider the report of the Royal Commission on the Superior Civil Services in India (Lee Commission), and the relation of the Association to the medical profession in India. The present position in regard to the report of the Lee Commission is that certain of its recommendations have been accepted by the Government of India and the Secretary of State, but that no pronouncement has yet been made with regard to the proposals for the re-organisation of the medical services in India outlined in the report of the Commission.

The Council has been in communication with the Secretary of State on this important matter, and has been informed that he will be in a better position to examine the Association's conclusions when the proposals of the Government of India are before him.

#### Scotland.

##### MEMBERSHIP.

184. It is gratifying to be able to report that the steady growth in the membership recorded last year continues to be maintained. The total membership in Scotland at 31st December was 2,060 as compared with 2,614 at the corresponding date in the previous year. In this connection the meetings for graduands, held in the various University centres, particularly Edinburgh and Glasgow, have proved to be a valuable means of recruiting the membership and of interesting graduates in the activities of the Association. After one of the Glasgow meetings over 95 per cent. of the graduands applied for membership.

##### MINIMUM SCALE OF SALARIES FOR PUBLIC HEALTH OFFICERS.

185. Throughout the year the Scottish Committee has maintained its efforts to promote the scale of salaries for the Public Health services which has been adopted by the Association, and has met with a certain degree of success. In some instances it was unfortunately not possible to make any impression, though in every case where a protest was made on the ground of inadequacy of salary the field of choice of candidates was limited. In some, concessions were made to the Association which improved the terms as compared with those originally offered, though not conceding the full scale. In the case of the medical officer of health for Lanarkshire a notable victory was gained. An appointment has been made at the scale commencing salary of £1,300 as compared with £1,000 which was the salary paid to the retiring officer.

A deputation from the Committee met in conference with a Committee of the Board of Health and advocated the adoption of the scale as the standard for Scotland. The Committee of the Board was not unsympathetic, but suggested for consideration some modifications. The Council has authorised the Committee to continue negotiations with the Board and with local authorities in Scotland for the adoption of a modified agreed scale, and the negotiations are still proceeding at the time of reporting. Pending agreement, the scale as adopted by the Council (Appendix IV.) will be insisted upon and will be regarded as the standard to which Scotland should, if possible, adhere.

##### FEES TO PRACTITIONERS CALLED IN BY MIDWIVES.

186. It was reported to the Committee that the legal advisers to the Board of Health had ruled that, in terms of the Midwives (Scotland) Act, every fee paid covers one subsequent visit, and the Committee asked that the scale should be therefore revised or, alternatively, that the Act should be amended. The Board have intimated that they intend to insert in an amending Act a proviso to meet the difficulty, and the Committee has agreed not to press for an alteration in the scale pending the amendment.

##### FATAL ACCIDENTS AND SUDDEN DEATHS INQUIRIES.

187. The Committee is giving careful consideration to reports received of two inquiries held in Scotland into cases of sudden death where the verdict of the jury imputed blame to the doctors who had been in attendance. The full

significance of the provision of the Fatal Accidents and Sudden Deaths Inquiry Act of 1906 does not seem to have been realised hitherto, and a Sub-Committee has been appointed to consider and report upon the question.

#### ATTENDANCE ON STREET ACCIDENTS.

188. It having been reported that the number of street accidents seems to be on the increase, and that the police do not always accept liability for payment of a doctor called to attend such, a letter has been addressed to the Secretary for Scotland asking if he will issue instructions to Chief Constables similar to those issued by the Home Office in England.

#### SCOTTISH HOUSE OF THE ASSOCIATION.

189. The premises occupied by the Scottish Committee since 1919 having proved to be quite inadequate for the increasing work, the Committee made representation to the Council that suitable premises should be purchased. The representation was sympathetically received, and premises at 6, Drumsheugh Gardens, Edinburgh, have been purchased. The premises are in every way suitable, being conveniently situated in the west-end and commodious enough to satisfy all requirements. Besides ample office accommodation a large room is being adapted for a meeting place, which it is hoped will be found to be useful to kindred societies as well as convenient for the Association's own purposes.

The Committee, on behalf of the profession in Scotland has recorded its thanks to the Council. The new house will be entered in the hope and belief that it will be a stimulus to further activity and increased usefulness to the Association and the profession.

#### Wales.

190. The Welsh Committee has so far held only one meeting this session. At that meeting it made strong representations to the Council that in view of the special questions affecting the Welsh profession and the fact that there is a Welsh Board of Health which deals with the health affairs of the Province, both the Council and the Welsh Committee needed to be strengthened by the provision of another direct representative from Wales on the Council of the Association. The Council is of opinion that this is a reasonable request, and submits a recommendation on the subject under "Organisation" (see para. 67).

The Committee has taken over from the Welsh Branches the co-ordination of matters connected with contract practice in Wales. Each Division will, as heretofore, be responsible for its own area, but, instead of the North and South Wales Branches having contract practice Committees, the co-ordination of the Division work will be effected through a Sub-Committee of the Welsh Committee. A strong and representative Sub-Committee has been appointed which will meet generally in Cardiff, as most of its work will come from South Wales.

#### Ireland.

191. The membership of the Association in Northern and Southern Ireland has steadily increased. The resignations at the end of the year 1924 were comparatively few. The members who were struck off the list for arrears were, however, considerably in excess of the resignations. It is satisfactory to be able to state in these cases that as a result of a reminder from the Irish Medical Secretary the majority of those in arrears forwarded their subscriptions and expressed their desire to continue their membership. The Irish Medical Secretary has during the past year organised and attended meetings of the medical profession in twenty counties. The meetings were in all cases a success and averaged an attendance of 65 per cent. of the medical practitioners in actual practice. The Irish Medical Secretary, as in former years, attended meetings of County Health Boards in connection with the salaries of the District Medical Officers, with satisfactory results generally. The Irish Medical Committee is still in existence, and much of the work which is done by it, especially under the Insurance Act, is similar to that which is transacted by the Insurance Acts Committee for English doctors. The services of the Irish Medical Secretary are placed gratuitously by the Irish Committee of the Association at the disposal of the Irish Medical Committee whose membership is mainly made up of members of the Association.

Committees of Inquiry have been appointed by the Irish Free State and Northern Parliaments to report with regard to the reforms that might be advantageously adopted with regard to

the Insurance Acts and the medical services generally. The profession is represented upon both bodies, which have already collected a considerable amount of evidence, and their reports are expected to be published at an early date. The interests of the profession are being looked after by composite medical committees in Northern and Southern Ireland.

192. In the Dail (Southern Ireland) two Acts have been passed of much importance and interest to the profession in the Free State. One is the Medical Act, 1924, which is an Act to authorise the General Medical Council to continue for one year to exercise jurisdiction and authority as heretofore in respect of medical practitioners in the Free State. The second is the Local Government and Public Health Act. This Act provides for the abolition of District Councils in Ireland, and transfers the sanitary laws administered by these bodies to the County Councils. It provides also for the appointment of whole-time County Medical Officers of Health. In connection with these officers the Ministry of Local Government and Public Health has already made arrangements for three scholarships in the Rockefeller Institute of Public Health. Candidates will be selected for these scholarships by a Selection Board, and they must possess diplomas either in public health or sanitary science. The selected candidates will study Public Health for a prescribed time in the Rockefeller Institute, and on their return to Ireland will be appointed County Medical Officers of Health in the Free State.

193. The Council in congratulating the Irish Medical Secretary (Dr. T. Hennessy) on his election by a handsome majority as a member of the Irish Free State Dail expressed the opinion that the excellent services rendered to the profession by him will be greatly enhanced by his presence in the Dail, but has asked the Irish Committee to report on the question of how far his membership of the Dail will be compatible with his duties to the Irish Office of the Association.

#### Oversea Branches.

##### ADVISORY COMMITTEE RE AFRICAN SERVICES.

194. The request of the Council to be allowed to nominate a representative to serve as a member of the Advisory Committee set up by the Secretary of State for the Colonies to investigate the possibilities of unified administration of the African Services was declined, the Colonial Office stating that the constitution of that Committee had already been decided and that the Secretary of State considered that the inclusion of Dr. Andrew Balfour as a member thereof would ensure adequate representation of the views of the medical profession. Dr. Balfour has accepted the Council's offer to place at his disposal such information as the Association possesses as may be of assistance to him as a member of the Advisory Committee. The Council has informed the Colonial Office that it considers that a nominee of the Association could be very useful and ought to be appointed.

The Colonial Office has in reply stated that the Association's letter will be laid before the Advisory Committee with a view to the Association being invited to give evidence before that Committee should it consider such a course desirable.

##### PARLIAMENTARY COMMISSION VISITING EAST AFRICA.

195. In the middle of 1924, the Colonial Office appointed a Parliamentary Commission to visit East Africa. The personnel of the Commission was:

The Hon. Wm. Ormsby-Gore (Chairman), Mr. A. G. Church, Mr. F. C. Linfield and Mr. J. J. A. Calder,

and the terms of reference were as follows:

"To visit Northern Rhodesia, Nyasaland, Tanganyika, Uganda and Kenya with a view to obtaining as much information as possible in the time available on all subjects covered by the terms of reference to the East Africa Committee, and to report to the Secretary of State on any facts which they may consider have a bearing on the above matters."

A letter was sent by the Council to the Secretaries of all the East African Branches of the Association notifying them of the impending visit of the Commission. The Kenya Branch has reported that it had sent a memorial to every member of the Commission, and the Council will render what assistance it can in connection with the matters dealt with in the Memorandum.



## APPENDIX II.

REVISED REPORT OF CENTRAL ETHICAL COMMITTEE  
ON INDIRECT METHODS OF ADVERTISING.

1. During the past few years there have been brought to the attention of the Association certain journalistic developments which seem likely, if unchecked, seriously to undermine some of the most cherished traditions associated with medical practice in this country, and to lower the reputation of the profession among the more thoughtful sections of the community.

2. In May, 1905, in consequence of representations made by the Association, the General Medical Council issued the following Notice:

"The practice of (a) advertising by a registered medical practitioner with a view to his own gain, particularly if depreciatory of other practitioners, or of sanctioning such advertising, of (b) employing or sanctioning the employment of agents or canvassers for the purpose of procuring patients, and of (c) associating with or accepting employment under any Association which practises canvassing or advertising for the purpose of procuring patients are in the opinion of the Council contrary to the public interest and discreditable to the profession of medicine, and any registered medical practitioner resorting to any of such practices renders himself liable on proof of the facts to have his name erased from the Medical Register."

The result has undoubtedly been a great decrease in the cruder and more open forms of advertisement. The issue of handbills announcing the qualifications of medical practitioners and the door-to-door canvass for members of medical clubs are now only occasional occurrences. Of recent years, however, a subtle and indirect method of giving publicity to certain medical practitioners has obtained currency in the text and illustrations of the lay press sometimes without and sometimes apparently with the active concurrence of those referred to. This publicity, by reason of the form that it takes and the medium that it adopts, results in a very effective advertisement for the person concerned. Such means of personal advancement may be considered legitimate in other walks of life but have in the past been shunned as undignified by the medical profession.

3. In February, 1922, the Association again addressed a communication to the G.M.C. asking if the time had not arrived when some authoritative pronouncement on the subject should be made. The G.M.C. replied (i.) that if a new offence not within the present Warning Notices was becoming prevalent, a flagrant case might be selected to be brought before the Council which would give it careful attention; and (ii.) that it was not the custom of the Council to issue a Warning Notice until the hearing of a case had established the need for it.

At the December, 1922, Session of the G.M.C., however, one of the direct representatives of the profession on the General Medical Council raised the question afresh. As a result, it was remitted to the Executive Committee of the Council in consultation with the legal advisers, to consider and report upon the expediency of amending the Council's Warning Notice with respect to canvassing and advertising so as to make its scope more clear and comprehensive.

4. At the June, 1923, Session of the G.M.C., the following new paragraph 6 of the Warning Notice was adopted:

## "6. ADVERTISING AND CANVASSING.

The practices by a registered medical practitioner—

(a) Of advertising, whether directly or indirectly, for the purpose of obtaining patients or promoting his own professional advantage; or, for any such purpose, of procuring or sanctioning or acquiescing in the publication of notices commending or directing attention to the practitioner's professional skill, knowledge, services, or qualifications, or depreciating those of others; or of being associated with or employed by these who procure or sanction such advertising or publication, and

(b) Of canvassing or employing any agent or canvasser for the purpose of obtaining patients; or of sanctioning or of being associated with or employed by those who sanction, such employment;

are in the opinion of the Council contrary to the public interest and discreditable to the profession of medicine, and any registered medical practitioner who resorts to any such practice renders himself liable on proof of the facts to have his name erased from the Medical Register."

5. Examples of the newer methods are to be found in interviews granted to newspaper representatives, and in signed letters or articles sent to newspapers. In many of these, members of the profession, either by the direct assertion of the journalists concerned, or by more indirect methods, are referred to as possessing, or allow it to be inferred from their own words that they possess, methods of treatment superior to those practised by others.

6. In the opinion of the Committee the word "advertising" in connection with the medical profession must be taken in its broadest sense, to include all those ways by which a person is made publicly known, either by himself, or by others without his objection, in a manner which can fairly be regarded as "for the purpose of obtaining patients or promoting his own professional advantage."

7. It is generally accepted by the profession that certain customs are so universally practised that it cannot be said that they are for the person's own advantage, as, for instance, a door-plate with the simple announcement of the doctor's name and profession. Even this, however, may be abused by undue particularity or elaboration.

8. It is commonly agreed that channels must be open for discussion between members of the profession for recording the results of research and clinical experience and for bringing to the notice of other members books published and facilities for treatment offered. The recognised channels are medical societies, medical periodicals, and works primarily intended for the medical profession. The information so given is intended for the convenience and advantage of the profession which will be in a position to judge of the value of the information and of the manner in which it is conveyed. Even this legitimate kind of advertisement is capable of abuse.

9. It is the recognised duty and right of a medical man to take his share as a citizen in public life, but there is no reason why this should involve any advertisement of himself as a doctor, and, with due care, improper advertisement can be avoided.

10. Publicity is rightly allowed to medical men not in actual practice of their profession since they cannot be regarded as using this publicity for the purpose of promoting their own professional advantage, and in view of the official position of Medical Officers of Health and other medical men who hold posts in either the public health or other public service, publicity is sometimes not only permissible but necessary for the fulfilment of their official duty. The presumption in all these cases is that publicity is not sought for the individual's own gain though it is possible that the practice might be abused and the presumption therefore fail.

11. The publication of books and the delivery of lectures on semi-medical topics which are of general public interest and require medical knowledge for their proper presentation have been recognised as legitimate, subject to the avoidance of methods which tend to the personal professional advantage of their authors. There are many things innocent in themselves which may, by the manner and frequency of their doing, gravely contravene the principle that medical practitioners should not advertise.

12. From time to time there are discussed in the lay papers topics which have relation both to medical science and policy and to the health and welfare of the public, and it may be legitimate or even advisable that medical practitioners who can speak with authority on the question at issue should contribute to such discussions. But practitioners who take this action ought to make it a condition of publication that laudatory editorial comments or headlines relating either to the contributor's professional status or experience shall not be permitted; that his address or photograph shall not be published; and that there shall be no unnecessary display of his medical qualifications and appointments. There is a special claim that practitioners of established position and authority shall observe these conditions for their example must necessarily influence the action of their less recognised colleagues. Discussions in the lay press on disputed points of pathology or treatment should be avoided by practitioners; such issues find their appropriate opportunity in the professional societies and the medical journals.

13. After making all allowances for all those modes of publicity for which there may be some justification, there remain many instances which can only be regarded as gravely and unnecessarily contravening the spirit of the notice of the G.M.C. The Association is convinced that in taking up an attitude of determined opposition to these undesirable journalistic methods, the Association is acting in the best interests of the public as well as of the medical profession. The extension of the system can only lead to a competition



for public notice in which the more scrupulous man would be left behind, to the detriment of the public who are ill-qualified to judge of the true worth of scientific opinions. The extension of the advertising habit among the profession in general would certainly destroy those traditions of dignity and self-respect which have helped to give the British medical profession its present high status, and would gravely undermine the amenities and harmonious working of medical practice.

14. The Association, therefore, draws the attention of the profession to the danger of these objectionable methods, and insists upon the urgent need that every member of the profession who values its honour should offer a firm resistance to them. If only those whose reputation is mainly derived from newspapers allow their names and opinions to be quoted or to appear as those of "the eminent" physician, surgeon or specialist, the practice will die a natural death.

### APPENDIX III.

#### MEMORANDUM ON THE POLICY OF THE ASSOCIATION WITH REGARD TO CORONERS' LAW AND DEATH CERTIFICATION.

##### A. DEATH CERTIFICATION AND REGISTRATION.

###### MEDICAL CERTIFICATION OF DEATH AND STILL-BIRTH.

1. Every death and every still-birth should be certified on a statutory form issued by the Registrar-General by a registered medical practitioner who has viewed the body. Such certificates should, if possible, be signed by a practitioner who has attended the deceased during life or been called in at or about the time of death or still-birth. Where no such practitioner is available, the certificate of death or still-birth should be signed by a special medical officer appointed (as provided in paragraph 26 below) for every coroner's district by the authority which appoints the coroner.

###### REPORT TO REGISTRAR.

2. In addition to the certificate of the fact of death there shall be sent direct to the Registrar a further report including further facts as to the cause of death and any scientific data which the practitioner who certifies the death considers necessary or desirable.

###### OBLIGATION TO CERTIFY DEATH.

3. Where a medical practitioner has attended a deceased person within 14 days of death, and where such person has died within the area in which the practitioner ordinarily practises or attended at the birth of a still-born child, it shall be his duty within 24 hours after he has become aware of the death or still-birth to complete and sign the prescribed form of certificate, and, in the case of death, to draw up the detailed report referred to in para. 2 and to send it direct to the registrar in a sealed envelope.

###### CASE IN WHICH A PRACTITIONER IS UNABLE TO COMPLETE THE DEATH CERTIFICATE.

4. If the cause of death is unknown to the practitioner attending for the purpose of certifying, or if he is of opinion that death has arisen from or been accelerated by any violence, directly or indirectly, or through neglect or poison or other unnatural cause, he shall not grant any certificate of death, but shall forthwith report the circumstances and his opinion to the coroner for the district in which the death has occurred.

###### PROVISION FOR RECORD OF REPORTS.

5. The report referred to in para. 2 should be so filed by the registrar as to form a separate register, and such register shall not be open to inspection except by a coroner or a medical officer of health, or the chief superior officer of any police force, or in pursuance of an order by the Secretary of State, or a Court of Summary Jurisdiction, or any Superior Court.

###### REGISTRAR TO COMMUNICATE WITH CORONER IN CERTAIN CASES.

6. In any case in which a registrar receives information of a death and does not receive the prescribed certificate of death, or where, in such certificate the date of the last attendance is more than fourteen days prior to the date of death, or where in any other particular such certificate does not strictly conform with the statutory form he should within 24 hours of receiving such information report the case to the coroner of the district in which the death has occurred.

#### REMUNERATION OF MEDICAL PRACTITIONERS.

7. The following fees should be payable by the local sanitary authority to registered medical practitioners, including special medical officers, rendering service under the foregoing provisions:

In the case of a body viewed within one mile of registered address of practitioner or officer ... 5/-  
Additional fee in respect of every mile or part of a mile beyond the above distance ... 2/-

#### FORMS OF MEDICAL CERTIFICATES.

8. The prescribed forms of certificates shall be as follows:—

##### (1) Certificate of Death.

I hereby certify that I attended .....; that such person's age was stated to be .....; that I saw him alive on or about the ..... day of ..... 19...; that he died (as I am informed) on the ..... day of ..... 19..., at ..... and that I viewed the dead body on the ..... day of ..... 19..., and that to the best of my knowledge and belief the cause of his death was as hereunder written.

Cause of Death.	Duration of Disease where known			
	Years.	Calendar Months.	Days.	Hours.
State if due to Natural Causes. .....				
State disease.....				

Witness my hand, this ..... day of ..... 19....

Signature .....

Qualifications as registered by the General

Council .....

Residence .....

##### (2) Certificate of Still-Birth.

I, ..... of ..... do hereby certify that on the ..... day of ..... 19..., at ..... I personally viewed the body of a [male] [female] child and that the said child was (\*stated to me to be) the child of ..... of ..... whom I attended at its birth and that the said child was still-born.

Witness my hand this ..... day of ..... 19....

A.B., of ....., registered medical practitioner or special medical officer appointed by the council of .....

\*If the registered medical practitioner did not attend at the birth insert the words in brackets and strike out the words in italics (underlined).

†Name of mother.

#### B. BURIAL REGULATIONS.

9. Retention in a dwelling-house of a dead body beyond a period of seven days, except by permission of a magistrate or coroner, should be made an offence.

10. It should be made a penal offence to bury, cremate or otherwise dispose of a body except upon a burial order issued by a Registrar or coroner.

11. No burial order should be issued by a Registrar until the death has been registered.

12. The burial order, after it has been acted upon, should be returned to the registrar who issued it, with an endorsement showing the date, place and mode of disposal of the body.

13. Every person in charge of a cemetery, burial ground, churchyard, crematorium, or other place legally authorised for the disposal of dead bodies (a) should, after a burial order has been acted upon, endorse the same, and (b) should keep a register of all bodies buried or otherwise disposed of which should show the name and age of the deceased and the exact place of burial and the name and address of the persons conducting the burial or cremation. Any person failing to obey these provisions should be liable to a penalty.

14. If the burial order, duly endorsed, is not returned to the Registrar within a prescribed period, he shall notify the M.O.H. of the district of the fact, and the M.O.H. shall make the necessary enquiries and report to the Registrar.

## C. CORONERS' LAW.

THE CORONERSHIP. NATURE OF OFFICE, QUALIFICATIONS, APPOINTMENT AND DISMISSAL, AND AREA ADMINISTRATION.

15. The office of coroner should be made administrative and be placed under the control of the Minister of Health. The coroner's duty would then be to make an administrative investigation of the cause of death and his finding would be a simple report. On that finding the death would be registered or the necessary criminal enquiry would be instituted by the police. The necessary connection with the ordinary judicial system could be preserved by making the coroner *ex-officio* a magistrate for the district in which he acts.

16. So far as possible the areas to be administered by coroners should be made co-terminous with Local Government areas.

17. Coroners should possess both legal and medical qualifications. Failing this, a person with a medical training only should be preferred to one having only a legal training. Provided that, where a person has (before the date on which the Act shall come into force) been the deputy of a county or borough coronor, he shall be eligible for appointment as a coroner although he has not the qualification required above.

18. The right to appoint coroners should be confined to county and county borough councils, subject to the approval of the Minister of Health.

19. The removal of coroners from office should only be allowable on the grounds of inability or misbehaviour in the performance of duty; and should be in the hands of the Minister of Health.

## REMUNERATION OF CORONERS.

20. At any quinquennial revision of a coroner's salary regard should be had to the number of deaths the causes of which he has investigated without holding an inquest, as if in each case an inquest had been held.

21. A coroner attending at any court before or at the opening thereof in pursuance of Sub-section 3 of Section 5 of the Coroners' Act, 1887, should be entitled to a fee of 2 guineas for each such attendance, and, in addition, to reasonable travelling expenses, and such fee and such expenses should form part of the expenses of the prosecutor.

## DEPUTY CORONER.

22. The relevant considerations should apply to the appointment of deputy coroner.

## ASSISTANT DEPUTY CORONER.

23. An assistant deputy coroner should be appointed for each county on similar terms.

## RECORDS.

24. All official records of coroners should be the property of the appointing authority.

## CORONER'S OFFICER.

25. If this office is to be retained, the holder should be a police officer.

## SPECIAL MEDICAL OFFICERS.

26. A special medical officer should be appointed by the County Council for every coroner's district or group of coroner's districts. He should examine and report to the coroner in all cases in which the coroner shall so direct; enquire into all cases of death in which a registered medical practitioner has not been in attendance during life; assist in all cases in which the coroner requires medical help beyond that which the medical witnesses otherwise available can give; and certify death if a certificate is not otherwise forthcoming. His appointment should be terminated only with the consent of the Minister of Health.

## CONTROL OVER CORONER.

27. Provision should be made for the adequate control of the coroner and regulation of procedure and practice in coroners' courts by the Minister of Health. This would involve provision for the review of the coroner's conduct in the discharge of his public duties; and for the infliction of lesser penalties for offences not meriting removal from office.

28. There shall be a right of appeal from the finding of the inquest to a Judge of the High Court who would have the power to re-try the case.

## PRELIMINARY ENQUIRY BY THE CORONER.

29. A preliminary enquiry should be held before the expense of an inquest is incurred, and the power of procedure of any coroner in reference to such enquiry, the function of any officer employed therein and the obligation of all persons to give information in connection therewith should be given legal sanction.

30. The coroner should have statutory authority to obtain and pay for any information obtained from a medical practitioner, and to order and pay for the performance of a post-mortem examination whether or not the inquest is subsequently held; but no registered medical practitioner should without his consent be required to make an analysis of the contents of the stomach or intestines or any other part of the body of a deceased person.

## EVIDENCE TO BE OBTAINED AT THE INQUEST.

31. Where the coroner considers the evidence to be insufficient it should be open to him to order a post-mortem to be made either by the medical practitioner with knowledge of the clinical facts or by an expert pathologist specially engaged for the purpose (saving the right of the practitioner concerned, as above—see para. 30).

32. Should the post-mortem be entrusted to an expert pathologist any medical practitioner who has been in attendance at or about the time of death should have the right of being in attendance when the post-mortem is done.

33. When the coroner deems it necessary to call in an expert witness he should be empowered to pay such witness the special fees to which his special experience would entitle him.

34. Section 22 of the Coroners' Act, 1887, should be repealed in order to allow for the remuneration of medical officers of public institutions giving evidence at inquests on persons dying therein.

35. The travelling expenses incident upon giving evidence at inquests should be regulated by statute, and there should be an additional fee for each additional day's attendance.

36. The discretion which the coroner at present possesses of dispensing with the services of a jury should be continued permanently.

## VIEW OF THE BODY.

37. The coroner should in all cases view the body; the view of the body by the jury should not be compulsory but left to the discretion of the coroner.

## CASE OF ALLEGED MURDER OR MANSLAUGHTER.

38. If on an inquest touching a death a coroner is informed before the jury has given its verdict, that some person has been charged before examining justices with the murder or manslaughter of the deceased, he shall, in the absence of reason to the contrary, adjourn the inquest pending the termination of the proceedings before the justices.

## RIGHTS OF PERSONS MENTIONED IN THE COURSE OF INQUIRY.

39. A person whose conduct is called in question by any evidence should be afforded an opportunity to give rebutting evidence, and to be legally represented if he so desires, the inquest being adjourned for this purpose if necessary.

## RE-OPENING OF INQUESTS.

40. The coroner should be given statutory authority to re-open inquests.

## REMUNERATION OF MEDICAL PRACTITIONERS.

41. The fees payable by coroners to registered medical practitioners and special medical officers should be as follows:—

A. Whether an inquest is held or not:—

1. For every report to a coroner where the practitioner or officer is of opinion that death has arisen from or been accelerated by violence, neglect, poison or other unnatural cause, or is unable to certify the cause of death of a deceased person whom he has attended in his last illness, or in any case where the Coroner has called upon the practitioner to make a preliminary report	£.	s.	d.
0 10 6			

2. For making by the previous direction of the coroner a post-mortem examination of the body of the deceased—the like fee as where an inquest is held.

## B. Where an inquest is held :—

£ s. d.

3. For every day of attendance to give evidence in obedience to a summons of the coroner under the Coroners' Act, 1887 ... 1 11 6

4. For making by the previous direction of the coroner a post-mortem examination of the body of the deceased without an analysis of the contents of the stomach or intestines or other part of the body ... 3 3 0

5. For making by such direction an analysis of the contents of the stomach or intestines or other part of the body such fee (in addition to fee No. 3, but not exceeding seven-and-a-half guineas in all) as the coroner shall certify in writing to be reasonable.

## APPENDIX IV.

SCALE OF MINIMUM COMMENCING SALARIES FOR  
WHOLE-TIME CHIEF MEDICAL OFFICERS OF HEALTH  
AND MEDICAL OFFICERS OF OTHER GRADES  
RECOMMENDED FOR ADOPTION AS A STANDARD  
BY LOCAL AUTHORITIES.

	Minimum Salaries per annum.
<b>RESIDENT MEDICAL OFFICERS</b> ...	£330 plus emoluments.
<i>Definition.</i> —These are Medical Officers employed in Hospitals, Sanatoria or other Institutions without responsibility for the work of other Medical Officers.	
<i>NOTE.</i> —Where the Appointing Authority limits the one year and pply, nor shall a professional experience.	
<b>MEDICAL OFFICERS EMPLOYED IN DEPARTMENTS.</b> (Working directly under a Senior Medical Officer.)	£600.
<i>Definition.</i> —These are Medical Officers without responsibility for the work of other Medical Officers, but who shall have had at least three years' experience in the practice of their profession subsequent to obtaining registrable qualifications. One only of these years of service may be spent in the whole time service of a local authority on a probationary basis at a lower salary than the minimum of £600 per annum. The salary during such probationary service shall be at the rate of not less than £500 per annum.	
<b>SENIOR MEDICAL OFFICERS</b> (not being Medical Officers of Health) in charge of Services or Departments (e.g. Port Sanitation, School Medical Service, Tuberculosis, Mental Deficiency, Maternity and Child Welfare, Venereal Disease, or any other similar service or department or combination thereof) and medical superintendents of hospitals, sanatoria, or other institutions.	£750 to £1,100 according to responsibility and scope of department, regard being had to the relation of the officer's salary to that of the Medical Officer of Health.
<b>DEPUTY OR CHIEF ASSISTANT MEDICAL OFFICER</b> (Hospitals, Sanatoria, or other institutions or departments).	A salary equal to 60 per cent. of salary of Medical Superintendent or senior Medical Officer in charge, but not less than the salary of a Medical Officer employed in a department.

CHIEF MEDICAL OFFICERS OF HEALTH.  
(Outside London.)

Population.	Minimum commencing Salaries per annum.	
	County Boroughs, Boroughs, Urban and Rural Districts, and Combined Districts.	County Councils.
	£	£
Not exceeding 50,000	800- 900	—
do. 75,000	900-1,000	800- 900
do. 100,000	1,000-1,100	900-1,000
do. 150,000	1,100-1,200	1,000-1,100
do. 250,000	1,200-1,400	1,100-1,200
do. 500,000	1,400-1,600	1,200-1,400
do. 750,000	1,600-1,800	1,400-1,600
Exceeding 750,000	1,800	1,600-1,800

CHIEF MEDICAL OFFICERS OF HEALTH.  
(Metropolitan Boroughs.)

Population.	Minimum commencing Salaries per annum.
	£
Not exceeding 150,000	1,000 - 1,200
" " 250,000	1,200 - 1,400
" exceeding 250,000	1,400 - 1,800

## PORT MEDICAL OFFICERS.

PORT MEDICAL OFFICERS directly responsible to a Port Sanitary Authority	£800
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*NOTE.*—(1) In cases where a Local Authority appoints a Deputy or Assistant

or Assistant M.O.H. by the

- (2) Health or a Senior Medical Officer the Local Authority assigns a figure in the scale which the British Medical Association thinks inappropriate the Ministry of Health has promised to use its good offices by arranging for joint discussion between the parties concerned, at the Ministry.
- (3) Population means population at the latest annual report of the Registrar-General.

*Conditions applicable to all appointments.*

- The salaries to be fixed are consolidated salaries inclusive of bonus.
- There will be periodical review of salaries by the Local Authorities and suitable increments of salary will be given for proved ability and satisfactory service.
- Travelling expenses and other reasonable expenses properly incurred in the performance of the duties will be paid in addition to salary.
- No existing officer is to be prejudicially affected.

## British Medical Association.

## CURRENT NOTES.

## Secretaries' Conference at Bath.

The Annual Conference of Honorary Secretaries of Divisions and Branches will be held at Bath on Wednesday, July 22nd, at 2.30 p.m. The rail fare within the United Kingdom of one honorary secretary of each Division and Branch attending the Conference is repayable from the central funds of the British Medical Association. The Organization Committee, by instruction of the Council, has under consideration the programme of the conference, and the following matters are provisionally noted for inclusion therein: (a) discussion on the tendency of some Panel Committees to do what is really Association work; and (b) three papers by honorary secretaries on propaganda work, with discussion. The Organization Committee will welcome suggestions from secretaries and other members of the Association for the agenda of the conference.

## Association Notices.

**Thalassotherapy and Esperanto.**  
The British Medical Association has been invited to appoint a delegate to attend the Fourth International Congress on Thalassotherapy, which meets at Arcachon (Gironde) from April 27th to 29th, and the Chairman of Council has been empowered to nominate a suitable representative. A similar course was taken by the International Congress on the Use of Esperanto in the Pure and Allied Sciences, which will be held in Paris, May 14th to 16th. The Medical Secretary will be glad to hear from any member who proposes to attend either of these Congresses.

## Association Notices.

SCHOLARSHIPS AND GRANTS IN AID OF  
SCIENTIFIC RESEARCH.

THE Council of the British Medical Association is prepared to receive applications for Research Scholarships, as follows:  
1. AN ERNEST HART MEMORIAL SCHOLARSHIP, of the value of £200 per annum, for the study of some subject in the department of State Medicine.  
2. THREE RESEARCH SCHOLARSHIPS, each of the value of £150 per annum, for research into some subject relating to the Causation, Prevention, or Treatment of Disease.

Each Scholarship is tenable for one year, commencing on October 1st, 1925. A Scholar may be reappointed for not more than two additional terms. A Scholar may hold a junior appointment at a University, Medical School, or Hospital provided the duties of such appointment do not interfere with his work as a Scholar.

The conditions of the award of Scholarships are stated in the Regulations, a copy of which will be supplied on application to the Medical Secretary of the Association, 429, Strand, London, W.C.2.

## GRANTS.

The Council of the British Medical Association is also prepared to receive applications for Grants for the assistance of research into the Causation, Treatment, or Prevention of Disease. Preference will be given, other things being equal, to members of the medical profession and to applicants who propose as subjects of investigation problems directly related to practical medicine.

The conditions of the award of Grants are stated in the Regulations, a copy of which will be supplied on application to the Medical Secretary of the Association, 429, Strand, London, W.C.2.

## Applications.

Applications for Scholarships and Grants for the year 1925-26 must be made not later than Saturday, June 6th, 1925, on the prescribed form, a copy of which will be supplied by the Medical Secretary on application.

Applicants are required to furnish the names of three referees who are competent to speak as to their capacity for the research contemplated to whom reference may be made.

ALFRED COX,  
Medical Secretary.

March 21st, 1925.

## TABLE OF DATES.

April 25, Sat.	Last day for receipt of nominations for election of 24 members of Council by grouped Home Branches, and 4 Public Health members of Council, and 4 Public Health members of Council.
May 9, Sat.	Publication in SUPPLEMENT of nominations for election of 24 members of Council by grouped Home Branches, and 4 Public Health members of Council, and 4 Public Health members of Council. Voting papers posted.
May 12, Tues.	Independent motions for election of 24 members of Council by grouped Home Branches, 2 Public Health members of Council, and 4 Public Health Service Representatives.
May 16, Sat.	Last day for receipt of voting papers for election of 24 members of Council by grouped Home Branches, 2 Public Health members of Council, and 4 Public Health Service Representatives.
May 30, Sat.	Publication in SUPPLEMENT of independent motions for election of 24 members of Council by grouped Home Branches, 2 Public Health members of Council, and 4 Public Health Service Representatives. A.R.M. Agenda must be received by this date.
June 4, Thurs.	Publication in SUPPLEMENT of results of Council elections and of election of members of Council and Representatives in Representative Body by grouped Branches, and of election of members of Council and Representatives in Representative Body by grouped Branches and Representatives.
June 10, Wed.	Nomination papers available for election of 12 members of Council by grouped Home Representatives must be received by this date.
June 18, Thurs.	Names of Representatives and Deputy-Representatives must be received by this date.
June 27, Sat.	Council Meeting.
July 5, Fri.	Meetings of Constituencies must be held between this date and July 17th to instruct Representatives. Supplementary Report of Council appears in SUPPLEMENT. Amendments and riders for issue in A.R.M. Agenda must be received by this date.

## BRANCH AND DIVISION MEETINGS TO BE HELD.

**METROPOLITAN COUNTIES BRANCH: CITY DIVISION.**—A meeting of the City Division will be held at the Metropolitan Hospital, Kingland Road, E.8, on Tuesday, April 21st (not April 14th as previously arranged), at 9.30 p.m., when Professor Hugh Maclean, D.Sc., M.D., M.R.C.P., Director of Medical Unit, St. Thomas' Hospital, will read a paper entitled "Diabetes—its treatment: insulin up to date." A Divisional dinner and fancy dress dance and carnival—fancy dress optional (four prizes)—will be held at the Holborn Restaurant on Thursday, April 30th, from 7.30 p.m. to 2 a.m.; bridge. Refreshments during evening. Tickets 15s.; early application will be greatly appreciated by Dr. Ernest A. Worley (honorary secretary), 43, De Beauvoir Road N.1.

**METROPOLITAN COUNTIES BRANCH: HENDON DIVISION.**—The inaugural meeting of the Hendon Division will take place at the Refectory, facing Golders Green Station, N.W., on Thursday, April 23rd, at 8.30 p.m., when local members of the profession, in addition to members of the Division, are invited. Light refreshment will be served.

**METROPOLITAN COUNTIES BRANCH: KENSINGTON DIVISION.**—A general meeting of the Kensington Division will be held on Thursday, April 23rd, at the Kensington Palace Mansions Hotel, De Vere Gardens, W.8, at 8.45 p.m. An address will be given by Dr. Seymour Taylor, consulting physician to the West London Hospital, entitled "Some medical aphorisms."

**METROPOLITAN COUNTIES BRANCH: LEWISHAM DIVISION.**—A meeting of the Lewisham Division will be held at the Parish Room, St. Laurence Vicarage, Bromley Road, Catford, S.E.6, on Tuesday, April 21st, at 8.45 p.m., when Dr. F. A. Beattie will preside. Agenda: Mr. G. Gordon-Taylor, O.B.E., M.S., F.R.C.S.: Haemorrhages in connection with gastric and duodenal ulcers; election of Representative and Deputy Representative of the Division for the Annual Meeting at Bath; to receive report from Dr. Charsley on motion before Branch Council; any other business.

**METROPOLITAN COUNTIES BRANCH: SOUTH MIDDLESEX DIVISION.**—A meeting of the South Middlesex Division will be held at St. John's Hospital, Twickenham, on Wednesday, April 15th, at 8.15 p.m., for general business. At 8.30 p.m. Dr. H. C. Corry Mann, O.B.E., will read a paper on dietary during the school age.

**METROPOLITAN COUNTIES BRANCH: WESTMINSTER AND HOLBORN DIVISION.**—The annual general meeting of the Westminster and Holborn Division will be held at the Criterion Restaurant on Thursday, May 7th, at 8.30 p.m. After the business a paper will be read by Sir William J. Collins, K.C.V.O., M.D., F.R.C.S. entitled "The control of the traffic in drugs of addiction." The meeting will be preceded by dinner at 7.30, the price of which (5s.) should be paid to the Secretary at the table. A large attendance is hoped for.

**METROPOLITAN COUNTIES BRANCH: WILLESDEX DIVISION.**—A meeting of the Willesden Division will be held at the Willesden General Hospital, Harlesden Road, on Wednesday, April 22nd, at 9 p.m. Agenda: Election of Representative and Deputy Representative in the Representative Body; Annual Report of Council (published in this issue of the SUPPLEMENT).

**MIDLAND BRANCH: CHESTERFIELD DIVISION.**—At the meeting of the Chesterfield Division, to be held at the Maternity Hospital, Chesterfield, on Friday, April 17th, at 8.30 p.m., Mr. A. M. Connell, Professor of Surgery in the University of Sheffield, will give an address on injuries to the lower extremity.

**NORFOLK BRANCH.**—A meeting of the Norfolk Branch will be held at the Norfolk and Norwich Hospital at 3.30 p.m. on Wednesday, April 15th, when an address will be given by Dr. William Norwood East, Chief Medical Officer of H.M. Prisons Commission, on the interpretation of some sexual offences. Afternoon tea, 4.45.

**NORTH OF ENGLAND BRANCH: SUNDERLAND DIVISION.**—A scientific meeting of the Sunderland Division will be held at the Mental Hospital, Ryhope, on Wednesday, May 27th, at 3.30 p.m. All members of the Division are invited to be present.

**SOUTHERN BRANCH: WINCHESTER DIVISION.**—A meeting of the Winchester Division will be held at Lord Mayor Treloar Cripples Hospital and College, Alton, on April 23rd, at 3 p.m., when the wards will be open for inspection, and the various kinds of treatment, etc., in use explained. Sir Henry Gauvain has kindly invited members to tea at the conclusion of the meeting. It will be great convenience if members who intend to be present will not the honorary secretary (Dr. W. A. Bruce Young, Everthorpe, F Hill, Winchester) a few days before the meeting.

**SURREY BRANCH: CROYDON DIVISION.**—The annual dinner of the Guild-Croydon Division will be held at the Greyhound Hotel, Croydon, on Friday, April 17th, at 8 p.m.

**SURREY BRANCH: GUILDFORD DIVISION.**—A meeting of the Guildford Division will be held at the Royal Surrey County Hospital, Guildford, on Thursday, April 23rd, at 4 p.m., when Mr. Dudley Buxton will read a paper on the treatment of common disabilities of the feet. Tea will be served at 3.45 p.m.

**YORKSHIRE BRANCH: WAKEFIELD, PONTEFRAC, AND CASTLEFORD DIVISION.**—A meeting of the Wakefield, Pontefract, and Castleford Division will be held at the Bull Restaurant, Westgate, Wakefield, on Thursday, April 23rd, at 8.30 p.m., when Mr. J. F. Dobson, F.R.C.S. (Leeds), will read a paper on urological diagnosis illustrated with lantern slides. Supper at 8 o'clock.

# British Medical Association.

## NINETY-THIRD ANNUAL MEETING, BATH, JULY 21st to 24th, 1925.

Patron: HIS MAJESTY THE KING.

President: J. BASIL HALL, M.Chir., F.R.C.S., Consulting Surgeon, Royal Infirmary, Bradford.

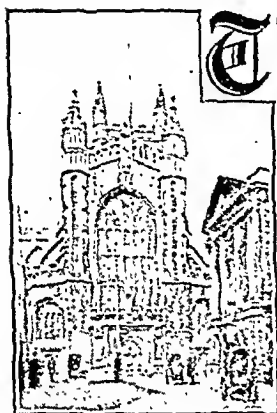
President-Elect: FREDERICK GEORGE THOMSON, M.A., M.D., M.R.C.P., Physician, Royal United Hospital, Bath.

Chairman of Representative Body: HENRY BRITTEN BRACKENBURY, M.R.C.S., L.R.C.P.

Chairman of Council: ROBERT ALFRED BOLAM, M.D., LL.D., F.R.C.P.

Treasurer: N. BISHOP HARMAN, M.A., M.B., F.R.C.S.

### PROVISIONAL PROGRAMME.



BATH ABBEY.

**T**HE incoming President will deliver his address to the Association on Tuesday, July 21st.

The ANNUAL REPRESENTATIVE MEETING will begin on Friday, July 17th, at 10 a.m., and be continued on the three following week-days.

The statutory ANNUAL GENERAL MEETING will be held on July 21st at 2 p.m., and the adjourned general meeting at 7.45 p.m.

The Annual Dinner of the Association will take place on Thursday, July 23rd.

The Conference of Secretaries will be held at 2.30 p.m. on Wednesday,

July 22nd, and the Secretaries' Dinner at 6.30 the same evening.

The Annual Exhibition of surgical appliances, foods, drugs, and books will be opened by the President-Elect on July 21st at 9.30 p.m., and will remain open on July 22nd, 23rd, and 24th.

A Popular Lecture will be delivered by Sir W. H. Bragg, K.B.E., F.R.S., on Friday, July 24th, at 8 p.m.

Saturday, July 25th, will be given up to excursions to places of interest in the neighbourhood.

A provisional time-table of the principal events appears on page 170.

### THE SECTIONS.

The Scientific Sections will meet from 10 a.m. to 1 p.m. for papers and discussions, and it is hoped that laboratory and clinical demonstrations will be arranged for the afternoons of July 22nd, 23rd, and 24th.

The following Sections will meet on Three Days—Wednesday, Thursday, and Friday, July 22, 23, and 24.

#### MEDICINE.

President: The Right Hon. Lord DAWSON OF PENN, G.C.V.O., K.C.M.G., C.B., M.D., F.R.C.P. (London).

Vice-Presidents: E. J. CAVE, M.D., F.R.C.P. (Bath); T. R. ELLIOTT, D.S.O., C.B.E., M.D., F.R.C.P., F.R.S. (London); Professor J. A. NIXON, C.M.G., M.D., F.R.C.P. (Bristol); Professor ADAM PATRICK, M.D., M.R.C.P. (Dundee); W. N. WEST WATSON, M.D. (Bradford).

Honorary Secretaries: F. G. CHANDLER, M.D., M.R.C.P., 1, Park Square West, Portland Place, London, N.W.1; JAMES LINDSAY, M.D., M.R.C.P., 1, The Circus, Bath.

#### SURGERY.

President: Sir BERKELEY MOYNIHAN, Bt., K.C.M.G., C.B., M.S., LL.D., F.R.C.S. (Leeds).

Vice-Presidents: A. H. BURGESS, M.B., F.R.C.S. (Manchester); FREDERICK LACE, F.R.C.S. (Bath); H. S. SOUTAR, C.B.E., M.Ch., F.R.C.S. (London); C. F. WALTERS, F.R.C.S. (Bristol).

Honorary Secretaries: A. DE V. BLAYNEY, M.R.C.S., L.R.C.P., 6, Brock Street, Bath; A. L. FULLER, F.R.C.S.I., 9, Gay Street, Bath; R. M. VICK, O.B.E., M.Chir., F.R.C.S., 152, Harley Street, London, W.1.

#### OBSTETRICS AND GYNAECOLOGY.

President: Lady BARRETT, C.B.E., M.D., M.S. (London).  
Vice-Presidents: H. S. DAVIDSON, O.B.E., M.B., F.R.C.S. (Edinburgh); EARDLEY L. HOLLAND, M.D., F.R.C.P., F.R.C.S. (London); W. F. RAWSON, F.R.C.S. (Bradford); D. C. RAYNER, F.R.C.S. (Bristol).

Honorary Secretaries: J. BRIGHT BANISTER, M.D., M.R.C.P., 19, Harley Street, London, W.1; W. H. DUNCAN, F.R.C.S. (Ed.), 35, Gay Street, Bath.

#### PATHOLOGY AND BACTERIOLOGY.

President: Professor J. C. G. LEDINGHAM, C.M.G., D.Sc., M.B., F.R.C.P., F.R.S. (London).

Vice-Presidents: J. A. BRAXTON HICKS, M.D., M.R.C.P. (London); Professor E. H. KETTLE, M.D. (Cardiff); RUPERT WATERHOUSE, M.D., M.R.C.P. (Bath).

Honorary Secretaries: Lieut.-Colonel JAMES COWAN, M.B., R.A.M.C. (ret.), 44, Combe Park, Bath; C. C. OKELL, M.B., M.R.C.P., Wellcome Physiological Research Laboratories, Langley Court, Beckenham, Kent.

#### NEUROLOGY AND PSYCHOLOGICAL MEDICINE.

President: Sir MAURICE CRAIG, C.B.E., M.D., F.R.C.P. (London).

Vice-Presidents: EDWIN BRAMWELL, M.D., F.R.C.P. (Edinburgh); ARTHUR P. HURST, M.D., F.R.C.P. (Aston); NORMAN LAYERS, M.D. (Bath); S. A. K. WILSON, M.D., F.R.C.P. (London).

Honorary Secretaries: RAY EDWARDS, M.R.C.S., L.R.C.P., 29, Gay Street, Bath; EDWARD MAPOTHER, M.D., M.R.C.P., Maudsley Hospital, Denmark Hill, London, S.E.5.

#### THERAPEUTICS (INCLUDING BALNEOLOGY AND RADIO-THERAPY).

President: Professor R. B. WILD, M.D., F.R.C.P. (Chislehurst, Derbyshire).

Vice-Presidents: PRESTON KING, M.D. (Bath); W. MITCHELL, M.B., C.M. (Bradford); NATHAN MUTCH, M.D., F.R.C.P. (London).

Honorary Secretaries: DOROTHY C. HARE, C.B.E., M.D., M.R.C.P., 1, Bickenhall Mansions, London, W.1; CECIL H. TERRY, M.B., 15, The Circus, Bath.

#### LARYNGOLOGY, OTOTOLOGY, AND RHINOLOGY.

President: ARTHUR H. CHEATLE, C.B.E., F.R.C.S. (London).

Vice-Presidents: NEIL MACLAY, M.B. (Newcastle-upon-Tyne); IRWIN MOORE, M.B., C.M. (London); SYDNEY R. SCOTT, M.S., F.R.C.S. (London).

Honorary Secretaries: H. N. BARNETT, F.R.C.S. (Ed.), 27, The Circus, Bath; R. SCOTT STEVENSON, M.D., 30, New Cavendish Street, London, W.1.

#### The following Sections will meet on Two Days.

##### DISEASES OF CHILDREN.

President: ROBERT HUTCHISON, M.D., F.R.C.P. (London).

Vice-Presidents: CAREY F. COOMES, M.D., F.R.C.P. (Bristol); P. T. CRYMBLE, F.R.C.S. (Belfast); CHARLES McNEIL, M.D., F.R.C.P. (Edinburgh); REGINALD H. MILLER, M.D., F.R.C.P. (London).

Honorary Secretaries: VINCENT COATES, M.C., M.D., 10, The Circus, Bath; R. A. RAMSAY, M.Ch., F.R.C.S., 123, Gloucester Terrace, Hyde Park, London, W.2.

##### OPHTHALMOLOGY.

President: W. MARDON BEAUMONT, M.R.C.S. (Bath).

Vice-Presidents: R. WALLACE HENRY, M.D. (Leicester); A. W. ORMOND, C.B.E., F.R.C.S. (London); C. H. WALKER, F.R.C.S. (Bristol).

Honorary Secretaries: R. COLLEY, M.B., D.O.M.S., 30, The Circus, Bath; P. G. DOYNE, M.B., F.R.C.S., 8, Harley Street, London, W.1.

##### ORTHOPAEDICS.

(One day being combined with Surgery.)

President: Professor E. W. HEY GROVES, M.S., F.R.C.S. (Bristol).

Vice-Presidents: NAUGHTON DUNN, M.B., Ch.B. (Birmingham); G. R. GIRDLESTONE, M.B., F.R.C.S. (Oxford); E. MUIRHEAD LITTLE, F.R.C.S. (London).

Honorary Secretaries: T. TWISTINGTON HIGGINS, O.B.E., F.R.C.S., 27, Harley Street, London, W.1; J. S. LEVIS, M.C., M.B., 20, Gay Street, Bath.



## PUBLIC MEDICINE.

**President:** T. EUSTACE HILL, O.B.E., M.B., D.H. (Durham).  
**Vice-Presidents:** T. W. NAYLOR BAILOW, O.B.E., M.R.C.S.,  
 L.R.C.P. (Wallasey); J. F. BLACKETT, M.D. (Bath); W. A. BREND,  
 M.D. (London); S. NOY SCOTT, M.R.C.S., L.R.C.P. (Plymouth).  
**Honorary Secretaries:** A. NEVILLE COX, M.D., M.R.C.P., 21, Corn-  
 wall Gardens, Preston Park, Brighton; R. E. THOMAS, M.D.,  
 11, Darlington Place, Bath.

*The following Section will meet on One Day.*

## MEDICAL SOCIOLOGY.

**President:** CHARLES E. S. FLEMING, M.R.C.S., L.R.C.P.  
 (Bradford-on-Avon).

**Vice-Presidents:** J. W. BONE, M.B., C.M. (Luton); WILFRED  
 BUCKLEY, C.B.E. (London); G. P. MALE, M.R.C.V.S. (Reading);  
 E. A. STARLING, M.B., M.Ch. (Tunbridge Wells).

**Honorary Secretaries:** C. J. BUCHAN, M.B., 326, Brownhill Road,  
 Catford, London, S.E.6; C. A. MARSH, M.D., The Roseries, English-  
 combe, Bath.

The following have been arranged:  
**Friday, July 17th.** What should be the  
 Standard of Food? by Dr. R. STENHOUSE  
 WILLIAMS (Reading), from the point of view of the bacteriologist;  
 Dr. W. G. SAVAGE (M.O.), from the point of view of the medical officer of  
 health; and Dr. J. H. MAGE  
 What Means can Pure Milk be Obtained, and the Cost? To be  
 opened by Mr. WILFRED BUCKLEY (National Clean Milk Society),  
 as a producer; Mr. J. H. MAGE  
 and Mr. J. H. MAGE  
 Two films will be  
 certified milk on an  
 of milk in New York City.

## THE PATHOLOGICAL MUSEUM.

THE committee responsible for the organization of the  
 Pathological Museum is anxious to secure the co-operation  
 of the officers of the various scientific Sections at the forth-  
 coming Annual Meeting in Bath of the British Medical  
 Association next July. The committee will be glad to take  
 charge of, and place in the museum for exhibition, any  
 specimens, casts, photographs, diagrams, or microscopic  
 slides during the time they are not required by those who  
 are reading papers or taking part in the discussions.  
 Every care will be taken of specimens, and the contents of  
 the museum will be insured.

## PROVISIONAL TIME-TABLE.

**FRIDAY, JULY 17TH.**

10.0 a.m.—Representative Meeting.  
 7.15 p.m.—Representatives' Dinner.

**SATURDAY, JULY 18TH.**

9.30 a.m.—Representative Meeting.  
 8.0 p.m.—Smoking Concert.

**SUNDAY, JULY 19TH.**

10.0 a.m.—Excursion to Cheddar, Glastonbury, and Wells.

**MONDAY, JULY 20TH.**

9.0 a.m.—Council Meeting.  
 10.0 a.m.—Representative Meeting.  
 7.45 p.m.—Gala Performance, Theatre Royal.

**TUESDAY, JULY 21ST.**

9.30 a.m.—Official Opening of Annual Exhibition.  
 10.15 a.m.—Representative Meeting.  
 2.0 p.m.—Annual General Meeting, followed by Representative  
 Meeting.  
 4.30 p.m.—Official Reception.  
 7.45 p.m.—Dinner.  
 9.30 p.m.—Ladies' Ball.

**WEDNESDAY, JULY 22ND.**

9.0 a.m.—Council Meeting.  
 10.0 a.m.—Sectional Meetings.  
 2.30 p.m.—Secretaries' Conference.  
 6.0 p.m.—Secretaries' Dinner.  
 8.30 p.m.—Civic Reception and Dance.

**THURSDAY, JULY 23RD.**

9.0 a.m.—Dinner.  
 1.0 p.m.—Ladies' Ball.  
 7.0 p.m.—Dinner and Childs Cnps.  
 9.0 p.m.—Ladies' Ball.  
 1.0 p.m.—Dinner.  
 7.0 p.m.—Dinner and Childs Cnps.  
 9.0 p.m.—Ladies' Ball.

**FRIDAY, JULY 24TH.**

10.0 a.m.—Sectional Meetings.  
 2.0 p.m.—Golf Competition for Treasurer's Cup.  
 8.0 p.m.—Popular Lecture.  
 9.0 p.m.—Ladies' Ball.

The Honorary Local General Secretary is Mr. W. G.  
 MUMFORD, O.B.E., F.R.C.S. (British Medical Association  
 Committee Rooms, Assembly Rooms, Bath); and the  
 Honorary Assistant Secretary is Dr. R. G. GORDON.

## Meetings of Branches and Divisions.

## BIRMINGHAM BRANCH: NUNEATON AND TAMWORTH DIVISION.

A MEETING of the Nuneaton and Tamworth Division was held in  
 Nuneaton General Hospital on April 1st. Attention was drawn to  
 the Current Note in the SUPPLEMENT of February 23th with refer-  
 ence to life insurance without medical examination. After discussion  
 the following resolution was carried:

"That, in cases where an insurance company accepts a life without  
 medical examination, this Division disapproves of the furnishing of  
 any information to the company after the death of the insured  
 person."

Mr. C. A. RAISSON, F.R.C.S., read a most interesting and com-  
 prehensive paper on the "acute abdomen" in the child. The  
 paper, which was illustrated by charts and pathological specimens,  
 dealt especially with the diagnosis and differential diagnosis of  
 intussusception, acute appendicitis, pneumococcal peritonitis, and  
 intestinal obstruction. After a short discussion a hearty vote of  
 thanks was accorded to Mr. Raison for his valuable paper.

## SURREY BRANCH: CROYDON DIVISION.

A MEETING of the Croydon Division was held at the Croydon General  
 Hospital on March 31st, when Dr. F. G. SWAYNE was in the chair.  
 A letter was read from Dr. A. D. Macpherson, Assistant Medical  
 Secretary, congratulating the Division on the increase of member-  
 ship and pointing out that the Division was now eligible to appoint  
 two members to the Representative Body. The Representative,  
 Dr. C. G. C. SCUDAMORE, and the Representative of the Local  
 Medical and Panel Committees, Dr. G. G. GERRARD, reported on the  
 proceedings of the combined meeting of the Representative Body  
 of the British Medical Association and the Panel Conference, held  
 at the Central Hall, Westminster, on March 12th. The Honorary  
 Secretary was instructed to make arrangements for the annual  
 dinner to be held on April 17th.

In the absence of Dr. H. W. Barber, owing to illness, Dr. H. C.  
 SMOX attended and gave an address on the causes, symptoms, and  
 treatment of some common skin diseases—impetigo, contagiosa  
 pediculi, scabies, eczema of feet, pityriasis sicca, pruritus  
 ani. A discussion followed, in which Drs. RICHMOND, GERRARD, J. W.  
 WATTS, PINKERTON, REYNOLDS, and BROOK took part. On the pro-  
 position of Dr. PINKERTON, seconded by Dr. WATTS, a vote of thanks  
 to Dr. Semon for coming at such short notice and giving such a  
 valuable, instructive, and interesting address was carried with  
 acclamation.

## National Insurance.

## THE ROYAL COMMISSION.

THE twenty-fourth meeting of the Royal Commission on  
 National Health Insurance was held at the Home Office on  
 April 2nd, Sir Andrew Duncan in the chair. Evidence was  
 given on behalf of the National Federation of Employees'  
 Approved Societies by Mr. Henry Lesser, president of the  
 federation. Sir Thomas M. Legge, M.D., of the Home Office,  
 senior medical inspector of factories, gave evidence on the  
 medical work in factories and workshops, and suggested possi-  
 bilities of development in that work. Mr. V. L. Bilbey, the clerk  
 in charge of the Ministry of Health inquiry room, was examined  
 as to the volume and nature of the inquiries and complaints  
 made by employers and insured persons.

Proof copies of the oral evidence and the relative statements  
 submitted at the meeting of March 19th may be obtained from  
 H.M. Stationery Office, Adastral House, Kingsway, London, W.C.2,  
 on remittance of cost (4s. 6d.) and postage.

## NATIONAL INSURANCE INQUIRIES.

## CHARGES OF SLACKNESS.

A REPORT has been received from the Ministry of Health  
 dealing with an inquiry held at Burton-on-Trent on January  
 21st under the Medical Benefit Regulations, on a representation  
 by the Burton Insurance Committee that the continuance of  
 Dr. V on the medical list would be prejudicial to the efficiency  
 of the medical service of the insured.

Both the complainants and the respondent were legally repre-  
 sented, and the Insurance Committee called a number of witnesses,  
 who gave their evidence on oath, while the respondent gave  
 evidence on oath on his own behalf, but called no witnesses. It  
 appeared that the respondent has been on the panel list since its  
 inception and has over 2,000 persons on his list. He resides  
 between half and three-quarters of a mile from his surgery, and  
 one of the charges made was that on numerous occasions he had  
 not attended at his surgery at the arranged hours, 9 a.m. to  
 10 a.m., and had failed to provide for any medical substitute or  
 to notify the Insurance Committee, and as a result patients had  
 often waited for an hour or more and had to go away without  
 seeing him. Dr. V admitted this charge, but pleaded in extenu-  
 ation that he suffered from a dilated heart and angina pectoris,  
 that owing to this he had been off work altogether for eleven  
 weeks in early 1924, during which he had a "sacred" period,  
 and since then he often had attacks coming on suddenly and prevent-  
 ing his attendance at his surgery. Moreover, he said that on  
 certain occasions he had sent his chauffeur to the surgery to inform  
 any waiting patients that he was unable to attend at the surgery  
 but might be seen at his residence. Evidence was given that this

had been done, but generally not until about 10 a.m. The Inquiry Committee accepted Dr. V's evidence that on certain occasions he had not been fit to attend at the surgery, but on other occasions, the Committee thought, his late arrival at the surgery must be ascribed to slackness, and that, having regard to his condition, he should have made some arrangement in advance to ensure that his patients would be properly treated if he should be prevented by a heart attack from going to his surgery.

In the case of a woman patient evidence was given that the respondent had been asked to visit her at her home and had failed to call, though he had given the messenger medicine for her, and as he did not call another doctor had had to be called in. Dr. V said he had no recollection of being asked to visit, but the Inquiry Committee was satisfied that he had been asked and had neglected to call, and this charge was held to have been established. At the same time the Committee thought that the respondent's illness should be taken into account in extenuation, and that his neglect should be ascribed to forgetfulness rather than to wilfulness.

The third charge was that he had failed to treat properly a man whose hand had been injured in an accident. The charge of neglect in treatment was held to be not established, but a further charge in the same case, that Dr. V had deliberately antedated a certificate, was held to be established.

A fifth charge was that on February 20th Dr. V had been asked to call on a patient and had failed to do so. He stated that he had no recollection of being asked to visit; the messenger did not attend at the Inquiry, and the charge was held to be not established. But it appears that the patient in question, later, on February 25th, himself went to see the respondent at his surgery, and though Dr. V had not seen him on February 20th he gave him a certificate on which February 20th was entered as the date of examination and the date of signing the certificate. The Inquiry Committee could not accept the respondent's plea that this was done inadvertently, but considered that the antedating was done deliberately, and this charge was regarded as established.

A further charge was that Dr. V had accepted for treatment a number of temporary residents, but had failed to supply the Insurance Committee with the necessary record of treatment rendered, and further, that he had taken no notice of letters from the Insurance Committee asking for such records. The Inquiry Committee could not accept the excuse put forward that he did not understand the matter and had let it drift, hoping to see the clerk of the Insurance Committee. This charge was accordingly held to be established and respondent's behaviour was held to be "due to gross slackness."

A somewhat similar charge related to failure to send in the necessary reports about three tuberculosis cases, and neglect to reply to letters from the tuberculosis officer and the regional medical officer asking for such reports. The Inquiry Committee held this also to be established, and the respondent's behaviour to be "due to gross slackness."

It was also established that Dr. V had unduly delayed the sending in of his medical record cards, though he had improved in this respect recently. He had, however, persisted in allowing a clerk to sign his "acceptances" though he had been warned that the regulations required him to sign "acceptances" personally.

In summing up, the Inquiry Committee found that the respondent had been persistently and seriously slack in the observance of his terms of service. He expressed his regret for the inconvenience he had caused to the Insurance Committee and his patients, and ascribed his faults to his ill health, and that later, when he found he was in bad odour with the Insurance Committee, he had lacked the courage to grapple with the situation and had let matters drift. The Inquiry Committee could only accept ill health as a palliation to a very small extent, and thought that "the root of the trouble was an ingrained habit of slackness and procrastination." In the circumstances the Committee recommended that he should pay the costs of the Insurance Committee incidental to the inquiry.

As the result of the inquiry the Minister of Health has decided not to remove Dr. V's name from the medical list, but that in addition to paying the costs of the Insurance Committee the sum of £100 is to be deducted from his remuneration; and he is warned that if any further representations as to failure on his part to comply with his obligations are established the Minister would have no option but to remove his name from the list.

## Correspondence.

### Certification Rules.

SIR,—In the SUPPLEMENT of April 4th the Proceedings of Council are reported, and in that necessarily abridged report Dr. Braekenburg is represented as saying: "The Barnstaple Division . . . had put up a series of amendments which would have resulted in changing what might possibly be under-emphasis in the original document into overemphasis, with some inaccuracy of statement."

The question of under-emphasis or over-emphasis is a matter of individual opinion. Dr. Braekenburg's opinion is, of course, bound to carry very great weight. Judging, however, from the attitude of the members of the Conference present when this matter was discussed, the view here expressed would not be endorsed by the majority of that Conference.

With regard to the last part of the sentence quoted, "inaccuracy of statement" is a very different matter, and some further explanation is desirable. Every member of the Conference had a printed copy of the amendments supplied him. In spite of that fact, no one questioned the accuracy of any amendments or of any statement made in their support. It is suggested that the Barnstaple Division has a right to ask for a letter in next week's JOURNAL from a member of the Council showing wherein their amendments were deserving of this criticism.

Perhaps they are the more entitled to ask this, since, if correctly reported, Dr. Braekenburg is himself guilty of "inaccuracy of statement" two lines lower down, when he speaks of meeting the "Barnstaple position." Surely when the Conference refers a resolution to the Council that resolution ceases to be a local (Barnstaple) question, but now becomes a question which affects the whole community.—I am, etc.,

Barnstaple, April 5th.

HERBERT C. JONAS.

### Checking Panel Lists.

SIR,—The Insurance Act authorities would appear to be trying to trace each separate member on the panel lists of doctors. Their method seems to be to write a letter to each member. If no answer be forthcoming, the person in question is taken to be non-existent, and the corresponding envelope-record-card is recalled.

In the case of myself this has happened. But this method is hardly satisfactory; in about one case in twelve it is wholly unmiss. For letters in this proportion were sent out, and when no answer was returned by the post their record envelopes were demanded back. But it happened that to my knowledge such persons were still living at the addresses written to. But such a high percentage of error will amount up to very big proportions when applied to some 15,000,000 insured persons. Also, it is hardly fair to the individual member—or to the doctor.—I am, etc.,

April 4th.

M.A. OXON.

## Naval and Military Appointments.

### ROYAL NAVAL MEDICAL SERVICE.

SURGEON COMMANDERS M. T. Hale to the *Royal Oak*; G. Nuna, O.B.E., and G. A. S. Hamilton to the *Victory*, for R.N. Barracks, Portsmouth; J. H. McDowell to the *Fidra*, for R.N. Barracks, Devonport; B. R. Bickford, D.S.O., to the *Families*; J. H. D. Martin to the *Vindictive*, on commissioning; H. E. Scargill to the *Pembroke*, for R.N. Hospital, Chatham.

SURGEON LIEUTENANT COMMANDERS W. G. Thwaites to the *Fidra*, for R.N. Barracks, Devonport, temporary; F. J. D. Twigg to the *Iron Duke*; J. F. Pao to the *Renege*; J. E. Ainley to the *Vindictive*, on commissioning.

SURGEON LIEUTENANTS W. J. McB. Allan to the *Columbine*, additional for Naval Base, Port Edgar; R. B. McVicker to the *Families*; R. G. Anthony to the *Cockchafer*; J. H. B. Crobie to the *Fidra*, for R.N. Infirmary, Plymouth; L. McGuck to the *Vindictive*, supernumerary on arrival of *Vindictive* on station; J. B. Horan to the *Greenrich*; R. L. G. Proctor to the *Renege*; A. H. Harkins to the *Columbine*, for R.N. Hospital, Portsmouth.

SURGEON LIEUTENANTS H. B. Parker, D.S.C., and J. L. Preston have been . . . . . Surgeon Commander.

### ARMY MEDICAL DEPARTMENT.

Colonel T. C. MacKenzie, D.S.O., R.A.M.C.(ret.), has been temporarily appointed Deputy Assistant Director-General at the War Office, vice Lieut.-Colonel E. C. Montgomery-Smith, C.M.G., D.S.O., R.A.M.C.(T.A.), vacated.

### INDIAN MEDICAL SERVICE.

Colonel A. W. R. Cochrane, Inspector-General of Civil Hospitals, United Provinces, is granted leave on average pay for three months. Lieut.-Colonel G. Hutchison is appointed to officiate as Inspector-General of Civil Hospitals, United Provinces, during Colonel Cochrane's absence on leave.

The services of Lieut.-Colonel F. W. Sumner, Civil Surgeon, Simla (East), are replaced at the disposal of the Government of the United Provinces.

Lieut.-Colonel J. M. A. Macmillan is appointed to be Civil Surgeon, Simla (East).

Major W. S. Nelson to be Lieutenant-Colonel.

Major G. M. Millar, O.B.E., an Agency Surgeon, is granted combined leave for one year.

### TERRITORIAL ARMY.

#### ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel (Breret Colonel) C. R. White, D.S.O., T.D., from R.A.M.G.(T.A.), to be Colonel, with precedence as from February 16th, 1924, and Assistant Director of Medical Services, 53rd (Welsh) Division, vice Colonel H. T. Samuel, D.S.O., T.D., vacated on completion of tenure of appointment.

Major F. T. Rces, M.C., to be Lieut.-Colonel, and to command 53rd (3rd Western) Casualty Clearing Station.

Captain A. A. Finnigan (late unattached list, O.T.C.) to be Lieutenant, with precedence as from June 1st, 1924, and relinquishes the rank of Captain.

Lieutenant E. B. Murrell (late R.F.A., S.R.) to be Lieutenant. A. M. Robertson to be Lieutenant, with precedence as from September 5th, 1924.

## VACANCIES.

- BURNSLEY:** BECKETT HOSPITAL AND DISPENSARY.—(1) House-Physician. (2) Junior House-Surgeon. Salary at the rate of £140 per annum each.
- BELFAST:** ULSTER HOSPITAL FOR CHILDREN AND WOMEN.—Honorary Assistant Surgeon to the Children's Department.
- BIRMINGHAM:** QUEEN'S HOSPITAL.—(1) Resident Anaesthetist. (2) Clinical Assistant in the Out-patient Department of the Birmingham and Midland Hospital for Diseases of the Nervous System. Honorarium for (1) £70 to £100 per annum and for (2) £50 per annum.
- BIRMINGHAM UNION:** Resident Assistant Medical Officer (junior) at the Selly Oak Hospital. Salary £300 per annum, rising to £400.
- BRIGHTON:** NEW SUSSEX HOSPITAL.—Honorary Assistant Anaesthetist.
- BRISTOL CITY AND COUNTY:** Resident Medical Superintendent for the Southmead Hospital. Salary £650 per annum, rising to £800.
- CARDIFF:** PRINCE OF WALES'S HOSPITAL FOR CRURALS AND LIMBS.—Resident House-Surgeon.
- CHESTER:** CITY AND COUNTY OF THE CITY OF CHESTER.—Assistant Medical Officer of Health. Salary £600 per annum.
- CHORLEY HOSPITAL:** House-Surgeon (male). Salary £150 per annum.
- COUNTY MENTAL HOSPITAL:** Mickleover, near Derby.—Junior Assistant Medical Officer (male). Salary £350 per annum, rising to £450, and £50 extra for D.P.M.
- CROYDON COUNTY BOROUGH:** Deputy Medical Officer of Health and Deputy School Medical Officer. Salary £780 per annum.
- DORSET COUNTY HOSPITAL:** Dorchester.—Honorary Dental Surgeon.
- EGYPTIAN GOVERNMENT:** Assistant Professor of Chemistry at the Cairo School of Medicine. Initial salary of ££720 a year in a class ££720-£50.
- FRENCH HOSPITAL AND DISPENSARY:** 172, Shaftesbury Avenue, W.C.2.—Radiographer.
- HARTLEPOOL HOSPITAL:** House-Surgeon (male). Salary at the rate of £150 per annum.
- LONDON LOCK HOSPITAL:** 91, Dean Street, W.1.—House-Surgeon at the Male Lock Hospital. Salary at the rate of £200 per annum.
- LONDON TEMPERANCE HOSPITAL:** Hampstead Road, N.W.1.—Surgical Registrar. Honorarium 40 guineas.
- MANCHESTER ROYAL INFIRMARY:**—(1) Assistant Resident Surgical Officer; salary at the rate of £150 per annum. (2) House-Surgeon (male) for the Aural, Gynaecological, and Ophthalmic Departments, salary at the rate of £50 per annum.
- METROPOLITAN ASYLUMS BOARD:** Assistant Medical Officer in the Children's Service at the Downs Hospital for Children, Sutton. Salary £550, rising to £600.
- METROPOLITAN HOSPITAL:** Kingsland Road, E.8.—(1) Surgeon for Diseases of the Nose, Throat, and Ear. (2) Senior House-Physician. (3) Senior House-Surgeon. (4) Junior House-Physician. (5) Junior House-Surgeon. (6) Two Casualty Officers. Salary (2)-(5) £100 per annum.
- MIDDLEBROUGH:** NORTH GOMESAY HOSPITAL.—Resident Surgical Officer (male). Salary £150 per annum.
- NEWCASTLE-UPON-TYNE:** ROYAL VICTORIA INFIRMARY.—Medical Registrar. Remuneration at the rate of £50 per annum.
- NOTTINGHAM CITY:** Resident Assistant Medical Officer at the Ragthorpe Institution and Infirmary. Salary at the rate of £200 per annum.
- OLDHAM UNION:** Resident Assistant Medical Officer. Salary £300 per annum.
- PRINCE OF WALES'S GENERAL HOSPITAL:** Tottenham, N.15.—(1) Honorary Medical Registrar. (2) Honorary Surgical Registrar. (3) Honorary Assistant Surgeon to the Ear, Nose, and Throat Department. Honorarium for (1) and (2) £200 per annum.
- PURNEY HOSPITAL:** S.W.15.—Resident Medical Officer (male). Salary £150 per annum.
- QUEEN'S HOSPITAL FOR CHILDREN:** Hackney Road, E.2.—(1) Assistant Surgeon. (2) Clinical Assistant in the Surgical (Orthopaedic) Out-patient Department.
- ST. VINCENT'S ORTHOPAEDIC HOSPITAL:** Eastcote, Middlesex.—Resident Medical Officer (male). Salary at the rate of £150 per annum.
- SHEFFIELD ROYAL INFIRMARY:**—(1) Surgical Registrar; salary £200 per annum. (2) House-Surgeon; salary £80 per annum. (3) Dental Surgeon.
- SOUTHES HILL MENTAL HOSPITAL:** Kirkburton, near Huddersfield. Assistant Medical Officer. Salary £400 per annum.
- WHITEHAVEN AND WEST CUMBERLAND INFIRMARY:**—Secretary. Salary £250 per annum.
- YORK CITY:** Assistant Medical Officer of Health, School Medical Officer, and Tuberculosis Officer (female). Salary £500 per annum.
- YORK MIXEDITY HOSPITAL:** House-Surgeon. Salary at the rate of £250 per annum.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Tuesday morning.

## APPOINTMENTS.

- DICKINSON, K. Shalleross, M.R.C.S., L.R.C.P.,** Honorary Medical Officer to the Northern Counties Hospital for Diseases of the Chest, Newcastle-upon-Tyne.
- EVANS, Edward Allan, M.R.C.S.,** Surgeon for Diseases of the Ear and Throat, Carmarthen Infirmary.
- MARTIN, Basil W., M.B., B.Ch.,** Regional Medical Officer to the Ministry of Health.
- ROYAL VICTORIA INFIRMARY:** Newcastle-upon-Tyne.—Honorary Assistant Physician to the Electrical and X-ray Department: S. W. Davidson, M.B., B.S., M.R.C.P. Honorary Medical Registrar: C. N. Armstrong, M.B., B.S. House-Physicians: A. H. Cole, M.B., B.S., Miss S. B. Allan, M.B., B.S., P. Lishman, M.B., B.S., J. Stokoe, M.B., B.S. House-Surgeons: J. O. Yeoman, M.B., B.S., K. V. Milburn, M.B., B.S., D. Bell, M.B., B.S., M. H. Jones, M.B., B.S., A. G. Ogilvie, M.B., B.S., J. F. Colman, M.B., B.S. House-Surgeon to Throat, Nose, Eye, and Ear Department: J. J. D. Naismith, M.B., B.S. House-Surgeon to Skin and Venereal Department: R. E. Holme, M.B., B.S. House-Surgeon to Gynaecological Department: T. H. Meek, M.B., B.S. House-Surgeons to Accident Room: W. F. Lascelles, M.B., B.S., Miss C. B. Schofield, M.B., B.S. House-Surgeon to Out-patient Dressing Department: J. Blair Hartley, M.B., B.S.

## DIARY OF SOCIETIES AND LECTURES.

## ROYAL SOCIETY OF MEDICINE.

**Section of Electro-Therapeutics:** Fri., 8.30 p.m., Sir Henry Gairdner: Organization and Work of a Light Department in a Surgical Tuberculosis Hospital. Dr. G. Murray Levick: Selection of Apparatus for Production of Artificial Sunlight; Professor Russ and Dr. Perceval: Ultra-violet Radiation.

## POST-GRADUATE COURSES AND LECTURES.

**CENTRAL LONDON THROAT, NOSE, AND EAR HOSPITAL:** Gray's Inn Road, W.C.1.—Fri., 4 p.m., Diseases of the Labyrinth.

**WEST LONDON HOSPITAL POST-GRADUATE COLLEGE:** Hammermith, W.—Tues., 12 noon, Chest Cases. Wed., 2.30 p.m., Surgical Wards. Thurs., 2 p.m., Genito-urinary Department. Fri., 2 p.m., Throat, Nose, and Ear Department. Daily 10 a.m. to 6 p.m., Sat., 10 a.m. to 1 p.m., In- and Out-patients, Operations, Special Departments.

**GLASGOW POST-GRADUATE MEDICAL ASSOCIATION:** At Western Infirmary.—Wed., 4.15 p.m., Surgical Cases.

## British Medical Association.

OFFICES AND LIBRARY, 423, STRAND, LONDON, W.C.2.

## Reference and Lending Library.

**THE READING ROOM,** in which books of reference, periodicals, and standard works can be consulted, is open to members from 10 a.m. to 6.30 p.m., Saturdays 10 to 2.

**LENDING LIBRARY:** Members are entitled to borrow books, including current medical works; they will be forwarded if desired, on application to the Librarian, accompanied by Ed. for each volume for postage and packing.

## Departments.

**SUBSCRIPTIONS AND ADVERTISEMENTS:** (Financial Secretary and Business Manager. Tel. 4361 Central.) London.

**MEDICAL SECRETARY:** and London.

**EDITOR, British:** Antiology Westrand, London.

Telephone number for all departments: Gerrard 2630 (5 lines).

**SCOTTISH MEDICAL SECRETARY:** 6, Rutland Square, Edinburgh (Telegrams: Associate, Edinburgh. Tel.: 4361 Central).

**IRISH MEDICAL SECRETARY:** 16, South Frederick Street, Dublin (Telegrams: Bacliar, Dublin. Tel.: 4737 Dublin.)

## Diary of the Association.

- 15 Wed.** Norfolk Branch: Norfolk and Norwich Hospital. Address by Dr. W. Norwood East on the Interpretation of Some Sexual Offences, 3.30 p.m.
- South Middlesex Division:** St. John's Hospital, Twickenham. General Business, 8.15 p.m.; Paper by Dr. H. C. Corry Mann on Dietary during the School Age, 8.30 p.m.
- 17 Fri.** Chesterfield Division: Maternity Hospital, Chesterfield. Address by Mr. A. M. Connell on Injuries to the Lower Extremity, 8.30 p.m.
- Croydon Division:** Annual Dinner, Greyhound Hotel, Croydon, 8 p.m.
- 21 Tues.** City Division: Metropolitan Hospital, Kingsland Road, E.8. Paper by Dr. H. Maclean on Diabetes—its Treatment: Insulin up to Date, 9.30 p.m.
- Lewisham Division:** Parish Room, St. Laurence Vicarage, Bromley Road, S.E.6. Paper by Mr. G. Gordon-Taylor on Haemorrhages in connexion with Gastric and Duodenal Ulcers, 8.45 p.m.
- 22 Wed.** London: Medical Charities Committee, 2.30 p.m.
- Willisden Division:** Willisden General Hospital, 9 p.m.
- 23 Thurs.** London: Special Committee on Puerperal Morbidity and Mortality, 2.30 p.m.
- Guildford Division:** Royal Surrey County Hospital, Guildford. Paper by Mr. Dudley Buxton on the Treatment of Common Disabilities of the Feet, 4 p.m. Tea, 3.45 p.m.
- Hendon Division:** Inaugural Meeting, The Rectory, facing Golders Green Station, 8.30 p.m.
- Kensington Division:** Kensington Palace Mansions Hotel, De Vere Gardens, W.8. Address by Dr. Seymour Taylor on Some Medical Aphorisms, 8.45 p.m.
- Winkfield, Pontefract, and Castleford Division:** Bull Restaurant, Westgate, Winkfield. Paper by Mr. J. F. Dobson on Urinary Diagnosis, 8.30 p.m. Supper, 8 p.m.
- Winchester Division:** Lord Mayor Treloar Cripples' Hospital and College, Alton, 3 p.m.
- 30 Thurs.** City Division: Divisional Dinner and Dance, Holborn Restaurant, 7.30 p.m.
- 7 Thurs.** Kensington Division: May. Divisional Dance, Kensington Town Hall.
- Westminster and Holborn Division:** Annual General Meeting, Criterion Restaurant. Dinner, 7.30 p.m. Paper by Sir W. J. Collins on the Control of the Traffic in Drugs of Addiction, 8.30 p.m.
- 27 Wed.** London: Finance Committee, 2.30 p.m.
- Sunderland Division:** Scientific Meeting, Mental Hospital, Ryhope, 3.30 p.m.

## BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcement of Births, Marriages, and Deaths is 2s.; which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.

## BIRTH.

**COOPER.**—On March 28th, at Streatham Manor Nursing Home, London, to May, wife of Mervyn C. Cooper, M.C., M.R.C.S. Eng., L.R.C.P. Lond., a son.

## DEATH.

**FLEMING.**—At Lynwood, Castle Eden, County Durham, on March 23rd, Dr. Andrew Chalmers Fleming, late of Kila-Ora, Shotton, beloved husband of Grace Fleming, nee Vickers.

# SUPPLEMENT TO THE BRITISH MEDICAL JOURNAL.

LONDON, SATURDAY, APRIL 18TH, 1925.

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### SPECIAL NOTICE TO MEMBERS.

Every Member is requested to preserve this "Supplement," which contains matters specially referred to Divisions, until the subjects have been discussed by the Division to which he or she belongs.

### Correspondence.

#### *The Liberties of the Profession.*

SIR,—I think it can hardly be doubted that, if the Joint Conference could meet again, the motion of the Cheshire Panel Committee (SUPPLEMENT, March 21st, p. 116) would be passed by a substantial majority.<sup>1</sup> As one of those who voted in favour of that motion, and being much fortified in my opinion by recent events, I would plead for its reconsideration.

First, neither the diphtheria case, nor another within my experience where a fine of £5 was inflicted for an offence so trivial that the complaining society, who had been misinformed by their sick visitor, desired to withdraw it, would seem to come within the ambit of the resolution actually passed. In the first instance, the essence of the case is that no offence was committed, and, in the second, it has been pleaded that £5 is the minimum fine.

Next, the fear of appeals to the courts by other parties daunts no not at all. The opportunity to give evidence on oath, and submit to really skilled cross-examination, would not, I think, entice such complainants as I have met. On the contrary, the possibility of such event would, I think, be a most useful deterrent to officious busybodies and overzealous sick visitors. In any case, the notion that we have the least reason to fear competition in the courts seems to me a most dangerous one to promote. As to the legal position, I hesitate to criticize Dr. Brackenbury, but, after study of the evidence given before the Royal Commission, I submit that neither the power to remove from the panel, nor that to inflict fines, rests in any way upon constitutional usage. The first is derived exclusively from Section 15 (2) of the Act of 1911, defining the powers of the Commissioners; the second depends entirely upon the conditions as to adequacy of service attached to the Exchequer grant of 2s. 6d. These conditions implied that the added pay was too much for the service demanded, and were in the nature of a punishment for the resistance of the doctors to the Act. Societies did not resist, because they had already privately exacted such terms that they could not possibly demand more. They included complete mastery over doctors, the perpetuation of the worst abuse of the old club system, very generous remuneration, and a free gift of between 10 and 20 million pounds! Differential treatment against the doctors was therefore iniquitous even then, and the

last excuses for its continuance were completely removed with the arbitration award of 1920, and the departmental decision of 1921, which, after adequate experience of the work of both, settled the allowance of doctors and societies respectively, and with the final disappearance, first of the 2s. 6d. Exchequer grant, and then of the supplementary grant, in the Act of 1924.

It seems to me that, as I have already stated elsewhere, we have excellent reason to dispute the autoeracy of the Minister on the first count, on the grounds that Parliament did not contemplate his investiture with such powers, and as regards the second, to claim either that the whole system of fines be abandoned, or that it be applied equitably to society officers and doctors alike. In these circumstances the proposal of Cheshire seems to me a very mild and entirely excellent one, which should be embodied in our evidence before the Royal Commission. It would very rarely come into operation, but be an invaluable safeguard. —I am, etc.,

Cluchester, April 5th.

G. C. GARRATT.

### Meetings of Branches and Divisions.

#### BIRMINGHAM BRANCH: WEST BROMWICH DIVISION.

The second regular meeting of the West Bromwich Division was held on April 1st. Mr. HERBERT POTTER, F.R.M.S., gave a most interesting address on marine zoology, and showed many beautiful slides. The formation of a local Hospitals Committee was considered; this matter will be dealt with in conjunction with the staff of the West Bromwich and District Hospital.

#### SUFFOLK BRANCH: WEST SUFFOLK DIVISION.

The annual general meeting of the West Suffolk Division was held at the West Suffolk General Hospital, Bury St. Edmunds, on March 31st.

The SECRETARY announced the result of the Treasurer's Golf Cup Competition, in which Dr. H. G. Kilner was the winner. The annual report and balance sheet were received and adopted.

A vote of thanks to Dr. WOOD for his hospitality last summer was, on the motion of the CHAIRMAN, carried unanimously.

The following officers were elected for the ensuing year:

Chairman, Dr. R. W. Rix. Vice-Chairman, Dr. T. H. Goodman. Secretary and Treasurer, Dr. B. E. A. Batt. Representative in Representative Body, Dr. O. R. M. Wood. Deputy Representative, Dr. J. D. Batt.

The Golf Competition Subcommittee was re-elected as follows: Dr. F. R. Barwell, Dr. B. E. A. Batt, Dr. W. F. Bennett, Dr. C. Tylor.

Dr. H. A. Lucas read an interesting paper on the value of laboratory investigations in general practice. He discussed principally blood examinations, cerebro-spinal fluid, and test meals. The paper dealt entirely with practical points, and was received with very great interest. It was followed by a discussion, in which several members took part, and an exhibition of microscope slides.

On the motion of the Chairman, Dr. R. W. Rix, seconded by Dr. HINZELL, a vote of thanks to Dr. Lucas was carried with acclamation.

<sup>1</sup> The Cheshire motion had reference to the procedure for dealing with complaints. It ran: "That paragraph 40 (4) be so altered that no appeal may be made not only with the object of mitigation of penalty, but on the merits of the case." It was lost by 79 to 65 votes.

MATTERS REFERRED TO DIVISIONS.

ANNUAL REPORT OF COUNCIL, 1924-25—(continued).

FINANCIAL STATEMENT FOR THE TWELVE MONTHS ENDING 31ST DECEMBER, 1924.

Balance Sheet 31st December, 1924.

Cr.

Dr.	LIABILITIES.		ASSETS.		Cr.
	1923 £	1924 £ s. d.	1923 £	1924 £ s. d.	
To Creditors for—			By FREEHOLD PREMISES—		
Subscriptions paid in advance ...	1,365	1,180 14 3	429, Strand, Agar Street, and Harvey's Buildings	119,015 6 9	
Advertisements ditto ...	377	1,182 8 4	Less amount written off for Depreciation, 1924 ...	1,250 0 0	117,760 6 9
Publishing ditto ...	17	23 9 5	By LEASEHOLD PREMISES—		
Cleaning Offices ...	40	67 17 3	Taylors Square, W.C.	50,500 0 0	
Contributions ...	264	347 1 1	Add amounts on account of Alterations and Decorations	12,370 0 0	
Engraving ...	55	17 11 9	£2,000 New South Wales 5% 1921—1924 at cost (63%)	62,870 0 0	
Income Tax on Untaxed Interest		16 1 9	£5,000 Port of London 1% Stock 1910-1920 at cost (53%)	1,000 0 0	
Irish Committee ...	42	55 8 7	Less amount written off for depreciation, 1924 ...	6,100 0 0	61,870 0 0
Journal Index ...	67	68 11 0	By INVESTMENTS REPRESENTING RESERVE (as per contra)—		
Legal Charges ...	77	82 13 1	£3,200 Bank of England Stock @ 200	3,634 7 6	
Library Books, etc. ...	133	128 15 11	£5,000 Commonwealth of Australia 5% 1903-1913 at cost (97%)	1,850 5 0	
Miscellaneous Printing and Paper	693	1,381 18 6	£1,000 London, Midland, and Scottish Railway 1% Guaranteed	3,200 0 0	
Machining Journal ...	2,465	2,231 1 3	Stock at 50 ...	4,931 5 0	
Paper for Journal ...	2,607	2,187 15 4	£5,000 New South Wales 5% 1921—1924 at cost (63%)	4,175 0 0	
Postage of Journal ...	1,224	1,311 12 10	£5,000 Port of London 1% Stock 1910-1920 at cost (53%)	27,216 17 6	
Plant and Type ...	500	46 7 0	By LIBRARY—		
Parliamentary Papers, etc. ...	163	29 7 9	Balance at 31st December, 1923	1,180 12 1	
Rates, Taxes, Electricity, and Gas	46	51 1 10	Add Purchase and Binding of Books during 1924	201 1 1	
Repairs ...	94	95 17 6	Less Sale of Old Books	20 5 0	
Reporting for Journal ...	201	23 12 2	Amount written off for Depreciation ...	220 5 0	1,564 8 8
Scottish Committee ...	29	293 1 10	By FURNITURE AND FITTINGS—		
Stationery ...	57	76 0 1	Balance at 31st December, 1923	621 1 2	
Sundries ...	11,024	33 3 9	Add Purchases during 1924	273 15 6	
Telephone Charges ...	37,216	11,103 12 10	Less amount written off for Depreciation	837 18 8	637 16 8
Reserve Account—			By PLANT AND TYPE—		
Reserve represented by Investments as per contra ...			Balance at 31st December, 1923	4,537 13 7	
Loan Account—			Add Purchases during 1924	154 10 0	
Westminster Bank Limited—Advance secured by Deposit of Deeds of Freehold Property of Association ...			Less 10% written off for Depreciation	1,692 3 7	
Overdraft at Bank ...			By PLANT AND TYPE—		
Balance on January 1st, 1924		131,678 8 6	Balance at 31st December, 1923	4,537 13 7	
Add Excess of Income over Expenditure, 1924		8,923 0 3	Add Purchases during 1924	154 10 0	
Surplus Account—			Less 10% written off for Depreciation	1,692 3 7	
Balance on January 1st, 1924		143,601 8 9	By PLANT AND TYPE—		
Add Excess of Income over Expenditure, 1924			Balance at 31st December, 1923	4,537 13 7	
			Add Purchases during 1924	154 10 0	
			Less 10% written off for Depreciation	1,692 3 7	
			By PLANT AND TYPE—		
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**Income and Expenditure Account for the Year ending 31st December, 1924.**

		1923.		1924.		
	£	s.	d.	£	s.	d.
Subscriptions for year	...	...	...	43,819	11	0
" for former years previously written off	...	...	...	1,191	11	4
Journal Account, Total Receipts	...	...	...	47,558	13	6
Interest on Investments, Deposits, &c.	...	...	...	48,372	15	3
Monies received and accrued	...	...	...	48,372	15	3
Scientific Grants Unvoted and Returned	...	...	...	2,654	6	0
Sundry Receipts	...	...	...	2,654	6	0
	...	...	...	44,135	5	8
	...	...	...	524	12	8
	...	...	...	524	12	8

		1923.		1924.		
	£	s.	d.	£	s.	d.
Central Meetings Expenses	...	...	...	8,359	7	0
General Association Expenses	...	...	...	4,837	17	11
Central Staff Expenses	...	...	...	14,057	0	4
Central Premises Expenses	...	...	...	4,931	7	0
Central Library, Museum, and Postage Expenses	...	...	...	2,851	8	0
Library Account Expenses	...	...	...	893	15	2
Journal Account Expenses	...	...	...	64,785	12	6
Irish Committee Expenses	...	...	...	7,000	1	11
Scottish Committee Expenses	...	...	...	1,053	11	10
New Premises Account	...	...	...	5,010	13	0
Capital Grants to Branches	...	...	...	85	1	0
Subscriptions Written off for Deaths	...	...	...	2,150	5	8
Subscriptions Written off for Disputes	...	...	...	...	...	...
Addition to Reserve for Disputes	...	...	...	250	0	0
	...	...	...	110,757	15	8

		1923.		1924.		
	£	s.	d.	£	s.	d.
Written off for Depreciation of Freehold Premises, 429, Strand, W.C.2.	...	...	...	1,350	0	0
" " of Leasehold Premises, Tavistock Square, W.C.	...	...	...	1,000	0	0
" " of Buildings	...	...	...	700	0	0
" " of Furniture and Fittings	...	...	...	200	0	0
" " of Plant and Type	...	...	...	469	4	4
	...	...	...	3,119	4	4
	...	...	...	8,972	0	3
	...	...	...	212,840	0	3

		1923.		1924.		
	£	s.	d.	£	s.	d.
Abstract A	...	...	...	8,359	7	0
" B	...	...	...	4,837	17	11
" C	...	...	...	14,057	0	4
" D	...	...	...	4,931	7	0
" E	...	...	...	2,851	8	0
" F	...	...	...	893	15	2
" G	...	...	...	64,785	12	6
" H	...	...	...	7,000	1	11
" I	...	...	...	1,053	11	10
" J	...	...	...	5,010	13	0
" K	...	...	...	85	1	0
" L	...	...	...	2,150	5	8
" M	...	...	...	...	...	...
" N	...	...	...	250	0	0
" O	...	...	...	110,757	15	8

		1923.		1924.		
	£	s.	d.	£	s.	d.
Written off for Depreciation of Freehold Premises, 429, Strand, W.C.2.	...	...	...	1,350	0	0
" " of Leasehold Premises, Tavistock Square, W.C.	...	...	...	1,000	0	0
" " of Buildings	...	...	...	700	0	0
" " of Furniture and Fittings	...	...	...	200	0	0
" " of Plant and Type	...	...	...	469	4	4
	...	...	...	3,119	4	4
	...	...	...	8,972	0	3
	...	...	...	212,840	0	3

		1923.		1924.		
	£	s.	d.	£	s.	d.
Abstract A	...	...	...	8,359	7	0

**Irish Committee.**

**Irish Committee.**  
Financial Statement for the Year ended 31st December, 1924.

1921.		£	s.	d.
Contributions from Head Office	...	1,084	5	6
" Finance overdraw	...	55	8	7
By Rent, Rates etc.	...	...	...	...
" Printing and Stationery	...	...	...	...
" Postages	...	...	...	...
" Telephone	...	...	...	...
" Electric Light	...	...	...	...
" Typewriter and Duplicator	...	...	...	...
" Sundries	...	...	...	...
" Salaries—Irish Medical Secretary	...	...	...	...
" Clerk	...	...	...	...
" Travelling Expenses	...	...	...	...
Dr WALSHIE, Chairman.	...	...	...	...
THOMAS HENNESSY, Irish Medical Secretary.	...	...	...	...
		£1,111	14	0
		£1,111	14	0

**Scottish Committee.**

## Financial Statement for the Year ended 31st December, 1924.

[illegible]

JAS. H. DREVER, *Scottish Medical Secretary.*

## Committees—continued.

	1923.			1924.		
	£	s.	d.	£	s.	d.
Brought forward...	...	...	...	...	...	...
Medico-Political and Parliamentary Committee—						
Railway Fares	210	5	1	205	13	7
Travelling (Officials)	21	9	0	22	17	10
Printings	144	11	0	138	7	0
G.M.C. Collection Expenses	—	—	—	15	19	0
Handbook	3	3	0	3	3	0
Sundries	379	8	1	567	7	5
Ministry of Healing Committee—						
Railway Fares	—	—	—	8	2	10
Printings	—	—	—	4	16	0
Non-Panel Committee—						
Railway Fares	13	2	0	49	17	10
Printings	5	8	0	29	7	6
Naval and Military Committee—						
Railway Fares	20	3	10	59	14	8
Printings	15	2	0	15	18	0
Office Committee—						
Fees	115	10	0	126	0	0
Printings	31	7	0	53	17	0
Ophthalmic Committee—						
Railway Fares	—	—	—	47	14	10
Printings	—	—	—	10	11	6
Organisation Committee—						
Railway Fares	133	5	0	269	1	10
Travelling (Officials)	20	14	3	62	8	3
Printings, etc.	27	0	0	465	9	11
Annual Handbook	321	5	0	358	12	6
Articles and Bylaws	28	15	0	140	4	6
Handbook for Newly Qualified	28	15	0	277	15	0
Non-Members' List	24	9	0	53	15	0
Postages and Addressing Postcards	17	12	1	14	16	0
Journal	28	8	0	1642	3	0
Sundries	1,311	9	1	226	2	6
Public Health Committee—						
Railway Fares	65	10	0	98	10	10
Facts about Small Pox	7	10	0	79	13	6
Printings	7	10	0	47	18	2
Travelling (Officials)	27	16	6	—	—	—
Royal Commission on Superior Civil Service in India—						
Railway Fares	—	—	—	40	18	6
Printings	—	—	—	5	5	0
Science Committee—						
Railway Fares	23	15	6	80	2	4
Printings	14	1	0	60	0	0
Lectures	254	8	3	466	14	5
Periodicals of Medicine	310	1	9	—	—	—
Veneral Diseases Committee—						
Railway Fares	15	5	1	—	—	—
Printings	6	15	6	—	—	—
Welsh Committee—						
Railway Fares	—	—	—	38	4	8
Carried forward	23,292	3	0	23,292	3	0

## Abstract A. Central Meetings Expenses.

	1923.			1924.		
	£	s.	d.	£	s.	d.
ANNUAL REPRESENTATIVE MEETING—						
Railway Fares	621	4	2	559	7	3
Printings	483	0	4	461	15	0
Sundries	10	1	0	69	1	0
	1,114	5	8	1,090	3	3
ANNUAL MEETING—						
Sectional Expenses, Handbook of Meeting, etc.	226	8	4	150	10	10
Council—						
Railway Fares	804	7	4	1,070	14	6
Printings	893	0	0	1,023	14	8
Sundries	20	8	0	71	13	0
SECRETARIES' CONFERENCE, Railway Fares	1,633	18	4	2,121	2	2
	130	8	0	73	10	10
	3,142	10	4	3,435	7	1
Committees.						
Arrangements Committee—						
Railway Fares	55	18	4	54	5	7
Printings, etc.	23	17	0	6	12	6
Central Ethical Committee—						
Railway Fares	111	17	7	155	9	8
Printings	63	5	0	71	13	0
Conference B.M.A. with Society of M.O.H.—						
Railway Fares	3	2	2	—	—	—
Printings	8	2	6	—	—	—
Dominions Committee—						
Railway Fares	23	0	8	22	6	10
Printings	29	11	6	15	9	6
Finance Committee—						
Railway Fares	61	11	10	108	6	6
Printings	83	11	0	69	17	0
Hospitals Committee—						
Railway Fares	83	15	2	84	16	0
Printings	55	15	0	37	19	0
Pamphlet re "Hospital Policy"	—	—	—	22	17	6
Insurance Acts Committee—						
Railway Fares	847	12	4	705	6	7
Travelling (Officials)	39	10	10	154	8	6
Printings	492	9	0	—	—	—
Sundries	85	11	11	227	9	11
	1,465	4	1	51	3	0
Insurance Acts Royal Commission—Committee re						
Railway Fares	—	—	—	—	—	—
Printings	—	—	—	—	—	—
Journal Committee—						
Railway Fares	73	11	0	51	0	8
Printings	16	15	0	20	1	6
Lunacy Law and Administration—Committee re						
Railway Fares	—	—	—	39	9	2
Printings	—	—	—	87	17	0
Carried forward	23,292	3	0	25,430	16	6

Abstract D.] Central Premises Expenses.

	1923.	1924.
Cleaning Offices	£ s. d.	£ s. d.
Coal, Coke, and Wood	652 11 3	575 17 8
General Repairs, Unkeep, and Alterations	238 3 0	235 4 6
Rates, Taxes, Insurance, Gas, and Electricity	903 18 1	287 0 0
	3,126 11 11	2,852 8 7
	£1,921 7 0	£3,960 10 9

Abstract E.]

Central Printing, Stationery, and Postage Expenses.

	1923.	1924.
General Printing	£ s. d.	£ s. d.
Office—General Postage	8 6 12	8 11 4
Finance Department	241 10 10	553 14 4
Medical Department	542 15 1	698 8 9
Stationery	504 9 5	974 15 11
	£2,551 8 0	£3,073 10 4

Abstract F.] Library Expenses.

	1923.	1924.
Library Librarian's Honorarium	£ s. d.	£ s. d.
Librarian's Salary	20 5 0	26 5 0
Clerical Staff Salaries	173 17 8	466 13 4
Postage and Stationery	223 11 0	386 13 4
Subscription to Messrs. H. K. Lewis's Library	20 10 0	—
Removal of Books to Warehouse	72 10 0	51 11 6
Sundries	5 1 0	36 10 0
	£546 15 2	£558 13 2

Abstract J.] New Premises Account.

	1923.	1924.
Alterations and Decorations	£ s. d.	£ s. d.
Ground Rent	12,370 0 0	—
Charges on Loan	1,000 0 0	—
Insurance of Building	1,000 17 11	—
Caretaker's Wages	180 12 6	—
Legal Charges	124 12 1	—
Land Registry Fee re Transfer of Lease	154 19 6	—
Metropolitan Water Board	31 0 0	—
Hearings Licence and Valuation Fees	10 9 4	—
Sundry Expenses	6 15 0	—
	2 8 6	—
Less amount carried to Balance Sheet	—	15,578 14 10
	—	12,370 0 0
	—	£3,208 14 10

Abstract B.] General Association Expenses.

	1923.	1924.
Auditors' Fee	£ s. d.	£ s. d.
Bank Charges	210 0 0	210 0 0
Local Charges	61 0 1	46 2 3
Association Gold Medal (Dr. H. B. Richardson)	313 19 5	259 3 6
Testament	—	17 0 0
Office—Petty Cash	298 13 4	353 19 0
Parliamentary Papers	20 0 10	72 12 5
Intelligence Department, Papers, Press Cuttings, etc.	104 11 7	145 7 0
Books and Stationery	700 0 0	662 10 0
General Office Expenses	605 0 0	390 0 0
Prizes for Final Year Medical Students	110 0 0	10 0 0
Mr. W. E. Varro's Pension	600 0 0	500 0 0
Stamping Subscription Receipt Books	107 15 4	71 13 4
Hent of Telephones (Including Editorial)	318 11 5	177 7 10
Honours to Members of Composing Staff	382 1 0	30 12 0
Income Tax on Dividends and Interest	371 15 9	30 12 0
Hotel of Honour Expenses	50 0 0	37 15 9
Delegation to Canada—Expenses	451 18 11	451 18 11
Delegation to Australia—Expenses	200 0 0	200 0 0
Delegation to India—Expenses	20 0 0	46 15 5
Facility of Insurance Subscription	2 2 0	2 2 0
History of Reconstitution of Association (J. C. McVail)	60 0 0	16 5 0
Minibus Fire Extinguishers	235 0 0	—
Valuers' Fee re Freehold, 423, Strand	10 13 1	—
Mrs. C. Louis Taylor's Annulment	58 3 10	—
Sundries	—	82 6 6
	£1,987 17 11	£4,219 15 6

Abstract C.] Central Staff Expenses.

	1923.	1924.
Financial Secretary and Business Manager	£ s. d.	£ s. d.
Clerical Staff, Finance Department	1,150 0 0	1,225 0 0
Less Proportion of Salaries debited to Journal Account	5,117 12 11	5,150 7 1
	4,032 13 11	7,375 7 1
	3,392 14 0	3,543 0 0
	3,271 18 11	3,822 7 1
Medical Secretary	1,425 0 0	1,800 0 0
Deputy Medical Secretary	1,103 10 0	1,212 10 0
Assistant Medical Secretary (1)	903 10 0	1,000 0 0
Do. (2)	803 10 0	900 0 0
Clerical Staff, Medical Department	4,277 18 0	4,346 8 1
Intelligence Officer	450 0 0	500 0 0
Clerical Staff, Intelligence Department	284 10 0	314 8 0
Porters	731 16 0	874 8 0
Premiums of Deferred Annuities for Officials	256 11 0	473 0 0
Contribution to Office Staff Superannuation Fund	283 4 3	254 9 0
TRAVELLING AND SUSTINENCE EXPENSES (Annual Meeting, etc.)	805 0 3	821 15 10
Finance Department	107 13 0	89 15 9
Medical Department	129 9 6	123 5 11
Intelligence Department	17 0 0	14 5 0
	253 3 6	277 8 8
	59 8 5	59 16 3
	£11,657 9 4	£21,802 2 11

Medical Guarantee and Employers' Liability Insurance

# JOURNAL ACCOUNT.

## Income and Expenditure Account for the Year ending 31st December, 1924.

	1923.		1924.	
	£	s. d.	£	s. d.
<b>Salaries:—</b>				
Editor	2,000	0 0	2,000	0 0
Assistant Editor	1,233	6 4	1,437	10 0
Sub-Editor	62	10 0	779	3 4
Lat. Sub-Editor	835	0 0	226	13 4
Clerical Staff	1,604	19 7	1,637	8 10
Contributions to Journal	2,293	8 3	2,162	2 1
Engraving	103	0 0	105	0 0
Legal Charges	312	11 4	420	10 1
Postages	476	19 10	457	1 5
Travelling, Parliamentary Papers, and Sundries	1	1 0	38	12 0
Analyses	76	0 0	69	0 0
Compiling Indexes for Journal and Supplement	91	18 9	98	4 5
Editorial Petty Cash	9	13 6	8	4 5
	136	0 9	140	3 4
<b>JOURNAL—MANAGERIAL.</b>	10	0 9	12	2 9
<b>SUPPLEMENT—MANAGERIAL.</b>	9,590	9 5	9,562	16 1
Paper	18,899	8 9	19,593	6 3
Postage for Dispatch of Journal	10,004	12 9	10,807	4 3
Address Bands for Journal	2,069	13 9	2,167	0 7
Repairs to Plant	1,111	17 1	1,200	16 0
Proportion of Manager and Clerks' Salaries	9,721	10 1	10,635	18 1
General Postage	801	7 0	787	12 0
Printings	23	18 0	20	6 8
Reprints	3,392	14 0	3,543	0 0
Stationery (Ledgers, &c.)	299	5 0	373	17 1
Insurance	316	7 5	237	9 5
Sundries	292	18 10	353	12 8
	96	1 0	103	5 2
	76	13 2	42	14 5
	53	10 2	65	14 2
	47,195	3 0	49,337	17 9
	£54,785	12 5	59,520	13 10

Balance from Subscriptions for the cost of production and issue of the JOURNAL

9,223 18 2

11,456 10 0  
59,520 13 10

Report of Council:

SUPPLEMENT TO THE  
BRITISH MEDICAL JOURNAL

178 APRIL 18, 1925]

	1923.		1924.	
	£	s. d.	£	s. d.
<b>Advertisements</b>				
Sundry Sales—Journals	33,818	10 5	39,437	1 4
" Pamphlets, Covers, Blocks, etc.	7,115	2 2	7,325	15 10
" Reprints	292	3 1	287	12 8
Sale of Waste	283	7 8	329	15 0
Discounts on Machining, &c.	23	15 9	13	11 8
	690	15 2	650	7 4
	45,553	11 3	48,024	3 10





**Francis Fowke Bequest.**  
(Holding £487 London, Midland, and Scottish Railway 4% Guaranteed Stock "C" a/c.)

1924.		1921.	
Jan. 1.	£ s. d.	Dec. 31.	£ s. d.
To Balance brought forward from 1923	231 0 5	By Grant to member of Staff	...
" Interest on Deposits and Dividends	17 11 0	" Income Tax on Deposit Interest	...
" Sale of 10% of Stock @ 85	8 4	" Balance, Cash in hand Current and Deposit Accounts	...
			230 8 5
			<u>£251 10 8</u>

**Fotherby Bequest Fund.**

1924.		1921.	
Jan. 1.	£ s. d.	Dec. 31.	£ s. d.
To Balance brought forward from 1923	56 2 9	By Income Tax on Deposit Interest	...
" Interest on Deposits	18 0	" Balance, Cash in hand Current and Deposit Accounts	...
			50 18 1
			<u>£57 0 9</u>

**Stewart Fund.**

(Holding £570 London, Midland, and Scottish Railway 4% Debenture Stock "D" a/c.)

1924.		1921.	
Jan. 1.	£ s. d.	Dec. 31.	£ s. d.
To Balance brought forward from 1923	19 1 0	By Prize awarded to Professor E. Mellanby, M.D.	...
" Dividends	17 19 2	" Balance, Cash in hand Current and Deposit Accounts	...
			0 0 9
			<u>£36 0 8</u>

**Middlemore Fund.**

(Holding £656 London and North Eastern Railway 3% Debenture Stock.)

1924.		1921.	
Jan. 1.	£ s. d.	Dec. 31.	£ s. d.
To Balance brought forward from 1923	23 14 6	By Advertising	...
" Dividends	15 9 8	" Balance, Cash in hand Current and Deposit Accounts	...
			31 8 3
			<u>£41 4 2</u>

Having examined the Balance Sheet, dated 31st December, 1924, and Accounts with the books and vouchers of the Association, except as regards the Irish Committee and Scottish Committee Accounts, and having received all the information and explanations we have required, we report that the Balance Sheet is, in our opinion, properly drawn up so as to exhibit a true and correct view of the state of the affairs of the Association according to the best of our information and the explanations given to us and as shown by the books of the Association.

We have inspected the lease of the New Building and have verified the Investments of the Association on General Account, on Account of the Trust Funds and of the Office Staff Superannuation Fund, and have further ascertained that the Deeds of the Freehold Property, 429, Strand, Agar Street, and Harvey's Buildings, are held by the Westminster Bank, Limited, as security for the sum advanced.

N. BISHOP HARMAN, F.R.C.S.,  
Treasurer.

L. FERRIS-SCOTT, F.C.A.,  
Financial Secretary and Business Manager.

PRICE, WATERHOUSE & CO.,

3, Frederick's Place, Old Jewry, London, E.C.

9th March, 1925.





## Association Notices.

### BRANCH AND DIVISION MEETINGS TO BE HELD.

**BOADER COUNTIES BRANCH: DUMFRIES AND GALLOWAY DIVISION.**—The annual meeting of the Dumfries and Galloway Division will be held in the Royal Infirmary, Dumfries, on Thursday, May 21st, at 3.30 p.m. Professor B. P. Watson, M.D. (Edinburgh University), will deliver a British Medical Association Lecture on the treatment of abortion.

**CAPE OF GOOD HOPE (WESTERN) BRANCH.—Clinical Programme.**—The Cape of Good Hope (Western) Branch has arranged a good clinical programme for the session 1925; it includes a series of discussions and papers on practical subjects. At the meeting at Paarl on March 13th and 14th there was a discussion on osteomyelitis, followed the next day by demonstrations in the Paarl Hospital. At the meeting on March 27th papers were read by Mr. D. J. Wood on Hess's method of diagnosing paralysis of the ocular muscles, by Dr. J. P. Duncan on bronchitis, and by Mr. W. Lennox Gordon on peritonitis. A meeting will be held on April 24th, when Dr. G. W. Bamfylde Daniell will read a paper on the effect of high altitudes on general anaesthesia, Dr. O. M. Gericke will speak on "Lieb," and Dr. C. M. Murray on some cases treated by suggestion. A discussion on asthma will take place at the meeting on May 29th, when the speakers will include Professor W. Campbell, Professor J. W. C. Gunn, Mr. C. E. Jones-Phillipson, and Dr. P. W. J. Keet. Further meetings have been arranged for June 26th, August 23rd, September 25th, and October 30th, the annual meeting taking place on November 27th.

**ESSEX BRANCH: SOUTH ESSEX DIVISION.**—A meeting of the South Essex Division will be held at the High School for Boys, Victoria Circus, Southend-on-Sea, on Tuesday, April 21st, at 8.15 p.m., when Sir Arthur Newsholme, K.C.B., late Principal Medical Officer to the Local Government Board, will give an address on liberty and health.

**LANCASHIRE AND CHESHIRE BRANCH: ROCHDALE DIVISION.**—The annual meeting of the Rochdale Division will be held in the Wellington Hotel, Drake Street, Rochdale, on Wednesday, April 29th, at 8.30 p.m. Business: Annual statement for 1924; election of Representative, Deputy Representative, officers, and Executive Committee for the ensuing year.

**METROPOLITAN COUNTIES BRANCH: CITY DIVISION.**—A meeting of the City Division will be held at the Metropolitan Hospital, Kingsland Road, E.8, on Tuesday April 21st, at 9.30 p.m., when Professor Hugh Maclean, D.Sc., M.D., M.R.C.P., Director of Medical Unit, St. Thomas's Hospital, will read a paper entitled "Diabetes—its treatment: insulin up to date." A Divisional dinner and fancy dress dance and carnival—fancy dress optional (four prizes)—will be held at the Holborn Restaurant on Thursday, April 30th, from 7.30 p.m. to 2 a.m.; bridge. Refreshments during evening. Tickets 15s.; early application will be greatly appreciated by Dr. Ernest A. Worley (honorary secretary), 43, De Beauvoir Road, N.1.

**METROPOLITAN COUNTIES BRANCH: HENDON DIVISION.**—The inaugural meeting of the Hendon Division will take place at the Refectory, facing Golders Green Station, N.W., on Thursday, April 23rd, at 8.30 p.m., when local members of the profession, in addition to members of the Division, are invited. Light refreshment will be served.

**METROPOLITAN COUNTIES BRANCH: KENSINGTON DIVISION.**—A general meeting of the Kensington Division will be held on Thursday, April 23rd, at the Kensington Palace Mansions Hotel, De Vere Gardens, W.8, at 8.45 p.m. An address will be given by Dr. Seymour Taylor, consulting physician to the West London Hospital, entitled "Some medical aphorisms."

**METROPOLITAN COUNTIES BRANCH: LEWISHAM DIVISION.**—A meeting of the Lewisham Division will be held at the Parish Room, St. Laurence Vicarage, Bromley Road, Catford, S.E.6, on Tuesday, April 21st, at 8.45 p.m., when Dr. F. A. Beattie will preside. Agenda: Mr. G. Gordon-Taylor, O.B.E., M.S., F.R.C.S.: Haemorrhages in connection with gastric and duodenal ulcers; election of Representative and Deputy Representative of the Division for the Annual Meeting at Bath; to receive report from Dr. Charsley on motion before Branch Council; any other business.

**METROPOLITAN COUNTIES BRANCH: WESTMINSTER AND HOLBORN DIVISION.**—The annual general meeting of the Westminster and Holborn Division will be held at the Criterion Restaurant on Thursday, May 7th, at 8.30 p.m. After the business a paper will be read by Sir William J. Collins, K.C.V.O., M.D., F.R.C.S., entitled "The control of the traffic in drugs of addiction." The meeting will be preceded by dinner at 7.30, the price of which (5s.) should be paid to the Secretary at the table. A large attendance is hoped for.

**METROPOLITAN COUNTIES BRANCH: WILLESDEN DIVISION.**—A meeting of the Willesden Division will be held at the Willesden General Hospital, Harlesden Road, on Wednesday, April 22nd, at 9 p.m. Agenda: Election of Representative and Deputy Representative in the Representative Body; Annual Report of Council (published in the SUPPLEMENT of April 11th, 1925).

**MIDLAND BRANCH: CHESTERFIELD DIVISION.**—At the meeting of the Chesterfield Division, to be held at the Maternity Hospital, Chesterfield, to-day (Friday, April 17th), at 8.30 p.m., Mr. A. M. Connell, Professor of Surgery in the University of Sheffield, will give an address on injuries to the lower extremity.

**NORTH OF ENGLAND BRANCH.**—The annual dinner of the North of England Branch will be held in the Medical Institute, 7, Windsor Terrace, Newcastle-upon-Tyne, on Thursday, April 23rd, at

7.30 p.m. This is the first dinner to be held for several years, and it is hoped that as many members as possible will attend. Early application for tickets will be appreciated by Mr. Norman Hodgson (Branch Secretary), 7, Windsor Terrace, Newcastle.

**NORTH OF ENGLAND BRANCH: SUNDERLAND DIVISION.**—A scientific meeting of the Sunderland Division will be held at the Mental Hospital, Ryhope, on Wednesday, May 27th, at 3.30 p.m. All members of the Division are invited to be present.

**NORTH WALES BRANCH.**—The spring meeting of the North Wales Branch will be held at Rhyl on Tuesday, April 28th.

**SOUTH-WESTERN BRANCH.**—An intermediate meeting of the South-Western Branch will be held at Barnstaple on Thursday, May 7th. The agenda paper will be circulated in due course.

**SOUTHERN BRANCH: WINCHESTER DIVISION.**—A meeting of the Winchester Division will be held at Lord Mayor Treloar Cripples' Hospital and College, Alton, on April 23rd, at 3 p.m., when the wards will be open for inspection, and the various kinds of treatment, etc., in use explained. Sir Henry Gauvain has kindly invited members to tea at the conclusion of the meeting. It will be a great convenience if members who intend to be present will notify the honorary secretary (Dr. W. A. Bruce Young, Everthorpe, East Hill, Winchester) a few days before the meeting.

**SURREY BRANCH: CROYDON DIVISION.**—The annual dinner of the Croydon Division will be held at the Greyhound Hotel, Croydon, to-day (Friday, April 17th), at 8 p.m.

**SURREY BRANCH: GUILDFORD DIVISION.**—A meeting of the Guildford Division will be held at the Royal Surrey County Hospital, Guildford, on Thursday, April 23rd, at 4 p.m., when Mr. Dudley Buxton will read a paper on the treatment of common disabilities of the feet. Tea will be served at 3.45 p.m.

**YORKSHIRE BRANCH: WAKEFIELD, PONTEFRAC, AND CASTLEFORD DIVISION.**—A meeting of the Wakefield, Pontefract, and Castleford Division will be held at the Bull Restaurant, Westgate, Wakefield, on Thursday, April 23rd, at 8.30 p.m., when Mr. J. F. Dobson, F.R.C.S. (Leeds), will read a paper on urological diagnosis (illustrated with lantern slides). Supper at 8 o'clock.

At the recent election to the Willesden Urban District Council Dr. G. W. R. Skene, chairman of the Public Health Committee, was returned at the head of the poll in his ward. Dr. Skene is deputy representative of the Willesden Division in the Representative Body of the British Medical Association, and was chairman of the Division in 1923. Dr. William Lock; the other medical candidate, was unsuccessful.

## Naval and Military Appointments.

### ROYAL NAVAL MEDICAL SERVICE.

**SURGEON COMMANDER** F. J. D. TWIGG to the *Queen Elizabeth* additional and as Specialist in Ophthalmology in Mediterranean Fleet.  
**Surgeon Lieutenant Commander** L. W. GEMMELL appointment to the *Furious* cancelled.

### ROYAL NAVAL VOLUNTEER RESERVE.

**Mr. R. W. H. TACKER** has entered as Probationary Surgeon Lieutenant.

### ROYAL AIR FORCE MEDICAL SERVICE.

**Squadron Leader** P. M. KEANE to Headquarters, Coastal Area.  
**Flight Lieutenants** T. J. THOMAS to R.A.F. Hospital, Cranwell; T. M. WALKER to No. 1 School of Technical Training (Boys), Halton.  
**Flying Officers** H. W. D. MACKENZIE to the Research Laboratory and Medical Officers' School of Instruction, Hampstead; C. J. GRIFFITHS to R.A.F. Depot; T. W. WILSON to Inland Area Aircraft Depot, Henlow.  
**Donald B. Smith** is granted a short-service commission as Flying Officer for three years on the active list, with effect from, and with seniority of, March 19th, 1925.

### TERRITORIAL ARMY.

#### ROYAL ARMY MEDICAL CORPS.

**Captain** G. F. R. SMITH, T.D., to be Major.  
**Captain** C. W. HEALEY, M.C. (late General List, T.A.), to be Lieutenant, with precedence as from December 31st, 1923, and relinquishes the rank of Captain.

### TERRITORIAL ARMY RESERVE OF OFFICERS.

#### ROYAL ARMY MEDICAL CORPS.

**General Hospitals.**—**Major** P. R. BOLUS, from active list, to be Major.

## VACANCIES.

**ACTON HOSPITAL.**—Resident Medical Officer. Salary £150 per annum.  
**BARNET: WELHOUSE HOSPITAL.**—Male Resident Medical Officer. Salary £250 per annum.  
**BARNSELY: BECKETT HOSPITAL AND DISPENSARY.**—(1) House-Physician. (2) Junior House-Surgeon. Salary £140 per annum each.  
**BIRMINGHAM AND MIDLAND HOMOEOPATHIC HOSPITAL AND DISPENSARY.**—Resident House-Surgeon. Salary £175 per annum.  
**BRIGHTON: SUSSEX THROAT AND EAR HOSPITAL.**—Honorary Clinical Assistant.  
**BURY INFIRMARY.**—Honorary Ophthalmic Surgeon.  
**CANTERBURY: KENT AND CANTERBURY HOSPITAL.**—Third Resident Medical Officer. Salary £125 per annum.  
**CITY OF LONDON HOSPITAL FOR DISEASES OF THE HEART AND LUNGS, Victoria Park, E.2.**—House-Physician. Salary at the rate of £100 per annum.  
**COLCHESTER: ESSEX COUNTY HOSPITAL.**—Assistant House-Surgeon and Registrar (male). Salary £150 per annum.  
**COUNTY MENTAL HOSPITAL, Whittingham, Lanes.**—Two temporary Medical Officers (male). Salary £7 7s. a week.

**EAST LONDON HOSPITAL FOR CHILDREN**, Shadwell, E.L.—(1) Resident Medical Officer. (2) House-Physician. (3) Morning Casualty Officer. Males. Salary at the rate of £200, £125, and £120 per annum respectively.

**ECLES AND PATHERCROFT HOSPITAL**.—Maier House-Surgeon. Salary £150 per annum.

**EDINBURGH: ROYAL EDINBURGH HOSPITAL FOR SICK CHILDREN**.—Vacancy on the Surgical Staff.

**EGYPTIAN GOVERNMENT**.—Assistant Professor of Chemistry at the Cairo School of Medicine. Initial salary of £E.720 a year in a class £E.720-350.

**EVELINA HOSPITAL FOR CHILDREN**, Southwark, S.E.1.—House-Surgeon (male). Salary at the rate of £120 per annum.

**HOLLAND COUNTY COUNCIL**, Lincolnshire.—Assistant County Medical Officer (woman). Salary £600 per annum.

**LEDS PUBLIC DISPENSARY**.—Junior Resident Medical Officer. Salary £150 per annum.

**LONDON LOCK HOSPITAL**, 91, Dean Street, W.1.—Female temporary Honorary Surgeon to Out-patients.

**MARSHFIELD AND DISTRICT HOSPITAL**.—House-Physician with charge of Casualty Department. Salary £150 per annum.

**METROPOLITAN ASYLUM BOARD**.—Assistant Medical Officer in the Children's Service at the Downs Hospital for Children, Sutton. Salary £550, rising to £600.

**NORTHUMBERLAND MENTAL HOSPITAL**, Morpeth.—Locumtenent for two months. Salary £7 7s. a week.

**NOTTINGHAM CITY**.—Resident Assistant Medical Officer at the Bagthorpe Institution and Infirmary. Salary £300 per annum.

**QUEEN'S HOSPITAL FOR CHILDREN**, Hackney Road, E.2.—Assistant Surgeon.

**ROCHESTER: ST. BARTHOLOMEW'S HOSPITAL**.—Third Resident Medical Officer. Salary at the rate of £200 per annum.

**ROCHFORD HOSPITAL**.—Assistant Resident Medical Officer (lady). Salary £125 per annum.

**ROYAL COLLEGE OF SURGEONS OF ENGLAND**.—Examiners (a) for Fellowship; (b) under the Conjoint Examining Board for England; (c) in Dental Surgery.

**SAMARITAN FREE HOSPITAL FOR WOMEN**, Marylebone Road, N.W.1.—Registrar. Salary at the rate of £100 per annum.

**SHEFFIELD ROYAL INFIRMARY**.—(1) Surgical Registrar; salary £200 per annum. (2) Dental Surgeon.

**WINCHESTER: ROYAL HAMPSHIRE COUNTY HOSPITAL**.—House-Surgeon (male). Salary £150 per annum.

**YORK CITY**.—Assistant Medical Officer of Health, School Medical Officer, and Tuberculosis Officer (female). Salary £500 per annum.

**YORK MATERNITY HOSPITAL**.—House-Surgeon. Salary at the rate of £250 per annum.

**CHIMNEYING FACTORY SURGEONS**.—The Chief Inspector of the following vacant appointments: Cromer (Northants), Sandy (Herts), Silvertown (Essex) Overton (Essex).

**MEDICAL REFERRERS UNDER WORKMEN'S COMPENSATION ACT**.—Two Physicians as additional Medical Referrers for the Sheriffdom of Lancashire. Applications to Private Secretary, Scottish Office, Whitehall, by April 23th.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Tuesday morning.

### APPOINTMENTS.

**SMITH, H. Gordon, M.D.** (State Med.) Lond., D.P.H.Camb., Medical Officer of Health City of Lincoln.

**TAYLOR, Arthur** Lond., M.B., Ch.B., F.R.C.P.Edin., Senior Assistant Medical Officer at the County Mental Hospital, Burntwood, Lichfield.

**PAISLEY: ROYAL ALEXANDRA INFIRMARY**.—Resident House-Physician. James Caldwell, M.B., Ch.B.Glas., Resident House-Surgeons: Alexander M. Pollock, M.B., Ch.B.Glas., Dugald R. Gillies, M.B., Ch.B.St. And.

### DIARY OF SOCIETIES AND LECTURES.

**ROYAL SOCIETY OF MEDICINE.**  
Section of Therapeutics and Pharmacology. Tues., 4.30 p.m., Annual General Meeting. Election of Officers and Council for 1925-26.  
General Meeting of Fellows: Tues., 5.30 p.m., Ballot for Fellowship.  
Section of Epidemiology and State Medicine: Thurs., 5.30 p.m., Dr. Monckton Copeman: Immunization against Scarlet Fever.  
Section of Urology: Thurs., 8.30 p.m., Discussion: Bacterial Infections of the Urinary Tract. Openers: Professor Leonard S. Dudgeon (Pathological), Dr. E. Lepper (Experimental), Sir John Thomson-Walker (Diagnosis and Treatment).  
Section of Study of Disease in Children: Fri., 8.30 p.m., Discussion: Is the Modification of Cow's Milk necessary in Infant Feeding? Openers: Dr. Leonard Findlay, Eric Pritchard, Hugh Thursfield, and R. C. Jewsbury.

**MEDICO-LEGAL SOCIETY**, 11, Chandos Street, W.1.—Tues., 8.30 p.m., Lord Riddell: The Legal Responsibility of the Surgeon; followed by a Discussion.

**FIFTH BRITISH CONGRESS OF OBSTETRICS AND GYNAECOLOGY**, 1, Wimpole Street, W.1.  
Wed., 10.30 to 1 p.m., Reports: Prognosis and Treatment of Puerperal Sepsis. Papers, 1.15 p.m., Luncheon at Pagan's Restaurant, Great Portland Street, W.1. 2.30 to 5 p.m., Discussion: Puerperal Sepsis; to be opened by Professor J. Whitridge Williams. 9 p.m., Reception by the President and Mrs. Russell Andrews.  
Thurs., 10 a.m., Business Meeting. 10.30 a.m. to 1 p.m., Papers, 2.30 to 5 p.m., Papers, 8 p.m., Congress Dinner at Criterion Restaurant.  
Fri., 10 a.m. to 1 p.m., Papers with Epidiascope Demonstrations. Afternoon: Operations at principal hospitals.

### POST-GRADUATE COURSES AND LECTURES.

**CENTRAL LONDON THROAT, NOSE, AND EAR HOSPITAL**, Gray's Inn Road, W.C.1.—Fri., 4 p.m., Dysphagia.

**WEST LONDON HOSPITAL**, Putney, S.W.15.—Thurs., 7 p.m., Mon., 12 noon, Applied Anatomy. Cases. Wed., 2 p.m., Medical Wards. Department. Fri., 7 p.m., Department. Fri.,

2 p.m., Throat, Nose, and Ear Department. Sat., 10 a.m., Medical Diseases of Children. Daily 10 a.m. to 6 p.m., Sat. 10 a.m. to 1 p.m., In- and Out-patients, Operations, Special Departments.

**BIRMINGHAM UNIVERSITY**.—At General Hospital: Tues., 3.30 to 5 p.m., Demonstration of Skin Diseases.

**GLASGOW POST-GRADUATE MEDICAL ASSOCIATION**.—At Royal Mental Hospital, Gartnavel: Wed., 4.15 p.m., Mental Cases.

**MANCHESTER ROYAL INFIRMARY**.—Tues., 4.15 p.m., Illium Tuberculosis. Fri., 4.15 p.m., Medical and Surgical Cases.

### British Medical Association.

OFFICES AND LIBRARY, 112, STRAND, LONDON, W.C.A.

#### Reference and Lending Library.

The Reading Room, in which books of reference, periodicals, and standard works can be consulted, is open to members from 10 a.m. to 6.30 p.m., Saturdays 10 to 2.

**LENDING LIBRARY:** Members are entitled to borrow books, including current medical works; they will be forwarded if desired, on application to the Librarian, accompanied by 6d. for each volume for postage and packing.

#### Departments.

**SUBSCRIPTIONS AND ADVERTISEMENTS** (Financial Secretary and Business Manager). Telegrams: Articulate Westrand, London.

**MEDICAL SECRETARY** (Telegrams: Medisecra Westrand, London).

**EDITOR, British Medical Journal** (Telegrams: Athology Westrand, London).

Telephone number for all departments: Gerrard 2530 (5 lines).

**SCOTTISH MEDICAL SOCIETY**, 5, Rutland Square, Edinburgh. (Telegrams: 4361 Central).

**IRISH MEDICAL SOCIETY**, 47, Frederick Street, Dublin. (Telegrams: 4737 Dublin).

#### Diary of the Association.

- APRIL.**
- 17 Fri. London: Foods and Drugs (Advertisements) Subcommittee, 3 p.m.  
Chesterfield Division: Maternity Hospital, Chesterfield. Address by Mr. A. M. Connell on Injuries to the Lower Extremities, 8.30 p.m.  
Dinner, Greyhound Hotel, 8 p.m.
- 21 Tues. London: Diabetes—its Treatment: Insulin up to Date, 9.30 p.m.  
Lewisham Division: Parish Room, St. Laurence Vicarage, Bromley Road, S.E.6. Paper by Mr. G. Gordon-Taylor on Haemorrhages in connexion with Gastric and Duodenal Ulcers, 8.45 p.m.  
South Essex Division: High School for Boys, Victoria Circus, by Sir Arthur Newsholme on Diabetes, 2.30 p.m.
- 22 Wed. London: General Hospital, 9 p.m.  
on Puerperal Morbidity and
- 23 Thurs. London: County Hospital, Guildford, on the Treatment of Common Tea, 3.45 p.m.  
rington Rectory, facing Palace Mansions Hotel, Dr. Seymour Taylor on Some
- North of England Branch: Annual Dinner, Medical Institute, 7, Windsor Terrace, Newcastle-on-Tyne, 7.30 p.m.  
Castelford Division: Bull Restaurant, Paper by Mr. J. F. Dobson on 30 p.m. Supper, 8 p.m.  
rd Mayor Trippier Cripples' Hospital
- 28 Tues. North Wales Branch: Spring Meeting, Rhyl.
- 29 Wed. London: Contract Practitioner Subcommittee, 2.30 p.m.  
Roehad Division: Annual Meeting, Wellington Hotel, Drake Street, Roehad, 8.30 p.m.
- 30 Thurs. City Division: Divisional Dinner and Dance, Holborn Restaurant, 7.30 p.m.
- 5 Tues. London: Maternity and Child Welfare Subcommittee, 2.30 p.m.
- 7 Thurs. Kensington Division: Divisional Dance, Kensington Town Hall.
- Westminster and Holborn Division: Annual General Meeting, Criterion Restaurant, Dinner, 7.30 p.m. Paper by Sir W. J. Collins on the Control of the Traffic in Drugs of Addiction, 8.30 p.m.
- 14 Thurs. London: Insurance Acts Committee.
- 21 Thurs. Dumfries and Galloway Division: Annual Meeting, Royal Infirmary, Dumfries. B.M.A. Lecture by Professor B. P. Watson on the Treatment of Abortion, 3.30 p.m.
- 27 Wed. London: Finance Committee, 2.30 p.m.  
Sunderland Division: Scientific Meeting, Meatal Hospital, Ryhope, 3.30 p.m.
- 29 Fri. Cape of Good Hope (Western) Branch: Discussion on Asthma.

### BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcement of Births, Marriages, and Deaths is 9s., which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.

#### MARRIAGE.

**RAINER—BOULTON**.—April 4th, at St. Paul's Church, Heron Hill, Dr. Charles Farrell Rainer, M.R.C.S., L.R.C.P., eldest son of the late Charles Oliver Rainer of Georgetown, Demerara, British Guiana, and of Mrs. Alice Maud Rainer, Upper Norwood, London, to Kathleen May, widow of the late Raymond Wright Boulton, R.F.A.

#### DEATH.

**EVANS**.—On April 8th, at Ropley, Coring, Oxon., of pneumonia, Dr. Herbert Lavington Evans, aged 65.



# SUPPLEMENT TO THE BRITISH MEDICAL JOURNAL.

LONDON, SATURDAY, APRIL 25TH, 1925.

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### British Medical Association.

#### CURRENT NOTES.

##### Royal Commission on National Health Insurance.

THE witnesses on behalf of the British Medical Association, Drs. Bolam, Brackenbury, Dain, and the Medical Secretary (together with any others it may be thought desirable to call in to assist on special points), will be heard by the Royal Commission on National Health Insurance on Thursdays, April 30th and May 7th. The meetings of the Royal Commission are not open to the public, but it is hoped to publish the oral evidence of the Association's witnesses in the SUPPLEMENTS to the BRITISH MEDICAL JOURNAL of May 23rd and 30th. The revised draft of the Association's Memorandum of Evidence appeared in the SUPPLEMENT of February 28th (pp. 69-78).

##### Flags for the Great Hall.

As already intimated, the Council of the Association has asked the Divisions or Branches concerned to consider the presentation of a flag to hang in the Great Hall of the new British Medical Association House from every place at which an Annual Meeting of the Association has been held. The flags are intended to serve a threefold purpose: they will help the acoustic properties of the Hall; they will beautify it; and they will serve as mementoes of occasions to which the Association generally, and the members in the particular areas, look back with pride and satisfaction. It is hoped that each of the niches which have been left for the purpose will be filled on the opening day, which is fixed for the week beginning July 13th; already flags have been promised from London, Carlisle, Bournemouth, and Sheffield.

##### Highlands and Islands Medical Service: A Warning.

The operation of the Highlands' and Islands' Medical Service Act has done much to ameliorate the conditions of practice in that area and to remedy many of the abuses which formerly existed. The Act is administered by the Scottish Board of Health, and a large part of the funds provided by the Act for the improvement of medical service in the Highlands and Islands is distributed by way of grants to practitioners in supplement of the income derived from private practice and parish and other appointments. In addition to the financial improvement a great gain has been the security of tenure for parish medical officers, whose appointments cannot be terminated without the consent of the Board of Health. The Highlands' and Islands' Subcommittee of the Association has had occasion to report favourably on the sympathetic manner in which the Act has been administered and to comment on the general improvement which has resulted in the conditions of practice. Unfortunately, however, the good work is in danger of being nullified in some instances by the action of local lay bodies; and it becomes again necessary to warn practitioners

not to apply for appointments in the Highlands without first communicating with the Scottish Medical Secretary (Dr. J. R. Drever, 6, Rutland Square, Edinburgh). The warning applies specifically to an appointment advertised in the lay press by the Canisbay Medical Association. The present medical officer has held the appointment, as well as that of parish medical officer, for a number of years, and according to all accounts has done very good work. For some reason, which is not evident, he has incurred the displeasure of the Canisbay Medical Association and has been summarily dismissed from his appointment and warned out of his house, which is the property of the association and which is the only available house in the parish. An attempt is also being made to terminate his parish appointment, but the consent of the Board of Health is hardly likely to be obtained in the absence of any satisfactory reason for dismissal. The local Division of the British Medical Association and the Highlands' and Islands' Subcommittee have expressed their sympathy with the doctor and their strong disapproval of the tyrannical conduct of the lay medical association. They hope that this publication of the facts will be sufficient to deter practitioners from making application for the "vacancy."

##### Association Prizes for Essays by Medical Students.

The Council of the British Medical Association in October last gave notice that it was prepared to award prizes of £10 each for essays by final-year medical students on the diagnosis and treatment of chronic intestinal obstruction, with illustrative cases. The essays received have been examined by the following members of the Association: The Right Hon. Lord Dawson of Penn, G.C.V.O., K.C.M.G., C.B. (London); Mr. W. F. Haslam, F.R.C.S. (Birmingham); Dr. W. E. Hume, C.M.G., F.R.C.P. (Newcastle-on-Tyne); Mr. H. Wade, C.M.G., D.S.O., F.R.C.S. (Edinburgh). In accordance with the Examiners' awards, prizes—a cheque for £10 in each case, except in respect of the Durham, Leeds, and Sheffield group of medical schools, where there was a tie, in which case there will be two prizes of £5 each—will in due course be given to the following:

Mr. H. AWROUNIN, Charing Cross Hospital Medical School.  
Mr. F. R. CURTIS, Leeds University.  
Mr. L. HARTSTEN, London Hospital Medical College.  
Mr. J. STEWART HENDRIE, Edinburgh University.  
Mr. R. L. HOLT, Manchester University.  
Mr. F. F. IMIANITOFF, St. Bartholomew's Hospital Medical College.  
Mr. T. M. LING, St. Thomas's Hospital Medical School.  
Mr. M. MASSER, Leeds University.  
Mr. K. S. SMITH, Middlesex Hospital Medical School.  
Mr. A. WALKER, Glasgow University.  
Mr. T. C. S. WEBB, University College Hospital Medical School.

Under the arrangements made by the Council of the Association, the prizes will, as far as possible, be presented at the meetings held by the Divisions or Branches concerned to welcome newly qualified members of the profession. Full particulars of the result of the competition have been sent by post to the Deans of the Medical Schools and to all the competitors.

**Assistant Medical Officer of Health, Plymouth.**

The advertisement for an assistant medical officer of health for Plymouth does not appear in the *BRITISH MEDICAL JOURNAL*, though it is appearing elsewhere. The advertisement was not offered to the *BRITISH MEDICAL JOURNAL* because the Plymouth Town Council had been notified that the Association would not be prepared to insert any advertisement for a successor to Dr. F. G. Bushnell unless and until the town council consented to give Dr. Bushnell, the late officer, the reasons for his dismissal. The Association takes no exception to the legality of that dismissal, but considers that in common courtesy an officer of many years' service was entitled to the reasons for his dismissal when he pressed for them. No objection is taken to the terms at present being offered for the vacant post, but candidates should make themselves acquainted with the circumstances of Dr. Bushnell's dismissal, and consider whether they will be taking undue risk in accepting the appointment if offered to them.

**Association Notices.****BRANCH AND DIVISION MEETINGS TO BE HELD.**

**CAPE OF GOOD HOPE (WESTERN) BRANCH.**—A meeting of the Cape of Good Hope (Western) Branch will be held on Friday, May 29th, at 8 p.m., when a discussion on asthma will take place. Among the contributors to the debate are Professor W. Campbell, Professor J. W. C. Gunn, Mr. C. E. Jones-Phillipson, and Dr. P. W. J. Keet.

**EDINBURGH BRANCH: SOUTH-EASTERN COUNTIES DIVISION.**—The annual meeting of the South-Eastern Counties Division will be held in the Railway Hotel, Newtown St. Boswells, on Wednesday, April 29th, at 3 p.m. Business: Election of officers; annual report and financial statement for 1924; applications for recognition as ophthalmic consultants; ophthalmic lectures; instructions to Representative in Council.

**LANCASHIRE AND CHESHIRE DIVISION.**—A picnic to Nantwich will be held on Thursday, May 21st, in which it is hoped that as many members as possible will participate. Messrs. "Trufood," Ltd., of Wronbury, have offered to show the party over their dried milk factories and demonstrate the process of manufacture. Nantwich has an excellent golf course, and the secretary would endeavour to arrange for permission to play for those desiring to do so. Details of meeting place and route will be announced later.

**LANCASHIRE AND CHESHIRE BRANCH: ROCHEDALE DIVISION.**—The annual meeting of the Rochdale Division will be held in the Wellington Hotel, Drake Street, Rochdale, on Wednesday, April 29th, at 8.30 p.m. Business: Annual statement for 1924; election of Representative, Deputy Representative, officers, and Executive Committee for the ensuing year.

**LANCASHIRE AND CHESHIRE BRANCH: SOUTHPORT DIVISION.**—A meeting of the Southport Division will be held at 52, Hoghton Street, Southport, on Friday, May 1st, at 8 p.m., when Dr. A. F. Hurst will give a British Medical Association Lecture on the pathogenesis, diagnosis, and treatment of duodenal ulcer.

**METROPOLITAN COUNTIES BRANCH: CITY DIVISION.**—A Divisional dinner and fancy dress dance and carnival—fancy dress optional (four prizes)—will be held at the Holborn Restaurant on Thursday, April 30th, from 7.30 p.m. to 2 a.m.; bridge. Refreshments during evening. Tickets 15s.; early application will be greatly appreciated by Dr. Ernest A. Worley (honorary secretary), 43, De Beauvoir Road, N.1.

**METROPOLITAN COUNTIES BRANCH: KENSINGTON DIVISION.**—The Kensington Divisional dance will be held in the Kensington Town Hall on Thursday, May 7th. All money over after expenses have been paid will be handed to the Royal Medical Benevolent Fund and the Royal Medical Benevolent Fund Guild. Further details will appear later, or can be obtained from the Honorary Secretary, 20, Upper Phillimore Place, W.8.

**METROPOLITAN COUNTIES BRANCH: LEWISHAM DIVISION.**—The annual meeting of the Lewisham Division will be held at the Parish Room, St. Laurence Vicarage, Catford, S.E.6, on Tuesday, May 19th, at 8.45 p.m., when an address will be delivered by Dr. James Neal, secretary of the Medical Defence Union.

**METROPOLITAN COUNTIES BRANCH: MARTLEBONE DIVISION.**—The annual general meeting of the Martlebone Division will be held at 11, Chaudos Street, W.1, on Friday, May 8th, at 8.30 p.m., for the election of officers and representatives and nominations to the Branch Council. A discussion on the annual report of Council will also take place.

**METROPOLITAN COUNTIES BRANCH: NORTH MIDDLESEX DIVISION.**—A meeting of the North Middlesex Division will be held in the Prince of Wales's Hospital, Tottenham, on Wednesday, April 29th, at 3.30 p.m., when Mr. Frank Coke will read a paper on asthma. The Executive Committee looks forward to a good attendance of members at this meeting.

**METROPOLITAN COUNTIES BRANCH: NORTH MIDDLESEX DIVISION.**—The annual meeting of the North Middlesex Division will be held at the "St. John" on Wednesday, May 6th, at 8.30 p.m. A representative, (2)

**METROPOLITAN COUNTIES BRANCH: WEST MIDDLESEX DIVISION.**—A visit to the West Middlesex Hospital, Isleworth, has been arranged, by the courtesy of Dr. Cook, for Thursday, April 30th. Tea at 4 p.m.

**METROPOLITAN COUNTIES BRANCH: WESTMINSTER AND HOLBORN DIVISION.**—The annual general meeting of the Westminster and Holborn Division will be held at the Criterion Restaurant on Thursday, May 7th, at 8.30 p.m. After the business a paper will be read by Sir William J. Collins, K.C.V.O., M.D., F.R.C.S., entitled "The control of the traffic in drugs of addiction." The meeting will be preceded by dinner at 7.30, the price of which (5s.) should be paid to the Secretary at the table. A large attendance is hoped for.

**MIDLAND BRANCH: CHESTERFIELD DIVISION.**—At the meeting of the Chesterfield Division to be held in the Maternity Hospital, Chesterfield, on Friday, May 8th, at 8.30 p.m., a discussion on difficulties in breast-feeding will be opened by Dr. H. W. Pooler.

**NORTH OF ENGLAND BRANCH: NORTH NORTHUMBERLAND DIVISION.**—A meeting of the North Northumberland Division will be held on Thursday, April 30th, at 3 p.m., in the Infirmary, Alnwick. Agenda: Election of Representative to Annual Meeting; Annual Report of Council. It is proposed to make a presentation to Dr. James Don in recognition of his great services to the medical profession in the North of England, and members who wish to subscribe are asked to send their contributions, limited to 10s. 6d., to Drs. R. E. Moyes and W. G. Scott (honorary secretaries) before the end of this month.

**NORTH OF ENGLAND BRANCH: STOCKTON DIVISION.**—The annual general meeting of the Stockton Division will be held in the Stockton and Thornaby Hospital on Friday, May 1st, at 8.30 p.m. Agenda: Election of (1) office-bearers, (2) Representative and Deputy Representative for Representative Body; Annual Report of Council (see SUPPLEMENT, April 11th).

**NORTH WALES BRANCH.**—The spring meeting of the North Wales Branch will be held at the Imperial Hotel, Rhyl, on Tuesday, April 28th, at 2 p.m. Agenda: Correspondence; report of the Branch Council; papers.—Mr. J. Howell Evans, F.R.C.S. (London): Hydrocele, pyocoele, and haematocoele, illustrated by drawings and specimens; Dr. Kilner (Llandudno): Pain in childbirth, with a method of alleviation; Dr. Gardner-Medwin (St. Asaph): The clinical significance of the leucocyte count in influenza pneumonia.

**SOUTH WALES AND MONMOUTHSHIRE BRANCH: NORTH GLAMORGAN AND BRECKNOCK DIVISION.**—A meeting of the North Glamorgan and Brecknock Division will be held on Thursday, May 7th, at 6 p.m., when Mr. Joseph E. Adams will give a British Medical Association Lecture on acute abdominal symptoms in children. The meeting will be followed at 7.30 by a dinner at the New Inn Hotel, Pontypridd.

**SURREY BRANCH: CROYDON DIVISION.**—The annual meeting of the Croydon Division will be held at the Croydon General Hospital on Wednesday, May 6th, at 3.30 p.m. It will be followed by a clinical meeting.

**SURREY BRANCH: GUILDFORD DIVISION.**—The Guildford Division will hold a clinical meeting in the wards of the Royal Surrey County Hospital, Guildford, on Thursday, May 7th, at 4 p.m.; tea will be served at 3.45.

**ULSTER BRANCH.**—At the meeting of the Ulster Branch to be held at Londonderry on Thursday, April 30th, a British Medical Association Lecture will be delivered by Lieut.-Colonel R. McCarrison, C.I.E., I.M.S., on some problems of thyroid disease.

**YORKSHIRE BRANCH: HARROGATE DIVISION.**—The annual meeting of the Harrogate Division will be held at the Imperial Café, Parliament Street, on Tuesday, May 5th, at 8.30 p.m.

**YORKSHIRE BRANCH: SHEFFIELD DIVISION.**—The annual meeting of the Sheffield Division will be held at the Church House, St. James Street, Sheffield, on Friday, May 15th, at 8.30 p.m. Agenda: Report of Executive Committee; election of officers and representatives.

At the last meeting of Council Mr. W. E. Hempton was reappointed Solicitor to the British Medical Association for a period of twelve months.

**TABLE OF DATES.**

April 25, Sat.	Last day for receipt of nominations for election of 24 members of Council by grouped Home Branches, and of 2 Public Health members of Council, and 4 Public Health Service Representatives.
May 9, Sat.	Publication in SUPPLEMENT of nominations for election of 24 members of Council by grouped Home Branches, 2 Public Health members of Council, and 4 Public Health Service Representatives. Voting papers posted.
May 12, Tues.	Independent motions for A.R.M. Agenda must be received at Head Office by this date.
May 16, Sat.	Last day for receipt of voting papers for election of 24 members of Council by grouped Home Branches, 2 Public Health members of Council, and 4 Public Health Service Representatives.
May 30, Sat.	Publication in SUPPLEMENT of independent motions for A.R.M. Agenda. Voting papers posted. Council elections by grouped Home Branches, and of election of members of Council and Representatives in Representative Body by Public Health Service members.
June 4, Thurs.	Nomination papers available for election of 12 members of Council by grouped Home Representatives.
June 10, Wed.	Names of Representatives and Deputy-Representatives must be received by this date.
June 18, Thurs.	Council Meeting.
June 27, Sat.	Meetings of Constituencies must be held between this date and July 17th to instruct Representatives.
July 3, Fri.	Supplementary Report of Council appears in SUPPLEMENT. Amendments and riders for issue in A.R.M. Agenda must be received by this date.
July 17, Fri.	Annual Representative Meeting opens at Bath. Nominations for election of 12 members of Council by grouped Representatives must be received (at A.R.M., Bath) by this date.

ALFRED COX, Medical Secretary.

## Meetings of Branches and Divisions.

### ESSEX BRANCH: NORTH-EAST ESSEX DIVISION.

The annual meeting of the North-East Essex Division was held at the Red Lion Hotel, Colchester, on April 3rd, when the following officers were appointed for the ensuing year:

Chairman, Dr. W. T. A. Clowes (Colchester). Honorary Secretary, Dr. Fox (Colchester). Honorary Representative Body, Dr. Pedler.

The report of the representative at the special meeting on National Health Insurance was received, and Dr. Fox was thanked for the attention and time given to the matter.

### NORTH OF ENGLAND BRANCH: HARTLEPOOLS DIVISION.

At a meeting of the Hartlepoons Division on March 26th Mr. F. C. Pybus, M.S. (Newcastle-on-Tyne), gave a most instructive address on some deformities of childhood and their treatment. Mr. Pybus dealt with the calamitous deformities which frequently result from infantile paralysis, rickets, and tuberculosis, and laid stress on the fact that a very large proportion of these were eminently preventable, though calling for much ingenuity and patience on the part of the surgeon. He discussed various means which the general practitioner might employ to this end, and illustrated by several cases the remarkable results which orthopaedic surgery could achieve in correcting old-standing and apparently almost hopeless deformities. The interest of the lecture was enhanced by a collection of most interesting photographs and x-ray films. In conclusion, Mr. Pybus emphasized the necessity for the establishment of special institutions for the treatment of these cases.

## Correspondence.

### The Liberties of the Profession.

SIR,—Judging from an angry protest received by me to-day, my letter published in the SUPPLEMENT of April 18th (p. 173) is capable of misinterpretation. I had thought myself that I made it transparently clear that by terms "already privately exacted" by societies I referred to the original terms, which were in fact "already privately exacted," and not to the final terms, modified by strenuous action on the part of the British Medical Association. As my indignant correspondent interprets my letter as an effort to "belittle the great work that was done" by the latter, it becomes incumbent upon me to add this note, for no such intention ever entered my head, my desire being merely that our Association should complete the "great work" which it began. In conclusion I would recapitulate the original terms which were privately exacted by the societies.

1. Medical as well as sickness benefit to be administered by themselves.

2. Voluntary insurance to be permitted for life after five years, whatever the subsequent financial position of the insured, who might become a millionaire.

3. Payment at the rate of 4s. per annum for each insured person to be made to societies for mere administration of sickness and maternity benefit, the same sum only being allowed to doctors for treatment.

4. Additional payment, for six months at the rate of 1s. per insured person, for "promotion expenses," a sum which proved much in excess of that required.

5. A free gift of the whole of the accumulated reserves held by the societies for all their 5½ million members who were over 16 years of age, the capitalized value of this asset being estimated by the Commissioners to be 10 million pounds at least, and by Mr. Thomas Smith, barrister, and author of *Everybody's Guide to the National Insurance Act*, to be 20 millions.—I am, etc.,

Colchester, April 18th.

G. C. GARRATT.

### Royal Commission on National Health Insurance: Psychology of the Memorandum of Evidence.

SIR,—It may have been that the polemics of destructive criticism appealed less to the liking of the Council than an exhibition in the gentle art of constructive unification, which probably accounts for the omission from the Memorandum of any reference to the pernicious aspects of the Regulations, and to the abuse of "the semi-judicial functions of the Ministry." Be this as it may, it is wellnigh incredible that the Conference could have pledged the commitment of the profession's preparedness "to undertake the work in accordance with the scheme of National Health Insurance" therein outlined, which is more notable for discrepancy of fact than consistency of purpose, and of which the following may be cited as examples of the disregard for immaculate exactitude:

1. In face of the radical amendments of the Regulations and terms of service respectively advocated in Sections C and D, Part II, of the Memorandum, how the Council could have had the temerity to subscribe its endorsement to an assertion which

claims "it is during the last three years only that the system can be said to have been working in a really smooth and normal fashion," is absolutely incomprehensible. If a progressive increase in degradation and servility, consistently heaped upon the practitioner's integrity, be the comparative criterion of a growing acceptability of the medical service, then the number of delinquent offences recorded against practitioners, having increased threefold "during the last three years," amply testifies to the bureaucratic art of administering the Regulations "in a really smooth and normal fashion."

2. Although the Memorandum admits, by implication, the existence of this vicious propensity, and also complains that the rate of remuneration has all along been, and still is, inadequate, yet here the Council disavows all responsibility in both respects by leaving the former arrangements intact, whereby "the Association has for some years past been content to leave to the Conference the decisions of all questions of details, regulations, and negotiations as regards remuneration." What hope of betterment in that "content"?

3. There is no parallel in the annals of the profession comparable to the contumacious servitude of the panel system; it has done more in twelve years to prejudice the reputation and to lower the prestige of the profession in the public estimation than "club" practice has inflicted upon its votaries during the whole period of its unorganized existence from time immemorial; and it is morally certain that in no other field of part-time service, similarly conditioned, would the Council tolerate the exposure of the members to the "perils of the panel" for one moment, and would boycott the service as professionally derogatory; yet here we have the Council standing apathetically aside, in a sort of assumed *non possumus* attitude, in full view of the Minister's implements of vindictive castigation lashing his victims at the pleasure of his will.

4. After the meeting of the joint Conference, apparently the Council's inclination was more definitely bent on its mission to present a Memorandum of Evidence of the "really smooth and normal fashion" of the working of the system to the Royal Commission than to prosecute the claim of insurance practitioners for release from the duress of oppressive Regulations before that body up to March 25th, when at its meeting the Council decided there and then to adopt and to incorporate into the Memorandum a supplementary paragraph, previously drafted, of representations critical of "the semi-judicial functions of the Ministry" in relation to the "liberties of the profession." No practitioner could cavil at this belated action of the Council; but having regard to the circumstances of fact—(1) the omission of any reference to the subject-matter in the Memorandum; (2) the aversion of the Conference to discuss its bearing; (3) the absence of any mandate from the Conference to the Council; and (4) that this addendum of evidence cannot be considered to be one of the resolutions of the Conference which "were then reported to the Council at its meeting on March 25th, and were finally incorporated in the Memorandum here presented"—how does the Memorandum of Evidence, as amended by the Council, stand in relation to the endorsement of the Conference? The incorporation of this supplementary paragraph fundamentally alters the perspective of the whole context. The very nature of the animadversions amount to an admission that the system of service is *not* working in "a really smooth and normal fashion," and thereby dissipates the immaculacy of the basis, along with any justification for the claim that may have previously existed, on which to build the superstructure of a scheme of proposals, and whereby the Conference is absolved from its endorsement and pledge of commitment of the profession, etc.

It may be, after all, that public opinion, as voiced through the *Times* in a common-sense way, has effected by one fell stroke of the editorial pen what the loyalty and honour of professional brotherhood failed to undertake, either through the Council or the Insurance Acts Committee on behalf of its victimized members. Well may the outsider wonder what has become of the ancient and noble traditions of the medical profession. Echo, reverberating from the caverns of the Memorandum of Evidence, answers, *Non est*.—I am, etc.,

Eastbourne, April 18th.

WM. MUIR SMITH.

## VACANCIES.

BARNET: WELLHOUSE HOSPITAL.—Male Resident Medical Officer. Salary £350 per annum, with rations, furnished quarters, laundry, and attendance, or £420 with married quarters only.

BIRMINGHAM AND MIDLAND HOSPITAL AND DISPENSARY.—Resident House-Surgeon. Salary £175 per annum.

BIRMINGHAM UNION.—Senior Resident Surgical Officer at Dudley Road Hospital. Salary £700 per annum, rising to £1,000.

BRADFORD ROYAL INFIRMARY.—Two House-Surgeons (male). Salary £150 per annum.

CAMBRIDGESHIRE TUBERCULOSIS COLONY, PARNORTH HALL.—(1) Assistant Medical Officer. (2) House-Physician. Males (unmarried). Salary at the rate of £300 and £100 per annum respectively.

CARMARTHEN: JOINT COUNTIES MENTAL HOSPITAL.—Assistant Medical Officer. Salary £350 per annum.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE HEART AND LUNGS, Victoria Park, E.2.—House-Physician (male). Salary at the rate of £100 per annum.

COUNTY MENTAL HOSPITAL, Whittingham, Lancs.—Two temporary Medical Officers (male). Salary £7 7s. a week.

DURBAN CORPORATION, Natal.—Assistant Medical Officer of Health. Salary at the rate of £300 to £1,100 per annum.

EAST HAM COUNTY BOROUGH.—Lady Assistant Medical Officer. Salary £600 per annum.

ELISBOURNE: PRINCESS ALICE MEMORIAL HOSPITAL.—Male Resident House-Surgeon. Salary at the rate of £175 per annum, rising to £200 if reappointed after six months.

EDINBURGH: ROYAL EDINBURGH HOSPITAL FOR SICK CHILDREN.—Vacancy on the Surgical Staff.

EGYPTIAN GOVERNMENT.—Assistant Professor of Chemistry at the Cairo School of Medicine. Initial salary of £E.720 a year in a class £E.720-950.

GRANTHAM BOROUGH.—Medical Officer of Health. Salary £150 per annum.

HOLLAND COUNTY COUNCIL, Lincolnshire.—Assistant County Medical Officer (woman). Salary £500 per annum.

HOSPITAL FOR EPILEPSY AND PARALYSIS, Maidstone, W.9.—Honorary Assistant Physician.

KING'S COLLEGE HOSPITAL, Denmark Hill, S.E.5.—Psychotherapist.

LIVERPOOL: ROYAL SOUTHERN HOSPITAL.—Pathological and Bacteriological Laboratory Assistant. Salary £200 per annum.

LONDON LOCK HOSPITAL, 91, Dean Street, W.1.—Temporary Honorary Surgeon to Out-patients (female).

MANSFIELD AND DISTRICT HOSPITAL.—House-Surgeon (male). Salary at the rate of £175 per annum.

PORTSMOUTH: NATIONAL NAUTICAL SCHOOL.—Resident Medical Officer. Salary at the rate of £150 per annum.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney Road, E.2.—Assistant Surgeon.

ROYAL FREE HOSPITAL, Gray's Inn Road, W.C.1.—Third House-Surgeon in the Gynaecological Unit (female).

ROYAL SOCIETY OF MEDICINE, 1, Wimpole Street, W.1.—Secretary. Commencing salary £500 per annum.

RUTHEN CASTLE (DUFF HOUSE), North Wales.—Resident Physician (junior). Salary £150 per annum.

ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN, Plaistow, E.13.—(1) Resident Medical Officer. (2) Assistant Resident Medical Officer. Salary at the rate of £175 and £130 per annum respectively.

SAMARITAN FREE HOSPITAL FOR WOMEN, Marylebone Road, N.W.1.—Registrar. Salary at the rate of £100 per annum.

SHEFFIELD COUNTY BOROUGH.—Part-time Medical Officers for additional Infant Welfare Clinic Sessions. Remuneration 1½ guineas per session.

STENDENLAND: ROYAL INFIRMARY.—House-Physician (male). Salary £140 per annum.

WESTMORLAND SANATORIUM, Meathop, Grange-over-Sands.—Resident Assistant Medical Officer. Salary £350 per annum, rising to £400.

WOLVERHAMPTON AND STAFFORDSHIRE HOSPITAL.—House-Surgeon. Salary at the rate of £150 per annum.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces the following vacant appointments: Lyndhurst (Hants), Calvert (Bucks).

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Tuesday morning.

## DIARY OF SOCIETIES AND LECTURES.

ROYAL SOCIETY OF MEDICINE.  
Section of Otolaryngology: Mon., 8 p.m., Clinical Evening.  
Section of Medicine: Tues., 5.30 p.m., Professor E. Leschke (Berlin): Metabolism and the Sympathetic System. Dr. O. Leyton: Hypoglycemia.  
Section of Laryngology: Fri., 4 p.m., Cases. 5 p.m., Annual General Meeting. A Combined Dinner of the Sections of Laryngology and Otolaryngology will be held at the Langham Hotel on Friday, May 1st, at 7.30 for 8 p.m.  
Section of Anaesthetics: Fri., 8.30 p.m., Annual General Meeting. Dr. J. Blomfield: Accidental Damage during Anaesthesia.  
Section of Ology: Sat., 9.45 a.m., Cases. 10.30 a.m., Annual General Meeting. Mr. Arthur Cheate: The Mastoid Emissary Vein and its Surgical Importance (with Specimens and Lantern Slides).

## POST-GRADUATE COURSES AND LECTURES.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION, 1, Wimpole Street, W.1.—Hans. . . . . Denmark Hill, N.W.5.—Special Post-graduate . . . . . and Surgery, Hackney Road, Bethnal Green. . . . . for Children, St. Mark's Hospital for Diseases . . . . . 1 afternoon. Post-graduate Course in Proctology: Lectures, Demonstrations, and Operations every afternoon.  
WEST LONDON HOSPITAL POST-GRADUATE COLLEGE . . . . . 12 noon, applied Anatomy. Tues., 12 noon. Medical Wards. Thurs., 10 a.m., Neuro. 10.30 a.m., Skin Department. Sat., 10 Children. Daily 10 a.m. to 6 p.m., Sat. 10 Out-patients, Operations, Special Departments.  
BIRMINGHAM UNIVERSITY.—Tues., 3.30 to 5 p.m., The Specific Treatment of Some Acute Infections.  
ST. MARY'S HOSPITAL, Institute of Pathology and Research, Paddington, W.2.—Thurs., 5 p.m., Chemotherapeutic Agents.  
GLASGOW POST-GRADUATE MEDICAL ASSOCIATION.—At Royal Hospital for Sick Children: Wed., 4.15 p.m., Surgical Cases.  
LIVERPOOL UNIVERSITY.—At Royal Infirmary: Fri., 3.30 p.m., Medical Cases.  
LIVERPOOL UNIVERSITY CLINICAL SCHOOL.—3.30 p.m., Tues., Royal Southern Hospital: Common Skin Infections in Childhood. Wed., Northern Hospital: Activities of the Hip. Thurs., Stanley Hospital: Ovarian Tumours. Fri., Royal Infirmary: Recent Therapeutic Advances.  
MANCHESTER BAYNES' HOSPITAL, Burnage Lane, Levenshulme.—Fri., 8 p.m., The Use of Insulin for Young Children.  
MANCHESTER ROYAL INFIRMARY.—Tues., 4.15 p.m., Empyema of the Maxillary Antrum. Fri., 4.15 p.m., Medical and Surgical Cases.

## British Medical Association.

OFFICES AND LIBRARY, 122, STRAND, LONDON, W.C.2.

### Reference and Lending Library.

THE READING ROOM, in which books of reference, periodicals, and standard works can be consulted, is open to members from 10 a.m. to 6.30 p.m., Saturdays 10 to 2.

LENDING LIBRARY: Members are entitled to borrow books, including current medical works; they will be forwarded if desired, on application to the Librarian, accompanied by £1. for each volume for postage and packing.

### Departments.

SUBSCRIPTIONS AND ADVERTISEMENTS (Financial Secretary and Business Manager, Tel. . . . . London).  
MEDICAL SECRETARY . . . . . and London).  
EDITOR, British . . . . . and Aetiology, Westminster, London).  
Telephone number for all departments: Gerrard 2630 (3 lines).

SCOTTISH MEDICAL SECRETARY: 6, Portland Square, Edinburgh. (Telegrams: . . . . . 4361 Central.)  
IRISH MEDICAL SECRETARY: . . . . . Frederick Street, Dublin. (Telegrams: . . . . . 4737 Dublin.)

### Diary of the Association.

- APRIL.
- 23 Tues. North Wales Branch: Imperial Hotel, Rhyl, 2 p.m.  
29 Wed. London: Contract Practice Subcommittee, 2.30 p.m.  
North Middlesex Division: Prince of Wales's Hospital, Tottenham. Paper by Mr. Frank Cole on Asthma, 3.30 p.m.  
Rochdale Division: Annual Meeting, Wellington Hotel, Drake Street, Rochdale, 8.30 p.m.  
South-Eastern Counties Division, Edinburgh Branch: Annual Meeting, Railway Hotel, Newtoun St. Row, 5 p.m.  
30 Thurs. City Division: Divisional Dinner and Dance, Holborn Restaurant, 7.30 p.m.  
North Northumberland Division: Infirmary, Alnwick, 3 p.m.  
Ulster Branch: At Londonderry. B.M.A. Lecture by Lieut. Colonel R. McCarrison, C.I.E.: Some Problems of Thyroid Disease.  
West Middlesex Division: West Middlesex Hospital, Hareworth, 4 p.m.
- MAY.
- 1 Fri. Southport Division: 52, Highton Street. B.M.A. Lecture by Dr. A. F. Hurst: The Pathogenesis, Diagnosis, and Treatment of Duodenal Ulcer, 8 p.m.  
Stockton Division: Annual Meeting, Stockton and Thornaby Hospital, 8.30 p.m.  
5 Tues. London: Maternity and Child Welfare Subcommittee, 2.30 p.m.  
Harrrogate Division: Annual Meeting, Imperial Café, Parliament Street, 8.30 p.m.  
6 Wed. Croydon Division: Annual Meeting, Croydon General Hospital, 3.30 p.m. Clinical Meeting will follow.  
South Middlesex Division: Annual Meeting, St. John's Hospital, Twickenham, 8.30 p.m.  
7 Thurs. Guildford Division: Clinical Meeting, Royal Surrey County Hospital, Guildford, 4 p.m. Tea, 3.45.  
Kensington Division: Divisional Dance, Town Hall.  
North Glamorgan and Brecknock Division: B.M.A. Lecture by Mr. Joseph E. Adams, F.R.C.S.: Acute Abdominal Symptoms in Children, at 6 p.m. To be followed at 7.30 by a Dinner at the New Inn Hotel, Pontypridd.  
Westminster and Holborn Division: Annual General Meeting. Criterion Restaurant. Dinner, 7.30 p.m. Paper by Sir W. J. Collins on the Control of the Traffic in Drugs of Addiction, 8.30 p.m.  
8 Fri. London: Science Committee, 2.30 p.m.  
London: Food Subcommittee of Public Health Committee, 4.30 p.m.  
Chesterfield Division: Maternity Hospital, Chesterfield. Discussion on Difficulties in Breast Feeding to be opened by Dr. H. W. Pooler, 8.30 p.m.  
Marylebone Division: Annual Meeting, 11, Chandos Street, W.1, 8.30 p.m.

## BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcement of Births, Marriages, and Deaths is 5s., which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.

### BIRTHS.

EVANS.—On March 26th, at Aden, Arabia, to Marjorie, the wife of Captain R. R. Evans, R.A.M.C., a daughter.  
WILLIAMS.—April 17th, at Clewyd, Longacre Road, Carmarthen, to the wife of Dr. Howell Williams (Olwen Gee), a son.

### MARRIAGES.

ELLIOTT-RICHARDS.—On April 4th, at St. Paul's, Hampstead, Charles G. Elliott, D.S.C., M.D., M.R.C.S., of Seaford, Sussex, to Lorna Richards, M.B. Ch.B., of 284, Hagley Road, Edgbaston, Birmingham.  
EVANS-BATES.—On April 16th, at South Croydon Church, Huddersfield, by the Rev. W. La Nave Bower, M.A., Wilfred M. Evans, M.B., of Clongarth, Doncaster Road, Rotherham, son of Mr. and Mrs. J. M. Evans, Netherton, to Ethel, daughter of Mr. and Mrs. Albert Dates of South Croydon.  
MARTLAND-GERWIN.—On April 21st, at St. Andrew's Church, Barnet Green, Worcestershire, by the Rev. Hugh P. Jones, Dr. William Lionel Martland of Moorlands, Henthwaite Road, Woking, younger son of Dr. Martland, J.P., and Mrs. Martland, J.P., of Queen's Road, Oldham, to Elsa Margret, second daughter of Mr. and Mrs. William Gerwin of Barnet Green, Worcestershire.  
SMITH-CHAVE.—On April 17th, at All Saints' Church, Longstanton, Cambridgeshire, by the Vicar, the Rev. H. B. Woolley, James Norman Douglas Smith, M.B. Ch.B., eldest son of the late Mr. James Nicholl Smith, Ashwood, Broughty Ferry, to Gwendoline Chave, M.R.C.S., L.R.C.P., youngest daughter of the late Mr. and Mrs. Edward Chave, Cannessfield, Taunton.

### DEATH.

RAYNE.—On April 17th, at St. Mary's, Lancashire, Charles Alfred Rayne, M.D., aged 79.

# SUPPLEMENT TO THE BRITISH MEDICAL JOURNAL.

LONDON, SATURDAY, MAY 2ND, 1925.

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### British Medical Association.

#### CURRENT NOTES.

##### Glasgow and Recruitment for the Association.

It will give great pleasure to those who are interested in the success of the British Medical Association to hear that the membership now exceeds 29,000. This is nearly 3,000 above the high-water mark of 1912, the culmination of a period of temporary inflation. The present figures show a clear and steady gain to the Association of over 9,000 members during the last seven years. The causes of this satisfactory situation are many, but one of the most outstanding is the action of those Branches and Divisions in whose areas lie the medical schools, and of this action the Glasgow and West of Scotland Branch has just reported a striking example. On April 21st the Branch held a social reception of the new graduates in the University Union; the 110 who attended were received by the President of the Branch, Dr. W. T. Blakeley, and other members of the Branch Council, and entertained to tea, followed by a musical programme provided by Dr. J. Wallace Anderson, Mrs. Anderson, and some lady friends. After the musical programme, which was greatly enjoyed, the President introduced Professor J. R. Currie, who addressed the new graduates in a manner which was highly appreciated. He was followed by Dr. Drever, the Scottish Medical Secretary, who dealt specially with the work of the Association, by Dr. G. A. Allan, and by the Chairman. The result of this effort of the Branch was most gratifying, as out of the 131 who graduated on April 22nd, 122 have joined the Association, and the Branch, and especially its energetic secretary, Dr. J. G. McCutcheon, are to be highly congratulated.

##### Puerperal Morbidity Committee.

As has already been announced, the Council at its last meeting appointed a special committee to consider and report on the causation of puerperal morbidity and mortality, and on the administrative action, if any, that should be taken in connexion with the matter. The Committee consists of the officers of the Association, the Chairman of the Medico-Political Committee (Mr. E. B. Turner, London), Mr. Comyns Berkeley (London), Dr. J. W. Bone (Luton), Dr. G. F. Buchan (Willesden), Dr. H. J. Cardale (London), Dr. C. E. Douglas (Cupar, Fife), Dr. C. E. S. Flemming (Bradford-on-Avon), Sir Ewen Maclean (Cardiff),

Dr. Christine Murrell (London), Dr. Mabel Ramsay (Plymouth), Dr. W. E. Thomas (Ystrad Rhondda), and Sir T. Jenner Verrall (Leatherhead), with power to co-opt not more than two other members. The Committee met on April 23rd, and agreed that this was an opportunity for the British Medical Association to do a piece of professional work which, it was hoped, would not only redound to its credit, but prove of great benefit to the public. Sir Ewen Maclean was appointed chairman. The Committee will have before it the report of Dame Janet Campbell, the report of the Scottish Departmental Committee on Puerperal Morbidity and Mortality, the report of the Special Committee of the Section of Obstetrics and Gynaecology of the Royal Society of Medicine, and the Transactions of the Congress of Obstetrics and Gynaecology held last week. The Committee will be glad to receive from any members of the profession further information on the subject, or suggestions as to action that might usefully be taken. These should be addressed to the Medical Secretary, 429, Strand, W.C.2.

##### Australasian Medical Congress, 1923.

The Transactions of the Australasian Medical Congress (British Medical Association), which was held in Melbourne from November 12th to 17th, 1923, were published as a Supplement to the *Medical Journal of Australia*, and have now been reprinted in book form. An account of the Congress appeared in four issues of the *BRITISH MEDICAL JOURNAL* (January 5th, 12th, 19th, and 26th, 1924), and the fuller details now available will be of considerable interest to those who have appreciated its importance. The British Medical Association was represented by its retiring President, the late Sir William Maclewen, and abstracts of the address he delivered and of his contributions to the discussions are included. The volume is well bound and has a good index.

##### Flags for the Great Hall.

By an inadvertence Leicester was omitted from the list of those areas in which Annual Meetings of the British Medical Association have been held which propose to present a flag for hanging in the Great Hall in the new home of the Association. Intimations have been received from several secretaries that the matter is under consideration, and it is hoped that on the opening day every niche will be filled.

<sup>1</sup> *Australasian Medical Congress* (British Medical Association). Transactions of the First Session, Melbourne. Sydney: Sydney and Melbourne Publishing Co., Ltd. 1924. (Demy 4to, pp. viii+552; illustrated.)



## Association Notices.

PROPOSED CHANGE OF AREAS OF DERBY AND  
CHESTERFIELD DIVISIONS.

NOTICE is hereby given to all concerned of the following proposal made by the Executive Committee of the Chesterfield Division:

That the Baslow and Bubbnell Urban District, and the Civil Parish of Eyam in Bakewell Rural District, be transferred from the Derby to the Chesterfield Division.

Written notice of the proposal is being given to the Midland Branch and the Chesterfield and Derby Divisions, and the matter will be determined in due course by the Council of the Association. Any member affected by the proposed change, and objecting thereto, is requested to send a statement of the fact, and of the reasons therefor, to the Medical Secretary, 429, Strand, W.C.2, to reach him not later than June 2nd, 1925.

ALFRED COX, Medical Secretary.

## TABLE OF DATES.

May 9, Sat.	Publication in SUPPLEMENT of nominations for election of 24 members of Council by grouped Home Branches, 2 Public Health members of Council, and 4 Public Health Service Representatives. Voting papers posted.
May 12, Tues.	Independent motions for A.R.M. Agenda must be received at Head Office by this date.
May 16, Sat.	Last day for receipt of voting papers for election of 24 members of Council, and 4 Public Health Service Representatives.
May 30, Sat.	Publication in SUPPLEMENT of Independent motions for A.R.M. Agenda. Representatives and Deputy-Representatives must be elected by this date.
June 4, Thurs.	Publication in SUPPLEMENT of results of Council elections by grouped Branches, and of election of members of Public Health Service members.
June 10, Wed.	Nomination papers available for election of 12 members of Council by grouped Home Representatives and Deputy-Representatives must be received by this date.
June 18, Thurs.	Names of Representatives and Deputy-Representatives must be received by this date.
June 27, Sat.	Meetings of Constituencies must be held between this date and July 17th to instruct Representatives.
July 3, Fri.	Supplementary Report of Council appears in SUPPLEMENT. Amendments and riders for issue in A.R.M. Agenda must be received by this date.
July 17, Fri.	Annual Representative Meeting opens at Bath. Nominations for election of 12 members of Council by grouped Representatives must be received (at A.R.M., Bath) by this date.
July 18, Sat.	Annual Representative Meeting, Bath.
July 20, Mon.	Annual Representative Meeting, Bath.
July 21, Tues.	Annual Representative Meeting, Bath.
July 22, Wed.	Bath, President's Address.
July 23, Thurs.	Council, Meetings of Sections, Conference of Honorary Secretaries, Bath.
July 24, Fri.	Meetings of Sections, etc., Bath.

ALFRED COX, Medical Secretary.

## BRANCH AND DIVISION MEETINGS TO BE HELD.

**BATH AND BRISTOL BRANCH: BRISTOL DIVISION.**—A meeting of the Bristol Division will be held at the University, Room 40, to-day (Friday, May 1st), at 5 p.m. Business: To elect Representatives and Deputy Representatives for the Annual Meeting at Bath; to consider the Annual Report of Council. The sections will be introduced as follows: (a) Medical Ethics and Medico-Political, by Dr. Bristowe; (b) National Health Insurance, by Dr. Robertson; (c) Public Health, by Dr. Askins; (d) Hospital Policy, by Dr. Herapath. Members are requested to take with them to the meeting the SUPPLEMENT to the BRITISH MEDICAL JOURNAL of April 11th.

**BORROW BRANCH: DUMFRIES AND GALLOWAY DIVISION.**—The annual meeting of the Dumfries and Galloway Division will be held in the Royal Infirmary, Dumfries, on Thursday, May 21st, at 3.30 p.m. Professor B. P. Watson, M.D. (Edinburgh University), will deliver a British Medical Association Lecture on the treatment of abortion.

**CAPE OF GOOD HOPE (WESTERN) BRANCH.**—A meeting of the Cape of Good Hope (Western) Branch will be held on Friday, May 29th, at 8 p.m., when a discussion on asthma will take place. Among the contributors to the debate are Professor W. Campbell, Professor J. W. C. Gunn, Mr. C. E. Jones-Phillipson, and Dr. P. W. J. Keet.

**DORSET AND WEST HANTS BRANCH: Bournemouth Division.**—The annual meeting of the Bournemouth Division will be held on Wednesday, May 6th, at 4.15 p.m., in St. Peter's Hall, Bournemouth. Further report of Representative to Representative Meeting, 1924; report and financial statement for 1924; arrangement as to time and place of annual social meeting; election of officers and committee for 1925. The chairman, Dr. Morse, invites members to tea at 4 p.m.

**LANCASHIRE AND CHESHIRE BRANCH: HYDE DIVISION.**—A picnic to Nantwich will be held on Thursday, May 21st, in which it is hoped that as many members as possible will participate. Messrs. "Trufood," Ltd., of Wrenbury, have offered to show the party over their dried milk factories and demonstrate the process of manufacture. Nantwich has an excellent golf course, and the secretary would endeavour to arrange for permission to play for those desiring to do so. Details of meeting place and route will be announced later.

**LANCASHIRE AND CHESHIRE BRANCH: SOUTHPORT DIVISION.**—A meeting of the Southport Division will be held at 52, Hoghton Street, Southport, to-day (Friday, May 1st), at 8 p.m., when Dr. A. F. Hurst will give a British Medical Association Lecture on the pathogenesis, diagnosis, and treatment of duodenal ulcer.

**METROPOLITAN COUNTIES BRANCH: CITY DIVISION.**—A meeting of the City Division will be held at the Metropolitan Hospital, Kingsland Road, on Tuesday, May 12th, at 9.30 p.m., when a paper will be read by Dr. A. Westerman, chairman of the Division.

**METROPOLITAN COUNTIES BRANCH: KENSINGTON DIVISION.**—The Kensington Division will be held at the Kensington Town Hall on Thursday, May 7th. All money over after expenses have been paid will be handed to the Royal Medical Benevolent Fund and the Royal Medical Benevolent Fund Guild.

**METROPOLITAN COUNTIES BRANCH: LEWISHAM DIVISION.**—The annual meeting of the Lewisham Division will be held at the Parish Room, St. Laurence Vicarage, Catford, S.E.6, on Tuesday, May 19th, at 8.45 p.m., when an address will be delivered by Dr. James Neal, secretary of the Medical Defence Union.

**METROPOLITAN COUNTIES BRANCH: MARYLEBONE DIVISION.**—The annual general meeting of the Marylebone Division will be held at election of officers and representatives and nominations to the Branch Council. A discussion on the annual report of Council will also take place.

**METROPOLITAN COUNTIES BRANCH: SOUTH MIDDLESEX DIVISION.**—The annual meeting of the South Middlesex Division will be held at St. John's Hospital, Twickenham, on Wednesday, May 6th, at 8.30 p.m. Agenda: Election of officers; reports (1) of the Representative, (2) of the Honorary Secretary.

**METROPOLITAN COUNTIES BRANCH: SOUTH-WEST ESSEX DIVISION.**—A meeting of the South-West Essex Division will be held at Livingstone College, Knotts Green, Leyton, on Tuesday, May 5th, at 3.30 p.m. Agenda: Election of Representative to the Representative Body; to discuss the Annual Report of Council of the British Medical Association and to prepare any resolutions pertaining thereto. At 4.15 p.m. Dr. J. H. Sequeira will give a demonstration of the modern treatment of tuberculosis of the skin and will show a series of lantern slides. Tea will be served at 3.15.

**METROPOLITAN COUNTIES BRANCH: WESTMINSTER AND HOLBORN DIVISION.**—The annual general meeting of the Westminster and Holborn Division will be held at the Criterion Restaurant on Thursday, May 7th, at 8.30 p.m. After the business a paper will be read by Sir William J. Collins, K.C.V.O., M.D., F.R.C.S., entitled "The control of the traffic in drugs of addiction." The meeting will be preceded by dinner at 7.30, the price of which (5s.) should be paid to the Secretary at the table. A large attendance is hoped for.

**MIDLAND BRANCH: CHESTERFIELD DIVISION.**—The annual general meeting of the Chesterfield Division will be held at the Station Hotel, Chesterfield, to-day (Friday, May 1st), at 3 p.m. Agenda: Annual report and balance sheet; election of officers; Reports of Council and instructions to Representative (see SUPPLEMENTS to BRITISH MEDICAL JOURNAL, April 11th and 18th).

**NORTH OF ENGLAND BRANCH: NORTH NORTHUMBERLAND DIVISION.**—A meeting of the North Northumberland Division will be held on Thursday, April 30th, at 8.30 p.m. Agenda: Election of officers; Reports of Council and instructions to Representative (see SUPPLEMENTS to BRITISH MEDICAL JOURNAL, April 11th and 18th).

**NORTH OF ENGLAND BRANCH: STOCKTON DIVISION.**—The annual general meeting of the Stockton Division will be held in the Stockton and Thornaby Hospital to-day (Friday, May 1st), at 8.30 p.m. Agenda: Election of (1) office-bearers, (2) Representative and Deputy Representative to the Representative Body; Annual Report of Council (see SUPPLEMENT, April 11th).

**NORTH OF ENGLAND BRANCH: SUNDERLAND DIVISION.**—A scientific meeting of the Sunderland Division will be held at the Mental Hospital, Ryhope, on Wednesday, May 27th, at 3.30 p.m. All members of the Division are invited to be present.

**SHROPSHIRE AND MID-WALES BRANCH.**—The annual spring meeting of the Shropshire and Mid-Wales Branch will be held at the Royal Salop Infirmary on Tuesday, May 19th, at 3.30 p.m., when Dr. R. A. Young, physician to the Middlesex and Brompton Hospitals, will read a paper. The Annual Report of the Council (published in the SUPPLEMENT of April 11th) will be considered, and officers elected for the ensuing year. A large attendance is hoped for.

**SOUTH MIDLAND BRANCH: BEDFORDSHIRE DIVISION.**—A general meeting of the Bedfordshire Division will be held at the Bedford County Hospital on Tuesday, May 5th, at 3 p.m. Agenda: To elect a Representative and Deputy Representative; to consider the Annual Report of Council for 1924-25 (see SUPPLEMENT to BRITISH MEDICAL JOURNAL for April 11th, which members are requested to take to the meeting). Tea will be provided.

**SOUTH WALES AND MONMOUTHSHIRE BRANCH: NORTH GLAMORGAN AND BRECKNOCK DIVISION.**—A meeting of the North Glamorgan and Brecknock Division will be held on Thursday, May 7th, at 6 p.m., when Mr. Joseph E. Adams will give a British Medical Association Lecture on acute abdominal symptoms in children. The meeting will be followed at 7.30 by a dinner at the New Ion Hotel, Pontypridd.

**SOUTH-WESTERN BRANCH.**—An intermediate meeting of the South-Western Branch will be held at Barnstaple on Thursday, May 7th. The agenda paper will be circulated in due course.

**SOUTH-WESTERN BRANCH: EXETER DIVISION.**—The next meeting of the Exeter Division will be held to-day (Friday, May 1st), at 3.30 p.m., in the library of the Royal Devon and Exeter Hospital, when Dr. F. A. Roper will give a lecture on some principles in endocrinology.

**STAFFORDSHIRE BRANCH: NORTH STAFFORDSHIRE DIVISION.**—A special meeting of the North Staffordshire Division will be held at the North Stafford Hotel on Tuesday, May 5th, at 3.45 p.m., when Mr. L. E. Young will take the chair. The agenda includes consideration of the Annual Report of Council and appointment of Representative to Representative Body.

**SURREY BRANCH: CROYDON DIVISION.**—The annual meeting of the Croydon Division will be held at the Croydon General Hospital on Wednesday, May 6th, at 3.30 p.m. It will be followed by a clinical meeting.

**SURREY BRANCH: GUILDFORD DIVISION.**—The Guildford Division will hold a clinical meeting in the wards of the Royal Surrey County Hospital, Guildford, on Thursday, May 7th, at 4 p.m.; tea will be served at 3.45.

**SURREY BRANCH: KINGSTON-ON-THAMES DIVISION.**—The annual general meeting of the Kingston-on-Thames Division will be held at Surbiton Hospital on Tuesday, May 5th, at 8.30 p.m. Agenda: Annual report; election of officers for 1925-26; consideration of Annual Report of Council (British Medical Journal Supplement for April 11th, which members are requested to take with them); and instruction of Representatives; adoption of new rules.

**WORCESTERSHIRE AND HEREFORDSHIRE BRANCH: HEREFORD DIVISION.**—A meeting of the Hereford Division will be held at 20, East Street, Hereford, on Monday, May 4th, at 3.30 p.m. The agenda include consideration of mileage fees for emergency midwifery cases; election of Representative and Deputy Representative to Annual Representative Meeting.

**YORKSHIRE BRANCH: HARROGATE DIVISION.**—The annual meeting of the Harrogate Division will be held at the Imperial Café, Parliament Street, on Tuesday, May 5th, at 8.30 p.m.

**YORKSHIRE BRANCH: SHEFFIELD DIVISION.**—The annual meeting of the Sheffield Division will be held at the Church House, St. James Street, Sheffield, on Friday, May 15th, at 8.30 p.m. Agenda: Report of Executive Committee; election of officers and Representatives.

## Meetings of Branches and Divisions.

### ASSAM BRANCH.

The annual general meeting of the Assam Branch was held at Jorhat on March 2nd, when the President, Dr. E. T. JAMESON, was in the chair.

Papers were read by Lieut.-Colonel CHRISTOPHERS, I.M.S., Lieut.-Colonel PALMER, R.A.M.C.(ret.), Dr. G. C. RAMSAY, Dr. F. W. O'CONNOR, and Dr. C. STRICKLAND, Professor of Entomology, School of Tropical Medicine, Calcutta.

The report of the Branch Council for the year 1924 was read, and the audited statement of accounts submitted and approved.

The following officers were elected for 1925:  
President, Dr. G. C. Ramsay, O.B.E. Honorary Secretary and Treasurer, Dr. D. Meek, Khumbir P.O., Cachar.

It was resolved to extend a cordial welcome to the Chairman and Vice-Chairman of the Assam and Surma Valley Branches of the Indian Tea Association and a Calcutta representative from each Calcutta tea agency house at any meetings of the Branch.

### LANCASHIRE AND CHESHIRE BRANCH: MID-CHESHIRE DIVISION.

The following officers have been elected for the ensuing year:

Chairman, Dr. R. Manwaring-White. Vice-Chairman, Dr. T. Morton. Honorary Secretary, Dr. R. Reid Duncan. Representative in Representative Body, Dr. T. W. H. Garstang. Deputy Representative, Dr. P. R. Cooper.

The report of the Executive Committee presented to the annual meeting gave particulars of lectures delivered to the Division during the year, including one on the legal aspect of insanity by Mr. N. J. Laski, barrister-at-law, and two British Medical Association Lectures—by Dr. Geoffrey Evans (London) on the essential signs of arterio-sclerotic disease, and by Dr. Kinnier Wilson (London) on neuritis and neurasthenia—which were much appreciated by those present.

### LANCASHIRE AND CHESHIRE BRANCH: WARRINGTON DIVISION.

The annual meeting of the Warrington Division was held at the Infirmary on April 24th, when Dr. A. ANDERSON was in the chair. The Secretary, Dr. J. S. MANSON, reported that there had been seven ordinary meetings of the Division during the year and five meetings of the Executive Committee. The Scientific Meeting held in December was a great success.

The following were elected officers for the ensuing session:  
Chairman, Dr. J. S. Manson. Vice-Chairman, Dr. Albert Jones, D.S.O., M.C. Secretary and Treasurer, Dr. David Melkie.

The Annual Report of Council was discussed, but no formal resolutions were adopted. This business was left to the joint meeting with the St. Helens Division on May 14th.

### METROPOLITAN COUNTIES BRANCH: HENDON DIVISION.

#### Inaugural Meeting.

The inaugural meeting of the Hendon Division was held on April 23rd at the Refectory Restaurant, Golders Green, N.W. Mr. N. BISHOP HARMAN, F.R.C.S., Treasurer of the British Medical Association, presided, and after some introductory remarks Mr. H. STEDMAN was appointed chairman of the meeting.

The notice convening the meeting was read, and the report that

the area of the Division be the Urban District of Hendon was received. The meeting adopted (1) rules of organization, and (2) rules governing procedure in ethical matters.

The following officers were appointed for the ensuing year:

Chairman, Mr. H. STEDMAN. Vice-Chairman, Professor R. T. LEIPER, F.R.S. Honorary Secretary, Mr. MYER COPLAND. Clinical Secretary, Mr. LEONA. Representative Body, Dr. James Neal.

The Executive Committee was appointed to act as an Ethical Committee. Further consideration of the clinical and social activities of the Division was postponed until the next meeting.

On the motion of Professor R. T. LEIPER, seconded by Dr. KATHELEEN BROWN, a vote of thanks was unanimously accorded to Mr. H. STEDMAN for his services as chairman of the meeting.

### SOUTHERN BRANCH: WINCHESTER DIVISION.

A most successful meeting of the Winchester Division was held on April 23rd, at Lord Mayor Treloar Cripples' Hospital and College at Alton, by the courtesy of the medical superintendent, Sir Henry Gauvain.

On the conclusion of the usual routine business the members, and also several non-members who had accepted the invitation of the Executive Committee, visited the wards, where Sir HENRY GAUVAIN demonstrated the different measures employed in the treatment of the large numbers of every variety of surgical tuberculosis dealt with. Great interest was shown in the methods of quarantine in force with all newly admitted cases to avoid the introduction of the various infectious diseases which are always such a huge burden in the administration of children's hospitals. The visit to the light department was a revelation to the party. Sir Henry described the various types of apparatus in use and the technique followed, illustrating his remarks by showing many cases in various stages of cure. Visits were also paid to the open-air wards, nursery school, and the splint room. In the latter, numbers of celluloid jackets, splints, etc., in different stages of manufacture were shown. Finally, in the photographic department a large number of photographs were exhibited of children under treatment at Alton and the Haying Island branch, which graphically illustrated the different methods employed and the brilliant results achieved at both places.

After a hearty vote of thanks had been accorded to Sir Henry Gauvain, the latter entertained the party to tea, thus bringing to a happy conclusion a meeting that will be long remembered by those who were fortunate enough to take part in it.

## National Insurance.

### THE ROYAL COMMISSION.

THE twenty-fifth meeting of the Royal Commission on National Health Insurance was held at the Home Office on April 23rd, Sir Andrew Duncan in the chair.

Evidence was given on behalf of the National Sailors' and Firemen's Union by Mr. Chambers, who dealt with the special arrangements for seamen. The Loyal Order of Ancient Shepherds, represented by Mr. Grieve, Deputy Chief Shepherd, and Mr. Saunders, general secretary, were examined on questions of extensions of benefit, pooling of surpluses, organization of branch societies, etc. The Association of Approved Societies, representing about 150 societies and 1,500,000 members, gave evidence through Messrs. Hilton, Robert Smith, and Goodwin on matters affecting their constituent societies. Thereafter Miss A. Cameron and Miss M. Hamilton were examined on behalf of the Standing Committee of Scottish Insured Women as to a variety of matters affecting women's interests in health insurance.

Proof copies of the oral evidence and the relative statements submitted at the meetings of March 26th and April 2nd, 1925, may be obtained from H.M. Stationery Office, Adastral House, Kingsway, London, W.C.2, on remittance of cost (4s. 6d. and 2s. 3d. respectively) and postage.

### FACTORY MEDICAL SERVICES AS A PART OF NATIONAL HEALTH INSURANCE.

#### EVIDENCE OF SIR T. M. LEGGE.

Evidence which the Chairman of the Commission described as "breaking new ground" was given to the Royal Commission on National Health Insurance on April 2nd by Sir Thomas Morison Legge, M.D., Senior Medical Inspector of Factories. His proposals, which represented his personal views and were not in any sense official, were that the certifying factory surgeons should be brought into the administration of National Health Insurance, and that the clinical knowledge of insurance practitioners should be utilized in preventive work in factories.

Sir Thomas Legge pointed out that while workers in factories went to their insurance practitioners when they became ill, there was no reciprocal provision in factories whereby, as a result of preventive measures in the individual case, the sickness claims which fell ultimately on insurance funds might be prevented from arising. The present duties of factory surgeons were to examine young people on entering employment, to examine

periodically the workers in certain dangerous or unhealthy industries, to examine and report on cases of industrial poisoning, and to grant certificates entitling workmen to compensation for scheduled diseases. In examining young persons in factories the surgeon was not required under the Factory Act to find out their deficiencies and rectify them; he had only to certify fitness or disablement. Probably not more than fifty factories in the country had a whole-time medical officer, and employers, in view of the contribution they already made under the Insurance Act, could hardly be expected to engage the services of such an officer. Even if they did so, objection would be raised on the part of trade unionists to accepting examination by a doctor paid by and (as they would think) working in the interests of the employer.

The witness was convinced that there was no chance of the creation of a new whole-time service of medical men as factory surgeons, and as a practicable alternative he supported some broadening of the National Health Insurance scheme whereby, in industrial areas, certain practitioners might be given, as their specific insurance work, the duty of keeping the industrial worker as far as possible from succumbing to illness, and so becoming a charge on insurance funds. He thought that both employers and trade unionists would welcome medical supervision in the factory by medical men for whose services both had contributed. Such a scheme of medical supervision which would involve the denial of employment to unfit men in certain factories, must be linked up with the employment exchanges, whose functions, he hoped, might also be broadened, so that such workers could have some suitable work found for them instead of being allowed to drift.

#### Medical Supervision in the Factory

The matters which would come under a proper system of medical supervision in the factory would be:

1. Initial detailed examination of all applicants for work.
2. Re-examination of such persons as the surgeon considered necessary, including periodical examination of the tuberculous and others with chronic illness.
3. Periodical examination of workers in dangerous processes.
4. Periodical inspection of first-aid and ambulance equipment.

In the course of oral examination, however, the witness receded from the first of these proposals, which he thought might be unattainable in practice as a compulsory measure, except as regards young persons. But he would welcome the submission of adults to voluntary examination, and he thought this might be forthcoming in view of the benefit in the way of advice which those who came forward would receive.

The witness deplored the fact that the relation of occupation to health should be excluded from the medical curriculum. "Men and women obtain their qualifications to practise as general practitioners without ever having had their attention called to the most important factor affecting the health of their patients—namely, occupation." He did not regard industrial hygiene as an entity in itself, but simply as a specialized part of general medicine and surgery, from which it could not properly be detached. He furnished statistics under the Workmen's Compensation Acts showing the long periods of disablement due to disease, contrasted with the shorter periods due to accident. It appeared that only one-third of the cases lasted for more than three months.

In reply to the Chairman (Sir Andrew Duncan) the witness said that it was because he felt so strongly that the insurance scheme was by far the greatest influence of a medical kind brought to bear upon persons employed in factories and workshops (comprising as it did every person employed, except those between 14 and 16 years of age) that he had brought the subject before the Commission. He described in detail the work of the certifying factory surgeons, and said that he wanted their work extended so that every factory and workshop should be in touch with a medical man specially entrusted with the duty of keeping watch over conditions of work in relation to health or conditions of health in relation to work.

#### Part-time Service Preferable.

Nearly all the present certifying factory surgeons were part-time officers who were engaged in general practice as well, and knew the factory workers in their own homes, although at present they were debarred from carrying out in the factory preventive medicine on clinical lines. His feeling was against whole-time service for this special work in factories. The practitioners employed should be in private practice, because private practice made them alert of mind and able to take quick decisions. "The worst of whole-time people is that they become drudges. They lose their initiative and their spirit. I like a person who is either connected with a hospital as a consultant, or who is doing private practice, for the work of a certifying surgeon." He was of opinion, however, that practitioners appointed to these part-time factory positions, if this was made a part of insurance administration, should not be in

ordinary insurance practice themselves in view of the difficulty which might arise as between the practitioner inside and the practitioner outside the factory. There must be no ground for the suspicion that the former was drawing patients to himself owing to his position in the factory. Each of the two practitioners should have his own sphere, one of them in the factory, where he could examine persons and refer them for treatment when necessary to their insurance practitioner with an indication of what he had discovered. The ideal was, of course, for every insurance practitioner to have the power of going into the factory or workshop and examining the conditions under which his patients worked, but as this might not be practicable he suggested a compromise whereby certain insurance practitioners would be specially selected to do this factory work—and no other insurance work—on behalf of the whole body.

In reply to Professor Alexander Grey, the witness said that in addition to the present certifying factory surgeon, whom he would desire to see taken over by the insurance administration to continue and extend the work he had been doing, he would have other medical men chosen by Local Medical Committees to undertake as their insurance practice supervision in factories. Asked how this would react on the remuneration of other practitioners, he said that he thought the expenditure of other practitioners of the considerable accumulations of surplus funds. The doctors selected should be paid according to the amount of time involved in the work; he would expect them to give up five mornings or afternoons a week. The number of factory workers assigned to a practitioner for his medical supervision might be as high as 25,000, so that if, say, there were 100,000 persons employed in the factories and workshops of Sheffield, there would be four of these special supervisors in that town. Factories scattered over rural areas would present a more difficult problem, but out of five million industrial workers four million were in big industrial districts.

#### Instruction in Occupational Hygiene.

Sir Thomas Legge went on to say, in answer to Sir Humphry Rolleston, that he was more and more convinced that the clinician was the person who was wanted in the factory, not the administrative officer merely. But although the certifying surgeon, under the system he had proposed, might find opportunity for clinical work in factories, his chief value there would be to stimulate the flow to insurance practitioners outside who were engaged solely in treatment, and thus the National Health Insurance scheme would be made more efficient as a means, not only of treating, but of forestalling disease. He did not accept Sir Humphry Rolleston's suggestion that insurance practitioners who took up this factory work might have their needs met by a post-graduate course on occupational hygiene provided by the Ministry of Health. He wanted the instruction to be in the student's curriculum. It might be that only a small proportion of those entering the profession would be occupied with factory work proper, but all in general practice were likely to come across patients suffering from strain due in some way or other to employment. He agreed that the problems of occupational ill health were just as important in regard to other occupations not carried on in factories, such as mining and constructional work, but he was not in a position to speak for these others.

Questioned with regard to the objection he had expressed to handing over factory administration to officials responsible to local authorities and not to a central department, the witness said that the local health authority could hardly ever have the requisite knowledge of the conditions obtaining in the great variety of industries and processes now followed, only a fraction of which could be brought in any one single locality. The Chairman remarked that the Commission had had in evidence strong recommendations that all the medical services of a given locality should be brought under the control of one health authority. The witness agreed that if effective co-operation could be brought about this was a consummation devoutly to be wished. It would mean a new creation of the local health authority, co-ordinating and equalizing the National Health Insurance service, the activities of the medical officer of health and any other services under central authorities. With regard to the factory part of the work, he would be content to leave to the Ministry of Health the arrangements for the control which he considered to be essential.

#### LONDON INSURANCE COMMITTEE.

*Medical Service Subcommittee.*  
At the meeting of the London Insurance Committee on April 23rd the Medical Service Subcommittee, which had suspended its labours for some months owing to a dispute in connexion with the chairmanship, showed that it had begun to function again by the chairmen on seven cases. In two of these the complaints against the practitioners were not substantiated, in three others it was found that the practitioners in each case had committed a breach of the medical certification rules, for which they should be cautioned, and

in the two remaining cases the new course was proposed of referring them to the recently appointed Ethical Subcommittee of the Panel Committee. In one of these cases, concerning the refusal of a practitioner to afford treatment, there were technical difficulties in the way of Insurance Committee procedure, first because the complaint had not been made within the specified period, and secondly, because the insured person was in a state of health which made it undesirable to trouble her in the matter. The second case consisted of an allegation that the practitioner had made certain remarks to the relatives of the patient about his remuneration as an insurance practitioner, asking them how they would like to visit patients at a late hour for 9s. a year. When the case came before the full Committee, however, objection was taken to referring these matters to an outside body, and the matter was referred back.

#### Statistics of Medical Benefit.

It was reported that the cost of prescriptions for insulin supplied to insured persons in London during the year 1924 was £1,621. During the second half of the same year the cost of prescriptions issued to insured persons for serums and vaccines was £144. Statistical data in respect of prescriptions issued by practitioners in five or six of the metropolitan boroughs (selected by the Ministry of Health) are furnished to the Ministry every month to enable a selection to be made of those practitioners on whose prescriptions a complete report is desired. It was stated that during the last six months of 1924 reports were prepared on the prescribing of 233 practitioners. This preliminary survey is still proceeding.

### Correspondence.

#### The Liberties of the Profession.

SIR,—The problem is this: how to secure for doctors who work under the Insurance Acts the liberties of ordinary citizens. The Acts as they stand confer on the Minister disciplinary powers from which there is no appeal. The Acts admit of regulations being made which have this effect.

The theory of the Ministry is that the Minister's responsibility to Parliament for the efficiency of the service involves this absolute power. They hold that it is a constitutional necessity that he, as paymaster of the doctors, responsible for the spending of national funds, should have the right to (a) fine them, (b) dismiss them from the panel, without appeal.

In Cheshire we do not see the necessity, and our view was focused in the motion at the joint Conference (SUPPLEMENT, March 21st, p. 116) claiming that an appeal should be made possible against the decision of the Minister to the courts of law.

It is strange that Dr. Brackenbury should state so absolutely that the Insurance Acts Committee has "always" taken a view of this matter contrary to that of Cheshire in face of the following passages in the report of the Insurance Acts Committee to the Conference of Panel Committees in the autumn of 1921: "It must be recognized that the Minister is charged by Parliament with the duty of seeing that the medical service under the Insurance Acts is efficient, and that therefore his must be the authority which actually imposes penalties for inefficient service in any area or even removes from the service in certain cases those who have improperly conducted it. The question is whether there is sufficient check upon arbitrary or unjust action by the Minister, and, if not, what suitable check can be suggested. . . . In the case of removal from the panel the Conference has asked that there should be a further check—the right of appeal to the High Court within three months of the decision of the Minister." The report continues with a doubt whether the right, if granted, would be exercised in cases of the nature hitherto dealt with, and states that none the less the Insurance Acts Committee had made efforts to get the right embodied in an amendment to a parliamentary bill.

Dr. Brackenbury and the Evidence Committee now say, in effect, "Yes, let us ask the Royal Commission to advise Parliament to give us this right of appeal; but let us only ask for it to be in mitigation of the penalty. Whatever we do, let us not ask for the merits of the case to be reopened before the courts. Let us ask to be allowed to plead for punishment to be reduced, but not to plead against any punishment at all. To do the latter (say Dr. Brackenbury and his school of thought) would be dangerous and unconstitutional."

Dr. Garratt in his closely reasoned letter in the SUPPLEMENT of April 18th has dealt with both those argu-

ments. He thinks that the potential right of access to the courts would be a deterrent to the initiation of complaints, and he, rightly, does not fear it. The menace Dr. Brackenbury sees seems unsubstantial, for no important new powers of litigation would be conferred on patients which they do not enjoy now. A panel doctor is to-day liable for an action for malpraxis to be brought against him. But a doctor who was fined £5 for supposed delay in diagnosing that a case of Vincent's angina was complicated by diphtheria (to take an illustration from recent events) would, were the reform now proposed made, be able to have his case tried by a court accustomed to the rules of evidence, and not decided finally, out of hand, by a Minister who quotes, and ignores, his own chosen and official advisers, and then acts on the "advice" of some other person or persons unknown.

The gain of such a right of appeal seems to us very substantial. However seldom it was exercised, the fact of its existence would be an invaluable safeguard of our liberty. The menace in it which Dr. Brackenbury sees seems unsubstantial, as I have said; but at the Conference, with his accustomed skill, he used it with effect: "I want to make your flesh creep," he seemed to say, lifting the corner of a curtain . . . of apparently endless litigation . . . patients and distracted doctors. I am glad to read in Dr. Garratt's letter (SUPPLEMENT, April 18th) that that vision "daunts him not at all"; nor will it daunt anyone who realizes that whilst the proposed reform would give us justice, it would add nothing to our patients' present full opportunities of obtaining justice; nay, it would even deter the litigious.

The claim is constantly being made that the panel doctor should treat his panel patients in the same way as he treats his private patients, and that the conditions of insurance practice should be made as much like those of private practice as possible. It is the last thing the approved societies as a whole want, or that the public is supposed to want, that doctors should become State servants. Yet the Ministry seems to say: "As between patient and doctor the relations should be those obtaining in private practice; but in the matter of contract you are under the Insurance Committee who pays you; whilst, when it comes to discipline, you are neither under the patient who chooses you, nor under the Insurance Committee who contracts with you and pays you, but you are under us, the Ministry, who hold you in the hollow of our hand; and, if we have an extension of the insurance scheme to dependents, we shall then be able to make or break you as we think fit, for practically all the patients of many of you and the majority of the patients of most of you will be panel patients, and we can fine you as we like for giving your patients the same prescriptions you give your private patients, if we consider them extravagant, and for anything else whatever. We can accumulate a dossier of your misdeeds and bring the tale of them up against you. We can put you off the panel when we think fit, and that will mean for all of you whose practice lies mainly amongst the industrial classes that your licence to practise, given you by the General Medical Council, will be virtually cancelled, and you will have no appeal to the General Medical Council or to anybody else, not even to the courts of law."

Panel doctors are private doctors whose financial relations with their patients have been subjected to State control. That need not take them out of the jurisdiction of the courts. The curtailment of the liberty of medical citizens is, we claim, unconstitutional and contrary to the spirit of English law. If, as Dr. Brackenbury suggests, it is unconstitutional for the question whether a contract has been fulfilled or not to be tested in a court of law, it is a very strange England in which we live.—I am, etc.,  
Holmes Chapel, Cheshire, April 21st. LIONEL JAMES PICTON.

SIR,—With reference to the case of the panel practitioner who was acquitted and fined for making a late diagnosis of diphtheria in a complicated case of septic tonsillitis and Vincent's angina, a recent experience in my own practice may not be without interest.

A young lady, convalescent after an attack of influenza and bronchitis, went for a long ride on an omnibus and caught a severe



chill. This caused a stomatitis with a number of small ulcers on the gums and inner sides of the cheeks. By the third day a nasty slough had formed behind the upper central incisors, and a very foul condition of her gums and mouth generally followed. Her temperature rose to 104°, there was great swelling of the submaxillary and cervical glands, and she was very ill. A diagnosis of Vincent's angina was made, and after some delay, on account of the week no swab was taken before sending her. As it was the end of the week after admission I was greatly surprised and perturbed when informed that Klebs-Loeffler bacilli had been found, and that she was being transferred to a fever hospital. I got into communication with the medical officer of the fever hospital and gave him a history of the case. Swabs were immediately taken and examined, and I was later informed that Klebs-Loeffler bacilli could not be found, and that my diagnosis of Vincent's angina was correct. The patient made a good recovery.

Now the point is this, that a mistake had been made by an eminent bacteriologist in some way or other, and much anxiety caused to the patient, her friends, the hospital, and myself. The patient was a panel patient, but no charge of negligence was preferred against me, otherwise I know what would have happened at the Insurance Committee and the Ministry of Health. From one personal experience (though not on any charge of negligence) and from the numerous reports of proceedings, there is no doubt that the attitude of the officials of the Ministry of Health is distinctly antagonistic to the profession, and in some cases decidedly vindictive, as I myself found. There will be no peace in the profession until an end is made of this sort of thing, and the vindictive spirit killed. We all make mistakes—some of the worst I have seen were made by the most eminent members of our profession—but it appears now that the humble panel practitioner is to be made the sole target for the spite of a big Government department. The judge who tried the Harriott case was not removed from the bench for his grave error of judgement, then why should a medical practitioner be removed from the panel by a lay tribunal who do not understand his difficulties?

Some solution of the problem of dealing with charges brought against the panel practitioner must be found. Personally, I made up my mind after the treatment meted out to me at the Insurance Committee and the Ministry of Health, that in no circumstance would I again appear before them—my resignation would precede this. Fortunately, after twenty-five years of good practice I am in a position to do this, and fortunately also my panel is small; but there are very many of our profession who depend almost entirely on their panel practices for their daily bread, and it is in their interest that I have been constrained to write this letter.—I am, etc.,

March 20th.

## DISGUSTED.

## Nursing Homes (Registration) Bill.

Sir,—May I use your columns to draw the attention of the profession—more particularly consultants and those who receive one or more patients into their private houses—to this bill? This bill has had its first reading: it is supported by the College of Nursing and Colonel Fremantle, M.P. (late M.O.H.), amongst others; and they are now urging that it should be adopted as a Government measure. In its present form it would extend into the private houses of doctors the inquisitorial supervision and disciplinary regulations of the Ministry of Health, with consequential inquiries, fines, and penalties, so well known to insurance practitioners in their domiciliary practice. It is also another instance of proposed legislation by regulations.

The definition of a nursing home is "any premises . . . for the reception of . . . persons suffering from any sickness injury or infirmity for the purpose of the provision of such persons with . . . food either with or without medical . . . aid where any payment . . . is made." This definition includes—and, I have been informed, is intended to include—doctors who receive patients of any kind.

Patients who are placed, or place themselves, under the care of a doctor, desiring to be associated in the home life, are readily divided into four groups—namely, certified, "border-line," drug addicts, and those suffering from chronic forms of illness more peculiarly affecting the aged. Every doctor who receives any such patient would be subjected to the conditions outlined in this bill if it passes in its present form. These conditions include determination by the Minister of Health:

- (a) Whether the doctor is a suitable person to receive one or more patients.
- (b) Whether the nurses and servants he has engaged are suitable.

- (c) Whether the lighting, heating, ventilation, and sanitary state of the accommodation is satisfactory for the patients, nurses, and servants.
- (d) Whether the house is properly equipped for patients.

(e) The exact prominent position in the house where a copy of the regulations shall be displayed for all to read; as also the exact position inside and outside the house where a notice shall be placed that the house is a "registered nursing home."

Also the medical officer of health or an appointed State registered nurse, at reasonable hours, can call to inspect the whole house, the entries and records in the registers of patients; of transfers and discharges; of deaths; of clinical records; of dispensing done; of casualties and the reports required to be made from time to time.

Now, the whole object of receiving these patients into a doctor's house is to provide for them the privacy and atmosphere of a home whilst ensuring that care and supervision by a doctor which is necessary if any improvement in their health is to be hoped for. If this bill goes through in its present form then consultants and private practitioners will find themselves deprived of just those non-institutionally conducted homes which these patients require; for there can be no question that private practitioners who at present receive these patients will refuse absolutely to place their homes, themselves, and their families in a position to be dragged by a State organization. That result would be against the interests of the public, the patients concerned, the relatives, and the medical profession generally. It has been said—and by doctors—that if the notice-board outside the house is done away with there is nothing else to object to! This shows lack of vision. Also, that doctors must not expect to be treated differently from any lay person who may decide to open a home. Surely the profession is sufficiently dominated at the present moment by the State. Will it timely allow this further proposal?

Might I urge all interested to read the bill at once, and then to communicate their views to their member of Parliament, the British Medical Association, as well as to any others whose influence could be brought to bear in order that the members of the medical profession who receive private patients be excluded from the operations of this bill? Unless this condition is secured the bill should be opposed with all the power still left to us. There is no time to be lost.—I am, etc.,

Now, April 25th.

\* \* This matter was raised by Dr. Fothergill at the last meeting of the Council of the British Medical Association (see SUPPLEMENT, April 4th, p. 133).

E. ROWLAND FOTHERGILL.

## Insurance Remuneration.

Sir,—During the recent discussions on the proposed extension of the Insurance Act there is one point which seems to have received insufficient consideration, and among the advocates of such extension to have been entirely neglected. I refer to the undoubted fact that the insurance doctor to-day is much worse off than at the commencement of the Act. To those of us who have been panel doctors since the beginning this statement will need no proof, but for the younger members of our profession I may give the following summary.

**Payment.**—We all know, to our cost, that 9s. to-day is considerably below the value of the original 7s.

**Work.**—This has been increased by (1) artificial causes, such as reports to regional medical and tuberculosis officers, certificates to employers; (2) the emergency treatment obligation; (3) obligation to treat tuberculous patients. Many of these were originally treated at the tuberculosis dispensaries by the tuberculosis officer. (2) **Natural:** (a) At the commencement of the Act all insured persons were workers; now in the course of time, by reason of age or illness, many have become chronic invalids; (b) the war caused a marked deterioration in the health of many men who served; (c) apparently we have to reckon on a yearly epidemic of influenza; (d) I think there is an increased tendency to call on the panel doctor's services, especially for very minor ailments.

All this should make us pause. Our position has deteriorated, and seems likely to become worse. Would it not have been well to make this clear when giving evidence before the Royal Commission before rushing in with all sorts of ill considered proposals for an extension of medical benefit to insured persons and their dependants?—I am, etc.,

Worcester, April 19th.

-W. G. BENNETT.

## Lay Control.

Sir,—In the SUPPLEMENT to the BRITISH MEDICAL JOURNAL of April 11th it was reported that the West Ham Board of Guardians required all applicants for appointments to join a trade union. An advertisement to this effect was sent to the JOURNAL by the guardians, who were informed that it could not



R. M. Russell.

Drs. P. F. Lunan, Senior M.O., and F. R. Lockhart, M.O., Tanganyika transferred from Dar es Salaam to Tukuyu and Dodoma respectively. Dr. E. A. Nefi appointed Medical Superintendent and District Commissioner Makogai; Fijl

where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Tuesday morning.

Printed and published by the British Medical Association, at their Office, No. 429, Strand, in the Parish of St. Martin-in-the-Fields, in the County of London.

# SUPPLEMENT TO THE BRITISH MEDICAL JOURNAL.

LONDON, SATURDAY, MAY 9TH, 1925.

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### British Medical Association.

#### CURRENT NOTES.

**Bacteriologist and Pathologist for the County of Lanark.**  
The Lanark County Council recently tendered an advertisement for a bacteriologist and pathologist, offering a salary of £600. It was pointed out to the clerk of the council that the salary offered was not in accordance with the new salaries scale, and that a medical man of sufficient attainments to fill the important and responsible post of bacteriologist and pathologist to a county should receive a considerably higher salary. It is most satisfactory to be able to record that as a result of this representation an amended advertisement has been tendered offering the scale salary of £750, and it appears in this week's issue of the JOURNAL. Several intending applicants wrote to the Medical Secretary of the British Medical Association inquiring what the objections were to the salary, as they had seen the advertisement appearing in the lay press. As a result of the information supplied they withheld their applications, and they will be gratified to know now that their sacrifice has not been made in vain. The Lanark County Council is to be commended for the action it has taken in this matter.

#### Flags for the Great Hall.

To the list of those areas in which Annual Meetings of the British Medical Association have been held which have promised to contribute a flag for the Great Hall of the new House of the Association must now be added Edinburgh, Bradford, and Swansea.

### SCHOLARSHIPS AND GRANTS IN AID OF SCIENTIFIC RESEARCH.

#### SCHOLARSHIPS.

The Council of the British Medical Association is prepared to receive applications for Research Scholarships, as follows:

1. An ERNEST HART MEMORIAL SCHOLARSHIP, of the value of £200 per annum, for the study of some subject in the department of State Medicine.
2. THREE RESEARCH SCHOLARSHIPS, each of the value of £150 per annum, for research into some subject relating to the Causation, Prevention, or Treatment of Disease.

Each Scholarship is tenable for one year, commencing on October 1st, 1925. A Scholar may be reappointed for not more than two additional terms. A Scholar may hold a junior appointment at a University, Medical School, or Hospital provided the duties of such appointment do not interfere with his work as a Scholar.

The conditions of the award of Scholarships are stated in the Regulations, a copy of which will be supplied on application to the Medical Secretary of the Association, 429, Strand, London, W.C.2.

#### GRANTS.

The Council of the British Medical Association is also prepared to receive applications for Grants for the assistance of research into the Causation, Prevention, or Treatment of Disease. Preference will be given, other things being equal, to members of the medical profession and to applicants who propose as subjects of investigation problems directly related to practical medicine.

The conditions of the award of Grants are stated in the Regulations, a copy of which will be supplied on application to the Medical Secretary of the Association, 429, Strand, London, W.C.2.

#### Applications.

Applications for Scholarships and Grants for the year 1925-26 must be made not later than Saturday, June 6th, 1925, on the prescribed form, a copy of which will be supplied by the Medical Secretary on application.

Applicants are required to furnish the names of three referees who are competent to speak as to their capacity for the research contemplated to whom reference may be made.

March 21st, 1925.

ALFRED COX, Medical Secretary.

### Association Notices.

#### BRANCH AND DIVISION MEETINGS TO BE HELD.

**BIRMINGHAM BRANCH: COVENTRY DIVISION.**—The annual meeting of the Coventry Division will be held on Tuesday, May 19th, at 8.30 p.m., at the Coventry and Warwickshire Hospital. Agenda: Correspondence; election of officers; Local Hospital Committee; Annual Report of Council. Dr. Rollason will propose that ladies may be invited to the annual dinner.

**BIRMINGHAM BRANCH: NUNEATON AND TAMWORTH DIVISION.**—By courtesy of the Warwickshire and Coventry Joint Committee for Tuberculosis, a meeting of the Division will be held at the Warwickshire King Edward VII Memorial Sanatorium on Wednesday, May 13th, at 3 p.m. The members will be conducted round the sanatorium by the medical staff. There will then be a short meeting of the Division to elect a Representative and Deputy Representative for 1925-26, to discuss arrangements for annual dinner, and to transact any other business. After the meeting the members will be entertained to tea by the matron. The sanatorium lies near the main road between Warwick and Birmingham, about 2½ miles from Warwick and near the County Asylum.

**GLASGOW AND WEST OF SCOTLAND BRANCH.**—The annual general meeting of the Glasgow and West of Scotland Branch will be held in the Lecture Room of the Physiological Department, Glasgow University, on Wednesday, May 20th, at 3 p.m. The annual report will be submitted and the election of office-bearers for the ensuing year will take place. At 4 p.m. Professor E. P. Cathcart, C.B.E., M.D., F.R.S., will deliver an address on diet in relation to health.

**KENT BRANCH: DARTFORD DIVISION.**—The annual meeting of the Dartford Division will be held at the Livingstone Hospital, Dartford, to-day (Friday, May 8th), at 3 p.m. Business: Correspondence; balance sheet and report for 1924; voluntary entertainment fund; consider Annual Report of Council; election of officers for ensuing year; Kent county midwifery fees.

**KENT BRANCH: ISLE OF THANET DIVISION.**—The annual meeting of the Isle of Thanet Division will be held at the Commercial Hotel, Hardres Street, Ramsgate, on Friday, May 15th, at 4 p.m., when Dr. H. M. Raven will take the chair. Agenda: Election of officers; revision of Divisional Rules; discussion on the Annual Report of Council. Dr. G. C. Anderson (Deputy Medical Secretary of the Association) will attend and speak on current affairs.

**METROPOLITAN COUNTIES BRANCH: CITY DIVISION.**—A meeting of the City Division will be held at the Metropolitan Hospital, Kingsland Road, on Tuesday, May 12th, at 9.30 p.m., when a paper will be read by Dr. A. Westerman, chairman of the Division.

**METROPOLITAN COUNTIES BRANCH: LEWISHAM DIVISION.**—The annual meeting of the Lewisham Division will be held at the Parish Room, St. Laurence Vicarage, Catford, S.E.6, on Tuesday, May 19th, at 8.45 p.m., when an address will be delivered by Dr. James Neal, secretary of the Medical Defence Union.

**METROPOLITAN COUNTIES BRANCH: MARYLEBONE DIVISION.**—The annual general meeting of the Marylebone Division will be held at 11, Chandos Street, W.1, to-day (Friday, May 8th), at 8.30 p.m., for the election of officers and representatives and nominations to the Branch Council. A discussion on the Annual Report of Council will also take place.

**ASSOCIATION INTER-APPOINTMENTS.**

GROTT, John Lewis, M.C., F.R.C.S. Edin., M.R.C.S. Eng., L.H. Cert. Lond., Honorary Radiologist and Physician in charge of the Electro-Therapeutic Department, Sheffield Royal Hospital.  
PADDINGTON GREEN CUNYMEY'S HOSPITAL.—House-Surgeon—  
M.B., Ch.M. Syd. House-Surgeon—Ralph Morton, M.D., Ch.R. Edin.  
TUCKER, M. D., M.B., Ch B. Edin., A. I. H. Stobo, Surgeon, Doncaster Royal Infirmary, D.O. Oxon., Honorary Ophthalmic  
Wright, Clifford, M.D., F.R.C.P., F.R.C.S., Honorary Ophthalmic  
Society College Hospital.  
QUEEN CHARLOTTE'S MATERNITY HOSPITAL, Obstetric Physician to Univer-  
sity College Hospital, Gt. Marlborough Road, N.W.—Con-  
sulting Obstetric Surgeon & Herbert Roberts, F.R.C.P., F.R.C.S.  
Obstetric Surgeon to In-patients Leonard Roberts, F.R.C.P., F.R.C.S.  
F.R.C.S. Physician Charles McManus Wilson, F.R.C.P., Obstetric  
Surgeon to Out-patients. Leslie H. W. Williams, M.D., M.S., F.R.C.S.

**DIARY OF SOCIETIES**

**ROYAL SOCIETY OF MEDICINE.**  
**ROYAL SOCIETY OF MEDICINE AND LECTURES.**  
*Subsection of Proctology (Section of Surgeon)* Wed., 5 p.m., Annual General Meeting. Discussion *(Section of Surgeon)*  
 The Diagnosis of Diseases of the Colon. Address of Mr. Hamilton Drummond, followed by Dr. W. H. Caldwell, Sir C. Gordon Watson, Dr. A. Hurst, Mr. J. P. Lockhart-Mummery, Dr. B. Storer, Dr. W. Williams, and others. T. J. Lockhart-Mummery, Dr. B. Storer, Dr. Restaurant at 8.30 p.m. (price 12s. 6d.)  
*Section of Neurology* Thurs., 5 p.m., Annual General Meeting. Pathological Specimens illustrating Diseases of the Nervous System will be shown.  
 The meeting will be followed by a dinner at 7.45 p.m. at the Langham Hotel (price 12s. 6d.)  
*Section of Psychiatry* Thurs., 5 p.m., Annual General Meeting. Pathological Specimens illustrating Diseases of the Nervous System will be shown.  
*Section of Tropical Diseases and Parasitology* Thurs., 5.30 p.m., Annual General Meeting. Resumed Discussion - High Voltage and Radiotherapy. Dr. F. H. Russell, others will take part. The annual dinner will be held at the Hotel at 7.45 p.m. (price 10s. 6d.)  
 THURSDAY, 11th NOVEMBER, 1926.  
 ROYAL COLLEGE OF SURGEONS.  
 THURSDAY, 11th NOVEMBER, 1926.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.—  
Thurs., 5 p.m., Lister Memorial Lecture by Sir W. Watson Chyne, Bt.,  
K.C.M.G., C.B. (Price 10s. 6d.).

BIOCHEMICAL SOCIETY, Middlesex Hospital, W.1.—Mon., 5 p.m., Communica-  
tions.—S. L. Baker: Haemolysis in Rabbits after Intravenous Administration of  
Haemolysin; R. W. Scott: Experimental Obstruction caused by Products of  
Reaction for Presence of Vitamin A; O. Rosenheim and J. C. Drummond: Colour  
Influence of Saline Concentrations on the CH of Buffer Solutions; L. H. W.  
Kinnersley and R. A. Beets: Antineuritic Yeast Concentrates; L. H. W.  
L. Gross and P. Eggleston: Alkaline Sugar Levels in Rats; T. A. Henry,  
T. M. Sharp, and C. C. Brown: Bactericidal Action of Organic Mercury  
Compounds; F. Dickens, E. C. Dodds, and S. Wright: Preparation,  
Properties, and Standardization of Ovarian Hormone.

CHARING CROSS HOSPITAL MEDICAL SCHOOL, W.2.—Fri., 5 p.m., Professor  
B. Brouwer (Amsterdam): The Projection of the Retina in the Brain.

HARTER SOCIETY.—Dinner Meeting, 4 p.m.

E.C. MON., 7.30 p.m.—Annual Meeting, Simpson's Restaurant, Chancery Road,  
by Mr. Morley Roberts on the Life of Dr. Henry Gaven Saitton.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, W.1.—Mon., 8 p.m., Annual  
General Meeting 9 p.m., Annual Dinner by Dr. Henry Gaven Saitton.  
K.B.E.: The Medical Career of John Keats; followed by Conversation  
Liverpool University.—Tues., 5 p.m., Lady Jones Lectures by Sir Robert  
Jones: Crippling due to Fractures and the Remedy.

POST-GRADUATE COURSES

EDUCATION OF MEDICINE

Wimpole Street

[illegible]

Cases, 3 p.m., St. Hospital, Vienna. NERVE CASES, 51, Tavistock Square, W.C.  
 Cases, Wed., 2 p.m., Consultation on Cases of Interest, Hammersmith, W.—Mor-  
 mediscome Midwifery, 3 p.m., Skin Department, Thurs., 12 noon, Clin.  
 Medical Diseases of Children, Fri., 3 p.m., Medical Wards, Sat., 10 a.m.,  
 1 p.m. In- and Out-patients, Operations, Special Departments.  
 BIRMINGHAM UNIVERSITY CLINICAL BOARD.—Tues., 3.30 to 5 p.m., Rheumatic  
 Heart Disease in Children.  
 GLASGOW POST-GRADUATE MEDICAL ASSOCIATION.—Tues., 3.30 to 5 p.m., Rheumatic  
 Wed., 4.15 p.m., Skin Cases.  
 LIVERPOOL UNIVERSITY CLINICAL SCHOOL.—3.30 p.m., Tues., Southern Hos-  
 pital Treatment of Common Eye Disorders  
 Surgical Cases, Fri., Royal Infirmary: Wed., Northern Hos-  
 PATERSON BUIRES' HOSPITAL, Burnage Lane, Levenshulme.—Fri., 8 p.m.,  
 Hernia in Infants.  
 MCHURCH ROYAL INFIRMARY.—Tues., 4.15 p.m., Indications for Surgical  
 Intervention in Chronic Abdominal Disease, Fri., 4.15 p.m., Demonstra-  
 tion of Medical and Surgical Cases. Tea at 3.45.

**Reference and Lending Library.**  
The Reading Room, in which books of reference, periodicals, and standard works can be consulted, is open to members from 10 a.m. to 6.30 p.m., Saturdays 10 to 2.  
**LENDING LIBRARY:** Members are entitled to borrow books, including current medical works; they will be forwarded if desired, on application to the Librarian, accompanied by 6d. for each volume for postage and packing.  
**Department.**  
SUBSCRIPTIONS AND ADVERTISEMENTS: Mr. J. H. B. ...  
Manager, 22, Strand, London, W.C.2.

**Departments.**  
**Subscriptions and Advertisements:** (Financial Secretary and Business Manager, Telegrams: Articulate Westrand, London).  
**Medical Secretary:** (Telegrams: Edisandra Westrand, London).  
**Editor, British Medical Journal** (Telegrams: Aithology Westrand, London).  
 Telephone number for all departments: Gerrard 2020 (3 lines).  
**Scottish Medical Secretary:** 6, Rutland Square, Glasgow.  
**Irish Medical Secretary:** Edinburgh.

8 Fri. London: Science Committee, 2.15 p.m.  
London: Food Subcommittee of Public Health Committee, 4.20 p.m.  
Brighton Division: Annual Meeting, Queen's Road Dispensary, 8.20 p.m.  
Chesham Division: Maternity Hospital, Chesham, Discussion on Difficulties in Breast Feeding, to be opened by Dr. H. W. Pooler, 8.30 p.m.  
Dartford Division: Livingstone Hospital, Dartford, 3 p.m.  
Marylebone Division: Annual Meeting, 11, Charlotte Street, W.1, 8.30 p.m.  
Norwich Division: Medical Library, 8.30 p.m.  
London: Central Ethical Committee, 2.20 p.m.  
City Division: Metropolitan Hospital, Kingsland Road, Paper by Dr. A. W. Fernan, 8.30 p.m.  
Wulkefeld, Pontefract, and Castleford Division: Clayton Hospital, Wulkefeld, 3.20 p.m.  
London: Special Committee on Causation of Puerperal Mortality, and Mortality, 2.30 p.m.  
Hull, Elgin, and Nairn Division: Annual Meeting, Gray's Furness Division, 4 p.m.  
North Middlesex Division: Annual Meeting, Offices, Palmer's Green, 3.30 p.m.  
Nuneaton and Tamworth Division: Warwickshire King Edward VII Memorial Sanatorium, 3 p.m.  
London: Insurance Acts Committee, 12 noon.  
Bewsbury and Leeds Divisions: Medical School, Thoresby Place, Leeds, 4 p.m.  
London: Public Health Committee, 2.30 p.m.  
Isle of Thawt Division: Annual Meeting, Commercial Hotel, Harders Street, Raurique, 4 p.m.  
Secretary will be present.  
Sheffield Division: Church House, St. James Street, Sheffield, 8.30 p.m.  
Annual Meeting, 8.30 p.m.  
London: Organization Committee, 8.30 p.m.  
Coventry Division: Coventry and Warwickshire Hospital, Leamington Division: Annual Meeting, Parish Room, St. Mary's, Catford, S.E.6, Address by Secretary of Medical Defence Union, 8.45 p.m.  
London: Royal Sanatorium, Annual Spring Meeting, Glasgow and West of Scotland Committee, 2.30 p.m.  
London: Physiological Department, Glasgow University, 3 p.m.  
Health by Professor E. P. Cathcart on Diet in Relation to Health, 4 p.m.  
London: Journal Committee, 11 a.m.  
Brighton Division: Clinical Meeting, Lady Chichester Hospital, New Church Road, Hove, 3.45 p.m.  
Army, Duntreath Division: Annual Meeting, Royal Commission on the Treatment of Abortion, 3.30 p.m.  
London: Picnic to Nantwich, 1.15 p.m.  
London: General Meeting, Willesden General Hospital, 3 p.m.  
London: Finance Committee, 2.30 p.m.  
London: Division: Scientific Meeting, Mental Hospital, 9 p.m.  
London: Annual Meeting, Willesden General Hospital, Good Hope (Western) Branch: Discussion on Asthma.

**BIRTHS, MARRIAGES, AND DEATHS.**  
*The charge for inserting announcement of Births, Marriages, and Deaths is 9s., which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.*

CLARETIE.—At 69, Fenchurch Street, E.C. 4, London, E.C. 4, on the 2nd inst., Mrs. CLARETIE, aged 78, died.

**MARRIAGES.**  
**CORKILL-ALLAN.**—At North Morningside Church, Edinburgh, on April 30th, to Dr. and Mrs. Allan, daughter of Mr. and Mrs. C. W. Allan, Balmagard, Blackford Road, Edinburgh.  
**McLROY-FERGUS.**—On March 31st, at St. Andrew's Presbyterian Church, Kuala Lumpur, by the Rev. R. D. Whiteborn, Arthur Ernest Crosscut, son of the late I. McLroy, Esq., Diomore, Co. Down, Ireland, to Annie Fergus, daughter of Mrs Fergus and the late Honourable Thomas Fergus, Dunedin, New Zealand.  
 Strand, in the Parish of St. Andrew.

# SUPPLEMENT TO THE BRITISH MEDICAL JOURNAL.

LONDON, SATURDAY, MAY 23RD, 1925.

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## Royal Commission on National Health Insurance.

### EVIDENCE GIVEN BY REPRESENTATIVES OF THE BRITISH MEDICAL ASSOCIATION.

THE witnesses on behalf of the British Medical Association were heard by the Royal Commission on National Health Insurance on Thursdays, April 30th and May 7th.

At the twenty-sixth meeting of the Royal Commission, held on April 30th, Dr. R. A. Bolam, Dr. H. B. Brackenbury, Dr. H. Guy Dain, Dr. Alfred Cox, and Dr. H. J. Cardale were called and examined. The members of the Royal Commission present were Sir Andrew Duncan (in the chair), the Right Hon. Sir John Anderson, G.C.B., Sir Humphry Rolleston, Bt., K.C.B., M.D., P.R.C.P., Sir Arthur Worley, C.B.E., Mr. James Cook, J.P., Mr. John Evans, Professor Alexander Gray, Mr. William Jones, Mrs. Harrison Bell, and Miss Gertrude Tuckwell.

The Commissioners had before them the Association's Memorandum of Evidence, the revised draft of which appeared in the SUPPLEMENT to the BRITISH MEDICAL JOURNAL of February 28th, 1925 (pp. 69-78); also copies of

the Hospital Policy of the British Medical Association (published in the SUPPLEMENT of various dates and since reproduced in pamphlet form by the Association). The two documents are reprinted as appendices to the oral evidence taken on April 30th, which has now been published by H.M. Stationery Office, Adastral House, Kingsway, W.C.2, price 3s. net, postage extra.

The following subjects were dealt with at this session: The quality of the medical services given under the panel system, the conditions to be satisfied by a public service under the health insurance scheme, the range of persons to be included within the scheme, extension of scope of medical service, co-ordination of existing services, and the arguments against a salaried medical service.

We publish below the full text of the oral evidence given by the witnesses on behalf of the British Medical Association at the meeting on April 30th. The evidence given on May 7th will appear in our next issue.

### MINUTES OF EVIDENCE, APRIL 30TH, 1925.\*

*Chairman:* Dr. Bolam, Lord Lawrence, the Chairman of the Commission, asked me to explain that he is indisposed and unable to be here to-day.—*Dr. Bolam:* We much regret that, Sir.

But he hopes to be present next Thursday. You are Chairman of the Council of the British Medical Association?—*I am.*

I understand that you are not yourself an insurance practitioner and have not been such at any time?—*No, never.*

Dr. Brackenbury, you are Chairman of the Representative Body of the British Medical Association?—*Dr. Brackenbury:* Yes.

I understand that you are yourself engaged in practice under the National Health Insurance Acts, and that you are Chairman of the Middlesex Panel Committee?—*Yes. I was Chairman of the Insurance Acts Committee from 1915 till last November.*

Dr. Dain, you are Chairman of the Insurance Acts Committee of the Association, and Chairman also of the Birmingham Panel Committee, and you, like Dr. Brackenbury, are, I believe, engaged in insurance practice?—*Dr. Dain:* Yes.

And you, Dr. Cox, are Medical Secretary of the British Medical Association?—*Dr. Cox:* Yes.

I suppose that you are not now in practice, either under the Insurance Acts or otherwise?—*No, I had over twenty years' experience in general practice before I took my present post.*

If it meets your convenience, Dr. Bolam, we will take the evidence in parts. I have a number of questions to put from the chair, and my colleagues all have questions in addition that they desire to ask. You are submitting to us on behalf of the British Medical Association the Statement which we have before us. May

I take it from Part I (a) of that Statement that your Association with its 19,000 members in Great Britain is thoroughly representative, not only of the general practitioners, but also of all sections of the medical profession?—*Dr. Bolam:* You may take it so, Sir.

And from the description of procedure in Part I (a) we may conclude that these proposals have been thoroughly discussed by the medical profession throughout the country, and that what you submit to us embodies the representative opinion of the profession?—*We have taken the very greatest pains to ascertain the profession's opinion so far as it can be ascertained.*

From Part I (b) we may take it, may we, that these proposals are also approved by the 12,000 insurance practitioners regarded as a large and important class within the medical profession?—*Their authorized representatives were present and constituted a great part of the final meeting which ratified the Memorandum.*

Could you indicate to us the nature and size of any medical bodies which you do not represent to whose evidence we shall have to give attention? In other words, we want a friendly warning as to what your Association and your Statement do not cover. You may put it as generally as you like.—*You put us in a difficult position. If I may say so, every association, with the sole exception perhaps of one very small association, which might wish to make any representations to you beyond ourselves is also very largely represented within our Association. There*

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are probably not more than 1,500 or 2,000 medical men in any form of medico-political organization outside of our Association; that is to say, so far as the profession is organized we represent at least nine-tenths of it, and the other organizations have had their opportunity through their individual members, and in some cases by special representation and co-optation, of making their impression upon our evidence as submitted to you.

Can you tell us whether, at the special Conference on March 12th, 1925, at which your Memorandum was adopted, there was any considerable minority of representatives who did not approve of the main recommendations contained in the Memorandum?—**Dr. Brackenbury:** There are only two points which might be considered main points upon which there was any difference of opinion. One was the important point of the inclusion of dependants. In our paragraph 13 we note the two divergent opinions, one, that it was very doubtful whether dependants, even on the lines we indicate, should be included, and another, but smaller volume of opinion, that one of the most urgent things was to include them. The other point is important, but a smaller one. There was a considerable minority at the Conference who thought we ought to ask for an appeal to the Courts of Law on all grounds instead of on some grounds, as we say in our Statement. These are the only points, are they?—Those were the only points on which there was any definite difference.

In Part II, paragraphs 2 and 9, of your Statement, you describe what, in your view, should be the organization and finance of the National Scheme of Health Insurance, so far as medical services are concerned, and the relationship of such a scheme to the other health services, public and voluntary. I take it that you lay considerable stress on establishing and strengthening that relationship?—That is so, but I should like to say we have not gone very far in describing what we believe should be the finance of a National Scheme of Health Insurance.

With that reservation which you make we accept the answer. Apart from your proposed change in the character of the local administrative body, your recommendations are generally in the direction of continuance of the present scheme, with contractions in certain directions and extensions in others?—That is so. From paragraphs 2 and 5 I gather that while a National Health Insurance Scheme is, in your opinion, not necessarily the best means of utilizing limited resources for the promotion of national health, at the same time you feel that the experience since 1912 justifies you in recommending a continuance and improvement of the insurance system?—Yes.

You came to this conclusion in 1922. Has the last two years' experience confirmed this view?—Yes, definitely. I note your statement in paragraph 5 that at the beginning of National Health Insurance a large proportion of professional opinion was antagonistic to the system, or to some of its important details, and that this antagonism was shared by sections of the insured population. I gather that you are of opinion that this antagonism has become less as time has gone on. Can you point to any evidence of this?—On the professional side there are two things, one, the considerable (as I think it is) increase in the number of insurance practitioners, those who are willing to take part in the service.

Could you give us the figures as to that increase?—No, I have not got them, but it has been very marked during the present year, I understand, and secondly the fact that we discovered in our medico-political activities that what was in some sections of the profession active antagonism might now be described rather as indifference than antagonism to the principles of the Health Insurance Scheme. Then on the insured persons' side we have, as persons are much more willing to come to us and to take advantage of their opportunities instead of exhibiting prejudice, or making the remark that they came unwillingly, that we used to find at the beginning of the period.

We are much interested in this summary of results which you give in paragraph 6. You have come to the conclusion *inter alia* that large numbers of persons are now receiving medical attention which they formerly did not receive; and that the amount and character of the medical attention is superior to that formerly given in the best of the old clubs, and immensely superior to that given in the great majority of these clubs. May we take it, then, as your considered opinion that there have been immense gains to national health resulting from the 12 years' operation of the Scheme?—That depends on exactly what is meant by "immense gains to national health." I do not think we are in a position to indicate, to prove at all events, that there has been an immense gain in the national health of the nation. The thing has scarcely been working long enough, or working under normal conditions long enough, for us to be able to prove that. But we do point to the evidence as to the incidence of sickness benefit does reduced national sickness, and we are quite sure that if the comfort of the individual health includes 'immense gain' to the attention whenever he needs it, the gain is most marked; but if you mean statistical evidence that the health of the nation has actually improved, we are not in a position to bring forward any evidence that that is so.

I was really quoting the words "immense gains" from your paragraph 6.—**Dr. Rolam:** We do not claim that for national health exactly, Sir. There are gains, but we do not specify them.

Gains to the population?—Gains to the individual, to the profession, and incidentally to the national health. Can you amplify and illustrate the statement in paragraph 6 that the work of practitioners has been given a bias towards prevention which was formerly not so marked?—That, of course, would be a gain also?—**Dr. Brackenbury:** Yes. But we do not

claim that the whole increased bias towards prevention is due to National Health Insurance. We think generally that there has been an awakening to the fact that prevention is, after all, the important thing in the whole matter of health, but here we have a scheme which brings people to us early with increasing questions to advice, how they can keep well. That has been a marked feature of our experience as insurance practitioners, and we shall gain financially—though that is not always before us—if the patient is well enough not to have to come to us. The fact that people are coming to us in the early stages of disease has directed our attention more than was formerly the case to those early stages, and that is directly preventive in its effects. Do you find that they come in larger numbers for general over-haul or inspection?—Larger than they did a few years ago. That is increasing, is it?—Yes.

Would you say that there is any truth in the statement we sometimes hear that the service given under medical benefit is inferior in sympathy and quality to that given by the same practitioners in their private practice, or to that given by practitioners in corresponding qualifications who are entirely in private practice?—I should say there is no truth in it at all.

Do you think that the insurance practitioners as a class give their professional best to the insured persons, though such service is given under a contract and paid by capitation and is under a certain degree of State regulation?—In spite of those three things I am sure it is a fact that each doctor in relation to his own patients does give of his professional best.

And in no sense because of it?—No. **Dr. Cox:** There is an additional point I should like to make on that. Not only do they give their professional best because it is a professional tradition, and career to the moment they leave it, but this system has given the medical profession itself a greater control over the service than it ever had before under any collective system, and it has given it an increased interest in the success of the system. This is a very marked feature of our insurance scheme as against any insurance scheme that I know of anywhere else.

**Sir Humphry Rolleston:** On that, if I might put a supplementary question, I should like to know whether there is any difference between the conditions in London and elsewhere. It has been put to us that in London there are more complaints with regard to unsatisfactory treatment on the part of the panel practitioner than there are in other parts.—**Dr. Rolam:** We have here a well known representative of London, **Dr. Cardale:** if it is the pleasure of the Commission to hear first-hand evidence in regard to that, **Chairman:** I think we should be pleased as a Commission to hear first-hand evidence. We have had evidence rather indicating, as **Sir Humphry** has said, that there are more complaints in London than elsewhere.

What is your connexion with the Scheme, **Dr. Cardale?**—**Dr. Cardale:** I am an insurance practitioner myself, and I have for eleven years been Chairman of the London Panel Committee and for other bodies connected with insurance work. No doubt you have read the evidence of some of the witnesses who have already appeared before the Commission?—I have.

It probably is not necessary for me to put the questions specifically to you, you have in mind the general tenor of them?—Yes. We shall be glad to hear what you have to say about it.—**Dr. Cardale:** Speaking with regard to the service in London in general, I think it is a very good service. With regard to the matter of the number of complaints in London as compared with other parts of the country, I have tried to get some figures, but I have found it very difficult to make comparisons. I can give you the number of complaints in London itself and compare that with the number of practitioners practising under the Insurance Act in London and the estimated number of attendances given to insured persons because I think perhaps the fairest way to estimate the complaints is to compare them with the attendances, since every attendance is a potential cause of complaint. We have at present on the London panel 1,772 practitioners; of those 97 are in institutions. With regard to the number of complaints, for the year 1924 we had 87 complaints all told, and of these one practitioner was concerned in three cases and six practitioners in two cases; so there would not be 87 separate practitioners involved.

Is that 87 cases before the Insurance Committee?—Eighty-seven complaints of all kinds brought before the Medical Service Sub-committee. Of those, 32 cases were not substantiated, and, of course, the cause of complaint is very varied; for example, there are complaints with regard to service, with regard to unsatisfactory issue of prescriptions, illegible prescriptions, the keeping of records, failure to provide treatment, conduct, unsatisfactory arrangements for conduct of practice, alleged intoxication—only one case of that, and that was not substantiated, I might say. So that when you come to divide these cases up you find that the nature of the complaints is of a very varied character, only a proportion of them being directed against the actual conduct of the practitioners. It is very difficult to say exactly how many attendances are given in a year. There are, perhaps, two ways of coming to a rough estimate. One is by taking the number of prescriptions issued in London. Of course each prescription necessarily means an attendance. In addition to that there are attendances for which no prescription is issued. On the other hand, of those prescriptions where there are two definite prescriptions on one form they would be counted as two. Those would about balance the other type of case. The number of prescriptions in the year 1924 was 6,656,766, and if you work that out as a percentage of substantiated complaints to attendances, it works out at 0.00003994.

Apart from specific complaints made to the Medical Service Sub-committee, is there in your view any foundation for the very vague and general statement that there is wide

discontent on the part of insured people in London?—No, I do not think so. I think, taking the insured people as a whole, they are now well contented.

Can you account in any way for responsible people furthering and repeating a statement of the kind I have just mentioned?—I do not think there is any widespread discontent. I do not say there is no discontent. I could not go that length. Undoubtedly perhaps an insured person will have some little grouse against his doctor and talk it over with the agent of the Approved Society.

Is there any possible explanation of the fact that witnesses have been prepared to say that, taking the country as a whole, they do not find any longer any general feeling of complaint, but that as regards London they do find such a feeling? How would you yourself account for a statement of that sort?—The only way is this. London is very largely the centre of all insurance work, and the press in London is much more active and they are very fond of getting hold of little stunts about insurance work, and any complaints that there are are very much better advertised in London than they are anywhere else.

That is tantamount to saying that the other places are just as bad, but they have not been found out. I am afraid that is not quite the explanation.—No, that is not quite the way in which I should put it. I should put it the other way about.

What is the other way about?—That everywhere there is a very small amount of discontent, but it comes to the surface and is more advertised and becomes more public in London than anywhere else, though I do not think the total amount of discontent in London with the service is greater than anywhere else.

One knows quite well from one's general experience that the Act was born in an atmosphere of antagonism, not only in the medical profession but in the general public mind, and it certainly would take time for that to die down?—Yes.

Is it possible that has died down much more quickly outside of London than in London?—I do not think so. In my own experience at the beginning of the Act quite a number of insured persons would come and refuse to be treated under the Act. I had several most obstinate persons in that respect, but I have not one now. I used to have quite serious trouble with them; now I have not any. It seems to me, certainly in my own district, that the discontent has almost entirely died down. It is very seldom that I hear now a man saying he does not like the Act and will not have anything to do with it.

Is it not possible, from the very nature of the structure of London and the difficulty of neighbours being compact in any sense, that there is less chance of the medical profession being able to bring their own impress to bear on the public they serve than there is in the country? Might it arise from something of that kind?—It might do. You mean its patients are moving about more and are not attached to one medical man in London?

Partly that, but partly also this: in a country place supposing one is inclined to be a little bit dissatisfied with one's doctor, one may hear another speak well of him, and one may say: "Well, probably I was myself to blame," but you do not have that kind of feeling in a London community to the same extent?—Possibly not to the same extent.

Might it arise partly from that?—It might partly. Dr. Bolam: I should like to tell you, Sir, Dr. Brackenbury also is in a position to speak with regard to London.

What do you say, Dr. Brackenbury?—Dr. Brackenbury: I am just outside London proper. What occurs to me as an explanation of the statement is that the proportion of general practitioners doing insurance work in London is materially lower than the proportion of general practitioners doing insurance work in any other place, except possibly Edinburgh. London and Edinburgh were very largely the centres of the organized or expressed antagonism to the Act at the beginning; and when you have a large body, a considerable proportion, of general practitioners who are not working the Act and who have, those of them who passed through the stage of 1911, 1912, and 1913, still got the feeling that they had then, it is quite likely that any general statements made which, as Dr. Cardale has said, more easily get published in London, will be more detrimental to the working of the Act, whether or no they have any foundation in fact.

Do you mean that where you have a large section of the profession not themselves engaged in insurance practice they may give support, or create an atmosphere that gives support, to statements which may react against the panel side?—Not so much actively as passively, and where there is that there is likely to be a different atmosphere than where 100 per cent. of the general practitioners are themselves on the panel. Then, again, it seems to me that in London we have many insured persons concentrated, much more largely than in any other place, who are clerical workers or insured persons who are on the margin and who, in a few years' time, will be going out of insurance, and we find that that is the class of person who complains more about the working of the Act than any other, not really from facts but from prejudice; impressions derived from secondhand sources if you like. I think you will find amongst the real industrial population that there is no more feeling in London than there is elsewhere. These are only speculations of my own to account for it.

One appreciates that, Dr. Brackenbury; it is helpful to us to have these speculations.—So that I think among the doctors in London you have a large proportion who are not familiar with the work and who therefore give expressions of opinion about it which are not well founded, and also you have a proportion of insured persons who do not think much of it because they are soon going to be out of it and therefore do not take the same interest in its working as other people do.

It may be that you have also much larger numbers of persons who are so attached to their own household, domestic servants and

others, that they find it possible to get service apart from the Act?—Yes. When I was speaking of that class of insured person like insurance clerks and bank clerks who would soon be out of it I did mention those who were on the margin, meaning by that those not so much interested in what they themselves were going to get from the Act. Some domestic servants are in that position.

Professor Gray: Could you tell us whether, apart from the bank clerk type, the proportion of insured persons in London who do not choose a doctor is greater than elsewhere?—I do not know.

Chairman: Have you any figures on that?—I have no reason to suppose that is so among the industrial classes.

Professor Gray: That is the kind of person who causes trouble?—Yes.

If there were more of that kind in London who from indifference or otherwise do not choose a doctor, it might be a contributory cause?—That, I think, is another way of putting what I said, because out of the total number of insured persons in London there will be a far larger proportion of that type altogether than there will be anywhere else. There may be a few places in the country where it is true. I do not know. Dr. Cox: I think the influence of the press in creating this impression should not be overlooked. In my position I come across it a great deal. There is an active section of the press in London which eagerly seizes on any possible item against the Insurance Act for political purposes. They come to me carefully trying to work up all sorts of things which are not worth talking about, and I say so; things which in the provinces I do not think the papers would ever bother about. I could mention instances which have impressed themselves upon my mind which show that there always has been in the London press a section which would do almost anything to damage the Insurance Act.

Chairman: Is there nothing that the medical profession itself can do to give a more correct appreciation?—Dr. Bolam: It is extraordinarily difficult because such a press will not publish the other side. Dr. Cox: I could give you some very interesting examples of that. On one occasion—I will not particularize further than to say I spent a good deal of time just on the eve of publication in a London newspaper office arguing with the editor as to whether he ought or ought not to publish a reply of mine to a very damaging attack on the doctors working the Insurance Act, and he did eventually publish part of my letter after taking out the parts I fancied most. He told me quite deliberately: "You must remember we are not out to help defend the Act; we are out to try to kill it." That is an absolute fact, which I can vouch for. I am not going to give the name of the paper or the editor, in public, but I will give it privately if desired.

Miss Tuckwell: I thought all political parties favoured insurance. I do not understand what party there could be. Is it anything more than the objectionable press habit of always nosing out anything they can make saleable?—No, I think it is a deliberate political bias on the part of a certain section of the press which up to now—it is decreasing—has been glad to get hold of anything which would damnify the Insurance Act.

Chairman: This incident to which you refer, did it take place some long time ago or so years ago. I forget what was on at the crisis in the business and some violent and I was attempting, as I always do, to answer them.

Under your own name?—Yes, under my own name. Dr. Bolam: We do not, in saying this, suggest that any one political party is in any way interested in damaging the repute of the Health Insurance Scheme; it just is that there are certain organs of the press who, for their own purposes, engineer stunts of this kind, some in one camp and some in another, and they will not hear the other side, or at any rate they will not give expression to the views of the other side in the same full exhaustive fashion as they will give expression to views that are antagonistic.

Sir Arthur Worley: Dr. Brackenbury, you mentioned as one of the cases of discontent these border-line cases, birds of passage that pass out of insurance, and you instanced in particular bank clerks and insurance clerks. You really have no ground for that beyond a thought in your mind, have you, because both these associations have their own Approved Society, and we have had evidence from them, and from what we could gather they were keen and enthusiastic about the Act?—Dr. Brackenbury: I can only say their members are not, those who come to one. I live in a place in which my practice is largely not industrial; my insured persons are almost entirely domestic servants and young persons in fairly well-to-do middle-class families, and therefore I see a fair proportion of this type, and, speaking generally, they are people who would be glad not to have anything to do with the insurance scheme.

They resent it in that way, but they do not make complaints about treatment by the doctors under the panel system?—I did not say that. We are talking about the atmosphere which prevails in London that does not prevail elsewhere, and I suggest that if there is a larger proportion of people who have that general attitude towards the Act in London than there is elsewhere, that may be at least a contributory cause towards the atmosphere which does exist.

I should like to pierce that atmosphere and get at something more definite, because the impression left on my mind was that it was not just a passing feeling, but that in London the medical service was not as good as it was in other parts of the country: that the attention that medical practitioners gave was not as good. bluntly, that is the impression that is formed on my mind by the statements that have been made; not merely that a lot of people do not like the Insurance Act, but that they do not like the service they get. That is going past your atmosphere?—Yes, and as a general statement I do not believe there is any real foundation for that. Going beyond the general statement, I think, to be perfectly honest, one must say that in the poorer parts of London

there is a tendency sometimes, by no means always, and only in a minority of cases, to get a doctor who is himself a bird of passage there; he is very often not an Englishman, and he goes there in some cases only for a period of years.

**Chairman:** He is not a Scotsman either?—No. If you will not pursue the matter further, I will safely say he is not a Scotsman, but there are in these places a number of non-European doctors, perfectly properly qualified—and I am not bringing a general indictment against them. You will find also in London (I do not think you will find it to anything like the same extent anywhere else) in the poorer parts a class of doctor who is there for a while to see what he can make out of it for a certain number of years, and he looks forward, not unnaturally I think, to the time when he can move elsewhere and live in surroundings in which there are greater amenities. You will find a number of persons in London of that type in the medical profession that perhaps you will not find elsewhere, and in cases like that, in poor parts, where the tendency is to have a fairly large number of insured persons on one's list owing to the scarcity of doctors there, you will understand that one such doctor may give rise to dissatisfaction in 1,000 or 2,000 insured persons, and therefore that is the one possible little item of fact on which you might say that sometimes the service in London may tend to be a little less good than the service generally. But even that I do not want to put too high, but it is a thing which all of us have to recognize, whether we like to speak about it or not.

**Sir Arthur Forley:** Is it not a fact that perhaps the greatest trouble arises with domestic servants: that they have a greater objection to going to a panel doctor than any other class?—No, I should say emphatically not, and my experience is very largely amongst them.

I am glad to get that because it has been put to us that it was.—Emphatically not; some of their mistresses have.

that all the people in those towns got averaged 1.33 per year in one year and 1.30 in the next year, whereas now the insured person gets not less than 3.75 attendances, and we think they are higher than that. So that the effect of the Insurance Act has been to do what its author thought it would do, to get people to go and get advice from the doctor much more readily than they were able to do beforehand.

Would you say, speaking broadly, that they often come unnecessarily to the doctor?—**Dr. Brackenbury:** No, Sir. There is a certain percentage of people who do, but one also finds that there is a certain percentage of insured persons who stop away because they have not got to pay. We are gradually breaking that down. Speaking of the insured population generally, I do not think they come so unnecessarily at all.

Is it this feeling of strain on the profession to which you refer that makes you later suggest a narrowing of the class of persons entitled to medical benefit?—Not primarily.

If not primarily, is it substantially?—No. It is desirable to lessen the strain, but our main reasons for putting forward the suggestion that certain people should be taken out of the Act are based upon our first principles absolutely; that we think only those persons ought to be provided for in a scheme like this who are unable to make the provision for themselves.

Have you any indications to show that, in response to the increase of work and the remuneration offered, the number of practitioners in the country has substantially increased since 1912?—I think Dr. Cox has figures which show that it has not increased. **Dr. Cox:** I will hand in this Table. The figures are taken from the Medical Directory figures. You will see that in proportion to the population of the country—I have not the figures for 1924 yet—the number of doctors per head of population has not substantially increased; in fact in 1923 it was down slightly from 1922 [The table is printed below.]

Numerical Summary of the Medical Profession.

Year.	London.	Provinces.	Wales.	Scotland.	Ireland.	Abroad.	Services.	Total.	Increase or Decrease.	Total, minus "Abroad" and "Services."	Population.	Population per Doctor.
1911	6,415	17,721	1,336	3,958	2,724	5,188	3,300	40,642	—	32,154	45,221,615	1,406
1916	6,821	18,216	1,433	4,173	3,060	6,593	3,274	42,570	— 2	33,703	—	—
1917	6,903	18,185	1,445	4,334	3,193	6,613	3,203	42,879	+ 309	34,061	—	—
1918	6,903	18,090	1,447	4,482	3,322	6,646	3,141	43,031	+ 152	34,271	—	—
1919	6,933	17,971	1,450	4,578	3,379	6,627	3,162	43,100	+ 69	34,311	46,155,777	1,344
1920	7,085	18,087	1,446	4,544	3,356	6,465	3,276	44,250	+1,169	34,519	45,873,371	1,357
1921	7,130	18,173	1,428	4,573	3,421	6,847	3,354	44,926	+ 656	34,725	47,283,195	1,351
1922	7,131	18,194	1,448	4,599	3,483	7,256	3,475	45,516	+ 650	34,815	47,526,212	1,362
1923	7,239	18,657	1,511	5,137	3,623	7,406	3,458	46,311	+ 725	35,447	47,765,511	1,377
1925	7,490	19,381	1,591	5,685	3,954	7,932	3,452	47,628	+1,297	36,578	—	—
							3,318	49,351	+1,743	38,101	—	—

**Chairman:** On the broad ground, in any event, your view is, I take it, that there is not in the medical profession any greater proportion of black sheep than might be found in any other profession or any other walk of life?—Certainly not.

And that you are as a profession just as anxious, as I gather from your evidence, that any case of glaring breach of the regulations on the part of a medical practitioner may be visited with appropriate punishment?—Yes. I have sometimes said if you leave those to the profession they would probably have a worse time of it than if they were left to other people.

In paragraph 7 you refer to the heavy strain upon the powers and resources of the profession at times. You consider this partly due to the influence of disease and partly due to the influence of this system. In this connection I should like to know whether you think that the patient tends to go to his doctor much more than he would otherwise?—May I just say in regard to that, that you have put two things together. The heavy strain upon the resources of the profession is, of course, due to the unequal incidence of disease, the seasonal and epidemic. The influence of the body of regulations I will not call it strain, but mental effect. But that is of a different character and influence altogether from the other. The words "with the capitation method of payment" have no relevance. It is an insurance system quite apart from whether payment is by capitation or by attendance.

You mean as far as the regulations are concerned?—No, it is the fact that an insured person can go to the doctor without having to face a bill, whatever may be the method of payment, which would influence the number of times he would go, the readiness with which he would go.

Would that necessarily be so?—Yes, absolutely, and one is happy to say that under the insurance system an insured person does go to the doctor decidedly more readily than if that person had to face a bill.

One would want that to be the result?—Yes, it is the result.

All that the question is intended to direct notice to is that under the system of insurance, whether by capitation or direct fee, you have a freedom of approach to the doctor on the part of the insured person which you do not have if there is no such system?—Quite.

And therefore from the same number of people a heavier strain may arise for the medical profession than would arise if they were not insured?—It does in fact arise.

That is what the question was directed to bring out.—**Dr. Cox:** May I put in a figure which I think may be helpful. You have heard of the Plender Report.

Yes.—The Plender Report elicited the fact that in five towns in the United Kingdom in 1910 and 1911 the number of attendances

Have you any figures to show the total number of general practitioners in active practice and the proportion engaged in insurance practice?—Yes. These figures are very difficult indeed to get out and must be partly in the nature of an estimate. We have a very elaborate card register in connexion with our work in which we use all the information that can be got from many sources, but as regards some of these classes that I am going to mention they must be got out by a process of elimination. Our figures relate to April 18th, 1925, and show that we had 14,700

work in England, Scotland, and Wales. We have like whole-time Public Health Officers, Services, retired practitioners, those who describe themselves as consultants or teachers, and medical men who practise as dentists; and by taking out these classes we arrive at a figure something like 11,600 doctors who are in general practice, but are not doing insurance work. I think some deductions must be made from that. It is very difficult often to say whether a man ought to be put in the consultant class or not, but by this process of elimination we finally arrive at 11,600. Among these you have all the men holding junior hospital appointments, acting as locumtenents, assistants in practice who are not doing insurance work, and I should say it would be a fair estimate to say there are about 10,000 general practitioners who are not doing insurance work.

As against 14,700 who are?—As against 14,700 who are. Is it not the case that there are at present a substantial number of young doctors, especially women, who are unable to find sufficient work?—**Dr. Brackenbury:** Yes.

Does not that indicate, on your own criterion in paragraph 8 (c), that the attractions of the profession are substantial?—It indicates that they were supposed to be substantial six years ago, and it is now found that they are not. **Dr. Bolam:** A great deal more has been made of this than necessary because there always is delay in the absorption of graduates. In the last two years there has been an extraordinary number of graduates following on the rush into the profession in the years when there was a good deal of money about and people were encouraged to enter upon the profession, and in the next two years we shall be faced with the other fact, that there are very few graduates coming forward to be absorbed. There always is delay before these graduates get into circulation in practice. So I do not think too much should be made of that.

Is it your feeling that there is a lag now in students coming forward?—It is not a feeling, it is a fact. Look at the figures of registration as medical students in the last two or three years and you will find that in three years' time, instead of graduating 3,000, we shall be graduating something much nearer 1,300. **Dr. Cox:** Will you look at the table handed in? That shows that in 1916 there were two people less in the Directory;





has matured in the past with regard to that. We believe the possible multiplicity of regulations, the interpretation of regulations, and the application of regulations, are tending to go in this direction, but speaking broadly, as far as our experience during the past ten years goes, there is nothing inherent in the present system which destroys the principle of "free choice of doctor."

You lay great stress on the principle of "free choice of doctor." In addition to what you have already said in your general argument I should be glad to hear anything more precise as an argument on this aspect.—I do not know that one can say anything more precise. It is fundamental in the proposition I have already put before you, I think. The individual relationship must be preserved or the same good results will not follow. That is our belief.

What do you mean by individual relationship?—The relationship between an individual doctor and an individual patient. *Dr. Bolton*: It is wise for you to be able to choose your own doctor. You value that; it is good.

One values it whether it is wise or not?—It is good also for the doctor to know that he is the subject of choice. It has a distinct stimulating effect upon him. It induces a healthy competitive feeling. I do not think there is anything so satisfactory as the association between doctor and patient who have confidence in each other. It is the basis of medical work.

What happens in the single-practice areas where there is no choice?—*Dr. Brackenbury*: That, I think, we can quite easily see is subject really to similar influences. No doubt the single-practice area always presents some features which it is difficult to adjust to a general scheme, and in many single-practice areas which is a wide one there will be a few people at the centre who will perforce have to have a doctor whom they would not choose if they had choice; but you have to remember that in every single-practice area there is a margin all round in which there is competition and the effect of the personality of the doctor in that case does contribute to the success, or to the relative success or non-success, of the single-practice area man. Beyond that, I think you may say that unless the doctor, as we find in the case in a few areas, has some private means of his own which enables him to go down and stop in a place like that and live there regardless of whether his patients love him or whether they do not, he fails, he has to go out, he has to go elsewhere, and he is replaced by somebody who is personally more acceptable to the great majority of the patients even in that single-doctor area.

There is in that case a collective choice?—So that indirectly you have the same sort of effect, though there are always individual instances in practice like that where it is not effective.

It is the same principle, I take it, from your point of view?—*Dr. Coz*: I should like to say a word on that. In reading the evidence one has seen suggestions that this idea of free choice of doctor is a sort of fetish and that it really does not matter.

I have never yet myself met any individual who would not object very strongly to being told that he could not have his own choice of doctor. It is a matter of human nature. But I do want to point out that there are some people who are so foolish as to want to choose their own tailor or their own Member of Parliament, or other things which are much less important. But I do want to point out that you are dealing with a fundamental of human nature. I have never seen it put better than it was put before the Departmental Committee which sat in 1913 on Certification, to deal with the supposed excessive certification of sickness benefit. There was a witness there from Oldham, a woman doctor as a matter of fact, and she was dealing with the question of free choice of doctor, and one member of the committee said: "Do not you think this free choice of doctor is very much overrated?" and she said, "Well, we may be very curious people in Oldham, but not long ago the Co-operative Society resolved that in order to save money it would abolish its system of allowing the men who took orders for coal to go about the town just as they liked, picking up orders as they could, and have men who would be restricted to districts, and all orders inside a district must be given to the man in that district; and within a few weeks there was a revolt among the members, they wanted to have their own coalman call," and she said, "I think you will find the people in Oldham are at least as particular about the doctor who goes into the bedroom as they are about the coalman who calls at the door." It may be silly, but it is absolutely fundamental.

We have heard evidence to satisfy ourselves that they do make a fetish of free choice in Oldham.—*Dr. Brackenbury*: That is a point I wanted to emphasize, that it is not merely a question of applying a certain amount of learning to a particular patient; it is a question of knowing and appreciating the whole personality and circumstances of the person, and the less learned man may be the better doctor after all sometimes.

*Sir Arthur Worsley*: You mean the patient would get better sooner with him?—Yes.

*Chairman*: In this connexion will you tell us in a little detail your objections to a system of clinics, dealing with the advantages of specialization and the like, as well as with what you consider the objections?—I think our use of the word "clinics" is sometimes ambiguous; we are not always talking of the same thing. When we talk about a system of clinics we are thinking not merely of the premises, but we are thinking of the system of establishing premises staffed by a limited number of persons and limited to a certain extent of practice. There are certain things which to a cannot do in practice. If we are talking about that system, our objection is fundamentally the same that we have just been talking about during the last few minutes. We have no objection to the premises as such in cases where it seems desirable to provide them, provided the other circumstances can remain the same; that is to say, that every doctor can have access to them for his own

patients and that any patient is not obliged to be attended by a particular doctor. And, of course, there are a large number of diseases which have to be attended domiciliarily and not at a clinic, and in the present system of clinics domiciliary treatment is completely discredited from attendance at the clinic. So that if you are speaking about the convenience of having premises which a practitioner can use, I have no doubt that in certain rural areas and in certain densely populated industrial areas it might be much more convenient to have a common consulting room and surgery at the same premises rather than have the poor rooms which doctors in those poor areas manage to obtain. So if it is merely a question of premises, other things being left on the private basis, if one may put it so, one does not mind. We appreciate that there may be circumstances in which they are advantageous.

What you fear and find it necessary to enter a caveat against is that they might be the beginning of an inevitable movement towards a whole-time State medical service?—That is not the whole and end-all of our objection, but we do say that a system of clinics set up by public authorities and staffed by whole-time officers would be the easiest and most objectionable form of arriving at a State medical service. *Dr. Bolton*: It diminishes freedom of choice. It is the same fear that you have been describing that leads you to oppose it?—Yes.

We gather you would oppose strongly any tendency towards a State medical service, believing, as you do, that it would be a bad thing?—A whole-time State medical service, *Dr. Brackenbury*: There, again, it is a question not exactly of good or bad, but of relative merits.

It would be relatively bad, is that your opinion?—Yes. You can describe one as relatively bad and the other as relatively good, but not necessarily as a thoroughly bad thing.

We note the two remaining principles (d) and (e). In connexion with the latter, would you take into account as a relevant consideration that under the capitation system the practitioner gets an assured quarterly cheque and has no trouble over bills or bad debts as the private practitioner has? Would this in your opinion, justify a somewhat lower nominal scale than for the private practitioner?—We have said in our Statement that that is one of the features—security—which has to be taken into consideration and which does tend to lower the capitation fee as against other things, but we point out at the same time that there are other features, which have to be taken into consideration which, in our opinion, more than counterbalance this, which is, after all, relatively a small feature. The Plender Report brought out the fact that, taking everything of this kind into account, it so it is relatively a small matter. We agree that it should be taken into consideration, and by itself would tend in this direction, but there are other counterbalancing things which also have to be taken into consideration.

*Miss Tuckwell*: I was very interested in your statement about the domestic servants' side, on which the Chairman put some questions. You have had a large experience of domestic servants?—Yes, I think I may say I have.

And you find that the insurance system is as popular with them as it is with other classes of the community?—There you are inviting me to make comparisons. I think there are other classes of the community with which the scheme is more popular than with domestic servants, but it certainly is not unpopular with them.

We have had it put to us a good deal in evidence that domestic servants do not avail themselves of the National Health Scheme, and that they do not go to insurance practitioners as regularly as other people do, but that is not your experience?—Not the least. My experience is quite the contrary. There are still a certain number of mistresses who ask their servants to go to non-insurance practitioners.

*Chairman*: Do they pay for them?—Yes; the mistresses pay. *Miss Tuckwell*: Why?—I suppose it is a survival of the 1913 prejudice. The other motive is that they have in their house for themselves a doctor who does not happen to be an insurance practitioner, and they are quite willing to pay the bill of their servant.

Of course, one has a tremendous admiration for the medical profession, and I am only asking these questions for the medical mind. What experience I have had makes me feel that domestic servants do not make so much use of this scheme as one would wish. With regard to servants I have come across, I have found that I have had on several occasions to employ my own doctor. I found that when I sent them to the panel doctor they found the time and were kept there unduly. Is that a complaint of which you are aware?—Do you mean that this waiting time is made longer in the case of domestic servants than in the case of other people; that they are segregated and made to wait until other people have been attended to?

Yes.—I have not found that. You have never had any complaints?—Not the slightest. Domestic servants when they are on your list will come to you as readily as other people will. Certainly in all the practices with which I am personally acquainted there is no difference made with regard to waiting or methods in the case of domestic servants. Not with regard to domestic servants only, but that was my experience with insured persons and private patients. They were kept waiting a very much longer time?—Oh, no. Another thing which I have found has been that instead of going to the principal doctor they have been sent to an assistant who was not so well qualified as the principal to deal with their difficulties.—I cannot answer as to the connexion between principals and assistants, because I have never had an assistant. But



insured persons have the right, of course, to demand the attention of the principal if they wish to do so.

They have the right, but in many cases you can imagine that young women would not claim it. Do you not think that one of the causes of complaint about which the Chairman spoke—founded or unfounded—is that the principal man turns over the insurance cases to an assistant to deal with?—No, I do not think so. My whole experience is against that, at all events in recent years.

I do not know whether any other gentleman can help me over this. Have you any experience, as an Association, of complaints of insured persons being turned over to an assistant?—No, we have not. Of course I have been a member of an Insurance Committee also since 1913, and although there were a few individual complaints of that sort in the earlier years—quite at the beginning—they have entirely ceased for years now. *Dr. Dain*: The number of practices in which an assistant is employed is a comparatively small one, and there is no opportunity for the principal to turn a patient over to the assistant. But in the practices with which I am familiar where assistants are employed, the head of the firm and the assistant work equally together. They take consulting hours at the same time and the patient probably goes into the same waiting-room and can choose which doctor she will. It is possible that she may have three doctors all working simultaneously and she goes to see which she likes. She may have the choice of three doctors, being on the panel, although only one of the doctors in such a case might be her panel practitioner.

That is not the case in the instance of which I am speaking. I ask the question because one wants to find out what is at the bottom of the discontent which is brought to one's attention on many occasions.—*Dr. Cox*: As one who has been an assistant, may I say that this is an old complaint of patients which is quite independent of the Insurance Act. Whenever a man had an assistant and the patient unfortunately did not see the principal and had to put up with the assistant, the patient had a complaint; but in a big practice where an assistant is necessary that sort of thing must happen sometimes. I certainly have no evidence that there is any general practice amongst doctors to employ assistants and to use those assistants mainly for insurance work, in that way making a class distinction.

So that you do not think that any discontent that there is could be justified by that, because you will admit that although no doubt it was different in your case when you were an assistant, usually the principal is the more skilled man and one does turn to him?—*Dr. Brackenbury*: I do not know that you can generalize about that. I am thinking of one very large insurance practice in which the great majority of the insured persons implore to see the assistant.

I think that amongst working women there is appreciation of the service which they receive from the medical profession under the Insurance Act, and a great desire to see an extension of the benefits; but I do hear of cases in which the surgery accommodation, for instance, while generally improving, is very inadequate in many places. Do you get complaints of that?—We have occasional complaints. I am speaking now as a member of an Insurance Committee. Those complaints go to an Insurance Committee; but we have always found that if the Insurance Committee goes to the Panel Committee and they then go to the doctor to remedy this complaint, they are met in the friendliest spirit, and the deficiency is remedied at once. That was particularly the case in a systematic inquiry of this kind which was made in London. A certain number of doctors were visited, and it was found that there was deficiency in the surgery accommodation in certain instances, and in every case they had only to call attention to the deficiency and to state what they thought would be the right thing for the doctor to do, for him at once to acquiesce and do it.

But you have had a certain number of complaints as to the insufficiency of surgery accommodation and of waiting-rooms?—They have been very few and not very important. They really came largely during the tremendous influenza epidemic of 1918 when there were people who had to wait even outside in order to see the doctor, because there was no room in the waiting-room. You cannot make in private houses or in surgeries, or even in institutions, complete provision which would always cover the biggest emergency, and I think a good many instances of this kind, in so far as you can speak about a good many where the total numbers are quite few, did originate about that time.

Do you feel that the complaints as to insufficiency of surgery accommodation and waiting in draughty passages and the general weakness of accommodation in some cases, which I know to be improving from what I hear from my own working-women friends, might very largely account for the feeling there is with regard to the complaints to which the Chairman was alluding?—Not very largely. *Dr. Cox*: May I say that if it did it is very unreasonable? It is not generally taken into consideration that the Insurance Act has brought a large influx of people into surgeries and waiting-rooms which were quite adequate before, and I know many doctors who tell me that they have had to make structural alterations at great difficulty and expense. Sometimes they live in places where, for structural reasons, they cannot do it, and they cannot move, so that some of these complaints, of course, are quite legitimate. But you have to be very gentle in the way you deal with them, because sometimes it is almost a physical impossibility to improve the accommodation. *Dr. Bolam*: And the same difficulty is very often felt by private patients. It is not a differentiation with regard to insurance patients.

I should also like to ask about the broad principles which you set out in paragraph 8 as fundamental, and your statement in paragraph 6 as to the immense value of the insurance medical service. As you show how great has been the value of that service and

how much it can do for the community, what is your motive in suggesting that anybody should not be brought within the scope of National Health Insurance? What is the principle which has actuated you? You are restricting it rather than increasing it. You are giving a wider service but you are proposing to restrict it to a poorer class?—We propose to give it to a much larger class.

When dealing with dependants, you only suggest that the dependants of the very poor should be included, and you govern all you say by saying that attention should be paid to whether or no people can pay for the service. What is your motive for that? If it is a good thing why do you care so much whether they pay for it themselves or not, directly or indirectly?—*Dr. Brackenbury*: That is a matter of social opinion, if you like to put it in that way. We believe that it is a good thing for people to help themselves when they can do so, and that it is by no means the function of the State to do everything for everybody.

So that really you feel that full medical attention is essential for everybody, and you tell us that it is desirable. You only guard yourselves to the extent you do by considerations of how good it is for people to pay for themselves—entirely another motive?—Our proposals would, I think, almost, if not quite, double the number of persons who would have the benefit of an insurance scheme, and we believe that it is right for that number to be included, because without some such scheme they would be unable to get for themselves the medical attention which they ought to have.

But my point is that in extending in some directions and rather drawing in in others you are actuated, not by considerations of the health of the community, but by what you believe to be the effect on character?—No. We believe that the health of the community would be equally good with the exclusion of certain people who are already included, because those persons could obtain attention for themselves. We also think that there are a lot of people outside now who cannot obtain it for themselves.

You say they can obtain it for themselves. Do you mean that people with incomes under £250 a year—manual labourers—could obtain it for themselves?—Certainly.

So that really in suggesting these alterations you are basing it on your own opinions of what they can pay for and what they cannot?—Yes, but the health of the nation would be served equally under our proposal—more, we think—than under the other.

That is your opinion?—*Dr. Bolam*: It is not merely opinion, but also experience.

*Sir Arthur Huxley*: They could either pay for it or they could not. If they could pay for it they would have the advantage, and if they could not pay for it they would come under this scheme?—*Dr. Dain*: That is it, surely.

*Mr. Evans*: In (c) in paragraph 6 you say that, speaking generally, the work of practitioners has been given a bias towards prevention which was formerly not so marked. Could you tell us in what way that bias is apparent?—*Dr. Brackenbury*: I have already answered that in a specific question; but I do not know whether it would help if I gave you an instance which was given before the Insurance Acts Committee some time ago by a certain practitioner who was a member. He said that he had found it to pay him, in comparison with some of his neighbours, in one of the earlier influenza epidemics, to seek out his insured persons and give them preventive inoculations, and that his work during that influenza epidemic—the actual number of attendances and visits that he had to give during that epidemic—was distinctly less than that of his neighbours who had not taken the precaution, or had not used that means of seeking out their insured persons and offering them preventive inoculation. That is a specific instance in which, if you look at it even from the narrow point of view of avoiding trouble and getting your money with less work, you will see that by using preventive measures you make an economic profit, if you can look at it on those lines. That is one practical concrete instance of the application of the general attitude which we are sure the circumstances of the Act are engendering in medical minds—namely, that prevention is, after all, the best thing if it can only be achieved. *Dr. Dain*: In my area, too, opportunities are now being organized for practitioners to speak to their own patients on the subject of how to keep well. A series of lectures is being given and each man lectures to his own patients. The professional difficulty was got over in that way. Only his own patients are invited by card to attend a lecture at a certain time. I know one doctor who has had to repeat a lecture twice in a hall which would hold from 200 to 300 persons. People like it, and he has had that opportunity of doing some very exceptional preventive work.

I think that is rather an exception. It is not a feature?—It is a feature of the Insurance Committee part of the scheme.

I have heard of lectures being delivered by the Medical Officer of Health.—These are delivered by the insurance practitioner to his own patients.

That is proof that there is a distinct bias given to the preventive side of medicine?—Yes.

I do not know if I quite understand what you mean by (f)—that clinical records have been, or are being, provided which may be made of great service in relation to medical research and public health. What records do you refer to particularly? You refer to other records later on which you say are rather irksome.—*Dr. Brackenbury*: We are referring to the same record card in both instances; but we do not mean more than we have said. If you will read that sentence you will see that it is a carefully guarded sentence.—“That clinical records have been or are being provided which may be made of great service in relation to medical research and public health.” It was a well considered sentence which was approved by my colleagues, after it had been put to them, because it was in the form in which it appears.

We are by no means claiming that great use has been made of those records or that they have been of great service in relation to medical research and to public health. They have in some instances been of appreciable service. If those records were confined to clinical records, and were made rather better as other things which are not in our opinion essential, they might very easily be made of proper use. Even if you collated only those cards of people who had died or ceased to be insured persons, which must accumulate somewhere, it would be useful, even without going into the doctor's waiting-rooms and making extracts from them, as the Regional Medical Officer and other doctors in a particular town to take a particular disease and to make full clinical records of that particular disease and to make proper use of using them. Apart from that, which is a very valuable way of using them. Apart from that, which is a use of use, I think it would be of great value to public health. *Dr. Dain* I think in this connexion the members of the Commission before long will have the opportunity of reading the Report of the Chief Medical Officer to the Ministry of Health, from which they will find that statistics are now being prepared. Statistics are being prepared as to the existence of certain diseases, which will be made use of by Sir George Newman in his Report, I believe.

Do the practitioners themselves enter up the particulars on these cards?—*Dr. Brackenbury*: It depends what you mean by "enter up." We rather protest against the necessity of entering up every visit and consultation and having to get out the card in order to do that.

Say a man was suffering from a particular disease, does the practitioner enter on that man's card that he is really suffering from that disease?—Absolutely. There is no reason why he should not, and every reason why he should.

*Sir Humphry Rolleston*: Is it not difficult at this time to express an opinion on the value of these record cards, because it is only since early in 1921 that they have been instituted?—That is so; but we have a feeling in the profession that they have not been made as much use of as we could have hoped they might have been. That may be reasonable or unreasonable; I agree that the time has been short. We do, however, like to feel—and I am sure I am speaking for insurance practitioners generally—in this—that if we do keep careful clinical records of our patients, they should not only be of use to ourselves when we refer to that patient's card again, or to our successor when he has the card handed over to him, but that some public health use might be made of them, so far as they can be made use of, and we are not quite satisfied that that has always been done.

*Mr. Evans*: Another question on paragraph 8, where you tell us, I think, that you consider that a separate health scheme might be instituted; that is, that the provision of health services might be lifted out of the insurance scheme altogether. You say, however, that you object to a National Medical Scheme. I do not quite understand. Is that objection of the profession to a National Medical Scheme somewhat in the nature of the objection that we referred just now to the prejudice of the profession to the National Health Scheme in 1911 and 1912—in the first years. Is not this a somewhat similar prejudice now?—No, it is entirely different, if I follow what you are referring to. The feeling of the profession against a whole-time salaried State health service is based on entirely different grounds from the prejudice that there may have been at one time.

Is it political more than medical?—It is medical. *Dr. Dain*: It is not political. *Dr. Brackenbury*: Our experience leads us to believe that the medical success in dealing with patients and with public health would be greatly inferior under such a system from what it is under a system which is based on the methods of private practice.

Why do you say that? It is only speculative, I take it?—I do not know whether this question is coming up later on our evidence. It appears to do so.

*Chairman*: We will not allow repetition. You may either follow it out now or later, whichever you prefer.—The fundamental objection is, of course, what I have put—namely, the preservation in full of the confidential and intimate relationship between the individual doctor and the individual patient.

*Mr. Evans*: How would that be possible if you had a National Medical Service?—I am entitled to ask in reply to that what is exactly the National Medical Service Scheme which you have in mind, because in the National Medical Service Scheme, as we envisage it, and as has been generally put to us, there are three or four directions in which it would destroy, or largely minimize, that confidential relationship. In the ordinary way there would be no free choice of doctor, or, at all events, there would be an extremely limited choice of doctor.

You have a limit to-day.—You mean to say that all doctors are not on the insurance panel.

No, I do not mean that; but in a certain geographical area there have a certain number of doctors in a certain radius, and the choice is limited.—Quite so. *Dr. Cox*: We do not limit it.

I do not see why, if we had a national medical scheme instituted, a man might not still have a choice of doctor from the panel.—*Dr. Brackenbury*: If you can elaborate a National Health Service Scheme which will give as great freedom of choice to the individual patient as exists under the present circumstances, of course, that objection falls to the ground; but we have not seen any approach to that in any national scheme.

That is the chief objection?—That is the chief objection, that in that way, and perhaps in other ways, it would destroy individual relationship. We are assuming that under such a system the doctor

would be paid by a salary. That is the usual scheme, and the payment of a doctor by a salary will tend to diminish the confidential individual relationship between that doctor and the persons who choose to go to him. *Dr. Cox*: May I give you an instance which struck me very forcibly at the time? A young fellow who was in the army—I knew him before he went—was very keen on a State Medical Service. He and I had often argued this question. "What do you think of your State Medical Service now?" He said: "What do you mean?" I said: "You have been having a State Medical Service for the last two years in the army." He said: "It is all right as long as you are a hospital case. You could not have better treatment than you get in the army then; but I am bound to say that if you are not feeling very well—not quite up to the mark—and you want a little friendly sympathy and help and encouragement, you soon find that the doctor you go to is not your doctor at all. He is acting for somebody else; he is the State doctor." That, to my mind, puts the finger on the exact spot. The doctor paid by the State for a block of people would be the State doctor, and not the man's doctor, and when I am ill I want the doctor to be my doctor.

Is the analogy quite a good one, do you think?—I think your salaried whole-time medical service would have to be almost an exact analogy. You would have to have an area to which a doctor would be allocated.

That would be a detail of the scheme?—It is not a detail; it is essential.

The big thing that you, as doctors, are concerned with is the health of the nation?—*Dr. Brackenbury*: And of the individual. If the individual is healthy I suppose the nation would be fairly healthy too. That follows, does it not?—Yes.

Because you are concerned with the health of the people, that should be your first consideration?—Yes.

And if, by instituting a national medical service, the health of the nation is going to improve?—That is exactly what we dispute. *Dr. Cox*: That is begging the question.

You dispute that?—Yes; we not only dispute that, but we maintain the opposite.

It is really speculation. We do not know what will happen. But when the National Insurance Scheme was instituted you had a very strong body among the profession which was hostile to the scheme. That, you say, was due to prejudice, and to-day that is dying down, and you call it indifference. May it not be possible that the opposition of the medical profession to a National Medical Service will also die down?—I drew a distinction between antagonism and indifference, not between prejudice and indifference.

But the term "prejudice" was also used.—Not in that connexion. I have no doubt that there was a certain amount of prejudice at that time in the minds of certain doctors against any scheme.

Because it favoured of a State service?—Quite so.

If that State service becomes still more deeply established, I suppose there will be a bigger opinion now of the medical profession against it?—There, again, we cannot pursue the argument unless we know what you mean by a State service. A State service in the lines of the National Insurance Act, preserving, as it does in the main, the features of private practice between the population and the doctors, having as unlimited an interchange amongst them as the general population has, with the element of competition between doctor and doctor, so that one doctor can do well under it and another doctor in the same sphere of practice do not so well—if you can preserve all those features in a national health service, by all means preserve them, and let us know what the Health Insurance Scheme, *Dr. Bolam*: May I say, as one who is not an insurance doctor, that the feeling in the profession is that the prime relationship should be between the doctor and the individual, and not between the doctor and a Government department, or any lay body? That is the essence of the whole matter. We regard that as the essential thing, to preserve the incentive to the practitioner and to stimulate the best work in the profession. In the case of a purely whole-time State-salaried medical service there is not the incentive to deserve the confidence of the individual. The effort in the case of Government control is directed rather in other channels. It is directed to satisfy some committee or body, and not to satisfy the individual.

But you do not suggest that the chief incentive to the doctor is really a question of salary?—I hope not. The incentive to the doctor is to do his work well, and, incidentally, to receive an adequate remuneration.

But your suggestion is that it should be to the benefit of the medical profession?—Not at all.

*Mr. Jones*: I doubt whether you can draw that conclusion. I offer me any explanation as to the probable causes of the increasing cost of sickness last year and this year that has been reported to us. It is a matter of very great importance to us. As you know, considerable surpluses have accrued in the insurance funds, and the question may arise as to the disposal of the surpluses. We are told by various witnesses that there is a very definite increase in the cost of sickness and in the cost of drugs. Can you afford any explanation of those two increasing costs?—*Dr. Brackenbury*: Why that should occur in a particular year, we cannot say. One of the troubles of our medical work is that it is not uniformly spread over the year or over a series of years. We have our own evidence that the number of items of work which we have had to give per insured person during this last year has undoubtedly been materially higher. That may be partly due to the insured person gradually being more and more willing to seek our services, or it may be due, of course, to an increased amount of illness necessitating those services. Why an increase of sickness of that kind should come about in a particular year or at a particular

time we, as practitioners represented here, are unable to say. No doubt, broadly, afterwards, the statisticians, taking all these circumstances into account, might be able to throw some possible light on the subject; but we, doing the work week by week, are unable to say why it should come along in that way.

Is this increase, noticeable last year, and apparently very much greater this year, due to one of the causes you have mentioned—namely, the increased use made by the insured person of the insurance medical facilities, or is it due to a probably temporary wave of sickness?—I think we should receive help in answering that question if we knew whether not only the attendances and visits of practitioners had gone up, but whether sickness claims had gone up, because there is no relationship necessarily between the number of visits that a doctor gives and incapacitating illness. It is quite possible that an increased number of attendances may be accompanied by a fall in incapacitating illness. I do not know whether sickness claims have gone up as well as professional work. If they have, then that suggests that there is increased sickness. *Dr. Dain:* We know that we have busy years and slack years. We have healthy years and unhealthy years. The interesting feature of last year, to my mind, is the fact that we had such an extraordinary number of attendances and such a good death rate. I would have expected that the amount of extra work we did was out of all proportion to the amount of sickness pay required by the insured persons. Last year was a most extraordinary year in that respect.

We have had put to us by an official witness some prescription statistics from Lancashire. There was a greater demand for prescriptions from Lancashire, and he was rather inclined, I think, to attribute that to some peculiar circumstance in Lancashire—that the people like the bottle more than the doctors?—*Dr. Brackenbury:* The greater demand for services is also very marked in London. I think it is universal.

I happen to have with me the last return of the Glasgow Insurance Committee. In the quarter ending December 31st, 1923, there were almost 431,000 persons on the panel lists, and in the quarter ending December 31st, 1924, there were 445,000 odd. That is equivalent to an increase of 3.3 per cent. Prescriptions prepared in the first period were 166,000 and in the last period 194,737. You say you would like to know whether there has been an increased claim for sickness benefit. We have evidence that during the earlier months, at any rate, the claims of one fairly representative society have increased by 25 per cent.—It seems to me that that must indicate either an increased willingness on the part of the doctor to prescribe rest, or an actual increase in sickness. I could not say which it is. *Dr. Dain:* It is common knowledge that the epidemic of influenza this year, while not very fatal, was more widespread than any since 1919. *Dr. Brackenbury:* If you are referring to the first three months of this year, that would account for it.

As between the two influences, would you say that a greater increase of sickness is accountable for these increased figures rather than an increased resort to the medical profession?—I do not think one has the material for answering that. I think both things are operative.

Is not that one of the directions where, if we made a very free use of your medical records, we should be able to determine some of these things?—I suppose you could; but I should have thought that it would be very interesting, and probably helpful, to get the respective curves of the doctors' attendances, and of estimating in the best way you can the sickness claims, to find whether they ran in the same direction, or whether they varied very much.

*Chairman:* On the sickness claims, might there not be some want of proper comparison by reason of persons who are being prescribed for claiming on the unemployment fund, rather than on the sickness fund?—*Dr. Dain:* That is not very easy. The exchanges all require that they shall produce certificates that they are fit to work.

Not certificates that all applicants for unemployment benefit are fit for work?—Yes—medical certificates that they are fit for work before they will pay them unemployment pay.

How often do they have to produce a medical certificate?—Whenever the clerk in charge of the exchange thinks they could not work if they were offered it.

That is if they have been sick; but there is nothing in the machinery of the Labour Exchanges that requires a claimant for unemployment benefit to produce a medical certificate?—They make them do so constantly.

In a doubtful case, probably that would be so?—The doubtful case is estimated by the appearance of the person in the eyes of the clerk in charge. They are constantly asking for certificates that the persons are fit for work before they will pay them unemployment pay.

Have you found that recently?—Yes, constantly; every week.

*Mr. Jones:* Important witnesses have stated here in regard to London and in regard to the Midlands—particularly those two areas—that panel practitioners in general make an undue use of the facilities available at public dispensaries. Put briefly, a patient comes to a doctor and if he is going to be the least troublesome he is referred at once to the infirmary dispensary or the voluntary dispensary. That has been repeated to us quite a number of times by witnesses to whose opinions I think we must attach some importance.—*Dr. Brackenbury:* I do not believe there is any foundation of truth in it at all. I think you will find statistics vary, and I do not know how far statistics are going to help us. But the statistics of the out-patients' department of hospitals, which are concerned very largely in this matter, vary, I understand, very considerably. We have had presented to us the statistics of the London Hospital, which one would suppose to be fairly representative or helpful in this matter. Since the Insurance Act came into force in London the attendance at the out-patients' department there has dropped very materially indeed. That for what it is worth. I think that the opinion that has been expressed

in that direction arises from several misunderstandings. In the first place, there is a considerable amount of illness amongst insured persons which is a hospital illness of a kind which is completely outside the contract of the medical practitioner. There is a whole class of medical practice which is not provided for at present under the regulations of the Insurance Act, and that goes to hospitals. Then there is another class of case which in poor areas (which are the ones referred to largely) has the important result that even in cases which are legitimately the sphere of the practitioner—shall we take rheumatic fever or pneumonia?—the conditions of the house in which the patient is made it much more in the patient's interest that the case should be dealt with in other surroundings; that although it is acknowledged and accepted to be the insurance practitioner's duty to see that patient through the pneumonia or through the rheumatic fever, he feels that if the accommodation is available in better surroundings it is in the interest of that person to transfer him to those better surroundings. It is not alone with a view to avoiding work which he has contracted to do, but it is done in every case in the interests of the patient himself. When you have eliminated those two classes of cases, I think the number of instances in which an insurance practitioner deliberately avoids work which he has contracted to do by putting it on to an institution is negligible. *Dr. Bolam:* May I say from the hospital point of view that the class of work that could possibly come under the question would be out-patient work in the main. There is a general policy now on the part of the larger hospitals that all work which is properly the work of an insurance or general practitioner should not be continuously sent to a hospital. Although it is difficult to refuse to any person the right to get, as it were, another and perhaps a higher opinion, the hospitals now, in the main, take the policy that they will not accept work which is general practitioner work. That is fairly usual throughout the kingdom. *Dr. Brackenbury:* On behalf of the insurance practitioner, for several years we have been appealing to hospitals to take that course in order that there may be no possible excuse for practitioners to make use of them in the wrong way. We have asked that they would send back to the insurance practitioner cases that ought to be in his province, and can be equally well treated by him at home as in the hospital, and very largely they do it. Some hospitals have done it for some time and others are doing it now, but we have asked the hospitals to do that now.

*Professor Gray:* There is one paragraph in your Statement which appears to me to be excessively modest. Perhaps you ought to have an opportunity of clearing it up. You refer to a number of directions in which you think money might be better expended than in providing a general health service. That is in paragraph 2. How much importance do you attach to what is said there?—In this connexion we do not attach very great importance to it; but we do want it to be clearly understood as being the professional opinion that the expenditure of public money might be used to greater advantage in regard to national health, speaking generally and freely, than by merely the establishment of a National Health Scheme; that these other measures to which we refer are great measures which, if the public money could be expended on them, would result in vast improvements in the public health.

Seven out of these are not precisely medical; they range over pure milk and so on?—They all have their medical aspect.

Is this what you want to say: That medical attendance is really not much use without fresh air and healthy surroundings and good public houses, and all the rest of it?—That medical attendance is only a very useful adjunct to such things.

*Chairman:* These are useful adjuncts to medical attendance?—I thought I would put it in the most favourable way that I could to the questioner.

*Professor Gray:* If you have these favourable conditions, medical attendance becomes a comparatively minor matter?—The volume of medical attendance required would be immensely reduced.

You mention corresponding expenditure. Of course, corresponding expenditure would go on a long way in some of these things?—Yes. That, I understand, is the view of the profession as a whole?—Yes.

What troubles me a little is that apparently it was not until 1922 that the profession came to the conclusion that the measure of success achieved by the National Health Insurance Scheme was such as would justify them in carrying it on. Had not you before that some idea that the work was, in fact, of the utmost value?—*Dr. Bolam:* It was only categorically put then to the organization. *Dr. Brackenbury:* We got a definite resolution put down on the agenda, as it happened, in our Representative Meeting in 1922.

But you are not trying to tell the Commission, are you, that from 1912 up to 1922 the profession were going on with this work believing the extermination of vermin and the improvement of public houses and the supply of pure milk to be more important than what they were doing?—Certainly. If you had asked us at that time whether we thought these were collectively of more importance than the work we were doing, as far as its influence on the national health is concerned, we should have said: "Yes." You must remember we began the medical benefit in 1913, and in 1914 came the war.

Let me carry that a stage further. You remember what happened in the early days. Dr. Cox has referred to the Schuster Committee. You remember, I expect, how witness after witness on the medical side, including Dr. Cox himself, came along and told us that it was impossible to attach too much emphasis to the arrears of sickness. They came and told us dreadful tales of people who were suffering all kinds of terrible illnesses. Should not that experience of 1913 and 1914 have given them a higher faith in their own work than apparently they had?—I do not want you to assume that there is any lack of faith in our own work. It does not imply that at all. But we regard this other work as of immense importance, and we say that if you are

regarding the thing from the point of view of the nation and considering in what way, broadly, you can spend a large amount of public money to the best advantage to the public health in general, we do not wait you to assume from our not mentioning these things that we do not consider them of prime importance.

But you rather went further than that. You gave me to understand that as between 1913 and 1922, if the profession had been asked they would have said: "You will do far better not to pay us our money at all, but to divert it to killing rats and to these other objects."—It is purely hypothetical, but if that question had been put for serious consideration by the profession in 1913: "What are the best ways in which, given an immense sum of money, it could be spent to the advantage of national health?" we should probably have replied just what we do in this paragraph. *Dr. Dain*: We should not have begun by the treatment, the necessity for which we think ought to be avoided.

I should like you to explain a little more fully the significance of the first of your general principles: that medical provision should only be made for those who in fact would be unable to obtain it without the help of the Insurance Scheme. I think you explained to the Chairman that of course there were all manner of intermediate cases, but what interpretation would you place upon the words "unable to obtain it without the help of the Insurance Scheme"?—*Dr. Brackenbury*: Do you mean in applying it to different classes of persons?

Yes. As I understand you, in practice that means the acceptance of some sort of income limit in a normal case?—Yes.

Do you imply that income limit should be drawn at such a stage that in actual fact people below that income limit would be without medical treatment at all, apart from insurance?—Without anything like adequate medical treatment. You see the poorer-paid insured person at present does in some way or another get attention for his dependants sometimes.

So that the interpretation of this clause turns on the use of the word "adequacy" which is not there?—I should not say that quite. It might be adequate, but entirely charitable, which I imagine is not what the State wants.

I suggest to you that you do not in practice, as far as I understand your Statement, object to the £250 limit?—That is so. We have refrained from suggesting, and we have no wish to discuss here, any particular figure as being the income limit. As a profession, among those representatives who finally approved this statement there was definitely the feeling that for the purpose of this criterion the income limit of £250 was probably unnecessarily high; but we do not wish to discuss whether it should be £250 or any particular figure. On the whole, we were inclined to think from our experience that the income limit could be drawn at a lower level than £250 and yet this criterion be complied with.

But the person below £250, if he is in the upper regions of that limit, does in fact get treatment for his wife and dependants, does he not?—Yes. *Dr. Dain*: He pays for it.

If he pays for it he could also pay for treatment for himself?—*Dr. Brackenbury*: Yes.

And the same would apply until you come down absolutely to the bare subsistence wage?—*Dr. Dain*: Not as far as that. *Dr. Brackenbury*: If you define a subsistence wage as being sufficient to find medical treatment for one's family; but that would be begging the question.

I suggest to you that on any interpretation that can be put in paragraph 8 (a) unless you introduce, as you were inclined to do until you were prevented from doing so, the word "adequate," you will get an extraordinarily low limit. I suggest to you that the real test would be, not whether or not an insured person would be unable to receive, but whether he could not without an undue sacrifice obtain it, or could not obtain it in adequate measure provision "we are thinking about the scheme we outline."

Let me put another point in continuation of that. You lay down five essential principles. The first is that under the Act would be unable to obtain it or pay for it presumably?—*Dr. Dain*: Yes.

Then in the fifth recommendation you say the remuneration you should get for that should be the same as you get in comparable private practice. I suggest to you that putting these two together there is no comparable private practice?—*Dr. Brackenbury*: Should be such as you should get, not as you do get. We are assuming the State is not going to exploit us to the extent of our having bad debts against it. In an agricultural practice we assume there are people whom the doctor does in fact see without charging; but assuming they pay the medical fees of their class a certain income would be produced in that way, and that is what should be compared.

That is rather difficult to determine?—No, I think not. The word "should" here is very deliberate. I think you will find chosen.

The Chairman asked you a question about the extent to which under an Insurance Scheme people went to the doctor knowing that there was no trouble about it, and you suggested that there was no difference between a capitation basis and an attendance basis. There is to this question—namely, that under the attendance basis the insured person, having a heart, does not mind calling in his doctor, because he believes the doctor is getting fees every time he comes. Do you think there is anything in that?—No, I do not think there is. It is not a matter that occurred to one in that form before, but as you put it to me it is theoretically possible that that may be so, but I do not think that it would be. *Dr. Dain*: When you get to that state with the patient the respon-

sibility begins to be the doctor's as well as that of the patient, and the doctor should say, "I shall have to see you once a week or once a day or once an hour," or whatever he thinks necessary.

I merely put that point because it has been put to us. Whether it is a plausible suggestion or not I do not know. I think it is plausible, but there is no evidence of it.

*Sir Arthur Morley*: You have the instance of Manchester.—*Dr. Dain*: We have no evidence of such a point being raised in Manchester. On the medical side we have no evidence of that.

*Chairman*: Have you had any special representation from the Manchester Medical Section?—*Dr. Brackenbury*: We have no special memorandum from them, but we have had their representative specifically appointed for the purpose of formulating this evidence.

But they have not wished to canvass their arrangement in your body generally?—*Dr. Dain*: In years past they have put up their suggestions as to points that are worthy in that particular arrangement. But they have had their full representation in regard to this scheme, and there has been no protest from Manchester. *Dr. Brackenbury*: We did have not so very long ago in the Insurance Acts Committee a special memorandum prepared for us by the Manchester doctors represented on that Committee, with the help of the Insurance Committees of Manchester and Salford. They put in a long and elaborate memorandum for the consideration of the Insurance Acts Committee and of those who were associated with them, which received full consideration.

*Mrs. Harrison Hall*: On paragraph 8 I would like to ask if you would describe what you mean a little more fully under (b)?—I think we do that in Section B. In the first paragraph of Section B we state all the things which we think such a service should include. Paragraphs 19 and 20 set out specifically the various kinds of provision which we think of as a complete medical provision.

*Mr. Cook*: A moment ago you were asked some questions about the Manchester system. It would be interesting to know if you have anything to say as to the Manchester system—whether you would prefer its general adoption, or whether you would prefer the present system?—We can say very emphatically that we think the Manchester system has very serious disadvantages.

*Sir Arthur Morley*: To whom? To the insured person or to the doctors?—To the administration generally, I think.

Do you suggest that the Manchester system of units acts in any way detrimental to the insured person?—No; we have no evidence that it does.

Therefore, if there is something to be said against it, it is to be said against it from the point of view of the doctors themselves?—One position is that we think that methods of distribution like that should be left to local option. When we talk of a capitation system, what we are thinking about is a system by which the Central Pool shall be constituted by an actuarial estimate of the number of insured persons, multiplied by a certain figure. That constitutes the Pool. The method of distribution within an area could very well be left to local option, as it is now. We think that nobody else but Manchester and Salford will probably adopt their particular method.

Manchester and Salford, as far as it has been put by the Insurance Committees, think that their system of working by units is a distinct advantage to the insured person and keeps well to the front and really accentuates that point of individuality between the doctor and the patient which has been referred to, and there is the feeling that the patient is better served. That has been put forward.—We do not agree with that view at all. We think that it is disadvantageous to throw all the bias away from prevention on to multiplying attendances.

*Chairman*: There are supposed to be checks?—Yes; the doctors have had to elaborate them. There is a series of checks which make the actual remuneration received by the doctor approximate very closely to what it would be on a capitation basis.

We were told in evidence that these checks had been so scientifically applied as to nullify any tendency there would be to over-attendance?—Quite so.

*Sir Arthur Morley*: But you think the sentimental and moral effect of being paid by attendance in that way would rather tend to take the medical man away from the preventive side, for which he would not be paid?—Undoubtedly. *Dr. Dain*: There was a great advantage in the Manchester system prior to last year, in that it gives free choice to the patient of doctor, which we had not at that time elsewhere.

*Sir Arthur Morley*: I think *Dr. Brackenbury* has cleared up the point in my mind that the tendency of that system is, not to go in the direction of prevention, but rather in the direction of the particular case.

*Professor Gray*: With regard to these checks, I understand the position is that there is a committee of doctors which looks through the attendances, and, if need be, cuts down the attendances from a certain number to a lower number?—*Dr. Brackenbury*: Yes.

Can you tell me how far it is possible for a committee coming in afterwards to know whether or not a doctor has put in too many attendances? Must not they decide very largely by what the doctor himself says, especially after the thing is all over?—Yes.

The alternative to the capitation system, as we envisage it, would be a complete bill of the character which would net in every case, which has obvious disadvantages. *Dr. Dain*: In the Manchester system, after the checks have been applied, it works out as a case-value payment, because by the time the checks have been applied your cases are averaged at a value and you have not been paid in effect on attendances but on case value.

What always troubles me is how they can know where to cut down the attendances after it is all over.—*Dr. Brackenbury*: They cannot know. It has to be done in a mechanical way.

They do not look at the attendances; they look at the number of the patients.—*Dr. Dain*: And the total attendances. *Dr. Dain*:



The Manchester man is put to an enormous amount of administrative work in connexion with this. They think now, with the experience they have had, that their system does work with comparatively complete justice, but it has had to be arrived at not only by averaging, but by interviewing doctors, and a good deal of trouble has been gone to which doctors in a capitation area are insured person the right of going to any doctor at any time, but this is now secured everywhere.

**Sir Arthur Worley:** It has also been urged that it gives the insured person the feeling that each time the doctor came to see him he was being paid for it, rather than the feeling that he did not know whether the doctor was being paid or not.—If the patient had that impression it would not in fact be true. With all the checks, that is done away with.

**Chairman:** The checks, as I understand them, do not remove it from the category of an attendance payment.—**Dr. Dain:** They bring it to an average.

**Sir Arthur Worley:** I think it was put to us that the checks were to see that the doctor put down the ordinary number of attendances, and if he had put down what his colleagues thought were a greater number, the matter was adjusted.—Yes; it is discounted to the normal.

**Chairman:** Have you a representative from Manchester with you?—**Dr. Brackenbury:** No; but we can have one here next time. We have made arrangements by which we could get one. **Dr. Cox:** You must remember that the Manchester doctors, at any rate, have long since arrived at the conclusion that the whole system simply gives into their hands the same amount as they would get under the capitation system, no more and no less.

**Sir Arthur Worley:** I am not looking at it from the point of view of whether the doctors get more or less individually; I am looking at it purely from the insured persons' point of view. Do they think they get better treatment by that system?—**Dr. Brackenbury:** If the insured person realized what the insurance system was he could not think so because it would not be the fact. If he is deceived by something which has no reality it is a very difficult thing to give evidence on it.

It is only carrying into effect earlier as to the feeling between a doctor and his patient being one of confidence. There is a good deal in that, and I am quite sure that the Manchester people think that.—We have not found the opposite tendency in patients to come to us under a system by which we are paid by capitation fees. **Dr. Dain:** the total attendances given to an insured person are not any greater under the Manchester system.

**Chairman:** I now come to Part II, Section A. In this section you deal in detail with the persons to be provided for. From paragraphs 11 and 12 I gather that you desire to exclude a substantial number of people who at present are entitled to medical benefit and to bring in others who have hitherto been outside the scheme. The reductions are in the main those above a certain income, whether engaged in manual labour or not; and the additions, those persons below that income who are not employed under contract of service, the dependants of all those insured on the reduced basis, and the destitute who at present receive medical attention under the Poor Law. Is this a fair summary of your proposals under this head?—**Dr. Brackenbury:** Yes, with the proviso that "the dependants of all those insured on the reduced basis" depend upon what the reduced basis is.

In what way does it depend upon them?—If the basis, for instance, were left as it is now, we should not be in favour of all the dependants and all those persons being brought in. But if it was on the present basis it would not be in favour of the basis?—**Dr. Dain:** It might as compared with what we visualize as the whole scheme.

I do not follow that.—We both leave out and take in. As I understand that.—We both leave out and take in.

considerably reduced basis, and that if the basis should be a reduced basis, and that if the basis were considerably reduced the dependants might then be brought in; is that right?—**Dr. Brackenbury:** We have not gone quite as far as that. We are not concerned definitely to dispute the propriety of the £250 basis, if on other grounds that was the figure ultimately fixed. We are excluded. Suppose the £250 were the basis we think ought to be excluded. We think that the basis for the inclusion of all income should be lower than that.

**Miss Tuckwell:** Did not Mr. Evans elucidate that the view of the Association was that there should be a personal touch between the medical man and the patient? If that man is properly and adequately paid they did not care whether the payment were made by way of National Health Insurance or by a private person. Was not that so?—No, not as far as I follow it. All we say is that if a person can by payment out of his private purse secure these things, we do not think that he ought to be included in a National Health Insurance scheme.

**Chairman:** But I have some difficulty in following just precisely what the proposal is. As I understand it, you say so far as the medical services are concerned, let the basis be an income basis?—Yes; an economic basis, at any rate.

You suggest the best economic basis is an income basis?—It must involve that consideration.

Whereas the basis at the moment is a combination of income and another test—a manual test. You say let it be an income basis. Then you say further that within that income basis not all who might fall into insurance should have their dependants provided for as well?—That depends what that income basis is. If you draw that income basis low enough, then we should agree that everybody below that line should have their dependants included. If you have that basis drawn at a higher level, we might say that for the inclusion of dependants you must have a lower basis.

I think we follow that. That clears up the difficulty of what the proposition is.—It is a little difficult to talk about in the absence of concrete figures, which we do not want to go into. I think you can help us by indicating what in your view would be a proper figure at which dependants might be brought in as well as the insured person himself?—If we had to say off-hand what might probably prove to be a general opinion in the profession it might possibly be £2 10s. a week—£130 a year. I do not wish to insist on that particular figure.

But that is what you have in your mind?—Yes.

**Miss Tuckwell:** Is that £2 10s. for a man who has a family to support?—**Chairman:** The proposal is that if the income basis on which you are bringing people into insurance is higher than £130 per annum, you should only bring into the scheme the dependants of those who have less than £130 per annum?—Yes, assuming that £130 is the agreed figure.

That is merely a figure suggested off-hand?—Quite.

With a certain amount of consideration, no doubt, but not tying yourselves at all?—That is so. **Dr. Dain:** Not in the least. The two essential things are that there should be a personal choice on the part of the patient and that the medical man should be adequately paid? Why should they bother about the finance of the thing at all if those two points are met? If you have those two stipulations, does it matter?—**Dr. Brackenbury:** I do not quite follow.

**Chairman:** Miss Tuckwell asks why it is that you should suggest that only the dependants of those with an income limit of £130 should be brought in. She rather gathered from your earlier evidence that the two desiderata were, first, care for the national health and, second, fair and proper remuneration for the doctor. The personal touch always being preserved. If you had these desiderata met, as you would have, irrespective of whether the payment was made out of the patient's private purse or out of your State scheme, Miss Tuckwell does not see why you should draw any distinction?—People may differ as to where the line should be drawn, but there does come a point at which the line which enables him to make provision for his family.

But that rather begs the question, does it not? The underlying presumption is that all who are contributing to the scheme are, in point of fact, out of their own pockets—with the aid of the employers' part and the State part—making provision for their medical attendance?—Certainly. The point is at what stage should they be compelled to make this provision for their dependants? Why should you be bothering about it?—Because we are not concerned with our own emoluments primarily.

But you have a right to be concerned about them.—We are concerned about them, but I said "primarily." **Dr. Dain:** Miss Tuckwell is wishing to know why it is we are not content to receive the money from the State as well as from the private individual.

**Miss Tuckwell:** Why do you bother about the source of the money?—May I say on that that we are not wishing to extend beyond what is absolutely necessary for the needs of the State? State doctoring of that kind. I say that quite explicitly. We have accepted the National Health Insurance Scheme with its limitation of our traditions and ways of practice in order to meet an acknowledged want, and beyond what is really necessary we do not want to go. I think that answers Miss Tuckwell.

**Sir Arthur Worley:** What I take it you have in your mind is that when you consider a man gets sufficient money that normally would enable him to pay his own doctor for his dependants, you do not wish to encourage him to lean on the State. He should be a self-supporting person, and you do not wish to deprive the dependants of action on their part?—That is so.

**Chairman:** Even though he chooses to lean on the State you do not think that you should be asked to sacrifice in any measure what you regard as the traditions of your profession?—That is so.

**Sir Arthur Worley:** I think Miss Tuckwell's point is that you are giving evidence from the point of view of the medical profession; that you agree that you do not bother with their money, but you say that as citizens?—As medical citizens.

**Chairman:** But you are not suggesting that you are merely giving evidence from a medical point of view. You are merely a professional point of view with regard to emoluments and everything else?—**Dr. Brackenbury:** We want to contribute whatever our experience has led us to acquire towards a properly strengthened Health Insurance Scheme.

At the same time you are entitled to advance your own views as to what your emoluments should be, or the basis on which you should be concerned?—**Dr. Cox:** I think the average doctor would say that the ideal form of medical practice is where the doctor can go to the doctor of his choice with his own money in his pocket, and pay for it, the transaction being just between the two. That is the ideal thing. That is the thing that the duke and the wealthy man do, and if it is good enough for them it ought to be good enough for other people. But we know there are people who cannot do it, and you have to provide for them. We do not want, however, to provide for any more of them under a system where the State comes in than we can possibly help. **Dr. Brackenbury:** If we could state our ideal it would be that every man should be paid a sufficient income to enable him to pay his private doctor.

**Sir Arthur Worley:** I want to get it clear what your idea is as to what insured persons would be within the scope of the Act. If a particular man, while he came within the scope of the Act, in fact only got £150 or some lower figure, then that man would be entitled to free medical attendance for his dependants; but the man between £150 and £250 would have to pay for his dependants, as he does now?—Yes.



So to speak, it is a measure of partial dependency, which may be quite an important matter?—With this proviso, that if the line is drawn low enough it becomes total instead of partial.

Instead of being 15 additional millions it might be providing for 7 millions; I do not know, but it is an important aspect and I wanted to get that clear.

**Professor Gray:** Is that point of view general in the profession? I have heard doctors say that the profession was the best in the world and that there was only one kind of dark aspect in it, which was the fact that they sent in bills. If they could be relieved from sending in bills there would be no shadow in the firmament?—**Dr. Bohn:** That could be obviated by people paying cash. **Dr. Cur:** It is the repeated sending in of bills that worries the average doctor; sending in bills to people who cannot pay.

But is there a shadow even the first time?—Yes.

Does not the doctor escape that shadow on the horizon under a system by which the insured person is not responsible at all?—It is not good to make things too easy for people.

**Chairman:** I suppose from what you have said that there can be no doubt that the "ins" would substantially exceed the "outs," so that the volume of contract practice would be markedly increased?—**Dr. Brackenbury:** Yes.

As to paragraph 15 (a), in this you propose to widen the excepted classes so as to put, for example, banking and insurance clerks outside the scheme. You realize that the definition of the excepted classes is a matter of considerable difficulty and adds to the administrative complications of the scheme?—We realize that the definition is a matter of considerable difficulty. I am not quite sure that it would add to the administrative complications of the scheme, because the scheme is unnecessarily complicated by the existence of these people in it now.

Administration is always more difficult when an arbitrary line is drawn?—I imagine the existence of these excepted classes does create difficulty in the working of the machinery at the present time. I do not think there can be any doubt about that. We anticipate that the administrative way of carrying out this suggestion would be by the Minister of Health giving to particular employers a certificate that their employees were excepted. It would have to work in some such way. There would be no difficulty, for instance, I suppose, if we took the five big banks and said their employees were outside.

I agree that it helps enormously if you are taking them in the bulk and not individually.—We never supposed in this class of person that you would take them individually.

Did you suppose in the other class on the income limit for dependants that they would be taken individually?—Yes.

That would add enormously to the difficulty?—Yes. Would it be practicable at all?—Yes. We get income limits now. We come to that question in a difficulty we admit later on of applying an income limit to a manual worker.

There is no income limit applied to the manual worker?—That is so.

Surely it is in the case of the manual worker that there would be the greatest difficulty in applying an income limit?—Yes.

So that it would add to the administrative difficulties?—It is not that this particular proposal as to dependants would add to the difficulty; the difficulty is applying an income limit to a manual worker at all.

But under your suggestion that would have to be done?—Yes. The income limit as regards dependants would be no more difficult than applying an income limit to a manual worker.

I am not so much concerned whether it is under your major proposition or your minor one that difficulties would arise; but difficulties would arise?—Yes.

In your view, however, it would be worth surmounting the difficulties if it could be done?—Yes. With regard to these exempt classes of persons, they would, I imagine, administratively be exempt by certificate of the Minister given to their employers saying that the employees have such security of employment, and so on, as to put them outside.

**Sir Arthur Warley:** Would you put them outside altogether?—**Dr. Dain:** Yes.

And they would be very glad to go?—**Dr. Brackenbury:** Yes; they are of a class which rather resents being inside now.

**Chairman:** Under paragraph 15 (b) you wish to exclude from medical benefit classes which correspond to what we call the exempt class. We have had it in evidence that this class really appreciates the medical benefit to which for eleven years it has been entitled. Does this not weigh with you at all?—If we were assured that it was a fact, of course it would weigh with us; but what we have in evidence is, is it not, that out of 33,000 of such persons 30,000 have in fact applied for medical cards; that is to say, that, having these rights and being entitled to take this benefit, a very large proportion of them have in fact taken it, though it does not follow that every one of those who have applied for a medical card is in those who come to us is that, in fact, they do not appreciate it very much. They are the class who say to us habitually in our consulting rooms: "We do not care about this scheme. We would just as soon that it was not here, but as I am entitled to come to it, and not pay, I will do so." The fact that, being entitled to it, a large proportion of them have claimed the medical card, does not prove that they would be aggrieved as a class if their title was taken away; in fact, our experience, gathered from those who come to us, is that they would not mind.

**Sir Arthur Warley:** In other words, they have got something for nothing, and they take it?—Yes; and they are not particularly anxious to have it.

**Chairman:** Would you go further and say you do not think they should have it?—They would be quite content not to have it.

In paragraph 15 (c) you make a very drastic proposal. At

present large numbers of manual workers above the £250 limit receive medical benefit. Would it not cause great discontent to deprive them of the privilege which they have enjoyed and appreciated for twelve years?—There, of course, we come upon the difficulty of applying an income limit to manual workers; but it would not necessarily be our proposal that those who have paid for a certain number of years should be individually excluded. The arrangement might easily be made that those who came under a newly enacted limit and who had already paid in should be individually allowed to go on. We make no proposal to cut off all those people who happen to be in the scheme. We, of course, agree that if a person has paid under certain conditions for a certain number of years it would be inequitable to deprive him of the benefits he has paid for.

Have you any estimate of the number who would lose benefit under your various proposals?—No, we have not.

You realize, do you not, that there is a real difference between the manual worker so far as security, etc., are concerned, even though his income is above £250, and the salaried clerk, for example, above the limit?—Yes, there is; but, on the whole, I think we can say that the manual worker with the more substantial income is, generally speaking, in a more secure position than the manual worker of the more lowly-paid type. He is generally a foreman or some workman who by reason of his good work and loyalty has secured a position which is more certain than the more lowly-paid; so that the more you go up, the larger will be the proportion of manual workers with an income of over £250 a year, about whom you could be more certain of their position.

Do you think that the exclusion of the persons suggested would result in their obtaining less satisfactory medical attendance than at present?—No.

Do you not think that it might be wiser to add gradually to the scope of the Act as conditions allow rather than to take the benefits from many people so as to make way for entirely new people?—No. We think that the urgency of attention is much more for the dependants of lowly-paid insured persons than for some of present highly-paid clerks and workers.

**Sir Arthur Warley:** You mean the highly-paid clerk?—The manual worker comes in. We propose to exclude in certain cases insurance and bank clerks as a class, because during the greater part of their life they are above the income limit.

**Chairman:** On your proposal for the inclusion of persons not under contract of service, do you not see great administrative difficulties in enforcing the payment of contributions for medical benefit?—Yes, there are those great administrative difficulties. I have no doubt that if the politicians said it ought to be done the Civil Service would find ways of doing it. In so far as making suggestions is concerned, there are some of us who can make them, though it is not a medical job.

Are there any suggestions which you would care to name to-day?—No, except perhaps that it might be necessary in these cases to take an annual instead of a weekly premium. The great difficulty is in securing the raising of stamps week by week in these cases; but there are means by which you could secure an annual payment of the year's premiums which would entitle him to go on. There would be much less difficulty about that than there would be about securing a weekly payment of a few pence.

It would need to be retrospective?—Yes.

What about the destitute at present under the Poor Law? How do you suggest that the payment for the provision of medical benefit for that class should be financed?—The Poor Law guardians or, as we hope, the local administrative authority which may succeed the Poor Law guardians, would be in the position of the employer in that case. The whole of the premium would come from the Poor Law. The people who corresponded to them in the age

There again up sum payment annually?—It might be so or it might not.

All these suggestions involve, do they not, very considerable administrative problems?—Yes.

Have you worked the scheme out in detail at all?—No. We have realized the difficulties, and we have certain suggestions which we could make, which we should put up for consideration for what they might be worth—some might be found impracticable—to get over those administrative difficulties.

Anything you have said now does not seem to me to answer the detailed difficulties that would arise. I do not know whether you have worked your suggestions out roughly. We have not worked them out in any way in which we can say we have got rid of these difficulties. We realize that those difficulties are mainly the applying of an income limit to a manual worker, and the securing of contributions from those who are under no contract of service. In those few cases the difficulties are very great, and all we can do is to make some suggestions for consideration by those who know more about those problems than we do.

Broadly speaking then, your proposals under Section A are that after you have excluded certain people, and added others the resulting mass of population should receive an extended medical benefit under a contributory insurance system?—Yes.

You do not feel, do you, that there would be any real detriment to the character of professional work and to the prestige and dignity of the profession resulting from the very substantial increase in contract practice which you propose?—No.

Is there in fact any real professional demarcation between insurance and non-insurance general practitioners?—None at all. **Professor Gray:** I must confess that I have had a good deal of difficulty in understanding your proposal with regard to dependants, and I think that difficulty has been general. Would it be right to say that that possibly reflects a certain difficulty in drafting this Statement because of the desirability of getting a common measure of agreement amongst those who were parties to it?

carely that. This is not a compromise as far as it goes. There are those who wanted to go further, and there were those who did not want to go so far; but this is not a complicated compromise. In order to meet that, those who said, "Under no circumstances do we want dependants to come into an insurance scheme at all," had to be abandoned; and those who said, "We want all dependants of all the existing insured persons to be brought in"—and there were a number of both classes—had also to be abandoned.

But there is a difference of opinion in the profession, and, if I may say so, that difference of opinion is reflected here in your statement in certain phrases, some of which suggest one solution and some another?—I do not think so. Can you draw attention to the phrases that you have in mind?

In one place you seem to suggest the inclusion of dependants and further on you talk about it being hypothetical. Reading this over, I suggest, a lack of definiteness as to what the proposer means. I want to make it quite clear that we are not in favour of the inclusion of all the dependants of all the present insured persons. We believe that would aggravate the defects of the present system by including a great many people who need not be in. On the other hand, there are some members of the profession who said, "No, we do not like this thing and we do not want anybody else in at all, however great his need. His need must be provided for in some other way," without telling us what he other way was.

With regard to your various limitations, if I might suggest it, here are, I think, considerable administrative difficulties in the way of giving effect to what you suggest. For instance, take the first case. You use the word "except," but I think you mean "except." You suggest the exception of certain classes of people—bank and insurance clerks. Have you considered the fact that there are similar people in similar circumstances elsewhere and in other societies who are to all intents and purposes in the same position?—That is why we put "e.g."

Chairman: Which paragraph is that?—15 (a).

Professor Gray: Now are you going to define "e.g." when it comes to an Act of Parliament?—Our suggestion is by the Minister of Health being given legislative powers to exempt in particular cases where he is satisfied that these conditions hold. We do not say that every insurance clerk or every bank clerk should be excepted; we do not say that nobody who is not an insurance clerk or a bank clerk should be excepted. We think that probably the administrative machinery—though it is not our job—must necessarily be by certificate from the Ministry.

You would certify certain professions?—Certain employments or the staffs of certain employers.

You would take, for instance, a certain insurance company or a certain bank or the Stock Exchange, and except that particular employment on the ground that normally these people are to a certain extent people who are of middle-class origin and will probably go out of insurance by the time they are 25?—Yes.

But you realize, do you not, that you have exactly the same kind of people in other occupations who also in all probability will go out of insurance by the time they are 25 or so?—If they were in bulk in any particular place, they also could be certified. I agree that wherever you attempt to draw a line in a miscellaneous population you will have some persons on the wrong side of it.

Although the bulk of bank clerks and insurance clerks go out of Health Insurance comparatively early, there are amongst them people who are in origin of the exact class who require Health Insurance and who, for one reason or another, never get beyond the income limit; is not that so?—Yes. You have had in evidence that there are such persons; but they are not common.

But they are there?—Yes. They would be on the wrong side of the line, unfortunately.

This scheme of putting out a considerable number of classes would not operate without a considerable number of people falling on the wrong side of the line?—There might be a considerable number, but the proportion, I think, would be very small.

Then take the case of people who have a certain unearned income. That class covers a particular kind of person at the present moment. There is the person who in fact applies for exemption and gets it, and there is the person who could apply but does not in fact do so. I understand your suggestion to be that the whole lot of those, not merely those who apply for exemption and get it, but those who do not apply, should be cut off from medical benefit?—Yes.

How are you going to get down to the second class?—That is the difficulty. How you are to get the information where a person does not himself want to disclose that he has this private income is, of course, a difficulty, and it might be that you could not get at it at all.

You have the case of a person with a private income of £28, we will say, who is a normal insured person otherwise. That person wants to remain insured. There is no compulsion on him to apply for exemption, and he wants to remain insured. What steps can the Government take which would be effective, which would bring that type of person to the surface?—I am unable to say, and the difficulty might be such that we should have in practice to confine this to the person who would disclose the facts and say: "I do not want to be insured." These are consistent with our first principle, we think; but there are these difficulties.

I suggest that you could not get these people to the surface and comb them out without a very offensive inquisition into their means?—If the Commission or the Treasury authorities came to that conclusion, then the only thing to do would be to say that if those people wish to be excluded they shall be excluded altogether from the insurance scheme.

Taking the case of the manual worker who has over £250 a year, I think your suggestion is that the highly-paid manual worker is in a fairly steady position in life, and you could trust to his always being at a high wage. What are your grounds for saying that?—What we say is that if there are manual labourers who are above the income limit, who earn, shall we say for the moment, more than £250 a year, they really, from the national point of view, stand in no more need of assistance than the clerk who earns £250 a year.

I suggest to you that very often the reason why these people get high salaries is, in fact, because their employment is very irregular. The normal type of case which comes along is the man who has to do very heavy work, let us say, unloading boats. While they are employed they may get quite a big salary, but that work only lasts while there is a boat there. The following week they may have a very low salary or none at all.—You will observe that we do not say "paid at the rate of £250 a year," we say "an income of £250 a year."

Does not that produce a great complication? It is possible to know the rate, but what the actual sum per year is is a very difficult matter to determine; in fact, it could only be determined retrospectively.—That is so.

That brings in a new idea which cuts clean across the existing machinery?—I do not see that. It assumes that there may be other ways of collecting contributions towards a National Health Insurance Scheme than by putting stamps on a card every week.

Take the kind of thing I have instanced—the case where a man may oscillate between £4 and £8 per week. That is quite a common type of case, is it not?—Yes.

At the end of the year you have to determine whether or not that person has been generally within the scope of insurance. Do you think that is a proposition that could be faced?—Yes. Dr. Dain: He has to make an income tax return. Dr. Brackenbury: I think in the course of the second year you could get from that man, as you do in the case of income tax, a return of what his income had been during the previous year.

Chairman: There are quarterly returns for income tax purposes?—Yes; and if at a given period of time—six or twelve months, or whatever it might be—that man has, in fact, received that income, he would not be an insured person.

Professor Gray: And on the strength of the past you would suspend him from medical benefit, although in the future he might persistently be below the limit?—He would come in again.

But you take a year, and on that year you determine whether he is an insured person, determining the matter after the year is up?—Yes, you would give him his year's grace.

I am putting the case of a man who is paid a salary which puts him above the limit in that year. At the end of that year, for one reason or another, he falls down to a lower level steadily. How are you going to operate that in respect of that period when he was above?—I do not quite follow.

He has had one year at a small salary when he was getting medical benefit. On the strength of that he rises on a year. Then there comes a year when he goes up. On the strength of that middle year he ought to go out of medical benefit; but you cannot do that till the end of that year. At the end of that year he goes back to his low normal level again.—That man, according to the scheme I have in my mind (which may be quite impracticable), would never go out.

Because in fact you are acting retrospectively?—That is right. You will find in the course of the second year that he is not getting an income above the limit, and he remains in. You have not taken him out for the one year in which he did get above it. There are great difficulties, and I do not suggest that any ideas I have in my mind from the administrative point of view get over those difficulties completely; but I do think that they are difficulties which should be faced and probably could be got over. If they could, they would result in a better National Health Insurance Scheme than we have now.

Chairman: You would agree that you could not very well have a scheme of "in and out"?—Not "in and out" in short periods of time.

Professor Gray: Medical benefit is in a sense a prospective affair, is it not?—Yes.

Your determination is retrospective?—Yes.

And that itself raises considerable trouble?—Is not that common to it now?

Chairman: You do not have the same variety of wage in non-manual employments that you have in manual employment?—No; the security and steadiness is greater, I agree. At the same time if you can do it, the manual labourer who is earning above a certain income has no more claim upon the State contribution than the clerk, who may not be earning so much.

If he is in regular receipt of it?—Quite. Dr. Bolam: There are manual workers who are not subject to rapid fluctuations and who are in receipt of steady incomes.

Professor Gray: With regard to your conditions, in the event of the scheme being extended to dependants, you want nurses added, and a few other things, and a reduction to a minimum of all records and reports and a lightening of those required in regard to existing insured persons. That, if I may say so, is a laudable generality with which we would all concur; but what does it come to in practice? We all desire to lighten burdens.—Dr. Brackenbury: In the first place we should desire to have at once what we ask for annually from the Ministry of Health and get refused—not being compelled to enter a tick on our card every time we see a patient. We think from our point of view that it is a wholly unnecessary labour. It involves, even on the most trivial occasions, your seeking out a particular card from a bundle, your turning it over and putting a tick in an appropriate place and putting it back again, without having to make any clinical record of the thing at all.

to send him. You make a private practice you in fact  
attendances?—Yes. You must keep a record of visits and  
that rather brings us to a point you mentioned this morning  
in which you suggested that perhaps some of these records are not  
so diligently kept as they might be, and I rather think you said  
that in a sense there would be more zeal than in keeping these  
records if you saw that they were being used for some useful  
purpose. Do you think if the medical profession saw that they  
were being used for some useful purpose in which they might  
have a share, these records would be better kept?—Yes, on the  
whole. We were talking about using them for national health and  
scientific purposes.

*Miss Tuckwell:* Arising out of paragraph 16, where  
the question of whether a contribution from the public  
be required for every one of his services, would it be  
any of the suggested experiments to put it to you, that the  
health of the country would be improved by the medical

Mr. Tuckwell: I am talking about using them for national health and purposes. The question of whether a contribution from the employer should be required for every one of his employees, regardless of all, or any of the suggested exemptions, is not a medical question, I want to put it to you that when you dealt with the question of the health of the nation you were dealing with a medical question. Extraordinarily interesting as your evidence is on other points, it has only the same interest as that of any other body who might come before us.—Yes, on this point. If it is held that an employer must stamp his card for every one of his employees, all we point out is that our proposals do not interfere with that being done. On such a point as this you give your evidence not as medical men but as citizens?—We give you our evidence as citizens with our experience gathered from the working of this Act and our practice generally. A doctor, as a citizen, is able to throw some light upon the aspects of public life from the working of this Act and our practice as it has done intimately in contact with all sorts and sundry people in connexion with health matters, more and more, even though it does not bear an eminent, bringing in indirect payment that it over an entire, many say what for.

Dr John Anderson: Following up what Professor Gray was putting to Dr. Brackenbury, you want, Dr. Brackenbury, I gather, to draw a line across the general body of munim workers and to say those above the line shall not get medical benefit, and those below the line shall. Is that so?—Yes, that is so. You recognize that there are great practical difficulties in every sort of variation in particular conditions, and those overtime, and with the conditions? Do you not think that such a

Yes; it is one of the great difficulties that has to be faced.  
Does it not seem to you to be a really formidable difficulty?  
*Dr. Holam:* But in many of these industries  
periodically. But in many of these industries  
But after the amount over a period of time  
possible to get

possible time after the event?—Quite. We have said that.  
Following that up, would you propose that the man should be  
in and out quarter by quarter?—*Dr. Brockenbury:* No; we should  
not propose that.  
Then what is the significance of the quarterly return?  
*Bolton:* Simply to combat the statement that the man should be  
get them. *Dr. Brockenbury:* There would be no new world!  
the longer margin which would be controllable year  
the free insurance than is conceivable now.  
difficulties could be overcome by new world!  
difficulties could be overcome by new world!

But I am not clear as to what the case really is.—  
before you he will have been in that position can afford to him: "Bar."

position really is.—The case here can afford to do this for him: "Because during the past year you have been in a position to pay for your own medical treatment, we are going to deprive you of medical treatment for the next year, when your financial position may be quite different"—Do not you think that when a man is in a prosperous condition he ought to be thrifty?

**Mr. Evans:** Would not this follow also, that during his year he would have paid in contributions?—Yes.

He would have to wait and see the result of his treatment for his next year.

**Sir Arthur:** Would not this depend on his earnings?

"So, that during his prosperous  
 contributions?—Yes, and he would get  
 his treatment for the previous year.  
 "I take it he would get his treatment, and  
 the question is whether he would be able to charge him as a  
 private person?—The idea I have in my mind, which is a private  
 one, is that he would be treated under the Compensation  
 Act, are you not?—I am not very familiar with them.  
 You are familiar with claims under the Workmen's Compensation  
 Act, are you not?—I think the general principle is that when a workman meets  
 with an accident inquiries are at once made and a form filled up  
 as to what his actual earnings week by week have been during  
 the last twelve months, which, of course, arrives at what his wages

**Insurance?**

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are. That is done in thousands and thousands of cases. The question is whether it should not be done in this case if it is done in thousands of other cases.

Idea is that the employers could help us to get over these difficulties far more than the doctors.

*Chairman:* There are more forms for the employees for the doctors?—*Dr. Adams:* The

regularly now.

*Sir Arthur Woodley:* ...

cases, because they ... weekly

...do more for the employers and br  
 weekly earnings. To arrive at his weekly earnings you must  
 the employer. I suppose there are millions of claims each year by  
 We want to admit quite freely that we see these formidable dif-  
 culties, but we think if they can be overcome the result will be  
 nationally beneficial.  
 I am trying to help you. You must not think, however, that  
 because I put that suggestion to you I adopt your view.—Quite  
 so. As to suggestions to meet the difficulties, we are willing to  
 contribute what we can, but we do not claim to have any  
 special knowledge.  
 Chairman: You are like ordinary citizens now?—Quite  
 Taking now paragraphs 19 to 31, we  
 important matter contained in  
 gather that you desire in  
 the scheme  
 census

Chairman: You are like ordinary citizens now?—Yes.  
Taking now paragraphs 19 to 31, we come now to the very important matter contained in Section B of your Statement, I gather that you desire that the medical provision for all persons in the scheme should be, as far as possible, complete. This means, does it not, that you desire to add to the general practitioner treatment, consultant and specialist treatment, laboratory facilities for clinical purposes, residential institutional treatment, dental and ophthalmic treatment, nursing, ambulance services, and the like?—Yes.  
And that this widely extended service should be available to all insured persons entitled to medical services?  
dependants?—Yes.  
Then you would like to have the same service available to persons within the scheme who are not insured persons?  
services?

persons entitled to medical benefit, and their services—*for example*, the treatment for tuberculosis and venereal disease, infectious disease, hospitals, maternity and child Welfare Centres, the school medical service, and the Poor Law medical service. Would your aim be to co-ordinate and, if possible, bring under one local administration all this range of service? We should go a little further than that seems to indicate. It would not be mere co-ordination and bringing under one local administration, but it would mean the practical abolition of some of these services by their absorption in the National Health Insurance Scheme. We envisage, for instance, the Poor Law medical service and nearly, if not all, treatment centres—I use the word individually—as being no longer necessary if the alternative provision under the new scheme were made for the people in that other way. So that it would not be a continued existence of things would be largely, if not entirely, unnecessary.

You feel that this unification or co-ordination will give the great advantage of the health of our country, some of many administrative conveniences of the present system?

If all this is done and the population, but income remains as at present, I think we shall have a very good thing.

[illegible]

ance bearing distributed that the cost of these as they stand now  
Fund?—I do not think we are in a position to answer  
that question. All we should like to claim for consideration is  
that the total national cost from all sources would not necessarily  
be much greater for the scheme which we have in mind than are  
the various services as at present distributed.

But it is important, it is not, to know whether you propose that  
these services, or mixed in the form in which it is raised now for  
—In so far as the people should be transferred to the one fund?  
schemes now would be provided for under some of the other  
I think it would have to be transferred to the Insurance Fund.

Would you be prepared to see a substantial increase in the State  
grants and the contributions of employers and employed persons  
in order to realize these aims?—We think probably there would  
have to be an increased contribution from employers and employed  
persons in respect of dependants; but we do not think there would  
need be any extra contributions from the State.

the extension of the service.  
Then you do not contest  
one fund?—

But one. And—The National Health Insurance Fund is a very big one. Do you not contemplate that they should all be met from contributions by the (National) Insurance Fund?—if you include State contributions in so far as the State would save money by the abolition of other things. *Dr. Dain*: The State and the rates contribute to the Child Welfare Centres and some of these other schemes.

This would no longer be necessary, or to a certain extent would not be necessary, and the money so saved would help to pay for the services given in the other way.

In the case of money saved by a ratepayer who is not an insured contributor, if it had all to be borne by the National Insurance Fund, the burden of that would be transferred to the insured contributor; is that what you contemplate?—*Dr. Brackenbury*: No. The ratepayer and the taxpayer at present run a school-treatment clinic. If the dependants of the insured persons were brought in, provision would be made for those same diseases under the Insurance Scheme, and it might be quite proper for the State to make to the insurance pool an increased contribution corresponding to what the State gained by the other provision not being necessary.

I am afraid I do not follow it yet. At the present moment you have got all the services that have just been described, the cost of which is defrayed in a variety of ways. If you unify or co-ordinate, or do both, so far as you can do both, to all these services, is the cost of these services still to be borne as it is borne now, or is it to be borne on the Insurance Fund?—It is to be borne on the Insurance Fund in so far as it refers to insured persons.

And in so far as it does not refer to insured persons, who is to bear it?—The State and the rates, as now.

So that the insured person would be contributing both as a ratepayer and as an insured person?—No more than now. This rather comes on the administrative side, where I feel there is some difficulty in our putting our meaning properly. We do not envisage all these things—insurance income, rate income, State grant, and all these other things being put into one pool and being left to the discretion of the local administrative authority to deal with. We imagine the Insurance Fund, dealing as it does with insured persons only, to be a separate financial matter.

At the present moment, insured persons do not, under the Insurance Scheme, get the advantage of many of those things which you now suggest they should have the advantage of as insured persons. They get the advantage of these just as other ratepayers get the advantage of them, quite apart from insurance. You recommend now that these services should become a definite part of the insurance contract, as it were?—Yes.

I want to know in what way the payment is to be made. Do you contemplate that in so far as the insured persons for the future take advantage of these, a grant should be made from the Insurance Fund towards the expenses of these services? Is that what you contemplate?—I have not quite got it now. It depends upon the inclusion of the dependants very largely.

I wish you would leave the dependants out of it for a moment. Take them as quite a separate proposition. You are suggesting that all the public health services should be co-ordinated, and many of them should be unified. That is what you are suggesting?—Yes; but that largely depends upon the inclusion of the dependants. If the dependants were not included it would not be worth while unifying the other things. *Dr. Cox*: These are the main things.

You envisage a scheme in which dependants are included?—*Dr. Brackenbury*: Yes. I do not say there should not be co-ordination and adjustment apart from that. But the scheme as a whole does involve the inclusion of dependants.

Whatever the scheme may be, you further contemplate that the only additional cost which should be thrown upon the National Insurance Fund as it now stands would be the cost in respect of dependants; is that so?—Yes; assuming the transfer of a similar amount of money from the State to the Fund.

Have you made any calculation what the additional cost arising from dependants would be?—Nothing that we could ask you to rely upon.

Would you be prepared to see a substantial increase in contribution on the part of employed persons and employers at the present time?—It depends on what you mean by "substantial."

Any?—Yes, for dependants; because at present the parent does spend money upon dependants in a considerable number of cases.

What about the employer?—I think it might be to the advantage of the employer to know that his employees were happy about their families.

It might be comfort, but how would it be to his advantage?—I think that would be an advantage. There I am speaking as a citizen.

I am asking you for your opinion as a medical man.—We have not come to any conclusion as to whether any, or how much, of this contribution should come from the employer.

Assuming that the country cannot face up to this expansion, could you indicate to us in a little detail the order of priority in which you would recommend the extensions of scope?—There we are bound to put before you the opinion of the profession by a majority. On the supposition that you hope to do both, but are not able to do both at once, they think the extension of the scope of the service should be given priority over the inclusion of dependants, according to the scheme. That is the opinion by a majority of the profession.

Is it a substantial majority?—There is a substantial minority. There is a big majority in favour of extension of scope of the service. On the other hand, the minority put it up to us that it is most urgent to get the dependants in.

It is part of your scheme, is it not, that the additional treatment benefits should no longer be administered by Approved Societies, and that these unequal and partial arrangements should be replaced by uniform benefits administered by local committees?—Absolutely.

Would you indicate to us what in your opinion are the main defects of the additional treatment benefits as at present administered by societies?—We have to be quite clear what we mean there. Of course, in the administration of societies under the Act

all a society can do is to contribute part or the whole of the cost of a benefit; it cannot arrange a benefit.

That is so.—But by what may be thought to be a dodge, if I might use that expression without intending to be offensive, Approved Societies amalgamate and constitute themselves another body, which not only pays the cost of benefit, but arranges for additional benefits being administered. To that, or anything approaching that, we have the very gravest professional objection; and one is bound to say that in exactly the same way as we made a very strong and eventually successful stand against the administration of ordinary general practitioners' treatment by an Approved Society, so in the interests of the consultants we shall have to make the same stand against the administration of additional treatment benefits of this kind by an Approved Society. Fundamentally, we object to the administration of these things which are health services involving the arrangement with and appointment of doctors to do certain things. We object to that being in the hands of any but a public body, unless it be a professional body, which, of course, we cannot look for. That is the big fundamental objection which the profession would certainly take a strong stand with regard to, if these additional benefits were to be developed along that line. Apart from that, from our point of view we think it is lamentable that a number of insured persons should be entitled to some of these things and their neighbours and friends should not be entitled to them. From the health point of view we think it is a great pity that all insured persons cannot secure alike these medical benefits, since they all pay the same premium.

It is better that some should secure them than that none should have them, is it not?—We are outlining what we believe to be the right sort of National Health Insurance scheme. We believe that under such a scheme there should be the same kind of medical attention available for all insured persons.

In paragraph 22 you suggest that with certain exceptions the additional services should be available only on the recommendation of the general practitioner, these exceptions being the prescribing of drugs and appliances and extra services by the consultant; and dental treatment. In all other cases, you desire the service to be given only on the recommendation of the general practitioner?—Yes.

Would you indicate to us briefly the reason for this differential treatment?—There are two points; both are quite simple. A consultant may be called in merely for the purpose of a consultation, to get his opinion of the case. After that has been obtained the treatment of the case goes on in the ordinary way in the hands of the general practitioner. But there are cases in which for a particular investigation or a particular line of treatment of a special character the patient is for the time being handed over from the general practitioner to the care of the consultant. In that case the consultant must have available at his call such laboratory facilities as may be necessary. With regard to dental treatment we are thinking mainly, if not wholly, of dental emergencies. You can scarcely expect an insured person with raging toothache to go to a doctor before he goes to his dentist to get it attended to. Although, generally speaking, we may hold with regard to the more chronic cases that the whole health of the person is involved, and, therefore, the general practitioner should be brought in in the same way as in the others, we must allow that there are dental emergencies in which direct access to the dentist should be allowed.

It would be difficult to distinguish between a dental emergency and something that was not a dental emergency?—That is so.

With regard to ophthalmic treatment, should that be on a different basis from dental treatment?—Yes. Primarily we envisage dental and ophthalmic treatment as merely individual forms of specialist and consultant treatment; we do not take them separately at all. We have to make that one exception in the case of dental access; but apart from that, dental treatment and ophthalmic treatment are simply individual forms of specialist treatment and ought to be considered *pari passu* with all other forms of treatment.

We note in paragraph 22 that you are prepared for two safeguards in connexion with recommendations for special services—namely, a notification to the administrative authority and a liability to explain to a professional committee the reason for any apparently excessive use. Do you think that the profession would accept quite willingly these conditions?—I think the profession would accept them as reasonable necessities.

In paragraph 24 you suggest certain criteria for determining the medical personnel of the consultant and specialist service. Do you feel that with these criteria there would be available throughout the country a sufficient number of specialists to meet the extended services which you contemplate, and that in particular there would be no difficulty in rural areas?—We have no doubt about that. We do not suppose that rural areas will always have the amenities of the town, but, generally speaking, there is no doubt about sufficient supply.

You realize that if the insurance contribution were increased in order to provide for specialist services, every insured person would have a right to expect these services to be available when required?—Yes.

In paragraph 28 you say that it is likely for some time to come that it will be necessary to continue the appointment of whole-time officers dealing with tuberculosis and venereal disease. Generally you are against payment by salary. Would you tell us why you would allow this method of remuneration to continue in these cases in your revised scheme?—It is not altogether or even mainly from our point of view a question of the method of remuneration. We have two objects in view in putting in that paragraph. In the first place we recognize that there are in existence a number of such officers and we do not want to jeopardize their individual positions; we want that to be taken into full consideration so that they shall not suppose or anybody else suppose that we want



them immediately displaced. The main point with regard to these two things is that we are scarcely yet as a profession and as a health community sufficiently developed to divide the functions among the proper elements. It involves the medical officer of health, the consultant, and the general practitioner. In all these cases with the progress of medical education the time will relatively soon come when the general practitioner will be able to undertake the medical treatment of those cases with the consultant's services at his disposal in time of difficulty. From the public health and administration point of view the medical officer of health will be able to supervise the general arrangements. The same with tuberculosis. We think it is desirable that as soon as that division of functions can be properly brought about it should be.

In paragraphs 29 and 30 you outline an interesting development for maternity work. This, I take it, would replace the present maternity benefit except that you would continue some cash payment in respect of maternity. Is this so?—Yes.

But in addition you would provide from insurance funds for the service at confinement and for any necessary pre-natal and post-natal attendance?—Yes.

In connexion with this question, have you anything to tell us as to the extent to which the present maternity benefit is entirely absorbed by the doctor's or midwife's fee?—It depends what you mean by "the present maternity benefit." If you are thinking of it as a whole, the whole sum available for maternity benefit, then there can be no doubt that it is not absorbed because the proportion of maternity cases attended by a doctor tends to be reduced year by year. The proportion of cases in which medical benefit is received by the person in which there is attendance by a doctor at all is relatively small.

But if there is not a doctor there is a midwife?—She does not absorb the maternity benefit.

Let us confine ourselves to the doctor. In most cases where a doctor does attend that is the fact, is it not?—Are you thinking of the individual person?

We are.—That the insured person's maternity benefit is absorbed by the doctor's fee I do not know. I do not know whether in fact by calculation that is so or not; I should suppose not.

We have had a considerable amount of evidence to that effect.—I know. There has been the suggestion that the doctor has sat down and calculated nicely what the maternity benefit was going to be and has raised his fee by a like amount. We are quite certain that no individual doctor in the country has ever sat down and made such a calculation.

The suggestion is that he has arrived at it instinctively.—Which is the more natural thing to do. There cannot be any doubt at all that the more money there is available from any source or for any reason whatever, the more does the doctor think that he ought to receive an adequate fee. We have to remember this, that in the old days maternity fees were altogether inadequate. This has also happened, that the cases which the doctor attends tend to be the more and more difficult cases. The normal cases, or cases which are hoped to be going to be normal, are more and more in the hands of midwives. The mother, assuming she thinks she is going to have a normal time, does not engage a doctor; she engages a midwife. If she happens to have an abnormal time the midwife can always call in a doctor.

That is not because the doctor's fee has become high, is it?—No. It is largely in those cases in which the woman has some evidence that she may have an abnormal confinement that she makes arrangements with a doctor for a specific fee. That of itself would tend to raise, and quite properly, the amount of remuneration which the doctor should have if more and more he has the difficult and abnormal cases rather than the normal cases to deal with. I would just say, incidentally, what certainly we should desire to emphasize, that of all the anxious and exhausting things a doctor has to do, a difficult confinement is the most anxious and the most exhausting. It is the hardest work that any doctor larger number of normal confinements than now, was low. It was out of proportion to the services rendered, because there was no money forthcoming. Therefore, on an increased abundance whatever, better wages or increased maternity benefits, or did undoubtedly and quite properly raise his fee; although I do not think there is anything in the suggestion that it was raised private practice and in other ways you find the same thing. In my own fees have been multiplied five times for such cases since the time of which I am speaking. I attend practically no maternity cases of insured persons now.

On what considerations has that rise taken place? The cost of living?—Not entirely. It is due partly to ability to pay. There is the feeling also that one does want an adequate return for services rendered and that you are more independent than you were before as to whether you will render the services or not. No doubt that is an element in it with doctors who have been in practice for a long time.

You rather think the explanation of the rise is that money being available the doctors have felt that they ought to be remunerated more in accordance with the merit of the service than they were able to be remunerated when money was not available?—That is so. *Dr. Bolam*: In the days before money was available to doctors was not really remuneration at all. The work was done largely on a semi-gratuitous basis. Midwifery has never been remunerated in accordance with the skill, care, and responsibility of the doctor; and, consequently, many doctors have had to give

up the work entirely. They do not feel it is just for them to go on doing the work without proper remuneration.

*Sir Arthur Warley*: Were they not properly paid in regard to normal cases?—Never in my professional life.

The midwife to-day in normal cases gets something more than the doctor formerly got for normal and abnormal cases?—*Dr. Brackenbury*: Very often. *Dr. Cox*: Before the end of the war there was a tendency in the ranks of the profession to increase the midwifery fee on the ground that it was a totally inadequate amount, generally speaking. That came to a head really in 1920, when we received from all over the country requests from doctors as to what they ought to do in regard to the rapidly changing value of money. They said they wanted a lead from headquarters. After consideration we suggested that all fees ought to be raised 50 per cent. That was in 1920. I believe throughout the country that was done. My own feeling is that midwifery fees on the whole are not more than 50 per cent. higher than they were in 1914. There are areas, of course, in which they are double, and some where they are treble. I remember in my younger days I used to do midwifery for half a guinea. The same man now gets 35s. That is three times as much. They were getting a guinea before I left the place.

*Chairman*: Have fees fallen since 1920?—I do not think so. I do not think they ever will. *Dr. Dain*: They did not go up more than 50 per cent., generally speaking.

The evidence we have had from different witnesses has been that they have gone up much more than 50 per cent.—*Dr. Cox*: Those must be exceptional cases.

I rather gathered from the evidence that I have listened to at any rate that there was a general rule to that effect, rather than an exception?—I do not know about that.

*Sir Arthur Warley*: The impression given was that fees had gone up from half a guinea to 35s.—*Dr. Brackenbury*: There are important areas in which the fees have gone up 50 per cent. No doubt there are other areas where they have gone up 200 or 300 per cent.

*Chairman*: At any rate you make the point, no matter how high they have gone up?—They are still inadequate for the services rendered.

I was not going to put it as high as that.—That is the position. *Dr. Dain*: Having regard to the evidence which has been given to the Commission, we are anxious that this point should be cleared up.

So are we.—It has been put in a very objectionable way; that the greedy doctor simply took the money as it became available. No regard has been had to the particular circumstances that in the last twenty years doctors have left off attending midwifery in favour of the development of a service of qualified midwives. In my own practice twenty years ago I might attend 200 cases a year. I worked very hard. To-day my partner and I do not attend 50. That is not because we refused anybody; we go to anybody who asks us. We get a fee of £2 2s. where we used to get a guinea. We get, as *Dr. Brackenbury* has said, only the difficult cases. The patient does not engage a doctor in any case. She comes and says, "If the midwife is in trouble will you come?" And, of course, we say "Yes." I regard with great indignation the suggestion that I am out to get all the benefit. As a matter of fact, I do not get midwifery fees out of more than a fourth of the patients I formerly attended in the same neighbourhood, with an increased practice. The normal work is done by qualified midwives, and is properly done. There is a constantly improving service of midwives. As one is getting older one does not want to do so much.

*Sir Arthur Warley*: If the midwife is giving a proper service for a little more than the doctor got before, presumably the doctor was not properly remunerated before?—*Dr. Brackenbury*: That is so.

Therefore the whole of your case comes down to two points, does it not: (1) the normal cases are done by midwives and you get the abnormal cases; (2) there being more money in the house, you think you ought to get more?—Yes. *Dr. Dain*: It is to be remembered that the public authority undertakes the responsibility for the midwifery service. The Medical Officer of Health will pay for the attendance of a doctor on confinement in any case where the patient is unable to pay. The doctor puts in a claim. The scale has been agreed at a much higher level than pre-war.

*Chairman*: Probably the impression of the doctors taking advantage of the higher payments in order to get a higher fee has arisen partly from the fact that the insured person regards the increased maternity benefit as a payment made to her irrespective of any appropriate remuneration for the doctor?—Yes.

And, therefore, she has been inclined to think the doctor has taken advantage of the situation to get what she ought to be getting. I think the difficulty lies misce perhaps in that way. What I was hoping to get was an expression of opinion from such a responsible body as yours as to the merits of the payment that might be made in such cases. As I understand your explanation, it is that in the old days, money not being available, doctors had, since they felt compelled from the professional point of view to attend any case that came along, often to be content with a fee which was inadequate for the services rendered?—Yes.

And that they now do not accept any blame for asking that the fee, when money is available, should be more appropriate?—That is so. *Dr. Bolam*: I want to make it perfectly clear that this is not an attempt to grasp a relatively high fee for the service because there happens to be a payment which can be converted as remuneration for that fee. We want to make it clear that even now midwifery work is not adequately remunerated.

At the higher fee?—Yes. *Dr. Cox*: We regarded this matter as so important that a few days ago we made inquiry from a few typical areas, not selected ones, on the point. We did not know what the replies would be. We asked three questions: what was



the pre-war midwifery fee in your area; was the fee raised in 1920, and, if so, to what figure; what are the fees now? I would like to give the Commission information on this point. Manchester said the pre-war fee was a guinea; in 1918 it was raised to a guinea and a half; in 1919 or 1920 it was raised to £3 3s.; it is now £3 3s. or more.

That is three times the amount?—Hertford says: The fee was supposed to be raised 50 per cent. in 1920. The honorary secretary thinks not less than £2 2s. is now charged for any confinement, and that there has been no drop since 1920. £2 2s. is the fee for an area which is largely agricultural. Winchester says: the fees were advanced during the war, and have not dropped; the basic fees appear to be £1 1s. to £2 2s., increased now to £3 3s. or £4 3s.

The variety of increase may help to raise questions?—Dr. Brackenbury: The same raising of fees has occurred in private practice, in cases where maternity benefit is not involved. Dr. Cox: That is so. Dr. Brackenbury: If you investigated the cases where there was no maternity benefit, you would find the fees were raised in the same proportion.

Do you think the fees have been raised to three times the amount?—Yes. Dr. Bain: There are many districts where the fee is £3 3s.

For what?—For attending on midwifery cases. Dr. Cox: May I complete my information? The next group comes from North Wales, where they say the fee was, up to 1920, 10s. 6d. to £1 1s., I suppose varying with the circumstances of the patient. They now say it is £2 2s., if it is a difficult case, or another practitioner has to be called in. In Penryn it was half a guinea before the war; it was raised to a guinea in 1920, and is still a guinea. In the Dolgelly district the fee was one to two guineas before the war, whether it was the first confinement or not. There they say the fee has never been raised. In the Towy district, not far away from Dolgelly, the fee was a guinea before the war, two guineas if the distance was over four miles. It has never been raised at all. In Buckinghamshire it was a guinea before the war, now one and a half guineas. In Bedfordshire the fee was a guinea before the war, now it is one and a half to two guineas. Those are varied areas, and are the only districts which have replied in time. They show a variety of charge. The fact is that the fees before the war were low.

The very fact of such variety of charge in respect of a matter where there has been a uniform increase in payment to the insured person may itself help to raise questions which have been raised by a number of witnesses?—If they are under the apprehension that this rise has only occurred in cases of insured persons; but that is not the case.

Whether they are under that apprehension or not, they are likely to assume that persons who are not insured persons can afford to meet any reasonable rise, whereas persons who are insured persons cannot do so above the amount of maternity benefit. That is the assumption they are likely to make?—That is surely what the benefit was intended for. It was to meet the necessary expense of confinement. If the doctor's fee is not a necessary expense of confinement, what is?

Sir Arthur Worley: Is it not the fact that before the war there was an almost uniform charge?—No, it varied very greatly; there is the same relative variation now. Dr. Brackenbury: Seeing that you have to allow that you cannot go below a certain minimum anywhere, I think that is so. There would not be quite the same range.

There were not many cases above a guinea before the war, were there?—Many.

I had in mind the list of districts Dr. Cox read.

Chairman: What do you say, Dr. Brackenbury, to the disparity in the different districts?—It has always been so.

Even supposing that has been the case, there is a great disparity in percentage rise. In some of the districts Dr. Cox mentioned they have not raised the fees at all. The fees could not be said to be inordinately high; they were quite low in some cases; but they have not raised them at all. In some areas they have raised them 50 per cent., in some 100 per cent.—I can only say that the doctors in some areas are wiser than in some other areas. Dr. Balam: In some of these areas it is quite possible there is a miners' system under which there is payment for the whole family, and the maternity fee is low in consequence. Very often that is the case.

Those are not merely insured persons' fees?—Dr. Cox: No.

Those are fees generally, private and insurance patients?—Dr. Balam: But in such an area all the people would be of practically the same class. Dr. Cox: There is no compulsion about these fees; it is only the secretaries' estimate.

Professor Gray: With regard to the area where the charge is £3 3s., that would apply to an insured person also?—Yes.

Sir Arthur Worley: Might the doctor give more attendance after the event in some districts?—Yes. Dr. Balam: In some cases it was specified what the period of attendance would be.

After the event some doctors used to go three or four times for the fee?—Dr. Cox: I know of two areas quite close together where one doctor adopted the practice of dropping in up to the end of the month for an inclusive fee, whereas all the other men distinctly said ten days. Ten days is the usual period, I believe. Dr. Bain: I think it will be found on an analysis of some of those figures that where there has been no increase there has been no improvement in the service of midwives. In areas where the men are attending less cases the tendency is for the individual fee to be raised.

Chairman: Do you care to express any view as to the periods before and after confinement during which a woman who abstains

from work should receive money payments?—Dr. Brackenbury: It depends what that means. We think circumstances of employment vary so enormously in different cases that it would be impossible to suggest an average period. If it was a question of a sum being paid for a short period before and after confinement we should suggest a month.

A month before and a month after?—Yes.

Perhaps you would amplify for us a little the reasons for your proposed condition that any insurance practitioner should be at complete liberty to undertake or to decline this work? Do you regard attendance at confinement as something not necessarily within the province of the general practitioner? You do not make any other exception of this kind?—No; we do not remove it from the category of those matters which are within the province of the general practitioner at all; there is no thought of that. The anxieties, responsibilities, risks, and all the trouble of this class of work do make certain doctors say: "This is the first part of my work I will cut off; I can cut it off as a separate entity." As a doctor gets older and perhaps more successful he says: "I will not take confinement cases any more; I do not want to be held so tightly to my practice as this holds me." It is not a question of having to get out of bed at night. It is merely the feeling that if you are waiting for something you are tied for days; you dare not be away. Taking all those matters into consideration certain doctors say: we do not propose to take on any work of this kind in future. We think that that right should be preserved under any insurance arrangement.

In paragraph 31 you outline arrangements for a clinical laboratory service. Would the arrangement for payment here be that, if on the advice and request of the general practitioner a report or an analysis were made, the management of the laboratory would simply send a bill to the local health authority in accordance with a prescribed scale?—Yes; the local health authority here being whatever authority was established for the administration of the system.

In paragraph 32 you deal with institutional treatment arrangements. I note that you are of opinion that payment should be made out of National Health Insurance funds in respect of all insured persons who receive treatment at hospitals, whether as in-patients or out-patients, and that such payment should include a charge for the remuneration of the medical and surgical staff of the hospital. Is this so?—That is so.

Do you suggest that each approved society should make payments out of its own funds for each member of the society who receives hospital treatment, or that every society should contribute on a membership basis to a central fund out of which all payments to hospitals should be made?—Certainly "No" to the first part of the question. That depends how you arrange the matter. What we envisage is, for the payment of the premium the insured person shall be entitled to hospital treatment so far as accommodation allows of it, and that that should be paid for out of the insurance pool. Whether that pool were built up in the particular way which is suggested in this question or whether it were a pool quite apart from it being passed through the books of the approved society at all does not really concern us fundamentally. We had rather thought of it not passing through the approved society's books at all.

Would you agree that a member of a society which makes payments in respect of the hospital treatment of its members should have some advantage in the matter of hospital treatment over a person in respect of whom no such payment is made, and if so, what form do you think this advantage should take?—There would be no such question as I have just said. There could be no advantage. All the societies would equally contribute, or the pool would be independent of the societies.

When you speak of a pool you mean a general pool?—Yes. Dr. Balam: The only criterion we would acknowledge in the case of a hospital would be the need of the patient, not whether payment had been made beforehand in respect of the patient or not.

In paragraph 33 you suggest that the list of prescribed appliances should be extended. Do you find that the restrictions of the present list have to any extent hampered general practitioner work under the Insurance Scheme?—Dr. Brackenbury: Yes, to some extent. What we should try to think out if we could would be appliances which are necessities and appliances which might be described as luxuries. It is, of course, difficult to draw a line there as it is difficult to draw a line anywhere. I think all the appliances that can be described as necessities should be available to the insured person under the doctor's prescription out of the Insurance Fund in respect of his payment. If you can describe certain other appliances as luxuries it may be proper to leave them to the surplus funds of the societies. With regard to trusses particularly and elastic stockings we should regard those as rather necessities than luxuries for the treatment of the patient. We think they ought to be available. It hampers us not to be able to secure them without considerable work and trouble.

Miss Tuckwell: With regard to the Chairman's question, I understood from something said earlier that you would be in favour not only of additional benefits but of all benefits being taken away from approved societies?—All treatment benefits, all those of the nature of health service.

I want to ask you one or two questions with regard to midwifery. If midwifery needs so much skill and care, is it safe to leave all normal cases to the midwife; they might become dangerous?—Yes, except for this reason, that the more the normal midwifery is taken out of the hands of the general practitioner the less skilful will the general practitioner be in the conduct of midwifery in general. The danger is a too great removal of normal cases from the experience of the general practitioner. If you could ensure a normal confinement (you cannot

do that really) I have no reason to suppose that a qualified midwife could not conduct it properly.

Then the growing practice of doctors leaving all apparently normal cases to midwives is fraught with danger?—It is not a case of the doctors leaving them to midwives; they are taken out of the doctors' hands. Doctors do not say: "We want to repudiate these cases." They do not get them.

I thought you said that the doctors were increasingly leaving those cases to the midwives?—No. *Dr. Dain*: The position is this. The patient chooses a midwife to attend her, with the option of calling in a doctor if there is any difficulty. She does that on account of cost.

I am quite sure that was said, but I think the other point was put too, that doctors, men in particular with increasing practices, and who do not want to be called up at night, were inclined to leave those cases to the midwives?—*Dr. Brackenbury*: They are more inclined to leave them than the younger men; but if you are speaking of the profession generally it is not true.

You think that the reason why a registered midwife is being employed to an extent which I gather is dangerous is because a doctor is not called in?—Yes, generally speaking, that is so. Doctors would be willing to attend a far larger proportion of normal confinements than they do.

Into that the question of cost comes?—Yes. So the fact that a woman cannot afford to pay three guineas is really a menace to the health of the mother?—I think you are putting it rather high to call it a menace. There are possible dangers attached thereto.

Serious dangers if a normal case might at any moment become abnormal?—On that point the midwife has the right of calling in a doctor; but it is a disadvantage to be called in only at that time without any previous acquaintance with the case, and without any knowledge of what has been going on.

I am not asking heckling questions. A good many of my friends are interested in this matter. I was seeking to elucidate the position, which seems to be one of menace.—I am assuming that all questions are put from the point of view of elucidating the position. I do not know if I am right. *Dr. Cox*: When you mention three guineas I hope you will not forget the fact that there are many areas where the normal fee is only two guineas.

I have that in mind. In any case, we know that the benefit which the mother receives does not enable her to pay the doctor the sum which you feel his skill and capacity warrants and at the same time do anything for herself?—*Dr. Brackenbury*: I do not think any contribution would do that.

Out of your great knowledge of industrial life have you any suggestions to make as to how this difficulty is to be met?—I think, perhaps, you might put these questions to *Dr. Dain*. *Dr. Dain* knows more about industrial practice than I do.

Very well. *Dr. Dain*, you must have had enormous experience of poor homes, and you must know what the needs are in such a time as confinement. It may be quite right that the money given as maternity benefit should be absorbed by the medical man. If it is not absorbed altogether, then it goes to the midwife. Have you any suggestion to make as to what can be done in such a case?—*Dr. Dain*: Have you read the document which we submitted on the subject of maternity benefit, that instead of it being a maternity benefit it should be treatment, so that the mother would be entitled to what we consider the minimum midwifery service, maternity service as well as maternity benefit?

I have read the document with great care. That would be an arrangement outside the insurance provisions. I am thinking of a poor home. Perhaps there is very little in the house to meet the needs of confinement?—In answer to that question we do not consider that the National Health Insurance Scheme could properly be expected to provide in every case for a midwife and doctor. We think the interests of the patient would be better served by qualified midwife with power of calling in a doctor and consultant as required in specially difficult cases. At the present time the poor woman of whom you speak, whether her husband is insured or not, who finds herself in difficulty, and the midwife cannot manage, can call in a doctor. The doctor's fee is no concern of maternity benefit. The doctor does not encroach upon the maternity benefit at all. If the home was so poor that they satisfied the Medical Officer of Health that it is a necessitous case, he will pay the doctor's fee entirely.

You do not feel satisfied that this is all that can be done, but you feel that under National Health Insurance it is all you can suggest?—It is not the ideal.

You said that you felt a month's rest before and a month's rest after maternity is desirable. Have you any experience as to whether women are more and more taking sickness benefit for a longer period before confinement than was usual in the old days?—We have this experience, that women are finding out that pregnancy is a disability, and that they may be able to persuade the doctor that it is such a disability that they can draw sickness benefit for as long a period as possible. Many women go to the doctor in the first month, not recognizing that they have to prove there is some disability, that they are incapable of work as well as pregnant. After the confinement the tendency is greater for women to turn up at the end of the month and say to the doctor, who has never seen them during maternity at all, that they have been confined and that they are still unable to work. Then the doctor has to decide whether it is a real disability and if so to certify the woman as incapable of work.

A great many women like to work up to the last moment. Are you finding the habit of claiming sickness benefit for long periods increasing?—Yes.

*Mr. Jones*: As I understand your scheme you would give every doctor the right of being on the midwifery panel?—*Dr. Brackenbury*: Yes.

And you would give every doctor the similar right of declining to undertake such work?—Yes.

What would you do in the case of a district where all the doctors declined to undertake this class of work?—I do not think that is an objection we should take much notice of because I do not think it is likely to mature; I cannot conceive of it maturing, and I think it is a pity to discuss theoretical contingencies.

If I were to tell you that twice in my experience in a busy city that difficulty has been acutely felt, what solution would you suggest?—I should really doubt whether all the doctors in Glasgow had refused to attend maternity cases.

I did not say that all the doctors had done so, but that in two important districts of a busy city that difficulty had been acutely felt.—I think there are many doctors available.

If I told you that I circulated all the doctors within a particular area within which one might say there were 100,000 people and that I got promises from perhaps 50 that they would be willing to undertake this work, what do you say?—*Dr. Dain*: I suggest you call the doctors in the district together and ask them what they propose to do. I think they would offer an arrangement straight away. *Dr. Brackenbury*: The calling in of a doctor by a midwife is a different thing from declining to undertake midwifery practice.

If I found it was impossible to get doctors to undertake this class of work in another part of the city, what do you suggest as a solution of the difficulty?—Do you mean it was impossible to get doctors on any terms?

Yes. *Dr. Cox*: I cannot imagine a doctor catering for general practice being able to face public obloquy and the certain risk of loss of income which would fall upon him by such a refusal.

I am not drawing on my imagination. I am stating a specific instance.—*Dr. Dain*: We can conceive that individual doctors might as individuals each refuse to attend midwifery cases; it might so happen that doctors over a particular area might refuse such cases; but if it was put to them from the public point of view I am sure it would be done. I do not think that the doctors as a body would refuse to undertake such a responsibility. Perhaps the individual doctor would, but being faced with the difficulty that the public could not obtain this service, I have no doubt all the doctors would give it by some method or other. *Dr. Cox*: I would like to say, having put up this proposal for a maternity service, that we would be quite willing, if our suggestions were accepted, to have it made part of the duties of the doctors of the area to arrange for this service just in the same way as they arrange for the medical service.

You have anticipated my next question. You are wanting the doctor to have full liberty. I was going to ask: What are you prepared to do for the insured person?—*Dr. Dain*: I think you have not appreciated the fact that we are offering the insured woman, not a choice of the doctors on the panel, but any doctor who is willing to undertake maternity cases, non-panel as well as panel doctors. *Dr. Brackenbury*: We are prepared to guarantee, even by compulsion, by law (although I do not see how that could be carried out), that in every case there shall be a maternity service of doctors in the same way as there is a medical service. I think if the situation was put to the doctors there would be no need for compulsion. They would arrange amongst themselves that there should be such a service for insured persons. I do not doubt it for a moment. I should not mind any legislative power being given to see that there was such a service.

Your assurance is quite sufficient for me. Some years ago in Glasgow it was quite impossible to get general practitioners to attend maternity cases. I approached every doctor in the area and I placed on the list all those who gave me authority to add their names, and still the scheme broke down. Within the past month I have had complaints of the same difficulty arising.—Was there any administrative difficulty in enrolling out the arrangements?

None whatever. There was no difficulty about the terms. *Dr. Brackenbury*: If any such circumstances were brought to our notice we should exert our authority to overcome the difficulty. I do not think there would be any difficulty if you got the local doctors together as a body and explained the position to them. *Dr. Cox*: We suggest that if you adopt our scheme you will get rid of all that.

*Chairman*: I think you gentlemen agree that apart from the scheme, it is a difficulty which must be dealt with?—*Dr. Brackenbury*: Most certainly.

*Professor Gray*: You have indicated that your ideal is to remove all treatment benefits from societies?—Yes.

You referred to a particular method by which treatment benefits were being given by certain societies. I presume you referred to Section 26?—Yes.

Is it not the case that treatment benefits are given quite apart from that section?—The only such additional benefit which is legal is a contribution in cash. There is no power for societies administratively to make arrangements for these things to be done. All they can do is to contribute part or the whole of the cost of treatment. They have no legal power whatever to arrange for that treatment. By combining together into a society which is called a charitable one they secure, doubtfully perhaps, the administrative arrangement by which they can arrange for this treatment not merely contributing in cash. I do not think there is anything outside that.

Your point would hardly be met by the abolition of Section 26, because you would still have the same grievance with regard to other additional benefits. Is not that so?—I do not think the mere abolition of that section would meet the case.

You object to the whole thing?—Yes.

To both sides of it?—If the additional benefit is a cash sickness payment we have nothing to do with that.

I am speaking of payments in respect of treatment.—With regard to payments in respect of treatment, we must insist, forgive me the word, that that shall be under public and not under Approved Society administration.

A further point you took in connexion with that was this: that under present arrangements there was complete lack of uniformity as between one society and another.—Yes, and as between branches of the same society.

How far do you recommend the Commission to go to meet that point? At present is it not the case that the funds belong to the societies? Are you recommending a levelling up of all the societies so that all get the same benefit?—The word "belong" has such different connotations.

Quite. I was wondering how far you are prepared to go, or how far you have thought out the matter of the reactions of your suggestions on the scheme as it stands.—The societies would say that it involves robbing them of money which they considered was theirs. I should say there were certain funds available which were intended for these things, and ought to be administered for all insured persons alike, and that the passage of certain moneys through the books of certain societies was more or less an accident; that, moreover, at the beginning the state of affairs which is now evident was not foreseen; that huge accumulations of money were not foreseen; and that if Parliament had foreseen it they would have been dealt with in quite a different way; moreover, that what the societies were promised, as we understand it, was that good administration should carry its reward to the Approved Societies which were well administered. I do not think it was ever thought that that applied to the segregation of healthy lives in particular societies and the forbidding of entry into those societies of lives which were not so good. Certain societies of a small and select character have carried with them per member a relatively enormous surplus at the cost of those unfortunate persons who belong to other societies which do not so segregate themselves. I do not think that kind of thing was understood to be included in the term "good administration." Taking all those matters into consideration, I do not think we can say that the money belongs in the full sense to the societies, or that Parliament could be accused of robbing the societies if it enacted new schemes which distributed the funds differently.

You say these things were not foreseen. As you realize, the whole scheme of things in 1911 was based on the idea of separate societies?—Yes.

I have before me an extract from Mr. Hobhouse's speech. Speaking on behalf of the Chancellor, he said the whole of the saving arising from the better standard of health among the members of any Approved Society will remain in the hands of the society for additional benefits?—Yes.

That is one of the many passages which can be dug out of Hansard?—Yes.

So that it might be said that these inequalities were foreseen, to some extent at any rate?—I do not think the significance of some of those politicians' statements was well thought out or understood. I do not think it could have been intended that a select company of clerks could segregate themselves and get additional benefits at the rate of £7 per member, and that certain other people—for instance, miners—should be left to make the best they could of their bad jobs.

Chairman: Might I give another reference? This is Mr. Lloyd George: "How is this surplus to be made? It will be made more out of good management than out of good lives."—Quite. Over and over again it was said that good management should carry its own reward. If other things were said by politicians, I do not think they could have been well meditated beforehand.

Professor Gray: You rather indicated, did you not, that this large extension of benefits which you proposed was rather linked up with the extension of dependants?—No; you can make this extension to all existing insured persons without bringing in the other question as to who the insured person should be.

I thought it was linked up with it?—No. The cost of the combined service is linked up with it.

One question on your ideas of dentistry. You suggest that the insured person should have direct access to the dentist on the ground of humanity?—Yes.

Would you adhere to that irrespective of the amount of treatment desired?—No. We say there would have to be safeguards with regard to dental treatment.

Would I be right in saying that your view is this: that in the normal case where there was a lot of work to be done, the case should go through the doctor, but that in the case of emergency or pain the insured person should be allowed to go to the dentist?—That is so. I do not think the mere going through the doctor would necessarily be a safeguard against improper expenditure.

Probably not. With regard to dentistry itself, what are your views and the views of the Association with regard to the importance of dental treatment in connexion with its reaction on sickness experience?—We regard it as important, but we regard it as on a par with extensions to other specialists altogether.

You do not suggest that most of the illnesses from which we suffer are in fact the result of imperfect teeth?—I do not. If I may take an illustration which will be understood, we very often find a man or woman suffering from some form of self-poisoning. We investigate every corner of the body to try and discover the source of that toxication. The three common sources are teeth, naso-pharynx, and bowel. We do not regard it as any more important that a man or woman suffering from one should

be treated than from the others; and in so far as special provision of treatment is rendered necessary, we think they ought to go together, and that dentistry should not be given priority over the rest.

In the event of extension to dentistry, would your suggestion be that there should be a panel of dentists like a panel of doctors open to all dentists on the Register?—Yes.

Irrespective of class?—I suppose that is a question which should be directed to the dentists and not to us. You cannot, I suppose, make any distinction between one kind of person on the Dental Register and another kind of person. It may or may not be desirable.

With regard to the corresponding point as to oculists, you mention in an appendix that you have grave doubt about certain things. Your view is in the case of ophthalmic benefit the insured person should be seen always by a competent medical practitioner?—Dr. Boham: Might that point be left to the next sitting, when Mr. Bishop Hannan will be here?

Chairman: Certainly.

Professor Gray: I am not sure what is implied under your new scheme of maternity benefit. As I understand it, you desire to retain a cash payment?—Dr. Brackenbury: Yes.

Have you thought what that would be?—No.

Over and above that you want to give the insured person treatment throughout the whole of pregnancy?—Yes.

Together with attendance either by a doctor or a midwife; is not that the idea?—Yes, a doctor certainly, if there is any abnormality arising.

One point troubling me is whether you would allow a woman to have either a doctor or a midwife; and how you would meet the trouble which would arise if in fact all the women chose doctors?—I thought we had made that quite clear. We have deliberately ruled that out as an impossible thing. We think that it would not be possible or feasible to suggest that under National Health Insurance there should be the choice of a doctor or midwife in every case, because no doubt the larger proportion would choose a doctor if there was no expense.

A better service?—Yes. Inasmuch as the cost would be very much greater, and inasmuch as the present system appears to work without serious disaster, at any rate, we do not think we could properly put that forward as a demand of a National Insurance Scheme. What we think there ought to be is what there is not now: an association of a particular doctor with every case of maternity.

In the case of pregnancy, I take it, a woman can get medical advice during pregnancy from her panel doctor right up to the period of confinement?—Yes.

She already has the option of medical treatment throughout her pregnancy?—Yes, but the doctor may not be the doctor who is going to attend her during confinement.

Quite so, but he is obliged to advise her and attend her?—Yes.

Right up to the period of confinement?—Yes.

So there is a doctor there?—Yes. We are anxious to secure that the doctor who would in fact attend her during confinement, if a doctor was necessary, should have had some previous knowledge of her case, and had had with her consent the opportunity of making a pre-natal examination.

Is your point that you desire these women to go to the doctor whether they are ill or not? At present they go to the doctor if they are not well, but they may not think they are ill and may not go.—At present the midwife can call in any particular doctor she likes. We should like the midwife to have got into association with some doctor, so that he should keep an eye on the case and attend the patient in her actual confinement if necessary.

Sir Arthur Forley: Dr. Brackenbury, you have been scrupulously fair all the way through. I want to ask you a question to clear up something that was said with regard to midwives. I take it you would agree that during the last few years there has been a considerable increase in the training of midwives?—Yes.

And that therefore, as between a doctor and a midwife, the percentage of danger in normal cases is small?—Yes. That is why I objected to the word "menace."

I know. I wanted to get that clear.—That is the position. There is a source of danger, but we do not regard it as a large one.

It is a possible source, but if placed into figures it would be a very small percentage?—That is so.

That is what I wanted to ascertain. Dr. Dain: A properly trained midwife is competent to recognize if there is any necessity to call in a doctor. She is competent to recognize when the case is going wrong. That should be part of her training, that she is capable of recognizing that.

A properly trained midwife can and should always be able to detect if anything is going wrong?—Yes; she should be able to recognize if the case is abnormal. Dr. Brackenbury: And such dangers would be minimized by our scheme, because instead of the midwife waiting till that circumstance arose to call in the doctor there would be a particular doctor who had undertaken to be called in at that stage, who would have been brought into personal contact with the case in the earlier days.

Anyhow, it is a small matter in percentage?—Yes.

You want to guard against that small percentage as far as possible?—That is so.

You are not casting any doubt on the skill of the present-day midwife?—Not at all.

Mr. Jones: Might I put one further question? These midwives work under stringent rules, do they not?—That is so.

Chairman: We will resume our discussions this day week.

## British Medical Association.

## CURRENT NOTES.

## Puerperal Morbidity and Mortality.

The special committee appointed by the Council of the British Medical Association met for the second time on May 13th, when there were present Sir Ewen Macdenn (in the chair), the Chairman of the Representative Body, the Treasurer of the Association, Mr. Camvyn Berkeley, Drs. J. W. Bone, G. F. Buchan, C. E. Douglas, Christine Murrell, Mabel Ramsay, and W. E. Thomas, Mr. E. B. Turner, and Sir Jenner Verrall. The Committee had before it various documents connected with the subject of its reference, including the report of the Scottish Departmental Committee on Puerperal Morbidity and Mortality, a report of the recent meeting of the British Congress of Obstetrics and Gynaecology, and a memorandum by the chairman making certain suggestions as to further lines of inquiry. It was resolved to obtain statistics as to Ireland and the Dominions. The Committee spent a considerable time in discussing the report of the Section of Obstetrics and Gynaecology of the Royal Society of Medicine on puerperal fever notification, which was referred by the Ministry of Health to the Association for its comments (see *BRITISH MEDICAL JOURNAL*, April 25th, pp. 770-777 and 779-784; May 2nd, pp. 830-834; and May 9th, p. 891). In response to the request, published recently in this column, for suggestions as to possible lines of inquiry, some letters have been sent in by members. The Committee has found them very useful, and would be glad to consider any further suggestions on the subject that may be sent to the Medical Secretary.

## Medical Officer of Health for Paddington.

The borough of Paddington is advertising for a medical officer of health at a commencing salary of £1,000, rising by £50 in each alternate year to £1,250. The population of the borough is estimated at 146,200, and in the scale of commencing salaries the salary for a medical officer of health for a metropolitan borough with a population not exceeding 150,000 is between £1,000 and £1,200. It was feared at the time the final modifications were made in the scale that attempts would be made to use the lower figures in the range when the higher figures were clearly indicated, but there seems no excuse whatever for the Paddington Council. Obviously the commencing salary should have been £1,200 or very near it. A protest has been made to the borough council, but without success, and the Ministry of Health has accordingly been requested not to give its approval to the appointment. The British Medical Association and the Society of Medical Officers of Health feel that if a borough like Paddington is allowed to evade the scale in this way, there is no reason why any other authority should offer to pay anything more than the lowest rate within the scale. As the Paddington Council has declined the offer of the Ministry of Health to arrange for a discussion with the Association, it is hoped that candidates of appropriate standing for the medical officership of such an important borough will refrain from applying until Paddington complies not only with the letter but with the spirit of the new scale.

## Lancashire £1,000 Fine Case: The Minister of Health's Decision.

It will be remembered that in December, 1923, the Minister of Health fined two doctors in Lancashire £1,000 for charging fees to insured persons.<sup>1</sup> The Insurance Acts Committee has upon several occasions made representations to the Ministry to the effect that the fine inflicted was excessive and out of proportion to the offence committed. The Committee recognized that the practitioners concerned had committed a very serious offence, but the fine was, in its opinion, unduly heavy in view of the findings of fact by the Court of Inquiry. Since the infliction of the fine the Insurance Acts Committee has repeatedly expressed to the Minister its belief that the case had caused great uneasiness in the National Health Insurance Service, and urged that an act of leniency on his part would be appreciated, not only

<sup>1</sup> SUPPLEMENT, December 22nd, 1923, p. 277.

by the doctors concerned, but by the profession generally. The two doctors concerned having expressed their regret at the breach of the regulation which they committed, and having informed the Minister of their intention to observe such regulations carefully in the future, the Minister has now informed the Insurance Acts Committee that he has given instructions that no further deductions are to be made from the remuneration of the two doctors. In making his intention known the Minister stated that he had given weight to the consideration that the action taken in this case had been sufficient to make clear the very serious view entertained by him and his predecessors as to the practice of charging additional fees to insured persons for services which the practitioner is under contract to render. The result of this decision to the practitioners concerned is in effect a remission of practically half the amount of penalty, and costs which they had incurred. The Insurance Acts Committee has expressed its satisfaction at the Minister's decision, and has been warmly thanked by the doctors on whose behalf the representations had been made.

## Ophthalmic Benefit for Insured Persons.

Important discussions have recently been going on between representatives of the Insurance Acts Committee (accompanied by members of the Ophthalmic Committee of the Association, the Council of British Ophthalmologists, and the Ophthalmic Benefit Committee) and the Ministry of Health regarding the method of providing insured persons with treatment for defects of the eyes, and an arrangement has been made which comes into force on July 1st. Members of those approved societies which provide ophthalmic benefit must, in the first instance, consult their insurance practitioner, who, in suitable cases, will give them a recommendation to their approved society to the effect that the symptoms found arise from defects of the eyes or call for examination and report on the condition of the eyes, and that the society should refer the patients to an ophthalmologist on the approved list. This "approved list" is to be supplied and maintained by the British Medical Association, and is to contain the names of medical practitioners who satisfy certain now familiar criteria which will be found in detail in paragraph 24 of the Evidence of the Association presented to the Royal Commission on National Health Insurance (SUPPLEMENT, February 28th, 1925, p. 73). Besides satisfying these criteria doctors on the list must be willing to accept an inclusive fee of £1 1s. for each insured person sent to them by approved societies. The list already contains some 500 names, but any practitioner possessing the necessary qualifications may apply at any time to have his or her name placed thereon. Applications should be sent to the Medical Secretary, British Medical Association.

## Treasurer's Cup Golf Competition.

The winner of the first stage of the above competition in the area of East Herts Division is Dr. W. H. Sturge of Hoddesdon, whose name was inadvertently omitted from the list published in last week's SUPPLEMENT.

## Association Notices.

NOTICES OF MOTION BY DIVISIONS FOR THE  
ANNUAL REPRESENTATIVE MEETING,  
BATH, 1925.

*Practice of Psycho-analysis by Medical Practitioners.*  
By SUSSEX: That the Representative Body instruct the Council to consider certain practices alleged to be prevalent among some medical men practising psycho-analysis, and to report.

[This is an amended form of the Motion by Sussex printed on page 203 of the SUPPLEMENT of May 16th, 1925.]

*Practice of Medicine by Unqualified Persons.*  
By ST. HELENS and WARRINGTON: That (with reference to para. 109 of the Annual Report of Council) the Representative Body is of the opinion that the policy adopted by the Association in 1906 (see para. 105 of the Annual Report) should be resuscitated in so far as that the Medical Acts be so amended in the near future that no unregistered person be allowed to practise medicine or surgery.



## TABLE OF DATES.

- May 30, Sat. Publication in SUPPLEMENT of results of Council elections by grouped branches, and of election of members of Council and Representatives in Representative Body by Public Health Service members. Nomination papers available for election of 12 members of Council by grouped Home Representatives.
- June 4, Thurs. Names of Representatives and Deputy-Representatives must be received by this date.
- June 10, Wed. Council Meeting.
- June 18, Thurs. Meetings of Constituencies must be held between this date and July 17th to instruct Representatives.
- June 27, Sat. Supplementary Report of Council appears in SUPPLEMENT.
- July 3, Fri. Amendments and riders for issue in A.R.M. Agenda must be received by this date.
- July 17, Fri. Annual Representative Meeting opens at Bath. Nominations for election of 12 members of Council by grouped Representatives must be received (at A.R.M. Bath) by this date.

ALFRED COX, *Medical Secretary.*

## BRANCH AND DIVISION MEETINGS TO BE HELD.

**BIRMINGHAM BRANCH: NUNEATON AND TAMWORTH DIVISION.**—The fourth annual dinner of the Nuneaton and Tamworth Division will be held at the Castle Hotel, Tamworth, on Thursday, May 28th, at 7.45 p.m. Annual meeting of the Division, Tamworth Hospital, Thursday, July 2nd.

**LANCASHIRE AND CHESHIRE BRANCH: HYDE DIVISION.**—The annual meeting of the Hyde Division will be held at the Hyde Town Hall on Thursday, June 11th.

**METROPOLITAN COUNTIES BRANCH.**—The annual general meeting of the Metropolitan Counties Branch will be held at the British Medical Association House, Tavistock Square, W.C.1, on Tuesday, June 23rd, at 4 p.m. Business: (1) Report of scrutineer on election of officers; (2) Annual Report of Council; (3) Report of Representatives of the Branch on the Central Council; (4) President's address, by Mr. Comyns Berkeley.

**METROPOLITAN COUNTIES BRANCH: KENSINGTON DIVISION.**—The annual general meeting of the Kensington Division will be held at 21, Westbourne Terrace, W.2, by invitation of Mr. E. B. Turner, F.R.C.S., on Wednesday, May 27th, at 4.30 p.m. Agenda: Election of Divisional officers, members of Executive Committee, and Representatives on Branch Council, and nominations of officers for the Branch Council; instructions to Representatives in Representative Body.

**METROPOLITAN COUNTIES BRANCH: NORTH MIDDLESEX DIVISION.**—A meeting of the North Middlesex Division will be held on Thursday, May 28th, at the laboratories of Messrs. Parke, Davis and Co. at Hounslow. By the kindness of the directors, cars will be provided to take members to and from Hounslow, starting about 1.30 p.m. The party will leave about 6 o'clock, but, if necessary, arrangements will be made for any members desiring to return earlier.

**METROPOLITAN COUNTIES BRANCH: ST. PANCRAS DIVISION.**—A meeting of the members of the British Medical Association and other practitioners residing within the area of St. Pancras will be held at the Midland Hotel, St. Pancras, N.W., on Friday, June 5th, at 4.30 p.m. precisely, to consider the constitution of the Division. Agenda: (1) To elect a chairman will be proposed: "That this meeting approve of the St. Pancras Division of the British Medical Association." (2) The following officers will be elected: (a) Chairman of the Division; (b) Vice-Chairman of the Division; (c) Honorary Secretary and Treasurer; (d) Representative on Representative Body; (e) Representative on Branch Council; (f) Members of the Executive Committee. (4) Such other matters as may arise. (5) It will be further proposed: "That a copy of the resolutions passed at the meeting be sent to the Metropolitan Branch Council with a request to make them effective as early as possible."

**METROPOLITAN COUNTIES BRANCH: WESTMINSTER AND HOLBORN DIVISION.**—The next meeting of the Westminster and Holborn Division will be held on Thursday, June 11th, at 8 p.m., at the Clinic, 86, Brook Street, W.1. A good attendance of members is hoped for.

**METROPOLITAN COUNTIES BRANCH: WILLESDEN DIVISION.**—The annual meeting of the Willesden Division will be held at the Willesden General Hospital, Harlesden Road, on Wednesday, May 27th, at 9 p.m. Agenda: Report for the year: election of officers, committees, Representative on Branch Council, and Dinner Committee. Members are invited to take part in a discussion on the out-patient department of the Willesden General Hospital.

**MIDLAND BRANCH: LINCOLN DIVISION.**—The annual meeting of the Lincoln Division will be held at the Lincoln General Dispensary, Silver Street, on Wednesday, May 27th, at 3 p.m. Agenda: Notice of motion to rescind resolution of January 17th, 1924, re salary of medical officer of health; election of officers; election of Representative in Representative Body; certification of mental defectives under Act of 1913.

**NORTH OF ENGLAND BRANCH: NEWCASTLE-UPON-TYNE DIVISION.**—A meeting of the Newcastle-upon-Tyne Division will be held at 7, Windsor Terrace, Newcastle-upon-Tyne, on Tuesday, May 26th, at 8.30 p.m. Agenda: Correspondence; consider recommendations of Executive Committee regarding (1) presentation by the Division of a flag to be hung in the Great Hall of the new British Medical Association buildings in London, (2) voluntary levy on members of the Division with a view to providing a small fund for extraordinary expenses which cannot be met out of Division funds; consider Annual Report of Council to be dealt with as follows: Finance and organization—Dr. J. Hudson; BRITISH MEDICAL JOURNAL and science

—Mr. R. J. Willm; medico-political, ethical, and non-panel—Dr. R. Dagger; national health insurance—Dr. S. Worthington; Parliamentary elections—Dr. G. R. Fortune; public health and Poor Law—Dr. H. Kerr; hospitals—Mr. F. C. Pybus; naval and military—Mr. Ingham Murray.

**NORTH OF ENGLAND BRANCH: SUNDERLAND DIVISION.**—Scientific meetings of the Sunderland Division will be held at the Mental Hospital, Ryhope, on Wednesday, May 27th, at 3.30 p.m., and at the Borough Sanatorium, Hylton Road, Sunderland, on Tuesday, June 23rd, at 3.30. All members of the Division are invited to be present.

**OXFORD AND READING BRANCH: OXFORD DIVISION.**—A meeting of the Oxford Division will be held at the Radcliffe Infirmary on Wednesday, May 27th, at 2.30 p.m. Clinical cases. Mr. A. P. Doids-Parker: Gall-bladder surgery. After tea the Regius Professor of Medicine will give a clinico on patients in the wards.

**SOUTHERN BRANCH.**—The fifty-second annual meeting of the Southern Branch will be held at Bree's Royal Hotel, Jersey, on Thursday, June 11th, at 2.45 p.m., when the President, Dr. Henry Devine, O.B.E., will take the chair. Agenda: Annual report of Branch Council; financial statement for 1924-25; election of officers; vote of thanks to the retiring President. At the conclusion of the above business, Dr. Henry Devine will vacate the chair in favour of Lieut.-Colonel P. M. Benthif, M.B.E., who will deliver an address entitled "Reminiscences." Members wishing berths on the boat and rooms at the hotel to be reserved should communicate with the honorary secretary, Dr. Lockhart Stephens, White House, Emsworth, Hants, not later than June 3rd.

**SURREY BRANCH.**—The annual meeting of the Surrey Branch will be held in the Guildhall, Guildford (by kind permission of the Mayor of Guildford), on Wednesday, June 24th, at 1.45 p.m. Agenda: To receive (a) report of the election of new officers, who shall thereupon take office; (b) report of the Branch Council and the annual financial statement. Address by the President, Mr. H. Branson Butler, F.R.C.S.E. The Guildford Division invites members to lunch at the Angel Hotel, Guildford, at 1 p.m. After the annual meeting members will proceed by car to Alton, where Sir Henry Gauvain has invited them to tea at his private clinic at 3.30. Sir Henry Gauvain will afterwards conduct the party over Lord Mayor Treloar Cripples' Hospital (by permission of the Governors). The annual Branch dinner will be held at the Angel Hotel, Guildford, at 7 p.m. (tickets 7s. 6d., exclusive of wine). It is hoped that as many members as possible will stay to the dinner.

**SURREY BRANCH: GUILDFORD DIVISION.**—The annual meeting of the Guildford Division will be held on Thursday, June 4th, at 4 p.m., at the Royal Surrey County Hospital, Guildford. Tea at 3.45. Agenda: Election of officers; receive (a) annual report of the Executive Committee, (b) report and accounts of the Division; consider fees for medical examination of Territorial recruits; consider Annual Report of Council, and instruct the Representative. Members are asked to bring with them the SUPPLEMENT to the BRITISH MEDICAL JOURNAL for April 11th and 18th, 1925.

**YORKSHIRE BRANCH: LEEDS DIVISION.**—A special meeting of the Leeds Division will be held in the Medical School, Thoresby Place, Leeds, on Friday, May 29th, at 8 p.m. Business: To meet the recently qualified medical men of the Leeds Medical School; address by Dr. Welch on the work of the British Medical Association; presentation of the British Medical Association prizes to Mr. Carter and to Mr. Masser. Morning dress. Light refreshments.

## Meetings of Branches and Divisions.

## NEW SOUTH WALES BRANCH.

## ANNUAL REPORT.

The annual report of the council of the New South Wales Branch shows that there has been a net increase in membership of 100 during the last twelve months, the members now numbering 1,423.

Ten ordinary meetings of the Branch, including the annual meeting, four extraordinary meetings, and five clinical meetings, were held, the average attendance being 61. The business of meetings during the year included thirty-eight papers and addresses, and numerous reports of cases and exhibits, with lantern demonstrations. The sum of £100 was contributed to provide the President's chair for the Great Hall of the new House of the British Medical Association in London. Steps are being taken to amend the articles of association of the Branch so as to make them conform with the model articles of an incorporated Branch approved by the Central Council. Negotiations were reopened by the Friendly Societies' Association for reduced rates of attendance on females and children, and for the prescribed rate for attendance to be a fixed rate instead of a minimum rate. After careful consideration and discussion a reply was given to the effect that no reduction of the rates for attendance on females could be made. The Friendly Societies' Association was invited to submit proposals for a scheme for contract attendances for members of juvenile lodges; the rates for attendances prescribed in the agreement should be minimum rates. Correspondence is in progress with the Friendly Societies' Association with regard to the provision of uniform medical certificates in connexion with sickness benefit, proposal forms for membership, applicants' declaration forms, and medical certificates of health. The establishment of a complete plant and equipment for the publication of the *Medical Journal of Australia* has now been completed; the first issue printed on the new machines was that of March 1st, 1925, and



carried on its front page a reproduction of the figure of Aesculapius taken from the gold medal of the British Medical Association in Australia. In April, 1924, Dr. W. J. Mayo, of the Rochester Institute, United States of America, accompanied by other distinguished representatives of the American Medical Association and of the American College of Surgeons, visited Sydney, and were entertained by the Branch. Professor Grafton Elliot Smith revisited the University of Sydney in September, 1924. The post-graduate course in medicine, designed by the council and approved by the Faculty of Medicine, was held at the University in September, 1924.

#### War Memorial Carillon.

The Branch combined with the Sydney Faculty of Medicine to provide one bell, at a cost of £1,070, in the carillon which is being installed in memory of the members of the University of Sydney who fell in the war. It was suggested that, besides the memorial inscription on the bell, the name "Asklepios" in Greek lettering should be added, so that it should become known as the "medical bell."

#### DORSET AND WEST HANTS BRANCH: BOURNEMOUTH DIVISION.

The annual meeting of the Bournemouth Division was held on May 6th in St. Peter's Snail Hall, Bournemouth. The Representative to the Panel Conference on the Memorandum of Evidence placed before the Royal Commission on National Health Insurance gave a brief outline of the chief resolutions.

The following officers were elected:

Chairman, Dr. E. W. D. Hardy. Vice-Chairman, Dr. A. D. Edwards. Honorary Secretary and Treasurer, Dr. O. C. Carter. Representative in Representative Body, Dr. Morse and Dr. Johnson Smyth. Deputy Representatives, Dr. Mahomed and Dr. Hutton.

A vote of thanks was accorded Dr. Morse for all the work he had done during his year of office and for having invited the members to tea before the meeting.

#### GLASGOW AND WEST OF SCOTLAND BRANCH: GLASGOW EASTERN DIVISION.

The annual meeting of the Glasgow Eastern Division was held on May 6th, when Dr. J. WALLACE ANDERSON was in the chair. The HONORARY SECRETARY gave a review of the annual report of the Division, which was approved.

The following office-bearers were elected:

Chairman, Dr. John P. Granger. Vice-Chairman, Dr. T. M. Fletcher. Honorary Secretary and Treasurer, Dr. David McKail. Representative in Representative Body, Dr. William Adam Burns. Deputy Representatives, Dr. David McKail and Dr. James Craig.

The Annual Report of the Council was considered. Para. 67, referring to grouping for 1926-27, was approved, and two motions regarding factory service were adopted for the Annual Representative Meeting (see BRITISH MEDICAL JOURNAL SUPPLEMENT, May 16th, p. 204).

The HONORARY SECRETARY reported that six members had entered for the Divisional stage of the competition for the Treasurer's Cup, and that the winner was Dr. G. Stewart Reid (handicap 6).

On the motion of Dr. GRANGER a hearty vote of thanks was accorded to Dr. J. Wallace Anderson, the retiring chairman, for his valuable services to the Division during the past year.

#### LANCASHIRE AND CHESHIRE BRANCH: ROCHEDALE DIVISION.

The annual meeting of the Rochdale Division was held in the Wellington Hotel, Rochdale, on April 29th, when Dr. BATEMAN was in the chair. The annual report stated that the membership had increased during the year from 45 to 50, and the financial statement showed a balance in hand of £2 15s. 8d.

The following officers were elected:

Chairman, Dr. Bateman (Rochdale). Vice-Chairman, Dr. Lomas (Castleton). Secretary and Treasurer, Dr. J. Melvin (Bamford). Auditor, Dr. Harris (Rochdale). Representative in Representative Body and Branch Council, Dr. J. Melvin (Bamford). Deputy Representative in Representative Body, Dr. Jefferson (Rochdale).

#### METROPOLITAN COUNTIES BRANCH: MARYLEBONE DIVISION.

The annual general meeting of the Marylebone Division was held on May 8th, when Mr. C. EDWARD WALLIS was in the chair. Arising out of the report of the Central Council, an amendment relating to death certification and registration was adopted for incorporation in the agenda of the Annual Representative Meeting.

The following officers were elected:

Chairman, Lord Dawson of Penn. Vice-Chairman, Dr. D. S. Roxburgh. Treasurer, Dr. Charles Goulet. Honorary Secretary, Dr. Percy Spurgin. Representatives in Representative Body, Drs. Eleanor Lowry, C. O. C. E. Wallis, Deputy Representatives in Representative Body, Dr. F. W. E. Goodbody, Messrs. W. McAdam Eccles, Bishop Harman, H. S. Souttar, and E. E. Ware.

#### METROPOLITAN COUNTIES BRANCH: WILLESDEN DIVISION.

A MEETING of the Willesden Division was held on April 22nd at the Willesden General Hospital, when Dr. W. WOODLEY STOCKER was in the chair.

Drs. Scott and Skene were respectively appointed Representative and Deputy Representative in the Representative Body for the year 1925-26. A report of the proceedings of the meeting of the Executive Subcommittee, held on April 18th, was presented by Dr. Scott (chairman) and approved.

The honorary secretary (Dr. PATERSON), drew attention to the fact that the period of office of the Local Medical Advisory Committee would soon terminate, and to the necessity for action

being taken if the committee was to be continued. It was decided to call a meeting of the local profession to elect a Medical Advisory Committee on May 21st, prior to the clinical meeting fixed for that date, to be held at the Willesden General Hospital.

The Annual Report of Council was considered. The CHAIRMAN explained the paragraphs relating to the new house of the Association in Tavistock Square, which was to be opened shortly. Dr. LOCK dealt with the proposals of the Council in connexion with the setting up by the Association of locumtenents' bureaux in teaching centres, which were approved.

Dr. BUCHAN reported upon the suggestions of the Council regarding individual medical defence, which were approved. After explanation by Dr. SKENE of the paragraphs of the report dealing with medical ethics and the matter of indirect methods of advertising, the proposals of the Council were approved. Dr. STURRIDGE having explained the action taken by the Council regarding Coroners' Law and Death Certification, and its proposals thereon, the paragraphs of the report dealing therewith were approved, subject to the fees of 7s. 6d. and 2s. 6d. respectively being substituted for the fees of 5s. and 2s. appearing in paragraph 7 of Appendix III to the report. An amendment to this effect was directed to be forwarded for inclusion in the agenda of the Annual Representative Meeting at Bath.

Paragraphs 120 of the report, regarding fees for medical examination of emigrants, having been explained by Dr. SKENE, the Council's proposals were approved. Dr. BUCHAN explained paragraphs 103-109 of the report, dealing with the question of the composition of the General Medical Council. The suggestions of the Council regarding factory medical service were explained by Dr. BUCHAN and the scale of salaries for public health appointments by Dr. SKENE.

On the motion of Dr. Skene it was resolved:

That the Representatives of the Division be instructed to call attention to the necessity for all possible steps being taken by the Association to have removed the disqualification at present resting upon any individual who becomes an inmate of a Poor Law hospital for the purpose of receiving medical or surgical treatment, even though such individual repays the whole cost thereof.

#### MIDLAND BRANCH: DERBYSHIRE DIVISION.

At a meeting of the Derbyshire Division held on May 8th, the following motion, proposed by Dr. HERRICKAN, seconded by Dr. WATT, was carried:

That the resolution passed at the Representative Meeting at Bradford last year, that it is not advisable that whole-time medical officers engaged in public health work should accept fees for consultations, be rescinded.

Dr. HERRICKAN (Buxton) was elected Representative in the Representative Body. The Annual Report of Council was considered and the various recommendations were approved.

#### PERTH BRANCH.

A MEETING of the Perth Branch was held on May 8th. Dr. HAIG was appointed Representative in the Representative Body, and Dr. Taylor (Riversdale) Deputy Representative. It was resolved to send Dr. Menzies, the President, and Dr. Hume, Secretary, as delegates to the opening of the Association's new Scottish house in Edinburgh on June 4th. The Annual Report of Council was considered and general satisfaction was expressed at the concise and clear way matters were handled in the report.

#### SOUTH WALES AND MONMOUTHSHIRE BRANCH: NORTH GLAMORGAN AND BRECKNOCK DIVISION.

A WELL attended meeting of the North Glamorgan and Brecknock Division was held at the New Inn, Pontypridd, on May 7th.

Mr. JOSEPH E. ADAMS, M.S., F.R.C.S., senior surgeon to the East London Hospital for Children and surgeon to St. Thomas's Hospital, delivered a British Medical Association Lecture on acute abdominal crises in children. He dealt with the subject in a very interesting manner, contrasting the conditions that might possibly lead to confusion of diagnosis, and laying emphasis on what he called possibilities and probabilities. The lecturer considered his subject was a timely one for general practitioners, and for a correct conclusion it needed the combination of the mind of both the physician and surgeon.

At the close of a very instructive lecture a hearty vote of thanks was, on the proposition of Dr. J. O. D. WADE, seconded by Dr. HOWARD DAVIES, accorded to Mr. Adams, who suitably responded and thanked the Division for inviting him.

A dinner was held in the evening, at which Mr. Adams was the guest. The usual toasts were honoured, including that of prosperity to the British Medical Association, and this concluded a very pleasant evening.

#### UGANDA BRANCH.

THE annual general meeting of the Uganda Branch was held at Mulago on March 13th, when Dr. ALBERT COOK was in the chair.

The balance sheet, drawn up and audited by Messrs. Spencer and King, Kampala, was presented and approved.

The following office-bearers were elected for 1925:

President, Dr. Webb. President-Elect, Dr. Owen. Vice-President, Dr. Lee. Secretary and Treasurer, Dr. Mitchell.

Dr. VAN SOMEREN was appointed delegate to the Annual Meeting of the Association at Bath and to the opening of the new headquarters in Tavistock Square. A paper on the treatment of bacillary dysentery by the administration of frequent small doses of castor oil, combined with the giving of full diet, was read by Dr. A. J. BOASE, and was followed by a discussion.

## National Insurance.

## THE ROYAL COMMISSION.

The twenty-eighth meeting of the Royal Commission on National Health Insurance was held at the Home Office, Whitehall, on May 14th, Lord Lawrence of Kingsgate in the chair.

Evidence was given on behalf of the National Medical Union by Dr. Vivian Greenyer, chairman of the council of the union, and Dr. Charles Thornton Comber, member of the council; and on behalf of the Scottish Medical Guild by Professor William Russell, president of the guild, and Dr. Frederick Porter, secretary. These witnesses submitted various criticisms of the health insurance scheme on its medical side, and urged a reversion to private arrangements, except for necessitous persons, for whom a State medical service should be provided. Thereafter Dr. Harry Roberts gave evidence as to the working of the Act in a large panel practice in Stepney, and Lieut.-Colonel Bickerton-Edwards submitted a number of suggestions for organizing medical treatment and improving the conditions of the insurance practitioner.

## Correspondence.

*The Liberties of the Profession.*

SIR.—Having made it clear that the opinions with which Dr. Picton credited me in one form or another have never, in fact, been held or uttered by me, I have no wish to enter into any controversy. In his second letter, however, he reiterates one point, and it may be presumed, therefore, that he considers it important. As he is under a misapprehension on this point it seems desirable that he should be corrected.

Dr. Picton challenges—indeed, he directly contradicts—my statement that the Insurance Acts Committee has always taken a view contrary to that held by Cheshire—that there should be a right of appeal to the courts of law from the decisions of the Minister of Health in all cases in which he exercises disciplinary powers in connexion with the Insurance Acts. This statement was true at the time it was made and is true to-day. Dr. Picton will observe that it was made with reference to the Insurance Acts Committee, not with reference to the Conference of Panel Committees. It is true that on the occasion to which he refers, the Conference did by a majority, towards the end of a prolonged sitting, pass a resolution which supported the Cheshire position, though it was confined to one class of disciplinary case only. The Insurance Acts Committee, as the executive committee of the Conference, loyally did its best to carry out the wishes of the Conference, and reported its action the following year. The opinion of the Committee itself had not changed, and, in making its report, it took some pains to indicate this.

The result of the action taken by the Committee in this instance is instructive. A bill amending the National Health Insurance Acts was before the House of Commons. An absolutely honest and strenuous attempt was made to get some member to put down an amendment in the sense desired by the Conference resolution. One and all refused to have anything to do with it. Each expressed his individual disapproval, and told us that it would be quite impossible to ask the House of Commons to take such action.—I am, etc.,

London, N.4, May 17th.

H. B. BRACKENBURY.

*The Rural Practitioner and Midwifery Work.*

SIR.—It seems to me a very extraordinary thing that in paragraph 29 of the Memorandum of Evidence tendered to the Royal Commission the existence of the rural practitioner appears to be ignored. His position is quite different from that of the urban practitioner. He cannot decline to undertake maternity work, so it is imperative—primarily in the interests of the community—that he should be encouraged to attend as many confinements as possible.

At the present moment insidious attempts are being made by many health authorities to try and restrict the attendance of doctors to so-called abnormal cases of labour. A midwife (or skilled nurse) and a doctor should be provided for in all confinements, and this is what the Association ought to fight for, especially in rural areas.—I am, etc.,

Woodbridge, Suffolk, May 17th.

T. CUMING ASKIN.

*Nursing Homes (Registration) Bill.*

SIR,—May I support Dr. E. R. Fothergill's letter in the SUPPLEMENT of May 2nd (p. 194), with special reference to the sentence, "It is also another instance of proposed legislation by regulations?"

Presumably the regulations may be on similar lines to those at present in force in the case of maternity homes, which are

compulsorily registered in the county of Middlesex, and probably elsewhere, under the name of "lying-in homes"; though in this case a doctor who keeps on may be exempted from registration if he obtains from two other doctors certificates which the county council considers satisfactory of his own fitness and that of his premises and staff.

Besides the details (a) to (e) enumerated by Dr. Fothergill, the register for lying-in homes must contain amounts of fees paid; receipts have to be given in a prescribed form, with counterfoil containing details of the fees paid and whether the fees include any payment for a doctor's services; both receipt and counterfoil must bear the name and address of the keeper of the home. The question of fees for medical attention is usually a confidential one between doctor and patient, but in this case the counterfoils are open to inspection by the medical officer of health or the county council's inspector. Penalties are prescribed for failure to comply with all the requirements of keeping records, etc., or to display the by-laws.—I am, etc.,

May 3rd.

M.R.C.S.

## Naval and Military Appointments.

## ROYAL NAVAL MEDICAL SERVICE.

SURGEON COMMANDERS A. S. PATTERSON to the *Carlisle*; M. C. Mason and A. H. Joy to the *President*, additional for three months' post-graduate course; H. H. Babington to the *Vivid*, additional for R.N. Barracks, Devonport, as specialist in ophthalmology; A. A. Sanders, O.B.E., to the *Flora*, additional, and for R.N. Hospital, Cape.  
Surgeon Lieutenant G. S. Rutherford to the *Victory*, additional for Portsmouth Dockyard.

## ROYAL ARMY MEDICAL CORPS.

Major-General W. H. S. Nickerson, V.O., C.B., C.M.G., late R.A.M.C., is appointed Honorary Surgeon to the King, vice Major-General T. W. Gibbard, O.B., C.B.E., late R.A.M.C., retired.

Captain J. H. O. Walker is granted the temporary rank of Major whilst employed as a Deputy Assistant Director of Pathology.

Captain J. J. Molyneux, half-pay list, late R.A.M.C., retires on account of ill health.

Lieutenant (on probation) T. A. J. M. Dodd is seconded under the provisions of Article 197, Royal Warrant for Pay and Promotion, 1922.

## ROYAL AIR FORCE MEDICAL SERVICE.

Flight Lieutenant (honorary Squadron Leader) W. R. Kemp relinquishes his temporary commission on ceasing to be employed, and is permitted to retain the rank of Flight Lieutenant.

## INDIAN MEDICAL SERVICE.

Lieut.-Colonel R. W. Anthony appointed to officiate as Inspector-General of Civil Hospitals, Central Provinces, from March 30th.

Lieut.-Colonel H. Boulton, C.B.E., to be Colonel, vice Colonel F. Wall, C.M.G., K.H.S., retired.

Captain J. C. De to be Major.

Lieutenant W. H. Critten to be Captain.

## VACANCIES.

BIRMINGHAM AND MIDLAND HOSPITAL FOR WOMEN.—House-Surgeon. Salary £75 per annum.

BIRMINGHAM PUBLIC HEALTH DEPARTMENT.—Assistant Tuberculosis and Sanatorium Officer. Salary at the rate of £500 per annum.

BLACKBURN COUNTY BOROUGH.—Assistant Medical Officer of Health and Assistant School Medical Officer (male). Salary £600 per annum, rising to £700.

CAMBRIDGE: ADDENBROOKE'S HOSPITAL.—House-Physician (male). Salary £150 per annum.

CAMBERGESHIRE TUBERCULOSIS COLONY, Papworth Hall.—House-Physician (male). Salary £100 per annum.

CANCER HOSPITAL, Fulham Road, S.W.3.—House-Surgeon. Salary £100 per annum.

CENTRAL LONDON THROAT, NOSE, AND EAR HOSPITAL, Gray's Inn Road, W.C.1.—Out-patient Registrar (male).

CHARING CROSS HOSPITAL, W.C.2.—Resident Anaesthetist. Salary at the rate of £100 per annum.

CHelsea HOSPITAL FOR WOMEN, Arthur Street, S.W.3.—Two Male House-Surgeons. Salary £120 per annum for Senior and £100 for Junior.

ESSEX ADMINISTRATIVE COUNTY, Chelmsford.—Senior Clinical Tuberculosis Officer. Salary £750 per annum.

HAVERGATE INFIRMARY.—House-Surgeon. Salary at the rate of £150 per annum.

INDIA: MEDICAL COLLEGE, PATNA.—(1) Professor of Pharmacology. (2) Professor of Anatomy. (3) Professor of Physiology. Salary for each Rs1,200 per mensem, rising to Rs1,400, plus Rs25 per mensem overseas pay if of non-Indian domicile.

KING'S COLLEGE HOSPITAL, Denmark Hill, S.E.5.—Radiologist.

KIRKCALDY HOSPITAL.—Resident Medical Officer (male). Salary at the rate of £125 per annum, rising to £150 if reappointed after six months.

LIVERPOOL HOSPITAL FOR CONSUMPTION.—Vacancy on Honorary Medical Staff.

LONDON JEWISH HOSPITAL, Stepney Green, E.1.—(1) Assistant Surgeon in the Gynaecological Department. (2) Assistant Surgeon in the Ear, Nose, and Throat Department.

MANCHESTER NORTHERN HOSPITAL FOR WOMEN AND CHILDREN.—(1) Senior House-Surgeon. (2) Junior House-Surgeon. Salary £130 and £100 per annum respectively.

MILLER GENERAL HOSPITAL FOR SOUTH-EAST LONDON, Greenwich Road, S.E.10.—Resident Casualty Officer. Salary £150 per annum.

MONMOUTHSHIRE COUNTY COUNCIL.—Assistant Medical Officer of Health. Salary £500 per annum, rising to £750.

ORKNEY: PARISH OF SHAPINSAY.—Medical Officer and Parochial Vaccinator. Salary £345 inclusive.

OXFORD: RADCLIFFE INFIRMARY AND COUNTY HOSPITAL.—(1) House-Surgeon. (2) Casualty House-Surgeon. Salary at the rate of £120 per annum each.

PORTSMOUTH: NATIONAL NAUTICAL SCHOOL.—Resident Medical Officer. Salary £150 per annum.

QUEEN CHARLOTTE'S MATERNITY HOSPITAL, Marylebone Road, N.W.1.—Assistant Resident Medical Officer. Salary at the rate of £80 per annum, rising to £100 on appointment as Senior.

ROYAL FREE HOSPITAL, Gray's Inn Road, W.C.1.—(1) Assistant Casualty Officer. (2) House-Physician. (3) Two House-Surgeons.

ROCHESTER: ST. BARTHOLOMEW'S HOSPITAL.—Resident House-Surgeon. Salary at the rate of £250 per annum.

ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN, Waterloo Road, S.E.1.—(1) Honorary Physician in charge of Out-patients. (2) House-Surgeon. (3) House-Physician. (4) Non-resident Casualty Officer. (5) Experienced Assistant in the X-ray Department. Salary for (2) and (3) at the rate of £100 per annum, and for (4) £150 per annum.

ST. HELENS HOSPITAL, Lancashire.—Resident Medical Officer. Salary £250 per annum.

ST. MARLYBONE BOARD OF GUARDIANS.—Third Assistant Medical Officer (male) at the St. Marylebone Hospital, Ladbroke Grove, W.10.—Salary £500 per annum.

SCARBOROUGH HOSPITAL AND DISPENSARY.—House-Surgeon (female). Salary £126 per annum.

SHEFFIELD ROYAL HOSPITAL.—Resident Surgical Officer. Salary £200 per annum.

SOUTH LONDON HOSPITAL FOR WOMEN, Clapham Common, S.W.4.—Assistant Physician.

TORQUAY HOSPITAL, Torquay.—House-Surgeon (male). Salary £200 per annum.

WEST LONDON HOSPITAL, Hammersmith Road, W.6.—(1) House-Physician. (2) House-Surgeon. (3) Assistant House-Surgeon and Resident Casualty Officer. Males. Salary at the rate of £100 per annum each.

VICTORIA HOSPITAL FOR CHILDREN, Tite Street, Chelsea, S.W.3.—Honorary Physician to the Out-patient Department.

CERTIFYING FACTORY SURGEON.—The Chief Inspector of Factories announces the following vacant appointment: St. Just (Cornwall).

*This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Tuesday morning.*

### APPOINTMENTS.

BETENSON, W. F. W., M.B., B.Ch., D.P.H., School Medical Officer to the Cardiff Joint Health and Education Committee.

BRUN, W. Russell, D.M.Oxon., M.R.C.P.Lond., Honorary Assistant Physician to the Hospital for Epilepsy and Paralysis, Malda Vale.

CLOKE, Philip, M.D., B.S.Lond., M.R.C.P.Lond., Physician for Out-patients, Queen's Hospital, Birmingham.

ROBERTS, T. E., M.B., B.S.Lond., D.P.H., School Medical Officer to the Cardiff Joint Health and Education Committee.

POW, Charles W., M.B., Ch.B.Edin., Ophthalmic Pathologist to the Royal Eye Hospital, St. George's Circus, S.E.1.

CERTIFYING FACTORY SURGEONS.—W. M. Casper, M.R.C.S., L.R.C.P., for the Overton District, co. Flint; R. C. M. Colvin-Smith, M.R., B.Ch.Camb., for the Cromer District, co. Norfolk; A. Orr-Ewing, M.B., B.Ch.Camb., for the Silvertown District, co. Devon; W. G. Robertson, M.B., Ch.B.Edin., for the Lancaster District, co. Durham.

### DIARY OF SOCIETIES AND LECTURES.

ROYAL SOCIETY OF MEDICINE.  
Section of *Odontology*, at Royal College of Surgeons, Lincoln's Inn Fields, W.C.2. Mon., 5.30 p.m., Annual General Meeting. Mr. E. W. Fish: Circulation of Lymph in the Dentine. Sir Frank Colyer: Exhibition of Specimens added to the Odontological Museum.

Section of *Medicine*: Tues., 5.30 p.m., Annual General Meeting.

Section of *Compartitive Medicine*: Wed., 5 p.m., Annual General Meeting. Dr. J. H. Sequeira: Parasitic Affections of the Skin communicated from Animals to Man.

Section of *Epidemiology and State Medicine*: Thurs., 5.30 p.m., Annual General Meeting. Dr. John Brownlee: The Health of London in the Eighteenth Century.

Section of *Urology*: Thurs., 8.30 p.m., Annual General Meeting. Mr. Winsbury White: Hydronephrosis.

### POST-GRADUATE COURSES AND LECTURES.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION.  
1. Wimpole Street, W.1.—Lecture open to all members of the medical profession of Shock in Surgery of Abdomen. London Temperance Hospital, Hampstead Road, N.W.1: Post-Graduate Course for Practitioners. Daily at 4.30 p.m. Clinical Demonstration for one hour, ending by half-hour lecture. General medicine, surgery, and special departments. Infants Hospital, Vincent Square, S.W.1: Course in Diseases of Infants. Lectures and demonstrations every afternoon. Round Table Conference on Friday: special visits on Saturday afternoon and Sunday morning. Hospital for Diseases of the Skin, Blackfriars, S.E.: Post-graduate Course in Dermatology—instruction in Out-patient Department every afternoon, and General Clinic on Tuesday and Friday. W.C.1: Special Course in Laryngology, Rhinology, and Otolaryngology. Daily operations, lectures, and clinics. Morning and afternoon sessions. Operative Surgery Class every morning. Clinical and Operative Courses may be taken at the following hospitals: Royal Danish Hill, S.E.5: Lectures on Psychoneuroses, Practical Pathology of Mental Diseases; and Neurology. W.C.1.—Thurs., 4 p.m., The Eczema of Childhood.

LONDON SCHOOL OF DERMATOLOGY, St. John's Hospital, Leicester Square, W.C.2.—Tues., 5 p.m., Sclerema Neonatorum. Thurs., 5 p.m., Melen.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.1.—Mon., Tues., Thurs., and Fri., 2 p.m., Out-patient Clinics. Mon., 3.30 p.m., Optic Neuritis and Papilloedema. Tues., 12 noon, Physiology of the Motor System; 3.30 p.m., Fractures of the Skull. Thurs., 12 noon, The Sensory System; 3.30 p.m., Disorders of Gait. Fri., 3.30 p.m., The Cerebro-spinal Fluid in Meningitis. Operations: Tues. and Fri., 9 a.m.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.15.—Tues., 4.30 p.m., Lecture: Various Methods of Tooth Extraction. Fri., 4.30 p.m., Colitis. Daily: Clinics in General and Special Departments, Demonstrations, Operations, etc.

ST. MARY'S HOSPITAL, Institute of Pathology and Research.—Thurs., 5 p.m., The Filterable Viruses.

TAVISTOCK CLINIC FOR FUNCTIONAL NERVE DISEASE, 51, Tavistock Square, W.C.1.—Tues., 5.30 p.m., The Endocrine Glands.

WEST LONDON HOSPITAL POST-GRADUATE COLLEGE, Hammersmith, W.—Mon., 12 noon, Applied Anatomy. Tues., 12 noon, Chest Cases. Wed., 2 p.m., Skin Department. Thurs., 10 a.m., Neurological Department. Fri., 2 p.m., Throat, Nose, and Ear Department. Sat., 10 a.m., Medical Diseases of Children. Daily 10 a.m. to 6 p.m., Sat. 10 a.m. to 1 p.m., In- and Out-patients, Operations, Special Departments.

BIRMINGHAM UNIVERSITY CLINICAL HOSPITAL.—At Children's Hospital: Tues., 3.30 to 5 p.m., Demonstration of Disease in Childhood.

GLASGOW POST-GRADUATE MEDICAL ASSOCIATION.—At Eye Infirmary: Wed., 4.15 p.m., Eye Cases.

LIVERPOOL UNIVERSITY CLINICAL SCHOOLS.—3.30 p.m. Tues., Southern Hospital: Aneurysm of the Aorta. Wed., Northern Hospital: Pleural Effusion. Thurs., Stanley Hospital: Surgical Cases. Fri., Royal Infirmary: Medical Cases.

MANCHESTER ROYAL INFIRMARY.—Tues., 4.15 p.m., Aneurysm of the Aorta.

## British Medical Association.

OFFICES AND LIBRARY, 17, STRAND, LONDON, W.C.1.

### Reference and Lending Library.

THE READING ROOM, in which books of reference, periodicals, and standard works can be consulted, is open to members from 10 a.m. to 6.30 p.m., Saturdays 10 to 2.

LENDING LIBRARY: Members are entitled to borrow books, including current medical works; they will be forwarded if desired, on application to the Librarian, accompanied by 6d. for each volume for postage and packing.

### Departments.

SUBSCRIPTIONS AND ADVERTISEMENTS (Financial Secretary and Business Manager. Tele. 4361) London.

MEDICAL SECRETARY (and Librarian) and Librarian, London, British Association of Physicians, 17, Strand, W.C.1.

Telephone number for all departments: Gerrard 2330 (3 lines).

SCOTTISH MEDICAL SECRETARY: 6, Drumshough Gardens, Edinburgh. (Telegrams: Associate, Edinburgh. Tel.: 4261 Central.)

IRISH MEDICAL SECRETARY: 16, South Frederick Street, Dublin. (Telegrams: Associate, Dublin. Tel.: 4731 Dublin.)

### Diary of the Association.

22 Fri. London: Hospitals Committee, 2.30 p.m.  
Hendon Division: Inaugural Clinical Meeting, Rectory Restaurant. Address by Professor Leonard Hill on Artificial Sunlight Treatment, 8.30 p.m.

25 Tues. London: Naval and Military Committee, 2.30 p.m.  
London: Ophthalmic Committee, 2.30 p.m.  
Newcastle-upon-Tyne Division: 7, Windsor Terrace, Newcastle-upon-Tyne, 8.30 p.m.

27 Wed. London: Causation of Puerperal Morbidity and Mortality Committee, 2.30 p.m.  
London: Finance Committee, 2.30 p.m.  
Kensington Division: Annual Meeting, 21, Westbourne Terrace, W.2, 4.30 p.m.  
Lincoln Division: Annual Meeting, Lincoln General Dispensary, Silver Street, 3 p.m.  
Oxford Division: Radcliffe Infirmary, 2.30 p.m.  
Sunderland Division: Scientific Meeting, Mental Hospital, Ryhope, 3.30 p.m.  
Wilkeson Division: Annual Meeting, Wilkeson General Hospital, 9 p.m.

28 Thurs. London: Locum Bureau Subcommittee, 3 p.m.  
North Midlands Division: Laboratories of Messrs. Parke, Davis and Co., Hounslow, 1.30 p.m.  
Nuneaton and Tamworth Division: Annual Dinner, Castle Hotel, Tamworth, 7.45 p.m.

29 Fri. Cape of Good Hope (Western) Branch: Discussion on Asthma. Leeds Division: Special Meeting, Medical School, Thoresby Place, Leeds, 8 p.m.

### JUNE.

4 Thurs. Opening of the Scottish House of the Association, 6, Drumshough Gardens, Edinburgh.  
Guildford Division: Annual Meeting, Royal County Hospital, Guildford, 4 p.m. Tea, 3.45.

5 Fri. St. Pancras Division: Midland Hotel, St. Pancras, N.W., 4.30 p.m.

11 Thurs. London: Public Health Committee, 2 p.m.  
Hyde Division: Annual Meeting, Hyde Town Hall.  
Southern Branch: Annual Meeting, Bree's Royal Hotel, Jersey, 2.45 p.m.  
Westminster and Holborn Division, The Clinic, 85, Brook Street, W.1, 8 p.m.

18 Thurs. Wilkeson Division: Clinical Meeting, General Hospital, 3.15 p.m.

23 Tues. London: Annual Meeting, British Association, Tavistock Square, W.C.1, 4 p.m.  
Leeds Division: Special Meeting, Medical School, Thoresby Place, Leeds, 8 p.m.

### BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcement of Births, Marriages, and Deaths is 2s., which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.

### BIRTH.

LUMLEY.—On April 30th, at Chin Hsien, North China, the wife of Dr. W. Lumley, Chinese Government Railways, a son.

# SUPPLEMENT

TO THE

# BRITISH MEDICAL JOURNAL.

LONDON, SATURDAY, MAY 30TH, 1925.

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## Royal Commission on National Health Insurance.

### EVIDENCE GIVEN BY REPRESENTATIVES OF THE BRITISH MEDICAL ASSOCIATION.

At the twenty-seventh meeting of the Royal Commission on National Health Insurance, held at the Home Office on May 7th, evidence on behalf of the British Medical Association was continued by Dr. R. A. Bolam, Chairman of the Council; Dr. H. B. Brackenbury, Chairman of the Representative Body; Dr. H. Guy Dain, Chairman of the Insurance Acts Committee; Dr. Alfred Cox, Medical Secretary; and Mr. N. Bishop Harman, Honorary Treasurer.

The Commissioners present were Lord Lawrence of Kingsgate (in the chair), the Right Hon. Sir John Anderson, G.C.B., Sir Humphry Rolleston, Bt., K.C.B., M.D., P.R.C.P., Sir Andrew Duncan, Mr. James Cook, J.P., Mr. John Evans, Professor Alexander Gray, Mr. William Jones, Mrs. Harrison Bell, and Miss Gertrude Tuckwell.

The following subjects were dealt with: The procedure for dealing with complaints against doctors, the work of medical institutions under Section 24 (4) of the Act, the need for a unified local health service and the administrative and financial arrangements in connexion therewith, and the arrangements for the additional treatment benefits. Dr. Stanley Hodgson, Chairman of the Salford Panel Committee, gave evidence on the Manchester and Salford method of payment of doctors on an attendance basis. Dr. J. P. Williams-Freeman, Chairman of the Hampshire Panel Committee, gave evidence on the peculiar conditions of rural areas.

We publish below the full text of the oral evidence given by the British Medical Association's witnesses on May 7th. The evidence given on April 30th appeared in the SUPPLEMENT of May 23rd (pp. 209-227).

### MINUTES OF EVIDENCE, MAY 7TH, 1925.\*

[Dr. R. A. BOLAM, Dr. H. B. BRACKENBURY, Dr. H. GUY DAIN, and Dr. ALFRED COX, recalled and further examined.]  
*Chairman:* We have reached Part II, Section C.—*Dr. Bolam:* My lord, may I refer to three matters which were rather left in abeyance at the last sitting of the Commission? First, Mr. Jones asked some questions in regard to the midwifery service in Glasgow, and on that we thought it proper to endeavour to elicit some information from the area, and Dr. Drever, our Scottish Secretary, is here. It appears that, whatever steps were taken to get a list of professional men who were prepared to do work of this kind, this was not done through any organized body of medical men, and I think we could be sure now that if approach was made to the organization of the profession in that area they would see that service was implemented if any engagement were come to. If Mr. Jones has any further question to ask with regard to that, our Scottish Secretary is here.  
*Mr. Jones:* I do not know that I have any further question to ask. Dr. Cox gave me the assurance last week that they would investigate the matter. The trouble was quite a serious one at the time it arose, and even after I got that list, which you perhaps know of, and circulated it, trouble arose again, but I have had no recent complaint in regard to the midwifery service.—*Dr. Brackenbury:* There is one point in connexion with it which bears upon the system we advocate in our Statement. It is this. In those cases it becomes, perhaps not unnaturally, the custom of certain midwives to favour, shall I say for the moment, certain doctors: that when they have to call in doctors a certain midwife calls in a Dr. A almost invariably; he is for the moment not available, and she sends for Dr. B, who knows that she is in the habit of sending for Dr. A, and does not wish particularly to be made a convenience of, and he says "No; if you are always sending for Dr. A it is his job," and difficulties arise in that way. So that

if our proposal were adopted of having the particular doctor chosen by the woman associated with the case beforehand, not only would it be better on the grounds we advocate, but it would probably help to obviate some of the difficulties which arise in circumstances such as I have mentioned.

*I am perfectly familiar with that phase of the matter, and I have dealt with it as far as it is possible to deal with it through the Public Health Authority, but I do not think that is the whole explanation.—No.*

As a matter of fact one of the main reasons is that in that particular district very few of the doctors reside in that area, but reside at considerable distances from the area.

*Chairman:* Is there any other point?—*Dr. Bolam:* The next point, my lord, was one raised by Professor Gray with regard to ophthalmic benefit, and we have here to-day Mr. Bishop Harman, the Treasurer of the Association, who is in practice as an ophthalmologist, and he would be prepared to deal with that part of the matter now.

*Chairman:* Very well.

[Mr. N. BISHOP HARMAN, called and examined.]

*Professor Gray:* Mr. Bishop Harman, I merely want to elicit a statement from you with regard to your attitude on the question of medical diagnosis before a person is entitled to obtain ophthalmic treatment. You regard it as essential, I understand, that before a person gets treatment for the eyes he should be seen by a qualified medical man. Is that not so?—*Mr. Bishop Harman:* Yes. It is necessary that you should have some check on the giving away of an inestimable privilege. It must not be

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scattered broadcast, otherwise your expenses will be mounting up and make it prohibitive.

Is it primarily a financial reason, or is it a medical reason?—Both. It is financial, but there is a second reason—you cannot overload your specialists with work which is unnecessary: you must reserve their services for essential necessities.

Is there not also a third point? There is, first of all, the point you have mentioned of cost, which I suggest to you is primarily a matter for the Approved Societies; they have the money for this purpose at present, and the suggestion there is that if you open the doors too wide you might have too many people getting over the specialist; but apart from that, is there not a third point, that without some sort of proper medical treatment the insured person might get into the hands of unqualified people?—That is inevitable. There is that risk. You want your additional benefit to be of real value in the general service; it is not to be a separate thing, something that is detached from the whole work of treatment of the patient; but whatever is done by the specialist should be reported to the practitioner in charge, so that it becomes part of the stock valuable information with regard to that patient. When a man is referred to an ophthalmic surgeon for examination the practitioner gets back a report on his condition. But not only on his eyes. Because the eyes are part of the body, and because he sees certain things in the eyes, the specialist tells the doctor to anticipate certain things with regard to his body. That is the real fundamental value over and above the treatment of symptoms that arise from defective vision.

How far do you consider the ordinary practitioner is capable of undertaking eye treatment?—A certain number of them do eye treatment and do it very well indeed: their bent is in that direction; if they could give the time and could afford the risk they probably would devote themselves to ophthalmic work, but they cannot, and they combine it with general practice. I must say I am filled with amazement at the excellence of the work done by some men who are in general practice but who do a certain amount of ophthalmic work.

Would you elaborate for us the position that would arise if you cut off ophthalmic benefit entirely from the qualified medical practitioner? I suppose you might say that there are people who are skilled in fitting spectacles, who would have a certain amount of knowledge with regard to the eyes, and who can by tests prescribe more or less the right kind of spectacles. What do you say to that?—I should say it was penny wise and pound foolish. You get a cheap article and pay for it at a rate which makes it relatively valueless. At the most you would get spectacles which may or may not be suitable. Assume they are suitable, you get nothing beyond that. There is no information from an experienced person as to the state of the patient's body from his examination of the eyes. I do not know whether it is realized that the eyes are the one place where you can look into a man's body and see his nerves and blood vessels and tissues just as though you put your head through the window and looked at this Royal Commission and judged of its members by the appearance it presented. That is the only place where you can do it. The surgeon passes tubes down the throat and into the stomach, but all his views are obscured by the surroundings and are under all great difficulty; but in the eye you look inside, I will not say to see the soul, but it is next door to it. Unless a man has spent his life doing that and is trained as a doctor what value can you get out of his service?—and that is the most valuable thing, far and away the most valuable. You see the initial symptoms of diabetes, Bright's disease, all sorts of conditions that warn you how to treat the man. There are more diagnoses of serious conditions made by the ophthalmic examiner than perhaps by any other specialist.

It has been suggested to us in evidence that in a considerable proportion of cases the optician, even though unqualified in your sense, would nevertheless give the right spectacles, and that only in a very small percentage of cases was the intervention of the qualified medical man required. In what percentage of cases would you say that the optician was competent to give spectacles which would not, to put it no higher, do the patient any harm?—If I were to answer that as an optician, to judge by the literature that they are now publishing, the majority of prescriptions that are issued by, as they call it, the unqualified optician would be wrong. The greatest criticism of this unqualified spectacle-supplying comes from the rest of the opticians. A few of them who are more capable than the rest denounce the bulk of them and say it is essential that the State should step in to protect the general public from the ravages of the optician. That is the statement that you will find month after month in their publications. What percentage of the prescriptions or spectacles supplied by that select minority, who give themselves lengthy titles, are correct I would not venture to suggest.

Dr. Balam: My lord, may I say one thing on the general aspect? Within the last month I have had examples of three conditions which are extremely important in showing that the reason is not so much that the spectacles supplied may not be quite the right lens but the risk is that some important disease shall be overlooked. I have had three instances come to my own knowledge within the last month where spectacles have been supplied by opticians in good faith, the patient going in good faith to the optician. A visit to an ophthalmic surgeon in one case led the surgeon to infer from the eye condition that the patient was suffering from diabetes, and this was found to be the case; in a second, the patient was found to be suffering from Bright's disease; and in the third the condition was found to be due to syphilitic disease of the eye. That is just within one man's experience.

Sir Humphry Rolleston: Mr. Bishop Harman, I understand that you object to the straight step from the patient to the ophthalmologist; you say there must be an intermediate step. Is it not

possible that in some cases this might be thought to act adversely to the interests of the patient, that the medical man might overlook something like eye-strain, for instance, and the patient himself might conceivably in certain circumstances have the impression that he would like to have his eyes examined, but the practitioner might in perfect good faith not see the necessity? Is there any way in which you can get over that?—Mr. Bishop Harman: That is mentioned to some extent in the Statement of Evidence, but I would like to point out that there may be differences of opinion between the private practitioner and the patient as to the cause of the symptoms. The patient may have been told by a friend, "I had my eyes treated and my headache disappeared," and he goes to the private practitioner and the private practitioner says, "Your headache has nothing to do with your eyes, it is due to this first and most obvious thing," pointing to some symptom. It is therefore reasonable that the private practitioner should have the determining voice certainly in the first instance. There might be, and should be, some mechanism for meeting the conditions where the patient and the practitioner do not agree.

What mechanism would you suggest?—There is the Regional Medical Officer for one.

That would work all right, you think?—I think so. It works to-day, the same sort of arrangement. I see quite a number of cases for Regional Medical Officers; they have been reported by private practitioners as unfit to work and the Regional Medical Officer has had doubts and he has fetched me in to give him an opinion with regard to the eye condition, and he bases his judgment upon that. He is the arbiter between the two.

That only works if the practitioner desires the opinion, not if the patient desires it?—Both ways. In one instance it is asked, Why should you differentiate between dental treatment and ophthalmic treatment? I look upon dental treatment as so necessary that I think it ought to be part of the routine that every year the insured patient should go to have his teeth examined; we should not wait till he has got pyorrhoia, or something like that. The preventive treatment of mouth conditions would pay better than anything else you could do. That is not the case with regard to ophthalmic work. It is not necessary. The conditions and symptoms are fairly definite and recognizable and they may be reasonably left to their occurrence, but with regard to mouth conditions it is quite otherwise. Patients come to the hospital with foul mouths that have been like that for years, and they do not know, and they suffer from conditions which are scarcely curable because of the long-continued state of disease of the mouth. That is the reason for the difference.

Chairman: Thank you. (The witness withdrew.)

Dr. Balam: In paragraph 22 there is a provision made in respect of that under the consultant service that some official referee might decide matters.

Chairman: Is there any other point?—The only other outstanding matter is the question of the service in Manchester and Salford, which differs in some respects from that of the rest of the country. At your request we have brought Dr. Stanley Hodgson from Salford. He would be prepared to offer any information to the Commission. Dr. Stanley Hodgson is the Chairman of the Panel Committee of Salford and member of the Insurance Committee of Salford from the beginning. This scheme originated in Salford. Manchester took it from Salford.

[Dr. Stanley Hodgson, called and examined.]

Professor Gray: I understand, Dr. Hodgson, that in Manchester and Salford the system of payment of insurance practitioners rests on an attendance basis?—Dr. Hodgson: Yes.

That is to say, there is a scale drawn up under which so much is paid for attendance, so much for a visit, so much for an operation, and so on?—Yes.

Could you tell us what that scale is?—At the present moment it is a purely arbitrary scale because the actual amount set out in that scale is not in fact paid.

Quite so. The amounts assigned are in fact merely tokens?—Tokens.

And are liable to be scaled up or down as the case may be?—Down, invariably.

What happens in the other case; would they be scaled up?—It is not for them to be scaled up.

The money is never sufficient. Theoretically it is possible. I believe actually it is possible in the Isle of Man, where they have adopted the system and they have found that they can scale up.

If it is an extremely healthy area, as you always have in the Isle of Man, you scale up all the time?—I suppose so. It has not happened in Salford.

Under the attendance system there is no more money going into the area?—No.

So that in the end the doctors in the area get precisely the same amount of money as they would get on an capitation basis?—No; since payment is based on attendance that is not the case. On the capitation basis a doctor whose patients are in a healthy area and require less attendance might get exactly the same amount of money as a doctor in a congested area where his patients are always being ill would get.

I am not referring to any particular doctor, but to doctors as a body. The same amount goes to the medical profession?—Exactly, yes.

With regard to the scale, can you give the Commission some information with regard to the relative importance of the various services?—The most important services are the ordinary surgery attendance and the ordinary domiciliary visit.

What token do you assign to that?—Up to last year in Salford the token was 3s. for a surgery attendance and 3s. 6d. for a visit; it has been reduced to 2s. and 2s. 6d.

What other things do you allow for?—Shall I read the scale?



*Chairman:* Could you hand it in?—Unfortunately these papers are not in duplicate. That is the Manchester scale. (Document handed in.) There is very little difference from our own scale.

*Professor Gray:* Attendance on the patient at the surgery 3s.; visit to patient's residence 4s.; special visit 5s.; night visit 10s.; operation 10s. 6d.; cases of abortion or miscarriage, no special fee. What does that mean?—The ordinary attendance rates.

Varying from doctor to doctor?—No; he simply puts that down as an ordinary visit.

Anaesthetist, 2 guineas; setting fracture or reduction of dislocation, 2 guineas. So that the anaesthetist in these circumstances gets four times as much as the doctor who performs the operation?—Yes.

What is the reason for that? Is not the man who does the operation of more importance than the man who administers the chloroform?—In the ordinary case an anaesthetic would be given for a case outside the range of medical benefit. That is what we felt.

Then these are not comparable?—No. The half-guinea operation is usually quite a small operation and of course within the range of medical benefit.

Why should the anaesthetist in the case of a thing outside medical benefit come in here at all?—We have always held that the services of an anaesthetist should be adequately paid because it is a service where special skill is required.

That is not the point. The point is why should you in the case of general service pay for the anaesthetist where the operation is outside the scope of medical benefit?—That has to be done under the regulations.

Can you tell us how in fact this scaling down is done?—In Salford the practitioners enter all their attendances on day sheets—that is to say, the name and address of the patient, the Approved Society, and so on, and the actual attendances. At the end of three months these day sheets are detached and sent in to the Panel Committee, where they are scrutinized. We found on the very first scrutiny that it was impossible to pay the practitioners in full. Obviously certain practitioners had not as much skill as others; they kept their patients on longer, not with any intent, but they were actually kept on longer. Later, perhaps, they kept them on with intent, but that does not matter. I should explain that I am speaking now entirely for my own town; this is a parochial matter; I am not speaking for the British Medical Association, I am speaking purely as a local representative.

*Chairman:* Quite so. Then when we went into the accounts we found that a large number of good-class practitioners, the best practitioners, kept their attendances within certain limits, so we took the average amount of attendance required per person, and those practitioners who exceeded that average had their attendances reduced to that average, but those who were below the average did not have their attendances raised to that average. Is that clear?

*Professor Gray:* Yes, there are two points. Firstly, on the face of it on the attendance basis there is an encouragement to a doctor who is relatively idle to put in as many attendances as possible?—On the face of it it seems so, but you have two factors: you have the patient, and that is an important factor. On the face of it it works out that the more attendances you put in the bigger your payment?—If we had not adopted safeguards.

So you have had to adjust. There are actually two kinds of scaling down, are there not? First of all the fund cannot pay 100 per cent.?—Quite.

So you have to scale down in order that the fund may pay whatever is possible?—Yes.

Over and above that there is a further scaling down as against a doctor who has put in too many attendances?—Yes.

So that you have a double scaling down?—And the latter scaling down takes place first, of course.

Can you tell us how it is possible to do this scaling down after the event is all over? How can you come along after an illness is over and do anything else but accept what the doctor says? If a doctor tells you, "This was a very bad case, the man had pneumonia and I had to go three times a day," how can you say it was not such a case?—You cannot; but if that doctor has any number of patients there must be a large number of patients whom he sees only once, and what he loses on the roundabouts he makes up on the swings.

So that in effect you average it so as to get a kind of average payment?—Average payment, yes.

How far does that bring you back more or less to the capitation basis?—You mean in what way is it different?

Yes. You pay the doctor what, after all, turns out to be the average payment in respect of each insured person?—You only pay the doctor actually, to begin with, for the work he has done. You do not pay him for his responsibility. In a capitation area the doctor accepts responsibility for a certain number of patients.

With all respect, you do not pay him for work done if you scale him down to the average?—On the contrary, we find, taking the good average practitioner, we can pay him for the work done. As the pool is limited we do not think it fair that the good average general practitioner should be fined—once again I am speaking parochially—for the possible incompetence of his confreres. We encourage the less competent man to acquire competence.

What are the advantages you claim for this? Is it, firstly, freedom of choice?—Originally that was very important, freedom of choice.

That is no longer an argument?—Not so much, no; though we are fiercer than a panel area.

Do you attach importance to the point that the insured person under the attendance system, through kindness of heart to the doctor, feels he can go as often as he likes and every time he

goes there is another 2s. 6d. or 3s.?—Not from that point of view. I should not attribute that mental attitude to the insured person, because I find even now that the insured person does not grasp the Insurance Act or the ramifications of medical benefit.

As a matter of fact the insured person in Manchester and Salford does not understand under your system how the doctors are paid?—He is just beginning. He realizes that he is more on a footing with the private patient. He is beginning to understand now that each attendance he makes is equivalent to an attendance made by a private patient.

He has got the length of understanding that it is on an attendance basis; he has not got the length of understanding that it is scaled down?—He does not know that, no.

Can you tell us whether this system has any reaction on the drug expenditure?—No. It is thrown at us that we are very high, but we always retort that Oldham, which has a singularly efficient medical service on the capitation basis, is still higher.

As a result of your scaling down you will be able to say whether or not you have more attendances per insured person than they have elsewhere?—There again the fallacy comes in that in Manchester and Salford it is absolutely essential that the practitioner should keep accurate records. He does not in fact omit a single record if he can possibly help it. Elsewhere it is quite possible for a man to omit a record. There again I am speaking parochially. That is what we maintain, and I think it is reasonable. I confess, as a holder of appointments on the capitation system, that I do not as a matter of fact enter all such attendances.

Do you think Manchester and Salford records are well kept?—They are.

Because every item goes to the making up of the bill at the end of the year?—We have practically perfect records, or as near perfect as they can be. *Dr. Brackenbury:* This, of course, refers to records of items of attendance only, not to clinical records. *Dr. Hodgson:* That is so.

Is there anything in the suggestion we have heard that under the Manchester and Salford system, inasmuch as every attendance is paid for, the doctor, in order to increase the number of his attendances, is prepared to go somewhat beyond the scope of medical benefit and give attendance which elsewhere a doctor would say was outside the scope?—No, I think not.

You think there is nothing in that?—Nothing at all.

So in fact you would repudiate the suggestion that in Manchester there is a bigger and better and wider medical benefit because of that reason?—No, I think an extraordinary good service.

*Mr. Jones:* Have any tests been made as to whether, after all your adjustments have been made, a certain number of persons on a panel or less than the capitation fee would be able to attend a person on a panel after the reduction has been made is worth possibly 1s. 9d., whereas others are perhaps chronic patients whom he attends regularly every week perhaps, and their attendance will come up considerably above the capitation fee, but it is a question of average.

You have no means of saying because you have no lists?—We have a record of every patient. I could supply you with every attendance of every patient.

But you have no list equivalent to the capitation list that the doctor has?—No.

So you cannot make a comparison as to whether a man on the panel with 500 patients would be remunerated properly under your system?—Yes. We know that 53 per cent. of our insured population in Salford receive medical attention. We have those figures. You can only take it on a broad basis. You cannot take individual cases. In the case of a doctor with a panel of 500, perhaps the whole 500 might not have occasion to go to him at all in one year.

*Mr. Evans:* With regard to the average attendance, can you tell us how this figure is arrived at?—You mean the general average to which we reduce them?

Yes. I suppose an average is taken so often, every three months or six months?—No. Originally we started taking an average every three months. First of all we took a general average every month and paid every month, and then, when the three-monthly payments came on, an average was taken on the three months and then we found the question of duplication, patients being seen twice in two succeeding three months, so that he appeared on two separate units, and we had to go back to the yearly system and make payments on account. Manchester stopped at that. Salford went further. They thought the taking of a general average was not fair because the men who were giving excessive or unnecessary attendance—put it which way you like—would naturally bring up the general average by the mere fact of their attendance. We adopted the golfing system and we fixed a practitioner should do it in, and they

That bogey is revised from time to time of the course. allowed for bunkers?—No. In Manchester, curiously enough, a man is allowed to come up and urge special circumstances. It is a special circumstance perhaps that he has a very small list and has only had two patients, and one of those a case of pneumonia, and that it is unjust that he should be reduced. We reply, "If you have only two patients on your list why do you trouble to practise in the Salford area: if you are so greedy that you want two patients there, you must take what we choose to give you."

*Mr. Evans:* What are the factors which decide the bogey; is it the pool?—No. The bogey would naturally be the question of attendance. Bogey is decided on the average attendance of certain practitioners. It involves knowing the practice of a certain class of work he does, and the type of patients he has. It is a question of personal intimate knowledge. (The witness withdrew.)

*Chairman:* I come now to Section C—Regulations and terms of service. In paragraph 35 you lay stress on the fact that the

conditions under which medical advice and treatment is given under the scheme should approximate as nearly as possible to those of private practice, and should preserve professional customs and traditions. We should be interested to know whether, as a result of the twelve years' working of the present scheme, there has been any appreciable and detrimental departure from these conditions?

*Dr. Brackenbury:* Speaking generally we should say no, but with your permission it might be worth our while to examine that a little more closely, as it has a considerable bearing upon the subsequent paragraphs. What we feel is this, that with one exception which I will not mention, the contract and relationship between the doctor and the patient is the same in insurance practice as in private practice. In private practice there is, though not a written, a perfectly legal contractual relationship between the doctor and the patient. The doctor undertakes to devote his utmost skill and care to the attention of the patient, and if he does not do it the patient can sue him at law. There is, therefore, a definite legal contractual relationship, though unwritten, between doctor and patient. That holds in exactly the same way and to exactly the same extent between the insurance practitioner and the insured patient. There are some additions in the insurance service to the contract that the doctor enters into. With regard to doctor and patient, there is only this one additional circumstance: he has converted an obligation of humanity, if I may say so, into an obligation of contract; that is to say, in the ordinary way, in ordinary private practice, if a patient comes to you in however great an emergency you are legally at liberty to say, "I will not have anything to do with you, I will not attend you." Even if he is dying there is no compulsion in law that you should do it, though as a matter of fact and as a matter of humanity such an attitude would never be adopted. That is contracted for in the insurance system. The whole body of insurance practitioners in an area have contracted, have recognized liability to all the insured persons in that area, and that reduced to the individual case means that on the first occasion on which an insured person consults you, even if you do not mean to accept him on your list, you give him the necessary attention, and as a matter of fact in an emergency you contract to give attention to the patient of another doctor. So that with that one exception, which is after all scarcely an exception at all, because it is merely putting into a contract what is habitually done from motives of humanity, the relationship between doctor and patient is exactly the same whether under the insurance system or otherwise. Beyond that, the insurance practitioner has undertaken to do certain things for the Approved Society in the way of certification, and for the State and the community in the way of certain records, reports, and so on. We are a little apprehensive—it is rather apprehension of the future than experience of the past that we have in mind—lest under any new regulations there shall be anything additional to that relationship between doctor and patient, which we want to keep the same in insurance practice as in private practice, and we also want to make as little onerous as possible to the doctor and as reasonable as possible to the doctor the additional contract which has been entered into with regard to certification, reports, and so on.

In paragraph 36 you state that the right of any registered medical practitioner to participate in the service is essential. We have had from other quarters suggestions that the Insurance Committee should be able to make representations to the Minister against the inclusion of a doctor where they consider that there are good reasons for doing so. You would strongly oppose this, would you not?—Yes.

Perhaps you would give us your reasons?—There is already one legal body established which regulates entry into the profession, and we do not think there ought to be one standard for one doctor and another standard for another. This is a service within the profession, but it covers so large a part of the clientele of every doctor that we do not think any doctor, having fulfilled all the requirements of the General Medical Council, should be at once debarred from a very important, the most important, area of his possible field of practice. We say that every doctor, as a matter of fact, when he has established his status in the profession according to the requirements of the law and the General Medical Council, ought to be at liberty to take part in this service, whether as at present a general practitioner or under our proposal a consultant and specialist, till he has been proved to be unworthy of the service, and if he is proved to be unworthy of the service we are at one with everybody else that it may be to the advantage of the service that he should be excluded. But we should oppose very strongly any limitation on the right of a registered medical practitioner to enter the service at all. *Dr. Cox:* May I say on this that a former witness, Mr. Potts, in giving evidence for the National Association of Insurance Committees, made a very positive statement that the British Medical Association had agreed that there might be this limitation by the Insurance Committee on the right of doctors to go on the panel. Knowing Mr. Potts as well as I do, I felt sure there was a misapprehension. I wrote to him on seeing the evidence in print, and I told him I did not remember any statement of this kind that the Association had made, and I have an answer from him which shows that there had been a misapprehension. I thought I had better clear that up now.

In paragraph 37 you indicate that the freedom of the insured person to change his doctor at any time has reduced the need for regulations governing the conduct of practitioner and patient because the present position approximates closely to that of private practice. Does there not remain, however, the fundamental difference that in the insurance service the practitioner is paid out of a statutory fund derived from contributions levied on the workers and their employers, and that in private practice the maintenance of a certain standard of service is necessary? *Dr. Brackenbury:* A certain amount of regulation is necessary, but I have been clear in

what I stated in answer to your first question it is clear that as far as doctor and patient are concerned this method of payment makes no difference. What the State contracts for is that the doctor should do for his insured person what he would do for the private person—devote his skill and care and attention to the best of his ability to that case, and this can only apply to the other contractual matters. As between doctor and patient there is nothing in the method of payment which affects the situation. *Dr. Holm:* The profession as a whole feels very strongly (and in particular those outside the Insurance Scheme at present feel that if they are to participate in it at any future time) that it is necessary that any regulations shall only be in regard to administrative procedure and the arrangement of it, and not anything which would interfere with the mode of treatment given by the doctor or the relationship between the doctor and patient in a medical sense.

In paragraph 38 you suggest certain requirements which should be imposed upon insured persons. As to the first—namely, that the insured person should seek acceptance by a doctor before the occasion for medical treatment arises—is there not a real difficulty? As an ideal this would no doubt be desirable, but do you think that the whole insured population could be expected to conform to this requirement? Must the system not allow for a certain amount of carelessness or at least natural procrastination? *Dr. Brackenbury:* Yes; but that does not affect our proposal that it should be made an obligation upon the insured person to do this, there being, as we have said, a liability to a penalty, or a fee, whichever is thought in the public interest to be the best way of applying it, on the first occasion on which it is discovered that he has not done it. No doubt there would be a number of cases in which there would be excuses for the insured person and liability to penalty would not mature; but we do think, and our opinion is very emphatic now—at the beginning it was not so—but we do think the insured person ought, at least in the great bulk, to be so impressed with the thing as an insurance scheme that this should be required of him. It is a simple requirement. The penalty could only occur once in a lifetime, and in the case of reasonable excuse it would not be imposed, but it is important that there should be a general requirement that the insured person should recognize that this is an insurance scheme and should come to his doctor before the liability for which he is insured has in fact matured.

May I infer from paragraph 39 that you agree to a continuance of the arrangements for allocation of insured persons to practitioners if they have difficulty in securing acceptance in the ordinary way, and of the principle of collective responsibility of the profession for all insured persons in the area?—Yes.

In paragraph 41 you make an interesting suggestion for simplifying the complaints procedure—namely, that the complaints should in the first instance be submitted to the Chairman of the Local Medical Committee and the Chief Administrative Medical Officer of the area. Would this not place the decision of these questions too much in the hands of professional men? Is some lay element not desirable even in a court of first instance?—It is possible that we should in some degree modify the actual wording of the paragraph, because I think there has just been this little confusion of thought perhaps on our part between the system of complaints as it at present exists and the system of complaints as it would be under the restricted system that we advocate in our Statement. If the system that we advocate is adopted, as far as questions of behaviour as between doctor and patient are concerned the thing is eliminated and dealt with by the freedom of choice as in the case of a patient and doctor in private practice. If a patient does not care about the behaviour of his doctor he can go to someone else, and the doctor, if he thinks his patient is not behaving properly towards him, can ask him to go somewhere else. If that is adopted and we have the restricted area of complaint laid down in our Statement, then I think it is possible that we should agree that even in the first instance the introduction of the lay element would not be improper.

We note your criticism in paragraph 42 of the exercise by the Minister of Health of his judicial or quasi-judicial functions. You have, no doubt, read the evidence given on this subject by the representatives of the Ministry who have appeared before us. Do you wish to make any comments on that evidence?—We attach very great importance indeed to this in the future developments of the service. Recent tendencies in the decisions of the Ministry of Health have raised very great apprehensions in our mind in reference to the particular points mentioned in this paragraph. In paragraph 42 we say: "The Association desires to emphasize its view," and then we attach the very greatest importance to those four general principles in the exercise of the quasi-judicial functions which we set out there. We are very much afraid that one or two recent decisions of the Ministry have shown a tendency to violate those principles, and if we are right in the interpretation of the method and results of those cases, we view it with the very gravest apprehension. The points are set out there—(1), (2), (3), (4). The gravest and most vital is (4). The others are of very great importance, but we are emphatic in our opinion that there should be no attempt by the Ministry of Health to pass a judgement upon the method of treatment adopted by any doctor in any particular case, or as to the relative professional skill of Doctor A to Doctor B, provided that the whole of the professional skill of Doctor A is carefully and properly given to the patient. We cannot allow any lay, or even any medical, body if you like, to set up a standard of treatment which has to be adopted, or a method of treatment which has to be complied with, and we rather think that in one or two recent cases there has been a tendency to interpret the regulations in that direction by the Ministry of Health. That is with us, of

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course, vital professionally. But these are all very important. For instance, there was one case which was dealt with in full, from which there have been certain further developments. I have to desire to go into particular cases, but there are five or six cases which one has in mind. One, however, wants to establish these principles: that the machinery agreed upon for these judicial inquiries has been complied with—where the Insurance Committee has adopted one particular decision—it seems to us entirely improper that the court of appeal—the Ministry—should step in and write a letter to that Insurance Committee suggesting they should alter the charge and proceed differently.

I quite understand. In paragraph 41 you pronounce definitely against the arrangements under Section 21 (4) of the Act. Would you amplify these objections under Section 41? You pronounce definitely that medical officers are paid by salary, and (b) that their appointment and control is entirely in the hands of a purely lay committee? Surely these conditions hold in the case of all public health appointments?—Dr. Cox: As regards payment by salary, we do not regard that many medical men are paid by salary and that there is no objection to that. But we do not see any particular reason why a certain number of medical men working the Insurance System should be paid on a different system from that which obtains elsewhere, although many salaried medical officers are employed under the control of a lay committee. I do not know of any lay committee, which has the employment of medical men, with so little of real public responsibility as the committees of these particular services. It is a very different thing for a medical man to be employed by a public authority—a responsible public body—and to be employed by the same amount of public check, which there is nothing like the same amount of public check. We are against these institutions because we know they do not get the quality of medical men which is prevalent in the ordinary panel system. We know that medical men of good quality fight shy of these institutions; they do not like them, and the profession as a whole does not like them. Their whole history and origin is tainted; they never have been popular in the profession, and they never will be.

You state in paragraph 44 that the standard of treatment given by these institutions is not equal to that given by the insurance service as a whole. Have you any evidence in support of this?—Dr. Cox: Again, in Appendix II, where you deal with the work of these institutions in the colliery area of South Wales, you state that the service is, on the whole, unsatisfactory compared with that given by doctors under the normal system. Could you tell us in what way in that area it has proved unsatisfactory?—There are two sets of questions. First, as regards the standard in the "21 (4)" institutions, you ask if we have any evidence in support of the view that it is not up to the normal standard. Evidence comes from medical officers who have been, or still are, employed by these institutions, and I have a sufficient body of knowledge from those men to say that they do not think the service is as good as is given outside. And from the kind of man, generally speaking, who is employed by these institutions we do not believe that their service can be so satisfactory. I cannot believe that their members have the same control over the medical officers in these institutions as the public have through the Insurance and Panel Committees over the average rank and file of the colliery areas of South Wales. As regards the institutions in saying that their influence has been very detrimental indeed to the medical service given to the public in those areas. For nearly thirty years—long before the Insurance Act came in—we have been fighting these institutions, because they proceeded on what we thought were entirely wrong lines, the theory being that he could manage the doctor. They deliberately adopted the idea of the employment of a doctor as a whole-time servant, who should be the doctor of the committee and not the doctor of the individual person, which we think is wrong; it is fundamentally against the provisions of a good medical service. The result in South Wales, as is known to everybody who has studied the situation, is that the quality of the medical men who are going into the medical profession in the colliery areas of South Wales is not so good as it used to be, and it certainly is not so good as in any other industrial area. I say that with a full knowledge of this area, which I possess probably to a greater extent than anybody who does not live in it.

Sir Humphry Rolleston: Is there a profit made, and if so where does the profit go?—These institutions are set up not only for dealing with insured persons, but with their dependants—their wives and families. I think from a long study of these institutions difficult to prove that some of the money which is paid into the institutions on behalf of the insured persons goes to help to finance the medical attendance on the dependants. Dr. Bolam: Would it make it clear if I said that in any event the amount of money which is put aside for the doctor who attends these persons, and that under the system which is adopted it could be shown that a less amount of money would be paid to the doctor under that system than for a corresponding number of people under the insurance system?

Do you mean to say that the doctors are sweated?—Dr. Cox: A good many of the doctors themselves so consider; but the salaries undoubtedly have improved since the Insurance Act came in. There is no question about that.

Mrs. Harrison Bell: Is there still any considerable number of insured persons who do not choose their doctor reasonably early? I mean, would the failure to make a choice have an appreciable influence on the remuneration that the doctors received who are serving on a panel?—Dr. Brackenbury: It would make no difference at all. The whole of the Central Pool, which is calculated in respect of those persons as in respect of others is distributed among the doctors as a whole; so that collectively it would make no difference. It would make a little difference in the distribution to individual doctors. The doctor who was popular and whose liability is in fact greater (because, if a certain number of these persons who have not chosen do in fact choose, they would choose him rather than another) would benefit by it; but that is not the point. It is a point of principle in connexion with the Insurance System, and when these persons come to him it places the doctor in a position of doubt and difficulty very often as to what his position is.

On the subject of complaints, do you think that the insured persons would have the same confidence in an organization for complaints such as you indicate in paragraph 41, as they now have when they apply to the ordinary Complaints Committee and the Insurance Committee?—That would remain under our system. The machinery for dealing with complaints would remain the same as now. But in the first instance the complaint, instead of being dealt with by the Clerk to the Insurance Committee—the prima facie thing; the first dealing with the letter, I mean, before the Administrative Medical Officer—would be dealt with by the Chief Complaints Committee. I have said, we should be content to modify our proposal to the extent of admitting the lay representative, provided that the complaints to be considered were restricted in the way which we mention in our Statement.

From paragraph 44 of your Statement it would appear that there was some objection to payment by salary; but Dr. Cox rather disposed of that by saying that there was no general objection to payment by salary. The Manchester system is not payment by salary for the members of that Association who were doctoring insured persons?—Dr. Cox: Why should we? The doctors do not want it. Why should we try to evolve a system which we think is inferior on the whole to the present system?

I wanted to be quite clear on that point that there is objection—ordinary circumstances does away with the idea of competition between doctor and doctor and free choice. If you could stereotype what the choice of patients among doctors and the choice of doctors among patients to its present amount, you could, of course, calculate what the annual capitation fee came to in every individual doctor's case, and you could call it a salary. But we desire the doctor's person and the doctor to be free to vary that at any moment they like, as in private practice, and that the insured person can at any moment go to another doctor. That being so, it can only be done by a system of payments which allows of that equitable variation.

In fact the insured person does not go to another doctor?—Oh yes, he does. Wait one moment. I am thinking of an insured person who is a young woman wage-earner whose whole family are not insured persons and who thinks, not once or twice or three times, but many times, who does not change her doctor even though she is not so well satisfied as she would like to be. That is a fact?—The bulk of insured persons behave towards their insurance practitioners in exactly the same way as the bulk of private persons behave to their private doctors. Most of them do not, in fact, there are a few who do—go gadding about repeatedly from doctor to doctor. But they are at complete liberty to do so, and if you stereotype an annual salary system it would result inequitably, because from year to year the salary would have to be varied in accordance with these, if you like, minor changes among insured persons and clientele.

Dr. Cook: With reference to the stricture that Dr. Cox passed a minute ago on the Welsh miners and their relation to the doctors in Wales—the colliery practitioners—I would like to know if his strictures apply only to the Welsh miners or do they apply generally to the English and Scottish miners in their relations to the doctors?—Dr. Brackenbury: I should not have thought there was much to call it a stricture—I know of—and I know many of them—the colliery areas that I know of—and I know many of them—there is no such attempt. The miners pay their doctor by a system of contribution, but they do not try to own him. In the Welsh area they want to have their own doctor under the control of the committee. He can be sacked when the committee like, and he can be hauled over the coals by the committee. That is the difference in the Welsh area compared with the other areas. Speaking for Scotland, that is not the other areas. We pay a flat rate of contribution and our members can select any doctor in their areas?—Yes.

I am speaking for the county of Fife, which I know best. I quite agree. And I venture to say that the standard of medical attendance there of our practitioners will compare favourably with the doctors anywhere in Great Britain.—I quite agree. Professor Gray: One point with regard to the suggestion of requiring an insured person to choose a doctor. You said, Dr. Brackenbury, that that would have to be done only once. Is that the case? After all, insured persons move from one area to another do they not?—Dr. Brackenbury: Quite so.

And you suggest that that should be done under a fine or, if it was not thought to offer undue temptation to the profession—if I may put it in that way—it might be that the doctor would be entitled to charge a fee for the first attendance.

My trouble is that I do not see how a fine could possibly be collected. In the case of a fine payable to a society, they have a stronger hold over the member for the extraction of money. I do not see how you are going to extract a fine of 1s. or 2s. 6d. for an offence of that kind, which everybody will commit.

I agree that everybody will commit it. A period of a fortnight or three weeks limited extend, would it not?—Perhaps so.

A person who enters into employment without being allowed the same afternoon penalty as a regular attendant would not be liable to the same afternoon penalty.

I do not see how you are going to expect a stronger hold over the community than I do not see how you are going to expect for an offence of that kind, which everybody will commit.

To a limited extent. A period of a fortnight or three weeks would have to be allowed, would it not?—Perhaps so.

It is very difficult for an insured person who enters into employment on a Monday morning to choose a doctor the same afternoon.

—I quite agree. One of the cases in which the liability to a penalty would not matured would be the case of a young insured person who, immediately he entered insurance, fell ill. He would possibly only be insured for one day, and that would be a perfectly legitimate excuse, obviously, for not choosing a doctor. The simplest plan, of course, would be to allow a doctor to charge a fee for the first occasion on which an insured person came to him who had had full opportunity of choosing him for their doctor before that time and had not done so. But we quite realize, as a profession, that certain bodies of persons would say that this suggestion offers temptations to doctors to do the wrong thing. I do not think it would really act in that way, and it would be the simplest method. On the other hand, if you say that if the doctor chose to report that circumstance to an Insurance Committee, that Insurance Committee could inflict a small fine upon that person, as, indeed, they can now for certain delinquencies, I think that would be one of the ways of dealing with it. The probability is that the doctor would not report to these Medical Institutes, you say that the great body would not decline to take service under the new Medical Association. Yes, we do.

report that the Committee could immerse in the sea the probability is that they can now of dealing with it. The probability is that they would not report a case once in a hundred times. With regard to these Medical Institutes, you say that the great majority of medical men decline to take service under the Association. May I take it that the British Medical Association encourage them in refusing to take service?—Dr. Cox: Yes, we do. In fact, every week in the BRITISH MEDICAL JOURNAL there is some thing, it is not

In fact, every week appointments are encouraged to apply to him.  
a page which contains appointments he is advised to apply to him.  
warned?—Not warned; they are advised to apply to him.  
before they take them. That is not quite the same thing. It is not  
I do not want to inquire into domestic details; but, if it is not  
breach of confidence, I should like to know how this reacts on the  
question of the distribution of medical work in the country.  
Taking the current BRITISH MEDICAL JOURNAL, I find eight Welsh  
appointments with regard to which any person desiring to apply  
for them is advised first to communicate with you.—Yes.  
for those the advice you give is fairly effective?—Not always.  
for those the advice you give is fairly effective?—Not always.

question of the U. S. BRITISH ALLIANCE. — Yes.  
Taking the current line of communication with you. — Not always.  
Appointments with regard to communicate with you. — What happens? —  
for them is advised first to communicate with you, what eventually be-  
I suppose anyone disregards the Association he may eventually be  
I suppose any member of the Association he may eventually be  
If he is a not a member of the Association he may eventually be  
expelled. If he is not a member of the Association he may eventually be  
knowing that the other man are not very likely to receive him with  
open arms, with regard to these appointments to which you refer  
person, disregarding your friendly warning that he may be expelled  
be more

So that, with regard to these appointments to which you refer from week to week, there is a possibility that he may be expelled from the British Medical Association, or that he may be more or less boycotted, or be received coldly by people in that area?—Yes. And I take it that that has, in fact, a considerable influence in preventing people from taking these appointments?—Yes, I think so. I hope so. But I raise that point is this. Last week, either you or I, I think, raised the question of the appointments which, in a way, trouble the medical profession, and I think that these appointments are a considerable

And I take it that that <sup>may</sup> be the best way of preventing people from taking these appointments. I hope so.

The reason that I raise that point is this. Last week, either you or Dr. Brackenbury told us two things which, in a way, troubled me. In the first place, you told us that there are a considerable number of young doctors who have just graduated or qualified—particularly women doctors—who are, in fact, out of employment and cannot get a job; is not that so?—Yes, just now there are.

And I think, on the other hand, you told us, or it is a matter of common knowledge from all sources, that the amount of medical work in the country is enormous; indeed, there is no limit to the amount of medical work that could be done. Admittedly doctors are extremely busy, and there is a great deal of work which is not touched which might be touched. Is it not rather unfortunate that you have these two things coexisting?—We have to take a long view. The result has been, as told by a previous witness, that in Glamorganshire, whereas they had originally, or from time to time, twenty-two of these institutions approved, there are only eight of them left now, and we believe we have been doing the public and the profession a very great service in killing these things.

Witness could not understand their decrease, but that is the reason.

Witness schemes that are put forward by other witnesses.

Now it is not merely, of course, the Welsh schemes that are put in this list. There are also, I think, a considerable number of public and non-public appointments for the inspection of school things. The witness could not understand their deacease, but reason?—That is one of the reasons.

What is your objection to that type of appointment in certain cases?—They do not come up to the standard of salary which has been laid down by the Association.

They are too badly paid?—Yes, that is so.

How does this react on the question of these women doctors? What is your attitude, may I ask you, with regard to women doctors? Do you receive them with open arms?—The women, you find, are at least as loyal as the men, and at least as anxious to do the right thing by the profession as anybody else. Many of them, when they are told that if they take these appointments they will be doing a bad stroke of business for the profession

which is fighting to get an improvement in the position of women, sometimes—and they do not go in for it reluctantly, sometimes?—Yes, sometimes.

They agree reluctantly in view of the fact that if they take an appointment like this, as you have told us, they will be rather cold-shouldered by their brethren, or whatever is the word used?—Yes. *Dr. Nolan*: May I say that the attitude of the Association with regard to women doctors is exactly the same as with regard to men. We have always made a stand that a registered medical practitioner should be treated on the same basis, whether man or woman.

But I wish to get into this deep question, but I put it to you to what extent the woman doctor does not want to do the kind of work as a man doctor?—Yes, and more would or

I do not wish to get into this deep question, but I put it to you that to a very large extent the woman doctor does not want, very frequently, to do the same kind of work as a man doctor?—  
*Dr. Cor:* I think the tendency is for more and more women to go in for general practice. The idea that women should only have those what you may call "pink alley" jobs and be content with them is being gradually destroyed. More and more women are being encouraged by their teachers and by the profession generally to go in for just the same things as men.  
I would have thought that the general attitude of a woman would be a certain attraction in a steady job, with not too many fixed hours away from the night bell and a very great number of fixed hours to take, let us say, a

I would have thought that the general attitude of a woman was to find a certain attraction in a steady job, with not too much responsibility, with fixed hours away from the night bell and all the rest of it, and that, in actual fact, a very great number of women doctors would be quite prepared to take, let us say, an appointment under an Education Authority, even though their income was not so big as was available in private practice, merely because the life was less strenuous?—I think if you put that point of view up to a class of senior women students they would fall highly insulted.

The women practitioners of two years' standing would I think, even less content to be employed by a local authority than the women practitioners of five or six years' standing. May I say anything more?

But if it was put to the women practitioners of two years' standing, what would they say?—The woman practitioner of two years' standing would be, I think, even less content to be satisfied with a blind-alley job. Dr. Holtz: The great difficulty is, not that the women are anxious to have leisured occupations, but that the public is not educated to receive the woman practitioner for full general practice. It is only in certain areas that her opportunity arises. She is quite willing to grasp it if she only has the chance, and on the whole she is not looking specially for a sheltered occupation at a reduced fee. I do not, however, see quite how this comes within the scope of the present investigation. You may say that the doctors receive from acceptance of medical skill. I

I will tell you why it comes within that scope. I think it is a point which  
that there is a certain uneasy feeling in the minds of medical skill. I  
that the discouragement leads to a wastage of medical skill. I  
ing certain appointments leads to a hostile manner. I think it is a point which  
am not saying this in a hostile manner. I think it is a point which  
you ought to have an opportunity of explaining, because I am  
sure in my own mind that the feeling does exist that the British  
Medical Association prevents certain people from taking a job  
which, left to themselves, they would be quite prepared to take,  
and which they would consider themselves well paid in accepting.  
But they cannot take the post, and the result is that at the one  
end you have a certain amount of unemployment and at the  
other end you have doctors overworked and work not being done.

We quite appreciate your view. But taking these "24 (3)  
—We are bound to take a long view for a young man  
and we are bound to say to the public  
on qualifying, seems  
or even more—that

and which they cannot take. But taking those  
But they have a certain amount overworked and  
end you have a certain number of doctors who  
other end you appreciate your view. But taking these for the public  
—We quite approve of your view. But taking these for the public  
appointments, we are bound to take a long view for the young man  
and for the profession, and we are bound to say to a young man  
who wishes to take an appointment which, on qualifying, seems  
an attractive appointment—say £600 or £700, or even more—that  
at the end of a term of years he will find that he has no incentive  
—no continuing interest—in this particular appointment; whereas  
if he had gone into general practice and had got an assistantship  
and worked with a few to a partnership, he would have found a  
incentive to continue, and particularly would have found a  
valuable in his practice. He would also find that he was  
free from any restriction by a self-elected, self-constituted lay  
body which is not open to our young men: "You may find  
is the point we have to put to our young men at the caprice of a body  
yourself, at the end of five or ten years, at the caprice of its accounts or  
which cannot be looked into publicly in regard to its conduct and  
its action. You may find yourself dismissed without a cent and  
with no value from the work which you have put into your  
profession." We are bound to tell our young men that and that  
we believe it has a detrimental effect on the professional relation-  
ship between doctor and the public. We are bound to stand for  
the individual relationship in regard to these institutions. Dr.  
*Dain*: May I say that Professor Gray will appreciate question in the  
attitude on this does not affect the employment question and only  
profession; that is to say, there is only one appointment and only  
one person can hold it. The price at which it is held does not  
affect the number of employed or the amount of unemployment  
which occurs in the profession by reason of any attitude we may  
take as to the conditions of service in that particular job. We do  
not make the employment less.

somebody else who might  
be released to assist  
here doctors are, in fact,  
employed on the same basis

one person affect the number of emigration by reason of the service in that particular take as to the conditions less.

If an appointment were taken by somebody else who might otherwise be unemployed, that person might be released to assist in the general work at the other end, where doctors are, in fact, being overworked. But there is only one person employed on the work, and that releases some other potential person for some other work.

**Mr. Bell:** Is it not a fact that there is a general disinclination among the young men and women to take these commissions, and that they are not under satisfactory conditions of employment? Is it not the case that they are glad to get out of the service, and that they are not under satisfactory conditions of employment?

*Mrs. Harrison Bell:* Is it not a fact that there is a general disinclination on the part of the young men and women to take these public appointments?—*Dr. Cox:* No, not under satisfactory conditions. If the conditions are satisfactory some of them are glad to have the assurance of a steady income and reasonable vacations, and a life that is not so strenuous as that of a general practitioner. In arranging any scale of salaries that we think is equitable, we take into consideration that there are these considerations against the remuneration that ought to be expected by a general practitioner.



**Mr. Frost:** With regard to these Medical Aid Societies in South Wales, could you tell us how they are financed? How do they get the money? As regards the insured persons, from the Insurance Committee. As regards the dependants, by deductions from the colliery. And these moneys are collected from the various colliery companies. Do you object to that sort of thing at all?—Not in the least. But is done in every colliery area that I know, nearly. That is particular to Wales, of course.

**Mr. Frost:** Instead of leaving the head of the family to choose his doctor from all the doctors in the area, they have brought in a salaried man who is the one doctor in the scheme, and tried to have him upon all their contributors, or upon all the miners, at the expense, of course, of the service previously given was not in the suggestion, then, that the service may have been better. And that is the kind of service that it is wanted to continue. And that may have induced them to try this system; but I think it has been a fatal experiment.

**Mr. Frost:** I have evidence that the service is not as good as in other parts of South Wales in the last fifteen or sixteen years. And that are not connected with these services and the quality of these societies, and has not that rather a tendency to be a vicious circle, I admit. But in addition to that the medical man with legitimate practice of his own. He cannot stand it. Why should he? He is interested in the South Wales miner was a sort of man who was interested in what he did?—I said he was politically and considers himself capable of running anything. You do not object to that?—No. **Dr. Holam:** We took it that **Dr. Cor:** as they leave the doctor alone they can run anything else like.

**Mr. Frost:** You do not object to their endeavouring to conduct all the agencies which cater for their welfare?—No. One of those agencies is the medical attendant. Do you object to that?—Yes. I object partly because it is contrary to the tradition of the profession and partly because my experience shows it to be disastrous to the public. **Dr. Holam:** We do not object to their being interested. The principal thing we object to is the fact that they take in employing one whole-time doctor for the whole of their members, whether the members like him or not. We do not object to their being interested in it. **Dr. Cor:** Yes; I believe that you know anything about them?—**Dr. Cor:** Yes; I believe that you do. They are very adequately equipped. They have spent a good deal of money on equipment. One or two that I know particularly well are very well equipped. So that your chief objection is that you have a lay committee which offers are sometimes quite adequate?—Some of the salaries are with the doctor's treatment, but I should say not as a rule; that is not the objection. The objection is not leaving the individual person to find his own doctor in the area without any control or direction by a committee at all. The average person is quite capable of choosing his own doctor without any committee doing it for him.

**Mr. Frost:** In all these big industrial areas—I know it is so in South Wales in particular—you have certain firms of doctors who contract with three or four assistants. You always have the head of the firm and he may have a large number of assistants. I think it has been capable of a good deal of abuse in the old times when a man ran a big practice by means of a large number of assistants. It certainly is not as good, in my opinion, as where the individual doctor runs his own practice. You do not blackball these, do you?—No; and sometimes it is absolutely essential to have an assistant or two in order to enable the practice to be carried on. I do not see a very big difference between those people and these Medical Aid Societies. I have a place in mind now where there are three firms, each of them employing some three or four assistants, and there are 7,000 to 8,000 men working at the collieries. **Dr. Holam:** May I say on that that you have then the choice of ten or twelve doctors, because within a firm you have a number of ten or twelve doctors, do you?—Most certainly. You do not count the assistants, do you?—They have assistants; but there may be other doctors in that area who, as a rule, are not available to members of the Institution. In Northumberland and Durham, of which I have considerable experience, the medical men are there remunerated from a pool which is collected exactly in

the same way—that is, at the source, at the colliery offices; but any doctor who is in that area whose name is taken by the colliery is available to any of the insured persons there and to the dependants under the scheme. There is no restriction of choice, and the contract is between the doctor and his patient. I do not see the difference here at all. If you have, say, three firms and each firm has three or four assistants, which appears to be the prevalent system throughout the whole of South Wales—I do not know whether it is the same in other industrial areas—choose that man and they have the services of his assistants as well. What is the difference between that and the Medical Aid Society? For the life of me I cannot see it. **Dr. Cor:** Do you mean the difference from the doctor's point of view or from the patient's point of view? From any point of view.—The patient's point of view is practically the same, of course. He deliberately (if he does it deliberately) chooses the Medical Aid Institution. **Dr. Holam:** Dr. Cor does not mean that in the literal sense! **Dr. Cor:** In your other case, if an assistant is not popular the principal would get rid of him; but the principal is responsible and the patient can demand the services of the principal. Your chief objection is the lay control all the time?—That is fundamentally the chief objection. The lay control of an Insurance Committee is not comparable, because it is a public body and it has medical representation on it. The committees of some of these Medical Aid Associations are riddled with intrigue and are conducted in a way which is not at all satisfactory. I think that ought to be substantiated, if you like to read between the lines supposed to be favourable to these institutions. The evidence of Mr. Eynon Lewis was the most subdued evidence in favour of institutions that I ever heard, and he was supposed to be a favourable witness. To my mind it was very unfavourable evidence. That is the impression left on my mind.

**Mr. Frost:** In paragraph 42 apparently the British Medical Association objects to all sorts of people coming in. Even the Ministry is objected to. **Dr. Brackenbury:** No, we do not. **Mr. Frost:** How does that read?—If you will read it I think you will see that is not so. I thought you said you did object to the Ministry coming in?—Not at all. You said you had serious apprehensions?—If the Ministry interprets the regulations in a particular direction we should have strong objections to that interpretation. We have no objection whatever to the Ministry fulfilling its administrative and quasi-judicial functions—not the least. We desire that it should be so, and we desire that it should have the confidence of the profession in doing so. **Chairman:** I now come to Section D—Administration—and I propose to deal particularly with paragraphs 45 to 50. Your first principle is that the administration of cash benefits should be separated from that of all the treatment benefits and that the latter should be controlled locally by a new authority. Is this so?—Yes, the new authority controlling as well all other health services.

**Mr. Frost:** You suggest that the new authority might either be established ad hoc or be a statutory committee of the county council or county borough council. Do you lean to either of these types, or would you be satisfied with either?—We should be satisfied with either, but you will remember that we say that the county councils and county borough councils are not always in their present form the best areas for the purpose. The proposal then would mean the disappearance of the Insurance Committee and the unification under the new authority of the medical services at present administered by the Insurance Committee, the Public Health Authority, the Poor Law Guardians, and the Education Authority. As chief officer of the new authority you would have an administrative medical officer of high standing both in medical knowledge and in administrative work, who I suppose would be a salaried officer?—Yes. And you would, I presume, place under him a certain number of salaried officers to carry on the school work, the tuberculosis treatment, the infectious diseases work, the venereal disease work, the maternity and child welfare centres, and the other public health activities. Is this so?—Not exactly. There would be no doubt in the largest places the need for a certain number of sub-ordinate salaried officers for administrative purposes; but for treatment purposes we do not contemplate the appointment of salaried officers at all, except, as we have explained in one paragraph and in our evidence last time, for a limited period of time for tuberculosis or venereal disease services. The actual treatment work as distinguished from administration, or we may even say for tuberculosis or venereal disease services, for the provision of the insurance system for domiciliary attendance or on the seasonal treatment for the dependants of the insured person. The family doctor for the dependants of the insured person. The infectious diseases hospital would be an exception, because there would be hospitals of various kinds which would have a resident officer who might be paid by a salary. I hope not too distant, probability of that being properly divided between the medical officer of health as the administrative and sanitary officer, the general practitioner, and the consultant or specialist who would be called in by him, instead of all these functions being jumbled up as they at present are, rather



inconveniently, in the person of one salaried officer. But at the moment that is not contemplated as immediately possible.

What about the dental and ophthalmic treatment? Would you arrange for these by capitation fee or by scale, or by a combination of these two methods?—Of course we do not separate these things in our scheme from other specialist and consultative work. We regard them merely as varieties of that work. Therefore the ordinary method of payment for this specialist and consultative work must be, we think, by items of attendance—so much value attached to particular items of attendance. It might be possible, so far as the dentists are concerned, when more information is at our disposal, to convert what is discovered to be the value of the dental attendance into a capitation system; but we do not think there is material at present for demanding that such a capitation system should be created.

Side by side with the new Health Authority you would have in the area types of take the mttee a which it to the local Health Authority in other health matters. In so far as the same local authority was administering other health services and wanted professional advice or professional opinion this committee would supply it. It would also be very useful in the matter of health propaganda.

I suppose you have not yet considered the constitution of such a committee, but would it be by some form of election under regulations?—"Election under scheme" is the general phrase. Each authority would put up a scheme conforming to certain general principles laid down, and those schemes would be sanctioned by the Minister of Health.

I come now to the very difficult question of finance. Is it your suggestion that the funds of the new Local Authority should be derived partly from the local rates and Exchequer grants as at present and partly from contributions from insurance funds in respect of the insured persons in the area?—Yes, but not all pooled into the same income. The income from the Insurance Scheme would be a separate pool for use for the insurance service, whatever that comprised, and not form part of a general income which could be used for general purposes.

In other words, the new authority would receive a payment calculated on the number of insured persons estimated to be in the area in the same way as the Insurance Committees do at present?—Yes, in respect of the insurance part of their work.

But is there not this difficulty: that the insured persons in the area would be paying in a sense twice as compared with non-insured persons for whom the services were available? Insured persons would be paying through their contributions and also through grants and rates?—No, that is not so, if you have regard to what I have said about the non-pooling of the income.

Was this difficulty not felt when sanatorium benefit was taken out of the Insurance Acts? The institutional tuberculosis service is, as you know, financed entirely from grants and rates, and so all persons in the area are on the same footing.—In so far as the administrative authority was administering a general service which was open to all alike, that would be the difficulty, but we do not envisage that in our complete scheme. In so far as they did that, there would be no charge on the insurance funds therefor.

I presume you have considered the Interim Report on the Future Provision of Medical and Allied Services drawn up by the Consultative Council in 1920. Would you indicate to us how its recommendations bear on your proposals?—Dr. Bolam is more acquainted with the details of it if you want to go into them; but in general I should say there is nothing in that which is inconsistent with the main lines of our general scheme. I think I might say, however, that the Scottish Report comes nearer to the ideal that we have than the English Report did on the whole.

We note the minor administrative matters to which you refer in paragraphs 50 to 53, and shall give them due consideration. You suggest amongst other things that the present statutory words "incapable of work" should be altered. Can you suggest any alternative form of words which you think would be an improvement?—Of course the words that we should prefer are "unfit for your work." You see the certificate is addressed to the insured person, and we would prefer it to say, "You are unfit for your work." The question then, of course, arises that at some period or other in certain cases we might have to advise and certify that the person was unfit for any work.

For any work at all?—For any work at all. There could either be the alternative form of words on the certificate from which we could cross out "all" or "any"—or perhaps more conveniently when the Approved Society or the administrative body which dealt with the matter felt that the question should arise: "Is he unfit, not for the particular work, but for any work?" they could ask for a further certificate in the alternative form.

In paragraphs 54 and 55 you enter into some questions which are not of a medical nature. At the same time we are very interested to have your views. I see that you think that Approved Societies as at present constituted do not as a whole in any sense represent insured persons, their wishes or opinions. In paragraph 54 you suggest that the administration by Approved Societies is more satisfactory and sympathetic than if the same duties were in the hands of a large State organization. If, therefore, the Society system is continued, do you see any remedy for the defect you mention?—We do not in fact make the statement which you attributed to us in your question. If I may read you the statement which we do make you will see that it is much more restricted. In paragraph 54 we say: "Many practitioners, however, hold the belief, based on experience, that this administration is likely to be more satisfactory

and sympathetic in the hands of certain classes of Approved Societies than in the hands of a large State organization or Committee of a local government authority." It is the experience of many practitioners that certain particular classes of Society do tend to be more satisfactory and sympathetic in their dealings with individuals than either the Society of a different kind or a publicly constituted authority.

*Mrs. Harrison Bell:* Do the doctors visualize very grave objections to the grouping of members in a society for a particular area on a territorial basis?—May I point out that there is perhaps a misunderstanding. We do not suggest that they should be grouped in that way; but in addition to any other registers that are kept, the Society should keep a register on a territorial basis. It is merely that the register should be there and that the Society should know at any given moment as nearly as can be in a migratory population, which of their members reside in Middlesex and which reside in Northumberland. Otherwise we are unable—that is the great difficulty of the organization at present—to apply the result of health conditions in the locality. There is no method. The doctors show that there is a certain prevalent disease. You apply to the Society and they cannot localize it at all; whereas if the Society were in addition obliged to keep a localized register it would enable various things to be done in that way and it would enable incidentally—perhaps in a minor way but still important—the doctor's lists of persons for whom they are responsible to be much more accurately kept.

*Professor Gray:* Would you just elaborate for us a little your suggestion with regard to the length of time for which a doctor might certify incapacity? You suggest a certain distinction there of 14 days in certain cases, 42 in others, and in some cases even a period of three months. From your knowledge of Approved Societies do you think that that kind of suggestion would be gratefully welcomed?—No; it would not be gratefully welcomed, and that is why we put it up to the Commission, because we have failed with the Societies. It seems to us to be eminently reasonable and in everybody's interest.

Disablement benefit can begin the moment a man is ill if it is a linked-up illness?—It can. I am afraid we had overlooked that point. We had viewed it as indicating an illness after a considerable period of time.

What is your definition of a chronic case?—I could not give you one. But our idea here was that if the same illness had been going on for a considerable period of time—say six months—the doctor might be able to give a certificate in that case only once in six weeks, the society or authority concerned having the power to appeal for that to be shortened. *Dr. Dain:* He can give a certificate for a month now. *Dr. Brackenbury:* It is extending it from a month to six weeks.

*Mr. Jones:* What need is there for the Societies to keep a separate record of sicknesses territorially?—There is a difficulty in localizing illness.

But have not you got that record already in the doctor's record cards?—Very imperfectly at all events.

But why should they not be perfectly kept?—A person has an illness and goes to another locality. The Approved Society has its records of incapacitating illness, but the Society does not know in what area that incapacitating illness takes place. It knows that each member had so many weeks of incapacitating illness during a certain year, but there are no means of telling in what area that incapacitating illness takes place.

I suggest to you that the means if properly applied exists at the moment in the doctors' records, which are territorial?—*Dr. Dain:* It is a perfectly easy matter for a Society to say that a number of its members are suffering from a particular complaint, but it is a very difficult administrative matter to obtain that information from the doctors' records. It is there that the doctors' records require to be examined, and for the continuous treatment of a patient it is impossible to take a record away from the doctor, so that it is a very big and difficult business to get it in that way. Take, for example, that, say, rheumatism was found by the returns of particular societies to be very prevalent in a particular area as an incapacitating illness. It would be possible to go to the doctors and get from them what type of rheumatism it was; but to get at the doctors' records is a very difficult and laborious way of obtaining the information, whereas it would be easily obtained from a territorial list in an Approved Society's records.

It seems to me it would be doubly laborious to do it in the method you suggest, because the society has to keep its record and write it up territorially and you have got it territorially already?—*Dr. Brackenbury:* In Scotland it is done.

What is the territory in Scotland?—The difference is that the doctor sends in his records of cases of incapacitating illness in Scotland, but he does not do it in England. *Dr. Dain:* There is a different type of record.

I was not aware of that.—*Dr. Brackenbury:* He does not do it in England.

*Chairman:* We note your observations in Section E as to remuneration. I only want to ask one question. You suggest that the position of the rural practitioner requires special consideration. But on your own principle, stated in paragraph 58, would you not agree that the present remuneration of the rural practitioners from the capitation fees and the mileage grants compares very favourably with what they could secure from a purely private practice in such sparsely populated areas?—May I repeat the answer which I gave last week to a similar question in another connexion; that is, that our word is not "could," but "should." We do not believe that the State in an insurance scheme wants to exploit bad debts, and if the doctor makes provision for these people we assume that an income to the doctor would be forthcoming from them which should in total compare not unfavourably with that which should be forthcoming for similar responsibility and work in private

practice. We admit that in agricultural areas there is so much poverty that in private practice the doctor would not in fact receive the income for his services because a large part of it would not be paid for. But assuming ordinary fees he should be able to get a certain income. Dr. Bolam: We have brought with us Dr. J. P. Williams-Freeman, who is the Chairman of the Insurance Committee in Hampshire and a member of the Hampshire Insurance Committee.

I understood Dr. Williams-Freeman would like to make a statement?—No; he is here if you want to ask him any questions with regard to rural practice. I understood that Professor Gray had some questions.

[Dr. J. P. WILLIAMS-FREEMAN, called and examined.]  
Chairman: In what way do you consider that the rural practitioner is at a disadvantage as compared with the ordinary practitioner?—Dr. Williams-Freeman: The main thing is that of payment by capitation fees according to the number on your list. In sparsely populated districts it is absolutely impossible to get more than a very small list. The result is that the payment to the rural practitioner compares so unfavourably with the payment of the town practitioner that we have great difficulty in getting good practitioners to take up practice in the country. That is the prime difficulty.

Have you any solution to suggest?—Yes; we have considered the question in committee from two or three points of view. It is to be possible that there should be the same general capitation fee for all practitioners alike throughout the country, but that in certain sparsely populated districts this should be augmented so as to raise the amount of money paid for insured persons to a proper proportion, which is generally taken to be one-third of what ought to be a reasonable remuneration for an educated medical man. That is the line, I think, on which it should go.

Professor Gray: How far, can you tell us, is the country doctor disappearing?—I have tried to find that out statistically, and it is not easy. In my own county of Hampshire we have had five country practices abandoned since the Insurance Acts came in, and only one of these has been revived.

How far is it due to this? At present, looking over a great part of the country, there are few districts where you have people who are not within reach of a town. I remember a village where one time there was a country doctor who had a complete monopoly over quite a big area. He was five miles on one side of the nearest town and perhaps ten on the other; but in the last few years with the advent of motor cars that has fallen inside the area of the normal market town, and the doctors from the market town are all over the place. If you take a large part of England, it is not the case that a great deal of what used to be the rural area is, in fact, within the scope of operations of doctors who are in towns?—That is so; but, of course, it has its great disadvantages.

I am not denying that that is possible; but it is so?—It is a tendency, not only in England, but in America and everywhere. I suggest to you that the decay of the country doctor is not merely a question of the rate of capitation fee, but the fact that the town doctor can enter into competition with the country doctor over a very wide area?—Is not that the same thing, surely? That is what leads to the decay of the country doctor.

It is the motor car and not the capitation rate?—Yes; but he goes to where he can practise and receive a much greater salary. It is perfectly obvious that a young fellow would choose a place where he could get a panel of 1,500 rather than a place where he could only get a panel of 500.

My suggestion is that the country doctor is being killed by the motor car, and you want a higher capitation fee in the country to counteract the motor car?—Yes; I want to have something to keep to a certain amount of village practice going, because I believe them to be necessary for the population.

Mr. Jones: How would you propose to administer a specialist service in rural areas?—I do not think there would be any difficulty. You could have an ambulance service which could bring in the patients whom you wish to see once a week, say; you could have certain specialists attending at the clinics in those market towns; the ordinary consulting surgeons perhaps every week; the dentist every week; the eye man once a fortnight; and the skin man once a month. In that way I do not see any administrative difficulty, even on account of finance, in providing a very useful specialist service sitting at periods in the market towns.

Does not that suggest also a solution of the difficulty about the rural practitioner? You might take the patient to see the doctor instead of taking the doctor to see the patient?—There are some patients you cannot cart about.

Chairman: We are very much obliged to you, gentlemen, for the very interesting information you have given us. Thank you very much.—Dr. Bolam: We are much indebted to you, my lord, for hearing us with such patience. (The witnesses withdrew.)

### THE ROYAL COMMISSION.

THE twenty-ninth meeting of the Royal Commission on National Health Insurance was held at the Home Office, Whitehall, on May 21st, Sir Arthur Worley in the chair. Evidence as to the organization and procedure of medical institutions was given on behalf of the Friendly Societies Medical Alliance by Mr. S. A. Syddall and Mr. Samuel Pride, on behalf of the Friendly Societies Medical Officers' Union by Dr. D. Holmes, Dr. John H. Roberts, and Dr. A. Hamilton; and on behalf of the South Wales and Monmouthshire Alliance of Medical Aid Societies by Mr. W. Conway and Mr. Evan Pugh. Thereafter the Society of Medical Officers of Health,

represented by Dr. R. A. Lyster and Dr. J. J. Buchan, gave evidence relating to extensions of medical benefit and re-organization of the various existing public medical services. Proof copies of the oral evidence and the relative statement submitted at the meeting of May 7th, 1925, may be obtained from H.M. Stationery Office, Adastral House, Kingsway, London, W.C.2, on remittance of cost (3s.) and postage.

### Association Notices.

#### COUNCIL ELECTIONS.

THE names of members already declared elected to the Council for the session 1925-26 in respect of the eighteen groups of Home Branches in which there were no contests were published in the BRITISH MEDICAL JOURNAL SUPPLEMENT of May 9th, 1925 (p. 198). The following are the results of the voting in the groups where a contest took place:

##### North of England Branch.

The number of papers issued to the members of this Branch was 982, of which 445 were returned. One paper was spoilt, leaving 444 valid votes. The result is as follows:

Dr. J. Hudson (Newcastle-upon-Tyne) ... 302 Elected  
Dr. D. F. Todd (Sunderland) ... 142

##### Cambridge and Huntingdon, Essex, Norfolk, South Midland, and Suffolk Branches.

The number of papers issued to the members of the Branches in this group was 1,010, of which 339 were returned. Five papers were spoilt, leaving 334 valid votes. The result is as follows:

Dr. J. F. Walker (Southend-on-Sea) ... 211 Elected  
Dr. E. O. Turner (Great Missenden, Bucks) ... 123

##### African Group of Branches.

The following is the result of the voting in the above group for a member of Council for the three years 1925-28. The group comprises the Border (South Africa), Cape of Good Hope (Eastern and Western), Egyptian, Gibraltar, Grigoland, Orange Free State and Natal Coastal, Natal Inland, Nyasaland, Sierra Leone, Tanganyika Territory, Pretoria, Rhodesian, and Zanzibar Branches.

The number of papers issued on March 2nd, 1925, was 1,169, of which 358 were returned. Three papers were spoilt, leaving 355 valid votes. The result is as follows:

Dr. J. Barcroft Anderson (East London, S.A.) ... 263 Elected  
Mr. Alfred R. Friel (Leedon, England) ... 92

#### ELECTION OF FOUR REPRESENTATIVES AND FOUR DEPUTY REPRESENTATIVES BY PUBLIC HEALTH SERVICE MEMBERS.

THE arrangements for the election by Public Health Service members of four Representatives on the Representative Body and four Deputy Representatives provide that the first four successful candidates should act as Representatives on the second four candidates should act as Deputy Representatives, while the fifth successful candidate acting as Deputy for the first, should necessarily arise, the sixth as Deputy for the first, the seventh as Deputy for the third, and the eighth as Deputy for the fourth.

The candidates nominated were Dr. T. W. Naylor Barlow, O.B.E., Wallasey; Dr. T. Eustace Hill, O.B.E., Durham; Professor H. Kerr, O.B.E., Newcastle-upon-Tyne; Dr. D. Morley Mathieson, Birkenhead; Dr. R. Woolsey Stocks, West Bromwich; Dr. P. H. Stirk, Exeter; Dr. H. Gibbons Ward, Leamington; and Dr. R. H. Wilshaw, Worthing.

The number of papers issued was 1,051, of which 377 were returned. Thirteen papers were spoilt, leaving 314 valid votes. The voting was by the single transferable vote system and the result was as follows:

Dr. Barlow	...	Elected Representative
Dr. Hill	...	"
Professor Kerr	...	"
Dr. Mathieson	...	"
Dr. Stocks	...	"
Dr. Stirk	...	"
Dr. Ward	...	"
Dr. Wilshaw	...	"
	...	Dr. Barlow's Deputy
	...	Dr. Hill's
	...	Prof. Kerr's
	...	Dr. Mathieson's

#### BRANCH AND DIVISION MEETINGS TO BE HELD.

BORDER COUNTIES BRANCH.—A general meeting of the Border Counties Branch will be held at the Infirmary, Workington, on June 5th, at 3.15 p.m. The Branch Council will meet at 3. Agenda: A British Medical Association Lecture—Gastro-intestinal disturbances in infants and young children—will be given by Dr. Hugh T. Ashby. Tea by kind invitation of Dr. J. H. Dudgeon.

CAMBRIDGE AND HUNTINGDON BRANCH.—The annual meeting of the Division will be held at the University Arms Hotel, Cambridge, to-day (Friday, May 29th), at 3.15 p.m. Agenda: Election of officers; Report of Council; suggested provision of a flag at the Association's new premises.

DORSET AND WEST HANTS BRANCH.—The annual meeting of the Dorset and West Hants Branch will be held at the Hotel Burlington, Boscombe, on Wednesday, June 3rd, at 3 p.m. Agenda:

Communications; consideration of (n) Branch Council report, (b) Bournemouth Division report, (c) West Dorset Division report; confirm election of new officers; election of five representatives to Hospital Committee; date and place of next meeting; papers:—(a) Mr. Richardson: Caesarean section; (b) Dr. Oswald Rees: Heat exhaustion. The Bournemouth members invite visitors to lunch at the Hotel Burlington, Boscombe, nt 1.30 p.m.; the President will provide tea at the Hotel Burlington after the general meeting.

**EDINBURGH BRANCH.**—The annual meeting of the Edinburgh Branch will be held at Craighouse on Wednesday, June 17th, at 5 p.m.

**KENT BRANCH.**—The twelfth annual meeting of the Kent Branch will be held on Thursday, June 11th, nt Chatham. The President-Elect, Dr. A. W. G. Woodforde, kindly invites members and their wives to luncheon at 1.30 p.m. at the Tea Table Café, 79, High Street, Rochester (opposite Cathedral). The annual meeting will be held nt 3 at the Naval Hospital, Chatham, by kind invitation of Surgeon Rear-Admiral C. Marsh Beadnell, C.B., R.N., and Surgeon Captain R. J. MacKeown, O.B.E., R.N. Agenda: Receive report of election of new officers, who thereupon take office; vote of thanks to retiring officers; report of Branch Council and annual financial statement; appointment of auditor. President's inaugural address: Hypertrophy of the prostate gland. Members and guests are invited to tea and to inspect the Naval Hospital. During the day the competition will be carried through for the Tennyson Smith golf challenge cup. Intending competitors should at once send in their names, addresses, and handicaps to Dr. J. G. C. Taunton, 5A, New Road Avenue, Chatham, who will give all necessary information. At 6.30 the annual dinner will be held at the Sun Hotel, Chatham (tickets, 7s. 6d. each; wines and smokes will be kindly provided by the Rochester, Chatham, and Gillingham Division). The golf cup will be presented to the winner at the dinner, and the local Division will present a replica as a memento.

**METROPOLITAN COUNTIES BRANCH.**—The annual general meeting of the Metropolitan Counties Branch will be held at the British Medical Association House, Tavistock Square, W.C.1, on Tuesday, June 23rd, at 4 p.m. Business: (1) Report of scrutineer on election of officers; (2) Annual Report of Council; (3) Report of Representatives of the Branch on the Central Council; (4) President's address, by Mr. Comyns Berkeley.

**METROPOLITAN COUNTIES BRANCH: LEWISHAM DIVISION.**—A meeting of the Lewisham Division will be held nt St. John's Hospital, Lewisham, on Tuesday, June 16th, at 8.45 p.m., with Dr. R. G. Chase in the chair. Dr. Offenheim will give an address.

**METROPOLITAN COUNTIES BRANCH: ST. PANCRAS DIVISION.**—A meeting of the members of the British Medical Association and other practitioners residing within the area of St. Pancras will be held nt the Midland Hotel, St. Pancras, N.W., on Friday, June 5th, at 4.30 p.m. precisely, to consider the ..... Division. Agenda: (1) To elect a chairman will be proposed: "That this meeting approve of the St. Pancras Division of the British Medical Association." (3) The following officers will be elected: (a) Chairman of the Division; (b) Vice-Chairman of the Division; (c) Honorary Secretary and Treasurer; (d) Representative on Representative Body; (e) Representative on Branch Council; (f) Members of the Executive Committee. (4) Such other matters as may arise. (5) It will be further proposed: "That a copy of the resolutions passed at the meeting be sent to the Metropolitan Branch Council with a request to make them effective as early as possible."

**METROPOLITAN COUNTIES BRANCH: WESTMINSTER AND HOLBORN DIVISION.**—The next meeting of the Westminster and Holborn Division will be held on Thursday, June 11th, at 8 p.m., at the Clinic, 86, Brook Street, W.1. A good attendance is hoped for.

**SOUTHERN BRANCH.**—The fifty-second annual meeting of the Southern Branch will be held at Bree's Royal Hotel, Jersey, on Thursday, June 11th, at 2.45 p.m., when the President, Dr. Henry Devine, O.B.E., will take the chair. Agenda: Annual report of Branch Council; financial statement for 1924-25; election of officers; vote of thanks to the retiring President. At the conclusion of the above business, Dr. Henry Devine will vacate the chair in favour of Lieut.-Colonel P. M. Bentlif, M.B.E., who will deliver an address entitled "Reminiscences." Members wishing berths on the boat and rooms at the hotel to be reserved should communicate with the honorary secretary, Dr. Lockhart Stephens, White House, Emsworth, Hants, not later than June 3rd.

**SURREY BRANCH: GUILDFORD DIVISION.**—The annual meeting of the Guildford Division will be held on Thursday, June 4th, at 4 p.m. at the Royal Surrey County Hospital, Guildford. Tea at 3.45. Agenda: Election of officers; receive (a) annual report of the Executive Committee, (b) report and accounts of the Division; consider fees for medical examination of Territorial recruits; consider Annual Report of Council, and instruct the Representative. Members are asked to bring with them the SUPPLEMENT to the BRITISH MEDICAL JOURNAL for April 11th and 18th, 1925.

**WORCESTER AND HEREFORD BRANCH: HEREFORD DIVISION.**—The annual meeting of the Hereford Division will be held on Monday, June 8th, at 20, East Street, Hereford, at 2.30 p.m. Agenda: Election of officers; consideration of Annual Report of Council, and instructions to Representative (members are asked to bring to the meeting the SUPPLEMENTS of April 11th and 18th); mileage fees in emergency midwifery cases; school medical officers.

**YORKSHIRE BRANCH: HUDDERSFIELD DIVISION.**—The annual picnic arranged by the Huddersfield Division will take place on Wednesday, June 10th. The charabanc will leave York Place at 12.45 p.m. for Skipton and Burnsall. Afternoon tea will be served at the Red Lion Hotel at Burnsall, about 3.30. About 4.15 the charabanc will proceed to the Strid, near Bolton Abbey. Dinner at the Devonshire Arms Hotel, Bolton Abbey, at 6.15.

## GENERAL COUNCIL

OF

### MEDICAL EDUCATION AND REGISTRATION.

#### SUMMER SESSION, 1925.

THE one hundred and twenty-first session of the General Medical Council was opened at 44, Hallam Street, W., on May 26th. The President, Sir DONALD MACALISTER, K.C.B., was in the chair.

Official notification was made of the election of the direct representatives for England, Scotland, and Ireland, and the one direct representative who came freshly to the Council, Dr. H. B. Brackenbury, was introduced to the President by Dr. J. A. Macdonald, and took his seat.

#### PRESIDENT'S ADDRESS.

The PRESIDENT delivered the following address:

Gentlemen,—A former colleague of the greatest distinction, the Right Hon. Sir Thomas Clifford Allbutt, Regius Professor of Physic in the University of Cambridge, passed from us nt an advanced age, but in full intellectual vigour, in February last. His high place as a leader in many departments of medicine, pre-eminent in his mastery alike of its literature, its science, and its practice, will not soon be filled as he filled it. In the Cambridge chair he is succeeded most fittingly by his distinguished collaborator, my old pupil and life-long friend, Sir Humphry Rolleston. To him I venture, on behalf of his fellow members here, to offer our sincere good wishes for his happiness in that important academic office. Another fellow student at St. John's College, Cambridge, who five years ago was associated with the Council's work as its inspector of qualifying examinations in medicine, Dr. H. H. Tooth, of St. Bartholomew's, has died, too early, within the present month. He leaves a memory of assiduous and unselfish labour for worthy ends, and of a genial temper in his social and professional relations that endeared him to all who knew him.

We lose at this time, though happily by no tragic vicissitude, Mr. E. B. Turner, our colleague as an English Representative member since 1920. His vigorous fluency of address, and his intimate acquaintance with divers sides of medical life and practice, often gave colour to our grey debates. His place is taken by Mr. Henry Britten Brackenbury, M.R.C.S., who came into office on January 1st, 1925. The fact that he headed the poll at the recent election by a majority of more than 8,000 votes over the highest of the non-elected bespeaks the confidence he has inspired among English practitioners by his sagacious efforts for the advancement of their true interests. We welcome him here as an experienced medical statesman of approved loyalty and wisdom. We welcome also, under his new and well won title, Sir Holburt Waring, our zealous and trusted senior treasurer. May he wear the title long; he is sure to wear it well. Let me close my personal references with an expression of our satisfaction that the Government of India has, notwithstanding his retirement from the assistant directorship of the Indian Medical Service, renewed the appointment of Colonel Needham, C.I.E., D.S.O., as inspector, on the Council's behalf, of medical education in Indian universities and colleges. His latest reports have just reached the Executive Committee. They have enabled the Committee to take decisions in furtherance of the improvements already initiated in the methods and standards of important provincial schools of medicine in India.

#### Irish Free State.

Last November I reported to you that the position of the Council, as regards medical education and registration in the Irish Free State, had not then been authoritatively determined. In February last, however, an Act was passed by the Free State Legislature, which made our position clear for a year at least. The Act in effect provides that in Southern Ireland the Council's constitution and powers, and the powers and responsibilities of its universities and corporations, shall, so long as the Act is operative, continue to be regulated by the Medical Acts, as they were regulated before the Irish Free State was established.

It is, of course, open to the Free State, if it thinks fit, to renew the Act for a further period before its expiry in February, 1926. No similar Act has been passed relating to the dental profession, and accordingly the jurisdiction of the Council and of the Dental Board over dentists in the Free State has come to an end. I have not learned that any local regulation of the dental profession has been established in its stead.

It still remains, for the complete validation of the Council's powers, and of its acts in the interim period, that complementary legislation should be adopted in this country. We are informed by the Privy Council that the necessary bill has been drafted, and will shortly be laid before Parliament.

#### Italy.

The question of re-establishing medical reciprocity with Italy, interrupted by recent legislation to the detriment of British medical men desirous of practising in that country, has been the subject of much correspondence during the recess. At one time it appeared that, owing to the unexplained delay of the Italian authorities in concluding the "special agreement" required by the new law, it would be necessary to rescind the Order in Council which applies the Medical Act of 1886 to Italy. But an intimation by the Executive Committee to that effect seems to have had a useful result; for we have received a telegram sent by H.M. Ambassador at Rome, stating that the agreement with Italy was signed on Thursday last, May 21st, and that the signed text was on its way to London.

#### Canada.

The Province of Saskatchewan, whose recent enactment has made it impossible for practitioners on the British Register to obtain provincial registration, while Saskatchewan practitioners still retain the privilege of registration upon the Colonial List and so of practising in this country and in British possessions overseas, has sent a reply expressing the views of its Medical Council. It is to the effect that there is no desire to retain British reciprocity with countries other than Great Britain. The Executive Committee have therefore felt constrained to represent to the Lord President of the Council that the conditions under which the Order in Council of 1915 was made have ceased to be observed by Saskatchewan, and that accordingly it is just and expedient that the Order should be forthwith rescinded.

Correspondence with the Province of New Brunswick, where a somewhat similar question has been raised, appears to indicate that inter-provincial differences and misunderstandings are responsible for the "current discontents." The local authorities, however, plead for further consideration of the question, and deprecate the rescission of the reciprocity Order until that consideration has been given. The Executive Committee have no desire to precipitate matters within the Province, and have given instructions for a reply to the provincial authorities, which shall make it clear that we agree in our desire that reciprocity with the Dominion as a whole should take the place of the present agreements with the provinces separately, so soon as the provisions of the Canadian laws render this practicable. Dominion reciprocity has long been the aim of the Council. It would bring with it a greater uniformity of provincial standards, and the elimination of local difficulties between neighbouring provinces, with which the Council cannot effectively concern itself.

#### India.

In India, the progress towards a satisfactory system of medical instruction and examination in the Universities of Bombay and Lucknow, as reported by the Official Inspector, has justified the Executive Committee in continuing the conditional recognition of their degrees until June 30th, 1926. The Committee have not yet found any grounds for reconsidering the position of the University of Calcutta, whose degrees are not now registrable in the Colonial List.

#### Channel Islands.

Those ancient domains of the Crown, Jersey and Guernsey, have, by a new Medical Act, dated March 10th,

1925, brought their law into harmony with that of the adjacent islands of Great Britain and Ireland, by requiring that practitioners, to be legally qualified, must be registered in the *Medical Register*. They have, moreover, set these islands a good example, by prohibiting, under penalty, any person who is not legally qualified from practising medicine or surgery.

#### International Conference on Pharmacopoeial Formulæ.

The International Conference on the Unification of Pharmacopoeial Formulæ is to be held in Brussels in September. The Government will be represented by four delegates, of whom our colleague Sir Nestor Tirard is one. I learn with gratification that he has been asked by the Government to act as chairman of the British delegation. The Government has adopted the reserves regarding the subjects to be discussed, and the conclusions that may be reached, which were suggested by the Pharmacopœia Committee.

#### Inspection of Dental Examinations.

The Dental Education and Examination Committee will present a report on the inspection by Mr. J. Howard Mummary, C.B.E., of the qualifying examinations in dentistry and dental surgery held during the past two years. It is good to learn that all the examinations have been reported "sufficient." In certain instances the inspector has made suggestions towards improvement in matters of detail. These have been communicated to the several examining bodies, and it is reported by the inspector that they have been accepted, and in some cases are already in operation.

The other standing committees will have reports to submit in regular course, but so far as I am aware these will relate simply to matters of detail within their respective provinces.

#### Number of New Medical Students.

This time last year I commented on the fall in the number of medical students registered—namely, from 1,833 in 1922 to 545 in 1923. The sudden decline I thought to be more apparent than real, attributing it to the recent introduction of a pre-registration test in elementary physics and chemistry. This test many students would not pass, and so could not register, until the end of their first term, at least, after leaving the secondary schools. The explanation would seem to be sound, for in 1924 the registrations were nearly doubled, reaching 1,043 by the end of the year. As the working of the new regulation is better understood in the schools, and as the general and scientific education of intending medical students is brought up to the higher standard now required, there is little doubt that the number of qualified entrants on the medical curriculum will approach the pre-war figure of 1,300 or 1,400, a number sufficient to supply the needs of the country for qualified practitioners.

#### Number of Newly Registered Practitioners.

The total number of new registrations in the Home List of the *Medical Register* in 1924 was about 2,566, or about 330 more than in the previous year. This increase reflects the very large entry of students in the years immediately following the close of the war. The steady decrease in that entry since 1919 will correspondingly reduce the additions to the ranks of the profession, and it is highly probable that in three or four years the annual increment to the Register will fall to pre-war proportions.

#### Finance.

As the income of the General and Branch Councils is mainly dependent on registration fees, it is not surprising that the receipts for the year have been considerably augmented. The expenditure has remained nearly stationary, and there is therefore a surplus, on the total account, of more than £7,000. The treasurers have thus been able to provide for exceptional outlays on elections, inspections, and visitations, fresh issues of the *British Pharmacopœia*, the establishment of an orderly system of pensions for other staff, etc., and also to lay up modest reserves for other irregularly recurring charges, without drawing on accumulated capital. These wise precautions will serve to stabilize the Council's finances for some time to come, even if the second half of the present decade is less prosperous than the



first. We have no margin for lavish expenditure; but the careful husbandry of the Finance Committee will enable us to meet without hardship any expense that is really necessary for efficiency.

#### Dental Business.

In order that the dental members may be set free, if they so desire, from the necessity of attending during the purely medical sittings of the Council, the Executive Committee, in response to suggestions from the Council itself, has arranged by way of experiment that dental business shall be taken this afternoon. Thereafter, with a view to liberating practitioners in attendance, whose cases have been heard but adjourned for judgement, we shall hear and adjudicate upon them. Wednesday and Thursday will be occupied by judicial inquiries into new charges submitted at the instance of the Penal Cases Committee, leaving the rest of the week for the consideration of our Committees' reports and other administrative business.

#### Gift of Window.

Before I conclude, may I offer for the acceptance of the Council the decorated window, designed by Dr. Anning Bell, R.A., which, with the kind assent of the Executive Committee, I have ventured to instal temporarily behind this chair? While, from the material side, it may help to brighten the sombre tints of the urban landscape over the way, and shield you from the rare importunities of the western sun, I hope that from the symbolic side it may help to preserve the remembrance of those who have been honoured by your confidence as Presidents of the Council, including the latest and longest borne with, your devoted and grateful servant.

#### Vote of Thanks.

Sir ISAMBARD OWEN proposed a vote of thanks to the President, and expressed the grateful acknowledgements of the Council to the President for the gift of the very fine window installed in the Council chamber. The vote of thanks was seconded by Sir NORMAN WALKER and carried with hearty acclamation.

#### VACANCIES.

AYR: HOSPITAL FOR MENTAL DISEASES.—Junior Assistant Physician (male). Salary £300 per annum.  
BLACKBURN COUNTY HOSPITAL.—Assistant Medical Officer of Health and Assistant School Medical Officer (male). Salary £600 per annum, rising to £700.  
BLACKBURN UNION.—Resident Assistant Medical Officer at the Institution and Infirmary. Salary £200 per annum.  
CAMBRIDGE: ADDENBROOKE'S HOSPITAL.—House-Physician (male). Salary £150 per annum.  
CHELSEA HOSPITAL FOR WOMEN, Arthur Street, S.W.3.—Two Male House-Surgeons. Salary £120 per annum for Senior and £100 for Junior.  
ESSEX ADMINISTRATIVE COUNTY, Chelmsford.—Senior Clinical Tuberculosis Officer. Salary £750 per annum.  
HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.1.—(1) House-Surgeon. (2) House-Physician. (Unmarried.) Salary £50 for six months.  
INDIA: MEDICAL COLLEGE, PATNA.—(1) Professor of Pharmacology. (2) Professor of Anatomy. (3) Professor of Physiology. Salary for each Rs1,200 per mensem, rising to Rs1,400, plus Rs25 per mensem overseas pay if of non-Indian domicile.  
LAMBETH BOARD OF GUARDIANS.—Male Junior Assistant Medical Officer for the Lambeth Parish Hospital. Remuneration at rate of £200 per annum.  
LONDON COUNTY COUNCIL.—Junior Assistant Medical Officer (single) at Epsom Manor Institution for Mental Defectives. Salary £300 per annum, rising to £400, together with temporary additions commencing at £140.  
PUNEBURE: NAUTICAL COLLEGE.—Medical Advisor.  
ROYAL FREE HOSPITAL, Gray's Inn Road, W.C.1.—(1) Assistant Casualty Officer. (2) House-Physician. (3) Two House-Surgeons.  
ROYAL NORTHERN HOSPITAL, Holloway, N.7.—Two Assistant Surgical Officers. Honorarium £75 per annum.  
SHEFFIELD ROYAL HOSPITAL.—Resident Surgical Officer. Salary £200 per annum.  
SOUTH LONDON HOSPITAL FOR WOMEN, Clapham Common, S.W.4.—Assistant Physician.  
SHREY COUNTY COUNCIL, Kingston-on-Thames.—Assistant Medical Officers in the Public Health Department. (Males.) Salary £600 per annum, rising to £700.  
WEST LONDON HOSPITAL, Hammersmith Road, W.6.—(1) House-Physician. (2) House-Surgeon. (3) Aural House-Surgeon and Resident Casualty Officer. Males. Salary at the rate of £100 per annum each.

#### APPOINTMENTS.

HORSBURGH, P. G., M.R.C.S., L.R.C.P., D.P.H., Medical Officer of Health for Nuneaton.  
HERRILL, George, M.B., B.S., B.Hy., D.P.H., Tuberculosis Medical Officer, Newcastle-upon-Tyne.  
MURRAY, George R., M.A., M.D.Camb., D.C.L.Dub., F.R.C.P., Emeritus Professor of Medicine in the Victoria University of Manchester and Consulting Physician to the Manchester Royal Infirmary.

#### DIARY OF SOCIETIES AND LECTURES.

##### ROYAL SOCIETY OF MEDICINE.

Section of Surgery: Wed., 5.30 p.m., Dr. Charles H. Mayo: A Consideration of Gastric and Duodenal Ulcer.  
Section of Obstetrics: Thurs., 8 p.m., Annual General Meeting (adjourned from previous date) owed by Ordinary Meeting. It: Placenta Praevia treated by L. Fitzwilliams: Curiosities.  
Section of (Madrid) Frl., 9.30 a.m., Dr. Tapia followed as an Accident in Laryngectomy; and Mr. Lionel Colledge, Professor of Surgery. Demonstration by Mr. Colledge (with exhibition of patients); Mr. Larynx (with exhibition of patients); Dr. Ch. An Artificial Larynx. Papers:—Dr. Ch. for Diseases of the Pharynx, Larynx, (Hall): Tracheotomy in Tuberculosis. Dr. A. Logan, the Social... of Infection. Kinematograph Film:—Dr. Colledge: Restoration of Movement in Vocal Cord after Nerve Anastomosis. Papers:—Dr. J. S. Fraser: Intracranial Dacryocystotomy; Dr. A. Lowndes Yates: The Sinus Condition in Encephalitis Lethargica; 3 p.m., Cases and Specimens.  
Section of Otolaryngology: Sat., 9.45 a.m., Cases; 10.30 a.m., General Discussions: Methods of Drainage of Brain Abscesses; Artificial Aids to Hearing.

#### British Medical Association.

OFFICES AND LIBRARY, 112, STRAND, LONDON, W.C.1.  
BRITISH MEDICAL JOURNAL, British Medical Association House, Tavistock Square, W.C.1.

#### Departments.

SUBSCRIPTIONS AND ADVERTISEMENTS (Financial Secretary and Business Manager). Telegrams: Articulate Westland, London.  
MEDICAL SECRETARY: Articulate Westland, London.  
EDITORS, British: A page 1015.  
Telephone number: 2530 (3 lines).  
Telephone number: Gerard 2530 (3 lines).

#### Diary of the Association.

JUNE.  
3 Wed. Dorset and West Hants Branch: Annual Meeting, Hotel Burlington, Dorchester, 3 p.m., Lunch, 1.30 p.m.  
4 Thurs. Opening of the Scottish House of the Association, 6, Drumshiegh Gardens, Edinburgh.  
Guildford Division: Annual Meeting, Royal County Hospital, Guildford, 4 p.m., Tea, 3.45.  
5 Fri. Border Counties Branch: Infirmary, Workington, R.M.A. Lecture by Dr. Hugh T. Ashby. Branch Council, 3 p.m.  
St. Pancras Division: Midland Hotel, St. Pancras, N.W., 4.30 p.m.  
6 Mon. Hertford Division: Annual Meeting, 20, East Street, Hereford, 2.30 p.m.  
10 Wed. London: Council, 10 a.m.

#### POST-GRADUATE COURSES AND LECTURES.

FELLOWSHIP OF...  
1, Wimpole...  
NATIONAL ASSOCIATION...  
LONDON SCHOOL OF DERMATOLOGY, St. John's Hospital, Leicester Square, W.C.2.—Tues., 5 p.m., Bullous Eruptions. Thurs., 5 p.m., Dermatitis Artificia.  
NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.1.—Tues., 12 noon, Clinics. Thurs., 12 noon, The... Fri., 3.30 p.m., Myopathy.  
NORTH-EAST...  
Hospital...  
Mental Disease (at the...  
4.30 p.m., Treatment by Radiation in Gynaecology. Daily: In-patient and Out-patient Clinics, Demonstrations, Operations, etc.  
ST. MARY'S HOSPITAL, Institute of Pathology and Research, Paddington, W.2.—Thurs., 5 p.m., Disorders of the Great Bowel.  
TAVISTOCK CLINIC FOR FUNCTIONAL NERVE CASES, 51, Tavistock Square, W.C.1.—Tues., 5.30 p.m., Freud.  
WEST LONDON HOSPITAL POST-GRADUATE COLLEGE, Hammersmith, W.—Tues., 12 noon, Chest Cases. Wed., 2.30 p.m., Surgical Wards. Thurs., 2 p.m., G... Fri., 3 p.m., Medical Wards. Sat., 10 a.m. to 1.30 p.m., Daily 10 a.m. to 6 p.m., Sat. 10 a.m. to 1.30 p.m., Operations, Special Departments.  
BIRMINGHAM UNIVERSITY CLINICAL BOARD.—At General Hospital: Tues., 3.30 to 5 p.m., Treatment of Dyspepsia.  
LIVERPOOL UNIVERSITY CLINICAL SCHOOL.—3.30 p.m., Wed., Northern Hospital: Treatment of Dyspepsia. Thurs., Stanley Hospital: Diabetes.

#### BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 2s.

##### BIRTHS.

TAYLOR.—On May 18th, at Belgrave, Dorking, to the wife of Dr. Bourne Taylor, a son.  
NEILSON.—At Castle Green, Llansawel, Llandilo, on May 23rd, to Nora Surtees, M.B., Ch.B.Glasg., wife of J. Paton Neilson, M.B., Ch.B.Glasg., a daughter.

##### MARRIAGE.

FAY—GLANCY.—On May 18th, at the Church of the Holy Name, Manchester, Hugh Patrick Fay, M.B., Ch.B., "Oyoca," Heaton Mersey, Manchester, to Anne Howard Glancy, M.B., Ch.B., Woodside House, Romley, Cheshire.



# SUPPLEMENT TO THE BRITISH MEDICAL JOURNAL.

LONDON, SATURDAY, JUNE 6TH, 1925.

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### British Medical Association.

#### CURRENT NOTES.

##### Annual Meeting, Bath: Ladies' Sports.

THE time for the Annual Meeting approaches and those who are responsible for the arrangements for the comfort and convenience of members and the ladies accompanying them are anxious to have information which will enable them to satisfy everybody. As notified in our issue of April 4th, ladies accompanying members and lady members of the Association are to be made honorary members of the local golf and tennis clubs, and it will greatly assist in the arranging of matches and competitions if intending players will send their names in advance to Mrs. Doveton, 16, Queen Square, Bath, who is Chairman of the Ladies' Sports Subcommittee.

##### Flags for the Great Hall.

To the list of those areas in which Annual Meetings of the British Medical Association have been held which have promised to contribute a flag for the Great Hall of the new House of the Association must now be added Birmingham, Glasgow, Nottingham, and Worcester. The profession in those places where Annual Meetings have been held, but who have not yet intimated that they propose to have their flag in the Great Hall on July 13th, should note that the time for decision and for the supply of the flag grows very short.

##### Agricultural Scholarships in Australia for Relatives of Members.

Among those successful at the recent draw among the members of the Fellowship of the British Empire Exhibition in the first series of agricultural scholarships for New South Wales are Mrs. C. Paterson, the wife of Dr. William Paterson, the Honorary Secretary of the Willesden Division, and Dr. A. Baldie of the Kensington Division. Both of these winners have generously asked the Association to help them respectively to choose for nomination to the scholarships a boy who is the relative of a member of the Association. Mrs. Paterson simply stipulates that candidates in respect of her nomination must be relatives of members, and Dr. Baldie that candidates for his nomination must be relatives of deceased members of the Association. The Medical Secretary will accordingly be glad to receive from any member the name of a lad (aged from 15 to 17½) who is of good character and physique, with a view to his possible nomination for a scholarship at an agricultural college in New South Wales. Candidates to be accepted will have to pass the tests of the Australian Government. Full information as to the tests is not yet available, but the following will apply: (1) The lad nominated will have to come up for approval by the Central Committee of the Fellowship of the British Empire Exhibition, and pass the medical tests imposed by the Australian Government. (2) On the nominee passing the tests, he will be given a free

passage to Australia and one year's training at an agricultural college there, and afterwards be placed in suitable employment on the land, with a view to his acquiring ultimately a farm of his own. The scholarship thus represents a good start in life for a suitable boy. (3) The candidate must be someone whose folk are well known to the member of the Association suggesting him, and for whose good character the member can personally vouch. On the actual nominee coming up before the Committee of the Fellowship testimonials as to general character will be required. Any member of the Association desiring to suggest a candidate as above for nomination will, on writing to the Medical Secretary, have fuller particulars as soon as these are available.

### Meetings of Branches and Divisions.

#### YORKSHIRE BRANCH: SHEFFIELD DIVISION.

##### Presentation to Dr. Henry Brown.

THE Sheffield Division of the British Medical Association has had the good fortune during the last eight years of having the duties of its secretary entrusted to the very capable hands of Dr. Henry Brown. Thanks to his enthusiastic and methodical labours the membership of the Division has grown considerably, and the interest taken by members in its affairs has become keener and more widespread. The eight successive chairmen under whom Dr. Brown has held office felt that the time had come for some suitable recognition of his services. At the instance of Mr. A. Garrick Wilson, the retiring chairman, they formed themselves into a committee for giving effect to this desire. The proposal met at once with a very ready response in the Division. The presentation was arranged to take place on the occasion of their annual meeting, on May 15th, and attracted an unusually large attendance. Mr. A. GARRICK WILSON, F.R.C.S., in making the presentation, said that during his year of office as chairman, which he had just completed, he had seen a good deal of the work that fell upon their secretary, and had been astounded to find how constant were the demands made upon his time, scarcely a day passing without some business calling for his attention. The Sheffield Division was, he believed, accounted at the headquarters of the Association as one of the most prosperous and enterprising, and such success depended on a secretary willing to give time and labour to the work of the Division. If a Division was well organized on business lines it would attract men and make them more willing to attend meetings. The growth of the Sheffield Division and the better attendance at committee meetings were evidence that they had a secretary who was at pains to make himself *au fait* with all that was going on in the Division, and it was only by long service that knowledge of the inner working of the Association could be gained. No man could have done this work without a good deal of forbearance and support from his wife, who, in addition to other concessions, submitted to having her house made use of on various occasions by different subcommittees! Mr. Wilson read a letter received from the Medical Secretary, Dr. Cox, speaking of Mr. Brown as one of the best Divisional secretaries in his experience. The presentation took the form of a gold watch and chain, a desk, and also a handsome silver tray for Mrs. Brown. Dr. Brown, in responding, said he considered it an honour to hold any office

in the British Medical Association, and any sacrifice of time and labour had been very willingly made. Others on the executive had served the interests of the Division for many years, and he felt he had not deserved to be singled out for recognition. He appreciated more than the gifts themselves the generous spirit of which they were the expression.

The annual meeting of the Sheffield Division was held on May 15th, when the following were elected officers for the year 1925-26:

*Chairman*, Dr. A. C. Turner, D.S.O. *Vice-Chairman*, Dr. C. W. Smith, O.B.E., F.R.C.S.E. *Honorary Secretary*, Dr. H. Brown. *Representatives in Representative Body*, Mr. H. Gaiger, F.R.C.S., and Dr. C. W. Smith. *Deputy Representative*, Dr. W. H. Helm.

The report of the Executive Committee stated that during the past year nine general meetings had been held, with an average attendance of forty-four. There had also been a joint meeting with the legal profession, at which an interesting debate on professional secrecy took place. Dr. LANGDON-DOWNS, chairman of the Central Ethical Committee, being the principal speaker. An important step had been taken in the setting up of a Local Medical Advisory Committee, which was a permanent body, representative of every branch of the profession in Sheffield. A subcommittee had been formed to investigate the after-effects of the recent epidemic of encephalitis lethargica. It was known that the co-operation of this new committee would be welcomed by the local health authority.

Mr. GAIGER, in moving a vote of thanks to the retiring chairman, Mr. Garrick Wilson, for his services during the past year, said that the Division was deeply indebted to him for his able guidance during an unusually heavy year, and one in which some difficult problems had had to be faced. The motion was seconded by Dr. FORREST, and most cordially passed, after which Mr. Garrick Wilson briefly responded.

#### BIRMINGHAM BRANCH: NUNEATON AND TAMWORTH DIVISION.

A very successful meeting of the Nuneaton and Tamworth Division was held at the Warwickshire King Edward VII Memorial Sanatorium on May 13th. After the members had been conducted round the sanatorium a paper was read by Dr. McNair on the treatment of phthisis, with special reference to the induction of artificial pneumothorax. The paper was illustrated by x-ray photographs, and the apparatus was demonstrated.

The meeting elected Dr. D. McColl as Representative and Dr. W. Lawson as Deputy Representative in the Representative Body for 1925-26. After the meeting the members were entertained to tea by the matron.

#### GLASGOW AND WEST OF SCOTLAND BRANCH: GLASGOW NORTH-WESTERN DIVISION.

The annual meeting of the Glasgow North-Western Division was held on May 5th, when the Vice-Chairman, Dr. R. M. BUCHANAN, presided. Before proceeding with the business of the meeting, Dr. Buchanan made a brief and fitting reference to the death of the late Chairman of the Division, Dr. J. McGregor-Robertson. It was decided unanimously to record in the minutes the deep sense of loss felt by all members of the Division as expressed in a letter of sympathy which had been sent to Mrs. McGregor-Robertson.

The following office-bearers were elected:  
*Chairman*, Dr. R. M. Buchanan. *Vice-Chairman*, Dr. E. J. Primrose. *Secretary*, Mr. Mathew White. *Representative in Representative Body*, Dr. R. M. Buchanan and Dr. E. J. Primrose. *Deputy Representative*, Dr. J. G. McCutcheon and Dr. W. R. Sadgrass.

Among other business the Annual Report of the Council was discussed, in particular paragraphs 39, 128, 185, but no formal recommendations were made.

#### KENT BRANCH.

The Annual Report of the Council states that at the end of 1924 the membership of the Branch was 431, compared with 396 in the previous year. The Council has met four times, with an average attendance of over tea. The presence of members co-opted from the Local Medical and Paediatric Committee and from the Society of Medical Officers of Health is appreciated by the Branch Council, and their views are of value in the varied matters which come before the Council. Four meetings of the Branch have been held, at which:  
1. The medical service.  
2. Rheumatism and the cat research and the right.  
3. Neurasthenia, by Dr. T. A. Ross.  
The average attendance has been over thirty. The President entertained forty members to lunch at the annual meeting at Maidstone, and thirty were present at the annual dinner. The Tennyson Smith golf challenge cup was won the first year by Dr. Cassells of Maidstone. The financial statement shows a balance in hand of £27 odd.

#### METROPOLITAN COUNTIES BRANCH: CAMBERWELL DIVISION.

A meeting of the Camberwell Division was held at St. Giles's Hospital, Camberwell, on May 20th, when Dr. R. King Brown, Chairman of the Division, presided.

Dr. W. LANGDON BROWN, physician to St. Bartholomew's Hospital, delivered an address on insulin. The lecturer first gave an outline of the history of the discovery of an effective pancreatic extract, and then proceeded to describe the effects and also the known as insulin. The address was listened to with very great interest, and a considerable number of those present took part in the discussion which followed. The meeting closed with a unanimous vote of thanks to the lecturer.

#### METROPOLITAN COUNTIES BRANCH: LEWISHAM DIVISION.

The annual meeting of the Lewisham Division was held on May 19th, when Dr. F. A. BEATTIE occupied the chair.

Dr. JAMES NEAL, of the Medical Defence Union, gave an address entitled: "Some of the medico-legal difficulties of daily practice and how they may be avoided." In the course of this he said that the modern tendency was to blame the doctor if the patient did not recover as quickly as he expected. The public would suffer from this attitude towards the doctors. The first decision of the Harnett case caused many doctors to refuse to certify cases of insanity. Negligence was not legally defined. A doctor should not answer any complaint brought against him until he had consulted a solicitor or his defence society. The Bench was often lenient and tolerant towards the doctor, but the jury might not take the same view. In the present death certificate the doctor certified the cause and not the fact of death. In cases of criminal wounding careful notes should be made and a colleague should be brought into consultation. There was no obligation to provide a précis of the evidence for lawyers.

Drs. BEATTIE, CHABLESLEY, CHASE, and WHITE joined in the discussion. On the motion of Dr. CHABLESLEY, seconded by Dr. CHASE, it was resolved:

That it is advisable that every member of this Division become a member of a medical defence society.

The following officers were elected:

*Chairman*, Dr. R. G. Chase. *Vice-Chairman*, Dr. E. C. Arnold. *Honorary Secretary*, Dr. C. J. B. Buchan.

The Annual Report of the Council was considered and the Representative, Dr. T. E. White, was instructed.

On the motion of Dr. BEATTIE the following resolution was carried:

That the present tendency of the BRITISH MEDICAL JOURNAL is to publish too many technical papers as compared with articles of general practitioner interest.

#### METROPOLITAN COUNTIES BRANCH: WILLESDEN DIVISION.

Dr. G. W. R. SKENE presided over a general meeting of the medical men and women in Willesden, held at the Willesden General Hospital on May 21st. It was reported that the Local Medical Advisory Committee during the past two years had advised the Willesden Urban District Council as to a local campaign against venereal diseases; Ministry of Health circular on cancer; question of diagnosis by health visitors; fees payable to doctors attending school children in cases of accident. It had recommended that treatment of children found to be suffering from defective eyesight should only be carried out under the supervision of registered medical practitioners, and that in every case the advice had been accepted and acted upon. The report was approved, and the following were elected to the Advisory Committee for the next three years:

*General Practitioners*, Drs. C. H. Ault, J. W. Brash, W. Lock, H. J. Macgregor, W. Paterson, C. F. T. Scott, W. W. Stocker, F. R. Sturridge, C. de B. Thomson. *Consultant*, Mr. W. M. Dickson. *Whole-time Officers*, Drs. G. F. Buchan and W. E. Turner.

*Clinical Meeting*.—Mr. Mower White then conducted a large party round the wards and showed a number of cases which he demonstrated in an interesting manner, answering numerous questions and listening to comments. After tea had been served in the nurses' home, Dr. SCOTT, in the absence of the Chairman, Dr. Stocker, thanked Mr. Mower White for his instructive demonstration. Mr. F. D. Sauer will conduct the next clinical meeting, which will be held on Thursday, June 18th, at 3 p.m.

#### NORTH LANCASHIRE AND SOUTH WESTMORLAND BRANCH: FURNESS DIVISION.

The annual meeting of the Furness Division was held at the Masonic Hall, Barrow, on May 13th. The annual report of the executive was read, and the action taken during the year was approved. It was decided to make a levy of 5s. a member this year, and also to apply to the Branch Secretary for further funds.

The following officers were elected:

*Chairman*, Dr. Wilson. *Vice-Chairman*, Dr. Fawcitt. *Representative in Representative Body*, Dr. Wilson.

A vote of thanks to the retiring Chairman was carried unanimously. It was resolved that the Representative should be elected as soon as possible in the year, and that he should retain office for some time.

The Annual Report of Council was dealt with in sections, that on organization being introduced by Dr. LIVINGSTON, medical ethics by Dr. DANIEL, medico-political by Dr. THOMPSON, hospital policy by the CHAIRMAN, public health by Dr. FAWCITT, and the remainder by the SECRETARY.

#### NORTHERN COUNTIES OF SCOTLAND BRANCH: BANFF, ELGIN, AND NAIRN DIVISION.

The annual meeting of the Banff, Elgin, and Nairn Division was held at Gray's Hospital, Elgin, on May 13th, when Dr. J. E. WILSON, Vice-Chairman, presided. The chairman referred to the great loss the Division had sustained in the death of Dr. W. Maasson Fergusson (Banff), Chairman of the Division for 1924, and the Secretary was instructed to forward a letter of condolence to Mrs. Fergusson. The Secretary's report for the year showed a substantial increase in membership. There had been several meetings of the Division, concerning ethical and other matters. In December an annual dinner was instituted, which proved very successful. The financial side was also in a flourishing condition. The report was adopted.

The office-bearers for 1925 were then appointed as follows:

*Chairman*, Dr. J. K. Wilson (Naltn). *Vice-Chairman*, Dr. R. Douglas (Eglin). *Secretary*, Dr. G. S. Sowden (Eglin). *Representative in Representative Body*, Dr. D. G. Campbell (Eglin). *Deputy Representative*, Dr. F. McDiarmid (Fochabers).

It was unanimously agreed to combine the autumn meeting of the Division and the annual dinner, the general opinion being that December was an unsuitable month in many ways for the latter function. It was left to Drs. Campbell, Taylor, and Sowden to make the necessary arrangements.

#### SHROPSHIRE AND MID-WALES BRANCH.

The fiftieth annual spring meeting of the Shropshire and Mid-Wales Branch was held at the Royal Salop Infirmary on May 19th, when the President, Mr. C. G. Russ Wood, O.B.E., surgeon to the Shrewsbury Eye, Ear, and Throat Hospital, was in the chair. Dr. J. Wheatley, M.O.H. for the county of Salop, was elected as President for 1925-26. The other office-bearers were unchanged.

The Annual Report of the Council was considered. Dr. Miller, M.O.H. for the county of Radnor, proposed an amendment to Appendix IV in the following terms:

That the minimum commencing salary of county medical officers of health, with a county population not exceeding 50,000, be £800-£900 per annum (and not left blank as at present).

He pointed out that all down the scale county medical officers were at a disadvantage of from £100 to £200 per annum, which he thought unfair and invidious, the work being much more onerous on account of the wide area involved. The amendment was carried *nem. con.*, and Dr. Mackie, the Representative in the Representative Body, was asked to bring the matter up. After further business the meeting listened with the deepest interest to a paper by Dr. R. A. Young, physician to the Middlesex and Brompton Hospitals, on some recent work on the diagnosis and treatment of pulmonary tuberculosis. As regards diagnosis, the speaker was not in favour of any of the tuberculin tests—subcutaneous, cuticular, or ophthalmic—as in his opinion they involved a certain risk. X rays were valuable in showing the extent, but not the activity, of the disease. The complement fixation test was not reliable. The most valuable was the test known as the “sedimentation of the red cells.” The technique was explained. Proceeding to the question of treatment, Dr. Young pointed out that in assessing the value of any new or much vaunted treatment, the very extraordinary influence on improvement brought about by the psychical element had to be considered. He then dealt seriatim with all the newer treatments. He had a very poor opinion of nearly all of them. Tuberculin was of some use in a certain type of case: that variety in which the patient had improved very much up to a certain point and then seemed to stick. By far the most valuable treatment was immobilization by means of artificial pneumothorax, but this should not be done in a very early stage. The speaker uttered a warning note in regard to the present-day knowledge of the treatment of this condition. Although the cause of cancer was yet to seek, would they, if and when it was discovered, be any more successful in curing the condition than they were with phthisis?

A very hearty vote of thanks was accorded to Dr. Young for his excellent paper. At the kind invitation of the President members then took tea.

#### SOUTH-WESTERN BRANCH: PLYMOUTH DIVISION.

At a meeting of the Plymouth Division, held on May 12th, Dr. S. Noy Scott was elected as Representative in the Representative Body.

The Annual Report of Council was considered and Dr. Noy Scott was instructed how to vote on the various recommendations. The discussion on hospital policy was most interesting and showed how the opinion of the Division had changed. The facts that hospitals were now being largely used by people able to pay for attendance, and that there was a growing abuse of the 1d. in the £ hospital scheme, had compelled those who were formerly opposed to any sort of payment to the staff to agree to such payment. As evidence of the abuse of the 1d. in the £ scheme, members were now demanding gratuitous bismuth meals and x-ray examination. It was stated that there was a movement on foot to abolish the Plymouth Public Dispensary and to merge the same into a medical out-patient department of the South Devon and East Cornwall Hospital. It was pointed out that there were at present three paid medical officers of the dispensary, and the proposed amalgamation might result in the abolition of such officers and the consequent large increase of unpaid work by the doctors of Plymouth. A sub-committee was appointed to inquire into the matter and report.

The HONORARY SECRETARY read a report detailing the scale of fees offered by friendly societies for attendance on their juvenile members, and as this scale corresponded very closely with that of the National Deposit Friendly Society it was agreed to.

#### STIRLING BRANCH.

The annual general meeting of the Stirling Branch was held on May 12th at the Stirling District Asylum, Larbert, on the invitation of the superintendent, Dr. Robert Campbell. After the business the members had an opportunity of seeing parts of the asylum and grounds. Dr. CAMPBELL demonstrated several interesting cases, and the new hospital was inspected and much admired. Tea was served during the afternoon.

The meeting, which was well attended, was voted one of the most successful the Branch has held.

The following officers were elected for the ensuing year:

*President*, Dr. John Pearson (Bonnybridge). *Vice-President*, Dr. Robert Campbell (Larbert). *Secretary*, Dr. Dyer (Alloa). *Representative in Representative Body*, Dr. Dyer. *Deputy Representative*, Dr. J. S. Mitchell (Bridge of Allan).

#### SUFFOLK BRANCH.

A MEETING of the Suffolk Branch was held at the Royal Hotel, Lowestoft, on May 13th. The President, Dr. Wood-Hill, entertained twenty members to lunch.

Sir CHARLES GORDON-WATSON, F.R.C.S., gave an able address on some experiences in bone surgery, illustrated with lantern slides.

Mr. JOHN OWEN read a paper entitled “Literature and medicine.” This was the first occasion on which a literary paper had been read, and it was enjoyed by the members and their wives who were present.

Tea was served at the kind invitation of Dr. and Mrs. Boswell.

#### SUSSEX BRANCH: CHICHESTER AND WORTHING AND HORSHAM DIVISIONS.

A COMBINED meeting of the Chichester and Worthing and Horsham Divisions was held at the Worthing Hospital on May 13th, when a lantern lecture was delivered by Dr. J. STANLEY WHITE (London) on gland therapy. The lecture was much enjoyed by the large number of practitioners present, and many questions were asked, and answered by the lecturer. The meeting afterwards adjourned to Warner's Hotel, where dinner was served. Twenty-nine members attended and a pleasant evening was spent.

## Association Notices.

### TABLE OF DATES.

- June 10, Wed. Council Meeting, 429, Strand.
- June 18, Thurs. Meetings of Constituencies must be held between this date and July 17th to instruct Representatives.
- June 27, Sat. Supplementary Report of Council appears in SUPPLEMENT.
- July 3, Fri. Amendments and riders for issue in A.B.M. Agenda must be received by this date.
- July 17, Fri. Annual Representative Meeting opens at Bath. Nominations for election of 12 members of Council by grouped Representatives must be received (at A.R.M., Bath) by this date.
- July 18, Sat. Annual Representative Meeting, Bath.
- July 20, Mon. Council, and Annual Representative Meeting, Bath.
- July 21, Tues. Annual Representative Meeting. Annual General Meeting. Bath, President's Address.
- July 22, Wed. Council, Meetings of Sections, Conference of Honorary Secretaries, Bath.
- July 23, Thurs. Meetings of Sections, etc., Bath.
- July 24, Fri. Meetings of Sections, etc., Bath.

ALFRED COX, Medical Secretary.

### BRANCH AND DIVISION MEETINGS TO BE HELD.

**BIRMINGHAM BRANCH: WEST BROMWICH DIVISION.**—The third regular meeting for 1925 of the West Bromwich Division will be held at the District Hospital, West Bromwich, on Tuesday, June 9th, at 2.45 p.m. Agenda: Non-members; ophthalmologists and opticians; fees for medical examination of Territorial recruits; payment of assistants; formation of local Hospitals Committee; election of Deputy Representative to Annual Representative Meeting; social meeting; Annual Report of Council; instruction of Representative to Annual Representative Meeting; exhibition of clinical cases. Tea will be provided.

**BORDER COUNTIES BRANCH.**—A general meeting of the Border Counties Branch will be held at the Infirmary, Workington, to-day (Friday, June 5th), at 3.15 p.m. The Branch Council will meet at 3. Agenda: A British Medical Association Lecture—Gastro-intestinal disturbances in infants and young children—will be given by Dr. Hugh T. Ashby. Tea by kind invitation of Dr. J. H. Dudgeon.

**CAPE OF GOOD HOPE (WESTERN) BRANCH.**—A meeting of the Cape of Good Hope (Western) Branch will be held on Friday, June 26th, at 8 p.m. Papers:—Professor W. Campbell: Therapeutic immunization—specific and non-specific; Mr. R. L. Scott: Intrinsic cancer of the larynx; Dr. Royden Muir: Anaesthesia from the patient's point of view.

**EDINBURGH BRANCH.**—The annual meeting of the Edinburgh Branch will be held at Craig House, 153, Morningside Drive, Edinburgh, on Wednesday, June 17th. At 12.30 p.m. luncheon will be served in the Club House, Mortonhall Golf Course, for those playing in the competition; 1.30 p.m., annual golf competition; 4.15 to 5 p.m., tea provided by the President-Elect at Craig House; 5 p.m., business meeting. Members wishing to have lunch at the Club House and to take part in the golf competition are requested to notify the honorary secretary at their earliest convenience. The agenda of the business meeting includes: Report of Branch Council; treasurer's business and annual report; election of office-bearers; presentation of prizes for golf competition; report of election of representative for 1925-26 for the Edinburgh and Fife Branches to the Central Council; election of Branch representative on Queen Mary Nursing Home; proposed addition to Branch rules; recommendation to hold the Annual Meeting of the Association in Edinburgh in 1927; proceedings of Scottish Committee; correspondence; Annual Report of Central Council and Annual Representative Meeting.

**KENT BRANCH.**—The twelfth annual meeting of the Kent Branch will be held on Thursday, June 11th, at Chatham. The President-elect, Dr. A. W. G. Woodforde, kindly invites members and their wives to luncheon at 1.30 p.m. at the Tea Table Café, 79, High Street, Rochester (opposite Cathedral). The annual meeting will be held at 3 in the Naval Hospital, Chatham, by kind invitation of Surgeon Rear-Admiral C. Marsh Beadnell, C.B., R.N., and Surgeon Captain R. J. MacKeown, O.B.E., R.N. Agenda: Receive report of election of new officers, who thereupon take office; and Surgeon statement; appointment of auditor. President's inaugural address: Hypertrophy of the prostate gland. Members and guests are invited to tea and to inspect the Naval Hospital. During the day the competition will be carried through for the Tennyson Smith golf challenge cup. Intending competitors should at once send in their names, addresses, and handicaps to Dr. J. G. C. Taunton, 54, New Road Avenue, Chatham, who will give all necessary information. At 6.30 the annual dinner will be held at the Hotel, Chatham (tickets, 7s. 6d. each; wines and smokes will be kindly provided by the Rochester, Chatham, and Gillingham Division). The golf cup will be presented to the winner at the dinner, and the local Division will present a replica as a memento.

**LANCASHIRE AND CHESHIRE BRANCH.**—The eighty-ninth annual meeting of the Lancashire and Cheshire Branch will be held at the Music Room, Werneth Park, Oldham, on Thursday, June 18th. Members will lunch in the Music Room from 12.30 to 1.15 p.m. by the President, Dr. W. Hirst Bateman, J.P. Agenda: Report of Branch Council and financial statement; the chairman will introduce the new President, Dr. Thomas Fawcitt, who will deliver his presidential address, entitled "Conditions affecting health"; election of officers and two auditors; vote of thanks to retiring officers and Branch Council; place of next meeting. *Visits and Excursions.* Fawcitt will give a prize for the best net return for eighteen holes; visit to the works of Platt Bros., textile engineers; visit to the cotton mills of Wye Mill, Ltd., Shaw. High tea will be served in the Music Room, Werneth Park, from 5.30 to 7 p.m. To facilitate arrangements for lunch and tea and for the various visits and excursions, members intending to be present are requested to inform the honorary secretary, Oldham Division, Dr. C. B. Gerrard, 1, Clegg Street, Oldham.

**LANCASHIRE AND CHESHIRE BRANCH: HYDE DIVISION.**—The annual meeting of the Hyde Division will be held at the Hyde Town Hall on Thursday, June 11th.

**METROPOLITAN COUNTIES BRANCH.**—The annual general meeting of the Metropolitan Counties Branch will be held at the British Medical Association House, Tavistock Square, W.C.1, on Tuesday, June 23rd, at 4 p.m. Business: (1) Report of scrutineer on election of officers; (2) Annual Report of Council; (3) Report of Representatives of the Branch on the Central Council; (4) President's address, by Mr. Comyns Berkeley.

**METROPOLITAN COUNTIES BRANCH: LEWISHAM DIVISION.**—A meeting of the Lewisham Division will be held at St. John's Hospital, Lewisham, on Tuesday, June 16th, at 8.45 p.m., with Dr. R. G. Chase in the chair. Dr. Offenheim will give an address.

**METROPOLITAN COUNTIES BRANCH: ST. PANCRAS DIVISION.**—A meeting of the members of the British Medical Association and other practitioners residing within the area of St. Pancras will be held at the Midland Hotel, St. Pancras, N.W., to-day (Friday, June 5th), at 4.30 p.m. precisely, to consider the reorganization of this Division. Agenda: (1) To elect a chairman of the meeting. (2) It will be proposed: "That this meeting approves of the reorganization of the St. Pancras Division of the British Medical Association." (3) The following officers will be elected: (a) Chairman of the Division; (b) Vice-Chairman of the Division; (c) Honorary Secretary and Treasurer; (d) Representative on Representative Body; (e) Representative on Branch Council; (f) Members of the Executive Committee. (4) Such other matters as may arise. (5) It will be further proposed: "That a copy of the resolutions passed at the meeting be sent to the Metropolitan Branch Hospital." (6) It will be made them effective as early as possible." Council with a request to make them effective as early as possible.

**METROPOLITAN COUNTIES BRANCH: WESTMINSTER AND HOLBORN DIVISION.**—The next meeting of the Westminster and Holborn Division will be held on Thursday, June 11th, at 8 p.m., at the Clinic, 86, Brook Street, W.1. A good attendance is hoped for.

**SOUTH WALES AND MONMOUTHSHIRE BRANCH: NORTH GLAMORGAN AND BRECKNOCK DIVISION.**—The annual meeting of the North Glamorgan and Brecknock Division will take place at the General Hospital, Merthyr, on Thursday, June 11th, at 2.30 p.m., and will be of a social nature. After the business is disposed of, and by the kindness of Mr. Howell Jones, J.P., members and lady friends are invited to Gwaloddygarth for tea and tennis from 3.30 to 6.30 p.m.

**SOUTHERN BRANCH.**—The fifty-second annual meeting of the Southern Branch will be held at Bree's Royal Hotel, Jersey, on Thursday, June 11th, at 2.45 p.m., when the President, Dr. Henry Devine, O.B.E., will take the chair. Agenda: Annual report of Branch Council; financial statement for 1924-25; election of officers; vote of thanks to the retiring President. At the conclusion of the above business, Dr. Henry Devine will vacate the chair in favour of Lieut.-Colonel P. M. Bentliff, M.B.E., who will deliver an address entitled "Reminiscences."

**SUFFOLK BRANCH: WEST SUFFOLK DIVISION.**—A meeting of the West Suffolk Division will be held on Tuesday, June 23rd, for the consideration of the Annual Report of Council, which will be presented as follows:—Dr. O. R. M. Wood: Preliminary, finance, organization, *BRITISH MEDICAL JOURNAL*; Dr. G. H. Metcalfe: Science, medical ethics; Dr. E. E. A. Batt: Medico-political, Parliamentary elections; Dr. Grace Griffith: National health insurance.

non-panel, public health and Poor Law, hospitals, naval and military. A combined clinical and social meeting of the Division will take place on Thursday, August 6th, when Dr. Wood has very kindly offered to entertain the Division once more at Woolpit. Tea in his garden will follow a clinical meeting at the Institute.

**SURREY BRANCH.**—The annual meeting of the Surrey Branch will be held in the Guildhall, Guildford (by kind permission of the Mayor of Guildford), on Wednesday, June 24th, at 1.45 p.m. Agenda: To receive (a) report of the election of new officers, who shall thereupon take office; (b) report of the Branch Council and the annual financial statement. Address by the President, Mr. H. Branson Butler, F.R.C.S.E. The Guildford Division invites members to lunch at the Angel Hotel, Guildford, at 1 p.m. After the annual meeting members will proceed by car to Alton, where Sir Henry Gauvain has invited them to tea at his private clinic at 3.30. Sir Henry Gauvain will afterwards conduct the party over Lord Mayor Treloar Cripples' Hospital (by permission of the Governors). The annual Branch dinner will be held at the Angel Hotel, Guildford, at 7 p.m. (tickets 7s. 6d., exclusive of wine). It is hoped that as many members as possible will stay to the dinner.

**WORCESTER AND HEREFORD BRANCH: HEREFORD DIVISION.**—The annual meeting of the Hereford Division will be held on Monday, June 8th, at 20, East Street, Hereford, at 2.30 p.m. Agenda: Election of officers; consideration of Annual Report of Council, and instructions to Representative (members are asked to bring to the meeting the *SUPPLEMENTS* of April 11th and 18th); mileage fees in emergency midwifery cases; school medical officers.

**YORKSHIRE BRANCH: HUDDERSFIELD DIVISION.**—The annual picnic arranged by the Huddersfield Division will take place on Wednesday, June 10th. The charabanc will leave York Place at 12.45 p.m. for Skipton and Burnsall. Afternoon tea will be served at the Red Lion Hotel at Burnsall, about 3.30. About 4.15 the charabanc will proceed to the Strid, near Bolton Abbey. Dinner at the Devonshire Arms Hotel, Bolton Abbey, at 6.15.

## GENERAL COUNCIL

### MEDICAL EDUCATION AND REGISTRATION. SUMMER SESSION, 1925.

#### EDUCATION COMMITTEE.

Dr. Mackay, reporting for the Education Committee, stated that the Ministry of Education of Northern Ireland had substituted a senior leaving certificate examination for the former senior grade. The standard of the new examination was higher than that of the former test, as the percentage of marks required for a pass was 40 per cent. instead of 30 per cent. It had been resolved by the Committee to include this examination in the list of recognized preliminary examinations, providing that the subjects now required by the Council were included therein. It had been decided also to accept the preliminary certificate of the Provincial Medical Board of Nova Scotia as exempting the holder from matriculation, providing it was accepted by one of the universities in this country, and a similar decision had been reached with regard to the leaving certificate of the Intermediate Education Board of the Irish Free State.

#### EXAMINATION COMMITTEE.

Sir Norman Walker, in presenting the report of the Examination Committee, said that the number of students was definitely down. This gave an early indication of the likely supply of new entrants to the profession in the next few years. There was evidence of an increasing readiness on the part of most licensing bodies to accept the corresponding examinations of other bodies, so that the student was no longer "thirled" to one particular university as formerly. The English Conjoint Board during 1924 had accepted 179 and the Society of Apothecaries 86 candidates who had passed the first professional examination elsewhere, and the Scottish and Irish Boards gave large numbers of similar exemptions. It was, however, particularly in the universities that this increasing readiness to accept each other's examinations was evident. The Committee hoped to present at the next session a comprehensive report on the examinations in anatomy and physiology.

Sir Arthur Chance said that the question of whether operative surgery should or should not be included in the final examination ought to be definitely determined, also whether, by an examination in operative surgery, no operation on the cadaver or on the living subject was intended. Sir Leslie Mackenzie desired to know how far infectious diseases—the definition of which was widening every day—figured as a subject in the final.



Professor LITTLEJOHN said that the Council on a former occasion had unanimously recommended the desirability of forensic medicine having a place in the final, but in many bodies this recommendation appeared to have no effect. He promised to raise the matter more appropriately on a subsequent occasion.

The Council resolved:

That the bodies be requested to supply information as to the means adopted to ensure that each candidate for the final examination has an adequate knowledge of operative surgery, ophthalmic surgery or ophthalmology, and mental diseases.

#### PUBLIC HEALTH COMMITTEE.

Sir JOHN MOORE, for the Public Health Committee, reported that, during 1924, 465 candidates presented themselves for the first examination for the Diploma in Public Health, of whom 319, or 68.6 per cent., passed. For the second and final examination 406 candidates presented themselves, of whom 312, or 76.85 per cent., passed. The Committee found itself unable to grant some concessions suggested by the University of Liverpool, that a sanitary staff officer of the R.A.M.C. might be allowed to give the certificate in public health administration required by the old rules so far as venereal diseases, inspection and control of food, and inspection of premises were concerned, and that a medical officer of health might be given discretionary powers to accept such certificates from army candidates. The University of Toronto had asked to have its D.P.H. recognized, but had been informed that this recognition could not be granted owing to the provisions of Section 21 of the Medical Act, 1886, which refers only to licensing bodies in the United Kingdom. The University of Lucknow asked that it might be recommended to the examining bodies that they should grant exemption to candidates who had successfully completed training at that university in one or more subjects for the D.P.H. The Public Health Committee replied that the Council could not delegate to any licensing body the power of granting such general exemptions.

Sir JOHN MOORE added that the Society of Medical Officers of Health had drawn attention to the working so far of the new rules and regulations with regard to the D.P.H. A good deal of criticism had been directed to these rules. He feared that the number of applicants for the diploma was likely to diminish. Some of the licensing bodies seemed to find it hard to carry on the curriculum under the new conditions, and the history of these new rules and regulations would have to be watched very carefully.

#### FINANCE COMMITTEE.

Sir HOLBURN WARING submitted the Finance Report of the Council. The income of the General and Branch Councils for 1924 was £18,848, and the expenditure £11,664. The income had gradually risen since 1918, when it stood at £7,473, and the expenditure, which in that year was £7,132, had risen in a smaller ratio. During the present century the number of names on the *Medical Register* had increased from 36,912 to 49,958. The public would probably suffer no detriment if for some time to come the increase was less rapid, and time was given for the full absorption into practice of those whose names were now being added to the *Register*. The number of students registered in recent years had been as follows:

1919	...	3,420	1922	...	1,833
1920	...	2,531	1923	...	545
1921	...	1,808	1924	...	1,043

These figures gave some indication of the income from medical registration fees which might be expected during the next few years.

#### COMMITTEES.

In the course of the session the following Committees were elected:

*Business Committee.*—Sir Norman Walker (Chairman), Sir Francis Champneys, Dr. J. A. Macdonald, Dr. Magennis, the President (*ex officio*).

*Dental Education and Examination Committee.*—Sir James Hodson (Chairman), Mr. Ackland, Mr. Dolamore, Sir Holburt Waring, Mr. Guy, Mr. Sinclair, the President (*ex officio*).

*Finance Committee.*—Sir Holburt Waring (Chairman), Sir George Newman, Sir James Hodson, Sir Arthur Chance, the President (*ex officio*).

*Pharmacopœia Committee.*—The President (Chairman), Dr. Inman, Dr. Caton, Sir Humphry Rolleston, Sir Nestor Tirard, Sir Holburt Waring, Dr. Wild, Dr. Adams, Dr. Mackintosh, Sir Norman Walker, Dr. Kidd, Dr. Magennis, Sir J. Moore.

*Education Committee.*—Dr. Brackenbury, Sir Francis Champneys, Dr. Griffith, Mr. Leathes, Sir George Newman, Sir Humphry Rolleston, Sir James Hodson, Mr. Littlejohn, Dr. Mackay, Dr. Dixon, Dr. Kidd, Mr. Sinclair.

*Examination Committee.*—Sir Gilbert Barling, Dr. Bolam, Dr. Duckworth, Mr. Eason, Sir Holburt Waring, Dr. Wild, Dr. Mackintosh, Dr. Russell, Sir Norman Walker, Sir E. Coey Bigger, Sir Arthur Chance, Dr. Coffey.

*Public Health Committee.*—Mr. Eason, Mr. Leathes, Sir George Newman, Mr. Osborn, Mr. Thomson, Sir Jenner Verrall, Dr. Adams, Mr. Littlejohn, Sir L. Mackenzie, Sir E. Coey Bigger, Dr. Magennis, Sir John Moore.

*Executive Committee.*—Sir Gilbert Barling, Dr. Macdonald, Sir George Newman, Sir Humphry Rolleston, Sir Jenner Verrall, Sir Holburt Waring, Sir James Hodson, Sir L. Mackenzie, Sir Norman Walker, Sir E. Coey Bigger, Sir Arthur Chance, Sir John Moore.

*Dental Executive Committee.*—The above with Mr. Dolamore.

#### DISCIPLINARY CASES.

##### Cases coming up for Judgement.

The first disciplinary business before the General Medical Council consisted of five cases in which certain facts had been proved against practitioners at previous sessions but the Council had not proceeded to judgement.

The first was the case of Dr. Sridhar Bheekajee Gadgil, registered as c/o the National Bank of India, Fort, Bombay, who had been convicted at the Marlborough Street police court in 1923 of a misdemeanour—namely, insulting behaviour (SUPPLEMENT, June 7th, 1924, p. 272). Dr. Gadgil, who was not able to be present at the previous hearing, now appeared, with Mr. Oswald Hempton, his solicitor. Mr. Hempton said that before the hearing of the case by the Council in May, 1924, and indeed before a notice could be served upon him, Dr. Gadgil had resigned an appointment he held at Islington Infirmary and had sailed for India. The Council had required that he should appear in person at the present session, and he had thrown up his practice in India and returned to face the charge. He admitted the conviction, though he denied its justice. The conviction was arrived at on the uncorroborated word of a police constable. He did not appeal against it, as he might have done, but left the country for reasons entirely unconnected with the conviction. He now put in a number of testimonials, including one signed by seventeen of his colleagues in India, and another by the late matron and late assistant matron at Islington Infirmary.

The Council, after a brief deliberation, did not see fit to direct the Registrar to erase Dr. Gadgil's name.

The next case was that of Dr. J. J. Brennan and Dr. V. T. P. Webster, both registered as of Merthyr Tydvil, against both of whom a charge of lax certification had been proved (SUPPLEMENT, December 13th, 1924, p. 220). Testimonials from medical colleagues in their neighbourhood were put in on behalf of both practitioners, and the Council, again after a brief deliberation, did not see fit to erase either name.

The case of Dr. Henry Love, registered as of Avoca, Mitcham, Surrey, came next. It had been proved against Dr. Love that he had "covered" uncertified midwives (SUPPLEMENT, June 7th, 1924, p. 272). Dr. Cates, on behalf of the Surrey County Council, the complainants, said that the Council offered no further evidence. Careful inquiries had been made into the character of the defendant's practice in respect of midwives during the period since the hearing, and no irregularity had been discovered. Dr. Love put in certain testimonials from fellow practitioners, and repeated that he had not the smallest idea at the time that he was committing any offence; his object had simply been to provide some midwifery service among poor people in a district where certified midwives were very few.

The PRESIDENT announced the decision of the Council:

"... in the hope that you may at length be made aware of the fact that you must not, in breach of the law, by your countenance or assistance, enable uncertified women to practise as midwives, they do not see fit to direct the Registrar to erase your name from the *Medical Register*."

A similar charge of "covering," relating, however, only to one woman, had been proved against Dr. Henry Spencer Hughes, registered as of Galen House, Lozells Road, Birmingham (SUPPLEMENT, June 7th, 1924, p. 273). The Public Health Committee of the Birmingham City Council, which had made the complaint, stated that it had no further evidence to offer; and, certain testimonials having been put in, the President stated that the Council thought they might assume that the defendant now fully appreciated the grave responsibility that a practitioner assumed when he undertook, under cover of his qualifications, to further the illegal practice of midwifery by uncertified women, and they did not see fit to direct the Registrar to erase his name.

(To be continued.)



## National Insurance.

## Correspondence.

[SUPPLEMENT TO THE  
BRITISH MEDICAL JOURNAL]

## THE ROYAL COMMISSION.

THE thirtieth meeting of the Royal Commission on National Health Insurance was held at the Home Office, Whitehall, on May 28th, Lord Lawrence of Kingsgate in the chair. Evidence as to the possibilities of assistance to the hospitals from the insurance scheme was given by the British Hospitals Association, represented by Mr. H. Wade Deacon, the Viscount Hambleden, and Mr. J. Courtney Buchanan; by the Middlesex Hospital, represented by Mr. A. E. Webb-Johnson and Mr. Walter Kewley; and by the Sheffield Joint Hospitals Council, represented by Sir Henry Hadow and Mr. S. R. Lamb. Thereafter, Mr. Owen Aves, Mr. Francis Gregg, and Dr. James Forrest, representing the Institute of Ophthalmic Opticians, were examined on the nature, extent, and cost of optical and ophthalmic treatment of insured persons.

Proof copies of the oral evidence and the relative statements submitted at the meeting of May 14th may be obtained from H.M. Stationery Office, Adastral House, Kingsway, W.C.2, on remittance of cost (2s. 3d.) and postage.

## Correspondence.

*Midwifery Work in General Practice.*

SIR,—After reading in the SUPPLEMENT of May 23rd the medical evidence so admirably given before the Royal Commission on National Health Insurance, a point occurred to me worth mentioning. After thirty years of midwifery I gave it up, mainly because of the anxiety day by day. Often one was either occupied in the surgery when one ought to have been at a midwifery case, or at the midwifery case while a crowd was collecting at the surgery. A locumtenent once asked me, "Shall I go to a confinement or attend patients at the consulting room?" From the patient's point of view, as from one's own, it is obvious that it is better for a doctor to concentrate on one job without distraction of mind.—I am, etc.,  
London, S.E., May 23rd.  
W. C. JARVIS.

*The Liberties of the Profession and the Annual Representative Meeting.*

SIR,—It is not surprising that a committee who did not believe in their own arguments were unsuccessful in convincing members of Parliament. I wonder if they pointed out the fact that the power to remove from the panel was committed by Parliament only to a carefully balanced body, of which the deputy chairman was a medical man, and had devolved by accident upon a single lay Minister who may be frankly hostile to the medical profession. Again, it was doubtless never mentioned that the power to fine, also committed to the same body, depended upon serious financial miscalculations in the original Act, which would have been impossible had the same pains been taken to consult us beforehand as were taken to consult "societies" and trade unions. Finally, did they show how "society" officers, who need disciplinary correction far more than doctors, escape entirely?

Again, does Dr. Brackenbury believe that members of Parliament will be more willing to curtail the powers of a lay Cabinet Minister by means of a purely professional committee, such as he now proposes, than by means of the High Court of Appeal? Personally I think that, if once the principle of appeal is conceded, it is far more likely that appeal will be allowed to the High Court; and further, if this is done, the logical and simple plan will be to allow appeal against injustice of any kind. Such policy will be much more intelligible to the laity than limitation to the mere amount of a fine, which they will not understand. Clearly a doctor, especially a newcomer, may be more effectually ruined by aspersions upon his professional capacity and conduct than by a fine, which may nevertheless be out of proportion to his offence.

At present appeal is allowed only against alleged illegality in the action of the Minister. Such appeals are made, I believe, to a court competent to deal with such technical matters, and invariably fail, as naturally the Minister is careful not to commit illegality, however grave his injustice. What we want is appeal to the High Court against injustice in any form. So formidable a procedure will be undertaken only on the rarest occasions, and upon serious matters of principle. The privilege is not more likely to be abused by the laity than by ourselves, and we need not grudge it to them.

I certainly approve of the efforts made in the Memorandum of Evidence to weed out minor complaints, and do not wish to interposition of a purely professional committee in the doubt its acceptability by Parliament. What many of us desire, and what Cheshire, I believe, desires, is that in all cases which, even under the policy of the Memorandum, will

come to decision by the Minister, appeal to the High Court shall be legitimate on any grounds involving injustice to the profession.

I therefore suggest, in order to ensure discussion, the following resolution for the Annual Representative Meeting:

That it be an instruction to the Council that, when consulting the Divisions as regards any suggested amendments of or additions to the policy of the Association in reference to the National Health Insurance Acts, or extensions of the same, they include for consideration the following—namely, "That, in addition to the right now enjoyed of appeal to the courts on the ground of improper procedure, appeal to the High Court shall be legitimate against any penalty, other than removal from the panel, imposed upon a practitioner by the Minister."

The recent articles in the *Times* and *Law Journal* should assist in opening the eyes of the public, and the presentation to Parliament of their report by the Royal Commission should give us an opportunity to present our case.

I take strong exception to the recommendation of the Council in respect to Minute 185 of the Annual Representative Meeting. They overlook entirely the origin of the resolution passed by the Representative Body which, as clearly indicated by its mover, marked grave disapproval of the action of a single Medical Council in a recent case. The addition of a single direct representative could not possibly lead to any of those alarming results conjured up by the Council in their efforts to stampede the Representative Body and whitewash the General Medical Council. Such addition would, however, most suitably and permanently mark the opinion of the Representative Body of the arbitrary and high-handed action of the General Medical Council, and I sincerely hope that the Representative Body will maintain the extremely reasonable and timely resolution which it passed, and that all Divisions will instruct their representatives accordingly. If one such addition be made whenever the General Medical Council offends in this fashion it will perhaps be brought home to that body that, whereas it may not be their duty to assist in any manner the hard-working general practitioner, it is in no way their business to persecute him.—I am, etc.,  
Chichester, May 24th.

G. C. GARRATT.

*Direct Representation on the General Medical Council.\**

SIR,—May I urge the forthcoming Representative Meeting of the British Medical Association to support the amendment by the Willesden Division (SUPPLEMENT, May 16th, p. 204)? The representation on the General Medical Council under the Medical Acts of 1858 and 1886 is unjust to the rank and file of the general practitioners.

There are on the Council forty-one members, and of these only six are elected as direct representatives of the medical profession in Great Britain and Ireland—namely, England and Wales 28,642 electors, Scotland 5,635, Ireland 3,964; total 38,101. The intention of the Medical Act of 1886 was evidently that, as the Council was a judicial body, it was only fair that medical men brought before the Council for "infamous conduct" should be judged by their peers. Before 1906 the six direct representatives were nominated and elected by the free and independent electors. In 1906 the six for England and one each for Scotland and Ireland, at the last election there was no contest in Scotland or in Ireland; in England there were seven nominated to oppose the four nominated by the British Medical Association, and the result proved up to the hilt my forecast. Having contested two elections I am convinced that the policy of the British Medical Association is contrary to the purpose and spirit of the 1886 Medical Act. Also I believe that the Association would act wisely if the Council would in the future use its splendid organization and authorize each Division to call a meeting of all doctors, members and non-members, to secure the best candidates for nomination. I am sure that the Association would secure its fair proportion of successful candidates.

Since 1886 the universities and colleges have been increased from 20 to 27, but direct representatives have remained at 6. Since 1886 the medical electorate has increased from 19,350 to over 38,000. No arguments are needed to prove the justice of an increase of direct representatives. I do not advise an increase of direct representatives. I suggest that the direct representatives should be reduced to 15, and that these should be based upon proportional representation. I suggest that the direct representatives should be increased to 15, that they should be elected upon the same principle, and that the constituency for these should be divided into separate areas so that the expenses of elections of candidates should not be too costly. In this way there would be three for Scotland in three definite areas, three for Ireland, and nine for England and Wales. The areas and the number of electors to each would be fairly just.

\* BRITISH MEDICAL JOURNAL SUPPLEMENT, April 11th, 1925, p. 154, para. 109.  
\* Ibid., August 2nd, 1924, p. 77.  
\* Abridged.

At the meeting of the Blackpool Division held on May 13th I was able to give statistics which prove that the present system is unjust. I hope to receive further facts before the Representative Meeting at Bath, and will gladly assist the Willesden or any other Division which seeks to give better representation to the great mass of the medical electors.—  
Blackpool, May 18th.

JOHN BROWN, M.D., D.P.H.

## Naval and Military Appointments.

### ROYAL NAVAL MEDICAL SERVICE.

SURGEON COMMANDER H. HUGHES has been placed on the retired list, with the rank of Surgeon Captain.  
President, additional for duty in Medical Department, temporary; F. L. Smith to the *Furious* on commissioning; A. Davidson to the *Columbine* for Port Edgar Base; R. H. Atkins to the *Dread*.  
Surgeon Lieutenant Commander G. E. Heath to the *Hermes* on recon-  
aissance.  
Surgeon Lieutenants E. V. Baraes to the *Sandhurst*; A. de B. Joyce to the *Thunderer*; D. Duncan to the *Cyclamen*.

### ROYAL NAVAL VOLUNTEER RESERVE.

Late temporary Surgeon Lieutenant (R.N.) W. P. Elford has entered as Surgeon Lieutenant, and attached to the Bristol Division.  
E. E. Henderson has entered as Probationary Surgeon Lieutenant and attached to the Scottish Division.  
Probationary Surgeon Sublieutenant L. P. Spero to be Surgeon Sub-  
lieutenant.

### ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel R. N. Hunt, D.S.O., is placed on the half-pay list on account of ill health.  
Major G. P. A. Bracken retires on retired pay.  
Major F. W. W. Dawson to be Lieutenant-Colonel, vice Lieut.-Colonel R. N. Hunt, D.S.O., to half pay.  
Major W. L. Hay to be temporary Captain and relinquishes the rank of Major.  
Captain F. R. S. Shaw, M.C., is seconded for service under the Colonial Office.  
Temporary Captain A. A. Wilson relinquishes his commission on account of ill health, and retains the rank of Captain.

### ROYAL AIR FORCE MEDICAL SERVICE.

Wing Commanders E. C. Clements, O.B.E., and D. Ranken to Specialists' Medical Establishment, for specialist duties with Central Medical Board.  
Flight Lieutenant E. A. Lumley, M.C., is promoted to the rank of Squadron Leader.  
Flight Lieutenants W. Parsons to Central Medical Board; J. Prendergast to No. 100 Squadron, Spitfire.  
The following relinquish their temporary commissions on ceasing to be employed: Flight Lieutenant J. F. Gallagher, Flight Lieutenant (Honorary Squadron Leader) James Craig.  
Flight Officer R. F. Dickson to Research Laboratory and Medical Officers' School of Instruction, Hampstead, on appointment to a short-service commission for short course; C. G. J. Nicholls to No. 13 Squadron, Andover.

### INDIAN MEDICAL SERVICE.

Brevet Major W. Ross Stewart, Staff Surgeon, Bangalore, is appointed, in addition to his own duties, to officiate as an Agency Surgeon.  
Lieut.-Colonel Residency Surgeon, Mysore, during the absence on leave of the previous orders.  
Major J. L. Sen, M.C., M.B., I.M.S., is appointed to act as Superintendent, J-Nay Institute, Delhi.  
The services of Captains W. J. S. Ingram, M.C., and M. Murphy, M.C., are placed temporarily at the disposal of the Government of Burma.

### REGULAR ARMY RESERVE OF OFFICERS.

Colonel H. J. M. Buist, C.B., C.M.G., D.S.O., late R.A.M.C., having attained the age limit of liability to recall, ceases to belong to the Reserve of Officers.  
Captain H. C. Sinderson to be Major, and remains seconded.  
Captain G. F. P. Gibbons, O.B.E., to be Major.

### MILITIA.

### ROYAL ARMY MEDICAL CORPS.

Major G. G. Marshall (late R.A.M.C., S.R.) to be Captain, with precedence as from April 1st, 1915, and relinquishes the rank of Major.  
Captain W. S. Martin, M.C., to be Divisional Adjutant 47th (2nd London) Division and School of Instruction, vice Major W. P. Croker, as from July 19th, 1918.  
Captain H. Forrest to be Major (prov.).  
Captain A. J. Chillingworth (late R.A.M.C.) to be Captain, with precedence as from September 1st, 1919.  
Captain J. Robinson resigns his commission and retains his rank.  
Lieutenant P. M. Speed (late Argyll and Sutherland Highlanders) to be Lieutenant.  
Sanitary Companies.—Captain S. Summerson to command 8th (London) Sanitary Company.

### ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel D. G. Rice-Oxley, M.C., T.D., from active list, to be Lieutenant-Colonel.

## VACANCIES.

ABERDEEN COUNTY.—Assistant Medical Officer of Health. Salary £600 per annum.  
ASHTON-UNDER-LYNE District Infirmary.—House-Surgeon. Salary at the rate of £150 per annum.  
BURNOWS-FURNES: NORTH LONSDALE HOSPITAL.—House-Surgeon. Salary at the rate of £175 per annum.  
BIRMINGHAM AND MIDLAND EAR AND THROAT HOSPITAL.—Junior House-Surgeon (non-resident). Salary at the rate of £200 per annum.  
BIRMINGHAM: QUEEN'S HOSPITAL.—House Governor and Secretary.  
BRADFORD CHILDREN'S HOSPITAL.—House-Surgeon. Salary £100.  
BRADFORD ROYAL INFIRMARY.—Honorary Assistant Radiologist.  
BRISTOL GENERAL HOSPITAL.—Honorary Clinical Assistants.  
CAMBRIDGE: ADDENBROOKE'S HOSPITAL.—House-Surgeon (male). Salary £120 per annum.  
CHICHESTER: ROYAL WEST SUSSEX HOSPITAL.—Temporary X-Ray Sister.  
CHISWICK GENERAL HOSPITAL.—Honorary Surgeon.  
CITY OF LONDON MATERNITY HOSPITAL, City Road, E.C.1.—Resident Medical Officer. Salary at the rate of £100 per annum.  
DENDEE ROYAL INFIRMARY.—Honorary Assistant Obstetrician and Gynaecologist.  
DUNDEE: SHERBURN HOSPITAL.—Resident Assistant Medical Officer (male, unmarried). Salary £200 per annum.  
GENERAL LYING-IN HOSPITAL, York Road, Lambeth, S.E.1.—Resident Medical Officer. Salary £100 per annum.  
HASTINGS: ROYAL EAST SUSSEX HOSPITAL.—Honorary Ophthalmic Surgeon, Surgeon. (2) House-Physician. (Unmarried). Salary £50 for six months.  
LONDON HOSPITAL.—Head of Department for Medical Diseases of Children.  
MANCHESTER: St. Mary's Hospital.—Two House-Surgeons each for the Hospital (Gynaecological and Children). Salary at the rate of £50 per annum each.  
NORTHAMPTON GENERAL HOSPITAL.—Honorary Surgeon.  
QUEEN MARY'S HOSPITAL FOR CHILDREN, Hackney Road, E.2.—Assistant Surgeon to the Ear, Nose, and Throat Department.  
QUEEN MARY'S HOSPITAL FOR THE EAST END, Stratford, E.15.—(1) House-Physician. (2) Two House-Surgeons. (3) Obstetric House-Surgeon.  
READING: ROYAL BERKSHIRE HOSPITAL.—(1) House-Physician. (2) Two House-Surgeons. Salary £150 per annum each.  
St. Bartholomew's Hospital Medical College.—Lecturer in Pharmacology Assistants.  
SALFORD ROYAL HOSPITAL.—(1) House-Surgeon. (2) House-Surgeon to Gynaecological, Aural, and Skin Departments. (3) House-Surgeon to Salary at the rate of £125 per annum each.  
SEAHAM'S HOSPITAL SOCIETY.—House-Physician and a House-Surgeon at the Dreadnought Hospital, Greenwell. Salary at the rate of £110 per annum, and a proportion of fees.  
SHEFFIELD: JESSOP HOSPITAL FOR WOMEN.—Assistant House-Surgeon in the Gynaecological and Maternity Department. Salary £100 per annum.  
SHEFFIELD ROYAL HOSPITAL.—Resident Surgical Officer. Salary £200 per annum.  
SYDENHAM: SOUTH EASTERN HOSPITAL FOR CHILDREN.—Assistant Physician. Isolation Hospital, Beedington Corner. Salary £400 per annum.  
WEST BROMWICH UNION INFIRMARY.—(1) Two Visiting Surgeons. (2) Visiting Physician. (3) Aural Surgeon and Laryngologist. (4) Dental Surgeon. (5) Operative Obstetrician. (6) Senior Resident Medical Officer. (7) Junior Resident Medical Officer. Salary for (1) £150, (2) £200, (3) £75, (4) £50, (5) £10 10s. a case, (6) £300, and (7) £250.  
WEST LONDON HOSPITAL, Hammersmith Road, W.6.—(1) House-Physician. (2) House-Surgeon. (3) Aural House-Surgeon and Resident Casualty Officer. Males. Salary at the rate of £100 per annum each.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Tuesday morning.

## APPOINTMENTS.

BENTHAM, Florence, M.B., B.S., D.P.H., Assistant Medical Officer of Health, School Medical Officer, and Tuberculosis Officer for the city of York.  
BURNETT, Effie, M.B., B.S.Lond., Assistant Medical Officer, Derbyshire County Sanatorium, Walton, Chesterfield.  
DODDINGTON, C. A., M.D.Camb., D.P.H., Certifying Factory Surgeon for the Lyndhurst District, co. Southampton.  
FELDMAN, William, M.D., M.R.C.P.Lond., Medical Superintendent, St. Pancras Hospital.  
HEWER, C. Langton, M.B., B.S.Lond., Anaesthetist to the Hospital for Tropical Diseases, Endsleigh Gardens, N.W.1.  
LAPAGE, C. P., M.D.Manch., F.R.C.P.Lond., Consulting Physician, Royal Albert Institution for the Feeble-minded, Lancaster.  
McFADYEN, George D. F., M.B., M.Ch., F.R.C.S.Eng., Assistant Surgeon to the Ulster Hospital, Belfast.  
ROBERTSON, J. K. A., M.D., Medical Referee under the Workmen's Compensation Act, 1906, for the Greenock District, vice Thomas Philip, M.B., C.B.I., resigned.  
ROBINSON, William, M.D., D.P.M., Medical Superintendent, City of London Mental Hospital, Stone, near Dartford, vice R. H. Steen, M.D., F.R.C.P., retired.  
SHONTY, J. E., M.B., Ch.B.Glas., appointed Medical Superintendent of the Lawn, Lincoln, vice A. P. Russell, M.B., C.M.Edin., resigned.  
STALLMAN, J. F. H., M.B., B.S.Lond., F.R.C.S.Eng., Assistant Surgeon to the Gloucestershire Royal Infirmary and Eye Institution.  
THOMSON, Miss E., M.B., Ch.B., Assistant Medical Officer at the Maternity and Child Welfare Centre, East Ham Town Council.  
KING'S COLLEGE HOSPITAL.—Senior Casualty Officer: A. C. T. Perkins, M.B., B.S., C.B.I., resigned.  
House Anaesthetist: H. S. Simpson, M.R.C.S., L.R.C.P.  
Resident Assistant Clinician Pathologist and House-Physician to Dermatological Department: C. E. Newman, M.B., B.Ch. Resident Radiologist. Constance

Wood M.R.C.S., L.R.C.P. (Junior Obstetrician); W. R. F. Collis, M.R.C.S., L.R.C.P. (House-Physician (Children (Ophthalmic Department)); T. S. Argenson, H. A. Cooper, M.R.C.S., L.R.C.P., W. I. Gaget, M.R.C.S., L.R.C.P., G. E. Ahrens, M.R.C.S., L.R.C.P., Casualty Officer) J. W. E. Cory, M.R.C.S., L.R.C.P. (Urologic and M.R.C.S., L.R.C.P. (Junior Obstetrician); Appleton, M.R.C.S., L.R.C.P. (Aur); Adlington, M.R.C.S., L.R.C.P. (Junior); H. C. Edmunds, M.R.C.S., L.R.C.P. (Junior); Mary A. Wiles, M.R.C.S., L.R.C.P. (Aur); I. E. Seah, M.R.C.S., L.R.C.P. (Additional Clinical Assistant); Department: Medical A. Mitchell, M.R.C.S., L.R.C.P., E. R. Strauss, B.M., B.Ch. Surgical: R. V. Powell, M.R.C.S., Ante-Natal); Muriel M. Osborn, M.R.C.S., Emily L. Franklin, M.R.C.S., L.R.C.P. (Robertson, M.B., B.S., Winifred M. Fish, M.R.C.S., L.R.C.P., M.B., B.S., M.R.C.S., L.R.C.P., Gwyneth M. Pennant, M.R.C.S., L.R.C.P., Orthopaedic; Freda R. Herbert, M.R.C.S., L.R.C.P. Children's; Margaret Malmberg, M.R.C.S., L.R.C.P., Gwyneth M. Pennant, M.R.C.S., L.R.C.P., Pathological; Olive B. Buckley, M.R.C.S., L.R.C.P.

MANCHESTER ROYAL INFIRMARY.—Resident Surgical Officer: A. G. Bryce, M.B., F.R.C.S., D.P.H. Surgical Registrar: D. M. Sutherland, F.R.C.S. Senior Pathological Registrar and Curator of the Royal Infirmary Museum: J. B. Duguid, M.B.Aber. Senior Assistant Medical Officer in the X-Ray Department: E. W. Twining, M.R.C.S., L.R.C.P., D.M.R.E.

ST. THOMAS'S HOSPITAL.—Obstetric House-Physician: (Senior) E. J. Rees, M.R.C.S., L.R.C.P. (Junior) M. H. Webb-Delepine, M.C., M.B., B.Ch. Chief Assistants and Clinical Assistants: (Throat) D. V. A. Neilson, F.R.C.S. (Chief Assistant), L. C. Cook, M.R.C.S., L.R.C.P., J. M. Dobie, M.R.C.S., L.R.C.P., J. P. Kies, M.R.C.S., L.R.C.P. (Skin) H. T. Barron, M.D. (Chief Assistant), G. R. Marcano, M.R.C.S., L.R.C.P., E. A. Trim, M.R.C.S., L.R.C.P. (Ear) H. I. Mariner, F.R.C.S. Ed. (Chief Assistant), J. J. R. Robinson, M.R.C.S., L.R.C.P., C. A. Amesur, M.R.C.S., L.R.C.P., J. H. Gibbins, M.R.C.S., L.R.C.P. (Dental) P. Lloyd-Williams, M.R.C.S., L.R.C.P., L.D.S. (Chief Assistant); (Children's Medical) A. L. Lancaster, M.R.C.S., L.R.C.P., H. W. Nicholson, M.R.C.S., L.R.C.P., E. Thompson, M.R.C.S., L.R.C.P., D. Asserson, M.R.C.S., L.R.C.P. (Tuberculosis (Orthopaedic) E. P. M.R.C.S., L.R.C.P., (part) B. Shires, M.R.C.S., L.R.C.P., (Chief Assistant) R. G. M.R.C.S., L.R.C.P., D. P. M.R.C.S., L.R.C.P., F. C. Howard, M.R.C.S., L.R.C.P., M.R.C.S., L.R.C.P., R. H. G. P. (Neurological Department) D. Riley, M.R.C.S., L.R.C.P., Gwymer, M.R.C.S., L.R.C.P. Twenty-seven of their appointments.

## DIARY OF SOCIETIES AND LECTURES.

ROYAL SOCIETY OF MEDICINE.  
Section of ... m. Cases, 8.30 p.m., Mr. G. H. Pooley, ... and Chronic Dacryocystitis; Dr. G. ... mits of Jullundur Operation for Intracra ... Annual General Meeting.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East, S.W.1.—Tues. and Thurs., 5 p.m., Croonian Lectures by Dr. S. A. R. Wilson: Disorders of Motility and of Muscle Tone, with special reference to the Corpus Striatum.

BIOCHEMICAL SOCIETY, St. Thomas's Hospital, S.E.1.—Mon., 5 p.m., J. Patterson, Carbohydrate Content of Normal Urine; H. P. Marks: The Testing of Insulin; R. H. A. Plimmer and J. L. Rosedale: (1) Van Slyke's Method of Analysis of Proteins, (2) Experiments on Nutrition; R. H. A. Plimmer: Action of Nitrous Acid upon Amides and Some Amino Compounds; W. J. K. Burch: Some Esters of Phosphoric Acid.

MANCHESTER MEDICAL SOCIETY, Royal Infirmary.—Wed., 4.30 p.m., Clinical Meeting.

## POST-GRADUATE COURSES AND LECTURES.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION, 1, Wimpole Street, W.1.—Lecture arranged by the Fellowship of Medicine and open to all members of the medical profession, Tues. 5.30 p.m., Sir Thomas Horder: Some Cases of Fever without ... Signs. Chelsea Hospital for Women, Arthur Street, S.W.3.—Post-Graduate Course in Gynaecology. Lectures and Demonstrations daily, 10 a.m. to 1 p.m. Lectures: London School of Hygiene and Tropical Medicine, 51, Euston Road, N.W.1.—Lectures: Tues. and Thurs., 2 p.m. Lecture: in the Out-patients' Department. and Lung, Victoria Park, 2 p.m. Lectures, Clinical and Hospital, Dean Street, W.1 Instruction, and Lectures Diseases.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.1.—Thurs., 4 p.m., Appendicitis in Childhood.

LONDON SCHOOL OF DERMATOLOGY, St. John's Hospital, Leicester Square, W.C.2.—Tues., 5 p.m., Alopecia. Thurs., 5 p.m., Eczema.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.1.—Mon., Tues., Thurs., Fri., 2 p.m. Out-patient Clinics. Mon., 12 noon, The Neurone, 3.30 p.m. Ocular Palsies. Tues., 3.30 p.m., Fractures of the Skull. Thurs., 3.30 p.m., Effects of Increased Intracranial Pressure. Fri., 3.30 p.m., Progressive Muscular Atrophy. Operations: Tues. and Fri., 9 a.m.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.15.—Tues., 4.30 p.m., Demonstration of Cases of Mental Disease (at the Mental Hospital, New Southgate, N.17). Fri., 4.30 p.m., Treatment by Radiation in Gynaecology. Daily: In-patient and Out-patient Clinics, Demonstrations, Operations, etc.

QUEEN CHARLOTTE'S MATERNITY HOSPITAL, Marylebone Road, N.W.1.—Thurs., 5 p.m., Maternal Mortality.

ST. MARY'S HOSPITAL, Institute of Pathology and Research, Paddington, W.2.—Thurs., 5 p.m., Radiology.

SOUTH-WEST LONDON POST-GRADUATE ASSOCIATION, St. James's Hospital, Ouseley Road, Balham, S.W.—Wed., Visit St. Nicholas's and St. Martin's Orthopaedic Hospital, Pyrford, near Ripley. Demonstration of Cases.

TAVISTOCK CLINIC FOR FUNCTIONAL NERVE CASES, 51, Tavistock Square, W.C.1.—Tues., 5.30 p.m., Adler and Jung.

WEST LONDON HOSPITAL POST-GRADUATE COLLEGE, Hammersmith, W.—Mon., 12 noon, Applied Anatomy. Tues., 3 p.m., Medical Wards. Wed., 2 p.m., Medical Out-patient. Thurs., 2 p.m., Genito-urinary Department. Fri., 2 p.m., Throat, Nose, and Ear Department. Sat., 10 a.m., Medical Diseases of Children. Daily 10 a.m. to 6 p.m., Sat. 10 a.m. to 1 p.m., In- and Out-patients, Operations, Special Departments.

BIRMINGHAM UNIVERSITY CLINICAL BOARD.—At General Hospital, Tues., 3.30 to 5 p.m., Diseases of the Prostate.

## British Medical Association.

OFFICES AND LIBRARY, 123, STRAND, LONDON, W.C.2.

BRITISH MEDICAL JOURNAL, British Medical Association House, Tavistock Square, W.C.1.

## Reference and Lending Library.

THE READING ROOM, in which books of reference, periodicals, and standard works can be consulted, is open to members from 10 a.m. to 6.30 p.m., Saturdays 10 to 2.

LENDING LIBRARY: Members are entitled to borrow books, including current medical works; they will be forwarded if desired, on application to the Librarian, accompanied by 6d. for each volume for postage and packing.

## Departments.

SUBSCRIPTIONS AND ADVERTISEMENTS (Financial Secretary and Business Manager): Telegraphs: Articulate Westrand, London.

MEDICAL SECRETARY (Telegrams: Medisera Westrand, London). Editor, *British Medical Journal* (Telegrams: Atiology Westrand, London).—See notice in the JOURNAL at page 1651.

Telephone number of *British Medical Journal*, Museum 9351. Telephone number for other departments: Gerard 2530 (3 lines).

SCOTTISH MEDICAL SECRETARY: 6, Drumshigh Gardens, Edinburgh. (Telegrams: Associate, Edinburgh. Tel.: 4361 Central).

IRISH MEDICAL SECRETARY: 16, South Frederick Street, Dublin. (Telegrams: Bacillus, Dublin. Tel.: 4737 Dublin.)

## Diary of the Association.

## JUNE

- 5 Fri. Border Counties Branch: Infirmary, Workington. B.M.A. Lecture by Dr. Hugh T. Ashby. Branch Council, 3 p.m.
- St. Pancras Division: Midland Hotel, St. Pancras, N.W. 4.30 p.m.
- 8 Mon. Hereford Division: Annual Meeting, 20, East Street, Hereford 2.30 p.m.
- 9 Tues. London: Reception Committee at Tavistock Square.
- West Bromwich Division: District Hospital, West Bromwich 2.45 p.m.
- 10 Wed. London: Council, 10 a.m.
- Huddersfield Division: Annual Picnic. Leave York Place 12.45 p.m. Dinner, Devonshire Arms Hotel, Bolton Abbey 6.15 p.m.
- 11 Thurs. London: Public Health Committee, 2 p.m.
- Hyde Division: Annual Meeting, Hyde Town Hall.
- Kent Branch: Annual Meeting. Luncheon, Tea Table Café 79, High Street, Rochester, 1.30 p.m. Meeting, Naval Hospital Chatham, 3 p.m. Annual Dinner, Sun Hotel, Chatham 6.30 p.m.
- North Glamorgan and Brecknock Division: Annual Meeting. General Hospital, Merthyr, 2.30 p.m.
- Southern Branch: Annual Meeting, Bree's Royal Hotel, Jersey. 2.45 p.m.
- Westminster and Holborn Division, The Clinic, 85, Brook Street, W.1, 8 p.m.
- 16 Tues. Lewisham Division: St. John's Hospital, Lewisham, 8.45 p.m.
- 17 Wed. Edinburgh Branch: Annual Meeting. 1.30 p.m. Preliminary Meeting at 4 p.m.
- Edinburgh, 5 p.m. (Annual Golf Meeting at 10 a.m.)
- 18 Thurs. London: Insurance Acts Committee at Ministry, 4 p.m. Preliminary Meeting at 4 p.m.
- 107, Ministry of Health, Whitehall.
- Lancashire and Cheshire Branch: Annual Meeting, Music Room, Werneth Park, Oldham. Lunch, 12.30 to 1.35 p.m. Branch Council, 1.30 p.m.; Meeting, 1.45 p.m.; Excursion, 2.45 p.m.; Tea, 5.30 p.m.
- Willesden Division: Clinical Meeting, General Hospital, 3.15 p.m.
- 23 Tues. Metropolitan Counties Branch: Annual Meeting, British Post Office Square, W.C.1, 4 p.m. Meeting, Borough Sanatorium, 1 p.m.
- 24 Wed. ... Hotel, Guildford, 1 p.m. 4.45 p.m. Visit to Alton, and Angel Hotel, 7 p.m.
- 26 Fri. Cape of Good Hope (Western) Branch, 8 p.m.

## BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcement of Births, Marriages, and Deaths is 9s., which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.

## BIRTHS.

HORSBURGH.—On May 19th at Scunthorpe, Lines, to Dr. and Mrs. Percy G. Horsburgh, a son.

O'GRADY.—On May 30th, to Dr. and Mrs. O'Grady of Swinton, Manchester, a daughter.

## DEATHS.

MORTIMER.—At Clonmeen, Epsom Road, Guildford, on May 24th, Matthew Denis Mortimer, B.A., M.D., F.R.C.S.L., Colonel I.M.S. (ret.), aged 76.

PRICE.—On May 21st, Antony Oliver Stewart Price (Tony), aged 9 years and 8 months, the darling younger son of Dr. and Mrs. Lawrence E. Price of Newton.

SIRCOM.—Dr. Edmund Ralph Sircom, M.R.C.S., L.R.C.P., of Romford Road, Stratford, Essex, beloved husband of Violet Eugenie Durant Sircom, passed peacefully away, June 1st, 1925, at a nursing home in Bristol. (Encephalitis lethargica.)

# SUPPLEMENT TO THE BRITISH MEDICAL JOURNAL.

LONDON, SATURDAY, JUNE 13<sup>TH</sup>, 1925.

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## British Medical Association.

**NINETY-THIRD ANNUAL MEETING, BATH, JULY 21<sup>ST</sup> TO 24<sup>TH</sup>, 1925.**

*Patron:* HIS MAJESTY THE KING.

*President:* J. BASIL HALL, M.Chir., F.R.C.S., Consulting Surgeon, Royal Infirmary, Bradford.

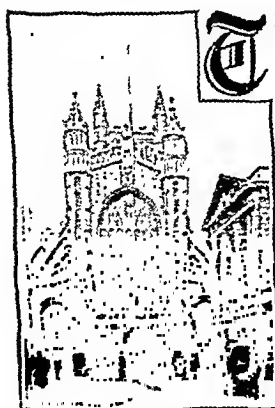
*President-Elect:* FREDERICK GEORGE THOMSON, M.A., M.D., M.R.C.P., Physician, Royal United Hospital, Bath.

*Chairman of Representative Body:* HENRY BRITTON BRACKENBURY, M.R.C.S., L.R.C.P.

*Chairman of Council:* ROBERT ALFRED BOLAM, M.D., LL.D., F.R.C.P.

*Treasurer:* N. BISHOP HARMAN, M.A., M.B., F.R.C.S.

## PROVISIONAL PROGRAMME.



BATH ABBEY.

THE incoming President, Dr. F. G. Thomson, will deliver his address to the Association on Tuesday, July 21<sup>st</sup>.

THE ANNUAL REPRESENTATIVE MEETING will begin on Friday, July 17<sup>th</sup>, at 10 a.m., and be continued on the three following week-days.

THE statutory ANNUAL GENERAL MEETING will be held on July 21<sup>st</sup> at 2 p.m., and the adjourned general meeting at 7.45 p.m.

THE Annual Dinner of the Association will take place on Thursday, July 23<sup>rd</sup>.

THE Conference of Secretaries will be held at

2.30 p.m. on Wednesday, July 22<sup>nd</sup>, and the Secretaries' Dinner at 6.30 the same evening.

THE Annual Exhibition of surgical appliances, foods, drugs, and books will be opened by the President-Elect on July 21<sup>st</sup> at 9.30 p.m., and will remain open on July 22<sup>nd</sup>, 23<sup>rd</sup>, and 24<sup>th</sup>.

A Popular Lecture will be delivered by Sir W. H. Bragg, K.B.E., F.R.S., on Friday, July 24<sup>th</sup>, at 8 p.m.

Saturday, July 25<sup>th</sup>, will be given up to excursions to places of interest in the neighbourhood.

## THE SECTIONS.

THE Scientific Sections will meet from 10 a.m. to 1 p.m. for papers and discussions, and it is hoped that laboratory and clinical demonstrations will be arranged for the afternoons of July 22<sup>nd</sup>, 23<sup>rd</sup>, and 24<sup>th</sup>.

*The following Sections will meet on Three Days—Wednesday, Thursday, and Friday, July 22, 23, and 24.*

### MEDICINE.

*President:* The Right Hon. Lord DAWSON OF PENN, G.C.V.O., K.C.M.G., C.B., M.P.

*Vice-Presidents:* R.C.P. (Bath); T. R. ELLIOTT, D.S.O., C. F.R.S. (London); Professor J. A. NIXON, C.M.G., M.D., F.R.C.P. (Bristol); Professor ADAM PATRICK, M.D., M.R.C.P. (Dundee); W. N. WEST WATSON, M.D. (Bradford).

*Honorary Secretaries:* JAMES LINDSAY, M.D., M.R.C.P., 1, The Circus, Bath; F. G. CHANDLER, M.D., F.R.C.P., 1, Park Square West, Portland Place, London, N.W.1.

*anged:* Arthritis, its Sir HUMPHRY WATERHOUSE by Dr. RUPERT JONES (Surgical), Dr. J. M. H. MONRO (Bacteriology), Mr. A. G. TIMBRELL FISHER (Pathological), Mr. W. R. ACKLAND (Dental), and Sir WILLIAM H. WILCOX.

*Thursday, July 23<sup>rd</sup>.—Discussion:* Hyperpiesia. To be opened by Lord DAWSON, followed by Professor E. H. STARLING, F.R.S., Dr. H. BATTY SHAW, Dr. OTTO MAY, and Dr. GEOFFREY EVANS.

*Friday, July 24<sup>th</sup>.—Discussion:* The Uses and Abuses of Endocrine Therapy. To be opened by Dr. W. LANGDON BROWN and Professor SWALE VINCENT, followed by Dr. H. GARDINER-HILL, Mr. KENNETH M. WALKER, Dr. H. W. C. VINES, and Professor F. S. LANGMEAD.

**SURGERY.**

*President:* Sir BERKELEY MOYNHAN, Bt., K.C.M.G., C.B., M.S., LL.D., F.R.C.S. (Leeds).

*Vice-Presidents:* A. H. BURGESS, M.B., F.R.C.S. (Manchester); (Bath); H. S. SOUTTAR, C.B.E., M.Ch., Valuers, F.R.C.S. (Bristol).  
DE V.  
L. F.  
M.C.

LONDON, W.1.

The following provisional programme has been arranged:

*Wednesday, July 22nd.*—Discussion: Carcinoma of the Stomach. To be opened by Sir W. I. DE COURCY WHEELER, followed by Dr. E. I. SPRIGGS (Clinical Manifestations and Early Diagnosis), Dr. A. P. HURST (Auxiliary Methods of Diagnosis, Radiological and Chemical), Professor M. J. STEWART (Pathology: General relation of carcinoma to ulcer; mode of spread and frequency of secondary deposits in liver), Mr. J. SHERREN, Mr. JOHN MORLEY, Dr. J. A. NIXON, and Mr. A. H. BURGESS.

*Thursday, July 23rd.*—Discussion: Acute Intestinal Obstruction. To be opened by Sir WILLIAM TAYLOR, followed by Mr. W. SANPSON HANDLEY and Mr. D. P. D. WILKIE. A general report and statistics from various hospitals for the past five years will be presented by Mr. H. S. SOUTTAR (London Hospital), Mr. R. P. ROWLANDS (Guy's Hospital), Mr. C. MAX PAGE (St. Thomas's Hospital), L. R. A. H. and

discussion with Orthopaedic with special reference to its to be opened on the Surgical side by Mr. G. L. GASK, followed by Mr. S. W. DAW, Mr. H. WADDE, Mr. H. H. SAMPSON, and Mr. A. W. SHEEN; and on the Orthopaedic side by Sir ROBERT JONES, followed by Dr. R. OSGOOD (Boston, U.S.A.), Mr. H. PLATT, Mr. H. A. T. FAIRBANK, Mr. C. MAX PAGE, and Mr. GWYNNE E. O. WILLIAMS.

**OBSTETRICS AND GYNAECOLOGY.**

*President:* Lady BARRETT, C.B.E., M.D., M.S. (London).

*Vice-Presidents:* H. S. DAVIDSON, O.B.E., M.B., F.R.C.S. Ed. M.D., F.R.C.P., F.R.C.S. (Bradford); D. C. RAYNER,

*Honorary Secretaries:* W. H. DUNCAN, F.R.C.S. Ed., 13, Gay Street, Bath; J. BRIGHT BANISTER, M.D., M.R.C.P., 39, Harley Street, London, W.1.

The following provisional programme has been arranged:

*Wednesday, July 22nd.*—Discussion: (a) The Problem of Uterine Cancer. Opening address by Professor B. P. WATSON (Edinburgh). (b) The Surgical Treatment of Malignant Disease of the Pelvic Organs. To be opened by Mr. VICTOR BONNEY and Mr. S. J. CAMERON. The following will take part in the discussion: Professor C. OLDFIELD, Mr. H. J. D. SMYTHE, Dr. R. S. S. STATHAM, and Professor W. I. DE COURCY WHEELER.

*Thursday, July 23rd.*—Discussion: Cancer of the Pelvis (Stoichev). To be opened by Mr. JAMES HEYMAN and Mr. MALCOLM Investigation into of Inoperable of Surgery in the of Uterus. To be opened by Dr. H. RUSSELL. Mr. D. C. RAYNER, Mr. D. SHANNON, and Sir HENRY J. F. SIMSON. Paper: Dr. G. I. STRACHAN, The Pathology and Treatment of Cervical Erosion.

**PATHOLOGY AND BACTERIOLOGY.**

*President:* Professor J. C. G. LEDINGHAM, C.M.G., D.Sc., M.B., F.R.C.P., F.R.S. (London).

*Vice-Presidents:* J. A. BRAXTON HICKS, M.D., M.R.C.P. (London); Professor E. H. KETTLE, M.D. (Cardiff); RUPERT WATERHOUSE, M.D., M.R.C.P. (Bath).

*Honorary Secretaries:* Lieut.-Colonel JAMES COWAN, M.B., R.A.M.C. (ret.), 44, Combe Park, Bath; C. C. OKELL, M.B., M.R.C.P., Wellcome Physiological Research Laboratories, Langley Court, Beckenham, Kent.

The following provisional programme has been arranged:

*Wednesday, July 22nd.*—Discussion: Filter-passing Viruses. To be opened by Dr. W. E. GRE, followed by Mr. J. E. BARNARD, F.R.S., Dr. MERVYN H. GORDON, F.R.S., Dr. S. P. BEDSON, and Dr. J. E. MCCARTNEY.

*Thursday, July 23rd.*—Discussion: The Pathological Basis of Treatment by Radiation. To be opened by Professor S. RUSSELL, followed by Dr. T. S. P. STRANGWAYS, Miss M. E. HUME, Dr. A. PINEY, and Dr. R. G. CANTI.

*Friday, July 24th.*—Discussion: The Present Position of Pathology and Bacteriology in this Country, with special reference to Research. To be opened by the President of the Section, Professor J. C. G. LEDINGHAM, F.R.S.

**NEUROLOGY AND PSYCHOLOGICAL MEDICINE**

*President:* Sir

*Vice-Presidents:* ARTHUR F. HU M.D. (Bath); S. J. BARNARD, M.D., F.R.C.P. (London).

*Honorary Secretaries:* RAY EBRIDGE, M.R.C.S., L.R.C.P., 29, Gay Street, Bath; EDWARD MAPOTHER, M.D., M.R.C.P., Maudsley Hospital, Denmark Hill, London, S.E.5.

The following provisional programme has been arranged:

*Wednesday, July 22nd.*—Discussion: Causation and Symptomatology of Multiple Neuritis. To be opened by Dr. T. GRANGER STEWART, followed by Dr. JAMES S. COLLIER, Dr. WILFRED J. HARRIS, Dr. W. JOHNSON, and Dr. F. J. NATTRASS.

*Thursday, July 23rd.*—Discussion: Treatment of Insomnia. To be opened by Dr. ROBERT HUTCHISON, followed by Dr. HARRY CAMPBELL, Dr. HENRY DEVINE, and Dr. C. P. SYMONDS.

*Friday, July 24th.*—Discussion: Prophylaxis of Mental Disorder. To be opened by Sir HUMPHRY ROLLISTON, followed by Dr. A. HELEN A. BOYLE, Dr. BERNARD HAHT, Dr. EDWARD MAPOTHER, and Dr. T. A. ROSS.

**THERAPEUTICS (INCLUDING BALNEOLOGY AND RADIOTHERAPY).**

*President:* Professor K. B. WILD, M.D., F.R.C.P. (Chislehurst, Derbyshire).

*Vice-Presidents:* PRESTON KING, M.D. (Bath); W. MITCHELL, M.B., C.M. (Bradford); NATHAN MUTH, M.D., F.R.C.P. (London).

*Honorary Secretaries:* CECIL H. TERRY, M.B., F.R.C.S.E., 15, The Circus, Bath; DOROTHY C. HARE, C.B.E., M.D., M.R.C.P., 1, Bickenhall Mansions, London, W.1.

The following provisional programme has been arranged:

*Wednesday, July 22nd.*—Discussion: Treatment of Asthma. To be opened by Dr. W. LANGDON BROWN, followed by Dr. E. P. POULTON and Dr. P. HAMILL.

*Thursday, July 23rd.*—Discussion: Treatment of Chronic Arthritis. To be opened by Sir THOMAS HORDER, Bt., followed by Dr. PRESTON KING (Balneology), Dr. N. MUTH, and Dr. C. B. HEALD.

*Friday, July 24th.*—Discussion: Therapeutic Value of Light. To be opened by Professor W. E. DIXON, F.R.S., followed by Dr. C. E. M. JONES (Clinical) and Dr. G. H. LANCASHIRE. Paper: Dr. NEWMAN NEILD, The Uses of Posture for Bronchial Drainage.

Members wishing to contribute to the discussions should notify the local Secretary of the Section.

**LARYNGOLOGY, OTOTOLOGY, AND RHINOLOGY.**

*President:* ARTHUR H. CHEATLE, C.B.E.

*Vice-Presidents:* NEIL MACLAY, M.B., IRWIN MOORE, M.B., C.M. (London); F.R.C.S. (London).

*Honorary Secretaries:* H. N. BARNETT, F.R.C.S. Ed., 27, The Circus, Bath; R. SCOTT STEVENSON, M.D., 39, New Cavendish Street, London, W.1.

The following programme has been arranged:

*Wednesday, July 22nd.*—Discussion: Overlooked Cases of Foreign Body in the Nose. To be opened by Professor CHEVALIER, followed by Dr. THOMAS MCCRAE (Rhinocephalia), Sir STCLAIR THOMSON, Dr. G. WILLIAM HILL, Dr. IRWIN MOORE, Mr. HERBERT TILLEY, Mr. E. B. WAGGETT, Mr. D. A. CROW, Mr. G. EWART MARTIN, Mr. W. FRANK WILSON, Mr. A. J. WRIGHT. Professor CHEVALIER JACKSON: (a) Demonstration on the manifold of mechanical problems of bronchoscopic and oesophagoscopy extraction of foreign bodies from the air and demonstration of bronchoscopy of the lung of other than to Bronchoscopy for disease. *Afternoon.*—Mr. J. B. BARNETT: (a) Evolutionary factors in causation of pharyngeal diverticula; (b) Specimens showing comparative anatomy of nose and throat.

Dr. IRWIN MOORE: An outline of the history of endoscopy.

*Thursday, July 23rd.*—Morning.—Discussion: (1) Operative Treatment of Chronic Middle-Ear Suppuration. Mr. G. J. JENKINS, followed by Mr. SY FRASER, and Mr. J. BOWRING HORGAN; Non-suppurative Middle-ear Deafness. To be opened by Sir WILLIAM MILLIGAN, followed by Dr. J. B. BARNETT, Sir ROBERT WOODS, Mr. NEIL MACLAY, and Mr. H. NORMAN BARNETT. *Afternoon.*—Mr. G. J. JENKINS: Cases illustrative of the operative treatment of middle-ear suppuration; by Mr. H. N. BARNETT: Cases illustrative of results of (a) conservative operative treatment of chronic middle-ear suppuration, (b) treatment of chronic non-suppurative middle-ear deafness.

*Friday, July 24th.*—Morning.—Occupational Diseases of Ear, No. To be opened by Mr. F. H. GRIMWADE, D. RANKEN, R.A.F.M.S., and Mr. T. J. A. SCOTT RIDOUT, and Mr. T. RITCHIE RODGER (M.D.). *Afternoon.*—2.30, Dr. P. WATSON WILLIAMS: Demonstration of investigation of the nasal accessory sinuses.

On Friday, at 4.15, there will be a demonstration at Newton Park, Bath, by invitation of Earl and wishing to attend are asked to make early arrangements. Honorary secretary of the Section.

An Endoscopic Museum is being formed, consisting of post-mortem specimens showing foreign bodies *in situ*, foreign bodies, and radiograms or drawings of such bodies from the air passages and oesophagus. Members of the Section desirous of contributing to this museum are asked to communicate with Dr. Irwin Moore, 3c, Wimpole Street, W.1.

Morning sessions will be held in the Board Room of the Royal Mineral Water Hospital; afternoon sessions at the Bath Ear, Nose, and Throat Hospital.



**The following Sections will meet on Two Days.****DISEASES OF CHILDREN.**

**President:** ROBERT HUTCHINSON, M.D., F.R.C.P. (London).  
**Vice-Presidents:** CAREY F. COOMBS, M.D., F.R.C.P. (Bristol); P. T. CRYMME, F.R.C.S. (Belfast); CHARLES MCNEIL, M.D., F.R.C.P. Ed. (Edinburgh); REGINALD H. MILLER, M.D., F.R.C.P. (London).

**Honorary Secretaries:** VINCENT COATES, M.C., M.D., 10, The Circus, Bath; R. A. RAMSAY, M.Ch., F.R.C.S., 123, Gloucester Terrace, Hyde Park, London, W.2.

The following provisional programme has been arranged:

**Wednesday, July 22nd.**—Joint discussion with the Section of Public Medicine: Rheumatic Infection in Childhood—Early Diagnosis and Preventive Treatment. To be opened by Dr. F. J. POYNTON and Dr. R. A. ASKINS (M.O.H. Bristol), followed by Dr. CAREY F. COOMBS, Dr. REGINALD MILLER, Dr. J. A. GLOVER (Ministry of Health), and Dr. VINCENT COATES.

**Thursday, July 23rd.**—Discussion: Treatment of Erysipelas. To be opened by Dr. H. C. CAMERON and Mr. H. S. SOUTAR, followed by Dr. F. G. CHANDLER, Mr. W. H. C. ROMANIS, and Mr. P. TWISTINGTON HIGGINS.

**OPHTHALMOLOGY.**

**President:** W. MARDON BEAUMONT, M.R.C.S. (Bath).

**Vice-Presidents:** R. WALLACE HENRY, M.D. (Leicester); A. W. ORMOND, C.B.E., F.R.C.S. (London); C. H. WALKER, F.R.C.S. (Bristol).

**Honorary Secretaries:** R. COLLEY, M.B., D.O.M.S., 30, The Circus, Bath; P. G. DOYNE, M.B., F.R.C.S., 8, Harley Street, London, W.1.

The following provisional programme has been arranged:

**Wednesday, July 22nd.**—Discussion: Eye Injuries and Intestinal Keratitis. To be opened by Mr. W. T. HOLMES SPRECK. **Speakers:** Mr. A. W. ORMOND, Visual Hallucinations of Sane People; Mr. N. BISHOP, Conjunctivitis and Keratitis—Causes and Treatment; WALLACE HENRY, Instrument for Record; a Light Difference; Mr. R. COLLEY, Case of Eye with Retention of Piece of Glass.

**Thursday, July 23rd.**—To be opened by Mr. A. FREE, H. WALKER, Aneurysms; Mr. J. BURDON-C, Syphilis; Mr. A. S. PERCIVAL, of Glaucoma.

**ORTHOPAEDICS.**

**President:** Professor E. W. HEN GROVES, M.S., F.R.C.S. (Bristol).

**Vice-Presidents:** NAUGHTON DUNN, M.B., Ch.B. (Birmingham); C. H. GIBBLESTONE, M.B., F.R.C.S. (Oxford); E. MURHEAD LITTLE, F.R.C.S. (London).

**Honorary Secretaries:** J. S. LEVIS, M.C., M.B., 20, Gay Street, Bath; P. TWISTINGTON HIGGINS, O.B.E., F.R.C.S., 27, Harley Street, London, W.1.

The following provisional programme has been arranged:  
**Wednesday, July 22nd.**—Joint discussion with the Section of Public Medicine: Tuberculous Disease of the Eye. To be opened by Professor CALVE (Paris), followed by Mr. W. T. G. PUGH (Carshalton), and Dr. F. J. POYNTON with Section of Surgery on reference to Organization and Teaching. (See above.)

**PUBLIC MEDICINE.**

**President:** T. EUSTACE HILL, O.B.E., M.D., F.R.C.P. (London).

**Vice-Presidents:** T. W. NAYLOR, L.R.C.P. (Wallsay); J. F. BLACKET, M.D. (London); S. NOY SEOTT, M.R.C.P. (London).

**Honorary Secretaries:** R. E. THOM, Bath; A. NEVILLE COX, M.D., M.R.C.P., Preston Park, Brighton.

The following provisional programme has been arranged:

**Wednesday, July 22nd.**—Joint discussion with the Section of Public Medicine: Pneumatic Infection in Childhood—Early Diagnosis and Preventive Treatment. To be opened by Dr. F. J. POYNTON and Dr. R. A. ASKINS (M.O.H. Bristol), followed by Dr. CAREY F. COOMBS, Dr. REGINALD MILLER, Dr. J. A. GLOVER (Ministry of Health), and Dr. VINCENT COATES.

**Thursday, July 23rd.**—To be opened by Dr. W. G. SAVAGE, M.O.H. Somersetshire. Dr. C. E. GODDARD will speak with special reference to Accidental Contamination. (2) Influence of Sunlight and Artificial Lights on Health. To be opened by Dr. LEONARD HILL, F.R.S., followed by Dr. G. B. DIXON (Yardley Road Sanatorium, Birmingham), who will speak particularly on the Influence of Light on Tuberculosis, and Dr. DORA C. COLEBROOK (North Islington Infant Welfare Centre).

**The following Section will meet on One Day.****MEDICAL SOCIOLOGY.**

**President:** CHARLES E. S. FLEMING, M.R.C.S., L.R.C.P. (Bradford-on-Avon).

**Vice-Presidents:** J. W. BONE, M.B., C.M. (Luton); WILFRED BUCKLEY, C.B.E. (London); G. P. MALT, M.R.C.V.S. (Reading); E. A. STARLING, M.B., M.R.C.P. (London).

**Honorary Secretaries:** C. J. BUELL, combe, Bath; C. J. BUELL, London, S.E.6.

The following provisional programme has been arranged:

**Friday, July 24th—Morning.**—Discussion: What should be the Standard of Purity of Milk? To be opened by Dr. R. STENHOUSE, point of view of the bacteriologist; point of view of the chemist; point of view of the public health officer; point of view of the milk producer; point of view of the milk consumer.

opened by Mr. WILFRED ... as a prod and Mr. ... Two 5hr certified of milk

At 3.45 p.m. motors w where, by invitation of guests will be shown the

The Honorary Local General Secretary for the Annual Meeting is Mr. W. G. MUMFORD, O.B.E., F.R.C.S. (British Medical Association Committee Rooms, Assembly Rooms, Bath); and the Honorary Assistant Secretary is Dr. R. G. GORDON.

**TRAVELLING ARRANGEMENTS.**

To members intending to be present at the Bath Annual Meeting the railway companies have agreed to issue return tickets at the cost of a single fare and a third. The concession applies to all railway companies in Great Britain (but not in Ireland), and the tickets will be available from July 15th to July 27th. They will be issued only upon production of a special voucher signed by the Financial Secretary of the British Medical Association, present address: 429, Strand, W.C.2, to whom application should be made.

For the convenience of members residing within a radius of fifty miles of Bath, the railway companies have undertaken to issue from Bath on presentation at the booking office of the Official Member's Card:

1. Return tickets available for the day of issue or following day, or from Sunday to Monday, at a single fare and a third—minimum 1s. per passenger, fractions of 3d. reckoned as 3d.
2. Season tickets for not less than six days, allowing for more than one journey per day (Sunday being a *dies non*) at a charge not less than the accumulated fares per day (see Clause 1), minimum 1s. per day, fractions of 3d. reckoned as 3d. on each day fare.

The Official Member's Card will be obtainable in the Reception Room at the Banqueting Hall, Guildhall.

Members should use the railway ticket they obtain in exchange for the voucher for the first journey to and the last journey from Bath. For all intermediate journeys the reduced tickets can be obtained by exhibiting the Member's Card to the booking clerk at Bath.

**HOTEL ACCOMMODATION.**

A considerable amount of hotel accommodation is available in Bath. The terms are indicated in the table printed below. It should be noted that the bookings at the Grand Pump Room Hotel and the Empire Hotel for the period of the Annual Meeting are now complete and no further rooms in either of these hotels can be obtained. Members desiring accommodation should write immediately to Dr. R. G. Gordon, British Medical Association Committee Rooms, Assembly Rooms, Bath.

Name of Hotel.	Bed and Breakfast.
Pulteney ... ..	10/6
Francis, Queen Square ... ..	7/6 to 10/6
Francis, Bennett Street ... ..	7/6 to 10/6
York House ... ..	10/6
Spa Hotel ... ..	10/6
Lansdown Grove ... ..	10/6
Pratt's Hotel ... ..	10/6
Fernley ... ..	10/6
Christopher ... ..	8/6 to 10/6
Angel Hotel ... ..	7/6 to 10/6
Edgar Hotel ... ..	7/6
Southbourne ... ..	7/6 to 10/6
Westbourne ... ..	7/6
Carlton (Private) ... ..	7/6
Rockcliffe (Private) ... ..	7/6
Royal Hotel ... ..	12/- per day
Grosvenor Hotel ... ..	10/6 per day
Carfax Hotel (Private) ... ..	7/6 (£3 3s. per week)
Cleveland (Private) ... ..	£3 3s. per week
Waldron's Hotel ... ..	7/6
Harris's Hotel ... ..	7/6
Weston Hotel ... ..	8/6
Limpley Stoke Hydro (eight miles out of Bath) ... ..	10/6

There are also several boarding houses and private rooms, the terms for which may be had on application.

## THE PATHOLOGICAL MUSEUM.

The committee responsible for the organization of the Pathological Museum is anxious to secure the co-operation of the officers of the various scientific Sections at the forthcoming Annual Meeting in Bath of the British Medical Association. The committee will be glad to take charge of, and place in the museum for exhibition, any specimens, casts, photographs, diagrams, or microscopic slides during the time they are not required by those who are reading papers or taking part in the discussions. Every care will be taken of specimens, and the contents of the museum will be insured.

## THE ANNUAL EXHIBITION.

In connexion with the Annual Meeting at Bath, the exhibition of surgical instruments, appliances, x-ray apparatus, drugs, books, foods, etc., will be held in the Market Hall from Tuesday, July 21st, to Friday, July 24th, inclusive.

## ANNUAL DINNER.

The Annual Dinner of the Association will be held at the Assembly Rooms, Bath, on Thursday, July 23rd, at 7 p.m. Full evening dress will be worn, with decorations. The accommodation is limited to 400, including ladies. The price of the dinner ticket is 12s. 6d., exclusive of wine, and £1 1s. with wine. Those intending to be present are requested to address their applications to Mr. A. de V. Blathwayt, 6, Brock Street, Bath.

## GOLF COMPETITIONS AT THE ANNUAL MEETING.

## THREE CUPS FOR COMPETITION.

The British Medical Association holds each year a golf competition wherever the Association happens to be holding its Annual Meeting. In the past members have only had the privilege of playing for two cups—namely, the Ulster Cup, presented to the Association by the Ulster Branch, and first played for during the Annual Meeting at Belfast in 1909, and the Childs Cup, presented by Mr. C. P. Childs at the Annual Meeting at Portsmouth in 1923.

There is now, however, a third cup, called the Treasurer's Cup. Mr. N. Bishop Harman, the Treasurer of the Association, generously presented this to the Council for competition at the December (1924) meeting of the Council.

It will be remembered that the Secretaries' Conference at Bradford approved a proposal for a golf competition to be played during the year throughout the Divisions and Branches of the British Medical Association in England, Ireland, Scotland, and Wales. Below will be found the rules drawn up by the committee appointed at the Conference which govern the competition this year. The cup will, of course, only be held for one year. It must be understood that the rules are for this year only and will be reconsidered in the light of the experience of this year's competition. The competition is in three stages: (1) a knock-out competition in the Divisions (the winners' names were given in the SUPPLEMENT of May 16th), (2) a knock-out competition in the Branches (due to be completed by June 1st), and (3) the final stage, to be played off on Friday, July 24th, during the Annual Meeting of the Association at Bath.

## RULES AND REGULATIONS FOR PLAY.

## The Ulster and Childs Cups.

Both cups will be played for during the same round. The Ulster Cup is open to all members of the Association, the maximum handicap allowed being 18; the Childs Cup is open to all members of the Association who have a handicap of 10 or over, 18 being the maximum again allowed. Play in both cases is against bogey. If the Ulster Cup is won by any competitor with a handicap of 10 or over the Childs Cup will be presented to the player (with a handicap of 10 or over) with the next lowest score.

Conditions of play are as follows:

1. One round of 18 holes to be played on Thursday, July 23rd, by kind invitation of the Bath Golf Club at their course.
2. Competitors are not permitted to put in previous play on the course on the day of the competition.

3. Intending competitors are required to furnish with their entry a certificate signed by their club secretary stating (a) their lowest handicap, (b) the bogey score of their own course, and (c) the length of their own course.

4. Entries to be made at the Reception Room before 6 p.m. on Wednesday, July 22nd.

5. Competitors may choose their own partners, although partners will be arranged for by the committee on notice being given at the time of entry.

6. Play to commence at 9.30 a.m., no cards to be issued after 3.30 p.m.

## Treasurer's Cup.

To be played in three stages. Entrance fee 2s. 6d. Open to all members of the British Medical Association.

**First Stage.**—Entries to be handed in to the Secretary of the local Division by November 15th. Arrangements for the eliminating rounds to be in the hands of a special Golf Subcommittee or, failing this, the Executive of the Division. Competition to be a knock-out competition under handicap rules, members' club handicap to be accepted. Once a handicap has been settled by the Division Executive or Golf Subcommittee no alteration can subsequently be made. Draw to be arranged by the Golf Subcommittee, first round to take place by January 1st. Matches to be played upon ground mutually agreed upon by the players. Failing agreement the matter to be referred to the Golf Subcommittee for decision. Subsequent eliminating rounds to be arranged so that first stage will be completed by March 15th.

**Second Stage.**—Division winners in the area of the Branch to engage in knock-out competition. This stage to be completed by June 1st. Committee in charge—the Branch Council or special Golf Subcommittee appointed; arrangements as in first stage. For the purposes of this competition the Metropolitan Counties Branch Inner and Outer Groups will count as separate Branches.

**Note.**—In some Divisions or Branches it may be convenient to play one or more of the rounds on one day—making a "field-day" for golfing members of the Division or Branch.

**Third Stage.**—The successful forty-four competitors will play off under medal play conditions (handicap) on the Friday (July 24th) during the Annual Meeting of the Association at Bath. Winner to be the one who returns the lowest score under handicap. Arrangements for this stage to be made by the Central Committee appointed by the Secretaries' Conference.

All disputes to be settled by the Committee responsible for completion of each stage. Dates must be strictly adhered to. No extension of time can be given.

## LADIES' SPORTS.

Those responsible for the arrangements for the comfort and convenience of members and the ladies accompanying them are anxious to have information, which will enable them to satisfy everybody. As notified in our issue of April 4th, ladies accompanying members and lady members of the Association are to be made honorary members of the local golf and tennis clubs, and it will greatly assist in the arranging of matches and competitions if intending players will send their names in advance to Mrs. Dorceton, 16, Queen Square, Bath, who is Chairman of the Ladies' Sports Subcommittee.

## GARAGE ACCOMMODATION.

Members requiring garage accommodation for the whole or part of the period of the meeting are requested to make early application to Mr. C. Terry, F.R.C.S., 15, The Circus, Bath.

## PROVISIONAL TIME-TABLE.

## FRIDAY, JULY 17TH.

10 a

## SATURDAY, JULY 18TH.

9.30 a.m.—Representative Meeting.  
10 a.m. and 2 p.m.—Exhibition of the Bath Golf Club.  
11 a.m.—Lunch at the Bath Golf Club.  
8.30 a.m.—Lunch at the Bath Golf Club.

## SUNDAY, JULY 19TH.

11 a.m.—Services at various places of worship.  
2 p.m.—Excursion to Stonehenge.

## MONDAY, JULY 20TH.

10.30 a

Theatre.

## TUESDAY, JULY 21st.

9.30 a.m.—Opening of Annual Exhibition.

9.30 a.m.

Representative

4.30 p.m.—Official Religious Service in the Abbey.  
7.45 p.m.—Adjourned General Meeting and President's Address.  
9.30 p.m.—President's Reception and Dance.

## WEDNESDAY, JULY 22nd.

9 a.m.—Council Meeting.  
9 a.m. to 5 p.m.—Exhibition open.  
9 a.m. to 5 p.m.—Pathological Museum.  
10 a.m.—Sectional Meetings.  
10 a.m.—Excursions, etc., for Ladies.  
1 p.m.—Irish Graduates' Luncheon.  
1.45 p.m.—Various Excursions.  
2.30 p.m.—Secretaries' Conference.  
6.30 p.m.—Secretaries' Dinner.  
8.30 p.m.—Civic Reception by Mayor and Danco.

## THURSDAY, JULY 23rd.

8 a.m.—Temperance Breakfast.  
9 a.m.—High Mass, St. John's Church.  
9 a.m.—Pathological Museum.  
9 a.m.—Sectional Meetings.  
10 a.m.—Excursions, etc., for Ladies.  
1.45 p.m.—Various Afternoon Excursions.  
2.15 p.m.—Demonstration of Cases of Rheumatic Disease, Mineral Water Hospital.  
2.30 p.m.—Demonstration at Ear, Nose, and Throat Hospital.  
7 for 7.15 p.m.—Annual Dinner.  
7.15 p.m.—Theatre Royal.  
8 p.m.—Concert.  
11 p.m.—Concert, Bath Division.

## FRIDAY, JULY 24th.

9 a.m.  
9 a.m. to 5 p.m.—Pathological Museum.  
10 a.m.—Sectional Meetings.  
10  
1  
2  
2 p.m.—Demonstration of Cases at Pensions Hospital, Combe Park, and Crippled Children's Hospital.  
2 p.m.—Various Excursions.  
3 p.m.—Lecture, Sir W. H. Bragg, K.B.E., F.R.S.  
8 p.m.—Masonic Meeting.  
9 p.m.—Ladies' Ball.

SATURDAY, JULY 25th.  
Various Excursions.

## British Medical Association.

## CURRENT NOTES.

## Opening of the New British Medical Association House.

MANY inquiries are being received as to the opening ceremony on July 13th, announced in last week's JOURNAL at p. 1047. It is expected that it will be possible to make a full announcement in the JOURNAL of next week. In the meantime it may be said that the number of seats available will be far fewer than the applications made for them, and it is apparent that after the allocation of seats to the official guests, members of the Reception Committee, members of Council, and official representatives of the Branches and Divisions, it will be necessary to ballot for the remainder of the seats, which will be comparatively few. The names of those applying for admission are being noted for the ballot.

## The "British Medical Journal": New Address.

The Editorial and Printing Departments of the BRITISH MEDICAL JOURNAL have been removed from 429, Strand, to the new headquarters building of the British Medical Association in Bloomsbury. The postal address for all communications intended for the Editor is "BRITISH MEDICAL JOURNAL, British Medical Association House, Tavistock Square, W.C.1," the telephone number of the Editorial Department is Museum 9864, and the telegraphic address "Aitiology, Westcent, London." Until further notice is given in these columns, all communications with reference to advertisements, as well as orders for copies of the JOURNAL, should continue to be addressed to the Financial Secretary and Business Manager, and the Library of the Association will be removed about June 17th, and the Finance Department about June 18th.

## Association Notices.

NOTICES OF MOTION BY DIVISIONS FOR THE  
ANNUAL REPRESENTATIVE MEETING,  
BATH, 1925.

## Salaries of County Medical Officers of Health.

By SHROPSHIRE AND MID-WALES: That (with reference to the Recommendation contained in para. 164 of the Annual Report of Council) the minimum commencing salary of County Medical Officers of Health, with a county population not exceeding 50,000, be £800-£900 per annum.

## Salaries of "Medical Officers Employed in Departments."

By NORTH GLAMORGAN AND BRECKNOCK: That (with reference to the Recommendation contained in para. 164 of the Annual Report of Council) in the opinion of the Representative Body the minimum commencing salary for "Medical Officers employed in Departments" should be £500 per annum, and that the Council be instructed to take such action as is necessary to modify the scale in this respect.

## Income Tax and Subscription to the Association.

By NEWCASTLE-ON-TYNE: That (with reference to para. 112 of the Annual Report of Council) for the purposes of assessment for income tax, members of the profession who are assessed under Schedule E should be entitled to a rebate in respect of the subscription to the British Medical Association and kindred societies in the same manner as those who are assessed under Schedule D.

## Individual Medical Defence.

By CARDIFF: That as the matter of individual medical defence is being competently dealt with by various existing bodies, and as it does not appear that the Association could conduct medical defence in any cheaper or better manner, and as the provision of individual medical defence is not within the present powers of the Association, this meeting is of the opinion that the matter should be dropped, and that the expense of the proposed referendum of the profession be not incurred; but that the Association should bring to the notice of all practitioners, especially those recently qualified, the urgent necessity of joining one of the medical defence bodies.

## CHANGES OF AREAS.

## FORMATION OF A ST. PANCRAS DIVISION.

NOTICE is hereby given to all concerned that at the request of a meeting of Members and Non-members resident in the area of the Borough of St. Pancras and with the approval of the Metropolitan Counties Branch and Hampstead Division, the Council hereby forms a St. Pancras Division of the Metropolitan Counties Branch of area co-terminous with St. Pancras Borough, the area of the Hampstead Division being modified accordingly. The new Division comes into existence as from the date of publication of this notice.

## NEW BRANCH OF THE ASSOCIATION.

## PORT ELIZABETH BRANCH.

NOTICE is hereby given to all concerned that the Council of the Association has approved the formation, by the South African Committee, of a Port Elizabeth Branch, of area co-terminous with the combined areas of the following districts: Port Elizabeth, Uitenhage, Willowmore, Jansenville, Humansdorp, Uniondale, and Knysna, the new Branch to come into existence on April 21st, 1925. The area of the Cape of Good Hope (Eastern) Branch is modified accordingly.

Representation in Representative Body: Under the standing provision made by the Council, the Branch will be entitled to return one Representative to the Representative Body.

## TABLE OF DATES.

June 13, Thurs. Meetings of Constituencies must be held between this date and July 17th to instruct Representatives.  
June 27, Sat. Supplementary Report of Council appears in SUPPLEMENT.  
July 3, Fri. Amendments and riders for issue in A.R.M. Agenda must be received by this date.  
July 13, Mon. Opening of the New House of the British Medical Association by His Majesty King George accompanied by Her Majesty Queen Mary.  
July 17, Fri. Annual Representative Meeting opens at Bath. Nominations for election of 12 members of Council by grouped Representatives must be received (at A.R.M., Bath) by this date.  
July 18, Sat. Annual Representative Meeting, Bath.  
July 20, Mon. Council, and Annual Representative Meeting, Bath.  
July 21, Tues. Annual General Meeting.  
July 22, Wed. Conference of Honorary  
July 23, Thurs. Bath.  
July 24, Fri. Bath.  
ALFRED COX, Medical Secretary.

Meetings of Branches and Divisions.	
PLACES TO BE HELD	
AND GALE	

be provided at the Infirmary after the meeting, by the kindness of the members of the West Cornwall Division. The annual dinner of the Branch will be held at 7.15 p.m. at the Red Lion Hotel, Bournemouth, 20, Lemon Street, Truro. Early application for tickets will greatly facilitate arrangements, and in any case should be made not later than first post of Saturday, June 20th. Accommodation can be privately arranged for visitors intending to stay the night at Truro, provided notice is received.

**SUFFOLK BRANCH:** West Suffolk Division.

West Suffolk Division will be held at the same time and place as the last meeting of the Suffolk Division.

provided notice for visitors intending to stay the night a  
Suffolk Branch: WEST SUFFOLK DIVISION.—A meeting of the  
West Suffolk Division will be held on Tuesday, June 23rd, for the  
consideration of the Annual Report of Council, which will be pre-  
sented as follows: Dr. O. R. M. Wood, Preliminary, finance,  
organization, British Medical Journal; Dr. G. H. Metcalf,  
science, medical ethics; Dr. B. E. A. Batt, Medico-political, Parlia-  
mentary elections; Dr. Grace Griffith, National health insurance,  
non-pand, public health and Poor Law, hospitals, naval and military,  
combined clinical and social meeting of the Division, August 6th, when Dr.  
ance on Thursday, August 6th, when Dr.  
garden will follow.  
Suffolk Division.

**SURREY BRANCH.**—The annual meeting of the Surrey Branch will be held in the Guildhall, Guildford, on Wednesday, June 24th, at 1.45 p.m. Agenda: To receive (a) report of the election of new officers, who shall thereupon take office; (b) report of the Branch Council and the annual financial statement. Address by the President, Mr. Sir Henry Gauvain will proceed by car to Alton, where he will be held at the Angel Hotel, Guildford, at 1 p.m. After Governor Lord Mayor Treloar Gauvain will afterwards conduct the party to tea at his private clinic at the Angel Hotel, Guildford, at 7 p.m. (tickets 7s. 6d., exclusive of wine). It is hoped that as many members as possible will stay to the dinner.

**WILTSHIRE BRANCH.**—The annual meeting of the Wiltshire Branch will be held at the Trowbridge Division, at the Trowbridge Hotel, Trowbridge, on Saturday, June 26th, at 1.45 p.m. Agenda: To receive (a) report of the election of new officers, who shall thereupon take office; (b) report of the Branch Council and the annual financial statement. Address by the President, Mr. Sir Henry Gauvain will proceed by car to Alton, where he will be held at the Angel Hotel, Guildford, at 1 p.m. After Governor Lord Mayor Treloar Gauvain will afterwards conduct the party to tea at his private clinic at the Angel Hotel, Guildford, at 7 p.m. (tickets 7s. 6d., exclusive of wine). It is hoped that as many members as possible will stay to the dinner.

**WILTSHIRE BRANCH:** Trowbridge Division.—A special general meeting of the Trowbridge Division will be held at the Trowbridge Town Hall to-day (Saturday, June 13th) at 3 p.m. Agenda: Arrangements for the entertainment by the Division of visitors to Bradford-on-Avon from the Annual Meeting at Bath on July 23rd next; appoint a Representative of the Division of visitors to attend the Queen on July 13th. The following provisional programme has been drawn up by the Executive of the Division: (1) Clinical afternoon meeting at Devizes early in December, when Mr. Cecil Terry, F.R.C.S., will read a paper, to be preceded by a dinner. (2) Evaluation, to be followed by supper, in Trowbridge Town Hall early in March, 1926.

**WORCESTERSHIRE AND HEREFORDSHIRE BRANCH.**—The annual meeting of the Worcestershire and Herefordshire Branch will be held at the Worcester General Infirmary on Thursday, June 18th, at 3 p.m. Business: To elect (a) President, 1926-27; (b) honorary secretary and treasurer; to receive Council's Report and the annual financial statement. At the conclusion of business Dr. Dryland vacates the chair and will introduce his successor, Dr. Neville Crowe. Cases and notes of clinical interest will be shown. It is proposed that members meet for lunch at the Crown Hotel at 1.15 p.m. The Branch Council will meet at 2.45 p.m.

**YORKSHIRE BRANCH: SHEFFIELD DIVISION.**—The Sheffield Division will be held at the Sheffield, on Tuesday, June 14th, at 1.15 p.m. The Divisional Committee will be held at the Sheffield, on Tuesday, June 14th, at 1.15 p.m. The Divisional Committee will be held at the Sheffield, on Tuesday, June 14th, at 1.15 p.m.

Yorkshire Branch: SHEFFIELD DIVISION.—A general meeting of the Sheffield Division will be held at the Church House, St. James Street, Sheffield, on Tuesday, June 23rd, at 8.30 p.m. Agenda: Consider Report of Council (SUPPLEMENT, BRITISH MEDICAL JOURNAL, April 11th); instructions to Representatives. Several members have consented to introduce the discussion of important sections of Council's Report as follows: Medico ethics, Dr. Helm; medico political, Dr. Forbes; national health insurance, Dr. Mackinnon; public health, Dr. Wyne; hospitals, Mr. A. Garrick Wilson.

## Meetings of Branches and Divisions.

Branches and Divisions.

BORDER COUNTIES BRANCH: DUMFRIES AND GALLOWAY DIVISION.

The annual meeting of the Dumfries and Galloway Division was held in Dumfries on May 21st, and as the weather was fine the attendance was a "record" one. After the routine business, which included the election of Dr. P. M. Kerr as Chairman and Dr. M. B. Steuart as Vice-Chairman, and the re-election of the other officials and committees, instructions were given to the representative in the Representative Body. Dr. Kerr briefly introduced an interesting and instructive lecture on the treatment of abortion. He dealt with his subject in such a lucid and practical way as to command the rapt attention of all present. After tea an animated discussion followed, in which Drs. SELBY, LIVINGSTON, HUNT, BRYSON, HUSKIE, ELNER, JOSEPH HUNTER, ROBERTSON, WELLS, and KERR took part. Professor WATSON'S reply brought to a close one of the most successful meetings of this Division.

CONNAUGHT BRANCH:

annual general meeting of the Connaught Branch was held in the Royal Victoria Hotel, Dublin, on the 21st inst.

The annual general meeting of the Connaught Branch at the Railway Hotel, Gnlwa, on May 23rd, when Dr. R. B. MARON was in the chair. The following officers were elected :  
President, Dr. R. L. Roe, O.B.E. *Honorary Secretary and Representative in Representative Body*, Dr. John Mills.  
The Annual Report of Council was considered and the HONORARY SECRETARY reported on the work done by the last Representative Meeting.

The annual general meeting of the Connought Branch, at the Railway Hotel, Glnway, on May 23rd, when Dr. R. B. MARION was in the chair. The following officers were elected :  
*President*, Dr. R. L. Roe, O.B.E. *Honorary Secretary and Representative in Representative Body*, Dr. John Mills.  
The election of Dr. Denis Walsh to the Council was agreed to. The Annual Report of Council was considered and the *Honorary Secretary* reported on the work done by the last Representative Meeting.

On the motion of Dr. E. S. FOLEY, seconded by Dr. GRAY, the following resolution was unanimously carried:

That the Connaught Branch congratulates Dr. Hennessy on his election as a member of the Hall, and is of opinion that his opportunities of supporting the interests of the profession will be greatly increased thereby.

#### MALAYA BRANCH.

The annual general meeting of the Malaya Branch was held at Kuala Lumpur on April 10th, 11th, and 12th.

At the business meeting on April 10th, Dr. G. B. McHUTCHINSON, who presided, read his report as outgoing President.

The following officers were elected for the year:

*President:* Dr. A. R. WELLINGTON. *President-Elect:* The Hon. Dr. A. L. HOORS. *Vice-President:* Dr. Hunter (for Singapore), Dr. Glass (for Penang), Dr. Macaulay (for F.M.S.). *Representatives:* Council of Straits Settlements: Sir David Galloway, Dr. Noel Clarke; Council of F.M.S.: Sir Malcolm Watson, Dr. McHutchinson; Council of King Edward VII Medical School: Dr. Ratnay. *Branch Council—Singapore:* Dr. English, Dr. Chen Su Lan; Penang: Dr. Sharp; F.M.S.: Dr. Skae. *Honorary Secretary:* Dr. Dawson. *Honorary Treasurer:* Dr. Noel Clarke.

Dr. A. R. WELLINGTON read a paper on coolie welfare in Sumatra, which was followed by a discussion in which the CHAIRMAN, Sir MALCOLM WATSON, the Hon. Dr. A. L. HOORS, and Drs. E. H. BLACK, SKAE, and HAZEA took part. Sir DAVID GALLOWAY read a paper on inguinal lymphadenitis. The CHAIRMAN, Drs. FLETCHER and K. BLACK took part in the subsequent discussion. Dr. A. NEAVE KINGSBURY gave a demonstration of the preparation of antirabic vaccine, and of a paralysed rabbit and sheep which had been inoculated with the fixed virus. During the afternoon visits were made to the infant welfare centre and the malaria bureau.

On the morning of April 11th Mr. H. LEIGH BENNETT gave an interesting demonstration of the principles and difficulties of anti-malarial drainage. Sir MALCOLM WATSON gave a lantern demonstration in the Institute for Medical Research on estate sanitation in Assam: the CHAIRMAN (Dr. A. R. WELLINGTON) and the Hon. Dr. A. L. HOORS took part in the discussion. The Hon. Dr. A. L. HOORS read a paper on malarial research in the Lee County, South Georgia, U.S.A., which was discussed by the CHAIRMAN, Sir MALCOLM WATSON, Drs. BARNES and RUSSELL of the Rockefeller International Health Board, and Dr. E. H. BLACK. Dr. G. B. McHUTCHINSON read a paper on (a) a case of thrombo-angiitis obliterans, (b) a case of bismuth poisoning: Drs. FLETCHER and KINGSBURY took part in the discussion.

In the afternoon Lieut.-Colonel HOPE FALKNER read a paper on the results of venereal prophylaxis, which was discussed by the CHAIRMAN, Dr. A. L. HOORS, Dr. VISWALINGAM, Dr. FLETCHER, the Mr. HANNIGAN. Dr. PASLEY demonstrated a case of abnormal development of the ileum, and Drs. K. BLACK and KINGSBURY discussed the specimen. Dr. PASLEY then read a paper on a series of cases of gastro-enterostomy, and the CHAIRMAN, Dr. K. BLACK, the Hon. Dr. A. L. HOORS, Dr. McHUTCHINSON, Dr. COSGRAVE, and Dr. VISWALINGAM took part in the discussion. Dr. VISWALINGAM read a paper on granuloma pudendi, which was discussed by the CHAIRMAN, Drs. FLETCHER, K. BLACK, and McHUTCHINSON.

During the afternoon the annual golf competition for the Watson Cup was held at the Selangor golf course, when Dr. D. C. Macaskill won with a score of 81 net.

The annual dinner was held at the Empire Hotel at 8 p.m. Fifty-four persons were present at the dinner, which was followed by a dance at the Selangor Club.

On April 12th Dr. E. A. O. TRAVERS exhibited cases of leprosy which had showed great improvement under treatment. He described the organization of the Kuala Lumpur Leprosy Asylum and also gave a demonstration of the anti-opium treatment under his direction at the District Hospital.

#### SURREY BRANCH: GUILDFORD DIVISION.

The annual meeting of the Guildford Division was held on June 4th at the Royal Surrey County Hospital, Guildford, when Dr. LANKESTER, and afterwards Dr. WILLIS, was in the chair.

The following officers were elected:

*Chairman,* Dr. J. K. WILLIS, Horsham Road, Cranleigh. *Vice-Chairman,* Mr. E. W. SHEAF, Guildford. *Joint Honorary Secretaries,* Dr. W. B. JEPSON, M.C., Sayes, West Byfleet; Dr. F. T. HOLLOWAY DAVIES, 6, Dapdune Crescent, Guildford.

The annual report of the Executive Committee, together with the report and accounts of the Division, were received and adopted.

The practice of education medical officers issuing blank certificates signed by them and authorizing school nurses, when visiting public elementary schools, to complete the certificates by inserting the name of the disease for which the child is excluded by her, and the number of weeks for which the child is excluded, was discussed, and strong exception to this procedure was taken on ethical grounds.

#### YORKSHIRE BRANCH: YORK DIVISION.

The annual meeting of the York Division was held in the York Medical Society's Room on May 9th, when Dr. J. G. CRAIG, Vice-Chairman, presided. The following officers were elected:

*Chairman,* Dr. J. G. CRAIG. *Vice-Chairman,* Dr. P. Macdonald. *Honorary Secretary,* Dr. J. C. LYTCH. *Representative in Representative Body,* Dr. P. Macdonald. *Deputy Representative,* Dr. H. E. King Reynolds.

The HONORARY SECRETARY having pointed out that, as the Yorkshire Branch would hold its annual general meeting in York in 1926, the Division had the privilege of nominating the President of the Branch for that year, Dr. Peter Macdonald was unanimously nominated.

Dr. H. E. K. REYNOLDS introduced the subject of lack of hospital accommodation in the district for certain types of cases, particularly measles complicated with pneumonia, pneumonia in late pregnancy, and influenza with pneumonia. He pointed out that apparently the infirmary was the only institution into which such cases could be sent, and that it was neither a suitable place for infectious diseases such as measles nor for pneumonia which might be expected at any moment to be complicated by confinement. The medical officer of health, Dr. McNAUGHT, replying, agreed that there was a great shortage of accommodation at the Fever Hospital, and that special wards should be provided. He agreed that it would be useful if the Division, by deputation to the Health Committee, pressed for an extension of fever hospital accommodation. He however advised that the best prospect of securing reforms in medical matters lay in securing more medical members on the City Council. He stated that the Maternity Hospital could take cases of pneumonia in late pregnancy. There was also limited accommodation for cases of puerperal fever at the Maternity Hospital. After further discussion the Chairman, the Honorary Secretary, and Dr. H. E. K. Reynolds were appointed to wait on the Health Committee with a view to pressing for further accommodation for special cases.

It was decided to present a flag for the Great Hall of the new House of the Association, representing the city of York (where the Association had held its Annual Meeting).

The Annual Report of Council, 1924-25, was considered, and the HONORARY SECRETARY drew particular attention to certain sections.

A vote of thanks was unanimously accorded to the Honorary Secretary, Dr. Lyth, for his services during the past year.

## National Insurance.

### LONDON PANEL COMMITTEE.

At a meeting of the London Panel Committee on May 26th, with Dr. H. J. CARDALE in the chair, the resignation from the Committee of Dr. R. W. COUNCELL, representing Southwark, on the ground of ill health was tendered and accepted with much regret.

#### Disciplinary Action and Errors of Professional Judgement.

Dr. A. S. HERBERT moved a resolution which, after some slight amendments had been accepted, was carried in the following form:

That this Committee views with concern the growing tendency in certain official quarters to regard errors of professional judgement by panel practitioners as breaches of the regulations; and also that an interpretation is being attached to the words "proper standard of medical treatment," which is contrary to that usually understood by the medical profession.

That this Committee therefore wishes, with a full sense of responsibility, to affirm—

(1) That mistakes both in diagnosis and treatment are sometimes inevitable; that such mistakes, when honestly due to error of judgement and not due to gross negligence, should not be considered as breaches of the regulations, and should not be subject to disciplinary action.

(2) That there is not, and cannot be, any fixed "proper standard of medical treatment"; and that any attempt to fix such a standard would be a retrograde measure in that it would tend to stereotype treatment, and would be by no means in the best interests of the patients.

It was agreed to forward the resolutions to the Ministry of Health and the Insurance Acts Committee.

#### The Prescribing of Brandy.

A long discussion took place on a letter from the Insurance Committee asking for the observations of the Panel Committee upon the case of an insured person who had been instructed by her doctor to take a teaspoonful of brandy after heart attacks, to which she was subject. Her approved society, however, suspended her from benefit for a breach of the rules in obtaining spirituous liquor otherwise than on a medical prescription. Consequently upon the receipt of a semi-official letter from the Ministry of Health by the Insurance Committee stating that it had been held in previous cases that where brandy was necessary in the opinion of the practitioner for some definite therapeutic purpose it must be regarded as a drug which could be supplied at the cost of the Drug Fund, the practitioner concerned was advised by the Insurance Committee that he might order brandy if he considered it necessary for medical purposes, and a prescription was accordingly issued by him. Notwithstanding the fact that the Ministry had stated that it was understood that a pharmacist could dispense brandy ordered on medical prescriptions without being in possession of a spirit licence, the Insurance Committee now stated that a communication had been received from the insured person reporting that she had taken the prescription to several pharmacists but had been unable to obtain the brandy.

After some amendments had been proposed and lost, the Panel Committee agreed to the original recommendation of its Pharmacy Subcommittee, to inform the Insurance Committee that it did not look with approval upon the prescribing of brandy by practitioners in the circumstances.



# GENERAL COUNCIL OF MEDICAL EDUCATION AND REGISTRATION. SUMMER SESSION, 1925. (Concluded from p. 249.)

## DENTAL BUSINESS.

### Final Dental Examinations.

SIR JAMES HODSDON brought forward a report of the Dental Education and Examination Committee on the inspection of the final dental examinations. The report set out the result of the inspections made between June, 1923, and December, 1924, by Mr. J. Howard Mummery, the appointed inspector. Mr. Mummery stated that the examinations in the fifteen bodies covered by his report were very satisfactory. The subjects included in the final examination varied considerably at different centres. Thus, while practical dental mechanics was included in the final examination at Belfast, Edinburgh, the Royal College of Surgeons in Ireland, and the National University, by the other examining bodies it was included in a previous examination. Dental anatomy was included in the final examination at Belfast, Edinburgh, Glasgow, and Leeds, but not in any other final examination. An insufficient proportion of candidates appeared to have been asked to perform extractions at Birmingham, Bristol, Dublin (University), the Royal College of Surgeons of England, Liverpool, Manchester, and Sheffield. In some instances the test was not apparently required at all.

The Committee brought forward the following recommendations:

1. That every subject included in the curriculum should form the subject of a written and oral or practical examination.
2. That two examiners should always participate in the oral or practical examinations of a candidate.
3. That whatever may be the system of marking, the percentage for a pass in each subject should not be less than 50 per cent.
4. That it is desirable that, where possible, the practical operative examination in clinical subjects should be conducted on the living subject, and should include dental prosthetics and orthodontia.
5. That it is desirable that, where possible, candidates should be tested in the administration of general anaesthetics in connection with dental practice, and should be required to perform extractions.
6. That the dental subjects of the final examination should be passed at one time.
7. That in the regulations for the several examinations it should be provided that examiners in assessing marks should be empowered to take into account the duly attested records of work done by the candidate throughout his course of study in the subjects of examination.
8. That a candidate remitted in any subject of a professional examination should, before he is readmitted to examination therein, be required to produce satisfactory evidence that he has, during the interval of remission, pursued, at a recognized medical school or dental hospital, the study of the subject in which he was rejected.
9. That candidates who obtain less than 30 per cent. of the marks in any subject should be remitted for a longer period than three months for further study in that subject.

All these recommendations were accepted by the Council, with slight amendments in Nos. 1 and 5. No. 1 was made to read: "That every subject of the professional examination should form the subject of a written and of an oral or practical examination," and No. 5 was amended to read "candidates should be tested in the mode of administration of general anaesthetics," etc.

SIR ARTHUR CHANCE, speaking on No. 4, said that if the student was extracting a tooth and in the extraction broke a jaw he would not be protected as a qualified man was protected. The PRESIDENT said that he was not sure that the qualified man was protected. Sir ARTHUR CHANCE replied that at all events in medicine no student in the practical examination was allowed to do substantial operations on the living subject. Professor LITTLEJOHN, in speaking on No. 5, hesitated to accept the view that the giving of an anaesthetic should be the subject of a practical examination. He would much rather suggest that the student's outside work should be taken into account. Mr. GUY said that in his own school the student attended for a month at a time for instruction in anaesthetics, and he had to have a certificate that he had administered an anaesthetic fifty times before he was signed out. He was invariably tested in this subject in the final examination by two examiners were present. Professor LITTLEJOHN thought that the conditions in the routine of education were somewhat different from those obtaining in examinations, and that in view of the special strain which an examination imposed upon the student he should not be required to give an anaesthetic.

The PRESIDENT asked whether it was fitting that persons should be sent out licensed to administer anaesthetics and the Council not be able to assure the public that their capacity had been tested. He added that these resolutions were based upon those already agreed to by the Council for the medical student; they carried into the narrower field of dental examination the principles adopted for medical examination, and as the resolutions were to be sent to the licensing bodies for their observations thereon, should any of them prove unwelcome the Council would be informed to that effect in due course.

## DISCIPLINARY CASES.

The last of the postponed cases was that of Dr. Nowroji Merwanji Tarachand, registered as of Mansfield, Nottingham, against whom a charge of lax certification had been proved (SUPPLEMENT, June 7th, 1921, p. 271). The Council's solicitor, Mr. Harper, stated that Dr. Tarachand was in a position of some difficulty, because he had sold his practice at Mansfield, and had not practised at all since the previous hearing, therefore he could not obtain the usual testimonials as to the character of his practice in the interval. He had, however, obtained testimonials as to his general character from the two practitioners to whom he had sold his practice.

Dr. Tarachand stated that he had been in practice for the last thirty years, and in insurance practice for the last twelve years; this was the only instance of complaint against him, and he affirmed that he was the victim of jealousy and prejudice. The President reminded him that this was not relevant. Dr. Tarachand added that he had no present intention of practising, but if he did he would be very careful that no occasion of further offence arose.

The Council did not see fit to direct the Registrar to erase Dr. Tarachand's name.

## Misdemeanours.

The case was considered of Dr. Henry James Burke, M.C. registered as of Hadfield, Derbyshire, who was summoned on a charge that he had been convicted in 1924 at the Glossop police court of driving a motor car in a manner dangerous to the public, and at Mottram petty sessions of being drunk in the public motor car. On the first conviction he had been fined and his licence endorsed, and on the second fined 40s. and in default of payment suspended for twelve calendar months. Mr. Harper, the Council's solicitor, stated that since the charge was preferred a further conviction had been discovered, intermediate in date between the other two, for being drunk in charge of a motor car when the defendant was fined two guineas and one guinea costs. Mr. Whittingham, solicitor, who appeared for Dr. Burke, said that his client had asked him to express his deep regret, and to assure the Council that there was no likelihood in future of any deviation from the conduct rightly expected of a medical man. The convictions were not deemed, but there were certain facts to be urged in extenuation. All the convictions were before local magistrates, none of them before a high court judge, a recorder, or even a stipendiary, and in the courts of local magistrates evidence was not always closely tested. Complaint was also made that when Dr. Burke was tested by the police with a view to discovering whether his condition was such that he was capable of driving a motor car, the car afforded him was of an entirely different manufacture from the one he had been accustomed to drive. He handed in on Dr. Burke's behalf four testimonials from important local people, and mentioned that Dr. Burke had served with conspicuous gallantry in the war, venturing out under the open fire of the enemy to attend a badly wounded soldier. He had served, not only in France and Belgium, but in the East, where he had contracted malaria and dysentery, and at the time of these events he was suffering from the effects of these illnesses.

The decision of the Council was announced by the PRESIDENT as follows:

Dr. Burke: I have to inform you that it has been proved to the satisfaction of the Council that you have been convicted of the repeated misdemeanours charged against you in the Notice of Inquiry. These convictions indicate a habit which may be dangerous to a professional man, to the public, and to the patients under his charge, but trusting to your assurance that you will reform your habits in this connexion and in order to give you an opportunity of proving your good faith, they have postponed pronouncing judgement in your case until May next.

Before that date you will be required to send to the Registrar of Council the names of some of your professional brethren or other persons of position in your neighbourhood, who may be willing upon written application from the Registrar to testify by letter, addressed to him for the use of the Council, that you have in fact been sober and have avoided the danger of such lapses as have occurred in the past. You will receive in due course a formal written intimation of what I have just announced to you, and the intimation will specify the date to which I have referred, when you should be present.

The next case was that of Dr. John Edward Rees, registered as of Glandwr, Trecastell, Cardiganshire, who was summoned on a charge that he had been convicted at petty sessions in 1921, 1922, and 1924, of being found drunk, in two cases on the highway, and in the third case on licensed premises, and also on the last occasion of driving a motor car in a manner dangerous to the public.

Dr. Rees was defended by Mr. J. C. Williams, solicitor. In the witness box the defendant denied that he had ever been drunk, and he explained the circumstances in which in each of these cases he had taken a very small amount of stimulant to combat excessive fatigue or illness. On the occasion of the last conviction he did not make any defence at the sessions,

hoping—vainly as it proved—thereby to stop publicity, which would have distressed his wife, who was then in delicate health. During the war he had seen a great deal of service, including Gallipoli and North Russia, and some of these troubles were to be attributed to a legacy of colitis and other illness the result of his war experiences. He was now a total abstainer and intended to remain so. In a letter to the Council he had stated that the charge against him arose as the result of "the insatiable jealousy of rival practitioners." The President pointed out that the convictions were on police charges with which "rival practitioners" had nothing to do, and a letter was read from a doctor in the locality which stated, "I do not believe that Dr. Rees is victimized by his fellow practitioners, but I am sure they do not like his convictions."

Certain evidence was called on behalf of Dr. Rees, including that of a dispenser of Newcastle Emlyn, who testified as to the number of prescriptions he had dispensed for Dr. Rees, and that the latter appeared to be unwell shortly before the date of his last conviction. A Welsh Presbyterian minister also testified to Dr. Rees's high reputation, and other testimonials to professional character were put in.

The President announced the Council's decision, which was in exactly the same terms as in the case of Dr. Burke, already heard, judgement being postponed until May, 1926.

The case was considered of Dr. Austin Heron, registered as of Stranorlar, co. Donegal, who was charged with having been convicted on February 12th, 1925 (in the name of William Gallagher), at the Sutton petty sessions, of certain misdemeanours (exposing his person in the public highway), and fined £5 in one case and £5 and 5s. costs in the other.

Dr. Heron appeared on his own behalf and gave an explanation of the occurrence.

At the conclusion of the hearing the President announced that the Council had found the alleged conviction to have been proved. They recognized that such a conviction was very detrimental to the character of a medical man, and to that extent a discredit to his profession. In order to give the defendant an opportunity of proving that he had re-established his character they adjourned pronouncing judgement until the May session, 1926, when Dr. Heron would be required to appear and to furnish testimonials.

#### Felonies.

The case was considered of Dr. Sureswar Sarkar, registered as c/o Grindlay and Co., Parliament Street, London, who at the Leeds Assizes in March last was convicted of rape and indecent assault and sentenced to five years' penal servitude.

This case was heard in the absence of the accused. Mr. Harper stated that he had a letter from the Governor of Leeds Gaol, where Dr. Sarkar was serving his sentence, stating that the prisoner did not wish to attend, but was preparing a statement to be read; this, however, had not come to hand. The case, as revealed at the assizes, showed a continued series of offences of the most serious character. Sarkar had had quite a distinguished career in medicine. He had won prizes and scholarships in Calcutta, and had held various positions in India, one of them on the medical staff of Lord Kitchener when Commander-in-Chief of the Indian Army. He had also served on various frontier expeditions, and in the war had served in Mesopotamia and elsewhere. He had recently been practising in Sheffield, where the crimes were committed.

The President announced that Sureswar Sarkar having been proved to have been convicted of the felony alleged against him in the Notice of Inquiry, the Registrar had been directed by the Council to erase his name from the *Medical Register*.

Dr. Alex. John Douglas Cameron, registered as of Adelaide House, Northampton, was summoned on the charge:

That you were on October 17th, 1924, convicted of the following felony—namely, of unlawfully killing John Rowlett Corner, and were sentenced to be imprisoned in the second division for nine calendar months.

Dr. Cameron was present, and was defended by Mr. A. Neilson, K.C.

Mr. Harper, solicitor to the Council, said that on Whit-Monday, 1924, Dr. Cameron and another doctor who had been serving as his locumtenent, went from Northampton to Leicester by motor car, Dr. Cameron driving; on returning, the car, which it was alleged was travelling on the wrong side of the road, collided with a motor cycle and sidecar, driven by a farmer named Corner. Corner and the occupant of the sidecar were thrown out and seriously hurt, Corner dying within three days. Dr. Cameron did not stop his car, but rode right on to Northampton. On arriving there it was discovered that extensive damage had been done to the footboard and other parts of the car which Dr. Cameron had been driving. The police also called a number of witnesses to prove reckless driving by Dr. Cameron on that occasion. It was said that if a tourniquet had been applied in time the man's life might have been saved.

Mr. Neilson said that neither Dr. Cameron nor his companion was aware at the time that an accident had occurred. Dr. Cameron thought that it was a very near thing, but that the two vehicles had just escaped collision. It was not his own car, which had broken down, but a car which he found difficult to steer, and the driving of which was rather strange to him: There was no suggestion by the prosecuting counsel or by the judge that Dr. Cameron had any idea that he had struck these people. The judge, in passing sentence, had said, "I am certainly not going to assume for one moment—I do not believe—that you were aware of the harm you had done." The judge had also added, "Nor do I think for one moment that you were what is popularly known as drunk." Mr. Neilson thought that Dr. Cameron's present position was one which might well evoke sympathy. He had suffered his penalty,

had been, in fact, punished most severely, and had "tholed his assize." But the circumstances of this conviction did not involve infamous conduct in a professional respect.

The President said that that was not alleged in the charge.

Mr. Neilson argued that when the Council was considering whether this conviction was of such a nature as to require or not require the erasure of the name of the practitioner, one of the matters which it was fair and proper to consider was whether the offence had any bearing upon professional character.

The President: Yes; but you must not take it that we accept that as a limitation on our powers.

Mr. Neilson added that Dr. Cameron, who qualified in 1909, was very highly regarded in Yorkshire, where he first practised, and in Northampton, and a number of testimonials were put in on his behalf, including one from Sir James Purves-Stewart, who said that he had the highest opinion of Dr. Cameron's personal character and professional skill. Counsel urged that while Dr. Cameron had been careless and culpable in this particular matter, he was at least relieved from the most serious imputation—that, knowing an accident had occurred, he had driven on without stopping.

Mr. Harper said that while Dr. Cameron's testimonials showed his consideration for his patients, the question at issue for the moment was his consideration for the public. Had the various people who had testified as to his professional conduct been in the position of the police witnesses on the road that evening, who stated that he was driving on the wrong side, and at an inordinate speed, they might have qualified their testimony.

The Council deliberated *in camera* for half an hour, after which the President announced the decision as follows:

Mr. Cameron, I have to inform you that the Council do not see fit to direct the Registrar to erase your name from the *Medical Register*.

#### *Alleged Professional Relationship in Adultery.*

The Council considered the case of Dr. Charles Nathaniel Barton, registered as of Redcliffe Garder, who was summoned on the charge that he committed adultery with Mary Kate [redacted] with whom and whose family it was alleged he stood in professional relationship. He had been found guilty of adultery by the decree of the Divorce Court in 1924, made absolute in May, 1925, in the case of Abbott v. Abbott and Barton, in which he was the co-respondent.

Dr. Barton was defended by Mr. Oswald Hempson.

Mr. Harper, the Council's solicitor, stated that this was an undefended case of divorce. At the hearing of the case Mr. Justice Horridge had recalled the petitioner, Mr. Abbott, and asked him whether the co-respondent had been attending his wife professionally. Mr. Abbott answered in the affirmative, and Mr. Justice Horridge then said that the case must be reported to the General Medical Council. He understood that Dr. Barton entirely denied the professional relationship. Mrs. Abbott, whose husband was a civil servant, met Dr. Barton for the first time on a social occasion, and afterwards became, with her husband's consent, his part-time secretary at a salary of £5 a month. There were three occasions on which, it was alleged, Dr. Barton attended the Abbott family professionally. The Abbotts had another doctor, but he lived at some distance, and once when their child was ill Dr. Barton, being close at hand, was called in, but it was said that he merely gave the opinion that the child was teething and offered to telephone to the regular doctor if the parents thought it necessary; on the second occasion Mrs. Abbott consulted a specialist about herself, and Dr. Barton went with her; and on the third occasion Mrs. Abbott called in the doctor to see her husband.

Dr. Barton, in the witness box, said that when he was called in to see the child he did not treat or prescribe for it in any way. When he went with Mrs. Abbott to see the specialist he merely took her in his car (she was at that time his secretary), he stayed in the waiting-room, and had no consultation whatever with the specialist, whom he did not see until the moment before he left the house. He also described the circumstances in which he was called in on the third occasion, when, again, he did not perform any professional service.

Mrs. Abbott gave evidence bearing out these statements; and Dr. Lionel Smith, the specialist concerned, was also called, and said that he was first consulted with regard to Mrs. Abbott's case by Mrs. Abbott's regular medical attendant, not by Dr. Barton, and when she called on him on the later occasion Dr. Barton, whom he did not know, remained in the waiting-room during the whole time, and only appeared in the character of a friend.

Mr. Hempson pleaded on behalf of Dr. Barton that there was no evidence against his client. The only circumstance upon which the charge depended was the answer of Mr. Abbott in the Divorce Court to the question put to him by the judge. He submitted that that had no greater weight than a statutory declaration in the absence of a witness. Mr. Abbott was not called as a witness on the one side or the other.

After deliberation *in camera* the decision of the Council was announced by the President as follows:

Mr. Barton, I have to announce that the facts alleged against you in the Notice of Inquiry have not been proved to the satisfaction of the Council.

#### *Alleged Adultery: Practitioner Exonerated.*

A case which engaged the attention of the Council on May 29th and 30th and June 4th and 5th was one in which Dr. Wilfred Edgar Levinson, registered as of College Road, Brighton, was summoned to appear before the Council on the charge that, being a registered medical practitioner, he abused his position by committing adultery on divers occasions in September, 1924, and subsequently, with a married woman with whom he stood in professional relationship. The complainant was the husband.

Mr. E. Neve, counsel for the complainant, said that the wife, a Brighton lady, underwent an operation in 1921, when the anaesthetic was administered by Dr. Levinson. In 1921 she was found by a specialist to be suffering from some sequel of the earlier trouble, and certain treatment was advised, to be given twice weekly, which Dr. Levinson was asked to undertake. According to the lady, Dr. Levinson during his many visits became familiar, conversation proceeded on quite unprofessional lines, and ultimately misconduct took place. Divorce proceedings were not started, and the complainant and his wife still lived together. Some amateur photographs and some written and printed poetry which had been given by Dr. Levinson to his patient were produced. The lady herself gave evidence bearing out the counsel's narrative, and certain other evidence was given as to the long stay of the doctor's motor car outside the house, and to the curtains of the bedroom being drawn during his visits.

Dr. Levinson, in evidence, gave an absolute denial of the charge. He declared that he had never been guilty of misconduct in any shape or form. The lady was highly neurotic and inclined to be hysterical; when he visited her on one occasion he found that she had made a half-hearted attempt at suicide. What was described by her as being chatty and familiar was simply a device on his part to take her out of herself. He discovered that she also was an amateur photographer, and he brought her some snapshots of his own with the object of stimulating her interest in the pastime. He was accustomed to recite poetry at public gatherings, and to memorize it he wrote out the pieces. On his quoting some poetry on one occasion the lady expressed a desire to see the whole poem, and he sent her the manuscript which he had by him, and also the printed copy of another poem. His car had remained some time outside the house, because it was a convenient place to park the car while he paid several visits in the neighbourhood. The bedroom blinds were drawn because he had to make an examination on each occasion with a speculum, and wanted the room as dark as possible.

Many witnesses were called in support of Dr. Levinson, including Mrs. Levinson, who had accompanied him in the car on very many of the occasions during the period in question, and some of his patients, who spoke in the highest terms of his qualities as a practitioner and a gentleman. Some of them said that he was rather more chatty and affable than the average doctor, and they also bore witness to his interest in amateur photography and in poetry. They all agreed in saying that never on any occasion had they observed the slightest deviation from strict integrity in his conduct, and one or two of them spoke of his special devotion in serious illness.

Mr. A. Neilson, K.C., in his closing speech on behalf of the defendant, remarked on the entire lack of corroboration of what was alleged against him.

After a brief deliberation *in camera*—not more than five minutes—the President announced the decision as follows:

Dr. Levinson: The facts alleged against you in the Notice of Inquiry are that, being a registered medical practitioner, you abused your position by committing adultery on divers occasions in September, 1924, and subsequently, with a married woman with whom you stood in professional relationship. The Council have considered the evidence produced, and have come to the conclusion that the facts alleged as I have read in the Notice of Inquiry have not been proved to the satisfaction of the Council.

#### Misleading Certification.

The Council considered a charge against Dr. Sydney Edgar Price, registered as of Dudley Port, Tipton, Staffordshire, that he was responsible for, and moreover countenanced, the issue to eleven patients of thirty-two misleading and improper National Health Insurance certificates in that he allowed his clerk-dispenser to sign and issue them in his name and on his behalf.

Dr. Price was defended by Sir Henry Maddocks, K.C. Mr. Harper, solicitor to the Council, stated that the certificates in question were issued on various dates in 1924, chiefly in the first three months of that year; they were of all descriptions—first, intermediate, and final. The dispenser, a man named Whitehouse, who had since died, signed these certificates in Dr. Price's name, and also, it appeared, signed a number of prescriptions. An inquiry took place under the Insurance Act, and as a result of the finding Dr. Price was fined by the Minister of Health £100. Mr. Whitehouse stated at the inquiry that he had no authority to sign the certificates, and indeed had had instructions from Dr. Price not to issue them, but the people had pressed him to issue them, saying that they would otherwise be greatly inconvenienced, and he did it to assist them to get their pay.

Dr. Price went into the witness box, and was subjected to a long cross-examination, chiefly with regard to a bundle of about 170 prescriptions which represented, it was said, the whole of his insurance prescriptions during January, 1924; these had been issued in his name by someone else. Looking at the signatures, he could identify only one as positively his own. He said that it had not occurred to him as odd that he should have issued practically no insurance prescriptions during that month. His panel list was 2,500, but in the case of rather less than one-third of the persons on his list he was allowed to do the dispensing in his own surgery, and merely gave a slip of paper to his dispenser. Asked whether the people to whom the prescriptions were issued in January had been seen by him, he said that they could not have been. He was also asked whether he was absent at all from his practice during that month, and said that he did not remember.

The Clerk of the Staffordshire Insurance Committee, Mr. Hodgkins, said that if the doctor had been absent from his practice for more than seven days it would have been his duty to have given notice to the Committee, and there was no record of

Dr. Price having done so. His practice might be styled as semi-urban, and it was permitted to him to dispense for certain patients, whose names were given him. Accepting Dr. Price's figure of 1,800 as the number of persons on his list for whom he had to issue prescriptions, and 700 as the number for whom he could himself dispense, 170 prescriptions would be reasonable in the month of January.

Sir Henry Maddocks, on behalf of Dr. Price, said that his dispenser had been with him sixteen years and had come to know the patients and their ailments. Evidently the dispenser thought he knew as much about the patients as Dr. Price himself; he had confessed to giving the certificates and making out the prescriptions, and to using Dr. Price's name without his knowledge or authority. Counsel urged that none of these issues were wrongful so far as the person receiving them was concerned, that no harm had been proved in any case, and that in any event no moral obloquy attached to Dr. Price. If there had been laxity Dr. Price was sufficiently punished by the £100 fine imposed by the Minister of Health, and as the Minister did not see fit to strike him off the panel, it would scarcely be just for the Council to proceed to the larger penalty and erase him from the Medical Register.

Mr. Harper pointed out that the charge turned on the word "countenanced." There was nothing in the charge about prescriptions; that emerged during the hearing. Mr. Whitehouse, the dispenser, was now dead, but it had to be remembered, in view of what had been said about his confession before the Inquiry Committee, that he might have been biased in the direction of protecting the doctor, who was his employer and upon whom his bread-and-butter depended. This case might properly have come under a charge of "covering" an unqualified assistant. Sir Henry Maddocks had said that no harm had been done, but as to that there was no evidence.

After deliberation *in camera* by the Council, the President announced:

Mr. Sydney Edgar Price, I have to inform you that the Council have found the facts alleged against you in the Notice of Inquiry to have been proved; they have judged you to have been guilty of infamous conduct in a professional respect, and they have directed the Registrar to erase your name from the Medical Register.

#### Alleged Irregularities concerning Medical Benefit.

The Council next considered the case of Dr. Albert Edward Woolfe Sandelson, registered as of Bury New Road, Higher Droughton, Manchester, against whom certain charges had been made at an inquiry held in November last under the Medical Benefit Regulations on a representation by the Salford Local Medical and Panel Committee, that the continuance of the defendant on the Medical List would be prejudicial to the efficiency of the medical service of the insured.

Mr. Harper outlined the charges which had been made against Dr. Sandelson. They were that he had caused to be entered on his day-book sheets a record of attendance of an insured person for the purpose of claiming remuneration in respect of attendance, though the person had on no occasion been attended by him; that he obtained the medical card of this person, though the person had not applied to him for treatment; that he issued certain prescriptions in the name of this insured person, but actually for his son, who was not an insured person, and thereby imposed an improper charge on the drug fund; and, finally, that he entered records of one attendance and three visits to an insured person when in fact he had not made such attendance or visits on the dates in question. The Inquiry Committee found the charges established, except in the case of certain of the prescriptions. Mr. Harper reminded the Council that the arrangements in Manchester and Salford with regard to remuneration were different from those obtaining in the rest of the country; the doctors in that area were required to keep a record of their visits and attendances, and if a return was made by any practitioner of visits and attendances which did not in fact take place it imposed an unfair charge upon the insurance fund. The Council was at a disadvantage because, when the inquiry was opened, it was found that Dr. Smidelson had sent in his resignation from the panel (although it was not competent to do so when an inquiry was pending, without leave of the Minister), and was advised not to appear before the Inquiry Committee, which proceeded on the assumption that he had resigned.

Dr. Sandelson, in evidence, explained the circumstances in which attendances did take place in these cases. He admitted that certain records had been erroneously made by an assistant, but he emphatically denied any charge of "deliberately and fraudulently causing false entries to be made." He also pointed out that it was of no advantage to him to have another name on his list, because he had already exceeded by hundreds of attendances and visits the limit for which he could receive payment. Asked why, with so large an income from the insurance service, he had resigned from the panel, he said that when he found that certain erroneous entries had been made by his assistant, and certain certificates wrongly given, he, knowing himself to be responsible for his assistant's acts, and not wishing his honour to be questioned, resigned from the panel,

Dr. Sandelson was defended by Mr. T. Eastham, K.C., who read the statutory declaration of the patient principally concerned in these charges, and also that of his wife, which bore out Dr. Sandelson's statement as to his attendances. Dr. Sandelson, in evidence, explained the circumstances in which attendances did take place in these cases. He admitted that certain records had been erroneously made by an assistant, but he emphatically denied any charge of "deliberately and fraudulently causing false entries to be made." He also pointed out that it was of no advantage to him to have another name on his list, because he had already exceeded by hundreds of attendances and visits the limit for which he could receive payment. Asked why, with so large an income from the insurance service, he had resigned from the panel, he said that when he found that certain erroneous entries had been made by his assistant, and certain certificates wrongly given, he, knowing himself to be responsible for his assistant's acts, and not wishing his honour to be questioned, resigned from the panel,

as he understood from his legal advisers that if he did so there would be no public inquiry. This was wrong information, and he had also not been told that it was not competent for him to resign.

After deliberation *in camera* the President announced the Council's decision as follows:

Mr. Sanderson, I have to announce that the facts alleged against you in the Notice of Inquiry have not been proved to the satisfaction of the Council.

#### RESTORATION.

The President announced that the Council had restored the name of Nathaniel Stevenson to the Medical Register.

#### Dental Disciplinary Cases.

The Council considered three cases of charges against dentists on reports from the Dental Board. The name of Samuel Robertson Crosbie, registered as of Hamilton Street, Camden Town, "Dentist, 1921," who was found to have been convicted of a felony, fraudulent embezzlement, and sentenced to twelve months' imprisonment with hard labour, was ordered to be erased from the Register. The name of James Gny, registered as of 16, Eglinton Street, Belfast, "Dentist, 1921," who was found to have systematically canvassed for patients in Belfast by personal visits and by employing an agent or agents to canvass on his behalf, was also ordered to be erased. In the case of another dental practitioner, who had been convicted for misdemeanours, and against whom the Dental Board submitted an adverse report, it was stated that the practitioner was unable to appear because he was at present a patient in the Edinburgh Royal Infirmary, and the Council decided to remit the matter back to the Dental Board for further inquiry and report.

### Correspondence.

#### Nursing Homes (Registration) Bill.

Sir,—You have allowed me recently to draw the attention of the profession to many of the objectionable features in this bill, which gives the Minister of Health power to enter the private houses of those doctors who happen to have one or more patients *en famille*, as also every nursing home used by the middle and upper classes, in order to make all sorts of detailed inquiries, inspections, and demands, thus further infringing professional secrecy and our liberties.

The bill is down for second reading on Friday, June 19th, and Sir H. S. Cautley, Bt., has kindly put down a motion that it be read this day six months. As he finds himself, as he writes, committed "to lead the opposition," he has asked for a suitable memorandum on the subject. This is being provided him.

He would undoubtedly appreciate, and find of great assistance, one thing—that is, that every doctor who reads this send him at once at the House of Commons a postcard expressing strong approval and appreciation of his action on behalf of our profession. A similar postcard to the doctor's member of Parliament—same address—urging him to give his support to the "leader" would be of much service. This is quite a simple thing to do. May one hope that it will be done, and at once? Do not let us take any chances.—I am, etc.,

Hove, June 6th.

E. ROWLAND FOTHERGILL.

### Naval and Military Appointments.

#### ROYAL NAVAL MEDICAL SERVICE.

Messrs. J. Cussey, E. O'Reilly, and S. Morrow have entered as Surgeon Lieutenants, and have been appointed to Haslar Hospital for course of instruction.

#### ROYAL NAVAL VOLUNTEER RESERVE.

Surgeon Lieutenant H. O. Martin has been promoted to the rank of Surgeon Lieutenant Commander.

#### ROYAL ARMY MEDICAL CORPS.

Captain M. Ferguson to be temporary Captain, and relinquishes the rank of Captain.  
Captain J. Stephenson, M.C., half-pay list, late R.A.M.C., retires on account of ill health.

#### ROYAL AIR FORCE MEDICAL SERVICE.

Flight Lieutenant J. A. Quin is transferred to the Reserve, Class D.2.  
R. F. G. Dickson is granted a short-service commission as Flying Officer for three years on the active list.

#### INDIAN MEDICAL SERVICE.

The services of the following officers are placed permanently at the disposal of the Government of the Punjab: Major M. L. Puri, Major A. M. Dick, O.B.E., Lieut.-Colonel V. N. Whitmore, O.B.E., Lieutenant C. R. Henderson to be Captain.

#### MILITIA.

##### ROYAL ARMY MEDICAL CORPS.

The following Captains to be majors: F. G. Foster, W. E. Elliot, M.C., W. W. Wagstaffe, O.B.E., C. Atkinson, H. K. Ward, M.C., H. W. Maltby, M.C.

#### TERRITORIAL ARMY.

##### ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel C. I. Ellis, C.M.G., T.D., from R.A.M.C., T.A., to be Colonel (March 1st, 1925).

Second Lieutenant J. R. McDonald, M.C. (Inte Border Regiment), to be Lieutenant.

General Hospitals.—Major D. Dougal, M.C., to be Lieutenant-Colonel and to command 12th (2nd Western) General Hospital, vice Lieut.-Colonel J. H. Ray, vacated on completion of tenure.

#### COLONIAL MEDICAL SERVICES.

Lieut.-Colonel T. M. R. Leonard, D.S.O., Senior Medical Officer, West African Medical Staff, to be an Assistant Director of Medical Service in Nigeria, vice Dr. T. H. Dugon, deceased. Drs. J. H. Neill and R. G. Griffin appointed Medical Officer of Health, Jinja, and Medical Officer, Lake Area, Uganda, respectively. Dr. G. R. H. Chell appointed Deputy Principal Medical Officer, Eastern Province, Uganda. Dis. N. A. Robinson and A. M. K. O'Halloran, Women Medical Officers (Medical Department), Gold Coast, transferred to the Sanitary Branch. Drs. E. J. Crawford and E. J. Daly appointed Medical Officers, Nigeria and Gold Coast respectively. Dr. J. Jackson-Moore, Senior M.O., Nigeria, appointed Chief Construction M.O., Nigerian Eastern Railway Construction.

### VACANCIES.

BIRMINGHAM AND MIDLAND EAR AND THROAT HOSPITAL.—Junior House-Surgeon (non-resident). Salary at the rate of £200 per annum.

BRADFORD CHILDREN'S HOSPITAL.—House-Surgeon. Salary £100.

BRIGHTON: ROYAL SUSSEX COUNTY HOSPITAL.—(1) Honorary Surgeon. (2) Honorary Assistant Surgeon.

CANCER HOSPITAL, Fulham Road, S.W.3.—House-Surgeon. Salary at the rate of £100 per annum.

CHESTER: GRAYINGWELL MENTAL HOSPITAL.—Junior Medical Officer. Salary £450 per annum.

CITY OF LONDON MENTAL HOSPITAL, near Dartford.—Junior Medical Officer. Salary £350 per annum, or £400 if possessing Diploma in Psychological Medicine.

DERBY: DONOTCH MENTAL HOSPITAL.—Locumtenent (male). Salary 7 guineas a week.

GLAMORGAN COUNTY COUNCIL, Cardiff.—Dental Surgeon. Salary £500 per annum, rising to £700.

GONDON HOSPITAL, Vauxhall Bridge Road, S.W.1.—Resident House-Surgeon. Salary £75 per annum.

GREAT YARMOUTH HOSPITAL.—House-Surgeon (male, unmarried). Salary at the rate of £150 per annum.

HAMPSHIRE GENERAL AND NORTH-WEST LONDON HOSPITAL, Haverstock Hill, N.W.3.—(1) Casualty Medical Officer. (2) Casualty Surgical Officer. (3) House-Physician. (4) House-Surgeon. Salary at the rate of £100 per annum each.

HENEL HEMPSTEAD: WEST HERTS HOSPITAL.—Resident Medical Officer. Salary £200 per annum.

HERMITAGE SANATORIUM, Whitwell, I.W.—Resident Medical Officer (male). Salary £350 per annum.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.1.—(1) House-Surgeon. (2) House-Physician. (Unmarried.) Salary £50 for six months.

HULL ROYAL INFIRMARY.—Assistant House-Physician (male). Salary at the rate of £130 per annum.

KENSINGTON, FULHAM, AND CHELSEA GENERAL HOSPITAL, Earl's Court, S.W.5.—Junior Resident Medical Officer (male). Salary at the rate of £75 per annum.

LANCHESTER RURAL DISTRICT COUNCIL AND CONSETT URBAN DISTRICT COUNCIL.—Medical Officer of Health. Salary £800 per annum, rising to £900.

LEAMINGTON SPA: WARNEFORD GENERAL HOSPITAL.—Resident House-Surgeon (unmarried). Salary £150 per annum.

LONDON JEWISH HOSPITAL, Stepney Green, E.1.—(1) Assistant Surgeon in the Gynaecological Department. (2) Assistant Surgeon in the Ear, Nose, and Throat Department.

LONDON HOSPITAL.—Head of Department for Medical Diseases of Children. LONDON LOCK HOSPITAL, 91, Dean Street, W.1.—Clinical Assistants in the Out-patients' Department.

MANCHESTER: ANCOITS HOSPITAL.—(1) Resident Surgical Officer (male). (2) House-Surgeon. Salary £200 and £100 per annum respectively.

MAROTTE: ROYAL SEA BATHING HOSPITAL FOR SURGICAL TUBERCULOSIS.—House-Surgeon (male). Salary at the rate of £200 per annum.

NEWCASTLE-UPON-TYNE: ROYAL VICTORIA INFIRMARY.—Honorary Assistant Surgeon.

NORTHAMPTON GENERAL HOSPITAL.—Honorary Surgeon.

PONTYFRIDD URBAN DISTRICT COUNCIL.—Lady Assistant Medical Officer. Salary £600 per annum, rising to £650.

PRESTON AND COUNTY OF LANCASTER ROYAL INFIRMARY.—Junior House-Surgeon. Salary £150 per annum.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney Road, E.2.—Assistant Surgeon to the Ear, Nose, and Throat Department.

ST. PETER'S HOSPITAL FOR STONE, ETC., Henrietta Street, W.C.2.—Clinical Assistants.

SEMIN'S HOSPITAL SOCIETY.—House-Physician and a House-Surgeon at the Dreadnought Hospital, Greenwich. Salary at the rate of £110 per annum, and a proportion of fees.

SUDAN GOVERNMENT.—Assistant Bacteriologist at the Wellcome Tropical Research Laboratories, Khartoum (unmarried). Initial rate of pay £E720 per annum, rising to £E1,200.

SURREY COUNTY COUNCIL.—Assistant Medical Officers in the Public Health Department. Males. Salary £600 per annum, rising to £700.

UNIVERSITY COLLEGE HOSPITAL, Gower Street, W.C.1.—Radiologist. Salary at the rate of £300 per annum.

WEST LONDON HOSPITAL, Hammer Smith Road, W.6.—(1) House-Physician. (2) House-Surgeon. (3) Aural House-Surgeon and Resident Casualty Officer. Males. Salary at the rate of £100 per annum each.

WEST BROMWICH AND DISTRICT HOSPITAL.—Resident Assistant House-Surgeon. Salary £180 per annum.



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# SUPPLEMENT

TO THE

# BRITISH MEDICAL JOURNAL.

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### British Medical Association.

#### CURRENT NOTES.

#### OPENING OF THE ASSOCIATION'S NEW HOUSE BY HIS MAJESTY THE KING.

It is now possible to give further particulars of the arrangements made by the Reception Committee and confirmed by the Council at its meeting on June 10th, for the opening of the New House of the British Medical Association in Tavistock Square, London, on Monday, July 13th, at 3 p.m.

His Majesty the King, who will be accompanied by the Queen, has (as announced in our issue of June 6th) graciously consented to declare the New Building open.

A short dedication service will be conducted at the Gates of Honour by His Grace the Archbishop of Canterbury, who will then open the Gates with the key presented by the Architect, Sir Edwin Lutyens, R.A. Near the Gates will be stands for approximately 200 persons; these seats will be allocated to the relatives of those members of the Association who fell during the great war. Owing to the strict limitation of this accommodation only one seat will be allowed for relatives of each member whose name appears in the *Book of Honour*, and if there are more applications than vacancies there will be a ballot.

A procession will then be formed and proceed through the Courtyard, in which there will be places available for about 100 members of the Association, to the Great Hall. Each medical school in the country will be asked to send one representative student; they will be grouped in the Courtyard. On arriving at the Members' Lounge certain presentations will be made to Their Majesties, and the procession will then pass on to the Great Hall, the doors of which His Majesty will be asked to open with a special key. On reaching the dais in the Great Hall, presentations will be made of representatives of Oversea Dominions and other countries. The Association's Address to Their Majesties will then be read; the King will reply, and will then declare the building open. The procession will leave the platform and Hall, going to the Library, where the *Book of Honour* will be inspected and Mr. F. G. Hallett presented. It is hoped also to have in the Library a few

antiquarian and professional objects of great interest for inspection by Their Majesties, who will afterwards leave by the Courtyard, driving through the Gates of Honour. After the departure of Their Majesties guests will be free to inspect the building, and tea will be taken.

Much attention has been given to making the occasion a great demonstration of the solidarity of the medical profession, as well as a representative gathering of members of the British Medical Association. Limitations of space make it impossible to find seats for more than a small minority of those who desire to witness the ceremony. Invitations have been sent to the Past-Presidents and Vice-Presidents of the Association, to Past-Chairmen of the Representative Body, Past-Chairmen of Council, Gold Medallists, Honorary Members, Past-Secretaries of Annual Meetings, and former central officials of the Association; to representatives of the General Medical Council, the colleges, universities, and medical corporations and medical and allied societies in the British Isles, of European medical societies, of the American Medical Association, and to the heads of the Medical Departments of the Services, to the medical Members of Parliament, and to those members of the Central Medical War Committee who are not included in other categories. The non-medical invitations are to certain Ministers and heads of Government Departments with which the Association is frequently in contact, the High Commissioners for the Dominions, representatives of the City of London, the London County Council, the Borough of St. Paneras, and the City of Bath; to representatives of the Dental Board of the United Kingdom, and certain persons to whom the Association owes special consideration, among whom may be mentioned Lady Horsley, Mrs. G. E. Haslip, and Mrs. Forbes Fraser.

After providing for seats for the Overseas delegates, members of Council and the Reception Committee, and allowing for those invitations which may not be accepted, there will probably remain some 260 seats in the body of the Hall. To fill these, invitations have been sent through their secretaries to all Divisions and Branches in the United Kingdom inviting each of those bodies to send one official representative, who may be either the President or Secretary of the Branch, or the Chairman, Secretary, or Representative of the Division. Any vacancies left by the

inability of the Divisions to send such official representatives will be allotted, with any remaining seats, to members of the Association, by ballot; and the names of those who apply for seats, and who will not receive invitations otherwise, are being noted for the ballot.

The balcony at the south end of the Great Hall will be allotted to the wives of members of the Reception Committee, of Chairmen of Standing Committees and other members of Council, and of those Dominion representatives who are being presented to Their Majesties. It will thus be seen that apart from relatives of those members whose names are in the *Book of Honour*, there will be at least 150 places to be allotted to members of the Association by ballot, of which probably 100 will be in the Courtyard. It is hoped to arrange that the proceedings at the Gate of Honour shall be transmitted to the Courtyard and the Great Hall by means of loud speakers, and that the proceedings in the Great Hall shall be similarly transmitted to those outside.

In the evening, at 8.30 o'clock, there will be a reception and dance, to which about 1,000 invitations will be issued to those who attended in the afternoon, together with an invitation for a lady, and if there are any vacancies left they will be filled by ballot. Academic dress or uniform, with decorations in either case, will be worn at the afternoon ceremony, and evening dress or uniform, with decorations, at the evening reception.

On the evening of Tuesday, July 14th, the Metropolitan Counties Branch proposes to hold a reception, further particulars of which will be made known later.

#### The British Medical Association: New Address.

The Medical and Finance Departments of the British Medical Association, like the Editorial and Printing Departments of the *British Medical Journal*, have now been removed from 429, Strand, to the new headquarters building of the Association in Bloomsbury. The postal address for all departments is "British Medical Association House, Tavistock Square, W.C.1," and the telephone numbers are Museum 9861, 9862, 9863, and 9864 (four lines, internal exchange). Particulars of the telegraphic addresses will be found in the announcements on the last page of the *Supplement*, immediately preceding the *Diary* of the Association. All communications with reference to advertisements, as well as orders for copies of the *Journal*, should be directed to the Financial Secretary and Business Manager, and all letters intended for the Medical Department to the Medical Secretary, at the new address. The Library of the Association remains for the present at 429, Strand, W.C.2; notice of its removal to the new building will be given in due course.

## Association Notices.

### TABLE OF DATES.

June 27, Sat.	Supplementary Report of Council appears in SUPPLEMENT.
July 3, Fri.	Amendments and riders for issue in A.R.M. Agenda must be received by this date.
July 13, Mon.	Opening of the New House of the British Medical Association by His Majesty King George accompanied by Her Majesty Queen Mary.
July 17, Fri.	Annual Representative Meeting opens at Bath. Nominations for election of 12 members of Council by grouped Representatives must be received (at A.R.M., Bath) by this date.
July 18, Sat.	Annual Representative Meeting, Bath.
July 20, Mon.	Council, and Annual Representative Meeting, Bath.
July 21, Tues.	Annual Representative Meeting. Annual General Meeting, Bath, President's Address.
July 22, Wed.	Council, Meetings of Sections, Conference of Honorary Secretaries, Bath.
July 23, Thurs.	Meetings of Sections, etc., Bath.
July 24, Fri.	Meetings of Sections, etc., Bath.

ALFRED COX, Medical Secretary.

### BRANCH AND DIVISION MEETINGS TO BE HELD.

**ABERDEEN BRANCH.**—The summer meeting of the Aberdeen Branch will be held in the Stotfield Hotel, Lossiemouth, at 12 noon on Saturday, June 27th. The meeting will be a joint one with the Northern Counties Branch. Train leaves Aberdeen at 8.5 a.m.

and returns from Elgin at 7.35 p.m. Lunch in the Stotfield Hotel, Lossiemouth, at 1 p.m. Dinner in the Station Hotel, Elgin, at 6.30 p.m.

**BORDER COUNTIES BRANCH: DUMFRIES AND GALLOWAY DIVISION.**—A social meeting has been arranged in the form of a motor trip to Dalry, Galloway, early in July.

**EAST YORK AND NORTH LINCOLN BRANCH.**—The sixty-ninth annual meeting of the East York and North Lincoln Branch will be held at the Grimsby and District Hospital on Friday, July 10th, at 3 p.m., when the President-Elect, Dr. W. Wallace, will be installed as President for the coming year. Business: Annual report and financial statement; election of officers. The President will deliver the inaugural address.

**LANCASHIRE AND CHESHIRE BRANCH: MID-CHESHIRE DIVISION.**—A meeting of the Mid-Cheshire Division will be held in the Board Room of the Altrincham General Hospital on Wednesday, June 24th, at 8.15 p.m. Agenda: To instruct Representative at the forthcoming Annual Meeting. At the close of the business meeting a dermatological lantern demonstration will be given by Dr. Louis Savatard.

**METROPOLITAN COUNTIES BRANCH.**—The annual general meeting of the Metropolitan Counties Branch will be held at the British Medical Association House, Tavistock Square, W.C.1, on Tuesday, June 23rd, at 4 p.m. Business: (1) Report of scrutineer on election of officers; (2) Annual Report of Council; (3) Report of representatives of the Branch on the Central Council; (4) President's address, by Mr. Comyns Berkeley, "Save the women and children."

**METROPOLITAN COUNTIES BRANCH: ST. PANCRAS DIVISION.**—The inaugural meeting of the St. Pancras Division will be held at the Midland Hotel, St. Pancras, on Tuesday, July 7th, at 8.45 p.m. Agenda: To approve the election of officers, representatives, and executive committee; adopt organization rules. Address by Mr. Bishop Harnian, F.R.C.S., on some common eye conditions.

**NORTH OF ENGLAND BRANCH.**—The annual meeting of the North of England Branch will be held at 7, Windsor Terrace, Newcastle-upon-Tyne, on Thursday, July 2nd, at 12.30 p.m. This will be followed by a luncheon, and the annual golf competition will be held at Gosforth Park on that afternoon. Agenda: Election of officers. The following have been nominated by the Branch Council: President, Dr. J. Hudson. Vice-Presidents, Dr. F. Beaton (Ashington) and Dr. T. J. Kirk (Norton-on-Tees). Honorary Secretary and Treasurer, Mr. Norman Hodgson. Honorary Scientific Secretary, Dr. Harvey Evers. Any other competent business.

**NORTH LANCASHIRE AND SOUTH WESTMORLAND BRANCH.**—The annual meeting of the North Lancashire and South Westmorland Branch will be held at Galgarrth Hospital, Windermere, on Tuesday, June 30th, at 3.15 p.m. Dr. John Hay (Liverpool) will give an address entitled "The significance of raised blood pressure." Members are requested to keep this date free. Ladies are invited.

**NORTHERN COUNTIES OF SCOTLAND BRANCH.**—The annual meeting of the Northern Counties of Scotland Branch will be held at the Stotfield Hotel, Lossiemouth, on Saturday, June 27th, at 12 noon. After the business meeting the members of the Branch will lunch with the members of the Aberdeen Branch, who are holding their annual meeting at the same place and at the same time. Thereafter arrangements have been made for golf on the Lossiemouth golf course and for an excursion to various places of historical interest in the vicinity to be taken part in by both Branches.

**OXFORD AND READING BRANCH: OXFORD DIVISION.**—The next meeting of the Oxford Division will be held at the Radcliffe Infirmary on Wednesday, June 24th, at 2.30 p.m. Agenda: Instructions to Representative to Annual Meeting. Paper:—Dr. F. G. Gardner: "Catarrh an entity?" As the King and Queen are expected to arrive in Oxford soon after 4 o'clock, the meeting will terminate at 3.30. Dr. Ainley Walker's paper is postponed until November 25th.

**SOUTH MIDLAND BRANCH: BUCKINGHAMSHIRE DIVISION.**—The annual general meeting of the Buckinghamshire Division will be held at the Royal Bucks Hospital, Aylesbury, on Monday, June 22nd, at 2.30 p.m. Agenda: Election of officers; Report of Council; instructions to Representative; programme for the year.

**SOUTH-WESTERN BRANCH.**—The eighty-sixth annual meeting of the South-Western Branch will be held at the Royal Cornwall Infirmary, Truro, on Tuesday, June 23rd, at 3 p.m., when Dr. Gordon (President) will resign the chair to Mr. Panting (President-Elect), who will deliver his inaugural address. The report of the Branch Council for the year 1924-25 and the annual financial statement for 1924 will be presented, and the officers for the year 1925-26 elected. Luncheon, by the kind invitation of the President-Elect, will take place from 1 to 2.15 p.m. at the Red Lion Hotel, Truro. Tea will be provided at the Infirmary after the meeting, by the kindness of the members of the West Cornwall Division. The annual dinner of the Branch will be held at 7.15 p.m. at the Red Lion Hotel. Tickets (8s. 6d. each, exclusive of wine) are to be obtained from Dr.

Barnell, 20, Lemon Street, Truro. Early application for tickets will greatly facilitate arrangements, and in any case should be made not later than first post of Saturday, June 20th. Accommodation can be privately arranged for visitors intending to stay the night at Truro, provided notice is received.

**SUFFOLK BRANCH: WEST SUFFOLK DIVISION.**—A meeting of the West Suffolk Division will be held on Tuesday, June 23rd, for the consideration of the Annual Report of Council, which will be presented as follows: Dr. O. R. M. Wood, Preliminary, finance, organization, *BRITISH MEDICAL JOURNAL*; Dr. G. H. Metcalfe, Science, medical ethics; Dr. B. E. A. Batt, Medico-political, Parliamentary elections; Dr. Grace Griffith, National health insurance, non-panel, public health and Poor Law, hospitals, naval and military. A combined clinical and social meeting of the Division will take place on Thursday, August 6th, when Dr. Wood has very kindly offered to entertain the Division once more at Woolpit. Tea in his garden will follow a clinical meeting at the Institute.

**SURREY BRANCH.**—The annual meeting of the Surrey Branch will be held in the Guildhall, Guildford (by kind permission of the Mayor of Guildford), on Wednesday, June 24th, at 1.45 p.m. Agenda: To receive (a) report of the election of new officers, who shall thereupon take office; (b) report of the Branch Council and the annual financial statement. Address by the President, Mr. H. Branson Butler, F.R.C.S.E. The Guildford Division invites members to lunch at the Angel Hotel, Guildford, at 1 p.m. After the annual meeting members will proceed by car to Alton, where Sir Henry Gauvain has invited them to tea at his private clinic at 3.30. Sir Henry Gauvain will afterwards conduct the party over Lord Mayor Treloar Cripples' Hospital (by permission of the Governors). The annual Branch dinner will be held at the Angel Hotel, Guildford, at 7 p.m. (tickets 7s. 6d., exclusive of wine). It is hoped that as many members as possible will stay to the dinner.

**SUSSEX BRANCH.**—The annual meeting of the Sussex Branch will be held in the Blatchington Court Hotel, Seaford, on Friday, June 26th, at 2.15 p.m. Agenda: Correspondence; election of officers; induction of President, who will give an address on some emergencies in general practice; annual report and financial statement; organization rules. The President-Elect (Dr. W. P. Morgan) invites members to luncheon at 1 p.m. Those members intending to be present are asked to notify Dr. Morgan (Sussex Cottage, Seaford) by June 21st. After the meeting members will visit the Seaside Branch of the Chailey Hermitage, and then proceed to the Hermitage at Chingley, where the use of heliotherapy and actino-therapy will be demonstrated. Mrs. Kinniburgh invites the members to tea at the Hermitage. The Seaford Golf Club will welcome members who wish to make use of the links.

**YORKSHIRE BRANCH: SHEFFIELD DIVISION.**—A general meeting of the Sheffield Division will be held at the Church House, St. James Street, Sheffield, on Tuesday, June 23rd, at 8.30 p.m. Agenda: Consider Report of Council (SUPPLEMENT, *BRITISH MEDICAL JOURNAL*, April 11th); instructions to Representatives. Several members have consented to introduce the discussion of important sections of the Council's Report as follows: Medical ethics, Dr. Helm; medico-political, Dr. Forbes; national health insurance, Dr. Mackinnon; public health, Dr. Wynne; hospitals, Mr. A. Garrick Wilson.

## Meetings of Branches and Divisions.

### BIRMINGHAM BRANCH: WEST BROMWICH DIVISION.

The third regular meeting for 1925 of the West Bromwich Division was held at the District Hospital, West Bromwich, on June 9th. The attention of members was called to the advisability of sending patients with errors of refraction to ophthalmologists and not to opticians. In the matter of fees for examination of Territorial recruits, it was unanimously decided to let the present fee stand. The statement that in some areas assistants are paid very small salaries was brought to the notice of members; it was decided that, as far as was known, the statement did not apply in the area of the Division.

It was decided to defer till the next meeting in October the formation of a local Hospital Committee, since a new staff will shortly be appointed to the West Bromwich Infirmary. Any matter requiring attention meanwhile will be dealt with by the Executive Committee.

Dr. A. F. Adamson (Wednesbury, Staffs) was elected Deputy Representative in the Representative Body. A small committee was appointed to arrange a social meeting in October or November. The Annual Report of Council was fully discussed and the Representative was instructed with regard to voting on the various recommendations and amendments. Several interesting clinical cases were also shown.

### METROPOLITAN COUNTIES BRANCH: WEST MIDDLESEX DIVISION.

The annual report of the Executive Committee of the West Middlesex Division recorded an increase in membership—£9 against £5 in the previous year. Five meetings, including the annual general meeting, were held, and addresses were given by representative members of the profession, to whom the Committee expresses thanks. The Committee also records its appreciation of the kindness of the Chairman and Committee of the King Edward Memorial Hospital in allowing the meetings of the Division to be held in the

Board Room of the hospital. The average attendance at meetings had improved, and thus showed an increased interest in the work of the Division. In association with the Harrow Division, a dinner was held in December, when 48 members and guests were present. At the invitation of Dr. J. B. Cook a highly interesting visit was paid to the West Middlesex Hospital at Isleworth, and it is hoped to arrange a visit of a similar nature to another institution during the ensuing year. It is also proposed to hold a dinner in December.

### SOUTHERN BRANCH.

#### Annual Meeting in Jersey.

The fifty-second annual meeting of the Southern Branch was held on June 11th at Bree's Royal Hotel, Jersey, when the President, Dr. HENRY DEVINE, O.B.E., was in the chair.

After the usual business had been gone through and a very cordial vote of thanks to the retiring president had been carried, Dr. Devine vacated the chair in favour of Lieut.-Colonel P. B. BENTLEY, M.B.E., who delivered a most interesting address, which took the form of reminiscences of his forty years' work as a general practitioner in the island. His graphic description of the altered conditions of medical life was much appreciated by his audience, and a vote of thanks was carried by acclamation.

After the meeting the visiting members and ladies were entertained at tea by the President. In the evening a complimentary dinner was given by the Jersey members to the visitors, who were overwhelmed by the lavish hospitality of their hosts. A delightful evening was spent, and regret was expressed that the attendance of members from the mainland was so small. On the following day the visitors were taken to the museum, where they were welcomed by Mr. Edmund T. Nicolle, His Majesty's Viscount of Jersey and Honorary Secretary of the Société Jersiaise, the well known antiquarian and archaeological society of Jersey. Mr. Nicolle and Mr. Sinel, the venerable ex-curator, kindly took charge of the party, and with legitimate pride pointed out the treasures, the most interesting of which was probably the priceless torque of pure gold, weighing 24 oz., and 56 inches in length. This torque is pronounced by experts to belong to the middle of the Bronze Period.

In the afternoon an excursion was made to the "Bon Air" Sanatorium and Convalescent Home, and to a dolmen at Hougue Bic, which was discovered as recently as 1924, beneath a tumulus 35 feet high; a detailed description of this wonderful and ponderous sepulchral structure would take up too much space. The party subsequently proceeded to the Castle of Mont Orgueil, where Mr. Nicolle again acted as host. Tea was generously provided by the Jersey members. All who were fortunate enough to attend the meeting will never forget the warmth of their welcome and the hospitality of the Jersey Division.

### SOUTH-WESTERN BRANCH: TORQUAY DIVISION.

The annual meeting of the Torquay Division was held in the Torbay Hospital on May 13th, when Dr. A. E. CARVER was in the chair. The following office-bearers for the ensuing year were elected:

Chairman, Dr. J. J. S. Scrase (Newton Abbot). *Vice-Chairman*, Dr. W. A. D. King (Paignton). *Honorary Secretary*, Dr. W. Cameron Davidson (Torquay). *Representative in Representative Body*, Dr. H. J. Campbell (Dartmouth). *Deputy Representative in Representative Body*, Dr. D. Wilson (Torquay). *Honorary Auditor*, Dr. J. M. Jarvie (Torquay).

Dr. CARVER, in announcing Dr. King's resignation from the post of honorary secretary, referred to the great amount of work he had done for the Division during his tenure of the office, and a very hearty vote of thanks to Dr. King was adopted with acclamation. Some discussion took place in regard to the question of fees payable for ambulance lectures, etc., and also fees payable to practitioners for street accidents and other emergencies to which they had been called by the police. The provision of some form of social entertainment and a lecture during the ensuing year was approved of, and referred to the Executive Committee for detailed consideration. It was also decided to proceed at once with the revision of the rules of the Division.

### PROPOSED ST. PANCRAS DIVISION.

A MEETING of medical practitioners resident in the St. Pancras area was held at the Midland Hotel on June 5th to consider the formation of a Division of the British Medical Association for the borough area. Mr. BISHOP HAMMAN, F.R.C.S., Treasurer of the Association, was elected chairman of the meeting, which unanimously approved the formation of a St. Pancras Division of the British Medical Association, and the following officers were provisionally elected: *Chairman*, Dr. A. R. Roche, M.C.; *Vice-Chairman*, Dr. Kathleen Lander; *Honorary Secretary and Treasurer*, Dr. P. P. Dalton. *Representative in Representative Body*, Dr. Kathleen Lander. It was decided that the ordinary meetings of the Division should be held on the second Tuesday of each month, and that the first four meetings should be held in the afternoon and in the evening. It was decided that the first meeting should be held at the Midland Hotel on Monday, June 7th, at 8.45 p.m. A copy of the resolution was directed to be sent to the Metropolitan Counties Branch Council with a request that they should be made effective as early as possible. At the close of the meeting the newly elected provisional Executive Committee held a session, when it was decided that the model rules of organization, and the rules governing procedure recommended for adoption by the Council and the Representative Body, together with the list of officers and the Executive Committee, should be submitted for approval at the commencement of the inaugural meeting on July 7th.

## National Insurance.

### ROYAL COMMISSION ON NATIONAL HEALTH INSURANCE.

#### EVIDENCE OF THE MEDICAL PRACTITIONERS' UNION.

On the twenty-seventh day of the meeting of the Royal Commission on National Health Insurance evidence was tendered on behalf of the Medical Practitioners' Union by Dr. E. A. Gregg (President), Dr. Gordon Ward (Chairman of Executive Committee), Mr. S. D. Davis and Mr. Charles Davis (Solicitors), and Dr. A. Welply (General Secretary).

The witnesses stated that the Union had between 3,000 and 4,000 members, about 90 per cent. of whom were insurance practitioners. The Council of the Union, which had drawn up the evidence, was of opinion that it was right and proper for the provision of medical services by the State to extend until the widest possible benefits of preventive and curative medicine were available for those who, without State assistance, would be unable to obtain them. It had no objection in principle to a State service, though it objected to a whole-time salaried service, and saw no reason why a State system should take that form. It was not inevitable that the obvious advantages to the patient and the public generally of private practice should be sacrificed under a State system, witness the medical service under the Insurance Acts itself. The increasing scope of public medical services was recognized by the Union as necessary and inevitable.

#### Extension of Service to Dependents.

Certain anomalies, both of inclusion and exclusion, existed in the present system with regard to the range of persons benefited, and from this the Council of the Union argued that the present basis of national insurance was not sufficiently satisfactory to provide a proper groundwork for the inclusion of dependants as such. Some other method of differentiation was desirable. Moreover, the introduction of dependants as such would bring with it administrative difficulties, degrees of dependency being so many and so varied. The Council, therefore, advocated the abandonment of the idea of including dependants *qua* dependants, and favoured some simpler conception, but stopped short of definite proposals. Asked by the Chairman of the Commission (Lord Lawrence of Kingsgate) whether it was proposed that all classes of the population should be brought in, subject to an income limit, Dr. Ward admitted that an income limit was possibly the only means of drawing the necessary line, but the Union put forward no recommendation on that point.

If there was to be a wider range of persons to be benefited the witnesses expressed the view that the service would be better financed without contributions—that is to say, the cost should be borne by the national Exchequer. This method would spread the incidence of contribution as equitably as any other system, and to the objection that it would remove the element of insurance from the scheme Dr. Ward replied that the moral value of compulsory thrift was hardly worth talking about. Some of the provision might come out of taxes, and persons who did not pay income tax might be subject to a health tax. Part of the expenditure might also be borne by the local rates. The provision of a gratuitous medical service provided out of the Exchequer was no more opposed to public policy than the existing provision of preventive services at the cost of the taxpayer and the ratepayer. Under the system which the Union had in view the potential patient would draw a medical card from the proper local authority, present it to the doctor, who would sign it and return it to the authority, receiving a record envelope in exchange. Practitioners would continue to be paid on a capitation basis on the number of persons on their lists.

#### Approved Societies.

So many criticisms of the approved societies were made in this evidence as to amount to what one member of the Commission termed an indictment. Nothing less was proposed than the abolition of the functions of approved societies in respect to national health insurance. The collectors and distributors, whose work, of course, would still be necessary, should be made directly responsible to the State or to the local authorities, and should operate on a territorial basis. The approved societies should be replaced by a system of territorial committees under the control of the local authorities to administer cash benefits only. Insurance Committees, on the other hand, had justified their continuance, though their membership should be somewhat altered; there should be increased medical representation, and the committees should have a definite status as parts of the county administrative machine, with powers and responsibilities broadly approximating to those of county education authorities. A course of procedure might be sketched whereby, within a certain period, benefits might be equalized, and the change-over effected to the new system. The transition from the old to the wider service might occupy at least five years. The service would then be free, in the sense that medical benefit would not be on a contributory basis, benefit, and might well be collected also to provide unemployment benefit and old age pensions.

It was put to the witnesses by Professor Gray that instead of abolishing the approved societies it would be simpler to repeal Section 26 of the Act (dealing with the securities to be given by the societies), for the witnesses had stated that the way in

which the societies had dealt with this section was in itself ample proof of their essential unsuitness to bear the responsibilities now placed upon them. Dr. Ward, however, declared that there were other reasons for abolishing the societies. This was merely one of the clauses in the indictment. A long verbal duel took place between Dr. Ward and Professor Gray on the merits of the case against the approved societies, and Professor Gray remarked, "You are a very drastic people." He also pointed out that the Insurance Committees, which the witnesses agreed, had done their work in an unbiased and judicial way, consisted in the bulk of approved societies' representatives, to which Dr. Ward retorted that there was a sufficient leaven of doctors and of representatives of local authorities to lead them in the right way.

#### No Limitation of Lists.

Dr. Ward expressed himself in favour of insurance practitioners having an unlimited number of insured persons on their lists. "I will go even further and say that a doctor with a really big list from 3,000 to 4,000 would probably give a more efficient service than with a smaller list." He was pressed as to whether such a number as 6,000 was one to which any doctor could be expected to do justice, and replied, "I am very unwilling to accept any figure. I think the thing should be allowed to work out by the ordinary process of selection by the insured persons of the man they deem efficient. A man may not have got his big list by that method, of course, and I am prepared to see him jumped on." He agreed, however, that above a certain limit there were grounds for anxiety. In reply to Mr. William Jones, he said that the attempt might just as well be made to limit the practitioner's private practice or his appointments as to limit his insurance list. The true limit was provided by nature. He added that his advocacy of unlimited lists was made, not in the interests of the doctor, but in the interests of the patient, who should be allowed to go to the doctor of his choice.

#### Additional and Specialist Services.

With regard to additional services, these might be provided in various ways: by including them as part of the general practitioner service (as, for example, the administration of anaesthetics), or by setting up a parallel service (for example, a dental service), or by providing cash benefits sufficient to allow the insured person to procure the service for himself, or, again, by the provision of public services quite outside the scope of the Acts (for example, venereal clinics).

The Union pressed for the inclusion of dental benefit as a statutory benefit forthwith, but did not wish to offer evidence with regard to other specialist services because it anticipated that it would be some years before these could be brought into operation. It deprecated the creation of a very large body of specialists to which these additional services were likely to tend. The need for eminent specialists like those attached to the great hospitals was not disputed, but the creation of so many whole-time officers in the employment of county and other authorities had not been attended by the success which might have been expected, for the reason that many of these specialists had not been in general practice. When it was better that a particular class of case should be treated at one centre or by one individual, and the creation of a specialist was accordingly necessary, that specialist should be chosen from the ranks of general practitioners, and, where possible, should be a part-time officer. In choosing men for these posts preference would be given to those with knowledge of general practice, and in course of time this requirement might be made obligatory.

#### Maternity Service.

Maternity service was the subject of a long cross-table discussion. In its earlier evidence the Council of the Union expressed the view that reasonably complete facilities were already available, that therefore it was against bringing this provision within the ambit of national health insurance, and that in any case it would be relevant to inquire what purpose would be served by giving all insured women the right to the services of a practitioner during confinement. An extension of the service contemplated would bring the doctor to the bedside in the great majority of maternity cases, whether normal or abnormal. To the abnormal he was already summoned, so that the gain would consist solely in his presence at a very large number of normal cases, and it was doubtful whether there were sufficient doctors to undertake the duties contemplated. In an appendix, however, the Council expressed regret that this attitude had been construed in some quarters as unsympathetic. It had been felt to take too little account of those earnest persons who had accepted the very sweeping conclusions of Dr. Janet Campbell's report to the Ministry of Health and who had been shocked and amazed in consequence. It was admitted that there was room for improvement in the maternity services of the country, and that it was possible that assistance from the national health insurance fund would promote this improvement. This assistance might materialize in various ways: by providing for proper care in some suitable cottage, say, when the home conditions were very imperfect, or by payment for cases in hospital care, consultation services, augmentation of the funds of district nursing associations employing qualified midwives, as well as the existing cash benefit. It was felt, however, that almost every factor was wanting which would make it possible to offer a complete maternity service to insured persons forthwith. The service must be built up deliberately, although with as much speed as possible.

#### Procedure for Dealing with Complaints.

"It is the deliberate and considered opinion of the Union that a great State department, the Ministry of Health, has shown itself to be incapable of appreciating or unwilling to act upon those elementary principles of justice which have made our courts

of justice the pride of all English-speaking peoples." This was the prelude to a long argument in which the Union arraigned the present judicial and disciplinary system, and mention was made of some recent well reported cases. The view of the witnesses was that there ought to be an *ad hoc* tribunal, composed of three persons of standing, one of whom should be the chairman of the Panel Committee, and that this body should deal with all complaints in the first instance. The more trivial complaints, generally based on misunderstanding, could be at once adjusted, while matters requiring more formal investigation should be remitted, if the doctor be the accused, to a judicial subcommittee of the Panel Committee. This subcommittee would sit under the chairmanship of a barrister, taking evidence on oath, and state whether in his opinion the charge was proven or not proven. The findings would go to the Ministry of Health for confirmation, and on such confirmation any penalty imposed by the subcommittee would become operative, but an appeal should lie to the courts. The accused should not be subjected to any further disciplinary proceedings through the agency of the Ministry, and the papers should not be forwarded or the case notified to any other body whatsoever. Asked whether the average doctor was not as well able as the average insured person to look after his own interests before such a tribunal as the medical service subcommittee, Dr. Ward pointed out that the insurance patient had, as a rule, the advantage of an official of the approved society to represent him before the subcommittee; the doctor had no such advantage. Sir John Anderson asked many questions, apparently with the object of getting the witness to concede that the present system was not inequitable and did not result in any substantial injustice. He also criticized the tribunal which the witnesses had suggested in substitution of the medical service subcommittee—namely, a subcommittee of the Panel Committee. He began to wonder where the interests of the insured person came in. The present tribunal, which consisted of members who could be regarded as representative of insured persons and of doctors, with a neutral chairman, was surely a balanced tribunal. Mr. Davis, one of the witnesses, replied that he had the shorthand notes of many cases before medical service subcommittees, and they illustrated how unsatisfactory things were. Professor Gray asked whether it was not according to constitutional procedure that the final decision as to whether a doctor was to remain on the panel should rest with the Minister responsible to Parliament. The Union representatives disagreed with this view, and Dr. Ward said that their complaint was that the Minister had shown himself incompetent. "Even if it be the ordinary doctrine that the Minister is responsible to Parliament and therefore the courts cannot intervene, we say, here is a case for an Act of Parliament to alter that."

#### Representation of Insurance Practitioners.

The witnesses proposed that in place of the present system of representation a statutory national Panel Committee should be set up for England, another for Scotland, and a third for Wales, and a statutory central medical committee be formed consisting of representatives of national committees which would in turn be directly elected from existing Panel Committees. Dr. Ward argued that the Insurance Acts Committee, although it was the executive of the Panel Conference, did not in point of fact carry out what the Panel Conference required. It was a committee of the Council of the British Medical Association, with whose policy and decisions it must be in accord, and it received its instructions from the Representative Body. Asked whether it was not the case that this procedure had been adopted by the resolute of practically all the Panel Committees throughout the country, Dr. Ward said that it had not been adopted, but it had certainly been approved. When the Act came into force the British Medical Association was the only body which counted, and it did an enormous amount of work and undoubtedly deserved well of the profession. The result was that the people who did that work commanded the respect of the profession, and any disapproval of the system was apt to be regarded as a vote of no confidence in them, which vote was not intended.

#### Remuneration.

The representatives of the Union placed before the Commission a system of calculating the capitation fee. The number of insured persons was multiplied by the number of attendances, etc., paid to each; this total of services was divided into visits and consultations; each was multiplied by the current market value, and the cash totals added, and divided by the number of insured persons. This gave a capitation fee of 13s. From a questionnaire sent out, it appeared, on the basis of 305 replies received, that the average gross annual income in urban practice was £1,403, and in rural £1,380. The average practice expenses were £561, or just over 40 per cent. of the average income, the rural practices averaging 5 per cent. more than the urban. The witnesses were asked if, assuming that these figures really represented practitioners' incomes, they thought the country was prepared to agree to an immediate increase of almost 50 per cent. in the capitation fee, to which Dr. Ward replied that the 50 per cent. addition was only on part of the income—the part, namely, derived from insurance practice.

#### EVIDENCE OF THE NATIONAL MEDICAL UNION.

On the twenty-eighth day of the meeting of the Royal Commission evidence was tendered on behalf of the National Medical Union by Dr. Vivian Greenyer and Dr. Charles T. Comber, of its council.

#### Objections to Medical Benefit.

The memorandum of evidence recounted the circumstances attending the inception of national insurance, and stated that the Union, representing that section of the profession which had

refused service under the Acts, had maintained its objections down to the present time. It was the view of the Union that there should be a State service for necessitous persons, and that the Poor Law should be modified on certain lines to admit of this, but the present insured persons, being in no sense necessitous or destitute, should be voluntarily insured in one of the societies which well served the purposes of medical benefit before the national insurance scheme was inaugurated. The Union also considered that in certain respects the system had brought about a deterioration in the efficiency of the general practitioner, while the medical and lay committees, and the mixed professional and lay assessorships, with, above all, the absolute and grotesque power placed in the hands of the Minister of Health, had degraded a liberal profession to the level of a supervised trade. The Union advocated the censorship of the General Medical Council alone, and, of course, in necessary cases submission of the doctor, like other citizens, to the courts; but the removal, root and branch, of other censorship.

#### Alleged Unpopularity of the Act.

Dr. Greenyer stated that the actual membership of the National Medical Union was 247, but a circular letter stating the policy of the Union had been sent to the 6,000 practitioners of the London area, and of 1,333 replies received, 1,306 were in a favourable sense. Dr. Comber said that he worked in a part of London (Catford and Lewisham) which was almost wholly composed of persons of the class from which the insured and their families came, and in his district at least half the practitioners were not on the panel, and they all assured him that they were doing very well. The bulk of their practice was in attending the insured patients of other doctors. An enormous number of insured persons preferred to be attended by non-insurance practitioners or to go to hospital rather than to have the doctor to whose services under the Act they were entitled. In 1922 in London the number of people who had failed to choose an insurance practitioner was 438,000, and it was suggested that this number had not decreased. The witness also urged that the dislike of going to the insurance practitioner accounted for the increased resort on the part of the public to harmful or unsuitable patent medicines.

The narrow range of service to which the insurance practitioner was restricted was also a matter of complaint with these witnesses. If a disease was really serious the patient was mostly transferred to hospital. They cited Sir John Collie as having furnished distinct evidence that there had been an increase of malingering since the Insurance Act came into force.

A statement that insured persons were dissatisfied with the treatment they received drew from the Chairman of the Commission (Lord Lawrence of Kingsgate) the remark that it had been brought out in evidence that the number of complaints to Insurance Committees on the part of patients was exceedingly small in relation to the total number of attendances, and he asked the witnesses what evidence they had to prove the contrary. Dr. Comber replied that it was impossible to get collective statistical evidence on that point, but he could assure the Commission that the cases of dissatisfaction were not "extremely small." He proceeded to give particulars of some cases which had come under his own observation in which there had been dereliction of duty or at least serious inattention on the part of insurance practitioners although no formal complaint had been made. It was difficult to get women especially to make a complaint.

#### The National Deposit Friendly Society.

The witnesses were asked if they had had experience of contract practice before the Act, and, if so, whether they had been quite satisfied with it. Dr. Comber replied that his own experience was satisfactory, but he admitted that this was not the general rule; many features of contract practice were extremely bad both for the doctor and the patient. He held that the aim should be to make the contract directly between the patient and the doctor, without any control by the societies over the doctor as to treatment, the societies only to pay out the liabilities of the patient. In this connexion he praised, as did his colleague, the system of the National Deposit Friendly Society, which represented a genuine system of insurance against doctors' bills, etc., while leaving the profession free to develop on the traditional lines of private practice. The Chairman pointed out that the system of the National Deposit Friendly Society gave the person who was receiving the medical benefit a direct financial interest in going to the doctor as seldom as possible, and asked whether the witness considered that a good thing. Dr. Comber replied that if the patient was ill he would require attendance, but he would not under such a system go unnecessarily. The following dialogue then ensued:

Chairman: Quite so; they have a financial interest in not going to the doctor.

Witness: That is put very crudely, is it not?

Chairman: It is put in the words of the secretary of the National Deposit Friendly Society on a previous occasion. Do you regard that as a good scheme?

Witness: I think it is a very good scheme that they should not have an interest in going unnecessarily to the doctor.

Chairman: Do you think that an insured person can know when it is necessary or unnecessary?

Witness: No; that should be for the doctor to say.

Chairman: He has to go to the doctor to find out?

Witness: Yes.

Chairman: So that you cannot choke them off in that way.

The Chairman mentioned cases which had suffered through lack of timely diagnosis, and suggested that these cases would constantly be forthcoming if insured persons had no financial interest in not going to the doctor.

Dr. Comber was then put through a close examination on his views as to the character of insurance practitioners. He admitted



that the large majority of them were honourable men, "but you must remember that at the commencement of the Act all the 'rubbish' went on because there was nothing to stop them."

Chairman: All the "rubbish" were in the profession. You must not attribute the "rubbish" to the Act, they were there, and had been through the course of training through which all doctors go.

Asked later whether the whole of their evidence did not boil down to this, that they wanted, as far as the medical side was concerned, the repeal of the Act, and a return to the administration of medical benefit by voluntary societies, Dr. Greenyer said that that was not their intention. They were trying only to release the profession from any Government control whatever so that patients could have real freedom of choice. Mr. William Jones referred to the opposition of the profession to some social legislation in the past, and said:

"Having regard to that, do you think we can accept, without reservation, medical evidence, and especially the evidence that you have placed before us this morning?"

Dr. Greenyer: We leave that to the Commission.

### THE SCOTTISH MEDICAL GUILD.

Professor William Russell, Vice-President, and Dr. Frederick Porter, Honorary Secretary, of the Scottish Medical Guild, next gave evidence. The evidence was on similar lines to that already given by the National Medical Union, though, said Dr. Porter, "we might have stated it differently." The view of the Guild was that State provision ought to be made for medical attendance for all manual workers who applied on the ground of inability to make provision for themselves, that in the case of colliery workers and others among whom a system of capitation payments had been in existence before the passing of the Act this system might be continued, but that manual workers in good and regular employment who previously had been attended as private patients ought to be free to make their own medical arrangements individually or as members of the non-State section of such a body as the National Deposit Friendly Society.

### Opposition to the Act in Scotland.

It was stated that the Scottish Medical Guild represented about 700 non-insurance practitioners in Scotland. A census taken in Edinburgh recently showed that non-insurance practitioners were attending over 30,000 insured persons, from 10 to 40 per cent. of the total number.

Dr. Porter said that in Edinburgh there had been a 'good deal of opposition on the part of the medical profession to the Act, and in that city there was a smaller number of doctors on the panel relatively than in other places. But he also read a letter from a Glasgow non-insurance practitioner who stated that 17.8 per cent. of the patients whom he had attended during the past year were insured persons, and that of the patients now insured who were patients of his before the introduction of the National Insurance Acts about 80 per cent. had remained with him as private patients. It was suggested to the witnesses, who did not agree, that a good deal of the opposition in Edinburgh was the work of the medical profession, and was not due to any defect in the Act itself. Dr. Porter replied that Edinburgh non-panel men had sacrificed their living for their principles. They might have gone on the panel "and made thousands a year out of it."

Mr. William Jones: They do not make thousands a year.

Witness: Thousands a year, sir.

Mr. Jones: Allow me to say that they do not make thousands a year. I signed the cheques for a large number of practitioners over a number of years.

Witness: I know that if I had gone on the panel I should have taken £2,000 a year out of the money.

Mr. Jones: You would have been lucky. . . . They would have been larger than any of the cheques I signed myself.

Professor Russell said that the Insurance Act had encouraged the chemist to buy a cheap class of drug; and Dr. Porter said that the chemist could not make insurance dispensing pay if he kept the best quality of drugs for his insured customers.

Professor Gray, in a question, suggested that this statement was not consistent with facts that were very well known and could be fully inquired into.

Professor Russell, before leaving the witness chair, made a reservation on behalf of himself and all members of the Guild to the effect that they were perfectly aware that there were many medical men on the panel who did their work most conscientiously, but his experience was that a great deal of the work was unsatisfactory.

### AN EAST END PRACTICE BEFORE AND AFTER NATIONAL INSURANCE.

Dr. Harry Roberts of Stepney gave some interesting personal evidence before the Royal Commission on National Health Insurance on the twenty-eighth day of its sitting.

He stated that his practice in the East End of London, which dated back from before the days of the Insurance Act, was a very large one, and at present, in conjunction with three partners, and with the help of an assistant and the supplementary help of a dentist, a masseur, and nurses, he was responsible for the medical attendance of nearly 10,000 insured persons.

Previous to the passing of the Act he attended very much the same people as afterwards. In his district it was clearly impossible for the majority of patients to pay an adequate fee for medical attendance; consequently it had been necessary, before national insurance was introduced, to attend an enormous number of individuals and to work fairly continuously day and night for

seven days a week in order to obtain a reasonable professional income. The better type of slum practice in the old days was largely dependent for its efficiency upon the philanthropic zeal and abnormal energy of the doctor. With the passing of the Act and the consequent bringing up of the rate of payment for attendance somewhat nearer to the rate customary in ordinary artisan districts, a new situation was created, which in his own case made it practicable—the bulk of his private patients remaining with him as insured patients—to reorganize his work as to gain greater leisure for himself and to provide an altogether fuller medical service. Accordingly he took three men into partnership and engaged the other assistants just mentioned, so arranging matters that each of those concerned in the practice was able to work to a time-table, and the patients were provided with special services not previously possible. There was no change in the personal relations between himself and his patients, and he thought the same was true of other practitioners. In 93 per cent. of the cases the relation between doctor and insured patient was a cordial one, with a genuine sense of responsibility on the one side and of confidence on the other.

The Chairman (Lord Lawrence of Kingsgate): That is a fine testimonial to the insurance medical service, is it not?

Dr. Roberts: I think, on the whole, in my personal experience, the relation is, if anything, a little closer. The loyal ones add pride to their loyalty. They say, "Here is my doctor," whoever he may be. There is also a little bit of partnership about it, implying, I think, a degree of cordiality even greater than it was before the Insurance Act. It is certainly not less; that is my experience.

Dr. Roberts also said, in reply to Sir Arthur Worley, that he had no knowledge of any large number of insurance patients going to non-insurance practitioners. There was nothing of that kind in his district.

### Defects in the Working of the Act.

Dr. Roberts went on to comment on the slightness of the personal relation between insured persons and their approved societies. Upwards of 50 per cent. of the people had not the slightest idea to what society they belonged. He had never heard an insured person speak of his society in a filial way. It was generally thought of as a "blend of Scotland Yard and the board of guardians." Nearly all insured persons were ignorant, not only of the general principles of the Act, but of the regulations of the societies, and consequently of the rights and benefits to which they were entitled and the penalties to which they might be subject. A grave defect from more than one point of view was the disenfranchisement to medical benefit following upon persistent unemployment. It seemed absurd that a certain measure of poverty should be necessary to entitle a person to medical benefit, while a still further measure of poverty disenfranchised him. Other matters which interfered with the utility of the present medical service were the limitation of medical benefit to certain members of a family only, the limitation of provided medical treatment to such as was assumed to be within the range of an average general practitioner, and the general neglect of insurance committees to make use of their powers to organize the public education of the people in the laws and principles of health.

With regard to record cards, Dr. Roberts thought a system of record-keeping was absolutely essential, but it was not possible to carry on with the system provided for insurance practitioners. He did not think that the doctor with a big list found the provided record card of the slightest use. In the witness's view the patient was the person who should have possession of the record card and should bring it with him.

Dr. Roberts was asked for his views on the big proposal which had been put before the Commission that medical benefit should be taken out of the insurance scheme and co-ordinated with all the other local health activities, the whole system being administered by a single local health authority in each area. He replied that he had a fairly open mind about that. He felt that there was a big case for discriminating between the personal care of health—and especially the remedial treatment of disease—and what he might call the sanitary provisions of the local authorities. "I would like to see all the personal remedial side of health brought under one authority, and I would like that to be either an improved insurance committee or a new county health committee as originally suggested by Mr. Lloyd George."

### Attitude of the Profession to the Service.

In reply to Sir Andrew Duncan, Dr. Harry Roberts said he did not think there was any strong anti-panel feeling in the medical profession. The men who were hostile were a very small number, but they were a section which had been rather active lately in the journalistic way. The most severe critics of the panel system were in London, but from his own personal acquaintance with London insurance practitioners he could say that their general attitude was one of considerable seriousness towards the whole business of medical attendance on insured persons. Theirs was not at all a flippant attitude; it was friendly to the patient and entirely responsible. Among his own medical neighbours—his competitors, if that word were preferred—he found a very much higher standard of technical knowledge and of academic achievement than was possessed by the men who were his neighbours before the Insurance Act. They were much more numerous and they were much better qualified, and in conversation they were obviously much better informed technically.

Much of Dr. Roberts's evidence was made up of illustrations of the extraordinary errors and perversities of approved societies in dealing with particular individuals. Some of the instances given were very amusing. The Chairman said that the Commission was much obliged to Dr. Roberts for his interesting evidence.

## CRITICISMS OF THE INSURANCE SERVICE.

Evidence was also tendered by Lieut.-Colonel W. Bickerton Edwards, C.B.E., M.D., late R.A.M.C., who criticized the national health insurance scheme on several grounds. One of the grounds was that popularity—by which he meant the popularity of a particular doctor—had produced large lists, but that popularity was not synonymous with efficiency. Another was that, being an under-paid service, it induced medical men to take on more work than they could efficiently carry through. Other criticisms were the lack of specialist services, the absence of definite facilities for institutional treatment, the large amount of clerical work imposed upon the insurance practitioner, and the fact that the practitioner, however able, had nothing to look forward to except remaining an insurance practitioner. The witness suggested a scheme whereby each area would have its area hospital with resident medical officer, groups of such hospitals being linked up with a base hospital having more extended provision, and that a general practitioner should be able to have a case removed to such a hospital immediately if it was likely to benefit thereby. He also urged the better payment of insurance practitioners and the granting of opportunities for post-graduate study. Insurance practitioners' work should be subject to inspection, but the inspectors might perhaps be elected by the practitioners themselves. He also proposed that a body of experts should be appointed to report on any overlapping in the present medical services, and he made certain suggestions for the amendment of the Workmen's Compensation Act.

## Work and Status of the Insurance Practitioner.

In the oral examination of Colonel Bickerton Edwards, the Chairman of the Commission (Lord Lawrence of Kingsgate) took up one of his statements which implied that the insurance practitioner might have a visiting list of 50 to 100 a day and might see 50 to 60 patients twice a day in his consulting rooms. The Chairman said that on the basis of careful calculations made by the Ministry of Health and submitted in evidence, the lowest figures of 50 visits and 100 surgery attendances a day would correspond to a list of about 13,000 persons, whereas the maximum number allotted to any insurance practitioner was 2,500, and 65 per cent. of all the insurance practitioners in the country had lists of less than 1,200 insured persons. Colonel Bickerton Edwards said that he could not controvert the statistics, but he knew that a man with a list of 1,500 might have in winter-time in an epidemic a visiting list of 50 a day. The witness also said that he thought free choice of doctor a "bogy," though he believed the whole medical profession was committed to it. Personally he did not attach very much value to that principle. He thought far more was made of it than it merited. The insured person would not lose much if he had not the choice of doctor.

The conditions of insurance practice, according to this witness, left very small opportunities for self-improvement. Some of the finest doctors, he knew, were insurance practitioners, but knowing what he did of the life of an insurance practitioner he did not think that any man would care to stick to it always. Having used the word "intolerable" to describe the life of the insurance practitioner, he was asked why it was more intolerable than private general practice, and replied that insurance practitioners were more hardy worked. He wanted insurance practitioners to have the opportunity of promotion to the status of consultants. In a proper system of national service, examinations might be devised through which, if a man was capable of doing his work properly, he should merit promotion.

The thirty-first meeting of the Royal Commission on National Health Insurance was held at the Home Office on June 11th, Lord Lawrence of Kingsgate in the chair.

Evidence as to the nature, extent, cost, and administrative arrangements of optical and ophthalmic treatment of insured persons was given by the Joint Council of Qualified Opticians, represented by Mr. J. H. Sutcliffe, Mr. F. W. Bateman, and Dr. Margaret Dobson; by the British Optical Association, represented by Mr. W. B. Barker, Mr. McHoul, and Mr. Meynell; by the Council of British Ophthalmologists, represented by Mr. E. Treacher Collins, Mr. J. Herbert Fisher, and Mr. M. S. Mayou; and by the Ophthalmic Benefit Committee, represented by Mr. H. L. Eason, C.B., C.M.G., Mr. C. F. Harford, and Mr. G. H. Pooley.

Proof copies of the oral evidence and the relative Statement submitted at the meeting of May 21st, 1925, may be obtained from H.M. Stationery Office, Adastral House, Kingsway, W.C.2, on remittance of cost (2s. 3d.) and postage.

## DANGEROUS DRUGS ACTS, 1920 AND 1923.

The Home Secretary gives notice that he has withdrawn from Dr. Frederick George Lewtas of Cheadle Hulme, Manchester, the authorizations granted by the Regulations made under the Dangerous Drugs Act, 1920, to duly qualified medical practitioners to be in possession of and supply raw opium and the drugs to which Part III of the Act applies. Any person supplying Dr. Lewtas with raw opium or any of the drugs to which Part III of the Dangerous Drugs Act, 1920, applies will be committing an offence against the Act.

## Naval and Military Appointments.

## ROYAL NAVAL MEDICAL SERVICE.

Surgeon Commanders E. S. Wilkinson and W. Bastian have been placed on the retired list, with the rank of Surgeon Captain.  
Surgeon Commander W. E. Gribbell to the *Effiance*.  
Messrs. H. L. Bernstein and J. W. Strong have entered as Surgeon Lieutenants and have been appointed to R.N. Hospital, Haslar.

## ROYAL NAVAL VOLUNTEER RESERVE.

Surgeon Lieutenant H. E. Hall to the *Ramillies* for fourteen days' training.

## REGULAR ARMY RESERVE OF OFFICERS.

## ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel E. P. Hewitt, having attained the age limit of liability to recall, ceases to belong to the Reserve of Officers.

## ROYAL AIR FORCE MEDICAL SERVICE.

Wing Commander T. S. Rippon, O.B.E., to Headquarters, Special Reserve and Auxiliary Air Force.

P. D. Barling is granted a short-service commission for three years on the active list as a Flying Officer, with effect from and with seniority of May 25th.

## INDIAN MEDICAL SERVICE.

Lieut.-Colonel C. B. McConaghy is granted leave on average pay for eight months, under Fundamental Rules (March 14th).  
Major W. J. Simpson is posted as Agency Surgeon in Bhopal (March 16th).

## TERRITORIAL ARMY.

## ROYAL ARMY MEDICAL CORPS.

General Hospitals.—Major A. P. Watson, O.B.E., T.D., to be Lieutenant-Colonel and to command the 11th (2nd Scottish) General Hospital, vice Lieut.-Colonel (Brevet Colonel) D. J. Graham, O.B.E., T.D., vacated on completion of tenure.

D. L. Greig to be Lieutenant.

## VACANCIES.

BIRMINGHAM CITY.—Assistant Medical Officer at one of the City Mental Hospitals. Salary £350 per annum, rising to £400.

BIRMINGHAM PUBLIC HEALTH DEPARTMENT.—Assistant Tuberculosis and Sanatorium Officer. Salary £500 per annum.

BLACKBURN AND EAST LANCASHIRE ROYAL INFIRMARY.—Third House-Surgeon (male). Salary £150 per annum.

BRADFORD ROYAL INFIRMARY.—Resident Surgical Officer (male, unmarried). Salary £250 per annum.

CAMBRIDGE: ADDENBROOK'S HOSPITAL.—House-Surgeon (male, unmarried). Salary at the rate of £120 per annum.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE HEART AND LUNGS, Victoria Park, E.2.—(1) Resident Medical Officer. (2) House-Physician. Salary at the rate of £250 and £100 per annum respectively.

CHESTER ROYAL INFIRMARY.—Assistant House-Surgeon (male). Salary £150 per annum.

EAST LONDON HOSPITAL FOR CHILDREN, Shadwell, E.1.—House-Surgeon (male). Salary at the rate of £125 per annum.

EDINBURGH: ROYAL EDINBURGH HOSPITAL FOR SICK CHILDREN.—Five Honorary Resident Medical Officers.

ESSEX AND COLCHESTER MENTAL HOSPITALS.—Medical Superintendent at the Brentwood Mental Hospital. Salary £1,000 per annum, rising to £1,250.

GLAMORGAN COUNTY COUNCIL, Cardiff.—Dental Surgeon. Salary £500 per annum, rising to £700.

GREIF YARMOUTH HOSPITAL.—House-Surgeon (male, unmarried). Salary at the rate of £150 per annum.

GREENOCK PARISH COUNCIL.—Locum-tenent Medical Officer for Smithston Workhouse and Asylum. Salary £10 per week.

HEMEL HEMPSTEAD: WEST HEMTS HOSPITAL.—Resident Medical Officer. Salary £200 per annum.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.—House-Physician. Honorarium £50 for six months.

LYRDON URBAN DISTRICT COUNCIL.—Assistant Medical Officer of Health. Salary £600 per annum.

LANCASHIRE RURAL DISTRICT COUNCIL AND CONSETT URBAN DISTRICT COUNCIL.—Medical Officer of Health. Salary £800 per annum, rising to £900.

LEICESTER ROYAL INFIRMARY.—House-Surgeon. Salary at the rate of £125 per annum.

LONDON COUNTY COUNCIL.—Assistant Medical Officer (male) at the Maudsley Hospital. Salary £300 per annum, rising to £350.

LONDON JEWISH HOSPITAL, Stepney Green, E.1.—(1) Assistant Surgeon in the Gynaecological Department. (2) Assistant Surgeon in the Ear, Nose, and Throat Department.

MANCHESTER: ANCOATS HOSPITAL.—(1) Resident Surgical Officer (male). (2) House-Surgeon. Salary £200 and £100 per annum respectively.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.1.—Assistant Physician.

NEWCASTLE-UPON-TYNE: ROYAL VICTORIA INFIRMARY.—Honorary Assistant Surgeon.

PONTYPRIDD URBAN DISTRICT COUNCIL.—Lady Assistant Medical Officer. Salary £600 per annum, rising to £650.

SHEFFIELD CITY.—Junior Assistant Tuberculosis Officer at Winter Street Hospital. Salary £250 per annum.

STOCKPORT INFIRMARY.—Honorary Radiologist.

SUDIN GOVERNMENT.—Assistant Bacteriologist at the Wellcome Tropical Research Laboratories, Khartoum (unmarried). Initial rate of pay £2,720 per annum, rising to £2,120.

SUNDERLAND ROYAL INFIRMARY AND CHILDREN'S HOSPITAL.—Honorary Surgeon for Nose, Throat, and Ear Work.

SURREY COUNTY COUNCIL.—Assistant Medical Officers in the Public Health Department. Males. Salary £600 per annum, rising to £700.

WAKEFIELD: CLAYTON HOSPITAL.—Male House-Surgeon (unmarried). Salary £175 per annum, rising to £200 after six months.

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# SUPPLEMENT TO THE BRITISH MEDICAL JOURNAL.

LONDON, SATURDAY, JUNE 27TH, 1925.

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### SPECIAL NOTICE TO MEMBERS.

Every Member is requested to preserve this "Supplement," which contains matters specially referred to Divisions, until the subjects have been discussed by the Division to which he or she belongs.

#### MATTERS REFERRED TO DIVISIONS.

#### British Medical Association.

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#### Preliminary.

##### HONOURS.

202. The Council has pleasure in announcing that during the present session honours have been conferred on the following Members of the Association:—

##### Baronetcy.

Sir John Bland-Sutton, F.R.C.S.

##### K.C.B.

Major-General Samuel Guise Moores, C.M.G.

##### Knighthood.

Mr. James Berry, F.R.C.S.

Dr. Harry Edward Dixey.

Dr. John Robertson, C.M.G., O.B.E.

#### OBITUARY.

203. The following is a supplementary list of Members whose death the Association has to deplore:—

Name.	Offices held in the Association.
Dr. Henry Johnston Boyd	A Member of the Ulster Branch Council; a former Chairman of the Belfast Division.
Dr. Robert James McLean Buchanan	Vice-President of Section of Pharmacology and Therapeutics, 1912.
Dr. Charles Montagu Burton	A former Member of the British Guiana Branch Council.
Dr. James Cameron	A Member of the Glasgow and West of Scotland Branch Council, and a Vice-President of the Edinburgh Branch; a former Chairman of the Lothians Division.
Dr. John Dewar	At one time a Member of the Executive Committee of the Hampstead Division of the Metropolitan Counties Branch.
Dr. Michael Dewar	A former Member of the Council, and of the Insurance Acts Committee; a Member of the Insurance Acts Sub-Committee (Scotland); a former Secretary of the Edinburgh Branch and for many years a Member of the Branch Council; Vice-President of Section of Medico-Sociology, 1912.
Dr. James Don	A Member of the Central Council and of the Central Ethical Committee; a Member of the North of England Branch Council, and for some years Honorary Secretary of the Branch; a former Representative and Chairman of the Newcastle-on-Tyne Division; Vice-President of Section of Otorhino-Laryngology, 1921.

Name.	Offices held in the Association.
Sir Rickman John Godlee, Bart., K.C.V.O.	Secretary 1887, and a Vice-President 1893 of Section of Surgery; Member of Central Medical War Committee.
Dr. Angus Mitheson ...	Vice-Chairman of the Lothians Division of the Edinburgh Branch.
Dr. Wm. Pope Seed ...	A former Member of the West Australian Branch Council, and of the Branch Ethical Committee.
Dr. James Taylor ...	A former Member of the Bath and Bristol Branch Council.
Dr. Wm. Lister Tindle ...	A Member of the Executive and Ethical Committees of the Tyneside Division of the North of England Branch.

Dr. Henry Morton Baker, Dr. Wm. Henry Barnby, Dr. Albert Wm. Beaumont, Colonel James Black, I.M.S., Dr. Richardson Joseph Boustead, Dr. Wm. Percy Blumer, Dr. Robert Nichol Brebner, Dr. Ernest Henry Broek, Dr. Wm. Barnes Buer, Dr. George Clarke, Dr. John Mrie Sloane Duncan, Dr. Herbert Lavington Evans, Dr. Andrew Chalmers Fleming, Dr. Wm. Fowler, Dr. Ralph Holwell Gray, Dr. John James Cecil Hamilton, Dr. Chak Chiu Hung, Dr. Frank Hues, Dr. John James Johnstone, Dr. Dinshah Limji Kaka, Dr. Eustace Julian Keogh, Dr. Frederick Robert Henry Laverick, Dr. Wm. Wntkin Leigh, Dr. Wm. Love, Dr. Armar John McFarland, Dr. James Atholl Campbell MacGrogan, Dr. Peter Douglas McIntosh, Dr. Charles MacLaurin, Dr. Alexander Anderson MacLeod, Dr. Allan Peter McLeod, Dr. Herbert Harold Marsden, Dr. Joseph Aloysius O'Den, Dr. Evan Christopher Prichard, Dr. Harold Victor Sames, Dr. Thomas G. Sullivan, Dr. Carolina Jane Tessier, Dr. Howard Henry Tooth, C.B., C.M.G., Dr. Richard Mahoney Townsend, Dr. Wm. Welsh.

#### ELECTION OF VICE-PRESIDENTS OF ASSOCIATION.

204. The Council is of opinion that to signalise the affiliation of the Canadian Medical Association to our Association and the visit of a strong delegation from the C.M.A. to the Annual Meeting, Vice-Presidents from the Dominion of Canada should be elected, and therefore recommends:—

**Recommendation:** That the following be elected Vice-Presidents of the Association:—Alexander Primrose, C.B., F.R.C.S., M.D., and Frederick Newton Gisborne Starr, C.B.E., M.D., both of Toronto.

Dr. Primrose is an old member of the Association, is Chairman of Council of the Canadian Medical Association, and Dean of the Medical Faculty of Toronto University.

Dr. Starr was Honorary Secretary of the Annual Meeting of the Association which met at Toronto in 1906, and is a prominent and active member of the Executive of the Canadian Medical Association.

#### ELECTION OF HONORARY MEMBER.

205. The Council feels sure that members of the Association generally will agree with the proposal that in recognition of his many services to the profession and to the Association, Mr. Frederic G. Hallett, O.B.E., should be elected an Honorary Member of the Association. During the War Mr. Hallett acted as Secretary of the Committee of Reference and rendered valuable service in his capacity to the Central Medical War Committee. Mr. Hallett's skill as an illuminator has been placed freely at the disposal of the Association on two memorable occasions, first, the Address to Sir Clifford Allbutt on the occasion of his being awarded the Gold Medal of the Association, and, secondly, the design and direction of the Book of Honour and its illumination by Mr. Hallett himself, a task which has entailed many hours of work cheerfully undertaken by him as a labour of love. It is believed that the Association will be glad in this, the only way open to it, to recognise these unselfish and devoted services.

**Recommendation:** That Mr. Frederic G. Hallett, O.B.E., be elected an Honorary Member of the Association.

#### THE SIR CHARLES HASTINGS FUND.

206. The Council has very great pleasure in reporting the generous action of Lt.-Col. J. W. F. Rait, I.M.S. (ret.), and Mrs. Rait in handing over to the Council shares in various companies to the value of £1,065 to form a fund whose primary and principal object is to render financial assistance to individual members of the medical profession who shall be in need of relief or assistance, in order that they may be able, if possible, to continue exercising their profession, but conferring upon the Trustees unlimited powers in

distributing the funds for the benefit of individual members of the medical profession or their dependants as they may think fit. The fund is in no way intended to run counter to the Medical Charities now in existence but to supplement them.

In order that it may be possible to deal promptly with urgent cases, the Chairman of Representative Body, the Chairman of Council and the Medical Secretary for the time being have been appointed Trustees, as all of them are frequently at the Office of the Association and thus would be able to deal at once with claims.

On the suggestion of Lt.-Col. and Mrs. Rait it has been decided that the fund shall be named The Sir Charles Hastings Fund, in memory of the Founder of the Association, and in the hope that a fund so named and with such a purpose may attract to it further donations which may in time make the fund into a powerful agency for good. The Council, on behalf of the Association, has thanked the donors for their gracious action.

#### New House of the Association.

(Continuation of paras. 16-18 of Annual Report.)

207. It is with great pleasure and pride that the Council reports that the Patron of the Association, His Majesty King George V., has graciously consented to open the new House of the Association on Monday, July 13th, 1925, and that he will be accompanied by Her Majesty the Queen. His Grace the Archbishop of Canterbury has kindly consented to dedicate and open the Gates of Honour.

This great day in the history of the Association will, it is expected, be the occasion of a gathering of representatives of every section of the profession which will, it is hoped, demonstrate in a striking manner the representative character of the Association, its world-wide membership, its close ties with the Dominions, Colonies, and Dependencies of the Empire, and its cordial relationship with the great medical organisations in this and other countries. Invitations have been sent to the representatives of the General Medical Council, the Royal Colleges, Universities and Medical Schools in the British Isles, to many of the medical and allied societies in this country and on the Continent, to these Ministers with whom the Association comes most frequently into contact, and to the heads of their staffs, to the High Commissioners for the Dominions, to certain civic representatives, to medical Members of Parliament; to the past Presidents, the Vice-Presidents, Honorary Members, Gold Medalists, Past Chairmen of Representative Body and Council of the Association; to all those who have acted as Honorary Secretaries of Annual Meetings; and to certain others to whom the Association is specially indebted, including amongst others Lady Horsley, Mrs. Forbes Fraser, Mrs. G. E. Haslip, Mr. F. G. Hallett, and the members of the Central Medical War Committee who are not included in any other category. The Overseas Branches of the Association have responded to the special invitation sent to them in a gratifying manner; the Canadian Medical Association is to be represented by seven of its most eminent members, while the American Medical Association will be represented by its President and two, if not three, outstanding members.

#### PRESIDENT'S VISIT TO CANADA AND THE UNITED STATES OF AMERICA.

(Continuation of para. 10 of Annual Report.)

208. The Council feels sure that the Representative Body and members generally will join with it in congratulating the President upon his safe return from his visit to Canada and to the United States of America.

This was the first occasion upon which the Association has been officially represented at the Annual Meeting of the American Medical Association. The President was greatly impressed by his cordial reception in both countries, and has expressed the opinion that it is very desirable that the Association should more frequently than hitherto send accredited representatives overseas.

#### Organisation.

(Continuation of paras. 31-67 of Annual Report.)

##### RULES OF ORGANISATION.

209. The Model Rules of Organisation were amended last year to provide representation, on Division Executive Committees and Branch Councils, of members of the Association employed whole



time in the public health service, and the Council is gratified to report that a considerable number of Divisions and Branches have adopted Rules to give effect to that important principle. A far greater number of Divisions and Branches are now in possession of up-to-date Rules of Organisation than has ever before been the case.

The following Divisions are, however, according to the Register at the Head Office, not yet in effective possession of any Rules of Organisation:—

Banff, Elgin and Nairn; Birkenhead; Bromsgrove; Chester; Crewe; East Cornwall; Glossop; Hyde; Leigh; Monmouthshire; North Lincoln; Shetland; Warwick and Leamington; West Cornwall.

As the work of the Association cannot be carried out with full effect without proper rules, the Council strongly urges the Divisions mentioned to take immediate steps for adoption of Rules based on the Model Rules.

#### HONORARY SECRETARIES WHO HAVE RELINQUISHED OFFICE.

210. Since the publication of the last Supplementary Report of Council (*B.M.J.* Supplement, June 28th, 1924) the following Honorary Secretaries of Divisions and Branches have relinquished office. The Council realises that the success of the Divisions and Branches, and therefore of the Association, depends to a very considerable extent upon the Honorary Secretaries of the local units of the Association, and desires to express on behalf of the Association its grateful thanks to these gentlemen:—

#### (a) Honorary Secretaries of Divisions.

Division.	Name of Secretary.	Year of first appointment.
Argyllshire ...	Dr. J. A. Clarke (deceased) ...	1914
Auckland (N.Z.) ...	Dr. H. G. Rice ...	1922
Birmingham ...	Dr. S. P. Thomson, M.C. ...	1922
Central		
Bishop Auckland ...	Dr. S. V. Tinsley ...	1916
Cambridge and Huntingdon ...	Dr. W. J. Young ...	1924
Chichester and Worthing ...	Dr. H. J. M. Millbank-Smith ...	1918
Crewe ...	Dr. H. J. Stormont ...	1923
East London (S.A.) ...	Dr. E. Gray ...	1920
English ...	Dr. J. W. Adams ...	1922
Finchley ...	Dr. Duncan Cameron ...	1921
Glossop ...	Dr. W. W. Jameson ...	1923
Guernsey and Alderney ...	Dr. R. W. Bollans ...	1914
Guildford ...	Dr. C. d'A. Collings ...	1919
Harrogate ...	Dr. A. Lyndon, O.B.E. ...	1923
Hersham ...	Dr. A. C. Sharp ...	1922
Hyde ...	Dr. J. W. Dew, M.C. ...	1920
Jersey ...	Dr. J. R. Robertson ...	1923
Leicester ...	Dr. A. M. Humphry ...	1922
Liverpool ...	Dr. A. Underwood Millar, M.C. ...	1922
Mashonnaland ...	Dr. E. I. Claxton ...	1921
Mid Essex ...	Dr. Percy Edwards ...	1924
North Lincoln ...	Surg.-Major F. H. Ellis, M.C. ...	1921
Norwich ...	Dr. H. G. L. Haynes ...	1922
Palmerston North (N.Z.) ...	Dr. T. Murray Nowton ...	1923
Portsmouth ...	Dr. I. D. Dickson, M.C. ...	1920
Reading ...	Dr. W. H. Will ...	1922
St. Helens ...	Dr. E. J. Davis Taylor ...	1924
Salford ...	Dr. D. S. Jones ...	1921
Southland (N.Z.) ...	Dr. J. R. Kerr, C.B.E. ...	1924
South Staffs ...	Dr. J. P. Elias ...	1914
South-West Essex ...	Dr. F. O. McGibbon ...	1924
Stratford ...	Dr. H. C. Mactier, M.B.E. (deceased) ...	1911
Surua Vly. (Assam) ...	Dr. A. Todd-White ...	1914
Swansea ...	Dr. J. A. Hill (Asst. Secretary) ...	1924
Swindon ...	Dr. G. C. Ramsay, O.B.E. ...	1923
Taranaki (N.Z.) ...	Dr. U. Urban Marks ...	1921
Torquay ...	Dr. F. C. V. Thompson ...	1924
Warrington ...	Dr. W. P. P. Gordon ...	1924
Wellington (N.Z.) ...	Dr. W. A. D. King ...	1920
West Cornwall ...	Dr. F. R. Ferguson ...	1923
York ...	Dr. J. S. Manson ...	1925
	Dr. E. L. Marchant, O.B.E. ...	1923
	Dr. F. Chown ...	1923
	Mr. J. G. Craig, O.B.E. ...	1919

#### (b) Honorary Secretaries of Branches.

Branch.	Name of Secretary.	Year of first appointment.
Assam ...	Dr. C. E. P. Forsyth ...	1924
Border, S. Africa ...	Dr. J. Barcroft Anderson ...	1916
Dundee ...	Dr. G. Rankine, M.C. ...	1921
Egyptian ...	Prof. Robert V. Dolbey ...	1924
Essex ...	Dr. A. N. Fell ...	1920
Hyderabad ...	Dr. A. N. Fell ...	1920
Konya ...	Lt.-Col. R. W. Knox, D.S.O. ...	1923
Malaya ...	Dr. M. A. L. Sayeed ...	1924
Natal Coastal ...	Dr. C. J. Wilson, M.C. ...	1923
North of England ...	Dr. J. S. Sloper ...	1924
Oxford and Reading ...	Dr. H. H. Tipping ...	1924
Shropshire and Mid Wales ...	Dr. James Don (deceased) ...	1914
South Midland ...	Mr. T. A. Hindmarsh ...	1921
Surrey ...	Dr. E. W. Squire ...	1918
Tasmanian ...	Dr. F. A. Anderson ...	1915
Uganda ...	Dr. A. H. Haydon ...	1922
Western Australia ...	Dr. E. H. Harries-Jones ...	1900
Witwatersrand ...	Dr. C. P. Lankester ...	1914
	Dr. E. Brettingham Moore ...	1918
	Major R. J. A. Maemillan, D.S.O., M.C. ...	1923
	Dr. T. L. Anderson, O.B.E. ...	1922
	Dr. F. to Water, M.C. ...	1922

#### WORK DONE BY THE DIVISIONS AND BRANCHES IN 1924.

(Continuation of paras. 32-33 of Annual Report.)

211. The Council has pleasure in reporting that practically the whole of the Home Divisions and all the Home Branches have reported for 1924. The reports indicate a very satisfactory activity of the local bodies of the Association, more meetings having been held than in previous years (some 40 per cent. of the reporting Divisions have held no less than five meetings during the year). A gratifying feature is the substantial increase in membership reported by many Divisions and Branches, which in a considerable number of cases amount to 25 per cent. or more on the year.

#### PRIZES TO STUDENTS FOR ESSAYS.

(Continuation of para. 38 of Annual Report.)

212. On the award of the examiners, prizes have been given as follows in the Association's Prize Essay Competition for final-year students:—

Mr. F. R. Curtis and Mr. Matthew Masser, both of Leeds University. (There was a tie in this Group and the Prize was divided between the two winners.)  
Mr. J. S. Headrie, Edinburgh University.  
Mr. A. Walker, Glasgow University.  
Mr. R. L. Holt, Manchester University.  
Mr. H. Avrounin, Charing Cross Hospital Medical School.  
Mr. L. Hartstein, London Hospital Medical School.  
Mr. T. O. S. Webb, University College Hospital Medical School.  
Mr. K. S. Smith, Middlesex Hospital Medical School.  
Mr. F. S. Imianitoff, St. Bartholomew's Hospital Medical School.  
Mr. T. M. Ling, St. Thomas's Hospital Medical School.

The Council has tendered its thanks to those members of the Association who have acted as examiners.

213. The Council has decided upon the following subject for the 1925-6 competition:—

"The disabilities that may be directly due to simple fracture (excluding separation of an epiphysis), (a) of the femur, (b) of the tibia, (c) of the fibula, (d) of the tibia and fibula (simultaneously injured), and the means to be adopted in the treatment of such cases in order to prevent or minimise these disabilities."

Arrangements have been made to advertise the coming competition in July, instead of in October, and, as an experiment, a new Group has been formed for the Medical Schools in the British Empire outside the United Kingdom.

#### QUESTION OF A BADGE OF OFFICE FOR DIVISION AND BRANCH OFFICERS.

214. The Council has considered the question of a badge of office for Branch and Division Presidents, Chairmen and Secretaries, and is of opinion that the provision of such badges for these officers is desirable from many points of view. If and when such badges are acquired, they should, the Council considers, remain the property of the Division or Branch and be passed

on to successive officers. Such a badge would probably best, in the case of a Chairman or President, be arranged with a collar of ribbon, so that the Officer could be invested at his inauguration, while the badge for an Honorary Secretary would best be arranged to pin on, so that it could be worn at any meetings at which new members or strangers might be present. The Council has approved patterns as standards for such badges, the cost of such a standard badge for a Chairman or President (silver gilt) being 25s.; and for a Secretary, 21s. The Financial Secretary will be pleased to furnish full particulars on application.

As regards the question of payment for such badges, the Council is advised that their cost cannot legally be met out of the funds of the Association. The Council however hopes that the badges will be provided, either as a personal gift, or by voluntary levy among the members of the Division or Branch concerned.

## Journal.

### SUGGESTED BRITISH JOURNAL OF PEDIATRICS.

215. In consequence of inquiries received from a number of leading teachers in various centres, the Council considered the desirability of the Association undertaking responsibility for the publication of subsidiary journals devoted to special subjects, and in particular of a Journal of Pediatrics which should be fully representative of the work that is being done in Great Britain in that department of medicine.

The Council being of opinion that it is desirable for the Association, in the interests of the progress of medicine, to inaugurate a Journal for the publication of what is best in the British school of children's diseases has arranged for the publication monthly by the Association of such a Journal under the control of the Journal Committee. The new Journal will be directed editorially by a Committee of Pediatricians who are members of the Association, and the Editor of the *British Medical Journal* or his representative will be a member of this Committee.

## Science.

### MIDDLEMORE PRIZE.

(Continuation of para. 79 of Annual Report.)

216. The contributions received in connection with the Middlemore Prize Competition, 1925, were, in the opinion of the Judges, of great merit. The Council has awarded the Prize to Mr. Basil Graves, M.C., for the contribution which he has made to the knowledge of the microscopy of the living eye, especially in relation to the use of the Slit Lamp.

The Council has cordially thanked the Judges—Mr. G. Mackay (Edinburgh), Mr. W. T. Holmes Spicer (London), and Mr. A. L. Whitehead (Leeds), for their valued help in making this award.

### REMUNERATION OF NON-PROFESSORIAL MEDICAL TEACHERS, LABORATORY AND RESEARCH WORKERS.

217. The Council has considered the question of the remuneration of non-professorial medical teachers, laboratory and research workers, and is of opinion that their remuneration should be brought generally into line with the scale of minimum commencing salaries for Public Health Medical Officers, i.e., that a Laboratory or Research Worker or Teacher who has served for three years on a probationary basis at a salary of £300-£350-£500 should receive at the end of that time a minimum salary of £600 per annum (the present Association policy lays down a salary of £500 per annum).

218. The Council has accordingly expressed the following opinion, which will be acted upon pending submission to the A.R.M., 1926, of a recommendation for a rescission of the existing policy. (As the necessary two months' notice has not been given it cannot become the policy of the Association until next year.):

(a) That whole-time (1) non-professorial medical teachers, and (2) medically qualified laboratory or research workers, should be grouped into three grades as defined below, and with the salaries as stated:—

Grade III. Comprising those who are junior workers temporarily employed on probation; no person shall remain in Grade III. for more than three years.

That the minimum salaries for Grade III. shall be as follows:—

1st year ... ..	£300
2nd year ... ..	£350
3rd year ... ..	£500

Grade II.—Comprising laboratory or research workers or teachers, who have had experience in Grade III. or in work of a similar character, and who are permanently and exclusively employed as such.

Grade I. Comprising those of Grade II. whose qualifications or duties justify a position of seniority in status and a higher remuneration.

That the minimum salary for Grade I. shall be £750 per annum.

That after the probationary period (i.e., Grade III.) has been completed, dismissal should be possible only on grounds of neglect of duty, improper conduct or incapacity; and

(b) That non-professorial medical teachers and medically qualified laboratory or research workers holding part-time appointments should receive remuneration, for the time engaged, at the rate of not less than £600 per annum.

### PROPOSED PUBLICATION BY THE B.M.A. OF A BOOK DESCRIBING NEW AND NON-OFFICIAL REMEDIES.

219. There is published yearly by the American Medical Association a book describing the nature and qualities of those new and non-official remedies which satisfy certain conditions defined by that Association. The object which the American Medical Association has in view in publishing its book is to disseminate information among members of the profession in the United States relative to new and non-official medicines and medicinal preparations. For admission to the book any one of these must comply with the Rules of the A.M.A. which prescribe, *inter alia* (i.) that the composition of all articles must be declared; (ii.) that generally speaking articles advertised to the public will not be accepted; and (iii.) that an article will not be accepted concerning which the manufacturer makes unwarranted, exaggerated or misleading statements. The Council understands that the activities of the A.M.A. in this direction meet a real need on the part of the profession in the United States.

The Council is considering a proposal that the British Medical Association should take action on somewhat similar lines.

## Medico-Political.

(Continuation of paras. 93-135 of Annual Report.)

### REMUNERATION OF ASSISTANTS IN GENERAL PRACTICE.

220. Following naturally on the enunciation of minimum salaries for various public health posts, there have come many requests that the Association should do something to improve and stabilise the position of assistants in general practice. This is a matter of some difficulty because circumstances in which assistants are employed vary so much. The Council has no doubt that opinion inside the Association, especially among the younger members, demands that this subject be dealt with. The Council does not propose at the present time to ask the Representative Body to lay down a final and definite policy of the Association on this subject, but rather to formulate certain principles which will serve as guidance to members of the profession who employ, or who act as, assistants. Such a proposition would, after experience, form the basis of a definite policy on the subject.

The Council recommends:—

[Recommendation]—(a) That on general principles the employment in suitable cases of assistants by practitioners is in the interests both of the general public and of the profession;

(b) That it is not desirable for a principal to employ an assistant where he is unable to exercise adequate personal supervision over the latter, e.g., in some types of branch practice. In such circumstances a partnership is to be preferred;

(c) That the offer or promise of a future partnership should not be made a reason for paying a lower salary to an assistant;

(d) That the minimum commencing salary for a newly-qualified inexperienced practitioner, acting as a whole-time indoor assistant to a practitioner, should be £240 per annum, with the addition of board and lodging; and, in the case of such a practitioner, employed on an outdoor basis, the board and lodging value should be estimated from £120 to £160 per annum according to the circumstances of the individual case; that the only exceptions or possible exceptions to the foregoing should be in the case where, owing to arrangements made for study leave, or to physical disability or other reasons, the assistant is not able to give full time to the work;

(e) That a whole-time assistant should be entitled to not less than two weeks' holiday a year on full pay;

(f) That no steps should be taken for the present to make the foregoing expressions of opinion the policy of the Association, but they should be used for the assistance of the office in advising on points connected with the terms and conditions of the work of assistants. Where an advertisement is offered for insertion in the *Journal* in connection with an assistantship not in accordance with the foregoing opinions, the attention of the advertiser should be drawn to them in the hope that the advertisement will be amended; but the advertisement should not, if otherwise eligible, be refused.

#### REMUNERATION OF MEDICAL PRACTITIONERS ENGAGED AT MUNICIPAL MATERNITY HOSPITALS.

221. The Report on the Utilisation of Municipal Hospitals for Civil Needs which was adopted by the Representative Body in 1922 (Mins. 330-3) will be found in pages 152-3 of the Association's Handbook for 1924-25. The Council is of opinion that this policy should include a statement with regard to the payment of medical officers of Municipal Maternity Homes and has drawn up the following paragraphs which it suggests should be adopted by the Representative Body:—

[Recommendation]—That the following paras. dealing with the remuneration of medical officers of Municipal Maternity Clinics be inserted in the Report on the Utilisation of Municipal Hospitals for Civil Needs:—

That where the local authority makes provision for the institutional treatment of maternity cases this should be mainly or primarily for serious cases of ante-natal complications, for cases requiring major obstetric operations, for cases where isolation and treatment of septic infection is specially indicated, and other cases where the home conditions are unsuitable or dangerous for confinements.

That where a general practitioner is called upon to render assistance at a confinement in a Municipal Maternity Hospital the fees payable to such practitioner should be in accordance with the scale of fees approved by the Ministry of Health for the payment by local supervising authorities to medical practitioners called in on the advice of midwives under Section 14 of the Midwives Act, 1918.

That where a consultant is called in by the practitioner in charge of the case the fee for the consultation should be three guineas; that the fee for a major operation should be not less than ten guineas.

#### METHYLATED SPIRIT REGULATIONS.

(Continuation of para. 98 of Annual Report.)

222. The Commissioners of Customs and Excise have submitted to the Association the draft Regulations relating to the supply of industrial spirit to medical practitioners. The main effect of these Regulations is to limit the supply of industrial spirit to medical practitioners to one pint per diem. The Commissioners have given an assurance that though it is essential that it should be made impossible for the spirit to be obtained or used for other than strictly medical requirements, they do not wish to obstruct medical practitioners in getting the spirit, and will give sympathetic consideration to individual practitioners who can show, after trial, that the allowance of one pint of spirit a day is insufficient. The Council has not raised any objection to the draft Regulations.

#### OSTEOPATHY.

223. The Association was recently asked by medical M.P.'s for its opinion in regard to osteopathy, as osteopaths are agitating for legislation to provide for a special qualifying examination to register. The Council expressed the opinion that osteopathy should not be practised by persons who are not duly qualified medical practitioners.

In this connection an article headed "Osteopathy and Chiropractic," and a report with regard to a meeting of Members of Parliament concerning Osteopathy, were published in the *B.M.J.* of 11th April, 1925. At the suggestion of medical Members of Parliament the articles were reprinted and issued to every Member of the House of Commons. Further particulars of the position in the U.S.A. and Canada are being sought from the American Medical Association and the Canadian Medical Association.

#### COMMITTEE *re* SUPPLY OF MORPHINE AND HEROIN TO DRUG ADDICTS.

(Continuation of para. 97 of Annual Report.)

224. The Association has been invited by the Departmental Committee on Drug Addiction to nominate representatives to give evidence before that Committee, and Dr. E. K. Le

Fleming, Dr. C. P. Symonds, Mr. E. B. Turner, and the Medical Secretary have been appointed. The Council has also appointed a Special Committee consisting of the foregoing, with the addition of the Chairman of the Representative Body, Chairman of Council, Dr. J. W. Bone, Dr. G. B. Hillman, and Dr. J. A. Macdonald to advise the witnesses as to the evidence to be given by them.

#### FIRST INTERNATIONAL CONGRESS ON CHILD WELFARE, GENEVA, AUGUST, 1925.

225. The Association has been invited to send representatives to this Conference, which is being held in Geneva on 24th-28th August, 1925, under the auspices of the League of Nations. The Council has authorised its Chairman to invite any member who is attending the Conference, to represent the Association thereat.

#### TONSIL AND ADENOID OPERATIONS AT HOSPITALS.

226. In a number of instances where Education Authorities have arranged for tonsil and adenoid operations on school children at Voluntary Hospitals, the Medical Staffs of such Hospitals are either doing the work gratuitously or at a remuneration which is less than that which the Association has approved (namely, a fee of £1. 11s. 6d. per case for less than four cases; or £5. 5s. per session for not more than eight cases, for the remuneration of surgeon and anaesthetist). Where such arrangements are known to exist it has been decided to ask the Divisions concerned to take the matter up with the Education Authority and with the Staffs of the Hospitals concerned.

#### PUERPERAL MORBIDITY AND MORTALITY.

(Continuation of para. 134 of Annual Report.)

227. The Special Committee which was appointed to consider and report on the causation of puerperal morbidity and mortality and on the administrative action, if any, that should be taken by the Association in connection therewith, has been made as representative as possible. Sir Ewen Maclean, Professor of Obstetrics and Gynaecology in the Welsh National School of Medicine at Cardiff, has been appointed Chairman and Dr. J. W. Bone, Vice-Chairman. The Committee has decided to treat the subject of its reference as one which gives the Association an opportunity of making a practical contribution towards the diminution of puerperal morbidity and mortality, rather than as a discussion of the question of the allocation of responsibility for the present maternal mortality rate. This, though very important, is regarded as secondary and incidental to the more practical object. Acting on the suggestion of the Committee, the Council proposes to promote special researches with a view to determining the factors which constitute, and the conditions which vary, resistance to disease, particularly as regards pregnancy and the puerperium.

It is hoped before long to issue an interim report, which will be submitted to the Divisions and Branches in order to elicit their views which will be submitted to the Committee. It is also hoped to submit the interim report, as revised in accordance with the views of the Divisions, to a special conference of practitioners specially nominated by Divisions for the purpose, to which representatives of bodies specially interested, for example, the Ministry of Health, the Section of Obstetrics and Gynaecology of the Royal Society of Medicine, the Society of Medical Officers of Health, etc., will be invited.

The Council attaches very great importance to this question and believes that the Association can and should make a substantial and practical contribution to its solution. During the next few months it is hoped that Divisions and Branches asking for B.M.A. Lecturers will place this subject in the forefront.

228. The Council has received through the Ministry of Health a letter from the County Councils Association dealing with proposals for investigating maternal deaths in all cases of puerperal fever, all still births and neo-natal deaths. The suggestion had been made by the Ministry in Circular 517 that such investigations, conducted by a competent and experienced medical officer, were desirable. The County Councils Association came to the conclusion that under prevailing conditions it would be impossible for Medical Officers of Health to undertake these inquiries without materially disturbing the amicable relationship with the general practitioner upon the maintenance of which Medical Officers so largely depend for the effective discharge of their duties, and raised the question of the investigations being made obligatory on Local Authorities.

The Council has informed the Ministry that it considers it would be inadvisable to impose such obligatory duties on Local Authorities.

## National Health Insurance.

## ROYAL COMMISSION ON NATIONAL HEALTH INSURANCE.

(Continuation of paras. 139-144 of Annual Report.)

229. The witnesses of the Association (the Chairman of Council, the Chairman of the Representative Body, the Chairman of the Insurance Acts Committee and the Medical Secretary) gave evidence before the Royal Commission on National Health Insurance on April 30th and May 7th, 1925, being assisted by Dr. H. J. Cardale with regard to the special conditions in London, by Dr. J. P. Williams-Freeman on rural conditions, by Mr. N. Bishop Harman on the question of Ophthalmic Benefit, and by Dr. Drer, the Scottish Medical Secretary, who advised on Scottish matters. At the request of the Royal Commission the Association's witnesses invited the Manchester Panel Committee to appoint someone to give evidence upon the special system of payment in operation in Manchester and Salford, with the result that Dr. Stanley Hodgson, of Salford, attended on the second day and gave evidence. A full report of the oral evidence of the Association appeared in the *B.M.J.* Supplements of May 23rd and May 30th.

## DISCIPLINARY MACHINERY OF ACTS.

230. In view of the apprehension felt by insurance practitioners generally as a result of recent decisions of the Minister in a number of disciplinary cases, the Minister of Health has been requested to meet the Insurance Acts Committee for the purpose of discussing the whole question, and has consented to do so on June 18th. (For report of Deputation, see page 290.)

231. Members will doubtless have observed from the *B.M.J.* Supplement of May 23rd that the Minister of Health has, as a result of the Committee's efforts, given instructions that no further deductions are to be made from the remuneration of the two doctors concerned in what has become known as the "Lancashire £1,000 case." The Association has been thanked by the doctors and by the Panel Committee concerned.

## WIDOWS', ORPHANS', AND OLD AGE CONTRIBUTORY PENSIONS BILL.

232. Certain provisions of the Widows', Orphans', and Old Age Contributory Pensions Bill not only make it more difficult to alter the definition of insured persons under the National Health Insurance Acts (a point of great interest to the profession and one on which the Association has expressed a definite opinion before the Royal Commission on National Health Insurance), but will bring into Health Insurance others who have ceased to be insured persons or have been excluded from health insurance under previous Acts. The Council is taking steps to represent to the Minister of Health and to Medical Members of Parliament that the new Bill should be amended in both the above respects.

## OPHTHALMIC BENEFIT.

(Continuation of para. 150 of Annual Report.)

233. It was stated in paragraphs 140-150 of the Annual Report that some Approved Societies in the past have given as an additional benefit what is styled "optical benefit" under which they referred those members requiring spectacles to opticians, and that the Association, in conjunction with the Council of British Ophthalmologists, had approached the Ministry of Health with a view to securing that schemes for the so-called "optical benefit" should provide for insured persons obtaining advice and treatment from ophthalmologists and not from opticians. The reasons stated by Societies for employing opticians and not ophthalmologists are that they could not afford to pay the fees of the latter, and that in any case ophthalmologists who would undertake the work were not numerous enough, or properly distributed throughout the country, for the purpose.

234. The efforts of the Association during the past twelve months have resulted in the compilation of a list of some 550 ophthalmologists who satisfy the following criteria and are willing to see insured persons at the reduced fee of £1. 1s.:

(a) That he has held hospital or other appointments affording special opportunities for acquiring special skill and experience of the kind required for the performance of the service rendered, and has had actual recent practice in performing the service rendered or services of a similar character, or

(b) That he has had special academic or post-graduate study of a subject which comprises the service rendered, and has had actual recent practice as aforesaid, or

(c) That he is generally recognised by other practitioners in the area as having special proficiency and experience in a subject which comprises the service rendered.

Copies of the list have been supplied to many Approved Societies, and some of these are already making use of it.

235. Since the second valuation of Approved Societies, now approaching completion, will largely increase the amount available for additional benefits, and in anticipation that more Societies will offer members benefits connected with the treatment of the eyes, the Association and the Council of British Ophthalmologists jointly urged upon the Ministry of Health the necessity, from the public standpoint, for the employment of ophthalmologists instead of opticians being made an essential part of the Ministry's approval of any such additional schemes. Following various discussions the Ministry submitted the following draft provisions for the observations of the Association, with a view to their being subsequently submitted to the Consultative Council of Approved Societies:—

(1) In all cases the insured person must first consult his panel doctor.

(2) The panel doctor—

(a) if he is satisfied that the case is one only of a simple error of refraction, either prescribes glasses or informs the Society of the necessity for glasses;

(b) if he is doubtful, or if he considers that further medical opinion is necessary, he refers to a specialist on the approved medical list, other than himself.

(3) The above action of the panel doctor is admitted to be within competence of the present contract.

(4) The approved medical list will be drawn up in Insurance Committee areas and maintained by the British Medical Association consisting of persons satisfying the three criteria quoted above.

(5) It will be sent to the Ministry and circulated to Societies and Insurance Committees for distribution to practitioners in their areas—alterations to be similarly circulated.

236. In dealing with the matter the Association was represented by members of the I.A.C. and of the Ophthalmic Committee, assisted by representatives of the British Council of Ophthalmologists and of the Ophthalmic Benefit Committee, a body which more particularly represents junior ophthalmologists and refraction assistants.

237. The Ministry was informed that while appreciating the interest the Ministry was taking in the matter and its attempts to bring about an understanding between the profession and the Approved Societies in regard to a matter of very great importance, the Association could not accept paragraphs (2) and (3) above, mainly because of what might flow from the acceptance of (2) (a). Under that paragraph the practitioner would have to satisfy himself that the case was one of simple error of refraction, that is to say, an error which would justify him (not being an expert) in prescribing glasses or suggesting to the Society that the provision of glasses (presumably by an optician) would meet the case. Also, the practitioner, not being possessed of expert knowledge, would be taking a great responsibility inasmuch as he might be wrong in his diagnosis of a "simple error of refraction," and the case might turn out to be something much more serious.

238. The Ministry was further informed that the Association could not accept the position that a registered medical practitioner should in any way lay himself open to the charge of recommending an insured person to be treated by an unqualified person, and that the recommending of glasses, which could only be fitted after examination by an optician, would be equivalent, in the opinion of the Association, to the "covering" of unqualified practice.

239. The Council therefore suggested the following in place of the above paragraphs 2 (a) and (b):—

If the insurance practitioner from his general examination of the patient concludes that the symptoms found arise from defect of the eyes, or call for examination and report upon the eyes, he should so inform the Approved Society, and recommend that the Approved Society should refer the patient to an ophthalmologist upon the approved list,

which, if adopted, would place the onus of using the optician instead of the ophthalmologist on the Approved Society, would enable the Society to use any specialist on the list, and would allow the insured person to have some choice of specialist, not excluding his own insurance practitioner if he happened to be on the list.

240. After further discussion between representatives of the Association and the Ministry of Health, the latter informed the Council on April 25th, 1925, (1) that the suggestions of the Association had been placed before the

Consultative Council of Approved Societies, when the Societies were strongly urged to recognise the danger to individual insured persons which might arise if ophthalmic treatment or optical appliances were supplied without the advice of a properly qualified medical man, (2) that there was a strong body of opinion among Societies in favour of the employment of specialists, and no special difficulties were encountered with regard to the proposals, on the understanding that the certificate or recommendation which the insurance practitioner would give was to be treated as part of his obligation under the terms of service. The Council has agreed to the scheme in this form.

241. The scheme (which is expected to operate from July, 1925), will provide that, except in the case of repair or renewal of an appliance, an application for the benefit shall not be entertained by the Society unless the applicant has obtained and furnished to the Society a written recommendation from a duly qualified medical practitioner with respect to the benefit.

242. The policy of the Association is that ophthalmic benefit, being of the nature of medical benefit, should be administered by the same body and under the same conditions as ordinary medical benefit is administered and not by Approved Societies as at present, and evidence to this effect has been given by the Association before the Royal Commission on National Health Insurance. Pending new legislation, if any, giving effect to such representations, the Council has deemed it desirable to endeavour to bring the present situation as nearly as possible into line with what it considers to be essential in the public interest. The list of Ophthalmologists which has been compiled by the Association has been furnished to the Ministry which will circulate it to the Approved Societies.

#### NATIONAL INSURANCE DEFENCE TRUST.

243. The audited statement for the year 1924 of the above Trust, of which the members of the Insurance Acts Committee for the time being are Trustees, is appended hereto for the information of the Representative Body and members generally. (See Appendix.)

#### Public Health and Poor Law.

(Continuation of para. 106 of Annual Report.)

##### FOOD COMMITTEE: DIETARY OF THE PEOPLE.

244. The following resolution of the 1924 Section of Public Medicine and Industrial Diseases has been considered by the Council:—

That it be a recommendation to the Council to appoint a Food Committee, on which there should be representatives of the Society of Medical Officers of Health, for the purposes of:—

(1) Conducting an investigation into the adequacy and suitability of the dietary of the people of this country.

(2) As a result of the investigation making such recommendations and drawing up such directions as may appear desirable.

(3) Conferring with the Ministry of Health, the Medical Research Council, and other bodies; and

(4) Dealing with food problems as they arise.

The Council is of opinion that this is a matter which, at the present time, could not usefully be undertaken by the Association. The main reasons which have led to this conclusion are (i.) that an investigation of the nature contemplated in the resolution of the Section would entail far-reaching enquiries and would be very costly; and (ii.) that even if such trouble and expense were incurred it is very doubtful if the public would adopt any suggestions as to diet which might be formulated.

##### WHOLE-TIME PUBLIC HEALTH M.O.s. AND CONSULTING FEES.

245. The A.R.M., 1924, passed the following resolution:—

Minute 153. Resolved: That the Representative Body is of opinion that it is not advisable that whole-time medical officers engaged in public health work should accept fees for private consultations.

The Council has considered several suggestions that the resolution should be rescinded or amended, the main reason given being that the resolution aims at preventing whole-time M.O.s. accepting fees for consultations whilst consultants or specialists who act as part-time M.O.s. in special departments of Public Health Authorities are allowed to accept them. This is considered to be unfair. The Council is of the opinion that the general advisability of the principle enunciated in Minute 153 of the A.R.M., 1924, should be adhered to, but as some misapprehension has

obviously arisen it seems necessary to draw attention to the fact that the conditions of employment rest wholly with the local authority (subject to any control by the Ministry of Health), and that this being so it follows that if a local authority does not object to the receipt of fees by its officers no legal reasons against their acceptance can be put forward by the Association.

##### DEPARTMENTAL COMMITTEE ON FOOD PRESERVATIVES.

246. In giving evidence before the Departmental Committee on Food Preservatives on behalf of the Association Prof. A. J. Clark, M.D., F.R.C.P., pointed out that the present system of allowing almost unrestricted use of food preservatives was very undesirable. He further stated (i.) that food preservatives ought to be used as little as possible; (ii.) that if food preservatives were allowed there should be a legal limit to the quantity permitted, and a requirement that their presence in foodstuffs should be declared; and (iii.) that this declaration was of particular importance to medical practitioners since they had to select diets for patients who might be hypersensitive to these substances. The Association has been informed that it is anticipated that there may shortly be keen Parliamentary controversy on the question of food preservatives. The Public Health Committee is giving special consideration to the draft Regulations as to Food Preservatives which have been issued by the Ministry of Health with a view to giving guidance on this matter.

##### SCALE OF SALARIES FOR PUBLIC HEALTH M.O.s.

247. The scale of salaries for Public Health Medical Officers which the Council on 25th March, 1923, approved, under the authority of Minute 43 of A.R.M., 1923, has been issued together with a covering explanatory letter to Local Authorities and their M.O.H. (excluding those Authorities which only employ part-time M.O.H.) and Education Committees, in England and Wales. The Scottish and Irish Committees have been asked to advise us to the opportune moment for issue of the scale to Local Authorities in Scotland and Ireland. Negotiations are proceeding with representatives of the Local Authorities in Scotland and the Scottish Board of Health. The Council has reason to believe that the approval of the Ministry of Health to the scale as it now stands, together with the qualified approval of the Association of Municipal Corporations, will go far to recommend the scale to progressive health authorities. The fight is by no means over, but with the support of the Branches and Divisions of the Association and that of the Society of M.O.H. and the Medical Women's Federation, the Council believes that a scale which it considers to be eminently moderate as well as logical cannot fail ultimately to secure the support of all concerned and will thus be the means of improving the status and prospects not only of those who in future join, but also of all those members of the profession who are at present engaged in, the Public Health Service.

#### Hospitals.

(Continuation of para. 170 of Annual Report.)

##### PAYMENT OF MEDICAL STAFFS OF HOSPITALS IN RESPECT OF ACCIDENT CASES.

248. In view of the fact that in many instances the owners of vehicles in accidents are covered by insurance, including insurance of third party risks, the Council is of opinion that there should be some arrangement for the payment of medical staffs of hospitals, for attendance on such accident cases treated in hospitals.

[Recommendation]—That in all cases of accident where medical attendance is given at a Voluntary Hospital, and such medical attendance is covered either directly or indirectly by insurance, the Hospital Authorities should recover from the Insurance Company the full cost of maintenance and treatment of such patient. That where patients who would ordinarily be considered as private patients are admitted to hospital solely on account of accident or emergency they should be considered as "private patients."

##### CASE SHEETS OF HOSPITAL PATIENTS.

249. The policy of the Association on the "Standards for Hospitals (England and Wales) with 100 or more Beds," adopted by the A.R.M. in 1924, contains the following paragraph:—

(h) In every such hospital, case records should be kept in respect of every patient, and these should be signed by the member of the staff responsible for the case; these records should be filed and indexed by a competent clerk; every effort should be made to obtain the subsequent medical history of each patient,

and the Council is of opinion that the Representative Body should make a pronouncement on the question of the custody of, and access to, these records.



## Supplementary Report of Council.

[Recommendation]—That case sheets and records of patients treated in hospitals should remain in the custody of the hospital; that they must be regarded as confidential documents and access to them allowed solely to the members of the Visiting Staff of the hospital.

## REMUNERATION OF VISITING CONSULTING STAFFS OF POOR LAW INFIRMARIES.

250. As the employment of consultants and specialists by Guardians for attendance at Poor Law Infirmaries is increasing, the Council considers that the Association should have a policy as to the remuneration of such practitioners. Steps are being taken to draw up such a policy. In the meantime it is important that any arrangements adopted locally should be experimental and subject to revision at the end of a year.

## HOSPITAL SAVING ASSOCIATION.

251. This is a contributory scheme operative in London, and subject to it being amended in the two following respects does not violate the Association's policy:—(i.) The scheme at present contains no stipulation that contributors when attending hospital should take with them a letter from their individual private practitioner, and (ii.) the Hospitals which receive contributions from the scheme in respect of patients are not informed that these contributions, in addition to including payment for the maintenance of such patients, include provision for the remuneration of the medical and surgical staff of the hospital concerned with the treatment of these patients. The attention of the Hospital Saving Association is being drawn to these points, and it is being pointed out that in the opinion of the Association neither the patient nor the doctor concerned gets the full value of consultations either at hospitals or elsewhere unless there is proper exchange of information and opinions between the medical men concerned. Unless the Hospital Saving Association can see its way to remedy these defects the Association will feel obliged to oppose the scheme. Steps are also being taken to inform Hospital Staffs and individual medical practitioners of the policy of the Association in this matter.

## Medical Benevolence.

252. The Council has given careful consideration to the following Minute 52 of the Annual Representative Meeting, 1924:—

52. Resolved: That it be an instruction to the Council to examine and report upon medical benevolent funds, including the possibility of a British Medical Association Benevolent Fund.

The medical charities at present in existence are (1) the Royal Medical Benevolent Fund, (2) the Royal Medical Foundation of Epsom College, (3) the Royal Medical Relief of Widows and Orphans of Medical Men (which takes more of the nature of a provident than of a charitable organisation), (4) the Society for the Relief of Medical Officers' Benevolent Society, and a few localised societies of which full particulars are not available. The Association has, for a considerable number of years, supported the three first named institutions by acting as an agent for the collection from members of the Association of subscriptions and donations to those institutions, but the amount so collected is, relatively to the membership of the Association, trifling.

253. The work of the existing benevolent organisations has been without doubt of high practical value, and much of it has been accomplished by voluntary and comparatively unorganised effort. It has included both the supply of relief to members of the profession or their families who have fallen on evil days and also the provision of educational facilities for children left without parental support. All this work, however, has been limited by lack of funds, and it is generally admitted that if the claims for help are to be adequately met much more money must be raised from the profession, for it must not be forgotten that a not unimportant share of the present funds comes from the laity. The need is great and urgent and the present means of meeting it are quite insufficient.

254. The Council has carefully compared two possible courses, namely (1) to attempt to secure increased support for the existing organisations, and (2) to propose the institution of a new benevolent fund to be organised under the direction of the Association. A new fund would mean one more competitor in the field of charity and would necessarily entail new charges for administration and other expenses. Moreover, the existing organisations already have the machinery needed for investigation and distribution purposes, and any allied directions have been issued. A considerable part of the work of the Association is therefore of a financial nature, and it is against the wiser plan is to

attempt to gain greater interest in and support for funds already in existence.

255. For the Association to continue as at present to act as a mere passive collector of contributions for present funds will obviously leave the position unchanged. On the other hand, were an Association Medical Charities Committee set up and directed to apply itself through the established machinery of the Association to the accurate and repeated introduction to the profession of the actual needs of the situation, it is reasonable to expect that there would be a proportionate response. The sums so collected would form a fund which would doubtless be distributed at the discretion of the Committee here contemplated while, at the same time, leaving full freedom to each contributor to earmark his contribution for any individual end he may desire. By the adoption of such a method the Association would officially identify itself with the effort to meet the position of medical confrères with whom fate has dealt hardly, and would encourage and support the praiseworthy labours of those already working to this end.

The Council therefore recommends:—  
That the Council be instructed to set up a British Medical Association Charities Committee to be constituted and directed according to the following provisions:—

British Medical Association Charities Committee.

1. The Committee shall consist of the Officers of the Association ex-officio, three members appointed by the Representative Body and three members appointed by the Council, together with the Editor, the Medical Secretary and the Financial Secretary.
2. It shall be the duty of the Committee through the machinery of the Association to direct the attention of members to the financial and educational positions which arise as a result of misfortune falling on members of the profession and to appeal for contributions to meet these positions.
3. All sums obtained in response to such appeals shall be paid to a Charities Trust Fund, the Trustees being the Members of Council for the time being in office, and shall be distributed to such medical benevolent organisations and the Trustees shall deem advisable.
4. Contributions paid to the Fund may at the will of the donor either be left to the discretion of the Committee or earmarked for a particular purpose.

## Naval and Military.

(Continuation of paras. 171-183 of Annual Report.)  
RETAINED PAY OF MAJORS R.A.M.C.

256. The Council reported in the Annual Report (para. 182) on the position of retired pay of Majors, R.A.M.C. The Council has since inquired of the War Office whether Officers who joined the Corps prior to the Warrant of 1919 have lost the right to the minimum pension after 20 years' service of £1 per diem, which was one of the chief attractions when they joined the R.A.M.C. The War Office was specially asked for a reply to the above question in time for the meeting of the Council on June 10th, but the Secretary of State has invited a deputation from the Association to meet him on July 30th. A further report will be made at the A.R.M.C.

## Scotland.

MINIMUM SCALE OF SALARIES FOR PUBLIC HEALTH OFFICERS.  
(Continuation of para. 185 of Annual Report.)

257. At an interview on June 5th between representatives of the Scottish Committee, of the Scottish Board of Health, and of Scottish local authorities, the applicability of the Association's Scale to Public Health Medical Officers in Scotland was further considered. Representations were made on behalf of the local authorities as to certain points in which they believed that the Scale was not fairly applicable to Scotland, and the further consideration of the matter was adjourned.

## SCOTTISH HOUSE OF THE ASSOCIATION.

(Continuation of para. 189 of Annual Report.)  
258. The Council is pleased to report that the new premises of the Association in Scotland (6, Drumshough Gardens, Edinburgh) were opened by the Secretary for Scotland (Rt. Hon. Sir John Gilmour, M.P.) on June 4th. The proceedings under the Chairmanship of Dr. C. E. Douglas, Chairman of the Scottish Committee, were most successful. The ceremony was attended by representatives of the Universities and medical corporations and societies in Scotland, and by theatives of the Association from all over Scotland, and by the

Chairman of the R.B., the Chairman of Council, the Treasurer, and the Medical Secretary. The premises are commodious and in every way worthy of the growing importance of the Scottish office, and already several medical associations have signified their intention of holding their meetings at the office. The Council has tendered to the Scottish Committee, to its Chairman, and to the Scottish Medical Secretary cordial congratulations on the successful inauguration of what promises to be a great development of the work and status of the Association in Scotland.

### Ireland.

(Continuation of para. 193 of Annual Report.)

259. The Council understands that the Irish Committee is of opinion that the arrangements made by Dr. Hennessy, the Irish Medical Secretary, for his attendance at the Dail will not interfere with the discharge of his duties as Irish Medical Secretary. The Council has approved of the position so far as it stands at present, and will further consider the position next year in the light of the next twelve months' working of the arrangements.

### Oversea Branches.

(Continuation of para. 201 of Annual Report.)

#### ACTIVITIES OF OVERSEA BRANCHES.

260. The Reports received from Federal Committees and Oversea Branches again show a splendid record of activity on behalf of the profession in the great self-governing Dominions and the other parts of the Empire overseas. The following points are taken from the Reports as being of general interest:—

#### Africa.

261. The work of the South African Committee, under the Presidency of Dr. Campbell Watt, has covered a wide field. The Committee has given evidence before the Hospitals' Commission appointed by the South African Government; has strenuously resisted before Parliament certain clauses in the Mental, Dental and Pharmacy Bill; has organised a new Branch at Port Elizabeth and is organising one for the South-West Protectorate; and has dealt with other important questions of propaganda and organisation. The Council has informed the Committee that it will welcome the assumption of further duties by the Committee towards the South African Branches, analogous to those performed by the Council of the Association in this country.

Congratulations are due to the Cape of Good Hope (Eastern) Branch for the successful organisation, by the Branch, of the 19th South African Medical Congress. The Branch reports a successful year in other directions and has increased its membership by nearly 40 per cent.

The Cape of Good Hope (Western) Branch held during the year a series of attractive meetings of a clinical nature in association with other professional societies in the Branch area, with resulting increased attendance and enthusiasm in the discussions. The Branch membership shows a satisfactory increase.

The Witwatersrand Branch has held no fewer than 14 meetings, which have been well attended by the Branch members.

The Egyptian Branch has been reorganised during the year and has held four successful meetings.

The Kenya Branch has increased its membership by nearly 50 per cent. and has given considerable attention to matters affecting the Medical Services in the Branch area.

#### Australasia.

262. The Australian Federal Committee, under the Presidency of Sir George Syme, has dealt during the year with many matters of great importance to the profession in Australia, and it is only possible to allude here to the more important matters which have engaged its attention. The Council is glad to note that among the personnel of a Royal Commission appointed to inquire into the questions relating to the preservation of the health of the people of Australia are Sir George Syme, Dr. R. H. Todd and Dr. F. S. Hume, all tried workers for the Association in Australia. Reference has already been made in the Annual Report of the Council to the presentation by the Committee of a Presidential Chair for use in the Association's new house. Among the other matters dealt with may be mentioned:—

(i.) Propagation of a scheme for submission to the Royal Commission on National Health Insurance concerning the establishment of a Commonwealth Health Insurance Department to effect the insurance of all persons with income below a prescribed amount against accident and all

sickness; (ii.) preparation of a Report and expression of opinion by the Federal Committee on the subject, on the co-operation of the profession in Australia with the Commonwealth Health Department; (iii.) preparation of draft model form of agreement between industrial hygiene medical adviser and employer; (iv.) formation of a Medical Insurance Company for the Australian profession with similar constitution to that of the Australasian Medical Publishing Company; (v.) publication of a popular monthly Medical Journal for lay readers; (vi.) preparation of a policy governing the conditions of medical service in public hospitals. A further development on which the Council would like to offer its congratulations is the establishment of a new and complete plant and equipment for the publication of the Medical Journal of Australia.

The New South Wales Branch reports another most successful year, having held 19 meetings and increased its membership by nearly 100. Although the activities of the Branch cover a wide medico-political field, the scientific side of its work is well maintained, a new feature being the formation of Sections for special branches of medical knowledge. A résumé of the Branch activities for the year appeared in the *B.M.J.* Supplement of May 23rd, 1923.

The Queensland Branch has taken definite steps as regards its incorporation and is the first body to do so under the new Regulations. A number of matters of importance to the profession have been dealt with by the Branch, including especially questions in connection with country hospitals. A record of 11 meetings, 6 meetings of the Council of the Branch, and an increased membership complete a satisfactory year's work. The Western Australian Branch reports 10 meetings mostly of a scientific character, an increase in its membership and a satisfactory financial position, the Branch funds amounting to some £1,300.

The members of the Victorian Branch have presented Sir George Syme, as a mark of the high esteem in which he has long been held by the profession in Victoria, with his portrait painted in oils, and the Branch contemplates establishing a George Adlington Syme Prize in Clinical Surgery. The home Association is specially interested to note that the Branch is building new premises, the foundation stone of which was laid with due ceremony in November last. The report of the Branch covers a vast field of important matters dealt with during the year. Interesting features are the holding of the first Annual Conference of the Branch and the work carried out by a special committee into the conditions of midwifery work in Victoria.

The South Australian Branch has instituted a medal for presentation to those who deliver the Listerian Oration.

The Tasmanian Branch held no fewer than 13 meetings, and is now forming Divisions for the more effective organisation of the Branch area.

The New Zealand Branch reports another successful year. The Branch has given considerable attention to the preparation of a hospital policy for New Zealand and is acting on the Report, which contains many important provisions, as a basis for consultation with the Health Department in the event of legislation arising. The Australian Federal Committee has invited the Branch to hold the next Australasian Medical Congress in Dunedin in 1927 and the invitation has been cordially accepted. Much scientific work has been dealt with by the Branch, including preparation of a report on the question of anesthetic mortality. The establishment of a Medical Agency, an increased membership and improved financial position are further points in the year's work.

#### Asia.

263. The Mesopotamian Branch has been much concerned with the conditions of medical service in Iraq owing to the changes which have taken place in the form of Government. The Branch has interviewed the Colonial Secretary (Mr. Amery) on the position.

The Ceylon and Hyderabad Branches held many scientific meetings during the year; the former body has under consideration the establishment of a Section of Research. The South Indian and Madras Branch has increased its membership by 25 per cent.

The Annual Meeting of the Malaya Branch has again been of an ambitious character, extending over three days. A report of the proceedings, which were of considerable interest, appeared in the Supplement of June 13th.

The Council takes this opportunity of congratulating the Hong Kong and China Branch on the successful Medical Conference which it recently organised in Hong Kong. Over 200 attended the Conference.

R. A. BOLAM,  
Chairman.

## APPENDIX.

## NATIONAL INSURANCE DEFENCE TRUST.

## STATEMENT OF RECEIPTS AND EXPENDITURE FOR TWELVE MONTHS ENDING DECEMBER 31st, 1924.

RECEIPTS.		PAYMENTS.		RECEIPTS.		PAYMENTS.	
£	s. d.	£	s. d.	£	s. d.	£	s. d.
To Balance brought forward represented (at average cost) by:		R <sub>1</sub> Honoraria to members of I.A.C. for work in connection with the presentation of the Case of the profession as to the Insurance Capitation Fee, to the Court of Enquiry of January, 1924, and expenses for attending the sittings of the Court ..	131 3 0	Brought forward...	£68,410 17 4	Brought forward..	1,110 1 3
£10,650 War Loan Bearer Bonds 1920-47 at 88 9,284	0 0	.. Fee to Professor A. L. Bowley for assistance in preparation of case of Insurance Practitioners for use at Court of Enquiry into Insurance Capitation Fee and attendance at sittings of Court ..	27 10 0	.. Loan to Essex Panel Committee ..		.. Loan to Essex Panel Committee ..	200 0 0
£5,000 Conversion Loan 3½ per cent. at 74 ..	3,700 0 0	.. Fee for Propaganda work during Enquiry into Insurance Capitation Fee ..	10 0 0	.. Loan to Lancs Panel Committee ..		.. Loan to Lancs Panel Committee ..	62 10 0
£5,000 Queensland 4½ per cent. Bonds 1920-25 at 93½ 4,662	10 0	.. Repayments to British Medical Association (1) Expenses in connection with:—		.. Charges incurred in purchase of stock ..		.. Charges incurred in purchase of stock ..	62 10 4
£5,000 National War Bonds 5 per cent. 3rd series at 109-15/16ths 5,196	17 6	(a) Conference November, 1923		.. Hire of Hall (October 1924 Conference) ..		.. Hire of Hall (October 1924 Conference) ..	50 0 0
£2,500 Commonwealth of Australia 6 per cent. Stock 1935-45 at 97½ ..	2,423 2 6	(b) Negotiations in connection with 1924 Terms of Service and Remuneration of Insurance Practitioners subsequent to 31st October, 1923		.. Lunches (October 1924 Conference) ..		.. Lunches (October 1924 Conference) ..	6 5 0
£2,500 India Stock 5½ per cent., 1922, at 98½ ..	2,433 2 6	Mis. Printings ..	£218 10 5	.. Miscellaneous Printings ..		.. Miscellaneous Printings ..	13 10 6
£5,000 Consols 2½ per cent. at 98½ ..	2,813 15 0	Railway Fares ..	207 16 11	.. Railway Fares ..		.. Railway Fares ..	1 10 0
£5,000 New Zealand 5 per cent. Stock 1935-45 at 102½ ..	5,106 5 0	Stationery ..	42 18 6	.. Insurance Defence Fund cheque ..		.. Insurance Defence Fund cheque ..	0 5 0
£2,500 Central London Rly. Deb. 4½ per cent., 1912-72 at 93 ..	2,325 0 0	Wages of temporary Clerks ..	78 10 6	.. Legal Charges ..		.. Legal Charges ..	72 5 1
£2,500 New South Wales 4½ per cent. 1935-45 at 93½ ..	2,334 7 6	Clerical assistance (Overtime) ..	61 0 10	.. Salary of Clerk ..		.. Salary of Clerk ..	10 0 0
£5,000 India 3½ per cent. Stock at 70½ ..	3,518 15 0	Postages ..	24 2 0	.. Audit Fee ..		.. Audit Fee ..	10 10 0
Cash at Bank on Current A/c ..	736 9 7	Copies of N.H.I. Regulations ..	5 6 3	.. Fees for Checking Votes ..		.. Fees for Checking Votes ..	2 2 0
Cash at Bank on Deposit A/c ..	9,000 0 0	Copies of Labour Party's Report ..	6 10 0	.. Unexp. Book ..		.. Unexp. Book ..	0 15 3
Cash in hand, Office ..	40 0 0	Hire of Hall ..	7 13 0	Balance at 31st December, 1924 represented (at average cost) by:		Balance at 31st December, 1924 represented (at average cost) by:	
Remittances received at Head Office from Local Panel Committees on account of subscriptions paid by Practitioners ..	12,672 17 0	(2) Expenses of Scottish I.A. Sub-Com. in connection with the 1923 capitation fee negotiations	63 11 2	£10,650 War Loan Bearer Bonds 1920-47 at 88 9,284	0 0	£10,650 War Loan Bearer Bonds 1920-47 at 88 9,284	0 0
Dividends on Investments ..	2,105 3 6	(3) Expenses in connection with:		£10,000 Conversion Loan 3½ per cent. at 74 21/32nds 7,463	12 6	£10,000 Conversion Loan 3½ per cent. at 74 21/32nds 7,463	12 6
Interest on Bank Deposits ..	27 7 4	Representatives on I.A.C. Printings ..	£295 0 0	£5,000 Conversion Loan 4½ per cent. at 97 11/32nds 7,757	10 0	£5,000 Conversion Loan 4½ per cent. at 97 11/32nds 7,757	10 0
Sale of Model A/c Books ..	1 4 11	Railway Fares of Members of Insurance Acts Committee ..	64 9 5	£5,000 Queensland 4½ per cent. Bonds 1920-25 at 93½ 4,662	10 0	£5,000 Queensland 4½ per cent. Bonds 1920-25 at 93½ 4,662	10 0
Carried forward..	£68,410 17 4	Postages ..	16 11 0	£5,000 National War Bonds 1923 3rd Series 5½ per cent. at 109 15/16ths 5,196	17 6	£5,000 National War Bonds 1923 3rd Series 5½ per cent. at 109 15/16ths 5,196	17 6
		(b) Reprinting and issuing "Medical Practitioners Model Account Book" ..	176 6 11	£2,500 India 5½ per cent. Stock at 93½ ..	2,453 2 6	£2,500 India 5½ per cent. Stock at 93½ ..	2,453 2 6
		Printings ..	£24 17 6	£2,500 Commonwealth of Australia 5 per cent. Stock 1935-45 at 97½ ..	2,423 2 6	£2,500 Commonwealth of Australia 5 per cent. Stock 1935-45 at 97½ ..	2,423 2 6
		Postages ..	1 17 11	£10,000 Consols 2½ per cent. at 55 13/16ths ..	5,781 5 0	£10,000 Consols 2½ per cent. at 55 13/16ths ..	5,781 5 0
		(c) Record Cards for statistical purposes ..	26 15 5	£5,000 New Zealand 5 per cent. 1935-45 at 102½ ..	5,103 5 0	£5,000 New Zealand 5 per cent. 1935-45 at 102½ ..	5,103 5 0
		Printings ..	£15 1 0	£2,500 Central London Railway Debentures 4½ per cent. 1912-72, at 93 ..	2,325 0 0	£2,500 Central London Railway Debentures 4½ per cent. 1912-72, at 93 ..	2,325 0 0
		Postages ..	3 7 1	£5,000 India 3½ per cent. Stock at 70½ ..	3,518 15 0	£5,000 India 3½ per cent. Stock at 70½ ..	3,518 15 0
			13 8 1	£2,500 New South Wales 4½ per cent. Stock 1935/45, at 93½ ..	2,334 7 6	£2,500 New South Wales 4½ per cent. Stock 1935/45, at 93½ ..	2,334 7 6
				£5,000 Funding Loan, 4½ per cent. 1920-91 at 80 ..	4,300 0 0	£5,000 Funding Loan, 4½ per cent. 1920-91 at 80 ..	4,300 0 0
				£2,500 New Zealand 4½ per cent. Ins. Stock 1914 at 90½ ..	2,412 10 0	£2,500 New Zealand 4½ per cent. Ins. Stock 1914 at 90½ ..	2,412 10 0
				Cash at Bank on Current A/c ..	465 0 10	Cash at Bank on Current A/c ..	465 0 10
				Cash at Bank on Deposit A/c ..	1,000 0 0	Cash at Bank on Deposit A/c ..	1,000 0 0
					£68,410 17 4		£68,410 17 4

We have compared the above statement of Receipts and Expenditure with the Books and Vouchers of the Trust and find it correct. We have verified the Investments and the Bank Balances at the 31st December, 1924.

3, Frederick's Place, Old Jewry, London, E.C.2,  
12th May, 1925.

(Signed) PRICE, WATERHOUSE & CO.

## PROCEEDINGS OF COUNCIL.

Wednesday, June 10th, 1925.

A MEETING of the Council of the Association, the last to be held at 429, Strand, took place on Wednesday, June 10th. Dr. R. A. BOWMAN (Chairman of Council) presided, and the others present were:

Mr. J. Basil Hall (President), Dr. H. B. Brackenbury (Chairman of Representative Body), Mr. N. Bishop Harman (Treasurer), Mr. C. P. Childe (Past-President), Dr. R. Wallace Henry (Immediate Past-Chairman of Representative Body), Dr. C. O. Hawthorne (Deputy-Chairman of Representative Body), Dr. G. A. Attan, Dr. T. Ridley Bailey, Surgeon Rear-Admiral Sir Percy Bassett-Smith, K.C.B., C.M.G., R.N. (ret.), Dr. H. S. Beadles, Dr. J. W. Bone, Dr. H. C. Bristowe, Dr. G. F. Buehan, Dr. H. G. Dain, Dr. J. S. Darling, Dr. C. E. Douglas, Mr. T. P. Dunhill, Mr. W. McAdam, Dr. C. E. S. Flemming, Dr. F. J. Gomez, Dr. T. W. H. Garstang, Dr. J. Giusani, Dr. F. R. Fothergill, Dr. T. W. H. Greenlees, Colonel C. B. Heald, Dr. G. B. Hillman, Dr. R. Langdon-Down, Dr. David Lawson, Dr. R. W. Lestie, Sir Richard Luce, M.P., K.C.M.G., C.B., Dr. A. Lyndon, Dr. J. A. Maedonald, Dr. S. Morton MacKenzie, Major-General Sir William Macpherson, K.C.M.G., A.M.S. (ret.), Dr. R. B. Mahon, Dr. A. Maunknell, Dr. Hugh Miller, Dr. G. W. Miller, Dr. Christine Murrell, Mr. A. W. Nuthall, Lieut.-Colonel O'Kinealy, C.I.E., C.V.O., I.M.S. (ret.), Dr. William Paterson, Dr. R. C. Peacocke, Dr. F. Radcliffe, Lieut.-Colonel J. F. Rait, I.M.S. (ret.), Dr. C. Sanders, Mr. H. S. Sontar, Dr. John Stevens, Dr. W. F. Thomas, Dr. G. Clark Trotter, Mr. E. B. Turner, Sir Jenner Verrall, Dr. J. F. Walker.

*Personal.*

Mr. Basil Hall (the President) was warmly greeted on his return from Canada and the United States. He spoke in appreciative terms of his visit, and said that the Ontario Medical Association, whose annual meeting he attended, had been much impressed by the action of the Council in sending an official representative, so much so that it was worth considering whether a representative should not be sent each year to the principal gathering of the medical profession in Canada. It had been brought home to him that the Association took a wise and timely step last year in taking up the question of affiliation with the Canadian Medical Association (of which the Ontario Medical Association is a constituent body). He also spoke in equally happy terms of his visit to the annual meeting of the American Medical Association in Atlantic City, and promised a fuller report at the next meeting of Council.

The Chairman announced that since the last meeting of the Council one of its members who had endeared himself to his colleagues by his unassuming presence and unselfish work had passed away. Dr. James Don was greatly missed in the North Country, where few men had exercised so much influence, in a quiet way, in the profession. He spoke of the loss of James Don with particular grief as a personal friend. A vote of condolence was carried by the members standing.

The congratulations of the Council were voted to the five members of the Association who figured in the recent Honours List—namely, Sir John Bland-Sutton, Bt., Major-General Sir Samuel Guise Moores, K.C.B., Sir James Berry, Sir Harry Edward Dixey, and Sir John Robertson.

The Medical Secretary reported that a very pleasant function had recently taken place in Wales, when a presentation of his portrait in oils was made to Dr. W. E. Thomas by the practitioners of Glamorgan. He (Dr. Cox) attended by invitation, and he took the liberty before a very distinguished audience of associating the Council with the good wishes which were offered to Dr. Thomas, and he was sure that in doing so he had the acquiescence of all the members. (Applause.)

It was agreed to recommend to the Representative Body that Dr. Alexander Primrose, Chairman of Council of the Canadian Medical Association, and Dr. F. N. G. Starr, a prominent member of the executive of that body, both of Toronto, be elected Vice-Presidents of the Association. The Chairman remarked that this was a very felicitous proposal in view of the recent affiliation. Dr. Starr, who was Honorary Secretary of the Annual Meeting of the Association in Toronto in 1906, had personally presented the flag commemorating Toronto which was to hang in the Great Hall.

In proposing that it be recommended to the Representative Body to elect Mr. Frederic G. Hallett an honorary member of the Association, the Chairman reminded the Council of Mr. Hallett's most skilful and otherwise uncompensated services in connexion with the illumination of the *Book of Honour* and of the Address presented to the late Sir Clifford Allbutt. Mr. Hallett had also rendered other services to the Association. The recommendation was agreed to with applause.

\* See BRITISH MEDICAL JOURNAL, June 13th, 1925, p. 1103

*Representatives at Congresses.*

It was reported that the Chairman appointed Dr. F. Howard Humphris of London to represent the Association at the fourth International Congress on Thalassotherapy, held at Arcachon in April, and Dr. A. A. Martin of Eastbourne at the International Congress, held at Paris in May, on the use of Esperanto in the pure and applied sciences. Dr. A. F. Tredgold had been appointed to attend the International Prison Congress in London in August.

The Council appointed Mr. Bishop Harman, Dr. Dain, Dr. Flemming, and the Medical Secretary as representatives to attend the Imperial Social Hygiene Congress at Wembley in October—a congress arranged by the British Social Hygiene Council, lately the National Council for Combating Venereal Diseases. The question of appointing a representative to attend the International Medical Congress of Industrial Accidents and Diseases, to be held at Amsterdam in September, was considered, and it was left with the Chairman to ascertain if, among certain members specially interested in this subject, one of them was intending to go to this congress and would be willing to represent the Association. An invitation to appoint delegates to attend the Association. An invitation to appoint Congress in Pietermaritzburg at the beginning of July had regretfully to be declined, because it came too late for any arrangements to be made.

*The Sterilization of the Unfit.*

The opinion of counsel (Sir Travers Humphreys) on the legal position with regard to the sterilization of the unfit, which had been obtained pursuant to a resolution of the Council, came up for consideration. (The case put to counsel and the opinion obtained is printed at page 286.) Dr. Fothergill drew attention to the fact that Lord Riddell, in a recent paper before the Medico-Legal Society, had put forward an opinion contrary to certain respects to the one now given by Sir Travers Humphreys, so far as the sterilization of persons of full reasoning power was concerned, and he urged that publication of this opinion of counsel be withheld until the subject had been further explored. Dr. Brackenbury desired that publicity should be given to the document, which he thought useful within the narrow range of the reference, though at the same time he held that it had been abundantly proved that sterilization for mental deficiency and allied conditions was a futile procedure; it did not remedy the social consequences which it was supposed to remedy. Sir Jenner Verrall thought that the opinion of a lawyer of such great distinction as Sir Travers Humphreys should be published. Dr. Maedonald was anxious that if the opinion was published it should be made plain that the Council had not expressed assent or dissent, but had simply passed on the opinion of the barrister who had been consulted.

It was agreed that the document should be published in the JOURNAL, though not as an appendix to the Supplementary Report of Council, and the Editor was asked to make it plain that the document must not be taken necessarily to represent the opinion of the Council.

*A Fund for Members in Need of Financial Assistance.*

The Chairman drew attention to the fact that a member of the Council, Lieut.-Colonel J. W. F. Rait, and Mrs. Rait had made a gift to the Association of certain shares and investments with the object of creating a fund the income from which was to be applied by the trustees to benefiting members of the medical profession who were in need of relief or assistance in order that they might be able, if possible, to continue exercising their profession. The trustees appointed under a deed which had been drawn up by the Solicitor for the purpose of carrying out the wishes of Colonel and Mrs. Rait were the Chairman of Council, the Chairman of the Representative Body, and the Medical Secretary. It was the desire of the donors that the primary object of the fund should be as stated, of carrying out the wishes of the donors that it should be used for medical charities, but the trustees had unlimited powers to distribute the funds for the benefit of individual members of the profession or their dependants as they might think fit. He had suggested to Colonel Rait that it would be suitable to associate such a very excellent departure with his own name and that of his wife, who were the benefactors, but with characteristic modesty Colonel Rait had declined, and had asked that it should receive the name of the "Sir Charles Hastings Fund," after the founder of the Association. The donors had expressed the hope

\* Ibid., May 2nd, 1925, p. 842.

other sources, thereby  
for giving help in  
the Council were due to  
had the greatest possible  
of thanks to them for their

with loud applause.

that he had asked in the first place  
of himself and his wife, to found  
in the names of Dr. Bolam and Dr.  
Cox, both of whom had done and were doing so much for the  
medical profession. But he received a letter from Dr. Cox  
saying that both Dr. Bolam and himself thought the money  
could be used to better advantage in the way now proposed.  
He and his wife would have liked, in order to avoid publicity,  
to have made this little fund effective at their decease, but  
there were two things which had influenced them in creating  
the fund at the present time. One of them—to mention a very  
personal matter—was that his wife had passed through a  
critical illness, and, humanly speaking, had been saved by his  
colleagues in the profession. Another reason which had in-  
fluenced them was the address which Dr. Cox gave at York  
in October last in which he spoke about medical charities. It  
had been a genuine pleasure to promote this little benefaction.

#### Medical Benevolent Funds.

Dr. Hawthorne brought forward the report of the Medical  
Benevolent Funds Committee, to which had been referred the  
instruction to the Council by the last Annual Representative  
Meeting to examine and report upon medical benevolent funds,  
including the possibility of a British Medical Association  
Benevolent Fund. He pointed out that the Association had for  
a considerable number of years supported the principal medical  
charities. During the five years 1920-24 it had raised for the  
Royal Medical Benevolent Fund a total sum of £4,657, and for  
Epsom College £2,668. The work of the existing organiza-  
tions had been of great practical value, but it had been limited  
by lack of funds; much more money ought to be raised for  
these purposes from the profession. The committee had con-  
sidered two possible courses: (1) to attempt to secure increased  
support for the existing organizations, (2) to institute a new  
benevolent fund to be organized under the direction of the  
Association. A new fund would mean one more competitor in  
the field of charity, and would necessarily entail new charges  
for administration. The existing organizations already had  
the machinery needed for investigation and distribution pur-  
poses. The wiser plan was to attempt to gain greater interest  
in and support for the funds already in existence. But this  
ought not to mean that the Association remained a mere passive  
collector of money. The committee accordingly proposed that  
a Medical Charities Committee be set up and directed to apply  
itself through the established machinery of the Association to  
the accurate and repeated introduction to the profession of the  
needs of the situation. The sums collected by this means would  
form a fund to be distributed at the discretion of the contem-  
plated committee, with full freedom, of course, for each con-  
tributor to earmark his contribution for a special purpose. In  
this way the British Medical Association would officially  
identify itself with the effort. He moved that such a committee  
be set up, and that all sums obtained in response to appeals be  
paid to a Medical Charities Trust Fund and be distributed to  
such organizations and in such amounts as the committee,  
subject to the approval of the trustees, should deem advisable.

Dr. J. F. Walker expressed himself disappointed that the  
committee had not come out strongly on the side of a British  
Medical Association Fund. There was no question as to the  
need of some further fund in connexion with medical bene-  
volence. A definite Association fund would be good propa-  
ganda, which would increase the reputation of the Association.  
The Royal Medical Benevolent Fund obtained subscriptions  
from only 7 per cent. of the profession. The starting of a  
medical benevolent fund would be a real landmark in the  
progress of the Association. Dr. Beadles spoke in the same  
sense, and urged that the Association should have its own  
fund, as did Mr. Souttar, who, however, desired that along  
with the Association fund support should be continued to the  
older funds. The Treasurer said that it was a question  
whether the Association was not bound to possess a fund in  
view of the terms of the Clifford Allbutt bequest of £50 for  
what was specifically described as a "British Medical Bene-  
volent Fund."

Dr. Brackenbury held that Mr. Souttar's suggestion was  
impracticable. If the Association started its own fund  
regardless of existing funds it would have to concentrate on  
that fund and care nothing about the others. It seemed to him  
that the committee's suggestion offered a very happy solution.  
It put the Association, in effect, in possession of a fund which  
would be at its own disposal, but which in a general way would  
be for helping the existing funds. He suggested that the

instruction might be widened so that the sums could be dis-  
tributed, not only to medical benevolent organizations, but  
in such other ways as the permanent committee might deem  
advisable. Was it not better to have a fund in the hands of the  
Association, used primarily and mainly, though not altogether,  
in connexion with the existing medical charities, than to start  
in antagonism? Mr. McAdam Eccles pointed out that the  
Royal Medical Benevolent Fund and the Epsom College  
Foundation had a considerable proportion of lay subscribers; he  
did not know whether the Association could hope to secure  
such lay support.

The Chairman said that he had a good deal of sympathy  
with the point of view put forward by Dr. Walker, but it was  
desirable to call attention to the fact that within the last  
twelve months there had been a change in the atmosphere in  
which this subject was enveloped. On the committee of the  
Royal Medical Benevolent Fund five representatives of the  
Association now had seats. Surely it was wiser to preserve the  
assets of these older bodies, to feed them with funds, but to  
leave the distribution of those funds to the various charities  
at the discretion of the committee it was proposed to set up,  
this discretion being subject, of course, to earmarking by the  
donors.

Dr. Hawthorne said he thought it only right to make cordial  
and generous acknowledgement of the work, both on the  
financial and administrative side, of the Royal Medical Bene-  
volent Fund. He agreed with Dr. Brackenbury that there was  
no halfway house on this matter. The Association must take  
either one course or other. His own view was that the best  
practical solution was to organize a committee which would  
enlighten and stimulate the profession and at the same time  
exercise a real amount of control as to how the money so  
collected should be distributed.

The Treasurer said that in the case of the Royal Medical  
Benevolent Fund the greatest care and energy were exercised  
in the disbursement of the moneys. The weakness of that charity  
was the relatively small amount of money it obtained from the  
profession. Sir Jenner Verrall said that the essence of the  
question was whether there was such dissatisfaction with the  
Royal Medical Benevolent Fund that it was necessary for the  
Association to declare war upon it; he would like the Fund  
to be given a further trial. Dr. Lyndon also thought that a  
friendly gesture might be made. With five representatives of  
the Association on the governing body matters should prove  
satisfactory.

The motion to set up the committee and to give it the  
necessary powers was agreed to, and an alteration of phrasing,  
on the suggestion of Mr. McAdam Eccles, was accepted by  
Dr. Hawthorne, whereby the word "medical" before  
"charities committee" was deleted, so as to prevent any  
possible confusion with what the layman knew as "medical  
charities"—that is, charities giving medical help to the  
public.

#### Organization and Membership.

Dr. Morton Mackenzie, Chairman of the Organization Com-  
mittee, reported that the membership of the Association stood  
at 29,117, or 2,000 higher than at the corresponding date in  
1924. It would be very gratifying if on the occasion of the  
opening of the new premises it was possible to announce that  
the membership had reached 30,000. It had to be remembered,  
however, that the number of newly qualified men was likely  
to show some diminution (judging from the entries of students  
in recent years), and therefore further recruitment would have  
to be to a larger extent among the older members of the  
profession. In that connexion the new premises would be a  
great help.

Dr. Mackenzie went on to state that every Branch had  
reported for the past year, that the Branch arrangements were  
working well, and that there was increased activity on the part  
both of Branch and Division secretaries. Branches were being  
financed as liberally as possible with due regard to the Associa-  
tion's funds. The *Handbook for Recently Qualified Medical  
Practitioners* had proved a great success; the first edition was  
practically exhausted, the number of copies sold was 2,200, and  
the publication had paid for itself at once. A new edition  
was now being prepared. It had been decided to advertise  
the following subject for the next prize essay competition for  
final-year medical students:

"The disabilities that may be directly due to simple fracture  
(excluding separation of an epiphysis) (a) of the femur, (b) of  
the tibia, (c) of the fibula, (d) of the tibia and fibula (simul-  
taneously injured), and the means to be adopted in the  
treatment of such cases in order to prevent or minimize  
these disabilities."

He recommended to the Council—and it was agreed—that in  
the grouping of universities for this competition a new group  
should consist of the medical schools in the Empire overseas.



*Badges of Office.*

With regard to a suggestion made at the last Conference of Secretaries that it would be advantageous if officers of Branches and Divisions had a badge provided for them, Dr. Mackenzie said that a badge was certainly useful as a means of identifying the secretary, especially at functions attended by non-members, and it was an aid to dignity in procedure for the president of a Branch and the chairman of a Division to be similarly distinguished. The question was whether the provision of these badges could be made legally out of the funds of the Association. The opinion of the Solicitor was that this was not a lawful expense. Accordingly he moved a resolution that the Council regard sympathetically the proposal to obtain badges and draw the attention of Branches and Divisions to the terms on which, through the Central Office, these might be procured, in the hope that they would be provided either as personal gifts or by a voluntary levy on members, seeing that they could not be legally provided out of the official funds.

Dr. Brackenbury was doubtful as to the correctness of the Solicitor's opinion. He was inclined to believe that expenditure of this kind, however difficult it might be to draw the line, was legitimate expenditure. Dr. Wallace Henry also thought that, while it might not be a necessary expense, it was a proper expense, and, therefore might well come out of official funds. The Treasurer said that unless there was some definite control over the expenditure of Divisions and Branches the whole economic position of the Association might be jeopardized. Dr. Lyndon contended that By-law 28 gave Divisions absolute power to purchase badges. Dr. Stevens hoped that if badges were employed they would be of a stereotyped pattern; it would be unfortunate to have the badge in one Division much more elaborate than in another.

Dr. Mackenzie's motion was carried.

*Proposed "Journal of Pediatrics."*

Dr. J. A. Macdonald, introducing the report of the Journal Committee, said that about a year ago communications were received from leading pediatricians inquiring whether the Association would undertake the publication of a British Journal of Pediatrics, which would fully represent the work done in this country in this department of medicine. It was stated that the American Medical Association, in addition to its weekly journal, published five periodicals dealing with special branches of medicine, one of them the *American Journal of Diseases of Children*; this publication, according to the last annual report, brought in a profit of 4,558 dollars. After careful consideration of estimates, supplied by the Financial Secretary, the Journal Committee recommended that the Association should start a monthly journal for the publication of what was best in the work of the British school on children's diseases, the material for such a journal to be supplied by a committee of pediatricians (members of the Association), and the Editor of the *British Medical Journal* or his representative to be a member of such committee. It was a new departure for the Association, and it would mean another development on the scientific side of its work.

Dr. Manknell asked what would be the effect upon the *British Medical Journal* if material on this particular subject were diverted to the columns of a specialist journal. Dr. Macdonald replied that that point had been carefully considered. The *British Medical Journal* would have first call on articles on children's diseases, and if an article appeared to have an interest for general practitioners—the constituency which the *Journal* had chiefly to keep in mind—it would appear in that publication; the other would be a specialist journal. It had been suggested that if the venture was successful a proposal to publish other specialist journals might be considered, but the committee was proceeding very tentatively in this matter.

The recommendation that this journal should be started was agreed to.

*A Book on New and Non-official Medicines.*

Dr. C. O. Hawthorne, for the Science Committee, brought forward a proposal that machinery should be set up by the Association to provide full and trustworthy information for the medical profession as to the nature and credentials of the unofficial remedies which in a continuous stream were brought to its notice, and that this information should be collected into a book containing a select list of those unofficial remedies which satisfied certain criteria as to authenticity, *bona fides*, and method of presentation to the profession. He said that for information upon the many different substances which came into the market the profession was largely dependent upon the manufacturer of those substances; by what was now proposed the profession would be informed upon the nature of substances which were really genuine and protected against substances not genuine. In the *Journal* reports were made from time to time by the pharmacologist, but reports appearing

in a periodical publication could not have the same permanent value or accessibility for reference as those embodied in volume form. The class of substances examined would be non-official medicines which had made their appearance within a comparatively recent date; patent and proprietary medicines, though not absolutely excluded, would form only a secondary and subordinate section. The main purpose would be to examine remedies which were pressed upon the profession, not nostrums pressed upon the public. Professor Dixon and Dr. Dale, who as expert pharmacologists necessarily kept a critical eye upon new substances professing to have pharmacological reactions or therapeutical value, had taken the initiative in pressing this proposal. Another reason which weighed with some members of the Science Committee was that a scheme of this order had been conducted by the American Medical Association. An annual volume constructed out of the expert reports would afford the profession trustworthy and up-to-date knowledge of modern therapeutic substances and methods. The work would necessarily entail considerable capital expenditure. There would have to be an expert director, in whom the Association must have full confidence, and for whom it must be prepared to accept responsibility; and in addition there would be laboratory charges. It would be absurd to compile a volume from all sorts of different sources. The examination contemplated was intended to bring under review the physical, chemical, and pharmacological properties of the substances. It was not proposed to embark upon a scheme of therapeutic investigation; the apparatus and machinery for such investigation was not available; and, further, neither the British Medical Association nor any other body ought to attempt to set up in the medical profession a standard of orthodox therapeutics. Advice, suggestion, information by all means, but not the thunder of infallibility.

Dr. Brackenbury proposed, and it was agreed, that the Council approve further consideration of the proposals by the Science Committee, subject to a report by the Finance Committee on the financial aspects of the scheme.

*Payment of Pathologists.*

Dr. Hawthorne brought forward some recommendations on the remuneration of pathologists, with the object of bringing such remuneration into line with the scale of minimum commencing salaries for other public health officers. The pathologist in his third year, accepting a salary of £500 as a full-time permanent appointment, would be paid £500 still in his fourth and fifth year, during which time the clinical worker would be paid, not £500, but £600. The Science Committee had not made—indeed, it was not within its province to make—any attempt to review the whole scale of payments which had been approved by the Council and the Representative Body and which had been in existence for some time, but it had concerned itself with this one particular point in respect to which pathologists were not equitably dealt with.

After some discussion of phraseology, the recommendation was agreed to in the form in which it appears under "Science" in the Supplementary Report of Council in this issue of the SUPPLEMENT.

*The New Premises and other Headquarters Business.*

The provisional arrangements for the opening ceremony at the British Medical Association House on July 13th were discussed in detail, and a certain order of proceedings was approved, together with a list of guests to be invited. The Chairman emphasized the fact that the dominant feature of the gathering would be that of a medical function. It was not possible to accommodate all who desired to attend, and the admission arrangements had already been the subject of most anxious consideration in the committee.

The report of the Finance Committee relating to the new lease of the Tavistock Square premises, the measures to be taken in disposal of the old premises at 429, Strand, and the means of meeting the financial commitments in connexion with this new chapter in the Association's history, were also considered at great length, and the Council formulated expressions of its opinion on certain points for the guidance of the Finance Committee in connexion with future developments. The likelihood of an appreciation in value of the Strand property, should certain proposed architectural developments in the Charing Cross neighbourhood mature, was one of the matters considered.

Reports were also received from the Scottish and Irish Committees. The principal matter in the report of the Scottish Committee was with regard to the new Scottish house of the Association, and the Chairman said that the Council should compliment the Scottish Committee, and in particular Dr. C. E. Douglas and Dr. J. R. Drever (respectively chairman and secretary), on a very successful opening function which would enhance the prestige of the Association in Edinburgh and in all Scotland. ("Hear, hear.")

The Irish Committee brought forward the further consideration of the Irish Medical Secretaryship consequent upon the election of Dr. T. Hennessy to the Dail. Dr. Peacocke stated that Dr. Hennessy had made an arrangement with another medical member, Sir James Craig, whereby he was not required to part in attendance at the Dail until after 6 o'clock each day. The Irish Committee felt that to have Dr. Hennessy in the Dail was a good thing for the British Medical Association.

The report of the Irish Committee was approved, and the Office Committee was instructed to report in the meeting of the Council in March next on the working of the arrangement.

#### *Retired Pay of Majors R.A.M.C.*

Sir Richard Luce, M.P., who brought forward the report of the Naval and Military Committee, mentioned that a new difficulty had arisen in connexion with the retired pay of officers of the R.A.M.C. of twenty years' service, having in view the possible reductions (up to a total of 20 per cent.) which might be enforced. All officers who entered the Corps previous to 1919 did so on the distinct understanding that they would receive retired pay at the rate of £1 a day after twenty years' service. Under the 1919 Royal Warrant the pension was raised to £396 a year, subject to a total potential reduction of 20 per cent., and only those officers who had actually attained the rank of major when the new Warrant was issued were given an assurance that their pensions would in no case be reduced below the pre-war figure. All other officers who entered the Corps before the 1919 Warrant stood to have their pensions reduced ultimately to a figure considerably below what they understood they would receive when they entered the service. Many questions had been asked in the House of Commons, but the effect of the War Office reply had always been to put the matter off, and so far there had been no redress. The whole matter was one of great importance to the senior surgeon to be faced as strongly as the question of the recommendation commanders had already been. He moved the recommendation to the Representative Body which appears under "Naval and Military" in the Supplementary Report of Council, and this was seconded by Dr. Macdonald (who said that he could not imagine anything meaner than the way in which these majors had been treated), and was warmly supported by Dr. Goodbody. The motion was agreed to.

#### *Remuneration of Assistants in General Practice.*

Dr. Dain, Chairman of the Insurance Acts Committee, in bringing forward certain recommendations, said that in view of the duty of the Association to newly qualified members of the profession, who were joining the Association in considerable numbers, the subcommittee of the Organization Committee which was concerned with this matter had had under consideration the payment of assistants in general practice, and had asked the Insurance Acts Committee for its opinion on the subject from the point of view of insurance practitioners. His committee had made certain recommendations, but it was of opinion that steps should not be taken at present for these to become the declared policy of the Association; rather should they be used for educational purposes for a time, and to assist the office in advising on any point in connexion with the terms and conditions of work. The Medico-Political Committee had made certain verbal amendments, which he was ready to accept.

The recommendations as amended were adopted. They are set out in the Supplementary Report of Council under the heading "Medico-Political and Parliamentary."

#### *The New Pensions Bill.*

Dr. Brackenbury drew attention to the new Pensions Bill now before the House of Commons and its reaction upon National Health Insurance. The Association's witnesses before the Royal Commission put forward as one of the most important points in the profession's programme an alteration in the personnel of insured persons—that insured persons should not be defined in the way they were at present. But, most unfortunately, just after that evidence had been given, the Government introduced the Widows', Orphans', and Old Age Contributory Pensions Bill, in which it stereotyped the definition of insured persons to "those persons insured under the Acts." Thus while a Royal Commission was considering whether these were the right persons to include, the Government introduced a bill which insured persons were under people who had in the past been insured persons would this bill brought in for the new pensions, and it was provided that if they were to be in for the new pensions they would have to be in for the health insurance also. That was to bring in again a class of persons who, by the efforts of the profession and as a result of time and experience, had been excluded from the operation of the Insurance Acts. Thus a class of persons who had been proved to be well able to manage for themselves were to come back into the purview of insurance

practitioners because they had at same time or other been for two consecutive years insured persons. That was a matter of which the Council should take cognizance. It went against the evidence which the Association had brought forward, and was quite opposed to the experience of the profession in insurance work.

Dr. Brackenbury was asked to draft a resolution on the subject, and it was also agreed to bring up the matter, if possible, at the deputation to the Minister of Health to take place the following week. The resolution as proposed by Dr. Brackenbury, seconded by Dr. Goodbody, and agreed to by the Council, was in the following form:

The Council is advised that certain provisions of the Widows', Orphans', and Old Age Contributory Pensions Bill not only make it more difficult to alter the definition of insured persons under the National Health Insurance Acts (a point of great interest to the profession and one on which they have given definite evidence before the Royal Commission on National Health Insurance), but bring into health insurance others who have ceased to be insured persons or have been excluded from health insurance under previous Acts. The Council is of opinion that it is essential that the new Pensions Bill should be amended in both these respects.

It was also agreed to draw the attention of medical members of Parliament to the matter if the answer of the Minister was not satisfactory.

#### *Ophthalmic Benefit.*

Dr. Wallace Henry reported that the Ophthalmic Committee had been acting jointly with the Insurance Acts Committee in connexion with the matter of ophthalmic benefit in circumstances fully set out in the Supplementary Report of Council under "National Health Insurance." His committee was of opinion that the work of keeping up a proper standard in the Association's list of ophthalmic surgeons willing to treat insured persons at a reduced fee would be best accomplished by strengthening the present Ophthalmic Committee by the addition of three members—one to be nominated by the Insurance Acts Committee, one by the Association's Section of Ophthalmologists, and the third by the Council of British Ophthalmologists. This was agreed to.

#### *Committee on Drug Addiction.*

On the report of the Medico-Political Committee, Dr. J. W. Bono mentioned that the Departmental Committee on Drug Addiction had had eighteen sittings, and had asked the witnesses might be sent by the Association. It was also requesting information on certain points which were like to be of vital importance to the profession. He thought that the Council would desire to appoint a small committee to consider and criticize a memorandum which had been drawn up on this subject, and which was to be submitted to the Association's witnesses before they met the Departmental Committee. The witnesses would then be able to speak with the authority of the Association.

It was agreed to set up such a committee, and that it should consist of Dr. Hillman, Dr. Brackenbury, Dr. J. A. Macdonald, Dr. Bone, and the Chairman of Council, in addition to the four who had been nominated by the Medico-Political Committee to give evidence—Dr. E. K. Le Fleming, Dr. C. P. Symonds, Mr. E. B. Turner, and the Medical Secretary.

#### *Hospitals Committee.*

A report of the Hospitals Committee was brought forward by Mr. Souttar, and after a brief discussion on the payment of medical staffs of hospitals in respect of accident cases the recommendation was adopted, which is set out in the Supplementary Report of Council under that heading.

The Council, which began its session at 10 a.m., did not rise until 9 p.m.

#### LEGAL POSITION WITH REGARD TO THE STERILIZATION OF THE UNFIT.

The case submitted to Council and the opinion expressed by him are printed below. Sir Travers Humphreys's opinion must not be taken necessarily as representing the view of the Council of the British Medical Association (see page 283 of SUPPLEMENT).

#### *Case for the Opinion of Council.*

The circumstances under which the advice and assistance of Council are sought are as follows:—Public and professional interest have in the course of recent years centred closely upon the subject of those who are mentally defective and various problems affecting the welfare of the community have from time to time emerged and formed the subject of discussion. It has in fact become one of the burning questions of the day.

It follows that arising out of the general interest thus created many medical men are, in the course of their practice, consulted by parents or guardians of children falling within the categories referred to in this Case as to whether the operation of sterilization

can with safety be performed and if so whether they will undertake it.

The position thus created has seriously exercised the minds of a large section of the Medical Profession particularly in so far as the legal aspects of it are concerned and it is in view of obtaining enlightenment on this head that this Case is submitted on behalf of the British Medical Association for Counsel's opinion.

The operation would be simple in character as applied to either sex and would not involve any appreciable risk to life if skilfully performed.

Upon the male it would consist of the administration of a general anæsthetic—skin incisions in the inguinal regions to expose tubes—Excision of a portion of each tube between the two ligatures—Closure of skin incisions by sutures.

Upon the female it would consist of the administration of a general anæsthetic—Abdominal incisions involving opening of the peritoneal cavity—Removal of a portion of the Fallopian tubes between the two ligatures—Closure of the abdominal incision by sutures.

The operation would be performed entirely on "eugenic" grounds—that is to say for the purpose of preventing the procreation of degenerate or mentally abnormal offspring.

In this connection it is presupposed that it cannot be said with absolute certainty that the offspring of the person to be operated upon will come within this category but that it is in the highest degree probable that this would be so and that further it is in the highest degree probable that such offspring would transmit the taint to future generations.

The cases in which medical men are asked to operate fall into two separate classes, viz:—

(1) Persons suffering from one of the four varieties of mental defect defined by the Mental Deficiency Act, 1913—i.e., Idiots, Imbeciles, Feeble-minded and Moral Imbeciles.

(2) Persons suffering from Epilepsy who though mentally abnormal are nevertheless not mentally defective within the legal definition of that term as set out in (1) above.

The circumstance under which the medical man is usually consulted is when the child is in infancy but there are occasions which have occurred after the child has attained his or her majority.

It is to be presupposed that the consultation is sought and the request to perform the operation is made by or with the assent of both parents of the child thus afflicted, or if one parent only is living then by that one parent, or alternatively by the guardian of the child if no parents are living. Cases have however arisen in which there has been division of opinion on the subject between the parents, the father desiring the operation to be performed and requesting the medical man to perform it whilst the mother has been entirely opposed to it and vice versa.

I am given to understand that in the case of a mentally defective child or adult it is within the competence of an experienced medical man to say with confidence that the mind of the person thus afflicted will never be normal.

The main point which arises is whether what is suggested can be done with legal justification and protection in the case of a child and/or an adult who is suffering from mental defect as defined by the 1913 Act and/or who is suffering from Epilepsy.

If it can, then the position is clear and free from difficulty.

If it cannot then the following subsidiary questions arise, namely:—

What is the nature and measure of legal risk which is involved, to whom does it attach, and at whose instance or suit would it lie to put the Law in motion.

If there is in fact real or appreciable legal risk to (a) the parents (b) the guardian or (c) the medical man who operates, is such risk capable of being mitigated or wholly nullified by either an indemnity being taken or an agreement being entered into. If so, what should be the nature of the indemnity and by whom and to whom should it be given in order to render it effective. Alternatively, what should be the burden of the indemnity and who should be made parties to it in order to enforceable.

half of the British Medical Association to advise on the questions raised by and set out in the foregoing Case.

#### Opinion of Counsel.

1. The main question raised in this Case is undoubtedly one of the greatest importance to the community at large and the medical profession in particular, but from the legal point of view the matter is free from doubt and the question admits of only one answer. I am clearly of opinion that any medical man who performs the operation described upon a "defective" within the meaning of that term as defined in the Mental Deficiency Act, 1913, would, in the present state of law, be acting illegally and without any legal justification. I assume the consent of both parents and the excellence of the motives of all concerned, but the fact remains that the operation of sterilization involves an

assault upon and the wounding of the person operated upon. The only legal justification for such action in regard to a person who either from extreme youth or old age or from any other cause such as mental weakness is incapable of giving a reasoned consent would be that the operation was necessary to the health or well-being of the patient. I do not gather from the Case that it is contended that sterilization would improve the condition, physical or mental, of the defective.

2. The legal risks involved in such an operation would attach equally to all the persons concerned—that is, the doctor who performed it and the parent or guardian who requested or sanctioned it. The case of the mother where both parents are consenting parties might differ, but on grounds which are of no interest in the present Case. Those risks may be divided into two categories, (a) criminal and (b) civil.

As to (a) The doctor would have, in my opinion, no answer to an indictment for the offence of unlawful wounding contrary to Section 20 of the Offences Against the Person Act, 1861. Proceedings might equally be taken against the parent or guardian under Section 55 of the Mental Deficiency Act, 1913, which provides *inter alia* that any person having charge of a defective who ill-treats the defective shall be guilty of a misdemeanour and the doctor might be charged with aiding and abetting. In the case of an infant the parties would also bring themselves within the provisions of Section 12 of the Children Act, 1908, the parent or guardian being liable to be charged that, having the care of a child, he wilfully caused the child to be assaulted in a manner likely to cause such child unnecessary suffering including injury to or loss of any organ of the body, and the doctor for aiding and abetting. In none of these offences does the excellence of the motive of the accused afford any defence.

As to (b) An action for damages could be brought by the defective by his or her next friend in the same manner as actions are now brought by infants. In such an action damages might be recovered against the doctor as well as the parent or guardian. The Statutes of Limitation would apply to such an action and in the case of an action for assault the limitation is four years; but it is to be noted that the Statutory Limitation does not run while the Plaintiff is under the age of 21 or non compos mentis.

Truly a jury might be disposed to take the view that in the public interest the conduct of the Defendants was excusable and even praiseworthy and mitigate the damages accordingly, but it must not be forgotten that the operation would have deprived the defective of the exercise of a function which the law nowhere denies to him or her. On the contrary the elaborate provisions of the Mental Deficiency Act for the safeguarding of such persons might be invoked as indicating that the only means sanctioned by the law of obtaining the desired end, viz., preventing the propagation of the unfit, consists in the segregation of such persons in licensed institutions.

3. It is settled law that an indemnity for liabilities incurred in carrying out an illegal contract, or purposes is void—see *Leake on Contracts*. In my opinion, therefore, no action could be successfully brought on such a contract for indemnity the consideration therefor being illegal.

4. With regard to epileptics the above observations, of course, apply in the case of children of tender age. In the case of an epileptic of mature years the matter would depend upon whether the person was able to and did give his or her consent to the operation. I am not told in the Case but I assume that a person subject to epileptic fits may be quite normal and of full reasoning power between his attacks. In such a case the consent of the patient would afford an answer to any proceedings, criminal or civil, but I should advise that great care be taken in obtaining the clearest evidence of such consent before the operation is performed. In the absence of such consent the performance of the operation would be clearly illegal.

TRAVERS HUMPHREYS.

1, TEMPLE GARDENS,  
TEMPLE.  
16th March, 1925.

#### TABLE OF DATES.

July 3, Fri.	Amendments and riders for issue in A.R.M. Agenda must be received by this date.
July 13, Mon.	Opening of the New House of the British Medical Association by His Majesty King George accompanied by Her Majesty Queen Mary.
July 17, Fri.	Annual Representative Meeting opens at Bath. Nominations for election of 12 members of Council by grouped Representatives must be received (at A.B.M., Bath) by this date.
July 18, Sat.	Annual Representative Meeting, Bath.
July 20, Mon.	Council, and Annual Representative Meeting, Bath.
July 21, Tues.	Annual Representative Meeting. Annual General Meeting, Bath. President's Address.
July 22, Wed.	Council, Meetings of Sections, Conference of Honorary Secretaries, Bath.
July 23, Thurs.	Meetings of Sections, etc., Bath.
July 24, Fri.	Meetings of Sections, etc., Bath.

ALFRED COX, Medical Secretary.

## British Medical Association.

## CURRENT NOTES.

## Royal Opening of the New House.

FOLLOWING up the note on this matter which appeared in last week's SUPPLEMENT, we desire to impress upon those members who wish to ballot for seats at the ceremony, on Monday, July 13th, the importance of making early application. As it is impossible to communicate with all the relatives of all the members who fell in the great war, it is hoped that members will bring to the notice of such relatives as they know, the fact that on application to the Secretaries of the Reception Committee, British Medical Association House, Tavistock Square, W.C.1, they will be given a seat to witness the ceremony of dedication and opening of the Gates and a ticket for the evening entertainment. As the road into the New House will have to be closed to the public some time before the ceremony begins, all those who receive tickets of admission must be in their places not later than 2.30 p.m. As has already been announced, uniform or academic costume with decorations is to be worn in the afternoon, and uniform or evening dress with decorations in the evening. Messrs. Ede and Ravenscroft, 93, Chancery Lane, London, W.C.2, the official providers of academic costume for the Association, will be in attendance at the building, and rooms for robing will be provided. Those who wish to have robes ready for them must communicate with Messrs. Ede and Ravenscroft direct.

## The Library of the Association.

The Library of the British Medical Association at 429, Strand, was closed on June 23rd, and will not be reopened at Tavistock Square until Wednesday, July 15th. During that period the Reading Room also will be closed and the work of the Lending Library will be suspended. It has been found necessary to take these steps in order to give the Library staff an opportunity of removing and rearranging the contents of the Library without interruption. Members of the Association who are in the habit of inspecting the Notice Boards in the lobby of the house or in the Library, for information as to surgical operations, lectures, etc., are advised to consult in the meanwhile the Fellowship of Medicine at the Royal Society of Medicine, 1, Wimpole Street, W.1.

The offices of the *British Medical Journal* and of the Medical and Finance Departments have been removed to the Association's new headquarters in Bloomsbury. Address: British Medical Association House, Tavistock Square, W.C.1. The telephone numbers and telegraphic addresses will be found on the last page of the Supplement, preceding the Diary of the Association.

## Anglo-French Exchange Visits.

The British Medical Association has received a copy of a letter from a French medical man of standing in the Riviera who wishes to spend a fortnight in London at the end of September, if possible in the family of an English practitioner or medical student. In return for this hospitality he would, on his return home, be pleased to receive his host on the same conditions—that is to say, he would lodge and board him, and make his stay as pleasant as possible. Inquiries should be addressed to Mr. B. S. Townroe, General Secretary, United Associations of Great Britain and France, 41, Arcade House, 27, Old Bond Street, W.1.

## The Half-yearly Indexes.

The usual half-yearly indexes to the JOURNAL and to the SUPPLEMENT and ERRATA have been prepared and will be published shortly; they will, however, not be issued with all copies of the JOURNAL, but only to those readers who ask for them. Any member or subscriber who desires to have one or all of the indexes can obtain what he wants, post free, by sending a post-card notifying his desire to the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1. Those wishing to receive the indexes regularly as published should intimate this desire.

## Association Notices.

## NOTICE OF ANNUAL GENERAL MEETING.

NOTICE IS HEREBY GIVEN that the Annual General Meeting of the Association will be held in the Concert Hall, Grand Pump Room, Bath, on Tuesday, July 21st, 1925, at 2 p.m. Business: (1) Minutes of last Meeting; (2) Appointment of Auditors; (3) Report of Election of President for 1925-26.

ALFRED COX,

Medical Secretary.

L. FERRIS-SCOTT,

Financial Secretary and  
Business Manager.

## NOTICE OF EXTRAORDINARY GENERAL MEETINGS.

NOTICE IS HEREBY GIVEN by Order of the Council that an Extraordinary General Meeting of the British Medical Association will be held in the Concert Hall, Grand Pump Room, Bath, in the County of Somerset, on Friday, the 17th day of July, 1925, at 4.45 o'clock in the afternoon, when the following Resolution will be proposed as an Extraordinary Resolution, namely:

That the Articles of Association of the British Medical Association be altered in manner following—namely:

(a) By inserting immediately after Article 35 the following new Article—namely:

## "Affiliation.

"(1) The Association may admit to affiliation with it any Medical Association or similar body established outside the United Kingdom on such terms and with such privileges as may in each case be approved by resolution of the Representative Body passed after consideration of a report by the Council.

"(2) The Association may terminate any such affiliation (after due notice on either side) by resolution of the Representative Body passed after consideration of a like report.

"(3) Any resolution of the Representative Body under this article shall be final and shall not require to be approved under Article 34."

(b) By inserting in Article 34 immediately after the word "Body" in line 7 the words:

"except as otherwise expressed in the Regulations."

Should the above Resolution be passed by the requisite majority it will be submitted for confirmation as a Special Resolution to a further Extraordinary General Meeting, and such meeting will be held at the British Medical Association House, Tavistock Square, London, W.C.1, on Tuesday the 4th day of August, 1925, at 2.30 o'clock in the afternoon for the purpose of considering and, if thought fit, confirming such Resolution as a Special Resolution accordingly.

Dated this 22nd day of June, 1925.

By Order of the Council.

ALFRED COX,

Medical Secretary.

L. FERRIS-SCOTT,

Financial Secretary and  
Business Manager.

British Medical Association House,  
Tavistock Square, London, W.C.1.

## NOTICES OF MOTION BY DIVISIONS FOR THE ANNUAL REPRESENTATIVE MEETING, BATH, 1925.

## Nursing Homes (Registration) Bill.

By SOUTHPORT: That (with reference to para. 118 of Annual Report of Council) this meeting learns with dismay of the proposals to register and inspect, etc., private nursing homes, and instructs the Council to oppose the bill with all its power.

## Factory Medical Service.

By MANCHESTER: That the "principles" set out in para. 127 of the Annual Report of Council, under the heading "Factory Medical Service," be referred back to the Council for further consideration.



**Coroners' Law and Death Certification.**

By SUNDERLAND: That (with reference to the Recommendation contained in para. 101 of the Annual Report of Council) £2 2s. be substituted for £1 11s. 6d. in para. 41 B (3) of Appendix III.

**Scale of Salaries for Public Health Appointments.**

By SUNDERLAND: That (with reference to the Recommendation contained in para. 164 of the Annual Report of Council) the section of the scale of minimum commencing salaries dealing with "medical officers employed in departments" (see Appendix IV to Annual Report of Council) be amended in the following respects:

(a) By the deletion of "£500" and the substitution thereof of "£500";

(b) By the insertion, in the second column, of the words "rising by annual increments of £25 to £550 on merit being shown by the medical officer"; and

(c) By the deletion of the last two sentences of the definition.

**Insurance Practitioner's Right of Appeal to Courts against Decisions of the Minister of Health.**

By CHICHESTER and WORTHING, and HORSHAM: That it be an instruction to the Council that when consulting the Divisions as regards any suggested amendments of or additions to the Policy of the Association in reference to the National Health Insurance Acts, or extensions of the same, they include for consideration the following proposal—namely:

That, in addition to the right now enjoyed of appeal to the Courts on the ground of improper procedure, appeal to the High Court shall be legitimate against any penalty, other than removal from the panel, imposed upon a practitioner by the Minister.

**BRANCH AND DIVISION MEETINGS TO BE HELD.**

**ABERDEEN BRANCH.**—The summer meeting of the Aberdeen Branch will be held in the Stotfield Hotel, Lossiemouth, at 12 noon to-day (Saturday, June 27th). The meeting will be a joint one with the nch. Train leaves Aberdeen at 8.5 a.m. at 7.35 p.m. Lunch in the Stotfield Hotel, Dinner in the Station Hotel, Elgin, at 6.30 p.m.

**BIRMINGHAM BRANCH: DUDLEY DIVISION.**—The Chairman, Dr. T. M. Tibbets, is giving a garden party on Thursday, July 2nd, at 3 p.m., to the members of the Dudley and Bromsgrove Divisions, at his house, "Redlands," Stourbridge. During the afternoon a meeting will be held to instruct the Representative, after which the time will be given up to tennis, clock golf, croquet, bowls, etc.

**BORDER COUNTIES BRANCH.**—The fifty-fourth annual general meeting of the Border Counties Branch will be held in the Cumberland Infirmary, Carlisle, on Friday, July 10th, at 3.45 p.m. Agenda: Branch Council report and financial statement; election of officers for 1925-26; Mr. Norman McLaren, T.D., F.R.C.S. Eng., will deliver his presidential address entitled "The Cumberland Infirmary, past, present, and future." The Branch Council will meet at 3.15 p.m. Tea.

**BORDER COUNTIES BRANCH: DUMFRIES AND GALLOWAY DIVISION.**—A social meeting has been arranged in the form of a motor trip to Dalry, Galloway, early in July.

**EAST YORK AND NORTH LINCOLN BRANCH.**—The sixty-ninth annual meeting of the East York and North Lincoln Branch will be held at the Grimsby and District Hospital on Friday, July 10th, at 3 p.m., when the President-Elect, Dr. W. Wallace, will be installed as President for the coming year. Business: Annual report and financial statement; election of officers. The President will deliver the inaugural address.

**EDINBURGH BRANCH: SOUTH-EASTERN COUNTIES DIVISION.**—An ordinary meeting of the South-Eastern Counties Division will be held in the Railway Hotel, Newtown St. Boswells, on Wednesday, July 1st, at 3 p.m. Business: Instructions to Representative in Representative Body; invitation to opening of the British Medical Association House; address by Dr. Ernest Muir, research worker at the School of Tropical Medicine and Hygiene, Calcutta, on the changed aspect of the leprosy problem.

**LANCASHIRE AND CHESHIRE BRANCH: ROCHDALE DIVISION.**—A meeting of the Rochdale Division will be held in the Wellington Hotel, Rochdale, on Wednesday, July 1st, at 8.30 p.m. Business: To instruct the Representative for the Annual Representative Meeting. Members are requested to take with them to the meeting the SUPPLEMENTS for April 11th and 18th, May 16th, and June 27th.

**METROPOLITAN COUNTIES BRANCH: ST. PAUCRAS DIVISION.**—The inaugural meeting of the St. Paucras Division will be held at the Midland Hotel, St. Paucras, on Tuesday, July 7th, at 8.45 p.m. Agenda: To approve the election of officers, representatives, and executive committee; adopt organization rules. Address by Mr. Bishop Harman, F.R.C.S., on some common eye conditions.

**NORFOLK BRANCH.**—The annual meeting of the Norfolk Branch will be held at the Norfolk and Norwich Hospital on Wednesday, July 8th, at 3.15 p.m. Agenda: Annual report of Branch Council and financial statement; induction of new President, Mr. Cecil Jeffery Muriel; election of President-Elect and two Vice-Presidents; address by His Honour Judge Herbert-Smith, LL.D., County Court

Judge for Norfolk, on the law and procedure under the Workmen's Compensation Act. At 4.30 p.m. tea in the hospital grounds by invitation of Mr. and Miss Muriel.

**NORTH OF ENGLAND BRANCH.**—The annual meeting of the North of England Branch will be held at 7, Windsor Terrace, Newcastle-upon-Tyne, on Thursday, July 2nd, at 12.30 p.m. This will be followed by a luncheon, and the annual golf competition will be held at Gosforth Park on that afternoon. Agenda: Election of officers. The following have been nominated by the Branch Council: President, Dr. J. Hudson. Vice-Presidents, Dr. F. Beaton (Ashington) and Dr. T. J. Kirk (Norton-on-Tees). Honorary Secretary and Treasurer, Mr. Norman Hodgson. Honorary Scientific Secretary, Dr. Harvey Evers. Any other competent business.

**NORTH LANCASHIRE AND SOUTH WESTMORLAND BRANCH.**—The annual meeting of the North Lancashire and South Westmorland Branch will be held at Galgarrath Hospital, Windermere, on Tuesday, June 30th, at 3.15 p.m. Dr. John Hay (Liverpool) will give an address entitled "The significance of raised blood pressure." Members are requested to keep this date free. Ladies are invited.

**NORTH WALES BRANCH.**—The annual meeting of the North Wales Branch will be held at Carnarvon on Friday, July 10th. The President will deliver an address. Members wishing to read papers, show cases or specimens, are asked to communicate with Dr. E. Lewis-Lloyd, Branch Secretary (Rhianfa, Towyn, Merioneth), not later than July 1st.

**NORTHERN COUNTIES OF SCOTLAND BRANCH.**—The annual meeting of the Northern Counties of Scotland Branch will be held at the Stotfield Hotel, Lossiemouth, to-day (Saturday, June 27th), at 12 noon. After the business meeting the members of the Branch will lunch with the members of the Aberdeen Branch, who are holding their annual meeting at the same place and at the same time. Thereafter arrangements have been made for golf on the Lossiemouth golf course and for an excursion to various places of historical interest in the vicinity to be taken part in by both Branches.

**OXFORD AND READING BRANCH.**—The annual meeting of the Oxford and Reading Branch will be held at the Radcliffe Infirmary, Oxford, on Friday, July 10th, at 3 p.m. Agenda: Election of officers; paper by Mr. J. E. H. Roberts, O.B.E., F.R.C.S.: Modern chest surgery. In the morning the Collier golf cup will be played for at Frilford Heath against bogey. Competitors take three-quarters of their lowest handicap. Transport from Oxford Station can be arranged on application to the honorary secretary, Dr. William Stobie.

**SOUTH WALES AND MONMOUTHSHIRE BRANCH: SOUTH-WEST WALES DIVISION.**—The annual meeting of the South-West Wales Division will be held at the Ivy Bush Hotel, Carmarthen, on Tuesday, June 30th, at 3 p.m. Business: Appointment officers for the coming year; instruct the Representative to the Annual Conference.

**SUFFOLK BRANCH: WEST SUFFOLK DIVISION.**—A combined clinical and social meeting of the West Suffolk Division will take place on Thursday, August 6th, when Dr. Wood has very kindly offered to entertain the Division once more at Woolpit. Tea in his garden will follow a clinical meeting at the Institute.

**SUSSEX BRANCH.**—The annual meeting of the Sussex Branch will be held in the Blatchington Court Hotel, Seaford, to-day (Friday, June 26th), at 2.15 p.m. Agenda: Correspondence; election of officers; induction of President, who will give an address on some emergencies in general practice; annual report and financial statement; organization rules. The President-Elect (Dr. W. P. Morgan) invites members to luncheon at 1 p.m. After the meeting members will visit the Seaside Branch of the Chailey Hermitage, and then proceed to the Hermitage at Chailey, where the use of heliotherapy and actinotherapy will be demonstrated. Mrs. Kimmins invites the members to tea at the Hermitage. The Seaford Golf Club will welcome members who wish to make use of the links.

**Meetings of Branches and Divisions.**

**METROPOLITAN COUNTIES BRANCH: LEWISHAM DIVISION.** A meeting of the Lewisham Division was held on June 16th, when Dr. R. GORVIN CHASE was in the chair. Sir Percy Bassett-Smith was appointed delegate to the Conference of the National Association for the Prevention of Tuberculosis.

Dr. E. OFENHEIM delivered an address on the importance of the cinematograph in teaching. Films were shown, and described by the lecturer beforehand, dealing with relapsing fever, trypanosomiasis, Leishmaniasis, filariasis, and organisms in the intestine of mice. A coloured film showed water animalcules and an x-ray demonstration of peristaltic movement of the stomach, and the concluding film showed the action of the reptilian heart demonstrated for physiological teaching.

Sir PERCY BASSETT-SMITH mentioned that relapsing fever in India was different from that of Africa, and that eosinophilia was present with *Filaria loa*. Dr. HALLINAN spoke of filaria treatment in Fiji. A vote of thanks was accorded to the lecturer on the motion of Dr. CHASE, seconded by Dr. WHITE.

**METROPOLITAN COUNTIES BRANCH: WILLESDEAN DIVISION.** The annual meeting of the Willesden Division was held at the Willesden General Hospital, Harlesden Lane, on May 27th, when Dr. W. W. STOCKER was in the chair. The financial statement for 1924, showing a balance in hand at December 31st, 1924, was approved.

The CHAIRMAN, in reporting as to the work of the Division during the preceding twelve months, stated that while the Division need not be ashamed of the amount of work it had got through, the



meetings had not been so well attended as they might have been. The Chairman's report was approved. The question of action being taken to stimulate the interest of members in the meetings of the Division was referred to the Executive Committee.

On the motion of the CHAIRMAN, it was resolved to tender the thanks of the Division to the board of management of the Willesden General Hospital for permitting the Division the use of a room for its meetings, and especially to the matron for looking after the comfort of the members attending.

Dr. SCOTT, in proposing a vote of thanks to the retiring Chairman, stated that Dr. Stocker had during his period of office never spared himself any trouble for the benefit of the medical profession of Willesden. The vote of thanks was carried, and Dr. Stocker expressed his appreciation thereof.

Dr. SKENE spoke as to the necessity for the Division expressing its thanks to Dr. Paterson, their honorary secretary, to whose efforts had been due the resuscitation of the Division, and who apparently, judging by the time spent, thought more of the welfare of the profession, both locally and generally, than of his own. At Dr. Skene's suggestion the Division placed on record its hearty thanks to Dr. Paterson for his work, and its high appreciation of him as a secretary, as a colleague, and as a man.

A vote of thanks was, on the motion of the CHAIRMAN, accorded to Mr. S. Coulson for his assistance during the year.

The following officers were elected for the ensuing year:

Chairman, Lieut.-Colonel H. Kirkpatrick, I.M.S. (ret.), *Vice-Chairman*, Dr. W. Lock, *Honorary Secretary*, Dr. W. Paterson (reappointed), *Clinical Secretary*, Dr. J. W. Brash (reappointed).

#### SOUTH WALES AND MONMOUTHSHIRE BRANCH.

The annual general meeting of the South Wales and Monmouthshire Branch was held at the Royal Gwent Hospital, Newport, Mon., on June 17th.

After the usual business had been transacted, Dr. O. A. BRISTOCKE (Haverfordwest), the retiring President, vacated the chair, and installed Dr. R. J. COULTER (Newport) as President for the year. A hearty vote of thanks was accorded Dr. Bristocke for the able way in which he had performed the duties of his office.

Dr. R. J. COULTER delivered his presidential address on preventable blindness, dealing first with blindness from an economical standpoint, and with the education of those afflicted. The earning value of a blind person was only one-half or one-third that of a normal worker. Curable diseases such as cataract and preventable disease such as glaucoma were mentioned, and considered from an industrial and non-industrial standpoint. Interstitial keratitis and ophthalmia neonatorum were discussed in detail with statistics, and the great value of prophylactic treatment emphasized. Finally Dr. Coulter dealt with eye injuries as met with in mines, factories, and workshops, and the various means available for their prevention.

The address was of great interest to both specialists and practitioners, and a hearty vote of thanks was accorded Dr. Coulter.

#### SUSSEX BRANCH: CHICHESTER AND WORTHING AND HORSHAM DIVISIONS.

A COMBINED meeting of the Chichester and Worthing and Horsham Divisions was held at the Norfolk Hotel, Arundel, on June 16th, when Dr. KINNEAR (Horsham) was in the chair.

The meeting considered the Annual Report of the Council. The Representative was instructed to oppose the recommendation of the Council on the questions of individual representation, of the composition of the General Medical Council, and of opinion as regards the latter question.

A motion, which appears at page 289, was adopted for inclusion in the Agenda of the Annual Representative Meeting at Bath.

#### WILTSHIRE BRANCH: TROWBRIDGE DIVISION.

A SPECIAL general meeting of the Trowbridge Division was held at Trowbridge Town Hall on June 13th. Dr. H. C. TAYLER, chairman of the Division, who presided, was appointed as the representative of the Division to attend the opening of the new House of the British Medical Association on July 13th. The arrangements for the entertainment of visitors from the Annual Meeting at Bath to Bradford-on-Avon were considered, and a subcommittee was appointed to make local arrangements, with Dr. H. C. Tayler as chairman, Dr. Burnett as secretary, and Dr. Spence as treasurer.

#### WORCESTERSHIRE AND HEREFORDSHIRE BRANCH.

The annual meeting of the Worcestershire and Herefordshire Branch was held at Worcester on June 18th. It was preceded by luncheon at the Crown Hotel.

Dr. Neville Crowe (Worcester) was elected President (1925-26), and Mr. Ainslie (Hereford) President-Elect. Mr. W. B. Butler (Hereford) was re-elected Honorary Secretary and Treasurer. The annual financial statement, showing a balance of £11 16s. 5d., was received.

Dr. Dryland introduced his successor, Dr. Crowe, who took the chair. At a clinical meeting, subsequently held, cases and exhibits were shown by Mr. DUGGAN, Dr. DEVERALL, Mr. CAVENAGH, Mr. BUTLER, Dr. NEVILLE CROWE, and Dr. POWER.

After the meeting it was decided to hold a clinical meeting at Hereford in the latter part of September, and the members then adjourned to tea at the Crown Hotel.

## National Insurance.

### THE LIBERTIES OF THE PROFESSION.

#### MEETING OF INSURANCE ACTS COMMITTEE WITH THE MINISTER OF HEALTH.

THE Minister of Health (the Right Hon. Neville Chamberlain, M.P.) received on May 18th in deputation at the Ministry the members of the Insurance Acts Committee of the British Medical Association. The object of the meeting was to discuss the judicial or semi-judicial functions of the Ministry with special reference to recent cases in which penalties widely felt in the profession to be unjust have been imposed on insurance practitioners.

Dr. H. G. DAIN (Chairman of the Committee) acted as chief spokesman, and was supported by Dr. H. B. Brackenbury, Dr. R. A. Holam, Mr. Bishop Harman, and a very full attendance of the Committee.

The Minister was accompanied by Sir Arthur Robinson (Secretary), Sir George Newman (Chief Medical Officer), Mr. L. G. Brock (Assistant Secretary), Dr. J. Smith Whitaker (Senior Medical Officer), Mr. E. J. Maude (Assistant Solicitor), and Mr. Douglas Veale (Private Secretary).

Dr. DAIN said: We should like, Sir, to express our pleasure on meeting you on this first occasion at the Ministry of Health—a pleasure which is added to in my own case because I come from the same city as yourself. We have ventured to trespass upon your time because we feel rather strongly on the matter which we desire to lay before you. We are concerned at the moment with the nature and effect of a number of recent decisions in disciplinary cases arising out of the National Health Insurance Acts. These are cases in which complaints have been laid against doctors and have been dealt with by the machinery set up under the Acts, eventually coming to your department for decision and judgement. On a recent occasion, when we gave evidence before the Royal Commission now sitting, we brought forward this same subject and made a certain number of points which seemed to us of importance, some of them indeed presenting, in view of the recent decisions, such an aspect of urgency that we felt that we did not wish to wait until the Royal Commission reported, but should ask for an opportunity of talking them over with you.

Our object here, as I hope you will appreciate, is the improvement of the service—the efficiency of the medical service under the insurance scheme. We, as representing insurance practitioners, have as our prime object the efficiency of the medical service and the welfare of insured persons. It is necessary in setting up a scheme of this sort that certain judicial procedure should be agreed upon whereby complaints can be dealt with. Such machinery has been in action for twelve years, and we have conferred with your officers at various times as to alterations and improvements in that machinery. We have always held that it was better that these things should be dealt with by the machinery specially set up than that they should go to any large extent into the courts of the country. This has meant, however, that we have always had a minority, sometimes vociferous, which has maintained that greater justice would be done and greater safety would be felt if recourse were had to the courts. That is not the opinion of my Committee at present, but such a feeling is unquestionably growing among insurance practitioners.

In our evidence before the Royal Commission we drew attention to a number of the points which we wished to emphasize, in particular four points which I want to put before you, and to illustrate them by cases that have actually occurred. The first is:

That when a complaint has been dealt with by the bodies set up by the regulations for this purpose there should not be a liability to have the whole matter reopened by separate departmental action, either by the Ministry itself or by those bodies at the instigation of the Ministry.

There is a case which has become notorious in this connexion. It is a case in which certain doctors in Lancashire were accused of having taken money for drugs. This case came to the Ministry on the recommendation of the Insurance Committee that they should be dealt with by way of fine. But the Ministry, instead of acting on that recommendation, sent for the chairman and clerk of the Insurance Committee, had an interview with them, and directed them to take action under another section of the regulations with a view to recommending removal from the panel. The legality of that was tested in the courts, and the Court of Appeal held that the department was perfectly justified in taking that action. But

what we feel is that when the department is going to be the final judge, and there is no appeal from its verdict, it should not turn round to the Insurance Committee which has made a decision and say, "Don't you think you ought to make another decision before you send it to us to judge upon?" Although the procedure has been upheld in the law courts we think it is very undesirable, and it has caused heart-burning amongst our men. If the decision is to be left in the hands of the Minister, and, as at present, there is to be no appeal from him except on procedure, it is quite wrong that he or his officers should direct the people to come to another decision—not to hear the case again, but to come to another decision—The Insurance Committee in this case was directed to consider that particular report, and to see whether it could not arrive at some other conclusion.

Mr. CHAMBERLAIN: May I, for the purpose of elucidating this statement, ask a question? This was something which occurred before I came here. Was not the effect of the direction of which you speak by the Ministry of Health to the Insurance Committee in this case that it should make what is technically known as a representation for the removal of the offending party from the medical list; and does not the procedure laid down in the regulations involve the setting up of an inquiry if such a representation should be made? Is it not necessary to set up an inquiry when a representation is received?

Dr. DAIN: Yes, when a representation has been made; but the Insurance Committee did not make a representation that the practitioner should be removed from the panel; it recommended that he should be fined.

Mr. CHAMBERLAIN: Yes; but as I understood you in your account of the case, that was the original proposal of the Insurance Committee, that a substantial fine should be inflicted. The Ministry felt that the case was so serious that it was desirable to investigate it further, and they then instructed the Insurance Committee to make a representation to them that the offending party should be struck off the medical list.

Dr. DAIN: Yes; that is what we are objecting to. Mr. CHAMBERLAIN: Would not the effect of that be that there would be necessarily an inquiry committee into the same case? Dr. DAIN: That would be the effect of it, yes, but before that happens the Insurance Committee must have altered its opinion.

Mr. CHAMBERLAIN: That may be so. But you see what I am trying to elucidate? It does not mean that the Ministry thereupon would come to a decision without further inquiry. I think you said that the Insurance Committee was asked to make a second inquiry. But it did mean that a second inquiry had to be made, and of a much more formal character than the first.

Dr. DAIN: But it was in our view a clear invitation to the Insurance Committee to alter its opinion.

Mr. CHAMBERLAIN: But that would be a way of getting it to make a fresh inquiry into the case.

Dr. DAIN: We think that is an objectionable procedure.

Mr. CHAMBERLAIN: Well, we will discuss it later; but I wanted to be sure that we agreed about the facts.

Dr. DAIN: That case is an example of the particular point we wished to make. Our second point is—

That when a complaint has been made in one prescribed form penalties should not be inflicted in respect of offences not formally alleged or of offences which, if alleged, should have been formulated in a different prescribed way and might have required a different line of defence.

A complaint was laid against a doctor before a court of inquiry recently that he had been guilty of gross negligence in his treatment of a case of appendicitis. When the court of inquiry found that no such gross negligence had been proved against him he was then fined for what the report merely described as an error of judgement. In an ordinary court of law one offence is alleged, although frequently alternative suggestions are made as to the nature of the offence that may be proved, and then the accused person in his own defence has an opportunity of defending himself against any possible developments which may occur in the course of the case. We feel that by the methods which have been adopted a man does not get always a fair chance of being defended at the court of inquiry against a matter which may arise and of which there may not be necessarily any special allegation made at the time; nevertheless, on this count he may be subsequently punished, and, of course, after your decision he has no appeal.

Then we want to make specially strongly our third point—

That full consideration should be paid to the findings or recommendations of a committee (whether Medical Service Subcommittee or Inquiry Committee) which has itself investigated the details of the case in mitigation of the heinousness of the misconduct even when proved.

In that connexion I should like to quote a case which happened in Sussex. A doctor, one of the most respected men in the place, was accused of giving certificates wrongly. What was proved against him was that on one occasion when on holiday he issued, in a nervous and chronic case in which a monthly certificate was required, one certificate without seeing the patient. When the true facts were elicited, the complaints wished to withdraw the charge, the Medical Service Subcommittee recommended that no action be taken, the Insurance Committee endorsed that view, and yet in spite of that the Ministry still felt it necessary to inflict a fine of £5 on the practitioner. We do not consider that in that case proper regard was paid to the opinions of the committee set up under the machinery of the Act to carry out this judicial investigation. Another illustration is the case of appendicitis to which I have already referred; here the report of the inquiry committee stated that at the most the man had committed an error of judgement, and the Ministry in dealing with it fined the man on this particular error of judgement because they formed a different opinion from the opinion of the committee. They were not prepared, as we are here, to accept the opinion of the court of inquiry. But the court of inquiry is in a position to see the witnesses and hear the evidence, whereas the department can merely read the evidence which the court has heard.

On our fourth point we come to an exceedingly serious professional matter:

That it is essential to draw a strict distinction between professional conduct in the attention given to a patient and the nature of the exact professional treatment given to the patient, and that the propriety or otherwise of any particular method or line of treatment should not be made the subject of investigation in connexion with the insurance service.

As you, Sir, are aware, any doctor attending any individual is under a certain liability to render to that individual as a patient a reasonable degree of care and skill. If he fails to do that he is liable to be dealt with under legal proceedings. That responsibility exists in respect to all patients, under whatever system they may be attended—whether national insurance, contract practice of any kind, or as private patients. We recognize that the insurance practitioner has two responsibilities—first of all a responsibility to his patient as such, and secondly, a responsibility to the national health insurance administration, that he shall obey the regulations, and carry out the terms of service. And while we agree that it is quite proper that he should be dealt with under the machinery of the Act for any breaches of the regulations we entirely dissent from the view that it should be possible under the act of omission or commission in the treatment of his patient, or that his treatment of a case should be subject to review by those who have not seen the patient, nor gained any first-hand knowledge of the case, but who on reading the report may decide that he did or did not do a certain thing. We have a case in point in London, where a doctor attended a patient for a throat condition. The case was shown at the final court of inquiry to be very complicated, and because the doctor did not take a swab of the throat he had been fined by the department, although the court of inquiry made it perfectly clear that the doctor was not to blame in the treatment of the case—made it clear even to the extent of giving costs against the Insurance Committee. The department, still not having seen the patient, but only having read the report, fined the medical man for not having taken the swab-out of the throat. We cannot too strongly put the objection to any third party stepping in and saying that this or that should not be the way of treating a particular case. This perhaps is the strongest point we want to put to you. The whole independence and position of the doctor in the discharge of his responsibility for the treatment of the patient is entirely to be undermined if afterwards he is going to be subject to having his opinion as to what he should do or should not do reviewed by the department. We agree that if he neglects his patient, does not go when he is urgently summoned, and so forth, he breaks his terms of service and must be dealt with under the regulations. But as to the propriety of his general method of treatment of the patient we have the General Medical Council, which sets up a standard which we must all reach before we can be qualified, and having been qualified and placed on the *Register* we cannot see how it is possible to introduce any body who should have the right of saying that this or that should or should not be done. If the patient has a grievance which is good remedy in the court of law, and the recourse which is good enough for the ordinary public should be good enough for the insured person. We do not object to procedure under the regulations, but we think that purely professional matters should not be subject to review by the machinery of the Insurance Act.

Mr. CHAMBERLAIN: May I just put a couple of questions? I notice in your Memorandum of Evidence before the Royal

Commission—which I have read in part—you state that the action of the Ministry of Health has given rise to "a feeling of injustice, or even of a suspicion of vindictiveness." I wish you would elaborate that a little more.

Dr. DAIN: The question of vindictiveness was on the case of the £1,000 fine. That was the particular case.

Mr. CHAMBERLAIN: That was another way of saying that you thought the fine was too high. And what about "injustice"?

Dr. BRACKENBURY: That is not an opinion that we as a committee have expressed. We have brought to the notice of the Ministry a feeling widely current in the profession.

Mr. CHAMBERLAIN: What I wanted to see was the basis of that statement.

Dr. BRACKENBURY: I might remind you, Sir, that further action has been taken by the Ministry in respect to the case just mentioned.

Mr. CHAMBERLAIN: You mean it has been remitted?

Dr. BRACKENBURY: Yes.

Mr. CHAMBERLAIN: Then another sentence attracted my attention:

"When, however, agreements with the profession have been reached with regard to the machinery and procedure by which decisions shall be arrived at, it is exceedingly disquieting to find that, though the machinery is used and the procedure followed, there are cases in which there seems little or no relationship between the decisions of the Ministry and the reports or recommendations of the bodies on which action is supposed to depend."

That sounds rather as though you were of opinion that the Ministry had departed from the procedure laid down.

Dr. DAIN: No, but that they did not attach proper weight to the reports they received.

Mr. CHAMBERLAIN: I see.

Dr. DAIN: We have the right of appeal against the decision of the Ministry where the procedure has not been followed. But we have no appeal against a judgement on merit.

Mr. CHAMBERLAIN: But you do not deny that the responsibility lies upon the Ministry to take a final decision after consideration of the reports and recommendations?

Dr. DAIN: No.

Mr. CHAMBERLAIN: Do you want to say anything further?

Dr. BRACKENBURY: The four points we have brought forward are matters of extremely important principle; the last of them we consider to be professionally vital, the others also are of vast importance. All we are anxious to secure is that these principles as we laid them down rather carefully should be accepted by the Ministry. We may be wrong in our supposition that recent decisions of the Ministry have in fact departed from these principles; but they have seemed to us to raise the question whether these principles were not in danger of being departed from; and all we are anxious to secure is that the principles laid down in our evidence should be admitted and recognized by the Minister. If we have that assurance we shall be content to rely upon the action of the Ministry being consistent with the principles accepted. We are not discussing the merits of the particular cases: we are simply saying that these particular cases have raised in the minds of the Committee and of a large number of members of the profession the suspicion that perhaps these principles which seem to us of the utmost importance were not accepted by the Ministry, and we want to be assured, either that our principles are not in themselves just principles, or that the Ministry accepts them as just principles. If we have that acceptance we shall be quite content to believe that the acts of the Ministry will be in consonance with those principles.

#### *The Minister's Reply.*

Mr. CHAMBERLAIN: I thank you, Dr. Dain, for your opening words, and I assure all you gentlemen that I am very glad to have the opportunity of meeting you this afternoon and discussing these questions with you. I was glad to hear you say—what, indeed, you hardly needed to say—that your principal object was to establish a thoroughly satisfactory service, and that you feel your responsibilities in this matter. There, I think, we are both in agreement, and, as you know, it is my statutory duty also to satisfy myself that the service is satisfactory, and that full regard is paid to the conditions on which the service was originally established.

I confess that I have been very much astonished at the attention which seems to have been given to the cases which have recently occurred, and to which you have drawn attention. As far as I am concerned, it was quite a new idea to me that I was making any departure from the practice which had been previously followed by other Ministers, or that there was anything in the actual circumstances of the cases to which you refer which differentiated them from other similar cases, or which would give rise to anything in the nature of a protest on the part of the British Medical Association. But I would like to make a few comments upon the particulars which

you have put forward to the Royal Commission, and which no doubt the Royal Commission will weigh and take into account when they come to make their report.

The first of your four points is, I think, specifically directed to one particular case, and I think I understood from you, Dr. Dain, that your feeling was that the Ministry had ultimately to act as a judge in this matter, and it was rather taking the part of advocate in directing an investigating body to put forward a decision other than that which that body had already come to upon its own initiative. I do not think that is a correct way of estimating the action of the Ministry. It is true that the Ministry has to be the final judge in these cases. It is true that the Ministry is responsible for seeing that there is a satisfactory service.

Well, what happened in this particular case? There was a recommendation by the Medical Service Subcommittee that a substantial fine should be inflicted upon the particular doctor or doctors in question. The offence alleged was one of a very serious character indeed. You would not deny that for a moment. If that sort of thing were once to become prevalent—which I cannot imagine—the damage to the whole reputation of the service would be irreparable. It was a very serious case indeed, and the department felt that it was so serious that it could not be summarily dismissed without further investigation. I put some questions to you just now which were designed to ascertain what in your view the effect of the Ministry's action is. As you put it, it sounded as though the Ministry had directed the court of inquiry to bring in a verdict of guilty. But that is not a bit what happened. What the Ministry did, in effect, was to say, "Follow such a procedure as will enable us to have a further and more exhaustive inquiry into the circumstances of the case"—for, mind you, that was the inevitable result of the Ministry's action. I have pointed out that under the regulations when a recommendation is made by an Insurance Committee for the removal of a doctor from the medical list the Minister is bound to have, not a court of inquiry—if I may correct you—but a committee of inquiry. The distinction is important. A court may be asked to pass judgement; a committee is set up, not to pass judgement, not even to make recommendations as to action being taken, for if you consult the regulations you will find there is a difference between the procedure laid down for the Medical Service Subcommittee and that laid down for the court of inquiry—or, rather, the committee of inquiry (I am myself falling into your error). The committee of inquiry has merely to report on the facts.

The committee of inquiry investigated the facts in this complaint. They found a large number of cases, they did not investigate every one, but they investigated a sufficient number to show that the practice complained of had been largely followed. What did the Ministry do? Did they remove the man from the list? No; they did not. Is not that the answer to your suggestion? The representation that he should be removed from the medical list was the way of getting a fresh inquiry into the case, but the result of the inquiry was not that the practitioner should be removed from the list—which I suppose would mean ruin to him, or at any rate would be the most serious penalty that could be inflicted—but something which was in fact the original recommendation of the Medical Service Subcommittee. The practitioner was fined. You may have your own opinion as to whether that fine was excessive or not; there might be differences of opinion on that subject, but if the Minister, instead of fining the man £1,000—or withholding £1,000 of grant—had removed the offender from the list there would have been no possible complaint on your part.

Dr. DAIN: That all depends on the reading of the report.

Mr. CHAMBERLAIN: Anyhow, my point is this: if you say, as a principle to which you ask my adherence, that under no circumstances should the Ministry ask an Insurance Committee to adopt such a procedure as will enable a further and more exhaustive inquiry into the circumstances of a particular complaint than has already taken place in the informal procedure of the Medical Service Subcommittee, you are asking me to go further than I ought to go in view of my responsibility to the public.

Let us come to your second point: that when a complaint has been made in one prescribed form penalties should not be inflicted in respect of offences not formally alleged or of offences which, if alleged, should have been formulated in a different prescribed way and might have required a different line of defence. Well, now, I think I appreciate what is in your mind in formulating that principle. It is, I think, that it might be unfair to a man to bring an accusation against him of one offence, to let him defend himself on the supposition that that was the offence with which he was charged, and then to bring him in guilty of another offence, when, if he had known that the basis of accusation was going to be changed, he might have put up a different line of defence. I think if it is stated in that sort of way I should agree. But let us

again examine the circumstances of the particular case which illustrates your contention that the Ministry has violated that principle. Here we get on to ground which seems to me to approximate to your fourth point. I just wrote down what you said about that particular case. You said that the accused man was charged in the first instance with gross negligence; he was found innocent of that, but guilty of an error of judgement. Well, you do not find those words in the report of the committee of inquiry.

Dr. DAIN: Yes, Sir, you do find those words.

Mr. CHAMBERLAIN: You do not find that he was guilty of an "error of judgement." That is your gloss upon what they found.

Dr. DAIN: No; one of the committees, as a matter of fact, on that particular case did use those words.

Mr. CHAMBERLAIN: Perhaps I am at a disadvantage here in not being a doctor; perhaps, on the other hand, it is an advantage. Here you have a case of a child—a boy, was it not?—who suffers from some discomfort in the throat. The doctor says, "This is tonsillitis," and treats him for tonsillitis. Some of the doctors say at any rate that there were symptoms which ought to have pointed him to diphtheria, and this doctor subsequently turns out that it was diphtheria. Anyhow, it did not take a swab. Why? You say, "Error of judgement." But supposing I said, "No, I do not call that an error of judgement." His judgement might have been that it was of no use to take swabs from throats, that it furnishes no indication of diphtheria. But if the taking of swabs is a routine precaution to take in treating cases of this nature, neglect to take them is not an error of judgement. It is—shall I say?—a lack of alertness.

Dr. DAIN: I find that "error of judgement" was not used in respect to this particular case.

Mr. CHAMBERLAIN: It is awfully difficult, but what I am trying to put to you is that this case does not come under the definition of error of judgement, but that what might be properly alleged against this particular doctor, as it seems to me as a layman, is that he was not alert or quick enough in following what should have been his usual routine in taking a judgement, and which is want of, it may be, proper attention, or an instance of mere slackness or carelessness, if you like? You see, I think, that I accept your principle if it is stated in one way, but when it comes to the application of the principle it may be very difficult to decide whether in a particular case the principle is really involved or not. That makes it very difficult for me to say that I accept the words which you have put down here, when I might presently find myself by reason of my acceptance dealing with a case in which I should say that the principle was not involved, but somebody else might say that it was.

Your next point is that full consideration should be paid to the findings or recommendations of a committee (whether Medical Service Subcommittee or inquiry committee) which has itself investigated the details of the case in mitigation of the heinousness of the misconduct even when proved. I do not know on what ground you say that I have not paid full consideration to the findings or recommendations of a committee. I repeat again that recommendations are no part of the business of an inquiry committee. They are part of the business of a Medical Service Subcommittee, they are passed on from the Medical Service Subcommittee to the Insurance Committee. But in this case who was it that refused to accept the recommendations of the Medical Service Subcommittee? It was the Insurance Committee.

Dr. DAIN: No, they agreed in this particular case.

Mr. CHAMBERLAIN: Well, perhaps we are talking about different cases. In three of the four cases mentioned to me the recommendations of the Medical Service Subcommittee were not accepted by the Insurance Committee. The recommendations of the Medical Service Subcommittee was that a fine should be imposed; the Insurance Committee, on the contrary, made a representation that the doctor in question should be removed from the medical list.

Dr. DAIN: In the K— case, to which I referred in my opening remarks, the eventual result was that after the Medical Service Subcommittee had recommended that no action be taken, and this had been endorsed by the Insurance Committee, in face of that, and in spite of the extremely good record of the practitioner, a fine was imposed.

Mr. CHAMBERLAIN: Is all your point No. 3 based on the K— case?

Dr. DAIN: Yes, it is.

Mr. CHAMBERLAIN: Well, I know now what I have to answer. It seems to me that your strictures are a little severe if they are founded entirely upon a single case, and even in regard to that single case your account was not strictly accurate.

Dr. DAIN: We took trouble to make it accurate.

Mr. CHAMBERLAIN: You said that the practitioner had given one certificate without seeing the patient. He gave three certificates without seeing the patient.

Dr. DAIN: That was not proved against him before the Medical Service Subcommittee. It came from some other source.

Mr. CHAMBERLAIN: I have got the dates on which he saw the patient and the dates on which he gave the certificates, and they do not agree except in one instance. I do not think we need argue about it. If he had given only one certificate it would be very much less serious than three, as I think you will agree. But a man of good standing—a man of this kind, for I think this particular man is a man of good standing, and generally reckoned to be attentive to his patients—if he goes and makes three statements in the form of certificates without having seen his patient, surely that is a case which rather calls for some sort of action. If people of good standing are going to do that you can hardly expect people of less standing to set a higher standard. In this case he paid no visit between August 16th and October 10th—a period of nearly eight weeks.

Dr. DAIN: He was giving monthly certificates, and he missed one month.

Mr. CHAMBERLAIN: He gave two certificates—one on August 20th and one on September 20th; both were the results of or visit which was paid on August 16th. I do not know whether you gentlemen consider that to be a very small matter, but I do seem to me, I confess, not altogether a small matter, and to call for some sort of attention. In this particular case I do not think you would claim that the fine was very excessive. It was only £5, and I cannot see that any important matter of principle is really involved. I can always conceive that the decisions given by the Ministry will not satisfy everybody, and is only natural that there should be different ideas as to the amount of fine, but I really do not see that that particular case, admittedly the only one on which you found a charge against the Minister—

Dr. DAIN: No, we are not making charges, only bringing illustrations of the principle. We are not trying to be exhaustive in any way, we are giving you typical examples which illustrate the principle we wish to drive home.

Mr. CHAMBERLAIN: I am not making any complaint, you understand that, but I want to deal with the things fairly and sympathetically if I can. I am anxious to be of one mind with you in this matter.

The last point—the one to which you attach the greatest importance—is that it is essential to draw a strict distinction between professional conduct in the attention given to a patient and the nature of the exact professional treatment given to the patient, and that the propriety or otherwise of any particular method or line of treatment should not be made the subject of investigation in connexion with the insurance service. I think I have really said to you what I wanted to say about that. I should agree if you state it in that particular way; the real difficulty is the difficulty in practice of applying the principle to which everybody would attach importance.

Dr. BRACKENBURY: We should all agree that there is a good deal of difficulty in the applying of general principles. What we are concerned with at the moment is to establish that these are general principles. It would be a very great thing if we could secure an agreement that these were in themselves proper principles to apply. You used the word "strictures." We have not had it in our minds for one moment to bring any strictures upon the attitude of the Minister. People have thought that we ought to take serious action, but that is not our purpose. We are not concerned with the merits of the judgement in any one of these cases, but we do believe that there are features in one or other of these cases which illustrate the possibility of these principles not being recognized or being departed from. The trouble is partly that the nature of the judgement asked for is involved in the procedure taken. It is not a complaint or a representation by the Insurance Committee that this case should be inquired into and that some penalty should be inflicted. There are the two procedures: the penalty of removal from the panel is suggested in the one case, and the penalty of censure or a fine is suggested in the other; and it is quite possible to believe that the kind of defence which might be set up against removal from the panel would be somewhat different in character from the kind of defence set up in the other instance.

Mr. CHAMBERLAIN: If the result of the Ministry's intervention had been that this man was struck off the panel when the Insurance Committee had not originally recommended that course there would have been a good deal of force in your contention.

Dr. BRACKENBURY: May I say that that appears to be irrelevant? In each case, whatever the result, we should still have had the objection that after the Insurance Committee had



made its decision that the circumstances called for one kind of action, the Ministry stepped in and said, "Don't you think that under the circumstances this case calls for another kind of action?" What the Insurance Committee said was, "We believe this is a serious case and ought to be dealt with by a serious penalty, but we do not believe that it is a case in which the man ought to be struck off the panel." Then the Ministry came in and said, "Don't you think you ought to reverse that decision and have the man struck off the panel?" The motives are perfectly understandable, but the result of that action, of the Ministry stepping in, involves unfortunately a suggestion of what the penalty ought to be. The Insurance Committee suggests one kind of penalty and the Ministry steps in and suggests a different class of penalty. That leaves our point of principle untouched. If it is desired that the Ministry might have some method of more exhaustive inquiry before inflicting its penalty we should all agree.

Dr. CHAMBERLAIN: More exhaustive than what?

Dr. BRACKENBURY: More exhaustive than the Medical Service Subcommittee. If the Ministry had been able to step in and say, "Well, now, before we inflict even this penalty—a big fine—we think there ought to be more inquiry into this case than has already been made by the Medical Service Subcommittee," it would be quite desirable that machinery should be set up and regulations made to enable the Ministry to take that action, but under the existing circumstances the character of the judgement sought for is involved in the representations made, and for the body that has to give that judgement to step in and suggest to the complainant which kind of judgement should be sought for does seem to contravene the principle.

Dr. CHAMBERLAIN: We have not got any power of the kind I suggest. But may I put this to you as a further consideration? I do think it is desirable that there should be some standard of uniformity in the treatment of these cases throughout the country. If the Minister was simply to accept the verdict of the Medical Service Subcommittee in each case, without taking any further trouble to investigate the case and exercise his own judgement, what guarantee would you have that there would not be very different standards of penalty inflicted in different parts of the country? The Minister has been brought in largely for the purpose of ensuring that there shall be some sort of uniformity in practice. The present system may not be perfect. I confess I have not given attention to seeing whether the machinery could be improved. I rather wish you had put up to the Royal Commission some specific ideas as to how this machinery could be improved.

Dr. BRACKENBURY: We have, Sir.

Mr. CHAMBERLAIN: Oh, you have; then perhaps that might meet the case. I hope I have convinced you that injustice has not been done, and that most certainly vindictiveness has not been in the mind of the Minister, but that by the way the regulations are formed—and formed with the help and acquiescence of the Insurance Acts Committee—the only way in which the Minister can have a further inquiry is the way that has been indicated.

Dr. BRACKENBURY: I think I can say that we see the motive in the minds of the Ministry much more clearly now. At the same time the method does seem to violate the principles laid down. Take the representations of the Medical Service Subcommittee or the findings of fact of the committee of inquiry. The committee finds certain facts and draws certain inferences, and as a result expresses the opinion that what has happened amounts to an error of judgement and not to gross negligence. The Ministry say, "We accept the findings of fact of the committee of inquiry, but we differ from them in their opinion. They, having heard the case and having found these facts, express the opinion that the doctor has committed an error of judgement. We, having read the facts and accepting those facts, come to the conclusion that it was not an error of judgement, but gross negligence, and we inflict a certain penalty." It does seem to us that those people who heard the witnesses and had the full facts before them in inquiry were in a better position to form an opinion as to whether this was an offence of greater or less heinousness on the part of the doctor than the Minister can possibly be. We do think it is an important principle that, whatever the opinion of the committee of inquiry may be, it should be given full weight to by the Ministry, and we conceive that in a case like that the opportunity for forming a correct and wise judgement is greater for the committee than it can possibly be for the Minister. In this final judgement we want to assure ourselves that full weight will be given to any mitigating circumstances or opinions expressed by the committee.

The fourth point we consider professionally vital. We think it is possible to draw a distinction between neglect of a patient and the wisdom or unwisdom or the character generally of the professional treatment or advice given. If a man is asked to go to a case and does not go, or refuses to perform such services as his contract he ought to perform, we recognize that machinery is available for punishing him. But our

relation to our insured patients is exactly the same as to our private patients. We undertake to give such knowledge and skill as we are possessed of, and such attention as we can to every case. If we do not, there is a remedy. But we do not believe that there should be set up in the department any power of reviewing a man's professional judgement in respect to the character of the advice and treatment he provides. That seems to us professionally—not merely as insurance practitioners—a vital professional point. We could not allow any authority or department of State to say, "Dr. A and Dr. B have both of them given their best to this case, but Dr. A (or Dr. B) has pursued (or has not pursued) the line of treatment or advice which we think to be the accepted and proper one." Or we could not allow the Minister to say that the standard of professional skill—

Mr. CHAMBERLAIN (interrupting): Nobody at the Ministry has made any such claim. I think you are dragging your coat-tails rather conspicuously.

Dr. BRACKENBURY: It has occurred to us that in one of these London cases, if not both of them, there was distinctly a tendency for the Ministry in the judgement and in the letters it has written to use the words "standard of treatment" in a way in which we had never conceived that those words "standard of treatment" could be used. To apply the term "standard of treatment" to the kind of advice or treatment given or to the relative merits of the professional skill of different doctors, supposing that they both do their best, seems to us to be entirely improper, and if we have the assurance that the Ministry of Health will not use the term in that way we are perfectly satisfied. It did seem to us that it was being applied in that way in some of these cases. It is perhaps a little difficult to make clear. There may be cases—though I do not conceive them very easily—in which it is difficult to apply; but the point seems to us very vital, and if we have your assurance that you appreciate it we shall be satisfied.

Mr. CHAMBERLAIN: I have no hesitation in giving you that assurance. One result of our discussion has been to show—certainly it has shown me—what is really the source of all the uneasiness you have felt. I believe that to be founded upon a misapprehension of what has been in the minds of the department. There may have been in the past—and there may be in the future—differences of opinion as to whether in a particular action of this department we have gone over the border-line of that principle, but we have not done so intentionally. We fully recognize the importance of the principle as you have laid it down in general terms, and there is not the slightest intention to lay claims to prescribe as to professional treatment or to assess the standards of professional treatment by members of the profession.

### The New Pensions Bill.

Dr. BRACKENBURY, before the deputation broke up, drew the Minister's attention to the provisions of the new Pensions Bill whereby many persons who had been in national health insurance for a time and had passed out became eligible for the new pensions, and in entering for them would have to re-enter for national health insurance. Anyone who at any time had been insured for two consecutive years might come in, and it was conceivable that there were very large numbers of persons who would desire to enter for pensions, and in so doing would enter for insurance, although they would not desire to enter for insurance by itself. Thousands of women employed during the war were in national health insurance for the consecutive period of two years, and were now married and in fairly comfortable circumstances.

Mr. CHAMBERLAIN pointed out that under Clause 13 of the measure married women were not allowed to come in as voluntary contributors. He thought that, apart from married women, the numbers concerned would be very small.

Dr. BRACKENBURY agreed that that minimized the difficulty considerably. At the same time there were persons who were employed in various capacities during the war which brought them within the provisions of national health insurance for at least two years, and were now in fairly good positions (he was not now speaking of married women), and would not think it worth while to be voluntary contributors, even if they could, for the sake of medical benefit, but would be very glad to come in for the sake of the pensions. Was it necessary to bring again into national health insurance those who had been out of it for years, and who would not desire to re-enter for that purpose only?

Mr. CHAMBERLAIN said that he would be very glad to look into the question and see what there was in it. It would come in when they got the bill into committee.

Dr. DAIN expressed to the Minister the thanks of the Insurance Acts Committee for receiving the deputation and for the very obvious care he had taken to deal with all the points they had to raise.



## ROYAL COMMISSION ON NATIONAL HEALTH INSURANCE.

thirty-second meeting of the Royal Commission on National Health Insurance was held at the Home Office on June 18th, and Lawrence of Kingsgate in the chair.

Evidence as to the supply of medicines, drugs, and appliances under the insurance scheme was submitted by the Retail Pharmacists' Union, represented by Mr. A. R. Melhuish and G. A. Mallinson; and by the Incorporated Society of Pharmacy and Drug Store Proprietors, represented by Mr. W. Atrods and Mr. A. Hutchinson. Thereafter Sir E. Cooper, M.D., and Dr. James Mennell, representing the Incorporated Society of Massage and Medical Gymnastics, gave evidence on the question of including massage and medical gymnastics in the insurance scheme; and evidence as to dental benefit was given on behalf of the Ivory Cross organization by W. F. Mellersh, Mr. C. Davis, Mr. H. D. Grant, Mr. John H., and Miss A. E. Fletcher.

Proof copies of the oral evidence and the relative statements submitted at the meeting of May 28th may be obtained from 1. Stationery Office, Adastral House, Kingsway, W.C.2, on licence of cost (2s. 3d.) and postage.

## RETURN OF MEDICAL RECORD CARDS TO INSURANCE COMMITTEE UPON TRANSFER OF A PRACTICE.

The following letter, dated June 17th, 1925, has been addressed to the Ministry of Health to the clerks of all Insurance committees:

"I am directed by the Minister of Health to state that he has under consideration representations from the Insurance Acts Committee of the British Medical Association in regard to the procedure to be followed in dealing with the forms of medical record in cases of transfer of practice.

"It is understood that in some areas the forms of record are transferred to the successor to the practice and held by him until called for by the Insurance Committee in cases where the insured persons select (or are assigned to) another doctor or cease to be entitled to medical benefit. In other areas the cards are retained by the Committee and issued to the successor or to other doctors as the insured persons make fresh selection or are assigned. It has been represented by the Insurance Acts Committee that from the practitioner's point of view the former procedure is strongly to be preferred; and while the Minister does not question the right of a Committee to follow the second alternative, he considers that, in the majority of cases, the first alternative affords the balance of advantage to the practitioners and insured persons concerned, and should not involve any substantial increase of work to the Committee. In the absence, therefore, of any exceptional circumstances, he would be glad if Committees would give careful consideration to the question with a view to the adoption of this course.

"It is suggested that the records should be transferred to the successor to the practice through the office of the Committee. Except in cases where the Committee is engaged in a general clearance of the medical register, the Minister would deprecate the 'clearance' of individual lists which come in this manner into the hands of the Committee. But while there are objections to the 'clearance' of individual lists (in the sense of the comparison of the doctor's list with the index register), it is suggested that the opportunity might be taken to remove any internal discrepancies in the doctor's list, such as failure to associate a continuation card with the appropriate record envelope, or the presence in the same list of a record card and a notification from the Insurance Committee that the insured person has been removed from the list. In areas where the doctor is not supplied with a form of notification of removal designed to be inserted in the appropriate position in the doctor's register, the Committee would remove any records in respect of persons notified to the doctor as having been removed from his list which the doctor has failed to surrender."

## DAUGHTER OF MEDICAL RECORD ACTS, 1920 AND 1923.

THE Home Secretary gives notice that he has withdrawn from William Walter Banbury of 73, Newington Butts, London, the authorizations granted by the Regulations made under the Dangerous Drugs Act, 1920, to persons who lawfully keep open shop for the retailing of poisons in accordance with the provisions of the Pharmacy Act, 1868, as amended by the Poisons and Pharmacy Act, 1908, to be in possession of and supply raw opium and to carry on the business of manufacturing, selling, or distributing the drugs to which Part III of the Dangerous Drugs Act, 1920, applies. Any person supplying Banbury with raw opium or any of the drugs to which Part III of the Dangerous Drugs Act, 1920, applies will be committing an offence against the Acts.

## Naval and Military Appointments.

### ROYAL NAVAL MEDICAL SERVICE.

SURGEON COMMANDER J. H. LIGHTFOOT is placed on the retired list, with the rank of Surgeon Captain.  
Surgeon Commander R. N. W. W. Biddulph to the Effingham as Fleet Medical Officer and Specialist in Ophthalmology on commissioning.  
Surgeon Lieutenant R. J. Prendergast to the Victoria.  
Mr. E. B. Pollard has entered as Surgeon Lieutenant and appointed to R.N. Hospital, Haslar.

### ROYAL NAVAL VOLUNTEER RESERVE.

Surgeon Lieutenant Commander A. G. Reade, O.B.E., to the Ramillies for fourteen days' training.

### ROYAL ARMY MEDICAL CORPS.

Captain D. A. Chalmers is granted the temporary rank of Captain and relinquishes the rank of Captain.

### ROYAL AIR FORCE MEDICAL SERVICE.

Wing Commander A. S. Glynn to Headquarters, Cranwell.  
Flight Lieutenant W. G. L. Wambeck is promoted to the rank of Squadron Leader.  
on to R.A.F. Officers' Hospital; T. R. S. to Area; R. S. Topham to R.A.F. Depot; Inland Area.  
Depot on transfer to Home Establishment.  
F. P. Scholfield to Station Commandant, Iraq; A. Harvey to Headquarters, Egypt.  
Flying Officer L. P. McCullagh is granted a permanent commission in the rank stated.

### REGULAR ARMY RESERVE OF OFFICERS.

#### ROYAL ARMY MEDICAL CORPS.

Major C. H. Hopkins, having attained the age limit of liability to recall, ceases to belong to the Reserve of Officers.

### TERRITORIAL ARMY.

#### ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel W. Bowater, M.C., to be Brevet Colonel.  
Major H. F. Humphreys, M.C., to be Lieut.-Colonel and to command the 10th (South Midland) Field Ambulance, vice Lieut.-Colonel (Brevet Colonel) W. Bowater, vacated on completion of tenure of command.  
Captain F. M. Halley has been restored to the establishment.  
Supernumerary for Service with the O.T.C.—Major A. E. Webb-Johnson, C.B.E., D.S.O., T.D., resigns his commission, and is granted the rank of Colonel, with permission to wear the prescribed uniform.

## VACANCIES.

BIRMINGHAM CITY.—Assistant Medical Officer at one of the City Mental Hospitals. Salary £350 per annum, rising to £400.  
BIRMINGHAM AND MIDLAND HOSPITAL FOR SKIN AND URINARY DISEASES.—Honorary Surgeon.  
BLOOMSBURY DISPENSARY, 12, Bloomsbury Street, W.C.1.—Resident Medical Officer (male). Salary commencing £250 per annum.  
BOLINGBROKE HOSPITAL, Wandsworth Common, S.W.11.—Honorary Assistant Surgeon to the Ear, Nose, and Throat Department.  
BOLTON UNION.—Second Assistant Medical Officer for the Townley's Hospital, Farnworth. Salary £225 per annum.  
BRADFORD ROYAL INFIRMARY.—Resident Surgical Officer (male, unmarried). Salary £250 per annum.  
BURY COUNTY BOROUGH.—Assistant Medical Officer of Health, Assistant School Medical Officer, and Assistant Tuberculosis Officer. Salary £600 per annum.  
CAMBRIDGE: ADOENBROOKE'S HOSPITAL.—House-Surgeon (male, unmarried). Salary at the rate of £130 per annum.  
CHESTER ROYAL INFIRMARY.—Honorary Assistant Surgeon.  
CITY OF LONDON HOSPITAL FOR DISEASES OF THE HEART AND LUNGS, Victoria Park, E.2.—(1) Resident Medical Officer. (2) House-Physician. Salary at the rate of £250 and £100 per annum respectively.  
CROYDON GENERAL HOSPITAL.—Casualty House-Surgeon. Salary £103 per annum.  
DOVER BOROUGH.—Assistant Medical Officer of Health. Salary £750.  
DUDLEY: GUEST HOSPITAL AND EYE INFIRMARY.—(1) House-Surgeon. (2) Assistant House-Surgeon. Males. Salary £175 and £150 per annum respectively.  
DUMFRIES AND GALLOWAY ROYAL INFIRMARY.—Junior Resident Medical Officer. Salary £125 per annum.  
EDINBURGH: ROYAL EDINBURGH HOSPITAL FOR SICK CHILDREN.—Five Honorary Resident Medical Officers.  
HENDON: COLINDALE HOSPITAL.—Junior Assistant Medical Officer (male, unmarried). Salary £500 per annum.  
HERMITAGE SANATORIUM, Whitwell, near Ventnor.—Resident Medical Officer. Salary £350 per annum.  
HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.—House-Physician. Honorarium £50 for six months.  
HULL: SCULCOATES UNION INFIRMARY.—Resident Assistant Medical Officer. Salary £350 per annum, rising to £400.  
IROMBURY DISTRICT COUNCIL.—Assistant Medical Officer of Health. Salary £500 per annum.  
KENSINGTON, FULHAM, AND CHelsea GENERAL HOSPITAL, Richmond Road, S.W.5.—Second Anaesthetist (male). Honorarium 10 guineas.  
LIVERPOOL: ST. PAUL'S EYE HOSPITAL.—Two Honorary Surgeons.  
LONDON COUNTY COUNCIL.—Junior Assistant Medical Officer (unmarried) at the Manor, Epsom. Salary £300 per annum, rising to £400, and also temporary additions on Civil Service scale, at present £140 a year.  
LONDON LOCK HOSPITAL, Harrow Road, W.9.—Second House-Surgeon at the Female Hospital. Salary £150 per annum.  
LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE, Endsleigh Gardens, N.W.1.—Lecturer on Tropical Medicine. Fee 200 guineas per annum.  
MANCHESTER ROYAL INFIRMARY AND DISPENSARY.—Honorary Assistant Gynaecological Surgeon.  
NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square.—Assistant-Physician.  
NEW ZEALAND GOVERNMENT.—Two Assistant Medical Officers Hospitals Department. Salary £615 per annum.

PORTH AND DISTRICT HOSPITAL, Glamorgan.—Resident Surgeon. Salary £750 per annum.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL, King William Street, W.C.2.—Refraction Assistant. Salary at the rate of £100 per annum.

ST VINCENT'S ORTHOPAEDIC HOSPITAL, Eastcote, Middlesex.—Resident Medical Officer (male, unmarried). Salary at the rate of £150 per annum.

SCUTHORPE AND PROUDINGHAM URBAN DISTRICT COLLEGE.—Medical Officer of Health. Salary £800 per annum.

SHEFFIELD: JESSOP HOSPITAL FOR WOMEN.—Senior Resident Officer in the Gynaecological and Maternity Departments (male). Salary at the rate of £250 per annum.

SHEFFIELD UNIVERSITY.—Assistant Pathologist to the Hospitals and Demonstrator of Pathology in the University. Salary £300 per annum, rising to £350 after one year.

SUDAN GOVERNMENT.—Assistant Bacteriologist at the Wellcome Tropical Research Laboratories, Khartoum (unmarried). Initial rate of pay £E.720 per annum, rising to £E.1,200.

SUNDERLAND ROYAL INFIRMARY AND CHILDREN'S HOSPITAL.—Honorary Surgeon for Nose, Throat, and Ear Work.

SURREY COUNTY COUNCIL.—Assistant Medical Officers in the Public Health Department. Males. Salary £600 per annum, rising to £700.

SWINDON BOROUGH EDUCATION COMMITTEE.—Dental Surgeon. Salary £500 per annum.

VICTORIA HOSPITAL FOR CHILDREN, Tile Street, Chelsea, S.W.3.—(1) House-Physician. (2) House-Surgeon. Salary at the rate of £100 per annum each.

WEST HAM UNION.—District Medical Officer (male). Salary £450 per annum, rising to £700, with bonus, at present £214, and £50 annually for upkeep of motor car.

WESTERN OPHTHALMIC HOSPITAL, Marylebone Road, N.W.1.—Honorary Assistant Surgeon. Honorarium 100 guineas per annum.

WESTMORLAND COUNTY EDUCATION COMMITTEE AND KENDAL BOROUGH EDUCATION COMMITTEE.—Registered Dental Practitioner. Salary £500 per annum.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces the following vacant appointments: Lounhead (Edinburghshire), Clunleigh (Devon).

Correction.—In the announcement of vacant professorships at the Patna Medical College published in our issue of May 23rd, the sum for overseas pay should have been £25 per mensem, and not Rs25 as printed.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Tuesday morning.

### APPOINTMENTS.

HOSKINS, W. D., M.R.C.S., L.R.C.P., Certifying Factory Surgeon for the St. Just District, co. Cornwall.

INGRAM, John T., M.B., B.S.Lond., Physician to Out-patients at the Evelina Hospital for Sick Children, Southwark.

KNIGHT, H. E., M.D.Lond., Honorary Physician to Rotherham Hospital.

LONG, Geoffrey B., M.A.Cantab., D.O.Oxon., M.R.C.S.Eng., Honorary Ophthalmic Surgeon to the Royal East Sussex Hospital, Hastings.

MADDER, Frank Cole, M.D.Melb., F.R.C.S.Eng., Emeritus Professor of Surgery in the Royal School of Medicine, Cairo, and Consulting Surgeon to the Kasr-el-Ainy Hospital.

SYMONS, A. D., M.D., M.R.C.S., D.P.H., Medical Officer of Health and School Medical Officer, Shrewsbury.

### DIARY OF SOCIETIES AND LECTURES.

#### ROYAL SOCIETY OF MEDICINE.

Annual General Meeting of Fellows: Wed., 5 p.m. To receive Annual Report of Council; election of Officers and Council for Session 1925-26.

INTERNATIONAL TUES. to SAT. 1, Wimpole St. National Del Connaught 1 Wed., 9 p.m. Broglie (Par 7.45 p.m., Di Mackenzie I ster, S.W.1.— of Medicine, ting of Inter- the Duke of papers daily, the Duc de Laboratory; Fri., 9 p.m., ynihan.

#### POST-GRADUATE COURSES AND LECTURES.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION, 1, Wimpole Street, W.1.—Lecture arranged by the Fellowship of Medicine and open to all members of the medical profession. Fri., 5.30 p.m. Urinary Infections. London Temperance Hospital, Hampstead Road, N.W.1: Special Post-graduate course for practitioners. Second week. Daily, 4.30 to 6 p.m. Clinical Demonstration for one hour on Medical and Surgical Cases, the Ultra-violet Lamp, and Some Syphilis Skin Lesions. Lecture for half an hour. St. Peter's Hospital, Henrietta Street, W.C.2: Post-graduate Course in Urology. Clinical work every afternoon in the Hospital. Lectures: Mon., Genito-urinary Tuberculosis; Tues., Urinary Calculi; Wed., Urinary Antiseptics; Thurs., Non-tuberculous Infections of the Urinary Tract; and Fri., Urinary Obstruction.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.1.—Thurs., 4 p.m., Cerebro-spinal Fluid in Health and Disease.

LONDON SCHOOL OF DERMATOLOGY, St. John's Hospital for Diseases of the Skin, Leicester Square, W.C.2.—Tues., 5 p.m., Diseases of Nails. Thurs., 5 p.m., Psoriasis.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.15.—Tues., 4.30 p.m., Diagnosis of the Infectious Fevers (at the 'Ann's Road, N.15). Fri., 4.30 p.m., Exp Inpatient and Out-patient Clinics, Demos

QUEEN CHARLOTTE'S MATERNITY HOSPITAL, Marylebone Road, N.W.1.—Thurs., 5 p.m., Intracranial Haemorrhage.

SOUTH-WEST LONDON POST-GRADUATE MEDICAL ASSOCIATION, St. James's Hospital, Ouseley Road, Batham, S.W.—Fri., Visit to the Lister Institute of Preventive Medicine.

TAVISTOCK CLINIC FOR FUNCTIONAL NERVE CASES, 51, Tavistock Square, W.C.1.—Tues., 5.30 p.m., Analytical Methods.

WEST LONDON HOSPITAL POST-GRADUATE COLLEGE, Hammersmith, W.—Mon., 12 noon, Applied Anatomy. Tues., 2 p.m., Operations. Wed., 2.30 p.m., Surgical Wards. Thurs., 10 a.m., Neurological Department. Fri., 12 noon, Modern Methods in Medicine. Sat., 10 a.m., Medical Diseases of Children. Daily 10 a.m. to 6 p.m., Sat. 10 a.m. to 1 p.m., In-patients, Out-patients, Operations, Special Departments.

BIRMINGHAM UNIVERSITY CLINICAL HOURS.—At General Hospital: Tues., 3.30 to 5 p.m., Present Position of Insulin Treatment.

GLASGOW POST-GRADUATE MEDICAL ASSOCIATION.—At Royal Infirmary: Mon. and Tues., 9.30 a.m., Clinical Surgery; Tues., 10 a.m., Dermatology. At Western Infirmary: Clinical Gynaecology, Tues. and Thurs., 3 p.m.; Dermatology, Mon. and Wed., 9.15 to 10.30 a.m., and Thurs., 2.30 to 3.30 p.m. At Royal Hospital for Sick Children: Daily (except Sat.), 9.15 to 11 a.m., Diseases of Children.

### British Medical Association.

OFFICES, BRITISH MEDICAL ASSOCIATION HOUSE,  
TAVISTOCK SQUARE, W.C.1.

#### Reference and Lending Library.

As announced at page 223 of the SUPPLEMENT, the Reference and Lending Library is closed until July 15th.

#### Departments.

SUBSCRIPTIONS AND ADVERTISEMENTS (Financial Secretary and Business Manager. Telegrams: Articulate Western, London).

MEDICAL SECRETARY (Telegrams: Medisecra Western, London).

EDITOR, British Medical Journal (Telegrams: Allotology Western, London).

Telephone numbers of British Medical Association and British Medical Journal, Museum 5351, 5352, 5353, and 5354 (internal exchange, four lines).

SCOTTISH MEDICAL SECRETARY: 6, Drumshengh Gardens, Edinburgh. (Telegrams: Associate, Edinburgh. Tel.: 421 Central.)

IRISH MEDICAL SECRETARY: 16, South Frederick Street, Dublin. (Telegrams: Bacillus, Dublin. Tel.: 4737 Dublin.)

#### Diary of the Association.

##### JUNE.

- 26 Fri. London: Scholarships and Grants Subcommittee, 2.30 p.m. Sur-ex Branch: Annual Meeting, Blatchington Court Hotel. Luncheon, 1 p.m. Meeting, 2.15.
- 27 Sat. Aberdeen Branch: Stoddard Hotel, Largsmouth. Conjoint Meeting with Northern Counties Branch, 12 noon. Luncheon, 1 p.m. Dinner, Station Hotel, 6.30.
- Northern Counties of Scotland Branch: Annual Meeting, Stoddard Hotel.
- 30 Tues. London: Naval and " " " 5 a.m. North Lancashire " " " Branch: Annual Meeting, Galgar. Address by Dr. John Hay on the Significance of Raised Blood Pressure, 3.15 p.m.
- South-West Wales Division: Annual Meeting, Ivy Bush Hotel, Carmarthen, 3 p.m.

##### JULY.

- 1 Wed. South-Eastern Conjoint Division: Railway Hotel, Newlown St. Boswells. Address by Dr. Ernest Muir on the Changed Aspect of the Leprosy Problem, 3 p.m.
- Rochdale Division: Wellington Hotel, Rochdale, 8.30 p.m.
- 2 Thurs. London: Organization Committee, 2.30 p.m. Dudley Division: Garden Party, "Redlands," Stourbridge, 3 p.m.
- North of England Branch: Annual Meeting, 7, Windsor Terrace, Newcastle-on-Tyne, followed by Luncheon and Annual Golf Competition.
- 3 Fri. London: Committee on Drug Addiction, 3 p.m.
- 7 Tues. London: Science Committee, 2.30 p.m. St. Pancras Division: Inaugural Meeting, Midland Hotel, St. Pancras. Address by Mr. Bishop Harman on Some Common Eye Conditions, 8.45 p.m.
- 8 Wed. Norfolk Branch: Annual Meeting, Norfolk and Norwich Hospital. Address by His Honour Judge Herbert Smith, on The Law and Procedure under the Workmen's Compensation Act, 3.15 p.m. Tea, 6.30.
- 10 Fri. Border Counties Branch: Annual Meeting, Cumberland Infirmary Carlisle, 3.45 p.m. Branch Council, 3.15 p.m. Oxford and Reading Branch: Annual Meeting, Radcliffe Infirmary, Oxford, 3 p.m. Collier Cup Competition during the morning.
- North Wales Branch: Annual Meeting, Carnarvon. East York and North Lincoln Branch: Annual Meeting, Grimsby and District Hospital, 3 p.m.
- 13 Mon. Opening of the New House of the British Medical Association by His Majesty King George, accompanied by Her Majesty Queen Mary, 3 p.m.

### BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcement of Births, Marriages, and Deaths is 9s., which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.

#### BIRTHS.

MILNE.—At 18, Walker Street, Edinburgh, on June 12th, to Dr. and Mrs. C. G. S. Milne, MacRobert Hospital, Cawnpore, India, a son.

LARGE.—On June 17th, at Barton House, Didbury Park, Manchester, to Dr. and Mrs. C. P. Large, a daughter.

TISLER.—On June 18th, at Elmurst, Carlton Road, N., Weymouth, to Dr. and Mrs. H. L. Tisler, a son.

#### MARRIAGES.

MCPHERSON.—LOGAN.—June 16th, 1925, at May Street Presbyterian Church, by the Rev. Wille Blue, Dr. David Gordon Stewart Macpherson, youngest son of Mr. and Mrs. Thomas S. Macpherson, 8, Cliftonville Avenue, Belfast, to Catherine Douglas Logan, youngest daughter of Mr. and Mrs. Collie Logan, Lauriston, Osborne Park, Belfast.

WALKER.—Savage.—June 13th, at St. Mary's Church, Beverley, Joseph, only son of Mr. and Mrs. J. Walker of Coullier, Lanarkshire, N.B., and Mrs. George Savage of Beverley.



(a) widows and their children, (b) children without parents, (c) unmarried mothers and their children, (d) deserted children.

4. To inquire into the existing provision in public institutions for the care and treatment of mentally defective persons, and to advise as to whether more efficient methods can be introduced, especially as regards the care and training of mentally defective children, due regard being had to the expenso involved.

5. As regards cost of relief of the destitute poor generally, to inquire as to whether any change in the law is desirable towards securing more equitable chargeability on local rates for persons who, having been in fact normally resident in one poor relief district, have become a charge upon the rates of another district.

#### HARVEY LEWIS BEQUEST FOR DUBLIN HOSPITALS.

Judgement was given in the case in which the claims of the Dublin hospitals had been heard in connexion with the disposition of a sum of about £22,000, available under the will of Mrs. Jane Isabella Lewis, widow of John Harvey Lewis, some time member of Parliament and high sheriff for County Kildare. By her will Mrs. Lewis directed that, after the death of certain life-tenants, the trustees should possess all the proceeds of the sale of her real estate in Ireland, upon trust, to lay out and expend the sum of £80,000 for erecting in Dublin a hospital in memory of her husband, to be called "The Harvey Lewis Memorial Hospital." She died within three months of the execution of the will—August 7th, 1904—and under the statutory provisions the total sum that would have been available for the charity from the real estate was not forthcoming. A Dublin cabman, William Browne, had been found to be the heir-at-law. On the disposition of the lady's personal estate it was found that from the general residuary estate only about £22,000 remained to be devoted to the erection and upkeep of a hospital, and the bequest could not, therefore, be applied for that purpose. The Court had to apply the sum as far as possible in accordance with the wishes of the testatrix, for which purpose all the Dublin hospitals were notified. Mr. Justice Meredith said that he was satisfied that the best way in which the fund could be devoted, in accordance with the views of the testatrix, was to complete the Royal Victoria Eye and Ear Hospital, Adelaide Road, Dublin, by building a proposed new wing. When the miscarriage of the original intention—that of erecting a new hospital—occurred, he felt that the project must be cut down to that of erecting a distinct part or wing of a hospital in Dublin, to be called "The Harvey Lewis Memorial Wing." He formed the opinion that it was imperative to keep the whole fund together. Counsel for the Attorney-General raising no objection, Mr. Justice Meredith allowed all the twenty-five claimants their costs out of the fund.

## France.

[FROM OUR OWN CORRESPONDENT.]

REGARDLESS of all criticism, the Chamber has passed the bill establishing a system of general medical insurance. The Senato will be called to give its decision pretty soon, and in the meantime all our scientific and professional organizations are mobilized to prevent harm or injustice. At the Académie de Médecine Professor Weiss, the dean of the Strasbourg faculty, himself an Alsatian, urged his colleagues to oppose a system copied from one the results of which he had been called upon to observe at very close quarters. Professor Weiss was careful to avoid treading on political ground, but he opposed our traditional sense of freedom to "corporalisation." As a citizen he dreads what he called wholesale medicine. As a medical man he fears the power of that anonymous machinery, the great trusts. As a professor he shudders to think of the baneful influence such a law may have on the teaching of students, and more especially on the moral conditions of the practice of medicine. To sum the matter up in one word, for him insurance means commercialization. The insurance system as it is contemplated would, he considers, certainly lower the standard of the profession, but the principal sufferer will be the sick. Professor Weiss must certainly have felt that he was supported by the unanimous feeling of his colleagues

in the learned Académie. He might have felt, too, the throbbing of the heart of the rank and file of the profession at large. What Professor Weiss left unsaid was that, though a question of such wide importance was at stake, our Académie de Médecine was not even asked to give its opinion or advice. Well, they are going to do so.

#### Antisymphilitic Vaccination.

Dr. Doleris on March 10th read a paper to the Académie on the work of Jauregui and Lancelotti of Buenos Aires, who have just arrived in Paris to ask that their experimental work may be controlled. They have produced in the llama experimental syphilis with an evolution quite comparable to human syphilis. Cerebral lesions are produced, hereditary lesions are observed, and cultures of treponema have been obtained. Experimental inoculation from man to animal has proved possible, and accidental inoculation from animal to man has occurred. Sero-therapy was successful in the four cases that have been followed in men. In the discussion Dr. Jeanselme pointed out that the more striking the results the more severe must be the control. It is worth while to recall that in 1552 a Spanish historian, Gomara, wrote about a disease transmitted from llama to man and brought back to Spain by the expeditionary forces.

#### Professor Jacobacus.

At the request of the association of the Paris faculty for the furtherance of medical relations, Dr. H. C. Jacobacus of Stockholm delivered a remarkable lecture on thoracoscopy and described his method of canterizing pleural adhesions in artificial pneumothorax. The process was illustrated by fine lantern slides, and the lecturer was received with great enthusiasm. The next morning he gave a clinical demonstration of his technique at the Hôpital Laënnec. May the success of such a visit help to pull down the Chinese wall of scientific nationalisms. A very gratifying symptom of the modern and liberal spirit of our old *alma mater* is the appointment of foreign assistants to our clinical professors. At the Enfants Malades Hospital Professor Nobécourt is giving his demonstrations to students with the able assistance of Dr. W. S. Copeman (M.B., B.Ch.Cantab.). This is certainly a rare opportunity given to our young confreres from abroad, and at the same time enables our students to come into contact with the spirit and methods of the British schools.

#### Antityphoid Vaccination in the Navy.

Interesting statistics have been published of the progress of antityphoid vaccination in the navy. It must be understood that our sailors are far more exposed to infection than soldiers in our army, being oftener employed in endemic centres. The navy morbidity was 1.9 per mille (as compared with 6.15 in 1912) and the mortality 0.09 (against 0.77). Vaccination is now performed by giving one injection only, generally with Le Moignie's lipo-vaccine. Formerly four injections with the vaccine of Chantemesse were given. The reactions are so mild as not to be worth mentioning. In some cases where there seems to be a contraindication Lumière's entero-vaccine is given by the mouth. Since 1915 not a single fatal accident has been recorded following vaccination. We can safely look forward to the time when typhoid shall be stamped out from the navy. Yet how often do we hear some fool asserting that medicine does not progress!

#### The Medical "Salon."

For the fifth time is being held an exhibition in Paris of works of art by medical men. Painting and sculpture are well represented, and the majority of works are well above the standard of amateurism. Some of the artists are highly reputed in our professional circles, and the catalogue brings together names such as those of Professor Hayem, Laignel-Lavastine, Caussade, Paul Legendre, Sabouraud. They remind us of our great Ingres the painter, who was never so pleased as when he was congratulated on his achievements as a violinist.

G. MONOD.

## Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

THE House of Commons has this week passed the Army and Navy Estimates through report. During the debate on the Navy Estimates, on March 19th, Lady Astor referred to the prevalence of tuberculosis among writers in the navy, not only the British navy, but the United States navy. She said this was very difficult to combat, but she hoped the Government would leave nothing undone. No answer was returned from the Government Bench. The Consolidated Fund Bill was made the opportunity for important debates on moves towards European peace and on unemployment at home. The minor members of Parliament of the Labour party brought forward their Mines Minimum Wage Bill. The Summer Time Bill has had a rapid journey through Committee, but there is no progress to report on the Nurses Registration Bill or on the Mental Defectives Bill. The Therapeutic Substances Bill was read a third time by the House of Lords on March 19th and sent to the House of Commons. Lord Birkenhead, Secretary for India, introduced in the House of Lords, on March 19th, a Government of India (Civil Services) Bill which would exempt from submission to Indian legislatures certain proposals dealing with salaries, pensions, and payments; it was read a first time.

The House of Commons will adjourn for the Easter recess from April 9th till April 28th, when the Budget will be presented.

### Medical Committee.

The meeting of the Medical Committee of the House of Commons, on March 24th, was attended by all medical members of Parliament save one. On a circular letter, which had been sent to all members of Parliament, the Committee discussed the claims for a legal qualification for osteopaths. Mr. T. Sinclair (Belfast) cited an unofficial statement from the General Medical Council, pointing out that the present medical qualification was laid down by Act of Parliament. The general opinion of the Medical Committee was that the views expressed in this statement should be made public. The Births and Deaths Registration Bill was again considered, and Dr. Fremantle arranged formally to move its first reading. Dr. Haden Guest brought forward a Bastardy Bill, prepared by the "Six Points Group" of women politicians, but the Committee decided that it could not support this bill in its present form.

### Public Health Bill.

The Public Health Bill, a private member's measure to authorize the adoption by local authorities of health and miscellaneous powers already conferred on many municipalities by local Acts, was read a second time by the House of Commons on March 20th, without a division. In moving the second reading Mr. Womersley pointed out that eighteen years had elapsed since Parliament last passed an Act embodying public health provisions based on local Acts. Dr. Fremantle commended the proposal in the bill that in premises where the body of a person dead from infectious disease was lying, the person in charge of the premises must take reasonable steps to protect those who might come in contact with the body. He pointed out that the bill defined "dangerous infectious disease" as meaning only infectious diseases which were named in Section 6 of the Public Health Act, 1889. Many unpleasant and dangerous diseases had been discovered since 1889. However, another section of the same clause in the present bill authorized the Minister of Health by Order to declare any other infectious disease to be dangerous, temporarily or permanently, in one particular area, or generally; this would apply to diseases not named in the Act of 1889. It would, for example, include cerebro-spinal meningitis and tuberculosis. The bill was an essential preliminary to the consolidation of the public health law of the country, which all interested in the public health desired to see. At present it was almost impossible for anyone who had not made a special study of public health law and administration to find his way through the enactments of the last fifty years. He asked for a promise from the Ministry of a consolidating Public Health Bill within the next year or two.

The Parliamentary Secretary of the Ministry of Health, Sir Kingsley Wood, said the Government believed it was time the Public Health Acts were brought up to date and consolidated. The Ministry welcomed this bill, and would be glad to give it such facilities as might be needed to help it speedily to become law. The Ministry thought it necessary that a further bill should be introduced making a number of amendments in the Acts which experience had shown to be required. The preparation of this Government bill was well advanced, but as two Public Health Bills could not well be dealt with in one session,

and as the Association of Municipal Corporations was anxious to promote the bill which was that day before the House, the Government had decided to defer its bill to 1926. It would be followed still later by a Consolidation Bill. Dr. Fremantle had called attention to the power which the present bill gave to the Ministry of Health to include other dangerous diseases. That was a very general power, and if it were exercised notification would follow, but the power was qualified by the word "dangerous." The Public Health Act did not include such dangerous infectious diseases as plague and dysentery.

Mr. Herbert Williams said they had seen in the present century one of the greatest miracles in the history of mankind—the cutting down of infantile mortality from something like 160 out of every 1,000 babies born to less than half that figure. This was the result of the public health work of local authorities under the powers conferred upon them by Parliament. The new powers conferred on all municipalities by this bill, such as the power to deal with verminous houses, would lead to a further advance. He asked whether the powers which the bill gave local authorities for dealing with watercourses would enable them to deal with the breeding places of flies and mosquitos.

The bill was read a second time without a division, and sent to a Grand Committee.

### Indian Medical Service.

General Sir Richard Luce asked the Under Secretary of State for India, on March 23rd, the present strength of officers in the Indian Medical Service; how many of these were of European birth; how many recruits, European and Indian respectively, had been obtained for permanent service during the past twelve months, and how many for short service.

Earl Winterton replied that the present figures, so far as he could ascertain them, were 532 British and 142 Indian permanent officers, together with 148 Indian temporary officers. In the last twelve months 14 British officers had been appointed to permanent commissions, with the option of retiring with gratuities after five years' service. He was not aware how many Indians had been appointed to temporary commissions during the last six months. A number of Indians, not exceeding ten, had been or were about to be appointed to permanent commissions.

### R.A.M.C. Pensions.

General Sir Richard Luce, on March 24th, asked the Secretary for War if he was aware that an officer in the Royal Army Medical Corps had recently retired, after twenty years' service, with a pension of £328 per annum, and that this sum was £37 below the sum he understood he would receive after twenty years' service, when he joined the corps; and whether the Minister would take steps to secure that no officer who joined the corps before the warrant of 1919 came into force would in future be retired on a lower pension than he would have received under conditions existing when he joined the corps. Sir L. Worthington-Evans replied that the facts stated in the question resulted from the joint effect in this individual case of the rule that service on the West Coast of Africa counted double towards the twenty years required for voluntary retirement, and of the introduction in 1919 of a rank element into the calculation of retired pay.

General Sir Richard Luce, on the same date, also asked the Secretary for War whether a major, Royal Army Medical Corps, retiring after twenty years' service only received an increase by the 1919 warrant of £31 to his previous pension of £365, and that, by the reduction of 5½ per cent. on the increased pension of £396, he had had the increase reduced, not by 27½ per cent., but by nearly 67 per cent.; and if he would take steps to secure that these officers did not in future have their pensions reduced by a larger amount than 27½ per cent. of the increase granted in 1919. The Minister replied that the question was based on a misapprehension. The revision due to the fall in the cost of living which was made from July 1st last applied to the 1919 rate of pay itself, and not to the difference between the rates under the 1914 and 1919 warrants. A reduction of 5½ per cent. was therefore applied correctly to the 1919 warrant rate of £396 per annum in the instance quoted. A full explanation of the process had appeared in the press last December.

In a supplementary question, Dr. Fremantle asked whether the Minister realized that these and similar cases were responsible for the failure to recruit for the Army Medical Service. The Secretary for War said that a printed statement had been circulated to remove such apprehensions. Dr. Fremantle remarked that it was not a misapprehension, but a fact, that the Secretary for War was sailing close to the wind. The Speaker said that was a matter for argument.

### Pensions.

Appeals.—Answering Colonel Acland-Troyte, on March 24th, Colonel Stanley, for the Minister of Pensions, said that in 8,000 cases appeals had been made against final awards of 20 per cent. and over, and in 104,000 cases against final awards of less than 20 per cent. In the former group of cases 35.1 per cent. of final awards were increased and 1.8 per cent. were reduced, and in 24.5 per cent. of the cases the tribunal decided that the case was not suitable for final award. Of awards of less than 20 per cent.,



4.8 per cent. were raised to pension rate, 23.2 per cent. slightly increased, and 0.1 per cent. lowered. The tribunal decided that 25.4 per cent. were not yet suitable for final award. Colonel Stanley could not agree that the compensation provided for cases of less than 20 per cent. was in principle unsatisfactory.

During the debate on the report stage of the Army Estimates, on March 23rd, the Secretary for War said he could not agree that the army medical sheets of ex-service men should be divulged save to the man's own medical adviser. The practice was to communicate it to the man's own medical adviser if the man chose to authorize the War Office to do this. He could not agree to give the sheet to a non-professional man, otherwise the man's own interests would suffer. Medical men must have assurance that these reports were confidential. If the medical officer of a trade union were acting for the man he could have the sheet.

**Insurance Statistics.**—The Minister of Health stated, in reply to a question on March 17th, that in 1923 the insured persons in England and Wales numbered 8,992,100 men and 4,325,800 women. Sickness and disablement benefits amounting to £7,671,500 were paid to the men, and similar benefits amounting to £5,855,900 to the women, making £11,533,400 in all. Statistics were not compiled to show the number of cases assisted in a year, or the total number of weeks of sickness. In 1914 £4,140,000 was paid under the National Health Insurance Act to doctors for medical service, £1,051,000 for medical supplies (medicines, etc.), and £1,077,000 for maternity benefit. In 1923 the payments were: medical service £6,681,000, medical supplies £1,509,000, maternity benefit £1,526,000.

**Insurance.**—Mr. Read, on March 19th, suggested that persons who under the present arrangements are not entitled, after a period of residence abroad for more than one year, to claim any sick benefit until the intervening contributions have been paid, or a further 104 contributions paid, might be allowed the benefit of the contributions made by them to the time of leaving the country. Mr. Neville Chamberlain saw great difficulty in this suggestion, but promised to send it to the Royal Commission on National Health Insurance for consideration. Provisional regulations, dated March 19th, 1925, made by the National Health Insurance Joint Committee, entitled the National Health Insurance Approved Societies' Amendment Regulations, 1925, have been laid on the table of the House of Commons.

**Poor Law Relief.**—Mr. Neville Chamberlain stated, on March 19th, that the Government does not intend to bring in legislation this session to amend the law of Poor Law relief. The total expenditure for relief of the poor and for associated purposes in England and Wales during 1924 was £38,000,000, being a reduction of £3,934,000 from 1923. Of the 1924 total, £1,185,000 was for administrative charges.

**The Dismissal of a Medical Officer.**—Major Hore-Belisha asked the Minister of Health, on March 18th, whether his department had received from the Plymouth Town Council a report of the proceedings culminating in the dismissal of Dr. Bushnell; whether he had approved this dismissal; and if so, whether he would give the doctor an opportunity of having the charges against him specified in order that he might refute them. Sir Kingsley Wood replied that the Minister had not received such a report. The Minister was not required to approve the determination by the town council of its contract with Dr. Bushnell, and the question of giving him an opportunity of having the charges specified did not therefore arise. It was not the fact that before a borough council could appoint a medical officer it had to obtain the approval of the Ministry of Health. Major Hore-Belisha asked whether it was not a grave injustice that a medical man could be dismissed without any proper charge being made against him and without his having the opportunity of answering any complaints. Sir Kingsley Wood answered that on the question of injustice he could give no opinion.

**Chemical Warfare.**—Answering Mr. Ammon, on March 20th, Sir L. Worthington-Evans, Secretary for War, said that in addition to 22 naval, military, and Air Force officers, and 26 civilian scientists, 82 soldiers and 92 civilians were employed at the Chemical Warfare Establishment, Porton, on research and experiment relating to defence against gas and the treatment of gas casualties. For protection against gas it was essential to investigate new gases and other forms of chemical warfare which might be used against this country. In 1924 the 1,001 live animals used for experimental purposes at Porton included 3 goats, 4 monkeys, 68 cats, 445 rabbits, 251 guinea-pigs, 166 rats, and 64 mice. Of these, 337 were killed as the result of the experiments, and the rest were destroyed; it was the rule to destroy animals after they had been used for this purpose.

**Deaths of Seamen.**—Answering Dr. Shiels, on March 19th, Sir Burton Chadwick, Parliamentary Secretary, Board of Trade, said that in the mercantile marine in 1922 the crude death rates per 10,000 from pneumonia were 2.4 among British seamen, 4.3 among 2.0 among British seamen, 1.3 among foreign seamen, and 5.6 in 1922 were: British seamen 18.4, foreign seamen 25.1, and 36.3, and from accidents and injuries: British 32.8, foreign 37.8, and 12.1, phthisis 6.2, other diseases 43.6, accidents and injuries 12.9.

**Foot-and-Mouth Disease.**—In replies to questions on March 23rd, the Minister of Agriculture, Mr. Wood, said that fifteen cases of foot-and-mouth disease had been confirmed since January 1st, and 1,212 animals had been slaughtered. It was not proposed to build a new experimental station to test Dr. John Shaw's remedy for foot-and-mouth disease. The premises at Pirbright to be used for the purpose were formerly used by the Ministry as a cattle testing station and were being adapted for use by the Scientific Committee on Foot-and-Mouth Disease. It was not legally possible for Dr. Shaw to carry out the test without a licence from the Home Secretary under the Cruelty to Animals Act, 1876, which the Minister was advised Dr. Shaw did not hold. But he would be invited to be present during experiments by officers of the Ministry's veterinary staff.

**Imported Medical Appliances.**—A statement issued by the Board of Trade as to the value of scientific instruments and appliances imported into the United Kingdom shows that in 1924 the value of dental, surgical, medical, and veterinary instruments, except optical, imported was £47,510; that of appliances, including trusses and artificial limbs, £17,089; and that of aseptic hospital furniture £16,357. In 1922 the respective values were £26,675, £9,514, and £9,674. The value of imported lenses, prisms, etc., including those imported with complete instruments, in 1924 was £224,886.

**Smoke Abatement.**—In answering questions, on March 19th, about smoke abatement, Mr. Neville Chamberlain said the estimate that 66 per cent. of the smoke pollution came from industrial chimneys was too high. He thought that the greatest contributor to smoke pollution was the domestic fire. He hoped to introduce a bill on the subject next session.

#### Notes in Brief.

In 1924 the estimated consumption of sugar in Great Britain and Northern Ireland was 2,549,000 cwt. refined and 42,618,000 cwt. unrefined; of tea, 3,510,287 cwt.; and of coffee 320,595 cwt. For meat the latest figures are for the year ended May, 1923, when 2,524,000 tons were consumed, including 954,000 home-grown. Figures of the home consumption of milk, bread, butter, and margarine are not available.

The Government does not contemplate legislation to enforce the provision of lavatories on railway trains.

Of 28,742 men rejected from the army at the primary medical examination last year, 1,743 were rejected for defective vision and 2,062 for defective teeth.

The War Office states that there is no medical objection to a battalion going under canvas for the month of April at Aldershot.

Satisfactory progress is being made in drafting the Government's Poor Law Reform Bill, which will be circulated for the opinions of local authorities.

Persons making a return for super-tax number, according to the latest statistics, 87,704.

The Home Secretary does not propose to proceed with the Factories Bill in the House of Commons for some weeks, and in the meantime will receive deputations from trades which would be affected by it. The text of the bill introduced last year by Mr. Arthur Henderson is not to be adopted as a whole by the Government.

## Correspondence.

### VERONAL POISONING.

SIR,—As surmised in an annotation in the BRITISH MEDICAL JOURNAL of March 21st (p. 570), it is likely that death from veronal poisoning is more common than statistics indicate. May I suggest a probable cause for the mortality, and a possible remedy? We have four salient facts—at least, judging from my own experience, they seem facts to me. (1) The drug is so potent that, given properly and in ordinary insomnia, it is rarely necessary to prescribe more than 5 grains, and usually 2½ grains is sufficient. (2) There is no clear evidence of habituation; its victims merely desire drowsiness, not other sensations as well (as in the case of alcohol, opium, and cocaine); given natural sleep it is not desired; no more, and no less, than procures sleep is desired; as time passes there is no augmented craving, and the same dose continues to produce the same effect. (3) The action is delayed—four, five, or six hours. (4) Apart from deliberate suicide, in every case of death the victim has tried to procure immediate sleep.

The case of a London clubman is instructive and typical. During an attack of insomnia he took 10 grains at bedtime, which in his case was late. He was wakeful that night, but "deadly drowsy" next day, a circumstance which he attributed to lack of sleep. The following night he took 15 grains. Again he was wakeful; but in the afternoon slumbered so profoundly at his club that the attendants had difficulty in rousing him. Manifestly heavy and stupid,

he went home, and subsequently had difficulty in clearing himself from a charge of drunkenness before the club committee. "Veronal is no good; it has not the smallest effect on me," he declared. On a later occasion, when ignorant of the remedy applied, he was given 5 grains in the early evening. He described himself as getting "a heavenly night," but as being too sleepy in the morning. Thereupon he was given 2½ grains, also in the morning. Now he had "perfectly natural sleep" with no apparent drowsiness till he went to bed, and none after he rose. He was then told the facts and informed that the fit of insomnia was probably broken, which proved to be the case. He still takes veronal, but rarely, and never in more than 2½-grain doses; I could quote many similar instances. But doubtless individuals vary.

It seems evident that, apart from deliberate suicide, excessive doses are taken only because the victim, ignorant of the delayed action, makes more and more strenuous efforts to procure immediate sleep. I suggest that patients shall always be informed of the delay, and that a label shall be affixed to every packet affirming the uselessness of veronal as a quick remedy for wakefulness.—I am, etc.,  
Southsea, March 23rd.  
G. ARCHDALL REID.

### THE IMMEDIATE AND REMOTE EFFECTS OF SUNLIGHT ON THE EPIDERMIS.

Sir,—Although the matter in this letter may be considered by some to be more academic than practical, yet it raises some points of great interest. Here are my facts. I have recently microscopically examined skin that had been "bronzed" by therapeutical exposure to sunlight. There was very marked mitosis occurring in the epithelial cells situated above the basal layer. Dr. Arthur Whitfield has examined skin after I had applied to it, preparatory to operation, a solution of 1 in 20 carbolic acid, and he found the same mitotic changes. Ten years before any particular reference had been made to the matter, I published in the *BRITISH MEDICAL JOURNAL* (June 12th, 1909) coloured plates reproducing the backs of the hands of an old countrywoman. The plates show that the skin covering the backs of the second metacarpals had undergone atrophy, pigmentation, loss of pigment, and had lost its elasticity. Although I attributed the state of the skin to "biotripsis," or life wear, there can be no doubt that it was due mainly to the sunlight factor of life wear. I stated also that precisely the same changes exist on the same parts of the hands in white people who have spent their lives in tropical countries; that this situation of this particular kind of biotripsis is the commonest site for squamous epithelioma to begin on the hands; and that gardeners very frequently are subjects for squamous epithelioma on this part of the hands. Dr. G. M. Findlay, at the Pathological Section of the Royal Society of Medicine (February 17th, 1925), showed that artificial ultra-violet rays hasten the advent of carcinoma on the skin of mice that has been painted by tar. Also that once tar carcinoma has been induced, its growth is stimulated by the application of ultra-violet rays. These facts seem to me to necessitate care and judgement in the application of sunlight and ultra-violet rays to parts already suffering from results of at least this form of irritation. I am more impressed by the necessity of care in the application of ultra-violet rays by recently having seen a lesion that had been exposed to ultra-violet rays as a speculative therapeutical procedure. The lesion was getting worse in a very remarkable manner.—I am, etc.,  
London, W.1, March 23rd.  
G. LENTHAL CHEATLE.

### THE LIBERTIES OF THE PROFESSION.

Sir,—I trust that the astounding action of the Ministry of Health in disregarding the verdict of the impartial tribunal appointed by itself, and in imposing a penalty on one of our fellow practitioners declared by that tribunal to be innocent of the offence charged against him, will not be met by us with our usual indifference. If we stand this we shall stand anything. We have been subjected to an affront and an injustice which no body of organized workmen in the country would tolerate for a minute. Quite

apart from the disregard of the considered verdict of the tribunal, it is nothing short of an outrage that the officials of a Government department should be able with impunity to impose financial penalties for what even they can only describe as an error of judgement. Surely it is the General Medical Council, through its regulation of qualifying examinations, that alone is entitled to determine what shall be the measure of ability and knowledge entitling a man to practise medicine in this country. Negligence and malpractice are another matter, and may rightly be confronted with the penalties of the lay authorities; but in this case there was no question of negligence or of malpractice. It is obvious to me, and, I should imagine, to almost every medical man, that we are here faced with a direct and singularly provocative attack on our fundamental liberties. I sincerely trust that preparations are in hand for an organized and effective protest.—I am, etc.,  
London, E.1, March 22nd.  
HARRY ROBERTS.

\* \* The Ministry of Health has not responded to the invitation extended in the annotation published in the *JOURNAL* last week (p. 566) to send us any explanations it might wish to offer of its action in the case reported in the *SUPPLEMENT* last week (p. 122). The subject was brought to the notice of the Council of the British Medical Association at its meeting this week, but too late for us to publish a report of its decision. We understand, however, that the Royal Commission now sitting will be asked to consider the position. In an interview published in the *Times* last week (March 19th), Dr. Cox, Medical Secretary of the Association, said that the matter was important and that the Association intended to take it up with the Ministry. He added that though, on the whole, the profession was satisfied with the judicial machinery of the insurance scheme, there had been some cases in which the penalties were unnecessarily severe, and one or two in which, although the Committee of Inquiry had recommended that there should not be a penalty, the Minister had imposed one.

### CAUSATION OF CANCER.

Sir,—In your issue of March 7th (p. 483) Dr. Ern Nève, in referring to "kangri-burn cancer," upon which he is such a high authority, suggests that it affords convincing proof of the "irritation" theory of cancer, and adduces the irritation of blocked ducts and acini as an alleged factor in the production of cancer of the breast, and further support of this theory. I am not familiar with these conditions in the breast as precursors of cancer, nor indeed do I attach much importance anywhere to mechanical irritation in the etiology of malignant disease, for there are many obvious examples of the most persistent and prolonged mechanical irritation of which never induce cancer; as, for instance, the pressure of artificial limbs, trusses, spectacles, boots, crutches, and

But everyone must have been impressed by the recent work on the experimental production of cancer by chemical agents—tar, soot, oil, etc.—and I wonder whether Dr. Nève has considered the possibility of a chemical origin for kangri-burn cancer. This disease furnishes an exceptionally well defined silhouette in the natural history of cancer; indeed, so definite are the conditions of its production and so constant the results that it is almost equivalent to an experimental laboratory cancer, and yet at first sight how different is the agent that produces it! Is it not possible that the constant baking to which the tissues are subjected results in the production of some chemical agent comparable in its effects with the soot, tar, oil, etc., now so firmly established as the causes of their specific cancers?

I do not suggest for a moment that the problematical agent produced by heating the tissues is the cause of "kangri cancer," because I do not believe that any of the substances so brilliantly investigated by Leitch and others is the immediate sole cause of the kind of cancer with which it is associated; but they certainly do act as exciters of cancer, and no doubt they pull the trigger, possibly by playing much the same part as the catalyst which is so all-important in many chemical processes.—I am, etc.,  
London, W.1, March 16th.  
CECIL ROWNTREE.

## THE CORONER'S COURT.

SIR,—I presume the coroner's court is an institution in which the medical profession takes an interest. It is one of the oldest institutions in this country. It existed long before police and modern police magistrates, and had in its earlier days a very definite function in criminal administration. In present-day criminal administration it has no proper place. For to-day the initiative is with the police; when it has finished the police court must go over the same ground and bring its verdict entirely independent of the coroner's court verdict. The coroner's court may convict or acquit, but the magistrates' court is in no way bound by that verdict. Hence it has no place—is supernumerary—in the organization for criminal investigation. It thus serves no purpose at present. It costs the taxpayer a considerable amount. It causes considerable inconvenience unnecessarily to all concerned, and should be abolished. I think the police department would even go so far as to say that it often causes them to "show their hand" prematurely, to the disadvantage of criminal investigation.

There is no need felt for a coroner's court in countries where it does not exist. In such countries, when the police have reason to suspect foul play they call on a medical officer to make a *post-mortem* examination, the body being recognized by one or more persons in the presence of that officer, and such identification entered in the record. If poison is suspected, the necessary parts are sealed up by him and sent to the chemical-toxicological examiner to the government. The report, or a copy of it, is made over to the police, who in due course bring the case before the magistrates' court, who dispose of it, as our magistrates now do. By this procedure the police have not to "show their hand" prematurely, which is often a great advantage over the coroner's court proceedings. It serves all the ends of criminal administration without duplication or unnecessary inconvenience to any of the parties concerned. The coroner's court could be scrapped without loss and with the saving of the large amount of the taxpayers' money which it now costs.—I am, etc.,

HENRY SMITH, C.I.E.,  
Lieut.-Colonel I.M.S.

Sidcup, Feb. 23rd.

\*\* A note upon the bill the Home Secretary, at the end of last year, promised to introduce will be found at page 619.

## TREATMENT OF DIABETES BY RAW FRESH GLAND (PANCREAS).

SIR,—I was very interested in Dr. Hollins's article in the *BRITISH MEDICAL JOURNAL* of March 21st (p. 503), and can fully endorse his statements. Exactly thirty years ago (1895) I became interested in this subject, and wrote a thesis on it for the degree of M.D. Glasg. entitled "The pancreatic treatment of diabetes mellitus" by the raw fresh gland, in which I stated the results of some half-dozen cases. The success which in those early days attended the administration of thyroid gland in myxoedema suggested the trial of pancreas gland in diabetes, and, strange to relate, my method of administration was exactly identical with that adopted by Dr. Hollins, even to the mincing of the gland and mixing it with lettuce. I prescribed half a gland of sheep's pancreas daily without any untoward symptom arising, or any disinclination to take it on the part of the patient.

From the beginning I was very gratified with the rapidity with which the sugar disappeared from the urine as well as the diminution of thirst and polyuria. In addition, there was an increase in weight and a general feeling of well-being as long as the treatment was continued regularly, but a tendency to relapse on its cessation. Neither did I find it necessary to enforce too strict a diabetic diet in my cases, nor to prescribe for a time absolute rest. I have had no occasion to use insulin.

In conclusion, I would suggest a trial in the fresh raw state of any of the endocrine glands in disease in preference to the compressed form.—I am, etc.,

London, March 26th.

R. ROBERTSON YOUNG, M.D.

## MASSIVE PULMONARY COLLAPSE.

SIR,—In his paper on "Massive pulmonary collapse," published in the *BRITISH MEDICAL JOURNAL* of March 21st (p. 544), Dr. Bertram Soltau refers to instances of tachypnoea following encephalitis lethargica, and inquires whether observation has been made in such cases as to the condition of the diaphragm.

There are several references in the literature upon this point: Laignel-Lavastine and Maingot have recorded an asynchrony between the two halves of the diaphragm during respiration. Vincent and Bernard (*Bull. et Mém. Soc. des Hép. de Paris*, 1922, 46, 1111 and 1181) have drawn attention to a fixity of the lower half of the chest in the position of full inspiration, with an associated immobility of the diaphragm, which they attribute either to paralysis or a state of spasm.

In a paper in the forthcoming number of *Brain* we have reviewed the whole subject of respiratory disorders occurring in epidemic encephalitis, at the same time reporting six fresh cases. In two of these, radioscopic examination of the diaphragm reveals some slight abnormality taking the form of a jerky or broken character to the expiratory component. This was reflected in the breathing as a cog-wheel expiratory effort. In a third case a similar type of respiration was encountered, but here no confirmatory x-ray examination was made.—We are, etc.,

W. ALDRIN TURNER.  
MACDONALD CRITCHLEY.

National Hospital for the Paralyzed  
and Epileptic, W.C., March 23rd.

## THE TREATMENT OF PNEUMOCOCCAL EMPYEMA.

SIR,—I have read with much interest Professor G. E. Gask's article on exploratory thoracotomy (*BRITISH MEDICAL JOURNAL*, February 21st, p. 343), and with great pleasure your leading article on chest surgery, especially in its reference to the treatment of empyema and its dissatisfaction with the old and well tried method of incision and drainage. But in discussing this subject we must distinguish between the treatment of a pure pneumococcal infection, that of a mixed infection, and that of a pure staphylococcal or streptococcal infection. Drainage must always be carried out, in one form or another, in any case that is not purely pneumococcal. I will therefore confine my remarks to cases of pure pneumococcal infection following pneumonia, and these are the cases we most commonly have to deal with.

As I have stated elsewhere (*BRITISH MEDICAL JOURNAL*, 1920 and 1923), in pneumococcal empyemata the mere evacuation of pus out of the pleural cavity is not the sole aim of treatment; far more important is the restoration of function of the compressed and collapsed lung. We have to deal with a rigid thorax—a collapsed lung, often in old-standing cases covered on its visceral pleura with plastic lymph, and frequently adhesions to the parietal pleura—as well as a cavity full of pus and fibrinous masses of lymph. Therefore our aim must be to get the lung into as favourable a condition as possible to promote re-expansion. In securing this ideal there are two fundamental principles:

1. To make a sufficiently large opening into the pleural cavity, not only to palpate, but also to inspect the lung. The opening must be large enough to allow the whole hand to enter the pleural cavity in order to clear out all fibrinous clots, to separate adhesions (if feasible), and to free the lung from all plastic lymph; and also, if necessary, in old-standing cases, to decorticate the lung. Having thus promoted re-expansion of the lung, the pleural cavity should be well irrigated with an antiseptic fluid. I now use 1 in 40,000 mercuric perchloride solution, because the pneumococcus is killed by 1 in 20,000 solution in two hours (*Choyce's Surgery*, vol. 1, p. 68). I have never had any danger arise, either from free washing out of the pleural cavity or from use of this mercurial solution, some of which is left in the pleural cavity.

2. To use some method which abolishes a "sucking wound." The atmospheric pressure is greater than intralobar or intralobular pressure; therefore an open sucking wound must hinder the re-expansion of the lung. Many procedures have been advocated. The drainage of the

pleural cavity into an antiseptic fluid is commonly practised, and a most ingenious method is that of Otto Pickhart (*Archives of Surgery*, January, 1924). There are also the various methods of negative pressure, such as the Morelli method of replacement of pus by air.

I still adhere to the method of immediate closure followed by daily evacuation of the pleural contents with an exploring syringe. I have had some cases in which healing took place by first intention, but I have also had failures. These have been cases with much adhesion of lung to diaphragm or parietal pleura, in which I could not, without severe hæmorrhage, free the lung as fully as I wished. If this method does not succeed no harm is done, because, if the daily count of organisms does not rapidly fall, or if fluid reaccumulates, it is easy to remove a few stitches and use some form of drainage.

The suction method of Poynton and Reynolds is very serviceable in infants who cannot stand rib resection, but as it does not allow of evacuation of fibrinous masses it is often a failure, and an open operation has sometimes to be performed subsequently.

No matter what method of treatment is adopted we all have failures. Cases refuse to heal, and a permanent sinus is left. These cases are due to adhesions not allowing the lung to re-expand. How are we to deal with these cases? Estlander's operation is a mutilating procedure, and can be superseded by Emil G. Beck's open method of intrathoracic surgery (*Archives of Surgery*, January, 1924). This is a skin sliding operation—that is, the taking of skin flaps from the chest wall and fixing them into the cavity and making the cavity outside the body.

My procedure now is that if a persistent sinus is left I inject into it bismuth solution and x-ray the chest. If the cavity is small, I resect a rib over the cavity, pack it, and allow it to heal by granulation. If, however, the cavity is large, I lay it freely open by resection of the ribs overlying, cleanse the cavity, take skin flaps from the chest wall and slide them into the cavity, and fix them there by sutures. The cavity very soon heals, becomes skin-lined, and is easily kept clean. Although the lung which is collapsed never freely re-expands, the other lung takes up its function and the sinus is cured.—I am, etc.,

Windsor, February 23rd.

FRANK J. HATHAWAY.

#### RECENT ADVANCES IN THE STUDY OF CARDIO-VASCULAR DISEASE.

SIR.—The lecture by Professor MacIlwaine of Belfast, published in the *JOURNAL* on February 7th (p. 249), leads me to remark that advances in the study of cardio-vascular disease have indeed been prominent during the last quarter of a century, if we are justified in so describing all the newer methods of investigation and their results which have made their appearance within this period. So extensive have been these departures that they have necessitated a new nomenclature to cover and label the results; incidentally, this unfamiliar terminology has served to mark the gulf which separates the cardiology of the past from that of the present. But whilst advances inevitably imply changes, changes do not always signify advances. It is with this doubt in mind that I have ventured to italicize the word "advances," for advance means change for the better.

Up to the early years of this century cardiology had gone on very quietly; some will think too quietly, and that it had become a trifle stagnant. Sir James Mackenzie thought so, and, to his honour, had been observing, recording, and pondering for many years in search of new lines of approach towards the solution of problems admittedly very complex. In 1908 his first edition of *Diseases of the Heart* was published and at once made its mark; this event is justly described by Dr. MacIlwaine as follows: "Then came the epoch of Mackenzie's work, which dominated all clinical pathology"—it did; there was thenceforth an end to complacency and contentment with past achievement. The basis of Mackenzie's work was the study of the individual cardiac cycle, and the new line of approach was by way of the systemic veins and their pulsations at the root of the neck; the instrument for recording these pulsations was the polygraph, which simultaneously gave records of the

arterial pulse. The featuro then in this new departure was the investigation of the tracings so obtained. I would quote a notable passage from the preface to the first edition of *Diseases of the Heart*; Mackenzie says:

"The interpretation of these records may prove to be faulty, and an endeavour has therefore been made to keep the actual observation separate from the interpretation, so that, if the latter be erroneous, the recorded movements may at least remain available for future workers in this field."

Here speaks the true spirit of the scientific explorer, for it shows that the author was fully alive to the dangers which attend upon all instrumental investigation. The italics of the word "interpretation" are mine.

In my opinion there has been too little thought and criticism bestowed, both upon the instrument and the interpretation of its records. I have endeavoured to set forth the argument in full in a chapter of *The Heart as a Power-Chamber*, 1922, also in two supplementary papers in the *BRITISH MEDICAL JOURNAL* of April 14th, 1923, and of November 8th, 1924, respectively; the following are some selected salient points:

1. In respect of the adequacy of the instrument itself this primary objection arises—namely, that it has no access to the left heart, the pulsations which it records being of those veins only which are tributary to the right auricle; whereas the pulsations occurring in the veins feeding the left auricle are buried in the depths of the lungs and never come near the surface of the body. But the left heart is not only the site of the most powerful cardiac activities; it is also the preponderating site of the incidence of disease, neither of which, therefore, can in their effects appear in the polygraphic tracing. Thus in the case of mitral stenosis, with marked auricular hypertrophy, proceeding in the course of things to auricular asystole (fibrillation), the tracing can show neither the marked accentuation of the a wave (accepting the theory of its production), nor the disappearance of the accentuated wave when asystole sets in.

2. In respect of the delicacy of the instrument and its fitness to transcribe faithfully the venous undulations, the instrumental error, introduced by the inertia of the lever-pen and multiplied, as it must be, by the inertia of the liquid waves—that is, their tendency to persist and interfere more or less with antecedent and succeeding waves—raises the question of the faithfulness of the transcript as a record of the events causing the undulations. In respect of the analysis of the waves, it is suggested that an instrument working at greater speed would be advantageous by spacing out the individual waves.

3. In respect of the interpretation of the different waves in terms of their mode of production, so as to justify the nomenclature adopted, let us first consider the a wave, so called, and note that the effect of the sphincter action at the mouths of the cavæ, which the circular muscular fibres there placed must exert (seeing that these fibres are part and parcel of the auricular musculature), has been wholly ignored; yet it must interfere more or less with the backward propagation of an auriculo-systolic wave, perhaps even to its complete cancelling. On anatomical and physiological grounds alike this neglect is unjustifiable.

4. Let us next take the v wave, the termination of which has been described as marking "one of the most certain periods in the cardiac cycle." This is the wave which has been styled a wave of stasis because its ascent is determined by the pressure rise in the auricle under the *vis a tergo* in the veins as the blood accumulates behind the closed auriculo-ventricular valve during the entire period of the ventricular systole—that is, three-tenths of a second. Now comes the ventricular diastole, which releases the auriculo-ventricular valve, and this, which is a sudden event, is held to be responsible for the abrupt descent of the pressure line. This theory brings in two factors as productive of the v wave, the one gradual, the other sudden; but, if this be the case, the line of ascent must be gradual and the descent sudden. Is this the character of the v wave of the tracings? No; the v wave is, in type, just like the other waves. Further, physiology contradicts this mode of genesis by showing that in typical intracardiac pressure curves there is commonly no appreciable pressure fall at the end of ventricular systole.

Space forbids the further pursuit of this subject, but it

is hoped that sufficient has been said to justify the appeal which I would make to my colleagues in general, but especially to those that teach and those that are engaged in laying the foundations of their medical knowledge, that they should look into this, each for himself, with an open mind, and seriously, seeing that so much is involved.—I am, etc.,

London, W.1, Feb. 18th.

HARRINGTON SAINSBURY.

#### THE READING OF SKIAGRAMS.

SIR,—Most atlas-making for clinical comparison of the normal and abnormal must be largely futile unless the axial focal distance of the radiographic centre of emission from the plane of the plate, film, or screen be directed through the same anatomical points, and unless the distance be proportional to some well marked and constant dimension of the parts depicted, which parts (while of the same shape externally) may yet vary greatly in actual size.

Thus, in comparing a normal chest 30 inches in circumference with a suspected one 45 inches in circumference—provided always there is no gross deformity of the bony thorax to be felt externally—the normal distance of the centre of emission might be in such cases three or four times the antero-posterior thickness of the smaller and larger chest respectively, at the same level of the chest in the middle line. Otherwise we might get a dissimilarity of the outlines of the internal organs not due to real anatomical disproportion of the organs, but entirely due to dissimilarity or "distortion" of the perspective employed.

Again, as is done systematically with all lantern slides for his guidance before handing them to the lantern operator (and especially in these latter days of double-coated films), all x-ray plates and films should be automatically "spotted" by the x rays themselves at the time of exposure, so that subsequent observers may all know which side of the film, direct or reverse, they are looking at. After all, the shadow on the window blind viewed from the street is not a view through the window pane into the locked room! What is wanted is a glimpse through the keyhole.

According to the rules of ordinary perspective, what may be called the fluorescent screen side of the x-ray picture plane is the false or reverse side thereof, and dependence on the screen finding alone must lead to all sorts of false visual judgements as to direction, position, and size of the hidden parts depicted. In systematic clinical radiography of large parts of the body, except perhaps in such a recognizable monomontary condition as of gas bubbling to the horizontal surface of the fluid in a wounded thorax, it is safest in most cases to regard the fluorescent screen as a large but reverse erect view-finder.

I hope to demonstrate lantern slides of these and other perspective considerations at the forthcoming International Congress of Radiology, which may perhaps take quite an intelligent interest in the application of perspective principles to x-ray interpretation.—I am, etc.,

W. COTTON, M.D.,

Late Captain R.A.M.C.(T.F.) in charge X Rays,  
No. 20 General Hospital, B.E.F.

Bristol, March 19th.

#### THE TREATMENT OF INFANTILE PARALYSIS.

SIR,—Mr. Hey Groves's address (*JOURNAL*, March 14th, p. 482) invites critical comment by its definite statements and by the vigour of its arguments. He makes two very strong pleas for special consideration in the treatment of this disease—first, the need for careful, painstaking, and prolonged management of the early stages, and secondly, the consequent necessity for more hospital accommodation. These are without question the two most important problems in the treatment of this exceptionally difficult disease waiting to be solved at the present time.

My personal criticism of the address concerns, first, a comparatively minor point regarding rest for the arms in the early stages; and secondly, the important question of due recognition being given to the pioneer of modern methods of treatment in the early stages.

Mr. Groves states: "The arms must be abducted at the shoulders, the forearms pronated, and the elbows flexed."

My experience has been that the tendency to pronation of the forearm is one which has often to be resisted. My practice is to rest the arm on a MacKenzie abduction arm splint, with the forearm and hand supported in a midway position between pronation and supination.

In his account of treatment in the early stages Mr. Hey Groves quotes only one authority for his description of the recommended treatment at this most important period—the late Professor Lovett of Boston (America). He makes the definite statement that "The one potent active remedial agent is muscle re-education." With this statement I am in complete agreement. But why does he not give credit for the introduction of this remedial measure where credit is due? Why is it necessary to quote Lovett as an authority on muscle re-education in this disease, and to refer also to the minimum load for a muscle or muscular movement as if it were part of Lovett's teaching? So far as I am aware, Lovett never mentioned the phrase "muscle re-education" in any of his published writings on infantile paralysis, nor did he ever make any reference to the term "minimal load."

More than ten years ago—to be exact, on January 9th, 1915—Dr. William MacKenzie published an article in the *BRITISH MEDICAL JOURNAL* on the "Treatment of infantile paralysis: a study in biology," giving a full and detailed account of his methods of re-education of the "paralysed" muscle.

The term "minimal load" for the work of a muscle was first used, I think, by Professor Sir Arthur Keith in a lecture at the Royal College of Surgeons in 1917 on the orthopaedic principles of John Hunter. In this he referred to the practical application in treatment by his friend Dr. MacKenzie of many of Hunter's facts. Why, therefore, should Mr. Hey Groves give the credit for the introduction of a specialized form of treatment to an American author when a much more substantial claim can be made out for one of British birth, whose contributions on the subject are available in the same medical journal as that in which publication is proposed?

In *The Principles and Practice of Medicine*, by Osler and McCrae (ninth edition, revised, published in New York and London, 1920), under the heading "Acute poliomyelitis—treatment," this particular article by MacKenzie in the *BRITISH MEDICAL JOURNAL* of 1915 is specifically mentioned, and is quoted from at length. No other name or method of treatment is mentioned. In justice to myself I may mention my own article in the *BRITISH MEDICAL JOURNAL* of October 2nd, 1920, on "The place of muscle re-education in the treatment of infantile paralysis," which has apparently also escaped notice.

In conclusion, I beg to state that I am in complete accord with Mr. Hey Groves when he says, "It is very doubtful whether massage or electrical treatment has any value"; also, if early treatment is successful, then, "when the extent and distribution of the paralysis have become fixed and definite, we ought to have no contraindications or deformities requiring correction."—I am, etc.,

London, W.1, March 16th.

CHARLES MACKAY.

#### NERVOUS EXHAUSTION AND LOW BLOOD PRESSURE.

SIR,—Physicians who possess special facilities for studying the phases and fluctuations of arterial pressure, as well as those who are more directly concerned with the psychoneuroses, are familiar with the fact that the majority of cases of "nervous exhaustion" exhibit low arterial pressures, and can thus substantiate the independent observation of Dr. D. W. Samways (March 7th, p. 482).

Owing to incomplete knowledge of etiology, in the past the term "neurasthenia" has been loosely used as a dumping-ground for many functional nervous derangements. For the present it would seem better to regard neurasthenia as the expression of states of nervous exhaustion of constitutional or acquired origin. The height of the arterial pressure affords a useful means of differential diagnosis between neurasthenia, in which the pressure is uniformly low, conversion hysterics, in which the arterial pressure is usually normal, and anxiety states, in which the pressure is often considerably raised.



In respect of treatment, my experience is that constitutional neurasthenia admits only of alleviation, and that the arterial and pulse pressures are almost or entirely unchanged. The acquired form is induced by certain toxæmias, either primary—of which the intestine constitutes the chief source—or secondary to acute infections or endocrine deficiencies. From the biochemical standpoint such are frequently correlated with diminution in calcium metabolism. Improvement under treatment is usually found to go hand in hand with a return to standard sphygmomanometric readings. Notable lowering of systolic, diastolic, and pulse pressures in the majority of cases coincides with distinct mental depression.

Chronic and profound prostration leads to depletion of pressor substances, and probably many forms of hypoplasia are due to the formation of fatigue products in muscle and gland tissues. It is certain that adrenal inadequacy forms a definite factor in cases in which somasthenia and profound prostration constitute the dominant clinical features of neurasthenia.

It is, perhaps, not yet sufficiently realized that true hypofunction of the adrenals may occur, apart from organic disease of these glands, in response to excessive and prolonged mental and physical strain. In some women, especially at the climacteric, there is undue lability of the autonomic nervous system, mainly affecting the vasomotor nerves, and to the adrenal hypofunction is added ovarian deficiency. In promoting recovery, administration of combined adrenal and ovarian extracts is helpful.

In the low arterial pressure which coexists with gastrointestinal atony the splanchnic area is involved, and such patients derive considerable benefit from a properly fitting abdominal belt and parathyroid medication. As regards adrenal hypofunction, apart from Addison's disease, atrophy is at times of service, whilst at other times a patient will be found in whom the exhibition of adrenal extract has no effect. Such subjects usually react well to strychnine.

In my view Dr. Samways is correct in attributing the lowered tone of the arteries, and consequently the reduction of arterial pressure, to exhaustion, which is induced, so far as our present knowledge extends, by the agencies which I have endeavoured to indicate. Further light on the problems of toxæmia in general and on the exact nature of the bodies absorbed from intestine and other foci is, however, greatly needed.

In estimating whether a given arterial pressure is low or not, Dr. Samways's single reading of "125 mm. Hg or less" is open to criticism in that it presents only a part of the whole circulatory picture. As I have pointed out during many years past in this *JOURNAL* and elsewhere, a single set of figures representing solely the systolic pressure, particularly when considered apart from age and body weight, both of which have important influences, is misleading, because it forms only a portion of "the complete arterial pressure picture," requisite for determination of the circulatory efficiency at the time of estimation. The complete picture is obtained by a simultaneous record of (1) systolic pressure, (2) diastolic pressure, (3) pulse pressure, (4) pulse rate, and (5) pulse pressure  $\times$  pulse rate product. Such figures take only a minute to enter in the case notes, and afford information of permanent value.—I am, etc.,

London, W.1, March 15th.

J. F. HALLS DALLY.

# RESPIRATORY ORTHOPAEDICS.

Sir,—Mr. F. Pearce Sturm has rendered a great service in drawing attention, in his letter (March 7th, p. 483) headed "Respiratory orthopaedics," to the necessity of following up all tonsil and adenoid cases in children by a course of respiratory exercises. The question is one that interests orthopaedic specialists very greatly. In an ordinary orthopaedic out-patient department they see a considerable number of children, who are brought by their parents (very often at the instance of a school medical officer), because they are round-shouldered, chronically tired, and flat-chested; in some cases there is early scoliosis as well. These children are invariably weedy, anaemic, and obviously

<sup>1</sup> BRITISH MEDICAL JOURNAL, October 11th, 1913.

debilitated, and in a majority of cases they are habitual mouth-breathers and show the typical open mouth, "adenoid facies," and other stigmata of that condition. In such cases, the obvious indication is to deal with the fundamental cause—namely, the respiratory obstruction; but it is not enough merely to send the patient to the throat specialist to have the tonsils and adenoids removed. Indeed, in some cases, this operation is unnecessary, and a course of respiratory exercises may cause the disappearance of the obstruction. It is the habit of mouth-breathing that needs correction, and the mere removal of the source of the obstruction is but an incident in the process. The operation itself is not curative. All that it does is to provide an airway through which the patient can breathe if he will. Usually he does not will, and a course of respiratory orthopaedics is necessary to teach him to do this, and the exercises must be continued until the habit of mouth-breathing has been completely corrected. Whether it is the business of the laryngologist or of the orthopaedist to prescribe these exercises is but a detail; the point is that they are indispensable, and should be employed in every case. I would even go so far as to say that in some cases the removal of tonsils and adenoids, without the after-treatment, not only does no good at all, but actually does harm.

When effective post-operative re-education is given, there is a very striking improvement in the child's general condition, though it may be difficult at times to effect much improvement in the actual form of the chest itself.

I venture to suggest that a very large number of the tonsil and adenoid operations now being performed upon children in such large numbers all over the country are rendered useless through failure to follow them up by appropriate respiratory exercises. I have long believed and taught, that it should be a routine in every clinic, and indeed in every case of tonsils and adenoids, to provide the necessary after-treatment after every operation; and if this led to an inconvenient crowding of the clinics, it would be far better to restrict the number of operations than to omit the after-treatment in any single case.—I am, etc.,

London, W.1, March 12th.

ALAN H. TODD.

# THE TREATMENT OF FIBROSITIS.

Sir,—As an interested listener to the recent discussion on fibrositis at the Royal Society of Medicine (reported in the *BRITISH MEDICAL JOURNAL* of March 14th, pp. 509-12), may I endeavour to co-ordinate the facts upon which it appeared to me the best opinion agreed, with a view to clarifying our ideas on treatment?

The dual causation of fibrositis—infective and metabolic—was well stated by Dr. Edgecombe. Dr. Alison Glover, on behalf of the Ministry of Health, marshalled an array of facts showing the incidence of the disease in its various forms in the two sexes and at different periods of life, and calling attention to the practical importance of strain or traumatism and of chill in the chain of causation.

Malassimilation, defective elimination, exudation or deposit in the fibrous tissues—"tissues of least vitality"—widely as to whether the metabolic disorder is always secondary to streptococcal or other infection, or may be the primary cause of fibrositis, as of gout. Treatment will, of course, conform to one opinion or the other—that is, will be directed either to the removal of possible sources of infection or to relieving anabolic or katabolic disorders. The former is the ruling principle of treatment at present in England, and the latter in Continental countries. It was also generally agreed that the resistance of the body, which may easily be damaged by previous specific infection, is low in fibrositis, and ought to be raised. But no clear guidance was given as to how this can be achieved, beyond general hygienic precautions, such as improvement in housing conditions, the prevention of chills, and the provision of works baths and drying rooms.

Two principles of treatment were, however, mentioned. Sir W. Willcox states that skilled massage flushes the part

with fresh antibodies. Others, like Dr. Ray and Dr. Snndell, regard the rheumatic subject as "predisposed to cold," and speak of the value of a "thermal atmosphere" in raising the temperature of the blood and restoring healthy muscular action. I may here interpolate that both these curative factors are combined in a well appointed manipulation bath, such as we used during the war. Heat is more pleasant and manipulation less painful when thus combined, and systematic local treatment tends, not only to dissipate fibrositis, but to improve the resistance of the tissues. Eliminative treatment may, I think, be regarded as a second line of defence. Dr. A. Ellis pointed out the failure of elimination at the age period when fibrositis is most prevalent. It is surprising, since the serious effect of circulating toxins is everywhere admitted, that systematic elimination is not more definitely advocated. Heat, combined with eliminative treatment, may produce the happiest effects, even in chronic and intractable cases, when precisely adapted to individual conditions.

The fibrositis or peri-arthritis in women at or about the climacteric, affecting a very numerous and important group of cases, was well described by Mr. McDonagh as "corresponding to gout." I have long ago expressed the same conclusion, and the same belief as Mr. McDonagh's—that sulphur is of much value in these cases. Sulphur waters and baths and the colloidal preparations of sulphur are undoubtedly beneficial in many rheumatic disorders.—I am, etc.,

London, W.1, March 18th.

R. FORTESCUE FOX.

#### INFECTIVITY OF SMALL-POX IN THE INCUBATION STAGE.

SIR,—With reference to the statement in Dr. Rolleston's book that "small-pox is infectious in all stages of the disease, even in the incubation period before any symptoms have appeared," I quite agree with Drs. Snell and Millard that small-pox is not infectious during the incubation period. I will go further and state emphatically that small-pox is not infectious even after the onset of the symptoms before the rash has appeared. It becomes infectious when the rash appears.

During the epidemic of 1901-2, I saw over 1,000 cases. I visited and kept all "contacts" under observation for sixteen days, and invariably found the rash appearing in secondary cases exactly fourteen days after the rash of the primary case had appeared. During that epidemic, and since, we have taken the "contacts" of isolated cases into our shelters and kept them under observation during the incubation period. During the epidemic six houses were used as shelters, and for several months we had from twenty to twenty-five families at these shelters. Our custom is to remove the patient to the small-pox hospital as soon as the rash appears and to take the family to one of the shelters. If another case occurs among these contacts we are certain that we have all the people who have been exposed to infection from the secondary case under observation. In no instance have I ever known a person to contract the disease earlier than twelve days after the rash had appeared in the previous case. As the incubation period of small-pox is generally twelve days and the rash appears on the fourteenth day, it is fairly plain that the disease is not infectious until the rash appears.

The following incident, which occurred in 1918, may be of interest as additional corroboration:

A girl, M. A., aged 15, worked in a tobacco factory up to February 25th, when she went home from work and was thought to be suffering from a cold. I saw her on March 2nd, when she had a small-pox rash, which, in my opinion, was about three days old. Another girl, S. H., worked in the same factory with M. A., and twelve days afterwards (March 9th) she was taken ill. The rash appeared on March 11th. She was taken ill at her work on the 8th and went home. She was in bed all day on the 9th, but late that night there was an air raid; she got out of bed and went to an air-raid shelter, where she remained for three hours. This air-raid shelter was partly underground, being 8 ft. 3 in. below the pavement level, and the ceiling was 3 ft. 6 in. above the pavement. The room measured 80 ft. by 60 ft. by 11 ft. 9 in., and the windows were boarded up. The number of people at the

shelter during the three hours in question was not known, but in order to ascertain their names and addresses I arranged, with the assistance of the sanitary inspectors, to make a house-to-house visitation of the streets in the vicinity of the air-raid shelter on the following day. In this way we discovered 303 men, women, and children who took refuge in it during the whole of the time that the patient was present; 92 had never been vaccinated, and this number included 66 children under 10 years of age; 125 persons over 10 years of age had been vaccinated in infancy only.

If the patient, whose rash did not appear until the evening of the following day, had been in an infectious condition, we should have had an immediate spread of the epidemic. We had all the conditions favourable for it: (1) At least 283 persons not protected by vaccination, a very large proportion being unvaccinated children; (2) the overcrowded condition of an underground, unventilated room; (3) the physical and mental condition of the contacts; all the children had been taken from bed to the air-raid shelter. It is probable that others, besides the number mentioned above, took refuge in the air-raid shelter that night, but we had no other case of small-pox in the district where the patient had been in the shelter.

With regard to hæmorrhagic small-pox, I believe the patient is infectious when the hæmorrhages occur. It invariably proves fatal before the third day, and therefore before the rash appears.—I am, etc.,

Public Health Officer, Stepney,  
March 17th.

D. L. THOMAS.

#### THE CATARRHAL CHILD.

SIR,—Some remarks made at the meeting of the Bristol Medico-Chirurgical Society reported in the *JOURNAL* of March 21st (p. 557) appear to call for comment.

Speaking on the subject of the "catarrhal child," Dr. Clarke states that the baby should live in the open air "even in a draught," and "even during the bath."

No one will dispute the value of fresh air, but does Dr. Clarke suggest that bathing babies in the open air in this country is a practical proposition for the average parent? And have draughts ever been proved to be beneficial? Most of us find them at least uncomfortable.

As to the rule that visitors to the infant should wear masks, the idea is pleasing from several points of view, but considerable moral courage must be required to inform enthusiastic callers that, while we are very pleased to see them we shall be obliged if they will assume their masks without delay.—I am, etc.,

London, E.15, March 21st.

PHILIP R. KEMP.

#### TESTS FOR DRUNKENNESS.

SIR,—When I was appointed divisional surgeon to the Metropolitan Police I was requested to state that a person was or was not drunk when called upon to give an opinion. This I maintain is an absurdity. One might just as well state that a person is or is not anaesthetized. There are degrees of drunkenness, or alcoholism, just as there are of any other drug.

In reporting a case in the police books such terms as "suffering from effects of alcoholism," "has had some drink," "under the influence of alcohol," are clumsy and of little help to the lawyers.

I suggest that instead of making only two classes, drunk or not drunk, we formulate three classes of alcoholism—first degree, second degree, and third degree—and that these should be recognized as logical distinctions.

AL. 1.—Might include all such persons as had taken some alcohol, and were merry and bright as a result. Such persons would be quite fit to take care of themselves and control a motor car.

AL. 2.—Quarrelsome, flushed face, overfamiliar, talkative, and so forth. Unfit to drive a car.

AL. 3.—Obviously intoxicated and presenting no difficulty whatever other than differential diagnosis.

All the examining doctor would then have to do would be to classify the case and enter in the police book as follows: John Smith, AL. 1, 2, or 3, as the case might be. Penalties, capacities, etc., would all be under formula, so that no further statements would be necessary.—I am, etc.,

B. F. PENDRED, M.R.C.S., L.R.C.P.

Loughton, March 13th.

<sup>1</sup> The Gout in Women, *Proc. Brit. Med. and Clin. Soc.*

## NEED FOR A POST-GRADUATE SCHOOL IN LONDON.

SIR,—As discussions are now taking place on post-graduate facilities for foreigners and for doctors from the provinces, I think it opportune to suggest that something should be done for London men.

A friend in the country once told me that he envied me living near London for the opportunities of post-graduate study. It was therefore quite a disappointment to find that for the several thousand men in and near London nothing suitable is arranged.

Looking down the list issued by the Fellowship of Medicine I find . . . three weeks' course here, two weeks' there, seven guineas for this, many guineas for that. Now how can any doctor, not on a long holiday, give 9 a.m. to 6 p.m. every day, or feel inclined to pay eight guineas when he can only attend, say, two afternoons out of the two weeks' course?

I would like to see a London post-graduate association which would frame a syllabus especially for London men. One afternoon a week, say every Friday, a course of a concentrated four hours of teaching and practical demonstration, to be given at one of the hospitals. This could be varied to suit everyone; a typical afternoon would be: 2 to 3, surgical out-patients; 3 to 3.45, throats; tea; 4.15 to 5, laboratory; 5 to 6, medical cases. Mental disease, anatomy, electricity, etc., could be introduced.

I am sure many a London practitioner would then keep this precious afternoon free; it would be his hospital afternoon. Sometimes he would be too busy to attend—well, nothing is lost; he has his season ticket, so to speak, and better luck next week. To attract men from the fifty-mile radius there must be more than one lecture to make it worth his while coming; the hospital varying gives a varying geographical advantage; the teachers changing each week avoids the "one-note man" overdoing his favourite theme.

I commend the idea to the Fellowship of Medicine. I have admired its lists for a long time and envied those able to put in three weeks at the attractive courses, but I'm for the sea when my summer holiday is due!—I am, etc.,

London, N.W.6, March 24th.

F. MELVILLE HARVEY.

## Obituary.

J. MCGREGOR-ROBERTSON, M.B., C.M., F.R.F.P.S.G.,  
Glasgow.

By the death, which occurred with startling suddenness on March 17th, of Dr. Joseph McGregor-Robertson, F.R.S.Ed., Glasgow has sustained the loss of an outstanding personality. He had been presiding at an address by Colonel L. W. Harrison (Ministry of Health) under the auspices of the National Council for Combating Venereal Diseases, of the Scottish Committee of which he was chairman, and at the conclusion of the lecture proposed a vote of thanks. Immediately afterwards he stepped off the platform on his way to the ante-room and dropped down dead.

Dr. McGregor-Robertson was a native of Glasgow, and was educated at the University; he graduated M.A. in 1876 and M.B., C.M. (with honours) in 1880. After a distinguished career he was appointed Muirhead demonstrator and lecturer in physiology, a post which he filled with conspicuous ability. Two textbooks which he published—*Physiological Physics* and an *Elementary Textbook of Human Physiology*—had a considerable vogue in their day.

General practice attracted him, and he settled in the West End of the city and very soon built up a large practice. Busy as he was, he still found time to maintain his interest in science. Members of the Representative Body who enjoyed his hospitality in 1922 will remember with pleasure the interesting hour they spent in his private laboratory and x-ray room.

Outside the sphere of his immediate practice he had many interests. Reference has been made to his connexion with the National Council for Combating Venereal Diseases.

His work on behalf of Scottish nurses will long be remembered. Largely due to his energetic advocacy, the Scottish Nurses' Association (now the Scottish Nurses' Club) was founded, and is now a flourishing institution, providing a club and bedroom accommodation for fifty nurses, with an average number in residence of thirty. He was closely associated with the late Sir William Macewen in the organization and management of the Princess Louise Scottish Hospital for Limbless Sailors and Soldiers, and after Macewen's death much of the administrative work devolved upon him. When the Parish Council of Glasgow, after the war, decided to restore Stobhill Hospital to its function as a general hospital, he was appointed visiting physician and organizer of the medical service. He held very liberal views of the function of the Poor Law hospital, and his work in that connexion will be enduring. He became a Fellow of the Royal Faculty of Physicians and Surgeons in 1892, and was for some years an active member of the council of that body, as well as examiner in physiology.

The British Medical Association, of which he was for many years a member, is indebted to him for much good service. He had been a member of the council of the Glasgow and West of Scotland Branch, and in 1922-23 served on the special committee to inquire into the notification of venereal disease. He was elected to the Council in 1922, and served on the Scottish Committee from 1923. At the annual general meeting in Glasgow in 1922 he was a member of the executive and secretary of the Reception Committee, and showed very great interest in the success of the meeting. At the time of his death he was chairman and representative of the Glasgow North-Western Division. For a good many years—we cannot now exactly ascertain how many—he was the correspondent of the *BRITISH MEDICAL JOURNAL* in Glasgow.

Gifted with a trenchant and lucid style, his contributions to debate were always arresting, and his opinions always commanded respect. Absolute fearlessness was the dominant note of his character, and he possessed unyielding tenacity of purpose and consuming energy. A hard hitter in controversy, uncompromising where he believed a principle to be involved, he yet made many friends, who mourn his loss.

He leaves a widow and family; one son is in medical practice in Glasgow.

A. A. H. KNIGHT, M.D. EDIN.,  
Kewick.

THE profession and a large circle of friends and old patients (who were also always his friends and he theirs) have suffered a severe loss in the death, at the age of 81, on March 5th, of Dr. A. A. H. Knight, one in whom uprightness of character, largeness of heart, together with a sound knowledge of his profession and intellectual gifts of no mean order, joined in producing an example of the highest type of medical practitioner; and if wealth is to be estimated by the amount of unselfish service ably rendered, or by a harvest of human trustfulness and affection, then surely one of the richest.

Alexander Angus Halley Knight was born on October 7th, 1843, in the parish of Charnside, Berwick, his father, the Rev. George Fulton Knight, being one of those who went out with Chalmers from the Established Church, subsequently becoming Free Church minister at East Wemyss. Educated at the Edinburgh High School and later at Edinburgh University, where, in 1865, he took the degree of M.D. and the diploma of L.R.C.S., after holding the appointment of house-surgeon in the Edinburgh Hospital for Sick Children he acted for a time as assistant to Dr. Rowland of Bootle, and in 1866 succeeded Dr. Rumney of Keswick, where he practised uninterruptedly for close on fifty years.

It was natural that a man of his calibre should make his personality felt among the community at large, and as a member of the old local board, founder and president of the local literary and scientific society, and also of the Derwent (Men's) Club, chairman of the Cottage Hospital House Committee, and as trustee or member of committee of various other charities, he gave unsparingly of his time and talents. His professional appointments included those

## UNIVERSITY OF LEEDS.

At a meeting of the University Council on March 18th resolutions were passed recording deep regret at the death of two of its honorary graduates, Sir Edward Thorpe and Sir Clifford Allbutt: Sir Edward Thorpe was one of the first three professors of the Yorkshire College of Science; Sir Clifford Allbutt, who was a life governor of the Yorkshire College and a life member of the University Court, gave distinguished services to the Leeds School of Medicine, of the staff of which he was a much valued member.

Dr. J. Gordon was appointed lecturer in bacteriology, in succession to Dr. Ross, resigned. Dr. Gordon graduated M.B., Ch.B. in 1918 and has been a demonstrator in the department of pathology and bacteriology for nearly six years.

## UNIVERSITY OF DURHAM.

The following candidates have been approved at the examination indicated:

THIRD M.B., B.Ch.—*Material Medica, Pharmacology, and Pharmacy; Public Health; Medical Jurisprudence; Pathology and Elementary Bacteriology*: R. Abrahams, H. Birk, Evelyn H. Bolt, Ethel Browell, B. A. Dorrner, M. M. Macintyre.

## UNIVERSITY OF GLASGOW.

The following candidates have been approved at the examinations indicated:

FOURTH M.B., Ch.B.—*Medical Jurisprudence, Pathology, and Pharmacy*: A. M. Brown, V. S. Cameron, C. R. Gibson, H. R. Kidd, A. MacArthur, J. L. Maca, C. J. McGhee, D. T. M'Gill, A. M. Murray, D. C. M. Ma, V. Meyer, G. M. Mulhead, A. F. Nimmo, J. O'Hara, D. C. Orr, A. G. Suanes, J. L. Smith, C. H. Stewart, H. S. Strachan, D. Thomas, J. H. Thomson, W. Whitelaw, Jeanie G. Campbell, Mary E. Devine, Elizabeth H. Livingston, Georgina A. M'Nicol, Margaret Mulvein, Vida J. M'F. Stark, Maggie B. Walker, Kathleen M. Warren. *Public Health*: J. G. Anderson, J. Baxter, A. M. Brown, A. Campbell, J. V. M. Davies, J. Durie, C. R. Gibson, H. R. Kidd, D. P. Leiper, S. R. Lipchinsky, S. Lurie, A. MacArthur, J. L. Macaulay, J. A. McCluskie, W. J. McCuller, C. J. McGhee, C. C. McKenzie, A. A. M'Millan, A. N. M'urray, D. C. M. Macpherson, H. W. A. Marshall, A. Mellick, V. Meyer, G. M. Mulhead, D. S. Murray, M. Naftalin, G. R. Taylor, D. Thomas, J. H. Thomson, W. Whitelaw, Mary E. Devine, Elizabeth H. Livingstone, Georgina A. M'Nicol, Margaret Mulvein, Maggie B. Walker.

- \* Distinction in medical jurisprudence and public health.
- † Distinction in medical jurisprudence.
- ‡ Distinction in public health.

## UNIVERSITY OF DUBLIN.

## TRINITY COLLEGE.

At the spring commencements in Hilary Term held on March 21st, the following degrees were conferred:

M.D.—M. W. Kaplan, J. W. Scharff.

M.Ch.—D. de Bruija.

M.A.O.—D. J. Malan.

M.B., B.Ch., B.A.O.—W. H. Anderson, G. P. Bamford, J. E. Beatty, Rev. E. A. Bennett, H. Birney, L. C. Brough, J. Crawford, T. G. H. Crawford, R. T. Cronin, J. Cussen, C. J. du Plessis, G. W. Garde, G. F. Gillespie, R. A. Heatley, J. J. Horwich, R. J. G. Hyde, J. M. Johnston, P. N. H. Labuschagne, J. L. Livingston, J. A. MacDonnell, J. G. Maguire, E. J. Marais, C. R. Moore, J. V. Morris, F. M. Purcell, W. A. Redmond, E. T. S. Rudd, I. Strasburg, H. W. Strong, E. J. Walsh, L. M. Whitsitt, R. W. Harle (in absentia).

## SOCIETY OF APOTHECARIES OF LONDON.

The following candidates have passed in the subjects indicated:

SURGERY.—W. Bentley, N. E. Challenger, A. J. M. Davies, A. Kaplan, Y. N. Lal, T. K. Natesan, F. T. Ridley.

MEDICINE.—A. H. Allam, T. K. Natesan, F. T. Ridley.

FORENSIC MEDICINE.—E. H. Boodrie, M. R. Burke, B. Horwitz, T. McD. Kellough, A. Mishriky, C. M. Moody, C. C. Po, F. T. Ridley, B. L. Steele.

MIDWIFERY.—I. H. Mackay, K. V. Mead, E. J. Newman, F. T. Ridley, R. J. Rutherford.

## \* Section II.

The diploma of the society has been granted to Messrs. A. H. Allam, W. Bentley, N. E. Challenger, A. J. M. Davies, Y. N. Lal, A. Mishriky, T. K. Natesan, C. C. Po, and F. T. Ridley.

## The Scribblers.

## ROYAL NAVAL MEDICAL SERVICE.

The annual dinner of the Royal Navy Medical Club will take place at the Trocadero Restaurant, Piccadilly Circus, W.1, on Thursday, April 16th, at 7.30 for 8 p.m. Members who wish to be present are asked to inform the Honorary Secretary, Royal Navy Medical Club, 63, Victoria Street, London, S.W.1, not later than seven clear days before that date.

## DEATHS IN THE SERVICES.

Lieut.-Colonel Henry Thomas Brown, R.A.M.C.(ret.), died at Limerick on February 3rd, aged 81. He was the son of the late Dr. Henry Southwell Brown, was educated at Queen's College, Cork, and graduated M.D. in the Queen's University, Ireland, in 1855; he took the L.R.C.S.I. in the same year. He entered the

army as assistant surgeon on March 31st, 1866, became brigade surgeon lieutenant-colonel in 1892, and retired in 1896. As a regimental medical officer he served in the Ceylon Rifle Regiment and in the 59th Foot, now the 2nd battalion of the East Surrey Regiment. He served in the Ashanti campaign of 1873-74, under Sir Garnet (afterwards Lord) Wolseley, receiving the medal.

Brigade-Surgeon Frederick George Constant, Bengal Medical Service (ret.), died at Eastbourne on February 19th, aged 90. He was the son of John Constant, 5th Dragoon Guards, and, after taking the diplomas of M.R.C.S. and L.S.A. in 1856, entered the I.M.S. as assistant surgeon in 1859, became surgeon major in 1873, and retired with a step of honorary rank in 1882. He served in the Abyssinian war in 1867-68.

Surgeon Major Edward Colson, Bombay Medical Service (ret.), died at Southsea on March 3rd, aged 79. He was the son of the Rev. Charles Colson of Layston, Hereford, was educated at Guy's, and took the diplomas of M.R.C.S. and L.S.A. in 1863. He entered the I.M.S. as assistant surgeon in 1869, became surgeon major after twelve years' service, and retired in 1889.

Surgeon Captain John Christopher Fergusson, R.N.(ret.), died at Menton on February 14th. He was educated at Trinity College, Dublin, where he graduated M.B. and Ch.B. in 1886. Soon afterwards he entered the navy, became fleet surgeon in 1902, and retired as surgeon captain in 1918. He served throughout the late war. He had qualified as interpreter in Hindustani in 1903, and in French in 1907.

## Medical News.

LAST week's return showed a considerable decrease in the number of deaths from influenza in the great towns of England and Wales from 361 to 283. Only three cities other than London (where the deaths decreased from 59 to 36) had 10 or more deaths—namely, Birmingham (19), Liverpool (12), Manchester (15). The notifications of pneumonia for England and Wales are also decreasing (from 1,441 to 1,395). In some parts of the country, however, pneumonia is still increasing—for example, in the North Midlands; and in Manchester the deaths from influenza were more numerous than in the previous week.

THE eleventh annual conference of the National Association for the Prevention of Tuberculosis will be held at the Royal Society of Medicine on July 6th and 7th. Professor Pirquet of Vienna will introduce the discussion on tuberculosis in childhood; Professor Holger Moelgaard of Copenhagen and Professor Knud Faber of Copenhagen will discuss the treatment of tuberculosis by "sanocrysin." It is announced that the Minister of Health is prepared to sanction the payment of the reasonable expenses of three delegates from local authorities. The fee for the conference is 1 guinea, and a copy of the report of the proceedings will be supplied. Further particulars may be obtained from the secretary of the association, Miss F. Stickland, 20, Hanover Square, W.1.

THE Fellowship of Medicine announces that the discussion on post-graduate study in London (see p. 613) will be resumed at the house of the Royal Society of Medicine on April 8th, at 6 p.m. Sir Arbuthnot Lane will again preside, and it is hoped that many members of the medical profession will attend and give their views. On March 30th Mr. Ernest Clarke will lecture on myopia, its diagnosis and treatment, and on April 1st Dr. Robert Knox will give a lantern demonstration of the use of x-rays in the diagnosis of lesions in the right quadrant of the abdomen. Each lecture will be given at 5.30 p.m. in the West Lecture Hall. Three courses, each lasting a fortnight, will commence on April 20th. An intensive course in medicine, surgery, and the specialties, will be held at the Hampstead General Hospital, a course in diseases of children at the Queen's Hospital, Hackney Road, E.2, and a course in proctology at St. Mark's Hospital for the Rectum. In May there will be courses in dermatology; diseases of infants, and of the nose, throat, and ear; and in psychological medicine. Copies of the syllabus of these courses may be obtained from the Secretary to the Fellowship of Medicine, No. 1, Wimpole Street, W.1.

A COURSE in parasitology will be held in the Tropical Division of the London School of Hygiene and Tropical Medicine from April 12th to June 25th. There will be three parts: entomology (Colonel A. Alcock, F.R.S.), helminthology (Professor R. T. Leiper, F.R.S.), protozoology (Dr. J. G. Thomson). The course is intended for students taking the first part of the D.P.H., but there may be room for a few others. The fee is two guineas. Inquiries should be addressed to the Director, care of the Institute of Historical Research, Malet Street, W.C.1.

A PORTRAIT of Dr. G. Reinhardt Anderson, M.B.E., Mayor of Southampton, was unveiled in the Southport Infirmary on March 18th, in recognition of his work as a member for twenty-eight years of the honorary medical staff and for eight years chairman of the medical board.

THE next social evening of the Royal Society of Medicine will be held at 1, Wimpole Street, W.1, on Monday, May 4th. The president, Sir St. Clair Thomson, will receive the guests at 8.30 p.m., and at 9.30 Dr. Robert Hutchison will give an address on Dr. Samuel Johnson and medicine, which will be illustrated with eighteenth century portraits.

DR. G. LEVEN will deliver a course of four lectures on the treatment of anorexia, obesity, and leanness at the Hôtel Drouin in Paris on May 7th, 14th, 21st, and 28th.

A COMPLETE course of French study will be held at the Sorbonne, Paris, during the summer. The first part of the course, extending from July 11th to August 9th, consists of a preparatory course each morning, including phonetics; two hours' practical French reading, grammar, and conversation; in the afternoons lectures on the history of France will alternate with excursions in Paris. From August 9th to 23rd a more advanced course will be given by the leading professors of the Sorbonne and the Faculty of Law, who will deal in thirty-six morning lectures with the chief literary, political, and economic questions of France in the present day. The afternoons will be devoted to excursions in Paris. At each week-end during the course visits will be paid to towns of historical or artistic interest, and from August 23rd to 31st a journey in small groups, under the guidance of the professors, will be made to one or other of the eastern, southern, or western parts of France. The director of the course is M. Henri Goy, Directeur du Bureau des Renseignements Scientifiques, Sorbonne, Paris, to whom all communications should be addressed.

AN international congress of physiotherapy—the first since the war—will be held at Leningrad from May 23rd to 27th, when the following subjects will be discussed: (1) light therapy, introduced by Professor S. A. Brunstein; (2) Roentgen therapy, introduced by Professor A. K. Jakovsky; (3) iouotherapy, introduced by Professor S. B. Wernol; (4) physical treatment of tuberculosis, introduced by Professor N. M. Rootnitsky (pulmonary tuberculosis) and Dr. F. G. Kornel (surgical tuberculosis); (5) physiotherapy of motor disturbances, introduced by Professor A. L. Polen; (6) physiotherapy of endocrine disorders, introduced by Professor R. C. Metzer-nitzky. An exhibition of instruments connected with physiotherapy will be held during the congress.

THE sixth Italian Congress of Radiology will be held at Trieste from May 7th to 10th inclusive. Professor Pasquale Tardola of Naples will deal with the radiology of the biliary system, Professor Giacomo Pesci of Genoa with the radiology of pleural diseases, and Professor Eugenio Milani of Rome with radiotherapy of the endocrine system. May 10th (Sunday) will be devoted to an excursion to the grotto of Postumia. The subscription for non-members of the Società Italiana Radiologia Medica is 20 lira, and relatives of those attending may obtain the privilege of reduced railway fares on payment of 10 lira. Applications should be addressed before March 30th to the Congress President, Dr. Massimiliano Gortan, Ospedale Civile Regina Elena, Trieste.

AN International Conference on the Use of Esperanto in Pure and Applied Sciences will be held in Paris from May 14th to 16th inclusive. Inquiries should be addressed to Mr. F. E. Wadham, 19, Grandison Road, London, S.W.11.

THE annual meeting of the Cremation Society of England will be held in the Adam Hall at 12, Stratford Place, W.1, on Wednesday, April 8th, at 3 o'clock. The council's report, to be presented to the meeting, congratulates the society and those interested in its work on the success which has attended its efforts. During the year under review, notwithstanding the satisfactory state of the national health, the number of cremations carried out in Great Britain was increased by 404, or 20 per cent., the actual number having been 2,390, against 1,985 in the previous year. Of this total the four crematoriums in London accounted for 1,429. The accounts and balance sheet show a highly satisfactory financial position. Membership has also greatly increased during the past year.

ON his retirement from being medical officer to the Brighton Board of Guardians after forty-two years' service Dr. Douglas M. Ross has been presented with a framed illuminated address, subscribed for by members of the board, in recognition of the zeal and devotion with which he has discharged his duties.

ON the promotion of Sir A. Symonds, K.C.B., Second Secretary, to be Secretary to the Board of Education, Mr. E. R. Forber, C.B., C.B.E., has been appointed Deputy Secretary to the Ministry of Health, and Mr. L. G. Brock, C.B., and Mr. I. G. Gibbon, C.B.E., Principal Assistant Secretaries.

A DONATION of £10,000 has been given by Miss Margaret Clarke of Glasgow towards the building of a convalescent home for the Glasgow Royal Infirmary in memory of her father, Dr. Samuel Clarke, who was well known in Glasgow sixty years ago.

THE current issue of the quarterly *Bulletin of the International Union against Tuberculosis* contains a detailed account of the fourth International Tuberculosis Conference, held at Lausanne last August, with a report of the administrative session and a summary of the scientific discussions. Sir Robert Philip contributes an article on anticipatory detubercularization, and A. K. Krause and H. S. Willis describe experiments showing that the rate of dissemination of virulent tubercle bacilli in normal guinea-pigs is far more rapid than in animals that have been immunized, the proportions being from three to four days in the former case, as compared with seven in the latter.

THE forty-ninth annual meeting of the German Society of Surgery will be held in Berlin from April 15th to 18th. The programme appears in the *Zentralblatt für Chirurgie* of March 14th.

A SPECIAL institute has been established for the treatment of scabies at Leningrad, where the methods employed are those in use at the Hôpital St. Louis, Paris.

THE celebration of the centenary of the birth of Hippolyte Duprat, a French naval medical officer who forsook medicine for poetry and music, is being organized at Tonlon.

THE February issue of the *Deutsche Zeitschrift für Chirurgie* contains a portrait of the late Professor Trendelenburg, and a memoir of him by the editor, Professor Saengerhach of Munich.

THE eleventh centenary of the University of Pavia will be celebrated from May 20th to 22nd.

## Letters, Notes, and Answers.

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the *BRITISH MEDICAL JOURNAL* alone unless the contrary be stated. Authors desiring reprints of their articles published in the *BRITISH MEDICAL JOURNAL* are requested to communicate with the Financial Secretary and Business Manager, 429, Strand, W.C.2, on receipt of proof.

ALL communications with reference to advertisements as well as orders for copies of the *JOURNAL* should be addressed to the Financial Secretary and Business Manager, 429, Strand, London, W.C.2. Attention to this request will avoid delay. Communications with reference to editorial business should be addressed to the Editor, *BRITISH MEDICAL JOURNAL*, 429, Strand, W.C.2.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—not necessarily for publication.

Communications intended for the current issue should be posted so as to arrive by the first post on Monday or at latest be received not later than Tuesday morning.

THE telephone number of the *BRITISH MEDICAL ASSOCIATION* and *BRITISH MEDICAL JOURNAL* is Gerrard 2630 (Internal Exchange).

The telegraphic addresses are:

EDITOR of the *BRITISH MEDICAL JOURNAL*, Aitiology Westrand, London.

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), Articulate Westrand, London.

MEDICAL SECRETARY, Mediscera Westrand, London.

The address of the Irish Office of the *British Medical Association* is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 4737 Dublin), and of the Scottish Office, 6, Rutland Square, Edinburgh (telegrams: *Associate, Edinburgh*; telephone: 4361 Central).

## QUERIES AND ANSWERS.

### SODIUM NUCLEINATE IN PNEUMONIA.

DR. F. M. GARDNER-MEDWIN (Angorfa, St. Asaph, North Wales) writes: May I appeal to all practitioners who have used intramuscular injections of sodium nucleinate in the treatment for pneumonia, as set out in my paper in the *BRITISH MEDICAL JOURNAL*, July 12th, 1924, to let me know the results of their treatment in statistical form—stating whether the crisis was precipitated within about forty-eight hours of the injection? Any such information would be gratefully received by me and permission to use the statistics in any way I choose would be appreciated. The possession of a weapon of precision such as this in a disease where hitherto expectant treatment has been employed is so important, in my opinion, that the only justification for neglecting to use it is failure to obtain results or refusal to believe the results obtained by others.

### TREATMENT OF ASTHMA.

IN reply to "H. C.'s" question about asthma (March 7th, p. 458), a correspondent informs us that he has found elbon eiba to give relief in many long-standing cases. The amount he gives is 30 to 60 grains a day, according to the severity of the symptoms. A note on elbon eiba was published in our columns of June 7th, 1924 (p. 1009). It is a combination of cinnamic acid and oxyphenylurea, and was introduced as an antipyretic and disinfectant of low toxicity.



## INCOME TAX.

To a firm of chartered accountants acting for a medical man in Scotland we tender the following advice:

**Defence Unions.**—The best course is for our correspondents to refer to the Medical and Dental Defence Union of Scotland, as that body might wish to consider the question of taking up with the Board of Inland Revenue the proposed arrangement which applies to one of the

**Accident and Sickness Premiums.**—is no legal claim to deduct sums expended as premiums on accident or sickness policies. Rule 3 (a) of Cases I and II, Schedule D, provides that "any expenses not being money wholly and exclusively laid out or expended for the purpose of the trade or profession" shall not be deducted for income-tax purposes. In the rule in *Strong v. Woodfield*, [1905] A.C. 131, it is not enough that the disbursement is made out of the profits of the trade, or is connected with the trade, or is made out of the profits of the trade. It must be made for the purpose of earning the profits. That dictum is, we think, pertinent. The premiums in question are paid not "for the purpose of earning the assessable profits," but to provide receipts, which will not be assessable, when the taxable income is reduced by the happening of the contemplated contingencies. There is one other point worth mentioning. The attitude of the Revenue authorities at present is, we understand, that while they do not consider that a legal practitioner has a legal title to an allowance for the sums paid to a locumtenent during illness, they raise no objection to such deductions being claimed and allowed. This probably meets the equities of the situation fairly well. The position of

(a) he cannot deduct it; (b) he does not; (c) he is as a matter of practice allowed to deduct his special expenditure in providing a locumtenent during illness, etc.

## LETTERS, NOTES, ETC.

## A DISCLAIMER.

DR. HECTOR MUNRO (London, W.1) has written to us disclaiming publication in the lay press of an m. We have received a communication concerned, who writes: "This matter was referred to in J, as a journalist, by mistake, and

## HERPES ZOSTER AND VARICELLA.

We have received a number of further communications on this subject.

DR. J. M. COWIE (M.O.H. Burton-on-Trent) writes: The many cases recorded of the apparent connexion between herpes zoster and varicella are of much interest, and some cases equally important are also known to me, but I have seen so far no record of its introduction into the town every case of chicken-pox has been investigated by the medical officer of health or the assistant medical officer of health. At the same time careful inquiries were made as to the previous occurrence in the household of cases of herpes zoster. During the period of just over two years ending December 31, 1922, the following histories of were obtained:

1. Male, aged 21. Rash November 19th, 1922. Visited November 21st.

November 23rd.

November 3rd.

Visited January 16th.

Visited September 10th.

Mother had shingles about fourteen days before.

6. Male, aged 5. Rash November 24th, 1924. Visited December 1st.

Mother had been in bed with herpes zoster for three weeks. Patient slept in same bed.

7. Female, aged 3. Rash July 18th, 1924. Visited July 21st. Elder sister

8. M. Visited September 10th.

Grand. Visited November 7th.

9. M. Mother had herpes zoster two weeks before.

The cases with a history of previous herpes zoster in the home, therefore, numbered 9, which gives a proportion of 1.1 per cent. of cases and 1.6 per cent. of families. No inquiries were made as to any subsequent cases of shingles occurring in these houses. So far as this investigation goes, the frequency of the relationship of these two diseases hardly allows any conclusion to be come to other than that the connexion is purely casual.

DR. J. LESLIE ORR (Lochmahen) writes: I desire to record another instance where these two diseases occurred together and is strongly suggested. A female supraorbitalis about the end of her daughter, aged about 20, which, mentioned by Dr. Ritchie (February 14th, p. 305), were also manifest—namely, (1) there were no other cases of chicken-

pox occurring in the neighbourhood, and (2) the fourteen days' interval between the onset of the two diseases. Further reference to these conditions is made by Dr. R. C. T. Evans (March 14th, p. 503). Now chicken-pox is generally understood to be a disease of childhood and most liable to occur between the second and sixth years; also, adults who have not had the disease in childhood are very liable to be attacked. It would certainly be interesting to ascertain if chicken-pox associated with herpes zoster occurred only in people who had not suffered from the former disease. Might I suggest that this may account for the small number of cases recorded? If this suggestion cannot be borne out, then I think that the coincidence of the two diseases is thought to be infrequent simply because many are not aware of any possible relationship, and failure of others to record cases when they do occur. It is also possible that many cases of chicken-pox associated with herpes zoster escape notice, owing to the very mild nature of the attack of the former ailment. This is the first occasion on which I have noticed the two diseases in the same family and at the same time.

DR. A. GORDON WILSON (Penistone, Sheffield) writes: May I add another observation to those already recorded supporting the hypothesis that varicella can be contracted by contact with a sufferer from herpes? On January 30th I saw a child, aged 4, suffering from chicken-pox, the spots being then two to three days old. There was no other case of varicella in the vicinity, but the mother told me the child had been away from home and had only returned fourteen days before. On seeing the child again, I asked her various questions about the "germ" of the disease, and she told me that there was a theory that the "germs" were identical. They said, "and went on to say that they were wrong" return, which was on January 9th, not 16th a neighbour had called in for an hour, complained of feeling very ill, had visited the doctor, and next day was found to have "shingles." I found on inquiry she had had a severe attack of herpes of the fifth nerve.

DR. E. C. K. KENDERDINE (Coventry) writes: On January 23rd, 1925, Miss A—J—, aged 19, developed intercostal herpes zoster. On February 9th her younger sister developed typical varicella. She was 4 years old, and we could not trace contact with other varicella patients.

DR. GEORGE PERNET (London, W.1) writes: With reference to Dr. R. C. T. Evans's case of "Concurrent herpes zoster and varicella" (March 14th, p. 503), the condition described would, dermatologically speaking, come into the category of generalized herpes zoster, details of which will be found in textbooks of skin diseases. I published an instance of such in a man aged 80, very similar to Dr. Evans's case, in 1914 (*Brit. Journ. Derm.*, xxvi, p. 392).

## DIPHTHERIA IN THE AGED.

DR. J. OWEN REID (Lochcarron, Ross-shire), with reference to Dr. Muir's memorandum (March 21st, p. 552) on a case of diphtheria at the age of 72, writes: I have recently attended two women, aged 63 and 73, suffering from diphtheria. In both cases diagnosis was confirmed by bacteriological examination. The first case died from heart failure on the fifth day of illness, but the lady of 73, who has now been ill for ten days, is doing very well, and will, I hope, make a complete recovery. These cases lived many miles apart, were the only cases in the district at the time, and, curiously enough, both were cripples.

DR. LEWIS GRANT (Neston, Cheshire) sends notes of a case in which a lady showed signs of typical membranous diphtheria in 1910 (confirmed by bacteriological examination). "She developed post-diphtheritic paralysis of the palate, but this cleared up. At the time she was in her 80th year, and is now hale and hearty in her 95th year, her birthday being next July. She lives with her youngest sister, who is now in her 93rd year."

## "PRACTICAL BIOCHEMISTRY."

DRS. W. A. OSBORNE and W. L. YOUNG (University of Melbourne) write: It may appear ungrateful, in view of your appreciative review of our book, *Elementary Practical Biochemistry*, in your issue of November 15th, 1924, to reply to some of the criticisms, but a misunderstanding has arisen which is easily rectified. Your review gives a list of most important biochemical procedures and applications which are omitted from the volume, such as quantitative estimation of sugar in blood, the use of the polarimeter and colorimeter, analysis of the faeces, and many more. There was a time when reviewers were charged with reading the preface only; in this instance the process has been reversed, for a perusal of our preface would have informed your reviewer that the book had been prepared in volumes in process of preparation—one d and advanced methods and the other to cli

## VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 42, 44, 45, 48, and 49 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 46 and 47. A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 127.

# The Theoretical Basis OF THE SANOCRYSIN TREATMENT OF TUBERCULOSIS.

BY  
HOLGER MOELLGAARD, M.D.,

PROFESSOR OF PHYSIOLOGY, ROYAL VETERINARY AND AGRICULTURAL  
COLLEGE, COPENHAGEN.

ALTHOUGH chemical substances have been employed to a very large extent in the treatment of tuberculosis no real chemotherapy of this disease has hitherto been developed. The treatment here described represents an attempt to build up a chemotherapy in the sense of Ehrlich and Morgenroth; it cannot, however, be too strongly emphasized that this treatment is to be considered as a beginning only, and as probably showing a way out of the present *embarras des richesses* in the therapy of tuberculosis.

Chemotherapy in the sense of Ehrlich is not to be understood merely as treatment with chemical substances only, and its effect is not due to any local action at the site of injection. Chemotherapy means the introduction into an infected organism of a substance having a directly injurious influence on the parasite and forcing this influence upon the parasite at long distances from the place of introduction. The possibility of such effect is intimately connected with a *specific affinity* of the substance for the parasite. Without such affinity it is hopeless to attempt to influence the parasites in any generally infected organism by means of chemical agents. As a specific affinity of any chemical substance to any parasite hardly exists without some affinity to the cells of the infected organism itself, the rate of parasitotropy to organotropy decides the question of the applicability of any substance as a chemotherapeutic agent. Ehrlich expressed this fact by means of the chemotherapeutic index. The existence of this index, however, means that a substance which is poisonous to a parasite will also exercise some toxic effect upon the infected organism. It is for science to reduce this toxic effect as much as possible, but it is necessary to emphasize the fact that even in the case of the most complete reduction of organotropy patients having a lesser tolerance to a certain compound than the average will be met with. Every injection of a chemical substance into the blood of any human being, therefore, always implies some risk, which must be balanced against the risk of giving no chemotherapeutic treatment.

To kill and dissolve bacilli in an organism by means of a bactericidal substance very often has the same effect as to inject killed or avirulent cultures—that is, it has an immunizing effect. The injection of the bactericidal substance produces an "*ictus immunitarius*" (Ehrlich). Hence chemotherapy not only means bactericidal treatment, but also indirect immunization with liberated antigen. It may, however, under certain conditions produce another indirect effect. If the antigen is very toxic or is liberated in very large amounts, or the capacity of the organism for building antibodies for one reason or another is diminished, the injection of the bactericidal substance produces a more or less grave toxæmia, increasing in some cases to a deadly effect. We are already acquainted with such cases in the chemotherapy of spirillosis, and present knowledge of tuberculosis is in reality sufficient to make us expect the same to happen in the chemotherapy of that disease also.

The natural reaction of the therapist to this is to diminish the dose of the bactericidal substance. It must, however, be clearly understood that the effect not only depends on the quantity of the dose, but also on the amount of easily influenceable bacilli in the organism; further experience of chemotherapy has shown us that minimal doses are not only without effect, but in some cases even stimulate the disease ("*effectus contrarius*")—Ehrlich. Reduction of the dose, therefore, does not always solve the question of toxæmia. Where this effect is prominent

chemotherapeutic treatment can hardly be carried through without the help of an active or passive immunization of the infected organism against the liberated toxins. In these cases clinical treatment must be carried out as a combined chemo- and sero-therapeutic treatment.

These are the principal ideas of chemotherapy founded on the work of Ehrlich and built up on the numerous investigations following in the wake of salvarsan.

For the last twenty years numerous chemical substances have been tried against tuberculosis, and the investigations into the influence of chemicals upon the tubercle bacilli outside and inside the organism are legion, the substances used ranging from dyestuffs to organic and inorganic compounds of heavy metals. In recent times German workers have made extensive investigations into the effect of heavy metals on tuberculosis (Tinkler, v. Linden, Meissen, Strauss, Bruch and Glück, Feldt and Spies, Bethmann, Juncker, Mayer, Pekanowitsch, Kolle and Schlossberger, Görke and Töppich, and others), as have also certain French, English, and American investigators (Breton, Hollande and Gaté, White, de Wit, Wells, Long, Cathwell, Leard, and others).

There is not space here to record the details of these investigations, but as far as I can see their general results may be expressed by saying that they have proved that many compounds of heavy metals have a more or less pronounced growth-preventing influence on tubercle bacilli in culture, and that some of these compounds when injected intravenously retard the death of small tuberculous animals (rabbits, guinea-pigs), making the tuberculous lesions develop into a more sclerotic type. No real curative effect has, however, been observed.

From the failure to produce such effect, as well as from the fact that most of the metallic compounds employed have been too poisonous to the organism to be used in bigger doses in man, a new idea arose, supported first by pure theoretical considerations, but later on by experimentally proved facts, especially in Denmark (Walbum). In 1917 Feldt set forth his idea that the influence of the various metallic compounds (of gold, mercury, copper, bismuth, etc.) on the tuberculous processes is the result of a pure catalytic effect stimulating the natural reactions of defence of the organism—that is, its immunizatory processes. As a catalyser acts in very small concentrations, the logical consequence of this idea was the introduction of minimal doses into the therapeutics of tuberculosis. Feldt accordingly reduced the doses of krysolgan to a few milligrams injected at long intervals.

From Feldt's published statement it appears, as far as I can see, that this idea at the beginning was an ingenious but purely theoretical speculation. In recent times the possibility of exercising a stimulating effect on the production of antibodies by intravenous injections of small doses of various metallic salts has been proved by Walbum, and the whole idea of getting a clinical effect in this way supported by experimental facts.

On the other hand, no such clinical effect has at present been observed from most of the employed metallic compounds. Krysolgan seems only to have a detoxicating effect in certain cases of pulmonary tuberculosis and to cause quick healing in some cases of localized tuberculosis. The effect of the catalyser might, however, depend on its concentration in the body, as pointed out by Walbum, and recent investigations by him give support to this idea. Possibly, therefore, better results may be secured with some concentrations than with others, and there may be hope of something coming from the rational study of the influence of variations of the concentrations of metallic ions in the infected organism.

On the other hand, two things should never be forgotten: first, that the introduction of the *minimal dose* into human therapeutics in reality makes the assertion of the inefficiency of any substance on any kind of disease very difficult, especially in the case of the more chronic diseases, such as tuberculosis; and secondly, that a catalyser only augments the velocity of reaction and never alters the direction of chemical processes. By introducing a catalyser into a chemical system, whether a simple or complex system such as the organism, we cannot control the final

## INCOME TAX.

To a firm of chartered accountants acting for a medical man in Scotland we tender the following advice:

**Defence Unions.**—The best course is for our correspondents to refer to the Medical and Dental Defence Union of Scotland, as that body might wish to consider the question of taking up with the Board of Inland Revenue the point that it be admitted to the arrangement which applies to one or two kindred bodies.

**Accident and Sickness Premiums.**—It seems clear that there is no legal claim to deduct sums expended as premiums on accident or sickness policies. Rule 3 (a) of Cases I and II, Schedule D, provides that "any expenses not being money wholly and exclusively laid out or expended for the purpose of the trade or profession" shall not be deducted for income-tax purposes. In commenting on this rule in *Strong v. Woodfield*, [1905] A.C. 453, Lord Davey said: "It is not enough that the disbursement is made in the course of or is connected with the trade, or is made out of the profits of the trade. It must be made for the purpose of earning the profits." That dictum is, we think, pertinent. The premiums in question are paid not "for the purpose of earning the assessable profits," but to provide receipts, which will not be assessable, when the taxable income is reduced by the happening of the contemplated contingencies. There is one other point worth mentioning. The attitude of the Revenue at present is, we understand, that while a legal practitioner has a legal title to be paid to a locumtenent during illness, they raise no objection to such deductions being claimed and allowed. This probably meets the equities of the situation fairly well. The position of the practitioner would therefore seem to be: (a) he cannot deduct the premiums on his accident, etc., policy; but (b) he does not pay tax on any benefits received under the policy; and (c) he is as a matter of practice allowed to deduct his special expenditure in providing a locumtenent during illness, etc.

## LETTERS, NOTES, ETC.

## A DISCLAIMER.

Dr. HECTOR MUNRO (London, W.1) has written to us disclaiming responsibility for a recent publication in the lay press of an article in which we have received a communication from a person concerned, who writes: "This matter was referred to in an informal conversation I had with Dr. Munro, I, as a journalist, made use of the information he gave me, and by mistake, and without his authority, mentioned his name."

## HERPES ZOSTER AND VARICELLA.

WE have received a number of further communications on this subject.

Dr. J. M. COWIE (M.O.H. Burton-on-Trent) writes: The many cases recorded of the apparent connexion between herpes zoster and varicella are of much interest, and some cases equally important are also known to me, but I have seen so far no record of any statistical investigation of this subject. Chicken-pox has been a notifiable disease in this borough since November, 1922, and owing to the proximity of small-pox and the likelihood of its introduction into the town every case of chicken-pox has been investigated by the medical officer of health or the assistant medical officer of health. At the same time careful inquiries were made as to the previous occurrence in the household of cases of herpes zoster. During the period of just over two years ending 31st December 1924, 813 cases of chicken-pox were notified. Of these cases the following histories of previous herpes zoster in the household were obtained:

1. Male, aged 11. Rash November 21st.
2. Female, aged 10. Rash November 23rd.
3. Male, aged 10. Rash November 23rd.
4. Male, aged 10. Rash November 23rd.
5. Male, aged 10. Rash November 23rd.
6. Male, aged 5. Rash November 23rd. Visited December 1st.
7. Female, aged 3. Rash July 18th, 1924. Visited July 21st. Elder sister.
8. Male, aged 10. Rash November 23rd. Visited September 10th.
9. Male, aged 10. Rash November 23rd. Visited November 7th.

The cases with a history of previous herpes zoster in the home, therefore, numbered 9, which gives a proportion of 1.1 per cent. of cases and 1.6 per cent. of families. No inquiries were made as to any subsequent cases of shingles occurring in these houses. So far as this investigation goes, the frequency of the relationship of these two diseases hardly allows any conclusion to be come to other than that the connexion is purely casual.

Dr. J. LESLIE ORR (Lochmaben) writes: I desire to record another instance where these two diseases occurred together and where some definite relationship is strongly suggested. A female patient developed herpes zoster supraorbitalis about the end of January last. A fortnight later her daughter, aged about 20, which, mentioned by Dr. Ritchie (February 14th, p. 305), were also manifest—namely, (1) there were no other cases of chicken-

pox occurring in the neighbourhood, and (2) the fourteen days' interval between the onset of the two diseases. Further reference to these conditions is made by Dr. R. C. T. Evans (March 14th, p. 503). Now chicken-pox is generally understood to be a disease of childhood and most liable to occur between the second and sixth years; also, adults who have not had the disease in childhood are very liable to be attacked. It would certainly be interesting to ascertain if chicken-pox associated with herpes zoster occurred only in people who had not suffered from the former disease. Might I suggest that this may account for the small number of cases recorded? If this suggestion cannot be borne out, then I think that the coincidence of the two diseases is thought to be infrequent simply because many are not aware of any possible relationship, and failure of others to record cases when they do occur. It is also possible that many cases of chicken-pox associated with herpes zoster are to the very mild nature of the attack of the latter disease, which is the first occasion on which I have noticed the same family and at the same time.

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Dr. E. O. K. KENDERDINE (Coventry) writes: On January 23rd, 1925, Miss A.—J., aged 19, developed intercostal herpes zoster. On February 9th her younger sister developed typical varicella. She was 4 years old, and we could not trace contact with other varicella patients.

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## DIPHTHERIA IN THE AGED.

Dr. J. OWEN REID (Lochearn, Ross-shire), with reference to Dr. Muir's memorandum (March 21st, p. 552) on a case of diphtheria at the age of 72, writes: I have recently attended two women, aged 69 and 73, suffering from diphtheria. In both cases diagnosis was confirmed by bacteriological examination. The first case died from heart failure on the fifth day of illness, but the lady of 73, who has now been ill for ten days, is doing very well, and is recovering. These cases lived many years in the district at the time, and, in fact, were ripples.

Dr. LEWIS GRANT (Neston, Cheshire) sends notes of a case in which a membranous diphtheria was found on examination. "She developed the disease in the palate, but this cleared up. At the time she was in her 80th year, and is now hale and hearty in her 95th year, her birthday being next July. She lives with her youngest sister, who is now in her 93rd year."

## "PRACTICAL BIOCHEMISTRY."

DRS. W. A. OSBORNE and W. L. YOUNG (University of Melbourne) write: It may appear to some of your appreciative readers that your review of our book "Practical Biochemistry, in your issue of November 1st, is one of the criticisms, but a misunderstanding has arisen which is easily rectified. Your review gives a list of most important biochemical procedures and applications which are omitted from the volume, such as quantitative estimation of sugar in blood, the use of the polarimeter and colorimeter, analysis of the faeces, and many more. There was a time when reviewers were charged with reading the preface only; in this instance the process has been reversed, for a perusal of our preface would have informed your reviewer that the book has two companion volumes in process of preparation—one devoted to quantitative and advanced methods and the other to clinical applications.

## VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 42, 44, 45, 48, and 49 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 46 and 47. A short summary of vacant posts notified in the advertisement columns appears in the Supplement at page 127.

## The Theoretical Basis OF THE SANOCRYLIN TREATMENT OF TUBERCULOSIS.

BY

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ALTHOUGH chemical substances have been employed to a very large extent in the treatment of tuberculosis no real chemotherapy of this disease has hitherto been developed. The treatment here described represents an attempt to build up a chemotherapy in the sense of Ehrlich and Morgenroth; it cannot, however, be too strongly emphasized that this treatment is to be considered as a beginning only, and as probably showing a way out of the present *embarras des richesses* in the therapy of tuberculosis.

Chemotherapy in the sense of Ehrlich is not to be understood merely as treatment with chemical substances only, and its effect is not due to any local action at the site of injection. Chemotherapy means the introduction into an infected organism of a substance having a directly injurious influence on the parasite and forcing this influence upon the parasite at long distances from the place of introduction. The possibility of such effect is intimately connected with a specific affinity of the substance for the parasite. Without such affinity it is hopeless to attempt to influence the parasites in any generally infected organism by means of chemical agents. As a specific affinity of any chemical substance to any parasite hardly exists without some affinity to the cells of the infected organism itself, the rate of parasitotropy to organotropy decides the question of the applicability of any substance as a chemotherapeutic agent. Ehrlich expressed this fact by means of the chemotherapeutic index. The existence of this index, however, means that a substance which is poisonous to a parasite will also exercise some toxic effect upon the infected organism. It is for science to reduce this toxic effect as much as possible, but it is necessary to emphasize the fact that even in the case of the most complete reduction of organotropy patients having a lesser tolerance to a certain compound than the average will be met with. Every injection of a chemical substance into the blood of any human being, therefore, always implies some risk, which must be balanced against the risk of giving no chemotherapeutic treatment.

To kill and dissolve bacilli in an organism by means of a bactericidal substance very often has the same effect as to inject killed or avirulent cultures—that is, it has an immunizing effect. The injection of the bactericidal substance produces an “*iocus immunicatorius*” (Ehrlich). Hence chemotherapy not only means bactericidal treatment, but also indirect immunization with liberated antigen. It may, however, under certain conditions produce another indirect effect. If the antigen is very toxic or is liberated in very large amounts, or the capacity of the organism for building antibodies for one reason or another is diminished, the injection of the bactericidal substance produces a more or less grave toxæmia, increasing in some cases to a deadly effect. We are already acquainted with such cases in the chemotherapy of spirilloles, and present knowledge of tuberculosis is in reality sufficient to make us expect the same to happen in the chemotherapy of that disease also.

The natural reaction of the therapist to this is to diminish the dose of the bactericidal substance. It must, however, be clearly understood that the effect not only depends on the quantity of the dose, but also on the amount of easily influenceable bacilli in the organism; further experience of chemotherapy has shown us that minimal doses are not only without effect, but in some cases even stimulate the disease (“*effectus contrarius*”—Ehrlich). Reduction of the dose, therefore, does not always solve the question of toxæmia. Where this effect is prominent

chemotherapeutic treatment can hardly be carried through without the help of an active or passive immunization of the infected organism against the liberated toxins. In these cases clinical treatment must be carried out as a combined chemo- and sero-therapeutic treatment.

These are the principal ideas of chemotherapy founded on the work of Ehrlich and built up on the numerous investigations following in the wake of salvarsan.

For the last twenty years numerous chemical substances have been tried against tuberculosis, and the investigations into the influence of chemicals upon the tubercle bacilli outside and inside the organism are legion, the substances used ranging from dyestuffs to organic and inorganic compounds of heavy metals. In recent times German workers have made extensive investigations into the effect of heavy metals on tuberculosis (Tinkler, v. Linden, Meissen, Strauss, Bruch and Glück, Feldt and Spies, Bethmann, Juncker, Mayer, Pikanowitsch, Kolle and Schlossberger, Görke and Tappich, and others), as have also certain French, English, and American investigators (Breton, Hollande and Gaté, White, de Wit, Wells, Long, Cathwell, Leard, and others).

There is not space here to record the details of these investigations, but as far as I can see their general results may be expressed by saying that they have proved that many compounds of heavy metals have a more or less pronounced growth-preventing influence on tubercle bacilli in culture, and that some of these compounds when injected intravenously retard the death of small tuberculous animals (rabbits, guinea-pigs), making the tuberculous lesions develop into a more sclerotic type. No real curative effect has, however, been observed.

From the failure to produce such effect, as well as from the fact that most of the metallic compounds employed have been too poisonous to the organism to be used in bigger doses in man, a new idea arose, supported first by pure theoretical considerations, but later on by experimentally proved facts, especially in Denmark (Walbum). In 1917 Feldt set forth his idea that the influence of the various metallic compounds (of gold, mercury, copper, bismuth, etc.) on the tuberculous processes is the result of a pure catalytic effect stimulating the natural reactions of defence of the organism—that is, its immunizatory processes. As a catalyst acts in very small concentrations, the logical consequence of this idea was the introduction of minimal doses into the therapeutics of tuberculosis. Feldt accordingly reduced the doses of krysolgan to a few milligrams injected at long intervals.

From Feldt's published statement it appears, as far as I can see, that this idea at the beginning was an ingenious but purely theoretical speculation. In recent times the possibility of exercising a stimulating effect on the production of antibodies by intravenous injections of small doses of various metallic salts has been proved by Walbum, and the whole idea of getting a clinical effect in this way supported by experimental facts.

On the other hand, no such clinical effect has at present been observed from most of the employed metallic compounds. Krysolgan seems only to have a detoxicating effect in certain cases of pulmonary tuberculosis and to cause quick healing in some cases of localized tuberculosis. The effect of the catalyst might, however, depend on its concentration in the body, as pointed out by Walbum, and recent investigations by him give support to this idea. Possibly, therefore, better results may be secured with some concentrations than with others, and there may be hope of something coming from the rational study of the influence of variations of the concentrations of metallic ions in the infected organism.

On the other hand, two things should never be forgotten: first, that the introduction of the minimal dose into human therapeutics in reality makes the assertion of the inefficiency of any substance on any kind of disease very difficult, especially in the case of the more chronic diseases, such as tuberculosis; and secondly, that a catalyst only augments the velocity of reaction and never alters the direction of chemical processes. By introducing a catalyst into a chemical system, whether a simple or complex system such as the organism, we cannot control the final

results of its reactions but only the velocity with which the possible results are obtained. All catalytic treatment therefore implies a profound knowledge of the pathological conditions of the individual organism at the moment of beginning treatment, and it does not seem probable that important progress in clinical treatment will be made in this way before the true nature of the immunization processes in the organism have been cleared up to a larger extent than they are at present.

For this reason I have felt it to be more hopeful to follow the lines of real chemotherapy drawn by Ehrlich and Morgenroth. In the special case of tuberculosis there is, however, one reason more. The results hitherto obtained in the chemical therapy of this disease are, it is true, not very encouraging; but, on the other hand, I have noted that in none of the numerous investigations of the different kinds of chemical therapy of tuberculosis has any attention been paid to some of the most prominent facts in the pathology of the disease—the specific resistance of the bacillus of Koch and the peculiar structure of the tuberculous tissue. I considered, therefore, that an attempt to develop a rational chemotherapy of tuberculosis with special regard to these two facts was still worth making.

#### A. THE CHEMISTRY OF SANOCRYSIN TREATMENT.

It is a well known fact that the toxic effect of a heavy metal on the organism is exerted by the positively charged metallic ion. A chemotherapeutic compound of a heavy metal must therefore never introduce important amounts of free metallic ions into the organism. Hence it follows that the first step in diminishing the organotropy of any compounds of heavy metal is to enclose the metal in a real complex body, of which the stability is sufficient to keep the concentration of metallic ions in watery solution practically equal to 0. Further, it is evident that the complex body in which the metal is enclosed must not itself be poisonous to the organism, as is cyanogen. Finally, the whole complex must have such chemical qualities that the amount of it which does not enter into combination with the parasite is excreted unaltered, or, if decomposed, then without the forming of metallic ions or other bodies poisonous to the organism.

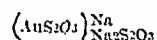
These are the fundamental conditions which make it possible to use a compound of a heavy metal as a chemotherapeutic agent without injuring the organism. To secure a bactericidal effect the substance needs further a specific affinity for the parasite in question. The general principle on which to find such an affinity, when no prominent properties of the parasite suggest a special method, is laid down by Ehrlich and Morgenroth in "the principle of chemical variation." In tuberculosis the whole question, however, is complicated by two peculiarities in its pathology.

1. The specific resistance of the bacillus of Koch is due to its content of fatty substances, whose presence is the principal reason for the so-called acid-fastness of the bacillus and its resistance to antiformin and other generally employed disinfectants. A bactericidal effect of any compound of a heavy metal on tubercle bacilli is, therefore, not to be anticipated, except subject to the condition that the compound is capable of penetrating the fatty system and so carrying the metal into the body of the bacilli.

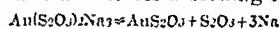
2. The peculiarity of the tuberculous tissue, which is of importance in chemotherapy, is its poverty in vessels. This means that a chemical compound must diffuse from the blood through the tissue to reach the tubercle bacilli, and the distance through which diffusion must take place grows longer as the tubercle increases in size and develops in calcification. Whether a chemical compound under these conditions reaches the bacilli or not is a question, not only of its more or less pronounced specific affinity, but also of the ratio of its diffusion velocity to the velocity with which it is decomposed in or excreted from the organism. The hope for chemotherapy in tuberculosis is therefore probably intimately connected with the possibility of finding a substance which diffuses very quickly through animal membranes, and which is sufficiently stable in the organism to be kept unaltered in the blood and the lymph for a relatively long time.

These last considerations led to the idea that if a substance is to influence tubercle bacilli in the organism, its bactericidal effect must be carried by a rapidly travelling ion of high stability. As recent investigations (Hamburger, Ege, Gürber, Bunge, Abderhalden) appear to show that negatively charged ions diffuse much more quickly through animal membranes than positive ions, it seemed probable that the ideal chemotherapeutic in tuberculosis would be a negatively charged ion. Hence the fundamental idea in the chemical theory of sanocrysin is to insert the heavy metal into a real complex, which is a rapidly travelling negatively charged ion with sufficient stability to remain unaltered in the body for a relatively long time. The heavy metal carried by the sanocrysin ion is gold, because all previous investigations showed that it exercises a greater influence on tubercle bacilli in culture than any other metal. This quality is, of course, only of importance as a guide. To act as a chemotherapeutic agent the complex ion must possess a specific affinity for the tubercle bacilli, and must be able to carry the gold through the lipid system into their body.

So far I have found the sanocrysin ion to be the body which best fulfils this condition. The chemical constitution of sanocrysin is very probably to be written as follows:



In watery solution it dissociates according to the equation:



Its therapeutic agent is then the complex negatively charged ion  $\text{AuS}_2\text{O}_3$ . This ion has, according to my investigations, the following properties. It—

- (1) Is easily soluble in water (1 gr. in 2 c.cm. water).
- (2) Is a real complex and of great stability. Au is not generated by the usually employed strong reducing agents;  $\text{H}_2\text{SO}_4$ ,  $\text{SO}_2$ ,  $\text{SnCl}_2$ ,  $\text{H}_2\text{C}_2\text{O}_4$ ,  $\text{KI}$  do not affect the substance even at boiling temperature. Dilute hydrochloric acid does not affect it at ordinary temperature.  $\text{H}_2\text{S}$  decomposes the ion yielding gold sulphate. Highly concentrated watery solutions decompose slowly, especially in daylight, developing a yellow colour. Diluted solutions are unaltered in about fourteen days, when kept in a dark room.
- (3) Is rapidly diffusible. The diffusion velocity of  $\text{AuS}_2\text{O}_3$  through animal membranes is about 75 per cent. of the diffusion velocity of  $\text{I}^-$ .
- (4) Remains in the body for four to six days after injection into the blood.
- (5) Is partly decomposed in the organism, evidently yielding metallic gold, and partly excreted principally by the kidneys in complex condition. When the urine contains gold it is not found in ionogenic form.  $\text{H}_2\text{O}_2$  in alkaline solution decomposes the substance at  $100^\circ\text{C}$ . totally into gold and  $\text{Na}_2\text{SO}_4$ .
- (6) Does not precipitate proteins, especially not the proteins of calf or horse serum, at a temperature of  $35^\circ$  to  $40^\circ\text{C}$ .
- (7) Penetrates the lipid system of the tubercle bacilli in a very short time, affecting the acid-fastness very gravely and carrying gold into the body of the bacilli in amounts which after a short time can be shown by microchemical reaction.
- (8) Prevents the growth of tubercle bacilli in culture. On the medium I used, and which contained no peptone, I found the growth-limiting concentration to be 1 in 100,000. This value may, however, probably be altered on media of other composition. Especially it must be kept in mind that all media containing  $\text{H}_2\text{S}$  will decompose the sanocrysin and precipitate the gold as gold sulphate and metallic gold. In such media the growth-preventing concentration will increase; the question of growth-preventing properties is, however, of very small importance in chemotherapy. Dioxydiaminorsenobenzol does not kill spirilli *in vitro* and is yet one of our strongest chemotherapeutic agents.

#### B. PHARMACOLOGY OF SANOCRYSIN: EFFECTS ON THE HEALTHY ORGANISM.

As has been pointed out above, every chemical substance which has an affinity for a parasite may be expected to have some affinity for the cells of the organism. The organotropy of sanocrysin has not been cleared up in all its details, but the principal questions have been so far investigated that we have sufficient material to decide whether we can take the responsibility of injecting it into human beings or not. We know at present the following facts from investigations on calves, rabbits, and monkeys.

**Circulation.**—The intravenous injection of sanocrysin in doses of from 1 to 6 cg. per kilo of body weight does not affect the rhythm or rate of the heart; the blood pressure remains unchanged.

**Red Blood Corpuscles and Haemoglobin.**—Repeated intravenous injections of sanocrysin in doses up to 6 cg. per kilo body weight have no injurious effect on the red blood corpuscles or their haemoglobin.



*Temperature.*—Doses up to 4 eg. per kilo body weight do not affect the body temperature.

*Body Weight.*—Doses up to 4 eg. per kilo body weight do not influence the weight of the individual.

*Liver.*—Doses up to 6 eg. per kilo body weight have never caused any apparent injury to the liver and jaundice has never been observed.

*Kidneys.*—Sanocrysin is excreted principally by the kidneys. If a first dose of 2 eg. per kilo body weight is given it may be followed by slight albuminuria, which disappears within two or three days. If, on the other hand, the first dose does not exceed 1 eg. per kilo body weight, no albuminuria is caused; and subsequent doses of 2 eg. per kilo body weight are tolerated without causing any albuminuria. Generally the dose can be increased gradually up to 6 eg. without causing albuminuria. Thus the kidneys rapidly increase their tolerance to sanocrysin.

*Intestinal Tract.*—The administration of 2 eg. per kilo body weight produces no apparent effect on the intestinal tract. In monkeys 7 eg. have been tolerated without such effect.

*Nervous System.*—Doses up to 6 eg. per kilo body weight do not cause any detectable disturbance of the nervous system in healthy animals.

From these investigations it appears that sanocrysin in doses of from 1 to 4 eg. per kilo of body weight has very little effect on the sound organism. The weak point in the pharmacology of the substance is its action on the kidneys. This action is, however, avoided when the initial dose does not exceed 1 eg. per kilo nor the maximum therapeutical dose 2 eg. per kilo. Most animals endure bigger doses, and clinical experience has shown that the same is true in a large number of human beings.

On the other hand, the effect on the kidneys seems to be quickly reparable. Even with doses up to 6 eg. the albuminuria disappeared in a few days, and we have never found the lesions of the kidneys to develop in calves into chronic nephritis—even after six months' observation.

#### G. IMMUNOBIOLOGICAL PRINCIPLES.

From the preliminary investigations of Mafucci, as well as from researches by many different authors (Prudden and Hedenpyl, Strauss and Gamaleia, Calmette and Bretou, Grancher and Ledoux-Lelard, Ussmann, Kosteuch, Krompecher, Keller, Engelhardt, Baumgarten, and others), we know that killed tubercle bacilli can exercise a local as well as a general injurious effect on the healthy organism. The local effect consists in the formation of abscesses at the site of injection, while when the bacilli are injected into the blood miliary tubercles are produced in different organs. The general effects are emaciation, cachexia, and more or less pronounced intestinal disturbances.

These results lead us to expect that a chemical compound which kills tubercle bacilli in the organism will cause very serious toxæmia when injected into a tuberculous organism.

Further, the splendid investigations of Robert Koch showed that the healthy and the tuberculous organism react quite differently to the injection of killed tubercle bacilli or tuberculin. In the healthy animal the toxic effect is produced only by large doses of killed tubercle bacilli and takes a relatively long time to develop. Even very small doses of killed bacilli or tuberculin often, in tuberculous animals, cause very severe symptoms, which develop in a relatively short time, and are signs of an acute intoxication of the organism. These symptoms are well known to everyone who is acquainted with the so-called specific therapy of tuberculosis. It need only be emphasized here that we meet two different groups of symptoms according to the pathological condition of the organism. The first group is represented by the acute intoxication caused by injection of tuberculin into highly tuberculous guinea-pigs and other small animals in the very acute stage of the disease. As shown by Koch, this "tuberculin shock" generally kills the guinea-pig in six to thirty hours, with very pronounced and very constant pathological changes in different organs.

The other group is represented by the "tuberculin reactions" caused by injection of tuberculin or killed bacilli into tuberculous animals with a more chronic type of the disease. The principal symptom of this group is a rise in temperature, but when large doses of tuberculin are injected other symptoms are produced—namely, pain in the limbs, cough, pronounced faintness, nausea, and often vomiting. In many cases an exanthem similar to the rashes

of measles appears on the neck and chest. Occasionally a slight icterus has been observed.

The injection into a tuberculous organism of a chemical substance which kills tubercle bacilli must therefore be expected to cause more or less pronounced symptoms of intoxication. As a general reaction the tuberculin shock has only been produced in guinea-pigs. Other animals seem to be more resistant. The production of shock in a larger animal might, however, only be a question of the amount of toxins formed in the body. It should therefore be strongly emphasized that to inject a bactericidal substance into a tuberculous organism may involve all the risks of tuberculin shock. At any rate, we must expect to find "tuberculous reactions," often in very pronounced degree.

On the other hand, it is clear that a chemical substance which is not capable of producing tuberculin reactions cannot be expected, when injected into tuberculous organisms not immune from tuberculin, to have any injurious influence on the tubercle bacilli. As almost all the larger (tuberculous) animals react to tuberculin, except in the earliest and latest stages of the disease, a curative effect produced by chemotherapy must always be associated with big reactions, unless we are able to produce total immunity, either active or passive, before the injection of the bactericidal substance.

From these considerations it follows that a substance capable of killing tubercle bacilli in the organism must also produce very severe reactions in the tuberculous organism when injected in doses which have no effect on a healthy animal. Is that true for sanocrysin? It has been mentioned above that this substance, injected intravenously in doses of 2 eg. per kilogram of body weight has no effect on the temperature, the body weight, and the intestinal canal, and does not cause albuminuria when a previous dose of 1 eg. has accustomed the kidneys to excrete the substance.

Experimental researches and the clinical experiences have shown quite uniformly that the tuberculous and the healthy organism react quite differently to this substance. A quarter, and in some cases one-tenth, of the dose, which is without effect on the healthy animal, produces the most severe reactions in the tuberculous organism, and in the experimental work and in clinical observations we have encountered all the different symptoms belonging to the two groups of symptoms observed after the injection of tuberculin into tuberculous animals and human beings.

#### Shock Produced by Sanocrysin.

Very early in my experiments I found that one-third of the sanocrysin dose which is tolerated by the healthy guinea-pig always produces very severe intoxication in the highly tuberculous guinea-pig, and usually kills the animal in sixteen to forty-eight hours. The pathological changes in the organs have always been absolutely identical with those found by Robert Koch in the tuberculous guinea-pig killed by tuberculin; in particular a large hæmorrhagic zone was found surrounding the tuberculous lesions and spreading into the tissue around them.

In further experiments on highly tuberculous animals (goats, calves, monkeys) the same phenomena were observed. In monkeys especially, which are very sensitive to the intoxication, the shock could be made very significant; when the infection is set up by intraperitoneal injection with a small dose of human tubercle bacilli, monkeys develop a chronic tuberculous peritonitis, which does not cause death until after a period of about three months or more. If in the third week after the infection so small a dose as only 2 eg. of sanocrysin per kilogram of body weight were injected intramuscularly in one hind leg, a sero-sanguineous peritonitis develops in six to twenty-four hours, and the animal dies usually within forty-eight hours.

Goats, and calves more especially, though they are more resistant, yet very often die after only one injection of 2 eg. of sanocrysin per kilogram of body weight. In all cases pathological changes were found in the tuberculous organs of the same kind as in the tuberculous guinea-pigs. In calves, which ordinarily do not die until forty-eight

hours after the injection of sanocrysin, the development of the shock was investigated in detail. Ordinarily it begins with albuminuria, which develops into a grave parenchymatous nephritis. Shortly after the appearance of the grave symptoms of nephritis (increasing albuminuria, cylindrical casts and blood corpuscles in the urine) acute myocarditis appears. The third and last stage in the intoxication in animals affected with pulmonary tuberculosis is an extensive oedema of the lungs, which increases until the animals die, with frothy fluid exuding from the mouth and nose. Shortly before death a very significant clinical symptom occurs—namely, a fall in temperature, usually of  $2^{\circ}$  to  $3^{\circ}$  C. In most cases the animal dies at the lowest point in the temperature curve; but in some cases it recovers temporarily, to die one or two days later.

#### *Serotherapy of Sanocrysin Shock.*

Investigation of thirty large tuberculous animals treated with sanocrysin pointed to the fact that the shock mainly occurred during two distinct periods—namely, during the first three weeks after the artificial infection, and during the last weeks before death. As it is well known that the measurable antibodies in the blood are very much diminished, if not totally absent, in these two periods, I came to the conclusion that animals in the more chronic period might contain antibodies which were capable of protecting them from the shock. To test this I injected serum from a calf, affected with chronic tuberculosis for about three months, intravenously into two tuberculous calves suffering from grave shock produced by a sanocrysin injection. The result was striking; these calves recovered clinically in a few hours, and the albuminuria disappeared in twenty-four hours. From this observation I concluded that it might be possible to immunize animals against shock.

As the development of the shock is rapid there will never be time to produce an active immunity in an acute case; the protection against the shock must be by means of a passive immunization—that is, by way of serotherapy. The truth of this idea has been shown by demonstration that it is possible to protect tuberculous animals against the shock and to cure the shock by means of a serum produced by immunization of healthy animals with killed tubercle bacilli.

This serum was first produced in calves by repeated injections of killed tubercle bacilli and tuberculin. At present it is made by injection of defatted, formalin-treated tubercle bacilli, according to Dreyer's principle. By means of this antigen the strength of the serum has been increased, and it has been possible to make it in horses.

With this serum forty tuberculous calves and goats, suffering from albuminuria after sanocrysin injection, have been treated on more than 120 occasions. In all cases where the infection has been reasonable the albuminuria has disappeared, in most cases very quickly, but in some more slowly, and the shock was totally prevented. Only in cases in which the injection has been very much too large (animals infected with more than 7 cc. of virulent tubercle bacilli injected intravenously) the serum has not always been able to prevent the shock. This suggests that study of the serum question may contribute very much to the efficiency of the treatment in the grave cases of very acute progressive disease.

The experiments on calves and monkeys, as well as clinical tests on human beings, have uniformly shown that the serum is capable of curing the shock, when injected intravenously in sufficient doses at the very beginning of the fall in temperature. If, however, the collapse has continued for any considerable time, the serum injection may be followed by temporary recovery, but death ensues from failure of the heart. In clinical treatment it should therefore always be the rule to inject serum at the earliest appearance of the albuminuria, as it is the first sign of impending shock. It is, of course, true that albuminuria is not on every occasion followed by shock, but it is not always possible to decide in which case this will happen and in which it will not. The clinician must be very careful on this point, and not omit the serum treatment in any case before he has acquired sufficient experience to be able to

judge the condition of his patients during the sanocrysin treatment.

As far as I can see, all these investigations prove that sanocrysin in tuberculous animals and human beings can produce an acute intoxication, which does not occur when much larger doses are injected into healthy animals, and that this intoxication can be prevented or cured by means of a serum made by immunization of healthy calves and horses with defatted formalin-treated tubercle bacilli. Consequently it is possible to confer upon tuberculous animals and human beings a specific immunity against the lethal effect of sanocrysin. This is probably the best proof of the bactericidal influence of this substance upon tubercle bacilli.

#### *Reactions of the Tuberculous Organism Immune to the Shock.*

As has been pointed out above, animals with a more chronic tuberculosis very often show a high immunity to shock, and the same is true with certain tuberculous human beings. These animals or patients tolerate the sanocrysin injection without getting any albuminuria or other signs of the shock.

The tuberculous organism, whether naturally immune or made immune by serum, gives very pronounced reactions to sanocrysin, but of another very different type. None of the features of shock appear, but we find instead all the symptoms belonging to the second group mentioned above—the "tuberculous reactions." The most obvious of them are the following: rise in temperature, exanthemata, loss in weight, faintness, and intestinal disturbances. Besides them focal reactions in the infected organs are observed with more or less regularity, as happens with tuberculin injections.

There is no space to consider here all the details of these reactions; they have been investigated to a very large extent by the clinicians, who have proved a striking similarity in all principal points between the experimental and the clinical observations. For details I must refer readers to the preliminary report on results from Danish clinics (Holger Moellgaard, *Chemotherapy of Tuberculosis*, Copenhagen, 1924), and to later publications.

#### *Loss of Reactions during Treatment.*

One important feature of all the reactions mentioned must be emphasized: they all disappear gradually as the clinical signs of the disease disappear. This fact is very interesting, because it is just what might be expected if sanocrysin is really able to cure tuberculous disease. To do this the substance must be able to transform the tuberculous organism from a condition in which it gives a severe reaction into a condition in which it gives no reaction to the substance itself, as is the case with the healthy animal. The fact that this transformation is actually observed brings us nearer to the idea of a real cure of the disease. The cured tuberculous animal tolerates sanocrysin without getting albuminuria, temperature reactions, loss in weight, exanthemata, focal reactions, or intestinal disturbances.

On the other hand, the pathological conditions in tuberculosis are so complicated that the loss of all reactions to sanocrysin is no decisive proof of a real cure. From the animal experiments we already know that the condition of failing reactions to sanocrysin means one of three things:

1. Sterilization until negative result of the guinea-pig test.
2. Total immunity with loss of Pirquet reaction, but without sterilization.
3. Simple failure of reactions because the rest of the bacilli are too protected by fibrous tissue or lime; in these cases the Pirquet reaction persists.

Whether there is a fourth possibility—that of a gold-fastness of the bacilli—we do not know at present. If such a condition exists it seems, however, to be temporary only, but further investigations are urgently needed.

From clinical experience in man we know already the last two conditions. To prove the first is, for valid reasons, beyond the reach of clinical observation at this early stage of our observations. Personally I doubt whether it will ever be possible to prove it clinically.

Before their total disappearance the reactions to sanocrysin are ordinarily delayed until two or three days after injection. The transitory stage between the disappearance of the clinical signs of tuberculosis in the lungs and the definite loss of reactions is marked by "late reactions." This phenomenon is very interesting, because its appearance is in close accordance with the power of sanocrysin to remain for four days in the organism and to diffuse through animal membranes. The late reactions may be explained on the assumption that most of the bacilli have been cleared out, and those remaining are better protected; the substance, therefore, takes longer to reach the bacilli by diffusion.

This observation has a very important bearing on clinical trials. In experiments the late reaction has been found only in the last stages of the cure. Where, however, the bacilli are well protected by fibrous tissue (a condition present in many cases of chronic tuberculosis met with clinically), such reactions are to be expected from the beginning of the treatment. Clinical experience has shown that "late reactions" two to four days after a sanocrysin injection very often occur.

For the clinician it is of great importance to know that even big reactions may occur as late as four days after one sanocrysin injection, because it tells him that if he injects a fresh dose within this interval he may bring upon his patient the risk of a cumulative effect of the liberated toxins. If there are no special indications which make a more intensive treatment necessary the interval between two injections of 2 cc. of sanocrysin per kilo of body weight should never be shorter than four days. For the same reason it is not right to inject a fresh dose of sanocrysin during the temperature reaction produced by a previous injection.

#### D. CURATIVE RESULTS.

The general results of the animal experiments hitherto made may be summarized as follows: The combined sanocrysin-serum treatment has saved the life of even very gravely infected goats, calves, and monkeys, and brought them into a condition of clinical healing. On the other hand, it appears evident from the experiments that a thorough sterilization of the affected organs is very difficult and probably very seldom secured in cases of grave infections. In four lighter cases and in one grave case I have been able to carry the cure through until the guinea-pig test was negative. In all other experiments the guinea-pig test has been positive, though the tuberculosis was reduced to a few calcified tubercles in the lungs and sclerotic processes in the bronchial glands.

In considering the clinical bearing of these observations it must be strongly emphasized that the curative results in the animal experiments have been secured mostly in cases of exudative pneumonic type of tuberculosis of the lungs. I have chosen this type in order to avoid the well known variations of the chronic type, which are very disturbing in experimental work. But by choosing this type I have, strictly speaking, limited the proof of the curative effect of the sanocrysin to exudative pneumonic tuberculosis in the lungs. Further, the results of the guinea-pig test in my experiments suggest that the possibility of achieving sterilization depends to some extent on whether the disease has progressed as far as caseous destruction or not. In the cases where the tests have given negative results the *post-mortem* examination showed no tubercles or only very few. In all cases where a larger amount of bigger tubercles were found, even though they were calcified, the guinea-pig test gave positive results.

It must therefore be expected that the best effect of the sanocrysin-serum treatment in the human subject will be obtained in cases of the exudative pneumonic type. Clinical experience seems already to show that this consideration comprises a true idea, the most striking clinical results having been secured in exudative cases. As, however, our present treatment, inclusive of artificial pneumothorax, fails to give definite results in very many of these cases, the attempt to found a chemotherapy on sanocrysin would not have been in vain, even if it should be limited to such cases.

On the other hand, the experiments have demonstrated that it is possible in a short time to cause typical produc-

tive [*sic*] tuberculosis<sup>1</sup> in its earliest stages to heal up with sclerosis and calcification, and clinical experience has shown that cases of acute extensive miliary tuberculosis of the lungs can be brought into a condition of clinical healing. Even though the effect is greatest in the exudative cases, there might be some good results in the more productive cases also. Besides, clinical tuberculosis, as is well known, very seldom provides a pure case of one type of affection. In most cases there will be found productive and exudative processes together, and the sanocrysin will then have a great mission in checking the exudative progressive processes.

As was to be expected, the extent and gravity of the tuberculous process set a certain limit for the success of the sanocrysin treatment. In experiments on calves and goats this limit has been found with an initial infection exceeding 7 cc. tubercle bacilli per 100 kg. live weight of the cultures I have employed. I have only been able to carry one case with an initial infection of 10 cc. through until clinical healing. In the other cases the cure was inhibited by a rapidly developing cachexia, when big doses of sanocrysin were employed, and in cases of small doses the process could not be stopped: there were too many bacilli. It must, however, be understood that this limit is not decisive but dependent on the virulence of the cultures employed, when the treatment begins at the same time after the date of infection.

Finally, animal experiments have shown that other diseases in the lungs (mixed infections) may render it very difficult to obtain a curative effect with sanocrysin because the other processes themselves progress or protect the tubercle bacilli against the substance by enclosing them in large sclerotic masses of destroyed tissue. This has been observed in goats gravely infected in both lungs with *Strongylus capillaris* as well as with tuberculosis.

#### E. THE FATE OF THE TUBERCLE BACILLI IN THE TISSUE AND THE ALTERATIONS OF THE TUBERCULOUS LESIONS.

In three cases I have examined the lungs of calves after two to four weeks' sanocrysin-serum treatment. In all cases microscopical examination of preparations stained by the Ziehl-Neelsen method showed, particularly in small remaining miliary tubercles and their surroundings, numerous acid-fast granulations mixed with curled acid-fast and grey non-acid-fast bacilli. Amongst them were often found some acid-fast bacilli with normal morphology, and, as a transitory stage between the normal bacilli and the free granules, chains of granulations in the tissue. The granules were almost all intracellular. Probably these phenomena are indicative of the way the bacilli are cleared out of the tissue under the treatment. At any rate, these alterations of the bacilli in the tissue are, in my opinion, very remarkable.

The influence of the treatment on the anatomical lesions in the tuberculous organs may, it will be understood, vary according to whether the disease has been checked before the development of caseous tubercles or not. Where the process has been treated in the pneumonic exudative stage the only residuals of the process found on microscopical examination seem to be obliterated capillaries and small vessels and some infiltrations of the alveolar walls, which, however, are also found in lungs of quite normal calves.

Where real miliary tubercles and bigger caseous tubercles have developed, we have found the same alterations as are ordinarily observed when the tuberculous process heals spontaneously—namely, sclerosis and calcification. The most interesting observation has been that miliary tubercles may be grown through with fibrous tissue and contain a stone-hard piece of lime after four and a half to ten weeks' treatment. Bigger caseous tubercles have often in a very short time (five weeks) become surrounded by thick fibrous walls, and more or less filled with pieces of lime.

These results seem to prove that the sanocrysin treatment really exercises such influence on the bacilli in the tissue and on the tuberculous lesions as might be expected from the clinical observations of its curative influence on the tuberculous processes.

<sup>1</sup> The reader is referred to a note on page 668.

## REGIONAL ANAESTHESIA:

## AN ESTIMATE OF ITS PLACE IN PRACTICE.\*

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What follows is based on my personal experience, on the observation of several hundred cases, and on the examination of the records of many more cases in which regional anaesthesia was administered in the Mayo Clinic during November and December, 1924, and January, 1925. No attempt is made to treat the subject systematically and as a whole; for such, the treatises of Labat, Braun, Meeker, Gwathmey, and others may be consulted. It is intended here to describe in essential detail those applications of regional anaesthesia which, beyond reasonable doubt, relieve the patient and assist surgical practice.

*Preparation of the Patient.*

An aperient is administered the night before, followed by a sleeping draught. An enema is given in the morning, and a light meal of tea and toast four hours before going to the operating room. Half an hour before operation, unless a head case, the patient receives from 0.16 to 0.25 grain of morphine, combined in abdominal cases with 0.01 grain of atropine to reduce the liability to nausea. The skin in the area to be injected is treated as for any surgical operation. Preliminary cleansing with benzene and ether is followed by painting with 2 per cent. tincture of iodine. The area is then draped with a single layer of towels, through which the bony landmarks are easily felt. It is an aid to place these towels at definite levels; for example, in a dorsal exposure of the patient, the upper edge of the lower towel should be at the level of the iliac crests, and the lower edge of the upper towel at the level of a selected vertebral spine. If the patient is exposed ventrally, the umbilicus, xiphoid, and pubis are useful levels for the edges of the towels. The lateral towels are best placed at the outer edges of the recti.

*Preparation of Anaesthetic and Instruments.*

Novocain (Metz) was used throughout the present series of cases. The solution was prepared as follows:

Four hundred c.cm. of sterile 0.9 per cent. sodium chloride were brought to the boiling point in a flask previously boiled for fifteen minutes; 75 grains of novocain were added and the whole gently boiled for three minutes, after which the mixture was diluted with freshly boiled sterile sodium chloride solution to 500 c.cm. This gave a 1 per cent. solution. At the last possible moment before injecting, 0.1 per cent. adrenaline was added in the proportion of 10 minims (not drops) to each 100 c.cm. of the novocain solution.

The glass syringe is graduated for 10 c.cm. and holds an additional 3 c.cm. to admit of aspiration.

It has metal ends, of which the proximal screws on, a metal plunger, and an eccentric nozzle with bayonet catch for the needle. To ensure an accurate fit of plunger and needle, the design of Labat, by Ateliers Gentille of Paris or Sharp and Smith of Chicago, was chosen. The needles are of non-corrosive steel, made as long as compatible with their tensile strength, and of varying size. A useful outfit would include five needles of 50 mm., three of 80 mm., three of 100 mm., three of 120 mm., and several 20 mm. dermal wheal needles. Each of these holds a stylette and is itself held in a metal tube container. There is needed also for caudal anaesthesia an 80 mm. steel spinal needle with a stylette, the end of which accurately fits the end of the needle. At the proximal end of the stylette is a slot and button to show where the bevel of the needle and stylette coincide. The cutting end should be refreshed with a carborundum hone before sterilizing. With the left index finger almost over the point of the needle to press it on the bone, and the proximal end between the right finger and thumb, the point is moved not more than 1 cm. back and forth, the needle making an angle with the bone not more than 10 degrees. This results in a long narrow bevel which will pierce the skin with a minimum of trauma and

pain. The needles are sterilized by boiling in water for three minutes with stylettes in place. The syringe is kept in an alcoholic solution of phenol and rinsed with sterile water before using.

## ANAESTHESIA IN THE PELVIC AREA.

There is no area of the body in which regional anaesthesia is of greater value, or easier of application, than in the pelvis. The anaesthetic is applied to the sacral nerves outside the spinal dura mater. The needle is inserted through the hiatus sacralis for caudal anaesthesia, or through the posterior sacral foramina for transsacral anaesthesia. The anaesthetic may be introduced into both hiatus and foramina in the same patient. This may be called sacral anaesthesia. When the fluid is introduced into the hiatus, anaesthesia may be depended on up to and including the third sacral nerve in all cases. Usually it will include also the first and second sacral nerves. If the fluid is introduced into the third and fourth sacral foramina as well, anaesthesia is prolonged. If introduced into the first and second sacral foramina, then the first and second sacral nerves will certainly be affected. For external haemorrhoids, anal tags, fissures, and fistulas, caudal anaesthesia is adequate. For more extensive pelvic operations, such as prostatectomy or rectal excision, complete sacral anaesthesia is necessary. No further discomfort is caused the patient, since there is already some anaesthetic about the sacral foramina as a result of the fluid introduced through the hiatus. Such sacral anaesthesia admits the freest of pelvic manipulation. There are two limitations: the peritoneum remains sensitive to traction, and approach to the pelvis is confined to the perineal route. The pelvic peritoneum, however, lies in the field of anaesthesia, so that low rectal resection can be performed under sacral anaesthesia, with little or no discomfort, by the perineal route. Since an abdominal field-block permits of the suprapubic approach to the prostate, it follows that sacral anaesthesia, together with an abdominal field-block, will allow of the performance of suprapubic prostatectomy. This anaesthesia, indeed, has been found ideal for prostatectomy. There is complete loss of sensation, with rarely the fall in blood pressure associated with spinal anaesthesia, or the respiratory embarrassment met with in inhalation anaesthesia.

*Method.*

The patient lies prone on the operating table with a bolster under the hips to elevate the sacrum and buttocks. The draped towels leave uncovered an area from the first lumbar vertebra to the tip of the coccyx, and about as wide as it is long. A small wheal is raised one fingerbreadth above the upper end of the natal furrow. A 50 mm. needle is inserted through the wheal at an angle of about 60 degrees. After it has been passed about 3 or 4 mm. it will be felt to pierce a membrano (the posterior sacro-coccygeal ligament). There is a momentary resistance; then the needle goes quickly for 1 mm. and comes to a stop as it hits the sacral body on the floor of the hiatus sacralis. If it strikes a bone without that preliminary feeling of piercing a membrane and traversing a space, it must be withdrawn until the point is just below the skin and another attempt made. As soon as the point is in the sacral canal, 5 c.cm. of 1 per cent. novocain (in rectal cases 10 c.cm.) are slowly injected. Should subcutaneous oedema occur, the sacro-coccygeal ligament has not yet been pierced, and these steps must be retraced. As soon as the manoeuvre is completed, the original needle is replaced by a steel spinal needle with stylette. If it sticks, it is rotated through 180 degrees. If it is felt grating against bone, it is moved forward or back until the grating sensation disappears. At the end of the manoeuvre, three-fourths of the needle should be in the canal, and there should be no grating sensation on moving it forward or back 1 mm. A grating sensation means that the point is near bone, and is probably in a vein. If, on aspiration, blood or cerebro-spinal fluid enters the syringe, the stylette must be replaced and the needle moved slightly forward or back until subsequent aspiration is negative. The aim is to bring the point of the needle into the centre of the sacral lumen away from the bony walls and outside the dura.

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When the needle is clearly in place, the anaesthetic is slowly injected up to 45 c.cm. if the patient weighs less than 154 lb. (70 kg.), or 55 c.cm. if he weighs 168 lb. (76 kg.). A reaction may take the form of pallor, sweating, nausea, or a rise of the pulse above 120 or a fall below 60, and demands a pause until it subsides. Anaesthesia of the perineum commences in from five to twenty minutes, and the field gradually increases. If it has not begun in half an hour, the suspicion will arise that the needle has not reached the caudal canal. There should be a well marked deepening of respiration, usually apparent after only 1 or 2 c.cm. has been injected. The absence of this deepened respiration will excite strong suspicion that the needle is not in the canal, and it may be well, then and there, to withdraw and reinsert it.

This is for simple caudal anaesthesia. If complete sacral anaesthesia is desired, caudal anaesthesia is first administered, but only 30 or 35 c.cm. are injected. The needle with stylette inserted is then left *in situ*. After a pause of several minutes to allow caudal anaesthesia to extend, transsacral is begun. The posterior superior iliac spine is the starting point. In a fat person there will be a dimple here, in a thin person a bony prominence. At a point 1 cm. internal to this and 0.5 cm. below it a wheal is raised with the small dermal needle. This is over the site of the second sacral foramen. Labat places this foramen 1 cm. below the interspinous line, while Meeker and Scholl find it 2.5 cm. medial to the spine and 1 cm. below. The line from this point to another 1 cm. external to the point of entry of the caudal needle (still left *in situ*) marks the row of foramina. Both Labat and Meeker insist that the sacral cornu offers the most constant relationship to the lower end of this line. The line is divided into three equal parts, and a dermal wheal placed at the juncture of the first and second, and second and third parts, marking the sites of the third and fourth sacral foramina respectively. An 80 mm. needle, or in a thin person a 50 mm. needle, may be inserted at right angles to the skin, through each of the above three wheals, into the corresponding second, third, and fourth posterior sacral foramina. When it enters, if in the exact axis of the foramen, there is a feeling of absence of resistance. If this sensation is not experienced, another attempt must be made. If failure attends the third trial, another foramen should be tried. Each one successfully located assists the determination of the others. The position of the first sacral foramen is determined by producing upward a line connecting the three wheals already made, and taking on it a point as far above the second foramen as this foramen is above the third. The foramina of the other side are next injected in the same way. Into each of the first sacral foramina should be injected 5 c.cm. of the 1 per cent. novocain solution; into each of the second, 4 c.cm.; into each of the third, 3 c.cm.; and into each of the fourth, 2 c.cm. It is best to start injecting the fourth sacral foramen first, then the third and second, since the anaesthesia due to the caudal injection will act at the lower end of the sacrum sooner than at the upper. In this way many patients go through the transsacral injections without pain. If there is pain on raising the transsacral wheals, a little delay will allow the caudal injection to act further. At the close of the transsacral injection, if the patient shows no reaction to the novocain and adrenaline, a further 10 or 20 c.cm. may be injected through the caudal needle, which remains in place throughout the administration. In a few minutes the patient's readiness for operation will be shown by insensibility to a pin prick in the median line of the perineum, and loss of the anal sphincter reflex.

#### Nomenclature.

The cases classified as "good" were all that could reasonably be desired. Those classified as "poor" were failures, and supplementary anaesthesia was required. In those classified as "fair" anaesthesia was adequate, but in some respect lacked reasonable perfection. Those classified as "intended combined" included mostly cases in which patients were nervous and the desirability of a little comforting anaesthetic at some stage had been anticipated. The class "necessarily combined" comprised not only cases

in which regional anaesthesia failed, but those in which, for a variety of reasons, such as the discomfort of the table, failure of the patient's co-operation, or unexpected enlargement of the field of operation, eventually required a general anaesthetic.

There were 312 cases in which the anaesthetic was given. The results in 261 (83.7 per cent.) were good; in 25 (8 per cent.) poor; in 11 (3.5 per cent.) fair; in 5 (1.6 per cent.) "intended combined"; in 10 (3.2 per cent.) "necessarily combined"; and in 22 (7 per cent.) there were reactions.

#### SACRAL ANAESTHESIA COMBINED WITH ABDOMINAL FIELD-BLOCK.

Sacral anaesthesia renders the perineum insensitive, but is obviously inadequate if the pelvis is to be reached through the abdominal wall, as is the case in a suprapubic prostatectomy. In this case an abdominal field-block is added as soon as the complete sacral anaesthesia has been induced. The patient is turned over on his back and a dermal wheal raised at the outer border of each rectus, half-way between the umbilicus and the symphysis. Through one of these wheals there is inserted an 80 mm. needle with syringe attached, containing 0.5 per cent. novocain with 10 minims of adrenalin to each 100 c.cm. It is carried, immediately below the skin, to a point just below the umbilicus, and a dermal wheal raised from underneath the skin. It is now withdrawn so that the point lies just under the skin where first introduced, and reinserted in the same direction as before, but at an angle to the skin of 30 degrees. No solution need be injected during the movement of reinsertion. It will be felt to pierce the anterior layer of the rectus sheath, and at this point 3 c.cm. are injected between the layers of the rectus sheath. The terminal branches of the tenth, eleventh, and twelfth dorsal and first lumbar nerves lie in this region. The needle is again drawn back and redirected forward, this time at an angle of 60 degrees to the skin, and another 3 or 4 c.cm. introduced after the needle is felt to pierce the anterior rectus sheath. The manoeuvre is repeated at an angle of 80 degrees, by which time the syringe will be empty. In just the same way a syringe of saline is injected from the same wheal toward the superior pubic ramus. A repetition of these injections on the other side blocks off a gable-shaped space through which entry into the bladder is made. Lastly, a 50 mm. needle is introduced just behind and to one side of the symphysis, until it is felt to impinge on the pubic bone. It is slightly withdrawn and redirected downward behind the pubis into the cave of Retzius, where 10 c.cm. are injected on each side. By this time anaesthesia of the gable-shaped space should be complete. If not, reinforcing injections may be given in the same areas.

There were 134 cases in which the anaesthetic was given. The results in 118 (88.1 per cent.) were good; in 5 (3.7 per cent.) poor; in 8 (6 per cent.) fair; in 2 (1.5 per cent.) "intended combined"; in 1 (0.75 per cent.) "necessarily combined"; and in 19 (14.2 per cent.) there were reactions.

#### REGIONAL ANAESTHESIA OF THE NECK.

Its chief application in this area is in thyroid operations, but it is applied with equal success in block dissection of glands, excision of a thyro-glossal duct, or, as in one case in the present series, cervical sympathectomy for angina pectoris. The object is to bathe the cervical plexus in anaesthetic. The head being turned to one side, a dermal wheal is raised just below the mastoid and another over the cervical transverse processes, at the level of the superior cornu of the thyroid cartilage. Through the first wheal a 50 mm. needle is introduced, and directed medially, slightly downward and slightly backward. The course of the needle can be visualized more clearly if the tip of the left forefinger is placed on the third or fourth cervical transverse process, and held parallel to the direction decided on. When the needle is felt to touch the tip of the second cervical transverse process, it will be found that it slides off the tip readily in any direction. With it in contact with the tip, 10 c.cm. of 1 per cent. novocain and adrenaline are injected. Similarly a 50 mm. needle is introduced at the level of the



superior thyroid cornu over the fourth cervical transverse process, and another 10 c.cm. introduced. It is important to direct the needle downward so that it hits the transverse process in an oblique direction. If it is directed transversely there is a danger of wounding the vertebral artery or spinal dura, as Mecker pointed out. The head is turned to the other side, and two injections of 10 c.cm. given as before. The preceding constitutes a deep bilateral cervical block. An 80 mm. needle is now introduced through the wheal below the mastoid, pushed subcutaneously along the posterior border of the sterno-mastoid muscle, and 10 c.cm. of 0.5 per cent. novocain injected along its middle third. This blocks those nerves that become superficial at that point—namely, the great auricular, the small occipital, and the transverse cervical. The anaesthesia induced is almost instantaneous, and lasts two or two and a half hours. No adrenaline is added to the novocain solution if the condition is a toxic goitre.

There were 106 cases in which cervical anaesthesia was induced. The results in 83 (78.3 per cent.) were good; in 6 (5.7 per cent.) poor; in 10 (9.4 per cent.) fair. In 2 cases (1.9 per cent.) the anaesthetic was "intended combined"; in 5 (4.7 per cent.) "necessarily combined"; in 5 (4.7 per cent.) there were reactions.

#### INGUINAL HERNIA.

After complete reduction of the hernia, a wheal is raised in a line from the anterior superior spine to the umbilicus, at a distance of three fingerbreadths from the anterior superior spine. A 50 mm. needle is inserted toward the umbilicus subcutaneously. When it has been introduced almost its entire length a wheal is raised, 0.5 per cent. novocain and adrenaline being used. The needle is now withdrawn to the first wheal, and pushed forward at an angle of 30 degrees to the skin. At the moment when it is felt to pierce the anterior rectus sheath, 2 c.cm. are injected. The manoeuvre is repeated at angles of 60, 75, and 90 degrees to the skin. The 50 mm. needle is now completely withdrawn, the syringe refilled and reinserted through the wheal previously raised at the extremity of the needle's first subcutaneous insertion. Through this wheal solution is injected just as before, under the anterior rectus sheath as far as the umbilicus. The needle is again completely withdrawn and reinserted through the first wheal. This time injections are made toward the anterior superior spine, after each 2 or 3 c.cm. injection, increasing the angle the needle makes with the skin, until finally it is at right angles to it. Each injection of 2 or 3 c.cm. is made after the point is felt to pierce the external oblique aponeurosis. As a result the ilio-hypogastric and ilio-inguinal nerves will be completely blocked. A wheal is now raised over the superficial abdominal ring, at about the point where its pillars meet. The cord being raised from its bed is injected with a 50 mm. needle inserted through the wheal, 10 c.cm. of 0.5 per cent. novocain being used. The cord will be felt to swell as a result. Lastly, the 50 mm. needle is reinserted through this wheal between the cord and median line, and 10 c.cm. of novocain injected deep into the cord at its emergence from the superficial abdominal ring. In from five to fifteen minutes there is a complete anaesthesia of the surgical field, excepting the neck of the sac, and a duration of the anaesthesia of one hour may be expected. The neck of the sac is injected when the external oblique aponeurosis has been divided. It is quite possible to inject it before operation, but not without unnecessary risk.

There were 38 cases of inguinal hernia. The results in 27 (71.1 per cent.) were good; in 3 (7.9 per cent.) poor; in 3 (7.9 per cent.) fair; in 1 (2.6 per cent.) "intended combined"; and in 4 (10.5 per cent.) "necessarily combined."

#### LAMINECTOMY.

Regional anaesthesia is of great value in this operation. The position of the patient renders the administration of a general anaesthetic difficult. The operation is usually a lengthy one and the patient a poor subject for such prolonged inhalation anaesthesia. Under regional paravertebral anaesthesia the shock, as measured by blood pressure

and pulse, is slight. In the Mayo Clinic the results with regional anaesthesia have been better than with nitrous oxide or ether. The patient lies prone with the table angulated at his waist, the apex of the angle pointing upwards. His head rests on a horseshoe rest, through which he looks towards the floor. If laminectomy of the seventh dorsal vertebra were to be performed, paravertebral anaesthesia would be induced from the third to the tenth dorsal spine. A dermal wheal is raised 3 cm. to the right of the third spine, and an 80 mm. needle introduced at right angles to the skin. The resistance it encounters is the transverse process of the fourth dorsal vertebra. It is now withdrawn a little and pointed upward until it has passed the transverse process a distance of 1 cm. It will now touch the third dorsal nerve, and paraesthesia at this stage, while not sought intentionally, means later deep anaesthesia. An injection of 4 c.cm. of 1 per cent. novocain and adrenaline is made at this point. The manoeuvre is repeated on the other side of the third spine. In the same way each pair of dorsal nerves is injected, down to the tenth. It is often necessary to wait forty-five minutes before anaesthesia is complete. The process is hastened, and in unfavourable cases made more successful, by infiltrating the post-vertebral muscles with 0.5 per cent. novocain. Experience has shown that infiltration of these muscles alone is often unsuccessful. The area is tendinous and the solution does not run. A combination of paravertebral anaesthesia followed by infiltration shows far better results than either method used alone. As much as 200 c.cm. of 1 per cent. novocain with 100 c.cm. of the 0.5 per cent. solution may be given. In this, as in all regional anaesthetics, the ideal amount of anaesthetic is that which produces anaesthesia without a reaction. If the laminectomy is in the cervical region, then the nerves are best reached by the technique described for bilateral deep cervical block. If the laminectomy is in the sacral region, then the method employed is as detailed under the heading of sacral anaesthesia.

There are 25 cases in which regional anaesthesia in laminectomy was induced. The results in 17 were good; in 4 poor; in 2 fair; in 2 the anaesthesia was "necessarily combined"; 1 showed reaction.

#### CRANIAL EXPLORATIONS.

When craniotomy through the occipital bone is to be performed, a lateral deep cervical block is followed by a superficial cervical block at the posterior border of the sterno-mastoid, just as described for operations on the thyroid, except that 1 per cent. novocain is used for the superficial block. If anaesthesia does not develop quickly and completely, the neck is next infiltrated from the external occipital protuberance downward to the vertebra prominens, and the scalp along the superior curved line of the occiput, out to each mastoid. It is essential to infiltrate thoroughly, for not only does fluid run badly in the thick post-vertebral musculature, but the great occipital nerve at its origin as the posterior primary division of the second cervical nerve lies nearer to the median line than to the transverse process of the axis, and may be missed in the lateral deep cervical block, in which the pools of novocain are deposited at the tips of the transverse processes on the floor of the posterior triangle. From these pools the posterior primary division of the second cervical nerve is shielded by the complexus and splenius. The above technique gives an insensitive and bloodless field for the usual crossbow incision.

There were 4 cases in which regional anaesthesia was induced for posterior craniotomy. The results in 3 (75 per cent.) were good, and in 1 (25 per cent.) poor.

#### REGIONAL ANAESTHESIA IN THE ABDOMEN.

Little need be said on this subject. The question of the path of pain from abdominal viscera is not settled. Labat's technique is based on the theory that the splanchnic nerves provide the greater part of the route; Mecker has expressed himself very emphatically in disagreement. Moreover, that degree of success has not been attained with abdominal anaesthesia which would entitle it to a place among those

manœuvres which have been shown, beyond reasonable doubt, to be of real value. Discredit can only be brought on a rational method of anaesthesia by its too ardent application to a region to which it is very questionably suited.

A modification of Labat's method was used in 32 cases, with good results in 11. Of these, 4 were partial gastrectomies, 3 gastro-enterostomies, and 1 a cholecystectomy. It is impossible to be sure, however, just how much of the result was due to the anaesthesia of the abdominal sympathetic nerves, which Labat's method induces.

The most important result of regional anaesthesia is demonstrated rather by experience than figures. It is that in almost all cases the patient is the better for his regional anaesthetic, and even if inhalation anaesthesia is also needed, the patient is held with a minimum of nitrous oxide or ethylene often sufficient only to abolish consciousness.

#### REACTIONS TO REGIONAL ANAESTHESIA.

These are easily induced unless strict watch is kept on the patient and the various signs noted. It was the rule in all the cases of the present series for a nurse to sit at the patient's head and record the pulse. In head, spinal cord, and abdominal cases she also took the blood pressure. All these were recorded on a sheet of paper which the administrator could see and so avoid alarming the patient by verbal inquiries. The nurse also engaged the patient in conversation and withdrew his attention from the manipulations.

A reaction may be due either to the adrenaline injected or to the novocain, or both. An adrenaline reaction is early, a novocain reaction late. The elements of an adrenaline reaction in the order of their appearance are: (1) increased respiration, (2) rapid pulse, (3) palpitation, (4) apprehensive excitement, (5) tremor, (6) sweating, (7) dyspnoea, and (8) precordial pain. The last two, unlike the others, are late in onset. Any three of the first six constitute a marked reaction; the last two are happily as rare as they are serious. The elements of a novocain reaction are those of spinal anaesthesia: slow pulse, fall in blood pressure, pallor, cyanosis, nausea, and vomiting.

The treatment for either type of reaction is that of prevention. Safety is ensured by slow injection and cessation as soon as the reaction appears. The effect wears off in a few minutes. It is not cumulative and injection may proceed after an interval. In the event of a severe adrenaline reaction, oxygen containing 5 per cent. of carbon dioxide is given. This relieves the air hunger and anginal pain. More than 30 minims of adrenaline should never be given to one patient. There was only one severe adrenaline reaction in the present series. That was in the case of a patient who was afterwards found to have a family history of capillary atonicity. Both blood pressure and pulse rate were abnormally low, and his type would now be considered unsuitable for regional anaesthesia.

An ampoule containing 3 grains of caffeine, 7 grains of sodium benzoate, and 0.025 grain of strychnine should be in readiness in the event of a severe novocain reaction. For severe cases of pallor, nausea, and slow pulse, from 5 to 10 minims of adrenaline are injected.

A certain measure of success may be attained by practice of the technical methods herein detailed. To improve on that and to reduce failure to a minimum, careful study of the anatomy of the region is essential. It is necessary to visualize the field in perspective, and to be prepared for those variations from normal topography and relations which are not to be dealt with by rule of thumb.

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## NODAL FEVER.

(ERYTHEMA NODOSUM, ERYTHEMA MULTIFORME.)

BY

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#### PRELIMINARY.

In 1905 I published a book which bore the title *Nodal Fever*; quite recently Dr. G. F. Walker of Leeds has asked for my present views on this subject, and I will here sum up the results of further observations made during the past two decades. With respect to my *parvum opus* I may mention that, although the criticisms were very complimentary and friendly, the general verdict was the Scottish one of "Not proven."

Briefly stated, my contention was that erythema nodosum is not merely an affection of the skin, but an acute specific fever, met with, and best studied, in ordinary general practice. Evidence was adduced to show that it had a distinct prodromal stage, a stage of eruption, and a period of convalescence; that relapses occurred, and that second attacks had been noticed after an interval of several years. The theory advocated by Dr. (afterwards Sir) Stephen Mackenzie nearly forty years ago, that it is a manifestation of rheumatism, was combated; an explanation of the arthritic symptoms was suggested; and Trousseau's dictum that erythema nodosum is a distinct disease from erythema papulatum was disputed. Finally, I ventured to rename the disease "nodal fever" (*febris nodosa*).

My attention was first directed to this complaint when I graduated in 1879. I was attending at the time a brother, aged 16, whose attack as regards the copiousness of the rash, the degree of the accompanying pyrexia, and the prolongation of convalescence, was as severe as any I have ever seen since; it was something very different from the mild cases I had observed in hospital out-patient practice. I settled in Adelaide in 1883, and during the next seven years met with thirteen more cases. In 1885 I was struck by the coincidence of two cases of erythema nodosum occurring in the same household at the same time, but did not regard it as more than a coincidence. In the following year I had a child, aged 4 years, under my care for several days with a mild feverish attack, and had suspected typhoid fever because of its prevalence at that time; when it turned out to be erythema nodosum, the resemblance of this prolonged period of malaise and pyrexia to the ordinary prodromal stage of many of the acute specific fevers immediately struck me, and the chain of evidence seemed fairly complete. These observations were confirmed in subsequent cases, and in 1890 I wrote a paper entitled "Erythema nodosum, an acute specific fever." The volume *Nodal Fever*, based upon 63 cases, appeared fifteen years later, and was merely an elaboration of my former paper.

In this present communication it is proposed to deal with the subject by showing the general resemblance the symptoms and course of nodal fever bear to other acute specific fevers, by bringing forward fresh evidence pointing to its infectious nature, and by discussing its suggested relationship to other diseases, and the views thereon of other writers.

#### STATISTICS.

The first point to which I would draw attention is the age incidence (excluding cases seen in the Children's Hospital); there were—

Under 10 years ...	...	...	...	...	13
Over 10 and under 20 years ...	...	...	...	...	34
" 20 " 30 " ...	...	...	...	...	30
" 30 " 40 " ...	...	...	...	...	13
" 40 " 50 " ...	...	...	...	...	3
" 50 " 60 " ...	...	...	...	...	2
" 60 years ...	...	...	...	...	1
					96

Roughly speaking, 94 per cent. were under the age of 40 years and 6 per cent. over that age. If we accept 14 years as the average age of puberty in both sexes, and

48 as the approximate date of the climacteric in woman, we find the cases grouped as follows:

Under the age of puberty...	...	...	27
Between puberty and the climacteric	...	...	66
After the climacteric	...	...	3
			96

The youngest patient was 2½ years of age, the oldest was 69.

The influence of sex combined with age is interesting: taking all cases I find—

Under the age of puberty, 18 males, 17 females.	
Over " " 4 " 85 "	
22 males, 102 females = 124.	

The influence of season is very slight.

In the first quarter of the year there were	...	29
" second " " "	...	25
" third " " "	...	30
" fourth " " "	...	34
		118

As regards social state, of those who had attained their majority 38 were single and 18 married. Of 46 adult women the majority were engaged in domestic occupations, but 7 were hospital nurses, and 7 were school teachers, whilst one man and one girl were medical students, and another male was a teacher.

#### SYMPTOMS AND COURSE.

Instead of describing a series of individual cases I shall attempt to draw a composite picture of the complaint, dealing separately with the prodromal, the eruptive, and the convalescent stages. I must premise, however, that cases are met with of varying degrees of severity as regards the general symptoms and the extent of the eruption, as well as of the accompanying pyrexia.

#### Prodromal Stage.

It is not unusual for medical advice to be sought in this stage, when one may meet with most of the ordinary symptoms comprised under the term "malaise," such as headache, shivers, and temperatures ranging as high as 103°; pains in the limbs and joints, stiffness, or a tired feeling as though the limbs were of no use; one patient felt as if she had walked miles. In about 16 per cent. of cases a sore throat is mentioned as an early symptom, but the objective signs in the throat are very slight; at other times there is a complaint of naso-pharyngeal or tracheo-bronchial catarrh; more rarely disturbances of the alimentary canal attract attention. A correct diagnosis at this stage is seldom possible, unless amongst the other symptoms ocular phlyctenulae are noticed; in two such instances? I did prophesy that erythema nodosum would appear, and my prophecy turned out to be correct; on one or two other occasions, even without the presence of this valuable sign, I have suggested nodal fever as a possible diagnosis when no adequate explanation could be found for the prolonged high temperature, and I have been justified by the event. It will illustrate better, I think, the puzzling nature of the prodromal symptoms if I enumerate some of the various suspicions that have been aroused—rheumatic fever, enteric fever, influenza, tuberculous meningitis, hepatitis; these are some of the "shots" at diagnosis made, not by the patient's friends, but by the medical attendant.

The duration of this prodromal stage when well marked, as it was in a third of my second series of cases, appears to average about twelve days, and its extreme limits to range from seven to seventeen days, as far as I can judge. This corresponds very closely with my previous estimate in 1904. A very distinct feature of the prodromal stage is an exacerbation of the symptoms on the third or fourth day preceding the appearance of the rash; this was noticeable in 40 per cent. of my second series. The incubation period, moreover, is occasionally preceded by a considerable period of vague ill health, extending over some weeks or even months, and demanding treatment. The only inference one could venture to draw is that debility, attended with dyspepsia and anaemia, may possibly render the sufferer more vulnerable to an attack of nodal fever; on the other hand, other patients seem to have contracted it when in robust general health.

#### Stage of Eruption.

The question of diagnosis is seldom likely to occur in this stage. The individual spots of erythema nodosum on the shins are easily recognized, and I have been careful to exclude cases of erythema papulatum or erythema multiforme which failed to show at least one typical node on the legs. In a patient seen with Sir Joseph Verco in 1917, where no erythema nodosum or phlyctenulae could be found, there was an abundant rash of the appearance of erythema papulatum and erythema tuberculatum, together with diffuse blotches several square inches in area, but in this case an explanation was found in the fact that the patient was taking potassium bromide for epilepsy; the rash disappeared as soon as the drug was discontinued.

With respect to the appearance of the rash, I may say generally that the characteristic nodes, oval in shape, with their long axes more or less parallel to the limbs, and seldom or never transverse, are mainly seen on the legs. They used to be described as situated chiefly along the shins, but they have no special affinity for subcutaneous bony surfaces, and they may be seen just as much over the rest of the legs. To a less extent this oval shape may be noticed in nodes on the forearm, but elsewhere, round the knees for instance, the skin lesions are generally circular and may range from papules the size of peas to blotches two or three inches in diameter. Many of these spots seen apart from a genuine case of erythema nodosum would be described as erythema papulatum or erythema tuberculatum. I wish to stress this point because, whilst erythema nodosum may predominate, or appear alone, in a given case, the eruption in severe cases is usually a mixed one, and the rarer, though not very uncommon, appearance also of erythema iris, or erythema gyratum, establishes definitely, in my opinion, the multiform character of the nodal fever rash.

The manner in which these spots appear and fade into bruise-like swellings, lasting sometimes for five or six weeks, or even, faintly, for two or three months, need not be described, as it is so familiar; but I may emphasize the fact that the pain and tenderness associated with the spots may persist also for a long time, and that the lumps may be felt long after all colour has faded, whilst the pain and the purple tint may be revived by hanging down the limbs some time after these symptoms had apparently disappeared in the convalescent stage. I do not propose to dwell upon the appearance of the spots elsewhere than on the limbs, but the body, the face, and neck may all be attacked.

The duration of the eruption varies from a few days to some weeks. Besides the fading bruises, a crinkled skin and some desquamation may be noticed, but never suppuration or ulceration, though pustular spots of staphylococcal origin are sometimes accidentally associated. The spots may appear in relays, so that the eruption may be seen in all stages at the same time; or fresh spots may appear when the patient is convalescing, with intervals of from twelve to twenty-five days between the two crops; one lady reported from South Africa<sup>2</sup> that fresh spots had been constantly recurring for nearly a year.

As regards the general symptoms of the eruptive stage, one need only say that they are such as are usually associated with fever and the accompanying toxæmia, and that whilst usually they preserve some ratio of severity to the copiousness of the rash, they often seem less severe than during the prodromal stage.

Two special symptoms should be mentioned. One is somewhat rare, and I have termed it "Verco's sign," as it was first pointed out to me by Sir Joseph Verco in 1892.<sup>4</sup> It consists of subungual striae or dots of hæmorrhage, and may be seen both on the hands and the feet; in my second series of cases I met with it five times—that is, about once in twelve cases. The other symptom is much more common, and consists of one or more phlyctenulae; they are seen on the ocular conjunctiva near the margin of the cornea like tiny spots, or pimples, with a leash of blood vessels like a comet's tail spreading out towards the periphery of the eyeball; generally they are seated over the insertions of the inner or outer recti, but similar spots may be seen on the palpebral conjunctiva near the tarsal edge. It has, as I have already mentioned, a diagnostic importance in the prodromal stage; from its frequency—it occurred in 40 per

cent. of my cases—it establishes itself as an integral part of the disease, and in my opinion is undoubtedly the manifestation of the rash on a mucous membrane. I have not seen a similar thing in the nose or mouth, but in a fatal case of erythema papulatum which I reported<sup>3</sup> there were spots of superficial ulceration in the mouth. If, then, lesions appear on the visible mucous membranes as well as upon the skin, it is not, I think, a far-fetched idea to suggest that the pain complained of in the joints in both the prodromal and the eruptive stages may be due to a "node" developing on synovial surfaces. Here I may mention a piece of evidence that true skin is not an essential basis for the appearance of nodes; for I have seen them on a wide scar over the knee where no true skin tissue appeared to be left. In three or four cases only the glands of the neck have been noticed to be enlarged.

#### *Stage of Convalescence.*

In this stage the chief features are the marked depression and debility, whilst a few have complained of "rheumatism" subsequently. In one case weakness of the limbs persisted for which massage was necessary some eight months after the illness; in an elderly lady the saphenous veins in both legs became plugged.

#### SECOND ATTACKS.

I have recorded<sup>6</sup> four cases of second attacks, and now I can add five more. The interval between the two attacks ranged from one to sixteen years, but the average was almost five years. One patient, a hospital nurse, had three definite attacks within two years. Two other instances of erythema nodosum were followed at intervals of twelve and eighteen years respectively by attacks of erythema papulatum in which no definite spot was discovered which by itself could be called erythema nodosum.

#### ULTIMATE HISTORY OF PATIENTS.

Amongst those who have since died one succumbed to an appendix operation, another died at 75 of apoplexy, and a third at 82 of mitral disease. Morbus coxae, pulmonary tuberculosis, tuberculous meningitis each claimed one victim, and another case succumbed to erythema papulatum. Of the rest, one was operated upon for exophthalmic goitre and one became insane (her mother and sister had committed suicide); in one girl, whose brother was invalided home from the war with phthisis, there is a suspicion of apical tuberculosis; two other patients are liable to a vague sort of rheumatism unattended with fever.

#### THE EVIDENCE OF INFECTION.

I have previously reported<sup>7</sup> several examples of apparent infection conveyed from one patient to another, and now, with my additional cases, I have collected altogether ten such instances. In five of these two children in one family have been seen with the eruption coming out at intervals of from one to nine days, with an average of four days; such cases might be explained by the suggestion of a possible family predisposition, or of exposure to the same exciting cause at about the same time. Family predisposition cannot, in my opinion, be entirely ignored, because in one family I have notes of five grown-up young women contracting the disease at intervals of from one to seven years; four of them were sisters and the fifth a first cousin. Here the further question of a possible "carrier" comes in, and the fact of a patient being a carrier might explain the relapses and second attacks to which I have drawn attention; one of the sisters just mentioned had a second attack. As another instance of such possible family predisposition, or of "carrying" the germ, there is the case of Mrs. A., who had erythema nodosum as a girl of 16 soon after measles, and whose younger sister contracted both diseases almost at the same time; sixteen years later (1909) Mrs. A. had nodal fever again, and her two daughters, aged 14 and 12 years respectively, had it simultaneously in 1921. In another instance a mother was ill with nodal fever and confined to an upstairs room, whilst her grown-up son was laid up with a bubo on the ground floor; when sufficiently well the mother used to come downstairs and sit with her son; he exhibited the rash within a few days. A young woman, a domestic servant, was admitted into the Adelaide

Hospital with the complaint on March 15th; a sister was admitted on March 29th; she had temporarily filled her sister's situation, though she had not slept in the same bed. - Apart from relatives, however, I have two instances that are quite striking. No case of nodal fever had been treated in the wards of the Adelaide Children's Hospital for eighteen months until May, 1889, when L. H. and H. D. were admitted on the 9th and 13th respectively. T. H. (no relation of L. H.) was admitted for other reasons on May 4th, and on June 10th he exhibited the rash. In 1909 a young girl was convalescent in the Adelaide Hospital from typhoid; she developed nodal fever, and two of the nurses in attendance on her contracted it, their incubation period being at least eight days.

Of epidemics of nodal fever I have had no personal experience. Six cases were noticed almost simultaneously at an outlying port in South Australia about thirty years ago. Besides the instances quoted by Dr. Odery Symes,<sup>8</sup> there is a legend of an outbreak on board a training ship just before the holidays commenced; several cadets, who had apparently escaped infection, had definite attacks after reaching home; this used to be quoted, I am informed,<sup>9</sup> by Dr. Lees. Moses quotes<sup>10</sup> an epidemic which occurred in Bosnia in 1857, and Wiborg<sup>11</sup> describes one in Norway in 1921-22, when he saw 30 cases in ten months, 18 of which occurred in December.

#### THE RELATIONSHIP TO OTHER DISEASES.

##### *Other Forms of Erythema.*

I should not, perhaps, have alluded once more to this branch of the subject were it not that I notice that Dr. Odery Symes,<sup>8</sup> in his last able contribution, has not fully made up his mind. Personally I had no doubt in 1890 that although Troussseau in his classic lectures<sup>12</sup> sought to distinguish between erythema nodosum and erythema papulatum, anyone reading his cases carefully must come to the conclusion that the difference was in degree, but not in kind, and that in fact he had unwittingly established their identity. In two severe instances of erythema papulatum occurring in my practice the patients had suffered from erythema nodosum many years previously, whilst associated with undoubted erythema nodosum I have seen at times not only erythema papulatum but every other variety that has been described—erythema tuberculatum, erythema iris, erythema gyratum. Again, in the few cases in which I could not demonstrate typical nodes on the legs, the same prodromata, the same high fever, the same arthritic and teno-synovial signs, the same long convalescence, have been noticed. There is nothing of which I am more strongly convinced than of the identity of these separate elements of erythema multiforme, whose differences are merely those of outward form; such compound cases, if one may so term them, are seen in children occasionally, though less frequently than in adults; in one very severe case of erythema multiforme the infection was traced to another child with the simplest form of erythema nodosum.

Into the question of the supposed relationship of nodal fever to rheumatism I went fully twenty years ago. I pointed out then that Sir Stephen Mackenzie's statistics<sup>13</sup> were not the result of personal observation, but were derived from the records of four London hospitals and compiled presumably by their medical registrars. I sent Sir Stephen a copy of *Nodal Fever* with a letter, but received no reply from him. In December, 1908, when travelling up the Nile, I was introduced to Sir Stephen at Assouan, where he often wintered. It was a most interesting and somewhat amusing meeting; he thought that he remembered my name, but I mentioned that I lived in Australia. "Ah, then," he said, "perhaps we have been in correspondence." When I explained that it required two to constitute a correspondence, and that he still owed me a letter, he immediately recalled the circumstance, and said that he had been intending to reply for more than eighteen months, and that he thought he had the answer amongst his luggage; however, he had not been able to find the document next day when he came down to the steamer to see me. Shortly after he died, and I was unable to procure any information as to the document. - Other writers meanwhile, whose opinion carries much

more weight than mine possibly could, and notably Dr. Odery Symes,<sup>14</sup> Dr. Maxwell Telling,<sup>15</sup> and Dr. Hope Gosse,<sup>16</sup> have gone into the matter carefully and arrived at much the same conclusion as myself. It therefore seems to me to be unnecessary to say more than this—that there are only three cases in my new series in which there is a history of previous rheumatic fever in the patient, and that in none of the three had any organic cardiac lesion persisted; that in four others there was a vague history of so-called rheumatism; and that in only five cases was there a family history of acute rheumatism. Again I wish to emphasize my conviction that the pseudo-rheumatism of nodal fever is an expression of arthritis or of teno-synovitis due directly to the "germ" which causes the skin eruption, or to the toxins to which it may give rise. Above all, I wish to reiterate the absolute uselessness of drugs of the salicylic acid group to ease these pains or to control the course of the disease.

Lastly, roughly speaking, there are no cardiac complications of nodal fever: a transient though distinct murmur may be noted during the illness, but it disappears; it is probably haemic or myocardial.

#### *Tuberculosis.*

When my book was published in 1905, in disputing the rheumatic theory which then held the field, I lightly said<sup>17</sup> that it would be just as easy to prove, as far as mere statistics were concerned, that nodal fever was related to tuberculosis. I little dreamt then how large the tuberculous theory of its origin would loom in the next twenty years, though it was breached originally over half a century ago, or that I should read the dogmatic assertion in a retrospect of the year 1918<sup>18</sup> that "the causative factor of erythema nodosum has now been determined to be tuberculosis." The subject, therefore, requires careful investigation. In this direction again I am forestalled by Dr. Symes, and I can only assert that the proportion of tuberculous manifestation preceding nodal fever is not greater in my experience than one would expect considering how widely spread tuberculosis is known to be, and that tuberculous sequelae are comparatively rare. In my whole series there are only two cases of nodal fever complicating tuberculosis—one a girl of 18 who had suffered since early childhood from morbus coxae, and a young married woman who was at the time suffering from, and who subsequently died of, phthisis. A mother, who had lost a son from tuberculous meningitis, died many years later from erythema papulatum, but without any evidence of being tuberculous herself.

#### OPINIONS OF OTHER WRITERS.

Some writers<sup>19 20</sup> have drawn attention to the fact that nodal fever occasionally follows shortly after measles, and I have notes of one such case. I can hardly think that there is any causal relationship, but the observation is one to be borne in mind.

There are many who still adhere to the rheumatic fever heresy (cf. references 21 to 27), but as a rule they only bring forward one or two isolated cases. Wiborg,<sup>21</sup> however, is an exception, as he recorded an epidemic of thirty cases which he considered to be of rheumatic rather than of tuberculous origin. Hallam<sup>22</sup> writes in opposition to the rheumatic theory.

Landouzy<sup>23</sup> excised a node and found in it Koch's bacillus; he inoculated a guinea-pig with a portion of this node and produced in the animal tuberculous lesions, but he does not himself contend that therefore all cases of erythema nodosum are tuberculous in origin. Ward<sup>24</sup> expresses similar views. Hildebrand<sup>25</sup> obtained with venous blood similar inoculation results. On the other hand, Otto Brian<sup>26</sup> induced tuberculosis in a guinea-pig in one experiment, but failed in all his others. His conclusion was that tuberculosis was the actual cause of erythema nodosum in only a few cases; Dufourt<sup>27</sup> put it as high as 60 per cent. Deléarde and Haller<sup>28</sup> also think that the greater number of cases arise from a tuberculous soil.

Intradermic injection of tuberculin is said<sup>29</sup> to have caused lesions exactly resembling erythema nodosum at the point of injection, but Dr. Darcy Cowan informs me that

he can recall no case following hypodermic injection. Stefano<sup>30</sup> obtained a positive reaction in all the 23 cases in which he tried von Pirquet's test. Vellesen<sup>31</sup> plumps for tuberculosis. Several writers have recorded<sup>32 33 34</sup> the fact of cases of erythema nodosum complicating tuberculosis and winding up with meningitis, and have verified their observations by necropsies. Haug<sup>35</sup> opines that the tubercle bacillus can provoke either erythema nodosum, or a form of arthritis which does not yield to sodium salicylate nor pass so quickly from joint to joint as usual. Meara and Goodridge<sup>36</sup> thought that erythema nodosum occurred under three conditions: (1) as a simple variety of erythema multiforme; (2) as a definite specific contagious disease; (3) as a lesion secondary to many things, such as infectious diseases, drug ingestion, alimentary disturbance, and nerve diseases.

Lastly, several writers have been impressed with the possible infectious and contagious nature of nodal fever. These include: Anderson and Cooper,<sup>37</sup> Clarke,<sup>38</sup> Craig,<sup>39</sup> Durante<sup>40</sup> (who excludes tuberculosis and rheumatism), Wendler,<sup>41</sup> Settgast<sup>42</sup> (who considers rheumatism a complication, not a cause, and excludes tuberculosis from consideration), Dorth,<sup>43</sup> and Moses.<sup>44</sup> Gueissaz<sup>45</sup> finds it to be an acute exanthem, and that marvellous observer Sir Jonathan Hutchinson<sup>46</sup> almost said the same thing more than half a century ago. Amongst English writers Odery Symes<sup>4</sup> bears me out in almost every respect, whilst Maxwell Telling<sup>15</sup> also considers it to be an acute specific disease, but does not agree with me, I fancy, as to its relationship to erythema multiforme.

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## THE CHEMOTHERAPEUTIC TREATMENT OF GONORRHOEA AND ITS COMPLICATIONS.\*

BY

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SURGEON TO THE LONDON LOCK HOSPITAL.

### *Introduction.*

THOUGH gonorrhoea, when first contracted, is a local infection, nevertheless changes do occur in the blood of the host, particularly in the protein particles of the plasma in which resides the host's main protective substance. Treatment with chemical substances and protein extracts (vaccines) acts by resistance and not by killing the directly. Considering that vaccine treatment alone leaves much to be desired, it has been my endeavour for some years past to find a chemical compound which would have much the same effect in gonorrhoea as has arsenobenzene in syphilis.

The last milestone in this work was marked by the introduction of manganese butyrate, a drug which has proved

\* A post-graduate lecture given at the London Lock Hospital, February 10th, 1925.



of value, particularly in the acute complications of gonorrhoea. These are due, perhaps, more to the invasion of staphylococci than actually to the gonococci. In short, manganese butyrate has a better chemotherapeutic effect in pure staphylococcal than in pure gonococcal infections. As the gonococcus is higher in the scale of bacterial evolution than the staphylococcus, a drug more powerful than manganese butyrate is required to combat its invasion.

Metallic preparations appear to act by increasing the number of the protein particles constituting the defence, thereby augmenting the area exposed to the bacteria. Hydrogen and sodium atoms may effect this change even more effectually than manganese, provided they are liberated from a sufficiently large molecule. Moreover, such atoms are less liable to destroy the host's protective substance and to produce metallic intoxication. Therefore, the ground last covered has been in this direction, and the present paper marks the introduction of two further drugs: (1) the symmetrical urea of meta-benzoyl-meta-amino-benzoyl-amino-naphthol-3-6-sodium sulphate, or "sum 36" for short; (2) the symmetrical urea of para-benzoyl-para-amino-benzoyl-amino-naphthol-3-6-sodium sulphate, or "sup 36." The former is to be preferred in pure gonococcal infections, and the latter in the complications arising from the superinfection of Gram-positive cocci. Both drugs were kindly made at my instigation by Mr. T. H. Fairbrother of the British Dyestuffs Corporation, Ltd. They have been in use since the latter part of 1923, and the following practical conclusions are derived from the treatment of several hundred cases.

#### *Gonococcal Urethritis and Vulvitis.*

In the male two intramuscular injections of "sum 36," each of 0.002 gram, should be made at five days' interval. In the female it is better to inject 0.01 gram intravenously. The two injections should be followed by a course of vaccines. In most cases of fresh infection this treatment suffices. Any recurrence of an acute discharge can be stopped by two further injections of the urea compound. Provided the patient is not on the point of developing an acute posterior urethritis or an acute cervicitis when the first injection is made, no complication need be expected. The immediate effect of this drug in acute gonorrhoea is disappearance of the subjective symptoms and lessening of the discharge.

#### *Pure Gonococcal Complications.*

Under this heading are included acute ophthalmia and acute primary, as opposed to recurrent, arthritis associated with a copious urethral, vulval, or cervical discharge. In these cases "sum 36" is the drug of choice. In gonorrhoeal ophthalmia in infants one or two intramuscular injections, each of 0.004 gram, will clear up the acutest case. In a boy of 6, who had a prolapsed iris, a single injection of 0.005 gram of "sum 36" caused an enormous improvement of the lesion within forty-eight hours, by which time the iris had regained its normal position. In adults the dose should be 0.01 gram, and the injections may be made either into the muscles or into the veins. In acute primary arthritis a single injection of 0.01 gram will cause the pain and swelling of the joint to disappear the following day.

#### *Gonococcal Complications due in part to Secondary Micro-organisms.*

Belonging to this category are the following clinical conditions: (1) acute Cowperitis with abscess formation; (2) acute prostatitis with abscess formation; (3) acute cystitis; (4) acute epididymitis and salpingitis. In all these cases two injections of "sup 36," each of 0.01 gram, should be made intramuscularly or intravenously at three days' interval. The two injections should be followed by one or more courses of vaccines. But in cases of epididymitis and salpingitis the vaccines should be preceded by an intramuscular injection of contramine (0.25 gram). This injection of contramine, which is the carbon disulphide product of di-ethyl-amine, reduces the formation of fibrous tissue to the minimum and thereby lessens the liability of a local recurrence in the future. Bearing in mind the common

view that cases of salpingitis need operating upon, it is interesting to record that in twelve cases treated with "sup 36" all were up and about within a week of the first injection. The day following the initial injection the temperature became normal and the subjective symptoms vanished. In a case of gonococcal periostitis of the upper end of the tibia, which looked as if it needed incision, a single injection caused the redness, swelling, and pain to vanish the next day.

#### *Chronic Complications of Gonorrhoea.*

Under this heading are included stricture, chronic epididymitis, conjunctivitis, and iritis, and the various forms of muscular rheumatism—neuritis, fibrositis, teno-vaginitis, and arthritis. Contramine, probably by reason of its sulphur content, is a softener of fibrous tissue, and many strictures resisting dilatation may be rendered dilatable by injecting intramuscularly one dose of 0.25 gram and two doses of 0.5 gram at approximately weekly intervals. This treatment is advised in cases of chronic epididymitis, but it should be succeeded by a course of vaccines, because micro-organisms hidden by the fibrous tissue may be released as the latter is destroyed. Bilateral conjunctivitis is a common harbinger of polyarticular gonococcal arthritis. Since patients with this prodromal symptom are often much debilitated care must be used in stimulating their resistance, and it is wiser to make three injections of contramine, each of 0.125 gram, on alternate days. Six half-doses of vaccine (I use 1,250 million Lock Hospital vaccine, made by our pathologist, Major V. Corbett) should then be prescribed and injected every second or third day. Following this the injections of contramine should be repeated in half or full doses according to the patient's condition, and the treatment concluded with another course of vaccines. The same treatment should be adopted in severe cases of gonococcal iritis and in gonococcal arthritis when the patient is really ill. Where it is obvious that the host's resistance is at its lowest ebb, no injections should be made. In ordinary cases of gonococcal rheumatism, neuritis, fibrositis, teno-vaginitis, and arthritis 0.25 gram of contramine should be injected as soon as possible, followed by two further injections, each of 0.5 gram, at five to seven day intervals. Then a course of vaccines should be prescribed—four doses of 2,500 million and four doses of 5,000 million injected at weekly intervals. A second course of contramine and vaccine injections may or may not be necessary. In no circumstances should an infected joint be put up on a splint, and neither the prostate nor the urethra should be examined while the arthritis is active. An infected joint should be exercised at the earliest possible moment.

#### *NOTE ON THE USE OF CHEMOTHERAPEUTIC PREPARATIONS.*

The urea compounds are soluble in water. They should be dissolved in distilled water, and preferably just before use, particularly if they are to be injected intravenously. Intramuscular injections may be made anywhere, provided the bulk of the solution does not exceed 1 c.cm. The preparation "sup 36" is useful in many inflammatory conditions other than those met with in gonorrhoea. Owing to the large size of the nucleus or molecule of the urea compounds an injection may be followed by a mild degree of shock. The occurrence of shock is very rare and passes off in a few minutes.

Contramine must be injected into the gluteus medius; it should never be allowed to get into the subcutaneous tissue for fear of the formation of a sterile abscess. The recipients of contramine should avoid alcohol for two or three days after each injection, because in a few cases the taking of alcohol is followed immediately by flushing and giddiness. Contramine, provided it is not more than a year or so old, is soluble in distilled water; solutions should always be freshly prepared. It is equally valuable in cases of rheumatism of other than gonococcal origin, but in the type met with in women round about the menopause thiol-histamine, injected in 0.002 gram doses on three successive days, is better. Both these sulphur preparations were made for me by the British Drug Houses, Ltd.

## OESOPHAGOSCOPY: A MEANS OF DETECTING FOREIGN BODIES NON-OPAQUE TO X RAYS.

BY

W. FRANK WILSON, M.B.,

HONORARY ASSISTANT, THROAT AND EAR DEPARTMENT, ROYAL VICTORIA INFIRMARY, NEWCASTLE-ON-TYNE.

THE fish bone, and often the dangerous sickle-shaped haddock bone, is one of the commonest of the various foreign bodies which become lodged or impacted in the human gullet. In such cases the information obtained from an x-ray screen examination or from a radiogram is generally unsatisfactory and may be misleading. The bismuth pastille and attempts to get some barium porridge to adhere to the foreign body have nearly always failed us.

In a certain number of cases we are convinced that a foreign body is present because of the symptoms and condition of the patient, but we are not sure where it is, though I admit that in this group the average patient locates the level fairly accurately. In another, perhaps

more important, group of cases there exists a doubt, not only on the part of the surgeon but on that of the patient, as to whether a foreign body is present or not; an x-ray examination and radiogram turns out (in the case of a fish bone) to be negative, and the patient may be allowed to go without anything further being done. A certain proportion of these people actually have an impacted bone in the gullet, and one of three



FIG. 1.—Radiogram showing shadow of bariumized wool mass enveloping fish bone in upper portion of gullet.

things may occur: (1) the bone may become loosened and pass into the stomach; (2) the patient may vomit the bone; (3) peri-oesophageal abscess, septic mediastinal infection, or haemorrhage from erosion of one of the large blood vessels, and death. Again, in the case of a "suspected" fish bone in the gullet, oesophagoscopy, without any definite information as to the level of the bone, may be negative, and the "intruder" may be vomited soon afterwards (if the patient is thus fortunate) owing to the manipulation of the tube causing disimpaction.

The above examples are a few of the snags which occur every now and then to the experienced oesophagoscopist; they will necessarily occur much more frequently in the hands of one who is not so experienced.

Any reliable information, therefore, obtainable before passing the tube, and, in addition, something which will arrest the eye at the level of the foreign body during the passing of the tube, will assuredly help to lessen the difficulties and dangers that sometimes crop up in such cases. Both of these desirable aims are attainable by the following simple method.

Small pieces of cotton-wool are lightly teased out to the size of a shilling or slightly larger and soaked in barium porridge, and are given to the patient to swallow one at a time to the number of six to eight pieces. A minute or so afterwards a teaspoonful or more of barium porridge is swallowed. Two or three minutes are then allowed to elapse to give any surplus barium time to leave the gullet.

This, of course, should all be carried out in the x-ray room. The gullet is then radiographed. The radiogram (Fig. 1) needs no description except to note that the shadow of the wool mass held up round about the foreign body is invariably of inverted "cone" shape. On passing the oesophagoscope, the lustrous white reflex from the upper part of the bariumized wool immediately arrests the eye. In every one of the cases of large haddock bone the latter has been found closely invested by the wool, like a chrysalis in its cocoon. Figure 2 shows this quite clearly.

In some of the cases the bone was recovered together with the main mass of wool after several small pieces of wool had been removed from its upper end. In other instances, where the bone was firmly impacted in the gullet wall, the wool required removal piecemeal until the exact site of impaction was recognized and disimpaction carried out.

In all of the cases in which this method has been employed so far the site of impaction was the upper part of the gullet, as it usually is in this variety of foreign body. With the exception of one case, that of a stockily built man with a short "bull" neck, oesophagoscopy was performed under local anaesthesia in conjunction with a hypodermic injection of morphine and atropine given three-quarters of an hour or so before.

The last case of the series was that of a man who stated that he had swallowed a meat bone, which he thought had "stuck" in his throat. Radiography without the bariumized

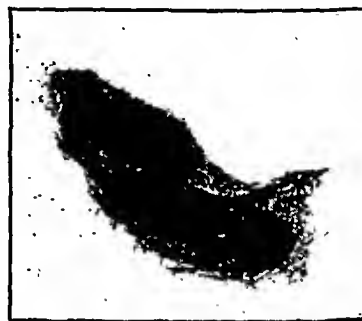


FIG. 2.—Photograph of a fish bone enmeshed in the bariumized wool after removal from gullet.

wool was negative on two occasions; on the third, with bariumized wool, it was positive. On recovering the meat bone the reason for the negative result was discovered, the bone being an extremely thin transparent disc about the size of a two-shilling piece.

In conclusion, it is perhaps as well to note that a contra-indication to the use of this method would be any degree of dyspnoea in association with a foreign body suggesting involvement of the larynx.

I have to thank Mr. J. F. Krige, house-surgeon to the throat and ear department, for the care he took in carrying out the details preliminary to x-ray examination; for the latter I have also to thank Dr. H. E. Gamlen, honorary assistant medical officer to the electrical department.

## Memoranda :

### MEDICAL, SURGICAL, OBSTETRICAL.

#### THE SEPARATION OF THE PLACENTA.

For some time it has seemed to me that to ligature the maternal end of the umbilical cord after the birth of the child is a useless and in many cases a harmful procedure.

My attention was first called to this point when performing Caesarean section, when the object was (after the extraction of the child) to get the uterus as fully contracted as possible before introducing sutures. I noticed then that by leaving the maternal end of the cord untied, so that it could bleed freely, the placenta was more easily removed and the cut uterus contracted more rapidly and firmly and consequently needed fewer stitches.

Then again, after delivery in septic cases, such as often occur in Kashmir, where hollyhock root, cow dung, fowl intestine, and quince seeds are found in the vaginae of women treated by the native midwife, and where the cord when cut sometimes exudes a yellowish juice suggestive of faecal matter, it seemed a distinct advantage to

get rid of as much of this as possible, and I considered that the placenta came away more quickly when the maternal end of the cord was not tied but left to drain.

While the child is living and attached to the mother the blood pressure in the cord is positive. When the cord is cut and the maternal end is allowed to bleed the pressure in the cord is negative, the blood is drained out of the placental vessels, and the villi shrink in the maternal sinuses and collapse, thus favouring their detachment from the uterine wall.

Each contraction of the uterus causes blood to exude from the cut end of the cord and the placenta diminishes in volume, and each relaxation of the uterus will only loosen the villi dipping into the sinuses. Each pain causes contraction of the uterus and placental site.

On the contrary, the usual procedure of ligating the maternal end of the cord causes the pressure in the cord to remain positive, and when the uterus contracts the villi are full and the uterus cannot contract fully. When the uterus relaxes there must be a suction action exerted on the placenta, and its expulsion is delayed. I am inclined to think that tying the maternal end of the cord is inadvisable because—

- (1) It delays delivery of the placenta.
- (2) It prevents full contraction of the uterus, thus leading to increased haemorrhage.
- (3) It increases liability to retention of placenta or portions of it.
- (4) It involves a risk of septic infection through maternal sinuses which are still kept open by the engorged villi.

Perhaps, one of the chief factors in the normal separation of the placenta from the uterine wall is the tendency of the empty villi to detach themselves; this may explain why the common and reprehensible custom of the native midwives of pulling on the cord to remove the after-birth is not so deadly as it sounds. They do not, as a rule, tie the upper end of the cord; if they did it would be easy to understand that pulling on it with the villi full of blood and intimately connected with the maternal sinuses might invert the uterus.

London, N.W.

KATHLEEN VAUGHAN, M.B.Lond.

### TORSION OF FALLOPIAN TUBE.

In the *Epitome* (BRITISH MEDICAL JOURNAL, March 14th, para. 287) there is a note of a case of torsion of a normal Fallopian tube recorded by P. R. Michaël. The following case presents a close parallel.

A single woman, aged 19, was admitted to the Royal Infirmary, Preston, at 6.30 p.m. on March 12th, with acute pain in the right iliac fossa which had come on suddenly at 3 p.m. She had been vomiting continuously since, and was obviously suffering very acute pain, sitting up in bed to obtain relief. The abdomen moved well with respiration, and tenderness was marked in the right iliac fossa, which was rigid. The temperature was subnormal, but the pulse was 112; the urine was normal.

The abdomen was opened by a right rectus incision. The appendix was slightly congested and was removed. The pelvic organs were then explored. The right Fallopian tube was easily brought up to the wound, and was found to be black and swollen to the size of a small Victoria plum. The tube with its mesosalpinx was found to be twisted in a clockwise direction about 1 inch from the uterine end of the tube. The part of the tube proximal to the twist was quite normal, but distal to the twist the tube was deeply congested and swollen. The mesosalpinx was abnormally long as compared with that of the left side. Both ovaries were normal. There was no sign of tumour formation and no adhesions. The twist was undone by turning in anticlockwise direction and the tube removed. The abdomen was closed without drainage.

On cutting open the tube, no blood clot was found in the lumen of the tube and no diverticula noted. The wall was very congested and thicker than normal. The twist occurred into the wall, but no evidence of peritonitis was seen. The menstrual history elicited was to the effect that she was menstruating the day of the incident and had been for two days previously. Her periods had commenced when 14 years of age, and came on every six weeks.

In this case, as in Michaël's, there were no adhesions, tumour formation, hernia, or any external cause for torsion. Also, in this case, there was a definite relation to menstruation.

I am indebted to Mr. W. McKerrrow, F.R.C.S., honorary surgeon, for permission to publish this case.

DAVID J. DAVIES, M.R.C.S., L.R.C.P.,  
House-Surgeon, Preston Royal Infirmary.

## Reports of Societies.

### THE TREATMENT OF SEPTICAEMIA.

A MEETING of the Sections of Medicine, Surgery, and Pathology of the Royal Society of Medicine was held on March 24th to discuss the treatment of septicaemia; Dr. ROBERT HUTCHISON presided.

#### MEDICAL TREATMENT.

BY

SIR THOMAS HORDER, Bt., M.D., F.R.C.P.

Sir Thomas Horder, in opening, said that his own practice in the treatment of septicaemia differed very little from what it was ten years ago, and he believed this was the case with practitioners in general. He proceeded to define septicaemia as a condition which, although often associated with a primary source of infection, was largely independent of such an association; in some of the most characteristic cases of septicaemia the primary focus might be so inconspicuous as to remain undetected throughout the course of the disease. Septicaemia, therefore, was a condition in which micro-organisms existed and multiplied in the blood independently of the primary focus of infection or of the state known as "focal sepsis." Apart from certain much less common organisms, the two chiefly to be considered were *Streptococcus pyogenes* and *Staphylococcus aureus*. The main principles of treatment fell into three groups: general measures, bacteriotherapy, and chemotherapy. He put general measures first because they had chronological precedence; certain general measures were naturally taken even before the exact bacteriological diagnosis was established, and promptness in respect of these measures was the essential point in the treatment. According to some practitioners, bacteriotherapy would come next in order, and according to others chemotherapy. In the treatment of no disease did the personal equation of the doctor enter so largely as it did in acute septicaemia, not merely because the practitioner was apt to become enamoured of a particular line of treatment, but because there were so many possible things to do. The choice was so large that it was necessary to form a plan of campaign in every case, and not introduce, with an air of panic, new remedies at any particular juncture.

He took as an example a case of *Streptococcus pyogenes* infection of an acute kind, such as one in which the primary focus was a post-mortem wound of the finger, followed rapidly by cellulitis, lymphangitis, and general infection. The first general measures were rest (including rest for, in this example, the infected limb), fresh air, and sunlight. Fresh air was important in the treatment of pyogenic infections, and if the alarm which some patients felt at this procedure could be overcome they should certainly be treated on a balcony, or, if the season permitted, in the open air altogether. He could testify to the good effects of a full diet, which need not be entirely fluid unless it be during the height of the acute process. In some cases septicaemic patients required a good many calories of food, and very frequent feeds. Another important item in treatment was reassurance, by which he meant the general conduct of the patient's mind and his attitude towards his condition. This was the more important in a disease in which the treatment was hardly less irksome than the disease itself. A great deal of tact and coaxing was often required to get the various measures carried out without upsetting the patient's equanimity. In America hydrotherapeutic measures were favoured a good deal, and perhaps more might be done in the way of hydrotherapy here, since it was not absolutely necessary to take the patients out of bed for the purpose. Attention to elimination—bowels, skin, and kidneys—was important, as also was sleep. As to anodynes, Sir James Paget, after convalescence from his own acute septicaemia, paid a high tribute to the value of opium. There was no contraindication to the use of opium in a good many septicaemic cases; in these days, Sir Thomas Horder thought, there was an unjustifiable tendency to be afraid of opium in acute febrile conditions which were prolonged and which led to physical and

mental discomfort. Conference with a surgical colleague would be necessary, in the case he had taken as an example, with regard to treatment at the site of infection by surgery and drainage. He had found it useful to alternate the continuous bath with the almost vertical elevation of the infected limb. Care should be exercised to avoid the local use of strong antiseptics, which interfered with the vitality of the tissues. Intravenous infusions were useful in the fulminating type of case. His experience of transfusions in three really bad cases was not promising; perhaps other observers had been more fortunate. Drugs had to be taken in conjunction with the other measures already described. He placed arsenic first, administered intramuscularly for preference; from this drug very few cases of septicaemia did not derive some benefit. His favourite preparation was sodium cacodylate, and he gave it in conjunction generally with the drug he put next on his list—namely, nucleinic acid—usually 1 grain of sodium cacodylate in a saturated solution of nucleinic acid, 1 c.cm. for convenience, and this was given intramuscularly twice in twenty-four hours for the first two or three weeks of an acute case. Sodium cacodylate had very low toxic effects *qua* arsenic, and a convenient method of knowing that the patient was receiving an effective dose was the smell of the breath. After arsenic and nucleinic acid he would place opium. He did not think that the reputation of quinine was borne out by experience. Alcohol was also of considerable value in very acute cases.

Turning to specific measures, Sir Thomas Horder said that in a case of acute streptococcal septicaemia his general rule was to give a very liberal dose of antistreptococcal serum intravenously as soon as the patient came under treatment—not less than 50 c.cm. on the first day, repeated on the second, and possibly on the third, and his choice in the *pyogenes* type of infection—which these acute cases invariably were—was the univalent form of the remedy. By the second or third day the causative organism was usually isolated and a vaccine could be prepared. In this acute type of case the sensitized vaccine had advantages over the ordinary vaccine. The first dose recommended in an adult was 100 million, the second 250 million on the third day, and the third dose 500 million on the fifth or sixth day. If ordinary vaccines were given the doses were much smaller—perhaps half a million, 1 million, or 2 million, according to the severity of the case, the doses being spaced in accordance with clinical observation. He had practically no experience, in acute cases, of detoxicated vaccines. "Immunogen" was a type of antigen which differed from vaccines in that an attempt had been made to get into the antigen, in addition to the endotoxin of the organism, certain products of auto-digestion, and disintegration by heat and chemical action, of the cell structure of the organism. He had also put on his list under "bacteriotherapy" some combined methods, by which was meant starting with serum and following with vaccine, this being the practice favoured by most workers. Chemotherapy seemed to him, for pyogenic infections, very disappointing. During the war a good many accounts were published of the effect of a lavage of the blood stream in septicaemias. War experience in this class of case, as in a good many others, had to be considered in relation to the circumstances, the type of injury, the help given by the surgeon in regard to the primary focus, and so on. The intravenous use of various germicidal substances—chlorine derivatives, flavine, colloidal metals—seemed to him to have been not very helpful in civilian practice.

Sir Thomas Horder next touched upon the acute form of septicaemia due to *Staphylococcus aureus*. This was fulminating, and not leading to such lethal conditions as pericarditis, and if the focal abscess chanced to be in a position in which the surgeon could deal with it, better results were likely, inasmuch as time favoured the pyaemia. This advantage had to be placed the fact that there was nothing equivalent to an antistreptococcal serum in fighting a case of acute staphylococcal septicaemia. So far as bacteriotherapeutic methods were concerned, one fell back upon vaccines, which, however valuable they might be in

the more chronic and localized forms of infection by the staphylococcus, were not so helpful in the generalized acute and chronic conditions. With regard to chronic streptococcal septicaemic processes, the treatment of the most tiresome and perhaps most common type of the disease—namely, ulcerative endocarditis—seemed to him to be still very baffling. Of late years he had been struck by the fact that the more one pursued certain general measures the more hopeful became the treatment of the condition, which seemed to be an infection of very low resistance. He described a case of ulcerative endocarditis which, after a great deal of vaccine therapy and chemotherapy, was sent almost in despair to the South of France, and had improved markedly as the result of living entirely in the sun and air. The spleen had become very large during the six months' residence abroad—it occupied the whole of the left half of the abdomen; there was a suggestion that the improvement was associated with the splenomegaly by way of some specific contribution to the patient's resistance through the infarction of this organ. The speaker, in conclusion, referred once more to the value of non-specific measures in the treatment of all cases of septicaemia, and regarded them, in the present state of our knowledge, as of great importance.

#### SURGICAL PROPHYLAXIS AND TREATMENT.

BY

R. P. ROWLANDS, M.S., F.R.C.S.

Mr. R. P. Rowlands dealt with the subject from the surgical point of view. Touching first on prophylaxis, he said that the surgeon aimed to prevent local and systemic infection by (1) taking every precaution against infection during operations; (2) prompt excision of contaminated wounds such as those inflicted in war or, in civil practice, by accident; (3) prompt removal or treatment of local sources of systemic infection, such as acute appendicitis. This treatment was still too often delayed, with the result that nearly 3,000 people in England and Wales died every year from appendicitis, nearly all of them owing to the septicaemia of peritonitis. He himself had never lost a case of appendicitis which had been operated on within twenty-four hours. What had been said with regard to early operation in appendicitis applied equally in the perforation of peptic ulcers, and, more or less, in abscesses in other parts of the body, which should be opened without delay before they caused septicaemia. Many a life was lost from septicaemia by delaying amputation until it was too late, especially in such cases as acute infective osteomyelitis of the long bones. On opening an abscess, boil, or carbuncle, it was important not to trespass on and infect the surrounding healthy tissues. He had known septicaemia follow the too deep incision of a small boil in the auditory meatus. With regard to treatment, there should be collaboration between physician, surgeon, haematologist, and bacteriologist, and an endeavour should be made to find, and remove or treat, the primary or other source of infection. The hope of finding a collection of pus somewhere in the body should never be given up. The opening and draining of such an abscess often brought success in apparently hopeless cases. Repeated examinations of the blood for leucocytosis should be made, also systematic and complete examinations of the body for hidden collections of pus. Sir Thomas Horder, in an obscure case of acute septicaemia which he saw with the speaker, diagnosed suppuration in a thyroid cyst which was low in the neck and mostly intrathoracic in position. Removal of the cyst, which was full of streptococcal pus, cured the patient. Many similar instances came into his mind of pus found in hidden places, such as deep in the buttock, in the loin, under the diaphragm, in the liver, in the pleura, deep in the calf muscles, and in the pelvis or prostate. Whole-blood transfusion was valuable in selected cases, and would probably have a greater future than immunotransfusion because it was more immediately available, and time was obviously of great importance in acute septicaemia. Of splenectomy for septicaemia he had had no experience, but some success had been recorded at the Mayo Clinic in subacute cases when the spleen was enlarged, although they had had no recoveries in cases of ulcerative endocarditis.

## IMMUNIZATION AND CHEMOTHERAPY.

BY

LEONARD COLEBROOK, M.B., B.S.

Dr. L. Colebrook described some observations which he and his colleagues had made at St. Mary's Hospital bearing on a study of the essential lesion which made these cases of septicaemia so fatal. In most septicaemias the breakdown of the mechanism of defence must be associated with a diminution of the functional activity of the leucocytes. Although they were present in normal numbers, the leucocytes were often, to all intents and purposes, out of action—their function was reduced to anything from one-half to one-tenth of the normal. That was largely the reason why the microbes were able to establish themselves in the blood stream and why the patient so frequently did not recover. It was not known precisely why the leucocytic efficiency was so injured, but it was assumed to be due to the microbe toxins. This reduction of function was not confined to cases of septicaemia; it occurred in a smaller measure in all local infections, even in a common cold, but in septicaemia it was seen in an extreme form. It was not the whole story in septicaemia, but it filled a large part of the picture. What one had to do to save the patient was to neutralize the toxin which was destroying the leucocytes, or—the same thing—to kill off a large number of the micro-organisms. Dr. Colebrook then went on to deal with three lines of specific treatment: active immunization, passive immunization, and chemotherapy. With regard to active immunization in cases of septicaemia he was not hopeful. Treatment by vaccines was not likely to be successful, at any rate in the grave cases where the leucocytic function was reduced to below half the normal. With regard to passive immunization—meaning the use of sera and immunotransfusion—the use of sera also seemed rather hopeless at present. One of his colleagues had been doing some work on an antistreptococcal serum, but his conclusions were not very encouraging as to the value of this agent for fortifying the patient's blood. The price which patients had to pay, in the shape of the miseries of serum sickness, made the use of serum hardly justifiable until at least it was possible to say definitely that one particular serum was good, or better than another. With regard to immunotransfusion, this was introduced by Sir Almroth Wright, who suggested that a non-specific immunization of the donor's blood should be obtained before use. The practice had been to give the donor 1,000 million of the staphylococcus and to wait three or four hours, and then take the blood. A good many cases, mostly of puerperal septicaemia, had been treated by this method in the last year or two, but on the whole the speaker had been disappointed. He did not think that grave cases would be saved by this method alone. In some of the slighter cases it would be useful. It was hoped to get a more effective method of immunizing the donors, and he was working towards a specific immunization. Possibly in conjunction with chemotherapy, immunotransfusion would prove of great value.

Unlike the two previous speakers, Dr. Colebrook felt that the whole future for these cases was bound up in chemotherapy. Before a drug was used as a chemotherapeutic agent in septicaemia it must be demonstrated that the drug would not still further diminish the patient's leucocytic efficiency or destroy other essential tissues, and that the patient's blood after a given dose could be shown to be bactericidal to the infecting micro-organism and so continue for a certain period, or that it was capable of neutralizing toxins. Eusol, flavine, and other drugs had been tried, and did not fulfil the latter part of these requirements; but there was one group of drugs which was more hopeful—namely, the neosalvarsan group. When neosalvarsan was given to a patient in the medicinal dose for curing the syphilis, and the patient's blood was taken after a period, perhaps one hour or up to six hours, it was found that the serum, which previously had no power of killing the streptococci, had now considerable power, and usually, he thought he might say, the leucocytes were not harmed. He felt that this was the beginning of better things in the treatment of septicaemia. In America and France some hopeful work had been done along these lines.

## THE PATHOLOGIST AND THE CLINICIAN.

BY

SIR ALMROTH WRIGHT, M.D., F.R.S.

Sir Almroth Wright said that there were two ways of viewing medicine, one of which was illustrated by the clinician's view put forward that evening, and the other by the contentions of the pathologist. He compared clinical observation of the results obtained with different remedies to the experience of a man who was accustomed to travel on railways, and who gave his views, based on that experience, of recent railway engineering progress; whereas the pathologist found his analogy in the skilled engineer, who was able to say exactly in what respects the science of transportation had been improved and in what respects it came short. With regard to immunotransfusion, he did not want this to be put down as one of the failures of pathology, but it was true that what it could accomplish was quantitatively limited. It depended upon the number of micro-organisms which had to be dealt with in the blood, and it was certainly no remedy in the severer cases. He criticized the tendency of the clinician in appealing invariably to the remote results, and paying no heed at all to the immediate results. The clinical method could, indeed, take no cognizance of the direct result, because that direct result could not be seen by the naked eye—it was discovered only by laboratory experiment. He hoped that in discussions of this sort at some future time—it might be a hundred years hence—it would be acknowledged that the clinician could pass no absolute verdict; all he could say was, "this has been recommended, and on the whole has proved beneficial."

## FURTHER DISCUSSION.

Mr. ZACHARY COPE said that after such a slashing attack on the clinicians it was difficult to say anything more from the clinical side, but at the same time he felt bound to point out that the pathology of the blood was not yet known. Surrounding the problem of immunity in a large measure were doubts and suppositions—only the shibboleths could be uttered, "We believe, we think, we hope." True, there were factors which were certainly known and which could be demonstrated under the microscope, but there were many more things not yet found out, and quite as essential to the elucidation of the problem of immunity in septicaemia as the things already known. How was it proved that the leucocytes were the only or the chief agents in immunity? How was it that certain micro-organisms selected certain parts of the body for their activity, and chiefly those tissues only? The gonococcus grew when invading the mucous or serous membranes, but put it in the connective tissue and there was not much formation of pus. What was the function of the cellular tissue of the body in resisting septicaemia? What was the protection accorded to the body by the epithelium apart from the leucocytes? Until accurate knowledge was forthcoming on the selective activity or protective defence of the epithelium and connective tissue they were all in a maze. Immunotransfusion had proved a straw in these cases of septicaemia. Until some definite knowledge on all these points was forthcoming, the clinicians, while trying everything which was put before them from the scientific side, must also be allowed to use their judgement, face to face with patients. So many problems still remained that it was not wise to dogmatize overmuch.

Mr. HERBERT TILLEY gave an account of an attack of septicaemia from which he himself suffered fifteen years ago. He received a prick on the knuckle through a glove. The day previously he had returned from a six weeks' holiday, and he never felt better in his life, so that the question came up as to whether his immunity had been lost during his holiday. On the evening of that day he felt a slight irritation at the site of the prick, and the next morning noticed a blush on the knuckle and some red streaks up the wrist, very like the photographic illustrations of a lightning flash. During the day he felt unwell and had a raised temperature. A colleague gave him an injection of antitoxic serum, after which he felt for a time perfectly well, but at night he had two or three shivers, and became very ill with a high temperature. Within the week following he



had seven operations, and at the end of that time there were seventeen drainage tubes in position in his arm. Then a profuse leucocytosis set in, the arm began to suppurate, and from that moment he turned the corner. He found enormous benefit from having the arm in a hot bath, and also from holding it up, clinging to some support above him. Sleeplessness with high temperature was a great trial. Morphine made him feel ill next day. Heroin suited him very much better, but those things failed in time, and then he tried tincture of opium, chloral, and bromide, with good results.

Dr. ROBERT HUTCHISON, in closing the discussion, noticed that alcohol had not been mentioned as a general means of maintaining the patient's strength in septicæmic infection. He understood that the experimental evidence was rather against its use, but the effect of alcohol on an animal and on a man might be two rather different propositions.

### FOOT-AND-MOUTH DISEASE.

At a meeting of the Comparative Medicine Section of the Royal Society of Medicine held on March 25th, the President, Mr. F. H. HODGKIN, in the chair, Sir STEWART STOCKMAN gave an address on some problems of foot-and-mouth disease.

The subject, he said, was very difficult to treat satisfactorily in the short time at his disposal. There was a large amount of information available on the subject of foot-and-mouth disease, but it could not be readily summarized. He proposed considering the question at this stage from three aspects—*invasion, susceptibility, and immunity.* The incubation period of the disease might be as short as forty-eight hours, but was normally about five days. As long a period as three weeks had been recorded, but he was very sceptical about such records. He thought that in these cases the virus had been carried on the animal's coat for some time, and afterwards licked off. Lesions were common on the tongue (where the vesicles were often confluent), on the snout, teats, and even in the intestine. They were largely superficial, a fact which accounted for their quick healing. The virus seemed to attack the horny layers of the epidermis. Thus the horn of the claws was frequently detached by being underderrun by the virus. This doubtless accounted for some of the "carriers" of foot-and-mouth disease. In thousands of cases, however, he had only seen three animals which could be thus implicated. The horn took six to eight months to slough off, and it was only when it was completely detached that the virus was released and the new infection started. The disease was not a fatal one. As a rule the mortality was about 4 per cent., but in very virulent outbreaks as many as 20 per cent. died. The great trouble was the dislocation of business due to restrictions of trade. In milch cows the value of the animal would often be considerably reduced through damage to the udder, feet, and so on.

Methods of invasion, Sir Stewart Stockman continued, were very difficult to determine. He could definitely rule out animals as the source of the initial outbreaks. Men and hay and straw were undoubtedly capable of mechanically carrying the virus. Hay and straw were not imported from countries where the disease was known to exist, but it was impossible to control the straw used in packing, and this might possibly be one method of invasion. Our greatest danger was from the neighbouring countries in Europe and from the Argentine, where the disease was common and completely uncontrolled. He did not think that men and foodstuffs, however, were the usual causes of outbreaks. He had examined the records for the last thirty years, and he had found that about eighty were what he might call "invasion" outbreaks. These were either initial outbreaks, or outbreaks which occurred at a long distance from any other or within such a short time of another as to be obviously distinct. When analysed these outbreaks disclosed some interesting features. Only two had originated in Scotland, while over 50 per cent. had occurred south of a line drawn from the Wash to the Severn. In that area two well defined areas—east and west—had been the scenes of the greatest number of outbreaks. Practically all the

others were located on the coast or the river valleys. He thought that the agency of man or foodstuffs was too fortuitous to explain this distribution, and he believed it was due to migrating birds. Scotland received birds almost exclusively from the north, where the disease was absent. An analysis of the times of the outbreaks seemed to support this view. The virus could live for three months under favourable conditions. Cold and dark favoured it, while it was destroyed quickly at its incubation temperature. Hay or straw prolonged its life. Drying in the sun was rapidly fatal, but if dried in gentle heat it lived for months. It was still infective in dilutions of over a hundred thousand. The susceptibility of the various animals varied. Cattle, pigs, and sheep were very susceptible; but the disease took several days more to pass from cattle to sheep than from cattle to cattle. Once established, however, this period was reduced to normal in sheep as in cattle. Goats were only slightly more resistant to the disease. Horses, dogs, and cats were only occasionally attacked; while fowls were relatively insusceptible, if not completely resistant. All could transmit the disease mechanically. Rodents were an important factor; but he did not think that rats naturally contracted the disease. After an outbreak cattle-sheds were disinfected and afterwards used without the disease recurring, although the rats did not leave the premises during the intervening period. Guinea-pigs were important from the laboratory study of the disease. A serum conferring a passive immunity for a fortnight would be most useful for "exposed to infection" animals. These animals, which were slaughtered at present, constituted about 90 per cent. of the total. If these could be given a passive immunity for a few weeks it would enormously decrease the expense of controlling an outbreak.

Dr. ARKWRIGHT said that the two most important discoveries in the study of the disease were—first, the discovery that the cause was a filterable virus in the true sense of the word; and, secondly, that a passive immunity could be given by the blood. In the laboratory study of foot-and-mouth disease the discovery that the guinea-pig was a suitable host had placed in the hands of workers a most valuable instrument. This animal had the additional advantage that the disease did not naturally pass from guinea-pig to guinea-pig.

### BACTERIOLOGY OF PUERPERAL SEPSIS.

At a meeting of the Edinburgh Obstetrical Society held on March 11th, Dr. JESSIE EYLES read a paper on some problems in the bacteriology of puerperal sepsis.

Dr. Eyles first dealt with the possibility of auto-infection with vaginal organisms, metastatic auto-infection from other foci in the body being an acknowledged fact. Streptococci were isolated from the vaginal secretion of nineteen out of seventy non-pregnant women, and from eleven out of seventy pregnant patients. All of the first series were non-haemolytic types and one of the second was haemolytic. The existence of such organisms in the vagina was no proof that auto-infection occurred; haemolysis was not a test of virulence. Animal experiments had not shown that these organisms were capable of producing an acute infection. No case had been recorded where an organism was isolated from the vagina in pregnancy and was shown later to have been the cause of fever in the puerperium. Agglutination experiments suggested that the reason why these vaginal organisms seemed to be harmless for their carrier was that she was immunized against them. Only in cases where there was much lowering of resistance due to bleeding, bruising, or exhaustion were these organisms likely to cause an acute infection; the dangerous organisms were those introduced from without. The second question dealt with was the significance of blood invasion in puerperal fever and in septic abortions. The uterus after the fourth day of the normal puerperium was always heavily infected with organisms, which had ascended to it from the vulva; among these organisms were streptococci. The same was true of the uterus in incomplete abortions; streptococci were isolated in four out of six cases of incomplete abortions, which were afebrile before and after

curettage. One of the strains was haemolytic. It had been shown that, apart from the existence of any virulent infection, when the uterus contracted in incomplete abortion, any of the organisms normally present in it might be forced into the blood stream through the open veins of the placental site. There they were soon destroyed, but the patients reacted to each invasion with a rigor. A positive blood culture in such cases before the uterus was emptied was not necessarily of serious import. When the uterus ceased to contract rigors would cease, provided that there had been no true infection present. Emptying the uterus would do no harm in this type of case, but where no auto streptococcal infection of the uterus wall was present local interference would aggravate the condition. In puerperal fever, on the other hand, blood invasion was always serious and indicated that an infection was present, which had spread beyond the uterus and reached the pelvic veins. In nine out of sixty-two cases of puerperal fever organisms were recovered from the blood. Four of the nine cases were fatal, and the others were serious cases. The organisms found were: haemolytic streptococci, three cases; non-haemolytic streptococci, three cases; *B. coli*, three cases. One of the fatal cases was due to *B. coli*. In six other fatal cases no blood-stream invasion could be detected. With regard to the treatment of blood-stream infections, antisepsics of many kinds had been administered intravenously with varying results, but the best results were to be expected from antistreptococcal serum given in large doses and repeated. Vaccines were not of much use in the acute stages. Ligation of the infected veins should be reserved for chronic cases of pyaemia, with intermittent blood invasion, where the patient's resistance did not improve with more conservative methods of treatment.

Dr. W. A. DAFOR then gave an account of an epidemic of puerperal sepsis in Toronto due to *Streptococcus haemolyticus*, including eight fatal cases. At the same time there was a marked prevalence of sore throats, sinus infections, and middle-ear troubles throughout that city, and it was thought that these factors might be contributory. Septicaemic symptoms started between the second and fifth days with one or two rigors, after which a steady rise of temperature was maintained. The lochia were scanty, purulent, and somewhat fetid in all cases: the patients died within six days of the onset of the symptoms. *Streptococcus haemolyticus* was found in the noses or throats of both house-surgeons, 15 to 20 per cent. of nurses, and 35 per cent. of the students. Stringent precautions were taken, and carriers were not allowed to return to the hospital until two negative swabs had been obtained. The patients were first treated with a polyvalent antistreptococcal serum and quinine dihydrochloride intramuscularly, but in later cases phenol was administered intravenously. Phenol had been found by Dr. Maitland to increase the phagocytic power of the white blood corpuscles and the bactericidal power of the blood serum. The standard dose consisted of 0.75 c.cm. of 0.5 per cent. phenol. This was given intravenously once daily for three doses; a day was then missed; the treatment continued thus three to four times. Indirect immunotransfusion was also tried, with good results. Early immunization was advised for any patients exposed to infection. The maximum action of the drug occurred in half an hour and lasted for three hours after its administration. It was very gratifying to find that no further cases had developed after stringent preventive measures had been taken.

### ASTHMA.

At a meeting of the Glasgow Southern Medical Society held on March 18th, with Dr. JOHN GARDNER in the chair, Dr. JAMES ADAM opened a discussion on asthma.

From a study of 840 cases, Dr. Adam laid down the following propositions as to causation: (1) that asthma is a toxæmia; (2) that the toxæmia arises partly in the bowel, partly in the tissues, partly from the absorption of nitrogenous poison under putrefactive action, but mainly from an error in nitrogenous metabolism following imperfect oxidation or enzyme action; (3) that the metabolic error is closely connected with excess of carbohydrate in the

diet, the oxidation of this excess interfering with the oxidation of the more complex protein molecule; (4) that the toxæmia is manifest first as catarrh, later as spasm in the respiratory tract; (5) that the nose is an important factor both in the origin and in the course of the disease; (6) that owing to the prolonged toxæmia there is nervous hyperexcitability, affecting especially the vagus. He supported these views by reference to the fact that 42 per cent. of his cases occurred in the first decade—the age of dietetic and hygienic errors, and, moreover, the age of the "immunity struggle" against the infections prevalent in that decade; by the cures effected on asthmatics by active service during the war; by the absence of asthma among races who had to hunt for their food; by researches carried out by himself and others on animals attacked by a similar disorder; by the week-end incidence of a large body of cases; by the therapeutic test, which showed 70 per cent. recoveries under a very simple régime. From a series of blood and urine analyses he showed a relatively low urea value as compared with non-protein nitrogen in asthmatic bloods, a low urea value to total nitrogen in asthmatic urines. He held that the modern confusion between asthma and anaphylaxis arose from a misconception of what anaphylaxis really was. A sensitizing dose of protein introduced otherwise than by the alimentary canal produced a profound though not apparent change, so that, after an interval, a second dose resulted in illness, and often death. The most striking effect in a general affection of the tissues was on smooth muscle, and the organ most affected was that where the muscle was most strongly developed. Anaphylactic phenomena might appear in asthmatics in whom the muscles of the bronchioles were hypertrophied by prior toxæmia and spasm. This term had, however, been unwarrantably extended. It had been loosely applied to include all idiosyncrasies to food or non-protein drugs, even on their first introduction. "Allergy" was the word used for these reactions, and the protein skin reaction had been introduced to test for their presence. Fifty per cent. positive results had been claimed by Coke and others. Dr. Adam considered that 50 per cent. failures proved something simpler and more radical than anaphylaxis in asthma, even in many of the positive cases. In his own series, including hay fever, which was not asthma, he had 40 per cent. positive results, and he did not put 40 per cent. emphasis on them. He summed up by saying that asthma was in reality a symptom producible (1) slowly by toxæmia and commonly as one of a chain of respiratory symptoms, (2) suddenly by special toxæmia or anaphylaxis, or (3) suddenly by strong nasal irritation. As regarded treatment, the main principles were to secure a state of general well-being, and to see that the nose was right. He gave a short account of his own operative and dietetic procedure.

Dr. IVY McKENZIE considered that Dr. Adam's theories might yet be found to fit into the whole scheme of metabolic perversion. He thought the eugestive prodromata of asthma, as represented by nasal catarrh, enlarged turbinates, and laryngitis, might be due to a central poisoning of the roots of the nerves in the medulla. In connexion with the vagal element in asthma, he had found that a dose of apomorphine sufficient to produce vomiting would abort an attack of asthma. He concurred in the attack on the "anaphylactists."

Dr. KEAR LOVE was sceptical of the value of the protein tests. He recalled a case strongly positive to pork to whom he at once administered three pork chops with no asthma. He thought Dr. Adam's work a great contribution to preventive medicine.

Dr. W. HERBERT BROWN referred to the food factor in cases of urticaria and eczema in infants. He was struck by the preponderance of the dispensary patients over private patients in this type of disorder, and considered dietetic and environmental disparity a reason for this.

Dr. J. L. HOWIE declared himself a disciple of Dr. Adam, and spoke to the value of his principles in general and in throat and nose work. Drs. CASPIE, FRASER, DAVIDSON, and REGINALD DUNLOP also took part in the discussion.

## Reviews.

### BILLROTH'S "MEDICINE" IN GERMAN UNIVERSITIES.

THAT THEODORE BILLROTH'S famous work, *Lehren und Lernen der Medicinischen Wissenschaften* has not hitherto been translated into English is remarkable, but it is even more surprising how applicable what he wrote nearly fifty years ago is to the present-day problems of medical education. *The Medical Sciences in the German Universities*,<sup>1</sup> with its subtitle *A Study in the History of Civilization*, has now been admirably translated into present-day English terms, and has the further advantage of an introduction by Professor W. H. WELCH, who pleasantly outlines the grandeur, wide sympathies, and literary talent of the Vienna surgeon, and mentions that the plain-spoken truths about the conditions in the university aroused considerable resentment, attended even by racial and riotous disturbances, in Vienna. The work is divided into four parts, dealing with (1) the development of the faculties of medicine at the German universities; (2) the present (1870) German method of teaching the medical sciences; (3) the student and the future physician; and (4) the teaching staff.

In tracing the history of clinical instruction, Billroth sketches the formerly subordinate position of surgery, which did not obtain an independent position till the seventeenth or eighteenth century, and it is now scarcely credible that the great Albrecht von Haller lectured at Berne for many years without ever having touched a human body with a knife. The qualifications of a surgeon are graphically expressed in the sentence, "A man who has not been an assistant in a surgical ward and has not performed the typical operations dozens of times on the cadaver, until he can do them as well in his sleep as when fully awake, will never be an operator." It is, of course, interesting to compare the methods of teaching in the German schools of medicine in Billroth's time with our own; even then the systematic lecture was becoming obsolete, and on this tendency he utters some words of warning which are not without their application at the present day. Speaking of the introductory portions of lectures, he remarks that the modern youth likes them as little as the public does the long overtures of modern operas. One of the few places in which his views depart from the general atmosphere of modernity is where he says that physiology is now at its high-water mark and that a professor of medical chemistry is not absolutely necessary at every university. On the other hand, he advocates courses in dietetics and balneology in every university—a piece of advice that certainly has not borne universal fruit. The problem of the State versus university qualification in medicine is discussed at length, and the shortage of rural practitioners noted; in areas where poverty makes it necessary, the doctor, like the clergyman, should, he thought, be provided with a house, and be guaranteed a certain amount for his services.

The effective teachers are divided into (1) those with the formal talent for presenting their subjects systematically to average students and are good conductors if not live wires; though there are exceptions, they tend to become petrified after fifteen years; (2) the founders of schools and the really great leaders are always of a somewhat visionary and highly imaginative nature, and not infrequently artistic, or musicians or poets. Although for their pupils these gifted men have a wonderful attraction, the personal fascination of such intellectual giants may be relatively short-lived unless their investigations are made known in the written word. Of the two categories, the efficient systematic teacher and the genius, Billroth obviously prefers the latter.

This is an attractively written book on a subject of absorbing interest, and its reappearance appropriately coincides with Mr. Abraham Flexner's survey of *Medical Education during the last fifteen years in Europe and*

America, also published by the Macmillan Company. The two should be read and assimilated by all interested in medical education.

### THE EXAMINATION OF THE EYE.

METHODICAL examination is the essence of all good clinical work in every department of medicine or surgery. In no other region of the body can so much be seen, if it be looked for, as in the eye. How easy it is to overlook important details is well known by all ophthalmic surgeons. It cannot be too often, or too strongly, impressed upon the student that only by methodical routine examination are we in a position to form a just estimate of the condition of the eye. It may not be possible to account for all we see, but the student, or surgeon for that matter, who conscientiously carries out his routine examination of a case may feel that he has done his duty by his patient even if the interpretation of the details he has found be obscure.

Mr. BASIL LANG, in his book on the *Routine Examination of the Eye*,<sup>2</sup> describes a single manner of carrying out each part of the examination of the eye. As he says in his preface, it may not be the only way, it may not, in the opinion of some, be the best way, but it is a perfectly satisfactory way, and enables the observer to obtain the desired information. With this we cordially agree; the student will find in this book an absolutely safe guide to the examination of the eye. It is clearly written and well illustrated.

Those of our readers who have had the advantage of being trained by the author's father will read the book with pleasure and will recall to memory Mr. William Lang's *Methodical Examination of the Eye*, a book which was the ophthalmological bible of their junior days, in that it pointed out most clearly the narrow track that led to ophthalmic salvation. We assume that this work is no longer in print, and we are glad indeed that the son has written this little new textbook on the same subject for the benefit of those who "knew not Joseph." Mr. William Lang's book was labelled Part 1; all who worked in his clinic at Moorfields or the Middlesex Hospital looked forward to the publication of the remaining part or parts; but none ever appeared. We sincerely hope that Mr. Basil Lang will find time to complete the idea of his father.

### STEINACH'S OPERATION.

PROFESSOR STEINACH of Vienna found that, after tying the vasa deferentia in old rats, the animals appeared to take a new lease of life; they put on fat and became agile and sexually potent. This result was attributed to an increase in the number of interstitial cells after the operation. It is claimed that a similar rejuvenescence follows vasoligation in man, and Dr. PETER SCHMIDT, in his book which, in the English version, bears the title *Theory and Practice of the Steinach Operation*,<sup>3</sup> has attempted to substantiate the claim by recording the results of eighty-four cases in which he performed the operation.

The interpretation of the results in man is complicated by the difficulty of eliminating the factor of suggestion and by the absence of any satisfactory measure of the degree of rejuvenescence obtained. Conclusions are based on a general impression of the effects, and will naturally vary in different observers. Thus very marked rejuvenescence is said to have occurred in Case 3, an innkeeper, aged 62, who was accustomed to drink brandy by the bottle, who was incapable of carrying on his business, was suffering from aortic valvular disease, purulent bronchitis, old pulmonary tubercle, gall stones, severe fibrosis of the kidneys, enlarged prostate with cystitis, and severe generalized arterial disease, causing death from apoplexy four months after the operation. Many would doubtless attribute this result to the imagination rather than to the inter-

<sup>1</sup> *The Medical Sciences in the German Universities: a Study in the History of Civilization*. Translated from the German of Theodore Billroth, with an introduction by William H. Welch. New York: The Macmillan Company, 1924. (Rc.) 8vo, pp. xiv + 222. 15s. net.)

<sup>2</sup> *The Routine Examination of the Eye*. By Basil Lang, F.R.C.S. Eng. London: E. Arnold and Co. 1925. (Cr. 8vo, pp. 155; 30 figures. 6s. net.)

<sup>3</sup> *The Theory and Practice of the Steinach Operation*. With a report on one hundred cases by Dr. Peter Schmidt (Berlin), and an introduction to the English edition by J. Johnson Abraham, C.B.E., D.S.O., M.A., M.D. Dub., F.R.C.S. Eng. London: W. Heinemann (Medical Books), Ltd. 1924. (Cr. 8vo, pp. xiv + 150; 3 diagrams. 7s. 6d. net.)

stitial cells of the testis. In other instances recorded there is no room for doubt as to the existence of mental abnormality, as in the case of the guard, aged 32, who was afflicted with the distressing impulse to press against women in the street and produce an ejaculation if possible. A case of this kind bears very little analogy to the effects of vasoligation in rats. Further, in some of the cases it is difficult to avoid the suspicion that the patients were making fun of the doctor, as in Case 76, a veterinary surgeon, aged 57. In the first weeks after the operation the condition is stated by the author to have been remarkable: the patient has "exquisite fancies; walks again as straight as a soldier; runs upstairs as actively as one does after a pleasure trip; and, at night, has erotic dreams pretty regularly."

Steinach's operations on rats suggest that man might possibly derive some benefit from vasoligation, but the suggestion is very much weakened by a perusal of Dr. Schmidt's work.

### ANAESTHESIA AND ANAESTHETICS.

In the second edition of his book *Anæsthesia*,<sup>4</sup> Dr. J. T. GWATHMEY has introduced a few alterations. He has omitted the chapters formerly devoted to electrical and sequestration anaesthesia, to mental influence and hypnosis, and to statistics; the list of anaesthetics has also been left out. Special chapters have been written by collaborators who are authorities in their respective fields of work.

The book is divided into twenty-two chapters and has two appendices. It opens with the history of anaesthesia, which is most interestingly set forth, and then the general physiology of inhalation anaesthesia is discussed very fully and adequately. Before passing on to the various anaesthetics in general use, the author discusses the use of re-breathing in the administration of anaesthetics, and points out its advantages and disadvantages. Nitrous oxide, ether, ethyl chloride, and chloroform are then each dealt with fully, after which the selection of anaesthetics and the technique for special operations are discussed. Other chapters are devoted to treatment before, during, and after anaesthesia, to anaesthesia by intratracheal insufflation, to anaesthesia by colonic absorption of ether vapour, and to local anaesthesia. Third-stage anaesthesia is discussed in a separate chapter, while local anaesthesia as applied in dentistry is also given a chapter to itself. Spinal anaesthesia is treated at very great length—in fact, as many pages are devoted to this method as to local anaesthesia. Intravenous and synergistic anaesthesia, the therapeutic uses of inhalation anaesthetics, the medico-legal status of the anaesthetist, ethylene anaesthesia, and painless childbirth by synergistic methods, each receives attention in a separate chapter. The appendices are devoted to oxygen and to the doses suitable for animals respectively. The author has produced a very valuable work, which will be welcome to British anaesthetists as showing the apparatus and methods employed in America. As a book of reference the work is also of very great value, as the author quotes chapter and verse for all his statements, and has no hesitation in stating the opinions of other authorities where they happen to differ from his own. This absence of dogmatic statement, while of use to the expert, is, perhaps, a disadvantage to the student, who is apt to be confused by a multiplicity of opinions, methods, and apparatus. Consequently the book is not one to be recommended to the British student as a first book to be read, more especially as he will not be familiar with the apparatus figured, and such apparatus as he is likely to use does not appear in the illustrations. Where the whole book is so excellent, both as to subject-matter and illustrations, it is difficult to formulate criticisms. It is perhaps allowable, nevertheless, to question whether such a large subject as local anaesthesia had not better have been dealt with in a volume by itself. This comparatively new and rapidly growing branch of the science and art of anaesthesia can hardly receive the attention it deserves in a chapter of some sixty pages, well as has the collaborator done

his work. Explanations have necessarily to be cut down to a minimum, and clearness is liable to be sacrificed to verbal economy. The mere presentation of diagrams, however excellent, is not of itself sufficient to compensate for extreme restriction of the explanatory matter. Altogether, however, this new edition enhances the author's already great reputation as a scientific anaesthetist and an authority on his art.

### EARLY CHEMISTRY.

THE author of *The Story of Early Chemistry*<sup>5</sup> has undertaken a great task. The history of chemistry contains matter of no less interest than the histories of men and empires. History proper is a woven fabric; the fabric cannot be woven until the facts have been collected for the master weaver. Only a chemist could write the history of chemistry, but the vocation offers its votaries little freedom for the pursuit of any literary inclination with which they may be endowed. Hence the perfect history, which we still await, can only grow out of the labours of the annotator of chemical records, and his notes must then be handled by one possessed of no little literary skill. These remarks are not intended to depreciate the value of STILLMAN's book, but it partakes more of the character of annotation than of constructed history. He might, indeed, have become the historian we desire had he had more time to devote to writing, for there are many pages in which the historian's gift is evident. Clearly the vast extent of ground he attempted to cover in the time at his disposal precluded a free exercise of the historian's art. The book describes what is known of chemical arts regularly practised by the ancients. It throws much light on the confusion from which the experimental efforts of the alchemists suffered; at one time they worked with different substances bearing the same name, and at another with the same substance presented under different names. This confusion goes some way to explain the mystical conceptions that surrounded their strange theories and beliefs. Between the Middle Ages and the eighteenth century there was a transition period, during which realities contended with imposture. Then came the phlogiston theory; it served as the focus of chemical thought, and had the effect of co-ordinating for the first time experimental researches of diverse kinds. Finally, the phlogiston theory, having served its day, yielded place to the foundations of modern chemistry. The dominant impression left by a perusal of Stillman's work is of the extraordinary amount of labour that must have gone to the acquisition of his materials. The book seems to be a compendium of all that has been written on chemical beliefs and on actual achievements in early chemistry. It is provided with a good index and an ample bibliography. It will not only be read for its archaeological interest, but will serve as a useful book of reference.

### HEALTH AND PERSONALITY.

DR. JOHN S. GRIFFITHS has contributed a volume to the Library of Philosophy and Religion series, entitled *Health and Personality*.<sup>6</sup> The author approaches his subject by dealing in successive chapters with the various biological stages of individual development; commencing with infancy and childhood, he ends up with the "later years," which, as he observes, can be the best period of life since they give what was missing in former stages—serenity, gentleness towards others, tolerance towards all, and the peace of life's twilight. The book is written in an easy, discursive style, and the subject-matter includes not only much excellent advice on health, but observations on life in general, and on a variety of topics such as tropisms, conditioned reflexes, eugenics, endocrines, philosophy, religion, manners, friendship, suggestion, psycho-analysis, occultism, recreations, and house furnishing. Throughout his book

<sup>4</sup> *Anæsthesia*. By James Tayloe Gwathmey, M.D. Second revised edition. London: J. and A. Churchill. 1924. (Med. 8vo, pp. xxi + 793; 273 figures. 55s. net.)

<sup>5</sup> *The Story of Early Chemistry*. By John Maxson Stillman. New York and London: D. Appleton and Co. 1924. (Demy 8vo, pp. xiii + 555. 18s. net.)

<sup>6</sup> *Health and Personality*. By John S. Griffiths, M.R.C.S., L.R.C.P., D.L. Library of Philosophy and Religion. London: Hodder and Stoughton, Ltd. 1924. (Cr. 8vo, pp. 320. 6s. net.)

the author emphasizes his views by a number of apt quotations.

Dr. Griffiths makes no attempt to write profoundly; the book is simple and readable, and we have no doubt that the ordinary layman will find it helpful and interesting. The medical practitioner, also, will probably not feel that he has wasted his time if he dips into its pages.

### NOTES ON BOOKS.

THE third edition of Dr. J. B. HURRY'S book on *Vicious Circles in Disease* has been translated into Spanish, and several new chapters have been added; a coloured front-piece illustrates the "circular process" in medicine. We published reviews of the third English edition on September 13th, 1919 (p. 346), and of the French translation of this edition on March 1st, 1924 (p. 387).

Professor WILLIS BANDLER'S *Medical Gynecology* has reached a fourth edition; in its preparation the author has had the assistance of several colleagues. Dr. W. T. Dannreuther has contributed chapters on urinary conditions and written most of the section on radium and x-ray therapy; Dr. George Mannheimer has rewritten the chapter on constipation; while Dr. Walter Highman has added the chapter on syphilis. Professor Bandler has rewritten the section on the endocrine glands, in regard to which he is a great enthusiast and no mean authority. Modern advances in psychological medicine, which are of great importance in medical gynecology, receive suitable attention. Whatever may be the reader's opinion of the propriety or value of attempting to separate medical gynecology from surgical gynecology, there can be no doubt that this book contains much in regard to minor methods of treatment which will be of value to the practitioner. These additions cannot be properly considered in their own right, but their consideration on a detailed scale would tend to overload the ordinary textbook of gynecology, and this may be the justification for a second volume. The gynecological surgeon will be the first to appreciate the valuable results which follow prolonged and painstaking adoption of some of the minor methods of treatment. The practitioner will also find great help in this book, as it explains in detail the various minor methods which can quite well be employed in a consulting room or in the patient's own home.

*Los Círculos Viciosos en Patología.* Por el Dr. Jameson B. Hurry. Traducción española, corregida y aumentada, de la 3ª edición inglesa por el Dr. Diego Moxó y Queri, con un prólogo del Dr. Augusto Pi Suñer, a Marañón Roig. 1925. (Roy. 8vo, pp. xv+338; 4s.)

Samuel Willis Bandler, M.D. Fourth Philadelphia and London: W. B. Saunders Company. 1924. (Sup. roy. 8vo, pp. 930; 157 figures. 40s. net.)

### PREPARATIONS AND APPLIANCES.

#### *Glazings Transparent to Ultra-violet Rays.*

We have received from the manufacturers (179, Great Portland Street, London, W.1) a sample of material to which they have given the name "Windolite." It has been used by poultry keepers and market gardeners as a substitute for glass, but it is now suggested that, as it allows ultra-violet rays to pass much more freely than ordinary glass, it may be of use in medicine. It is made of acetone cellulose reinforced with wire netting of a mesh about one-eighth of an inch in diameter. It is light and portable, and may therefore be of use in the tropics to form the windows of a country dwelling. It has been examined for us, and it is found that, as claimed, it lets the ultra-violet rays through freely. In the original make it passed the ultra-violet rays through to 275 mm., but in a recent sample down to 232 mm. Ordinary window glass stops the ultra-violet rays shorter than about 320 mm. The active biological rays, so far as the skin is concerned, are those from about 310 to 250 mm., but those between 300 and 290 mm. are particularly active. "Windolite" would probably be useful for open-air shelters and verandahs. A new glass, manufactured by Lamplough (47, Banbury Road, King's Norton), called "Vitaglass," is a "cathedral glass" when rolled, but can be blown as a clear transparent glass. It lets ultra-violet rays through down to 275 mm. It may be useful for skylights, verandahs, and the upper part of windows of hospitals, schools, and nurseries. It may also be found of value for incandescent tungsten filament lamp bulbs.

#### *Metallic Bismuth for Intramuscular Injection.*

Bismuth has been proved to be a spirillicide of specific character. In the treatment of syphilis, intramuscular injections of preparations from various compounds of bismuth have been used with results so encouraging as to stimulate the search for preparations of the metal that will yield still more advantageous effects. One,

which has hitherto given the greatest satisfaction, is a simple suspension of the metal in an isotonic solution of glucose. Such a preparation was described in our issue of March 14th (p. 516). We have now had the opportunity of examining another preparation of this kind. It is made by Messrs. Burroughs Wellcome and Co., and is supplied under the trade name of hypoloid bismuth metal. The metal has a high degree of purity; freedom from impurity is especially important as regards lead, which would be likely to introduce disturbing effects. We note also that the particles are of fairly uniform size, a quality which enables the dosage to be better regulated. The ordinary dose for an adult is 1 c.cm., containing 0.2 gram of the metal.

### PULMONARY TUBERCULOSIS TREATED BY M. SPAHLINGER'S SERUM.

WE have received the following letters with regard to the action of the antituberculous serum made by M. Spahlinger (Carouge, Geneva), recorded in our issue of January 3rd (p. 43), and to subsequent correspondence. They have reference, as will be seen, in particular to the case of "R. G."

SIR,—I should like to deal with two points recently raised in the BRITISH MEDICAL JOURNAL in connexion with my work, a recent illness having prevented me from dealing with them sooner. The first, concerning the clearing of shadows in the radiogram, raised in your issue of January 10th (p. 92), was answered by your review of Dr. Jaquerod's book in that issue (p. 76). This clearing of the shadows is due to "the process of resolution."

The second point concerns the ease of Mr. R. G. I understand that Dr. Trechsel himself is dealing with the letter published on February 21st (p. 387) in a note which he is sending you. When Mr. R. G. started to resume normal life he was seen by Dr. Hudson and Dr. Stephani. The former sent me his report of the case on October 14th and the latter on October 12th, requesting me to forward them to you. Excess of work prevented me from doing this until October 27th. I had nothing to do with the conception of these letters, nor did I see the proofs, and I am therefore unable to understand why your correspondent should mention my name in connexion with them. Dr. Hudson and Dr. Stephani were so impressed with the rapid results achieved by my new partial serum that they considered it their duty to place the facts before the medical profession. May I point out that Mr. R. G. was under Dr. Trechsel's care, and that I had nothing to do with his treatment during his last illness.—I am, etc.,

H. SPAHLINGER.

SIR,—My attention has been drawn to a letter which appeared in your issue of February 21st (p. 387), raising the question whether or not Mr. R. G. had died of pneumonia. As I was the physician in charge, responsible for the diagnosis and treatment, I feel called upon to send you the following details.

Mr. R. G.'s ease was considered as hopeless by Dr. Hudson, Dr. Stephani, and myself. The patient had massive bilateral disease, with cavities, and was in a dying condition. Large quantities of Spahlinger's partial serum were given, and ten weeks later all signs of activity had disappeared; chest signs dried up, temperature and pulse became normal, practically no cough, only a trace of sputum in the morning. The radiogram showed that most of the shadows had disappeared, thus indicating that the process of resolution had been extremely rapid. Thereafter the patient resumed his normal life.

On October 22nd Mr. R. G. stayed out at night insufficiently clad and complained of a chill. The next day he was kept in bed with the symptoms of a severe cold, with high temperature (it was normal on the previous evening) and violent coughing attacks. On October 25th a pulmonary aneurysm ruptured. Mr. R. G. recovered from the haemorrhage, which was profuse, and was not followed by another attack. He developed acute lobar pneumonia and died on November 3rd.

The fact that during his last illness pneumococci only were present in the sputum in large numbers, and that I did not consider it necessary to administer any further doses of Spahlinger's serum, proves my faith in the diagnosis of acute pneumonia as the cause of death.

What was claimed in Dr. Hudson's and Dr. Stephani's letters, which appeared in your issue of January 3rd, and what is also claimed by me to-day, is that Mr. R. G. was in a hopeless condition when Spahlinger's serum was started on August 1st, and that, ten weeks later, the intensive serum treatment had arrested the disease. If an aneurysm had formed in a cavity and ultimately ruptured, surely Spahlinger's treatment could not prevent that. It was an accident which in no way diminishes the favourable impression obtained and the remarkable curative effect produced by the serum.—I am, etc.,

Geneva, March 25th.  
DR. E. TRECHSEL.



# British Medical Journal.

SATURDAY, APRIL 4TH, 1925.

## THE LIBERTIES OF THE PROFESSION.

IN THE BRITISH MEDICAL JOURNAL of March 21st (p. 566) we directed the attention of all medical practitioners to certain proceedings under the Insurance Acts reported in the SUPPLEMENT of that week (p. 122) under the heading, "A fatal case of diphtheria." We recur to the subject because it concerns the rights and liberties of the profession. The report in question was that of a Committee of Inquiry, consisting of a barrister-at-law and two medical practitioners, appointed by the Minister of Health in accordance with the Regulations made under the Insurance Acts, to investigate the professional conduct of a London insurance practitioner (designated by us as "Dr. Z") in respect of his treatment of an insured patient. The London Insurance Committee brought a charge of gross negligence against Dr. Z in failing to diagnose diphtheria until a late stage of the disease, and demanded his removal from the medical list for the County of London. The Inquiry Committee, in its report to the Minister, submitted a full and careful account of its findings of fact, and its findings, we may remark, put a very different complexion upon some of the alleged facts of the case and grounds of complaint formulated by the London Insurance Committee. The Inquiry Committee included in its report certain observations. Of these the one to which the Ministry of Health should have attached great importance, as going to the root of the matter, is as follows: "When a charge of gross negligence is made against a doctor it seems just to avoid an attitude of mind which—to use a colloquial phrase—savours of being wise after the event, and not to attach undue weight to the death of the patient with the obvious exception of cases in which the death can be proved to be attributable to such negligence." In the course of its six inferences of fact the Inquiry Committee exonerated Dr. Z from the very serious allegations made against him. The furthest it went in criticism was the following reference to Dr. Z's omission to take a swab from the throat: "... we can only describe the fact as unfortunate that the respondent, in his persistent diagnosis of tonsillitis, did not adopt this further test for the purpose of checking his opinion." The Committee, moreover, found that "no possible suggestion can be made against the respondent for any neglect in attendance," and it noted the great care exercised by him in the case. "In our opinion," the Committee concluded, "the charge of gross negligence wholly fails. The facts indicate the possibility of criticism of the respondent in the matter of his professional skill, but an illness which commences with tonsillitis and is complicated by the subsequent onset of diphtheria and Vincent's angina is probably not of common experience, and adds to the difficulty of making a correct diagnosis. We think that the complainants were not justified in making their representation and thus putting in motion the machinery which involved the inquiry held by us. In pursuance of this view we recommend that the complainants be ordered to pay to the respondent his taxed costs of the inquiry."

The Minister of Health, in pronouncing judgement, agreed that Dr. Z should receive his costs, but, in

complete disregard of the tenor of the Inquiry Committee's report, informed the complainants that Dr. Z ought to be fined £20, and in order to ensure compliance with this opinion the Minister has withheld £20 from the money payable to the Insurance Committee. The letter from the Ministry of Health to the London Insurance Committee sought to justify the infliction of this fine by reference to some advice tendered from an unnamed quarter. "The Minister," it said, "is advised that some of the symptoms from which, according to the report of the Inquiry Committee, this patient suffered, were such as should have suggested the presence of diphtheria. . . ."

The annotation in the JOURNAL of March 21st ended by inviting the Ministry of Health to send us any explanations it might wish to offer of this strange action; but so far the invitation has met with no response. A question has, however, been asked in the House of Commons, as reported in our Parliamentary columns this week (p. 676). Mr. Herbert Williams, member for Reading, asked the Minister of Health on March 26th why penalties of £10 and £20 were imposed on two doctors, who had been accused by the London Insurance Committee of gross negligence in cases of appendicitis and diphtheria respectively, but had been found innocent by a committee appointed by the Minister of Health. Mr. Neville Chamberlain's reply must be regarded as most unsatisfactory. In particular we would draw attention to two passages. Mr. Chamberlain said that the Inquiry Committee's findings of fact indicated that in one case (clearly that of Dr. Z) "the doctor had failed to exercise reasonable care"; and, later, he said that "there was no ground for the statement that the practitioners were found innocent." As Dr. Harry Roberts remarked in his trenchant letter printed in our last issue (p. 631), "If we stand this we shall stand anything."

On the day before the Minister put forward his defence in the House of Commons this matter had been brought formally to the notice of the British Medical Association, as recorded in the proceedings of Council published in the present issue of the SUPPLEMENT. It arose in connexion with the final draft of the Memorandum of Evidence to be submitted by the Association to the Royal Commission on National Health Insurance. Dr. Brackenbury, in studiously temperate terms, submitted an additional paragraph which he had drafted in regard to the judicial or semi-judicial functions of the Ministry of Health. The paragraph makes reference to the inexplicable action of the Ministry in imposing penalties on practitioners, and says it is exceedingly disquieting to find that, though the machinery set up in agreement with the profession is used, and the agreed procedure is followed, "there are cases in which there seems little or no relationship between the decisions of the Ministry and the reports or recommendations of the bodies on which action is supposed to depend." Emphasis is laid on the point that a strict distinction must be drawn between professional conduct in the attention given to a patient, and the nature of the exact professional treatment given to the patient; and the paragraph closes with a declaration that the propriety or otherwise of any particular method or line of treatment ought not to be made the subject of investigation in connexion with the insurance service.

Dr. Brackenbury told the Council that the grievance would be plainly stated to the Royal Commission by the Association's witnesses, who would say that the profession could not tolerate this sort of procedure if it went on without explanation from the Ministry. These assurances, together with Dr. Dain's significant

remark that the Insurance Acts Committee would have some very definite things to say on the subject to the Ministry of Health, will doubtless be read with satisfaction, not by insurance practitioners alone, but by the medical profession at large. Our profession is not quick to express its feelings; but, unless we are misinformed, it is already gravely concerned for the defence of its freedom against this new kind of attack.

### THE EXPECTATION OF LIFE IN GLASGOW.

MR. WILLIAM JONES, secretary to the public health department of the Corporation of Glasgow, has prepared and published two new Glasgow life tables—one based on the census of 1871 and the deaths registered in the three years 1870-72, the other based on the census of 1921 and the deaths in 1920-22. He is to be congratulated on the completion of a very troublesome task, and, as pointed out in a preface by Dr. A. K. Chalmers, it places Glasgow in what is surely a unique statistical position in having life tables covering a hundred years. The first was published in 1829, and was based on data for the six years 1821-27. The figures, of course, are not strictly comparable as between the successive tables, owing in the earlier data to errors as to population and in the later to extensive additions to the area of the city by absorption, mainly of adjoining burghs. But broadly the statistics do give a very striking picture, first, of deterioration of health conditions owing to the extraordinary growth of Glasgow during the industrial revolution in the earlier part of the nineteenth century, and next, of improvement of health conditions in the past half-century. As is customary in such tables, the figures for the two sexes are given separately.

In 1821-27 the expectation of life at birth was in males 34.12 years and in females 36.64 years. By 1870-72 the corresponding figures were reduced to 30.93 and 32.61 respectively. In other words, the outlook as to survivorship was three to four years worse than it had been forty years earlier. But by 1881-90 the loss was more than wiped out, the expectation being for males 35.18 and for females 37.70, which is just about a year better than in 1821-27. In the next forty years the improvement was very notable, the male expectation being no less than 48.41 years and the female 53.19.

These figures all relate to the whole lifetime, from birth onwards. But so great is the mortality in the early years of life compared with the later that the survivors at the age of 10 years have an average prospect of life longer than the average expectation at birth. Starting therefore to make comparisons at 10 years old, and beginning with the life table of 1821-27, the expectation of life amongst males was 42.27 years, or fully eight years greater than at birth, and in females 45.24, or over eight and a half years greater. It is interesting to note that at this age period the fall in expectation as between 1821-27 and 1870-72 was not so great as in infants, being only 2.12 years in males, though in females it was 3.41 years. Coming to the life table of 1881-90, the 10-year-old children had made a great advance—to 57.70 years' expectation in males and 45.44 in females, which latter figure, however, is only 0.20 better than the original 45.24 of 1821-27. Finally, by 1920-22 the expectation of male children who had survived through the first decade had risen to 50.81 years and of females to 53.19, so that, adding the first ten years which they had already lived, their mean age at death would be 60.81 in males and 63.19 in females.

Under the heading, "The increase in life capital," Mr. Jones submits some striking mass figures, following which he writes: "The present population of the city will, therefore, live among them approximately twenty million more years of life than a similar number of persons fifty years ago, fully nine millions being among males and ten and three-quarter millions among females," but he points out that "proportionately the added years are mainly of adult ages." The details emphasize this reservation. The percentage increase at age 0-4 inclusive is only 2.9, while at 35-54 inclusive it is 30.2, and over 75 years the gain is only 5.2 per cent.

In comparing the life tables of 1920-22 relating to Glasgow, Liverpool, and Manchester, the curious result is shown that in males Glasgow has a slight advantage over both towns (much less over Manchester than Liverpool) at the ages of from 12 to 42 years. Beyond the latter age both Lancashire cities, especially Liverpool, have an appreciable advantage. In females the position is different. At all ages from 12 to 82 (with one fractional exception) both Liverpool and Manchester make a better showing than Glasgow, especially from 12 to 27 years, where Glasgow's expectation is less favourable to the extent of from one year to a year and a half.

Dr. Chalmers makes a most interesting suggestion as to future life tables. He is very strongly disposed to think that they should be built up, not on the general population and its deaths, but on populations grouped according to the number of rooms they occupy and the deaths occurring among them, and Mr. Jones gives some relevant figures based on the census population of 1911. The figures show the expectation of different ages from 10 to 65 according to whether the occupied houses had one, two, three, or four and more apartments, the advantage being with the larger houses. Dr. Chalmers points out that "at 20 years of age the expectation of males in one apartment families was 2.28 years less than the average, and 5.18 years less than in families occupying four apartments and upwards. At 65 these differences almost wholly disappear." With wise caution, however, he does not assume that such differences are to be wholly attributed to housing, and he concludes by observing that "the future of public health administration must concern itself with the elucidation of the causes of these differences."

### NEW DRUGS FOR OLD.

THE use and abuse of drugs was the subject of an animated discussion at a meeting of the Hunterian Society on March 30th, when Mr. H. W. Carson was in the chair. Professor W. E. Dixon, after a reference to the prevailing "therapeutic nihilism" which condemned drugs of all kinds as valueless, said that, while students in this country were taught diagnosis as they were taught it in no other, the teaching of therapeutics was inadequate. A French professor who had been in London for three months said to him that the great difference between French and British medicine was that "we know what to do when we do not know what is the matter with the patients; you know what is the matter with them, and do not know what to do!" Patients were less interested in diagnosis than in treatment, and the physician who had not been properly taught the art of healing was apt to resort to the circulars he received from wholesale druggists with regard to the value of substances the nature and composition of which was sometimes not even stated. In passing, Professor Dixon said a word about vitamins; after stating that fat-soluble vitamin was fixed

in association with the cholesterol of the fats, and was increased as the result of the action of ultra-violet rays, he imagined a future in which mercury-vapour lamps would be suspended over the dining table, throwing down rays to vitalize the food before it was taken! In chemotherapy he found the new outlook in medicine, but chemotherapy must advance further to the production of substances which would be specific in their action against micro-organisms and would not, as did most of the substances now used, kill the body tissues at the same time. Dr. H. H. Dale said that although his time was spent in the laboratory he was not so closely bound up with the scientific method as to demand that the choice of drugs must be limited to those concerning which the fullest scientific knowledge was available. The use of drugs on a supposedly scientific basis was not without danger, which was in many ways greater than that attaching to the use of drugs on the basis of careful clinical experience, for it was very easy, by false and superficial analogies, and by the facile acceptance of any kind of specious explanation, to admit all kinds of things as playing a part in real scientific treatment, whereas in truth what was being done was more irrational than a procedure based upon an enlightened and not too conservative empiricism. At the same time, vague impressions as to efficacy could not be taken as a safe basis for the reasonable use of drugs. Quinine was known to be a specific against the malarial parasite, but what was to be said for the wide use of quinine by the public, largely at the instigation of the medical profession, as a prophylactic against all kinds of catarrhal infections, especially epidemic influenza? There was never a threatened epidemic of influenza but some journal published an interview with "an eminent Harley Street specialist," who advised taking quinine in the form of ammoniated tincture. What real ground was there for the suggestion that it had any prophylactic effect? If there was no real ground the attempt so to use it was an abuse. Again, potassium iodide was known to have a definite specific action on certain forms of chronic infection, particularly tertiary syphilis, but it had come to figure in the list of therapeutic agents as having a general value for reducing swellings and promoting the absorption of effusions of almost every kind. Was there any real basis for that belief? If not, it must be ranked as an abuse of a valuable drug. The salicylates had a specific action in acute rheumatism, but was it not an abuse to prescribe salicylates haphazard for any kind of painful condition of unknown etiology? Medical men were exposed at the present day to some danger on account of their genuine modesty. The people who introduced new drugs had learnt to get at the medical profession on the side of its modesty, for a medical man was prone to receive with quite undue respect any kind of plausible jargon which on the face of it appeared scientific. He quoted some words written by an eminent leader of the profession, now dead, in an introduction to a book which was supposed to give a scientific account of colloids and their use in medicine. This leader, for whom he had the greatest respect, wrote: "It is an obvious desideratum that the drugs employed to combat disease should be in the colloidal state." If he had put it in exactly the opposite way—if he had said that since bodily structures and fluids are colloidal it is an obvious desideratum that any drug should be in the crystalloid state—it would have been just as true and convincing, perhaps even more so. While ready to admit that the colloidal state for certain kinds of medication might have great advantages, and that at the back of it all there was something very valuable from the therapeutic point of view, it was often, Dr. Dale concluded, supported by such a parade of terms from physiochemistry and biochemistry, on the lips of people both inside and outside the medical profession, that it was really time that something was done to resene from abuse what might be a very valuable idea in

treatment. The ensuing discussion was carried on with great animation, and the clocks of Cheapside were approaching midnight by the time the two openers had replied to some little thrusts at the scientific as opposed to the clinical method.

#### THE NATURE OF INHIBITION.

It is a well recognized physiological fact that certain nerve impulses cause a diminution or cessation of activity in the structures upon which they act, but the actual mechanism of this process of inhibition is obscure. In the current number of *Brain* Dr. E. D. Adrian, F.R.S., discusses the various theories which have been advanced as the result of work on the subject in recent years. There are two forms of inhibition, peripheral and central, but it is possible that the differences between them are more apparent than real. Peripheral inhibition is exemplified by the action of the vagus on the heart and by the action of the sympathetic on plain muscle—for example, of the intestine. Now this action of the sympathetic is dependent, as is all sympathetic action, on the liberation of adrenaline at the site of action, probably at the myoneural junction. It is suggested that the inhibitory action of the vagus upon the heart is due to the formation at a synapse or myoneural junction of an inhibiting substance analogous to the adrenaline which is produced by sympathetic activity. That this conception is not entirely theoretical is shown by the experiments of Loewi, who found that the fluid coming from a heart which had been inhibited by vagal stimulation had the property of inhibiting another heart into which it was introduced. Similarly, sympathetic stimulation is said to yield a fluid capable of producing a sympathetic (that is, accelerating) effect on another heart, and it is argued that in the one case an "inhibiting substance," and in the other a "sympathetic substance," must have passed into the fluid. Should these experiments be confirmed, further research will be required into the chemical nature of the "substances" and their mode of action on the muscle fibre. With regard to this last point Adrian refers to a recent confirmation by Samojloff of the experiments by Gaskell on the heart of the tortoise. It is known that during the passage of a contraction through the auricular muscle the active part of the muscle is electro-negative to the neighbouring inactive part, and Gaskell showed that if the auricle was inhibited by stimulation of the vagus the opposite electrical condition prevailed, the inhibited part of the auricle being electro-positive to the rest of the muscle. This alteration of the electrical state during inhibition Gaskell related to a chemical change, and it is possible that such a chemical change is a result of the liberation of the "inhibiting substance." Inhibition as a function of the central nervous system was shown by Sherrington to be a fundamental feature of all reflex movements. If the quadriceps muscle is caused to contract reflexly, as in the knee-jerk, such a contraction is accompanied invariably and simultaneously by relaxation of the antagonistic hamstring muscles—that is, the antagonists are reflexly inhibited. Strychnine and tetanus toxin abolish the reflex inhibition of the antagonists, and both prime movers and antagonists are thrown into powerful contraction in the reflex spasms seen under the influence of these poisons. Sherrington proved that the seat of the inhibitory process in reflex movements is within the spinal cord, and it is conceivable that the inhibition is due to the release at certain synapses in the reflex arc of a specific inhibiting substance such as has been postulated in the case of peripheral inhibition. There is, however, another possibility. If conduction in the central nervous system is governed by the same laws as conduction in peripheral nerves, then, following the passage of any impulse, there must occur a "refractory state" in the conducting path during which the path is incapable of conduction, and is in a state of rest or recuperation. It is

suggested that through the existence of synaptic connexions between the pathways to the prime movers and the antagonists, the impulse which causes contraction in the prime movers may set up a refractory state in the path to the antagonists. All stimuli being thus prevented from reaching the antagonists, these muscles relax at the same time as the prime movers contract. This theory, which has some experimental support, would therefore explain reciprocal inhibition in reflex actions on the physical basis of a refractory state instead of assuming the production of an entirely hypothetical chemical "inhibiting substance."

#### THE GOLD TREATMENT OF TUBERCULOSIS.

Our readers will, we feel sure, be grateful to Professor Moellgaard of Copenhagen for the trouble he has taken to prepare the account of the treatment of tuberculosis by the gold-salt he introduced some time ago, and to which he gave the name "sanoerysin." The use of heavy metals (gold, mercury, copper, and bismuth) for attacking the tubercle bacillus in the body has engaged the attention of many workers during the last twenty or thirty years, but the results have been inconclusive. Professor Moellgaard advances evidence that the gold salt he uses gives encouraging results in certain stages of tuberculosis. It will be seen that towards the end of his paper (p. 647) he says that the curative results obtained in the animal experiments have been secured mostly in cases of the exudative pneumococic type of tuberculosis of the lungs. This type was chosen in order to avoid the variations well known to occur in the chronic type. Other experiments have demonstrated that it is possible to cause typical "productive" tuberculosis to heal in its earliest stages, with sclerosis and calcification, and clinical experience has shown that cases of acute extensive miliary tuberculosis of the lungs can be brought into a condition favourable for healing. The term "productive" tuberculosis puzzled us, and we therefore applied to Professor Moellgaard for an explanation, which he has been good enough to supply. The distinction between exudative and productive tuberculosis of the lungs has reference, he says, to Aschoff's views of the pathological anatomy of pulmonary tuberculosis; these views have been generally adopted in Scandinavia in so far as regards the distinction between exudative and productive phthisis, because the distinction is confirmed by x-ray examination. He applies the term "exudative tuberculosis" to caseous pneumonia in all its stages, not only as a large lobular infection, but as a pneumonic process around other tuberculous foci. These conditions are termed "exudative" because their principal features are exudation of fibrin and white blood corpuscles accompanied by desquamation of the alveolar epithelium, as in the case of other forms of pneumonia. In the x-ray picture they appear as soft formless infiltration like wool, and there is no plenirisy. By "productive" tuberculosis is understood a process the principal feature of which is the building up of new (fibrous) tissue and the production of real tubercles. The x-ray picture shows a spotted and striped infiltration with sharper outlines than in the exudative type. Professor Moellgaard regards the distinction between these two forms as very important in treatment by sanoerysin, because the results of the treatment as shown by the x rays are different. In the exudative cases the infiltrations in the picture disappear almost completely, but in the productive cases the infiltrations grow sharper under the sanoerysin treatment because of the fibrous tissue that is formed. Whether the expectations built upon sanoerysin are fulfilled or not, the line of bases the selection of gold, and of this particular salt of it, will be found both interesting and instructive. The drug is not yet available for general use, but limited supplies have been received by the Medical Research Council, and have

been tested in certain clinical units. The report on the therapeutic results will, we understand, be made available before long.

#### ILLNESS AND DEATH OF JOHN HUNTER.

AN abstract of Sir D'Arcy Power's Hunterian Oration on "John Hunter as a man" was published in our columns on February 21st (p. 379). We then gave some idea of the gist of his address, but time and space forbade such a leisurely consideration of it as its merits deserved. We have now had an opportunity of studying its full text in a well printed pamphlet, and of appreciating the quaint illustrations, reproduced from Jesso Foot's *Life*, by which it is adorned. The author of the last mentioned scurrilous work had a considerable practice among sufferers from venereal disease, but no valid claim to be considered as a rival of Hunter, whom he consistently abused, while he denied to him all originality and attributed the authorship of his works to Tobias Smollett. The Orator justified his choice of a subtitle—"A martyr to science"—by bringing forward evidence that John Hunter's long and severe sufferings were due to the syphilitic infection which followed his self-inoculation. This was, indeed, an outstanding feature of the Oration. No new literary material was available, but Sir D'Arcy Power reviewed in turn the record of each illness from which Hunter suffered, and stated his opinion that the symptoms were indications of syphilitic disease of the arteries at the base of the brain. This view may be right; it is impossible to declare it erroneous, so that it may be held out of place to question it. Yet if Sir D'Arcy Power's view becomes established, the writings of Hunter may come to be regarded as the products of a sick brain. But is such a conclusion necessary? Cases involving the same question are common—that is to say, infection by syphilis, the manifestations arrested in the early secondary stage by mercurial treatment, and in later life symptoms indicating arterio-sclerosis. It is to be remembered that Hunter's brother William had died at the same age, 65, after presenting similar symptoms. Hunter inoculated himself in 1767. He died on October 16th, 1793. His own account of the results of his inoculation includes an expression of his opinion thereon—"The time the experiments took up, from the first insertion to the complete cure, was about three years" (Works (Palmer), 1835, ii, 419, para. 3). His body, including the brain, was examined *post mortem* without any lesion being noted which would now be certainly attributed to syphilis. The viscera of the belly and head were found loaded with blood, but otherwise nearly in a natural state, with the exception of the carotid arteries and their branches within the skull, which were in parts thickened and ossified. In the chest the left lung had become attached to the costal pleura by old and firm adhesions; but the heart was found to be the chief seat of disease. The pericardium was unusually thickened, but did not contain much fluid. The heart itself was small, appearing too little for the cavity in which it was contained; its diminished size was the result of wasting, and not of strong contraction of its fibres. Two opaque white spots were seen on the left auricle and ventricle respectively. The muscular structure of the organ was pale and loose in texture. The branches of the coronary arteries which ramify through the heart were converted into long tubes, with difficulty divisible by the knife. The mitral valves were much ossified. The aorta was somewhat dilated, its valves thickened and wanting pliancy, and the inner surface of the artery was studded with opaque and elevated white spots (Works (Palmer), 1835, i, 132). It may fairly be asked what firm grounds there are for going beyond the statement that Hunter suffered from angina pectoris due to arterio-sclerosis. Both Sir William Osler and Sir James Mackenzie referred to Hunter as a type of

arterio-sclerosis without adding anything as to syphilis, Mackenzie going on to remark that the brain was not involved. Sir D'Arcy Power has gracefully dedicated the reprint of his own oration to a former Hunterian Orator (1869), his own well beloved father, Henry Power, ophthalmic surgeon to St. Bartholomew's Hospital, whose ability, as well as his personal charm, is manifest again in this worthy successor.

#### THE STRUCTURE OF THE ATOM.

IN the Friday evening discourse at the Royal Institution last week Sir Ernest Rutherford unfolded the fascinating story of the inquiry into the structure of the atom, and the nature of the forces which surround its nucleus, which has been proceeding at the Cavendish Laboratory, Cambridge. During the past year he and his co-workers continued to bombard the atoms of various elements with the alpha particles of radium or radio-active substances. The alpha particle is the most energetic projectile known; it has a velocity of 10,000 miles a second, and it is capable of ploughing its way through the structure of any atoms in its path. The atoms of the different elements all have a minute charged nucleus, surrounded at a distance by a number of electrons in motion. Sir Ernest Rutherford represented the nucleus by a small handball on the lecture table, and said that the nearest electron on this analogy would be about as far away as the distant wall of the theatre. By the law of probability, therefore, the collisions of alpha particles with the charged nucleus cannot be frequent, and it has been necessary to make very numerous observations of the effect of bombardment in order to discover what happens when the alpha particle gets into the intense electric field of the nucleus. From a study of the angle of deflection of the particle in such circumstances it has been hoped to find out what it is that holds the atom in equilibrium, the laws of force which operate between the alpha particle and the charged nucleus, and the nature of nuclear structure. On the basis of experiments on aluminium and uranium, Sir Ernest Rutherford put forward the hypothesis that each nucleus of an atom is surrounded at a little distance by a circle of electrically charged doublet-satellites—a sort of Saturn's ring—continually rotating. It was, however, easy to get on an entirely wrong track, and to make illusory discoveries, a good deal harder to disprove than to make. Patient investigation has been undertaken by Mr. Blackett, under Sir Ernest Rutherford's direction, and a long series of photographs of bombardments have been produced by an automatic camera device, whereby the tracks of half a million alpha particles have been studied. Now and then a disintegrating collision has been observed, and the story of it has been read in the scattering and deviation of the straight luminous lines on the photographic plate. So far it has not been possible to say what happens to the alpha particle after its collision with the nucleus. Sir Ernest Rutherford suggests, on the basis of eight photographs which have been obtained of a disintegrating collision between the alpha particle and the atoms of nitrogen, that the alpha particle may be captured by the nucleus as a result of what would be called in military strategy an encircling movement. A proton is ejected, and its fainter track can be discerned; but unless, in Sir Ernest Rutherford's words, an unseen electron has "dodged off," the alpha particle which is driven into the recoiling nucleus is imprisoned within its system. The result of bombardment by alpha particles, therefore, may be a synthesis, a building up or replacement, rather than a disintegration, in the case of a light nucleus. But years have been spent upon this study, and more years will have to be spent before the riddle of atomic architecture is solved. The term "proton"—meaning rudiment—has been borrowed by the physicists from the biologists.

#### MEMORIAL TO SIR WILLIAM MACEWEN.

WE published last week (p. 615) the first list of subscribers to the fund to establish a memorial in Glasgow to Sir William Macewen. The amount announced in the list was £1,550, or about half that desired to carry out the three objects of the memorial—namely, a bust for the University with a replica for Lady Macewen, a Macewen memorial lectureship, and a Macewen medal or prize in surgery for students. We feel sure that many members of the British Medical Association, remembering Sir William Macewen's great services to it, will be anxious to subscribe. They may send their gifts to the Financial Secretary of the British Medical Association (Mr. L. Ferris-Scott), 429, Strand, London, W.C.2, who will forward them to the treasurer of the fund, Mr. James Macfarlane, D.L., LL.D., Wesleyan Street, Glasgow, S.E. Cheques and postal orders should be made payable to the Sir William Macewen Memorial Fund.

#### BRITISH CONGRESS OF OBSTETRICS AND GYNAECOLOGY.

WE announced three weeks ago that the fifth British Congress of Obstetrics and Gynaecology would be held in London on Wednesday, Thursday, and Friday, April 22nd, 23rd, and 24th, under the presidency of Dr. H. Russell Andrews. It has been promoted by the Section of Obstetrics and Gynaecology of the Royal Society of Medicine, London, the Edinburgh Obstetrical Society, the North of England Obstetrical and Gynaecological Society, the Midland Obstetrical and Gynaecological Society, the Section of Obstetrics and Gynaecology of the Royal Academy of Medicine, Dublin, and the Ulster Medical Society. The chairman of the executive committee is Dr. T. W. Eden, and the treasurer is Mr. T. G. Stevens; the other members are Professor W. Blair Bell (Liverpool), Dr. R. W. Johnstone (Edinburgh), and Professor Sir Ewen J. Maclean (Cardiff). The official guests are Professor J. Whitridge Williams (Baltimore) and Professor W. W. Chipman (Montreal). The meetings will be held at the house of the Royal Society of Medicine. The meetings in the morning and afternoon of the first day will be devoted to a discussion on the prognosis and treatment of puerperal sepsis. Two reports on the subject have been drawn up—one by a committee of the Section of Obstetrics and Gynaecology of the Royal Society of Medicine, and the other by a committee of the North of England Obstetrical and Gynaecological Society. Copies of these reports can be obtained from Mr. Clifford White, one of the honorary secretaries of the Congress, if application is made to him before April 10th. At the morning session communications will be made by Sir Ewen J. Maclean on puerperal sepsis in Wales and by Dr. Gibbon Fitzgibbon and Dr. J. W. Bigger on a clinical and bacteriological investigation of puerperal fever, and Dr. L. P. Lockhart will relate the results of bacteriological examinations during pregnancy. A discussion on puerperal sepsis will be opened in the afternoon by Professor J. Whitridge Williams. At the morning and afternoon sessions on Thursday and at the morning session on Friday individual papers will be read: on the afternoon of Friday operations will be performed at most of the principal hospitals. A pathological exhibition will be open during the whole of Thursday and Friday, and members who wish to exhibit specimens are requested to communicate at once with the secretary of the pathological committee of the Congress, Dr. Everard Williams, 5, Wimpole Street, W.1. There will be a luncheon on Wednesday, and in the evening the President and Mrs. Russell Andrews will hold an "at home" at the Royal Society of Medicine. The Congress dinner will take place on the evening of Thursday. Further particulars can be obtained from the honorary secretaries, Mr. Clifford White, F.R.C.S., 62, Harley Street, W.1, and Mr. J. Barris, F.R.C.S., 50, Welbeck Street, W.1.



# THE THERAPEUTICS OF RADIUM.

## THE EXPERIENCE OF THE RADIUM INSTITUTE, LONDON.

THE first hint of the radio-active properties of certain elements was obtained by M. Henri Becquerel of Paris. Professor Röntgen had made his memorable discovery of the  $x$  rays in the previous year (1895). Becquerel was interested in phosphorescence, and asked himself whether phosphorescent light was entirely stopped by opaque objects, or whether in part it consisted of invisible penetrating rays, like the  $x$  rays. By great good fortune the phosphorescent body he chose was uranium. He wrapped a photographic plate in black paper and placed the phosphorescent substance on it and then exposed it to sunlight. The photographic plate beneath the substance was dark, showing that it was giving out rays that, unlike sunlight, were capable of penetrating the black paper. Becquerel then discovered that the darkening of the plate wrapped in the black paper occurred as much in the darkness as in the light. It was then ascertained that three different types of rays were given out by the radio-active substance; they were called the alpha, beta, and gamma rays. The next step was the discovery (1898) by Madame Curie and her husband and G. Bémont of radium, an element over a million times as radio-active as uranium. The  $x$  rays had already been applied in diagnosis and therapeutics, and it was not long before radium also was used for these purposes.

The Radium Institute in London was founded on the initiative of King Edward VII, and with munificent gifts from Sir Ernest Cassel and the Earl of Iveagh. The building specially erected for the purpose in Riding House Street, Portland Place, was opened in August, 1911, and has since been enlarged more than once, the last addition having been taken into use at the beginning of this year. The Institute has been conducted on the lines of a charitable trust, no appeal being made for public support, but patients are expected to contribute within their means. For those able to pay for treatment in the Institute several private bedrooms were provided two years ago, and early this year two new wards for the treatment of necessitous patients were added. They provide four cubicles for women and three for men, and form part of a self-contained unit with a small operating theatre for the performance of minor operations—the "surgery of access."

The first report of the Institute, dealing with the period from August 14th, 1911, to December 31st, 1912, was published in its entirety in this JOURNAL (January 25th, 1913, p. 149). The report for the next year was published by the Institute itself as a pamphlet, and this has been the practice since. The reports have been fully analysed year by year in our columns, and the information they contained has been of great value to the medical profession, owing to the large number of cases treated and also to the candour and impartiality with which the results have been recorded by the medical superintendent (Mr. A. E. Hayward Pinch, F.R.C.S.). The previous annual reports have dealt with the work of the preceding year, have described the apparatus used and improvements made in it, have discussed the best methods of application, and have set out the lessons learnt under the heads of the various diseases treated.

### "A CLINICAL INDEX OF RADIUM THERAPY."

This year a new departure has been taken, and Mr. Hayward Pinch and his assistants, Dr. Philip Gosse and Dr. Oskar Teichman, together with Dr. R. Douglas Reid (house-surgeon), have compiled what they have called *A Clinical Index of Radium Therapy*.<sup>1</sup> Dr. J. C. Mottram,

<sup>1</sup> The Committee of the Institute has authorized the free distribution of the book to members of the medical profession. Copies can be obtained post free on application to the Secretary, Mr. Thomas A. Garner, F.R.C.S., Radium Institute, 16, Riding House Street, London, W.1.

director of the pathological laboratory, has contributed a chapter on the clinical aspects of the work of the research department, and Mr. W. J. S. Alton, F.I.C., director of the chemico-physical laboratory, another on the evolution of the present-day technique of the preparation of radium and radon apparatus. The first seven chapters are concerned with the physics of radium, its disintegration products and the rays emitted, with the use of applicators, with the local and general reaction, with the effect of radium rays on normal tissues, and with the fundamental principles of radium therapy; then follow ten chapters in which the application of the rays to diseased conditions is fully discussed, region by region. The volume is therefore of the nature of a textbook, and in what follows we will ask the reader to bear this in mind, for an attempt to review a textbook in detail is rather a thankless job. We shall pick out only a few points.

### Radon.

In the first chapter, and in Mr. Alton's appendix, the methods of collecting, purifying, and bottling radium emanation, now called "radon," are stated in full. They have been greatly improved during the last few years, and two methods are fully described and illustrated—the one by chemical and physical separation, and the other a purely chemical method. The former is preferred at the Institute. In it the radon is collected in capillary glass tubes, which can be made of any convenient size and form. The smallest in use is 0.3 cm. long and 0.1 cm. wide, and is usually charged with between 1 and 2 millicuries of radon. Others are made up to 5 and even more centimetres long. These tubes are termed "seeds," and are buried in growths without any metal screening and allowed to remain there permanently. "Seeds" is perhaps not a very happy term, because, far from containing any promise for the future, the radon is rapidly disintegrating. This rapid loss of radio-activity is an objection to the use of radon, but the rate of loss is known; it falls to one-half in 3.85 days and to one-fifth in 8.5 days; during the first twenty-four hours radon loses exactly 16 per cent. of its activity. It is therefore a simple matter to prepare a radon apparatus the mean activity of which for twenty-four hours shall be equal to that of a radium salt apparatus of known strength.

In the same way, for the sake of example, it is desired to give an idea of the duration of a radon tube, the value equal to that emitted by 100 milligrammes of radium element. A radon tube is made with an initial radio-activity of 109-110 millicuries; by the end of twenty-four hours its value will have decayed to 92.93 millicuries, so that its mean activity for the whole period will be as nearly as possible equivalent to that of 100 milligrammes radium element."

According to Mr. Alton the use of radium for the production of radon applicators is becoming general abroad, especially in the United States, and we observe that the Middlesex Hospital has recently adopted it. Whether a radium or radon applicator is used is a matter of convenience, the therapeutic effect is identical, as was to be expected, since both depend for their efficacy on the same disintegration products. Modern institutions should be equipped with facilities for the employment of both types. According to Mr. Pinch and his colleagues the advantage of the general use of radon is that its intrinsic worth is small, so that if an apparatus is mislaid or stolen there is no pecuniary loss beyond the value of the container and screens. On the other hand, the radio-activity of a radium salt applicator is always constant for any length of time, and an apparatus if carefully handled needs little attention beyond repairs to its covering at long intervals. The radon applicator must be replaced every few days.

### "Surgery of Access."

In an article published in this JOURNAL on January 17th last (p. 133) it was said that what is called "surgery of access" had been greatly developed; it is now, we are

told, the general rule in radium therapy that whenever the burying of a tube or tubes in a growth is possible this method of treatment should be adapted. If embedded in the centre of a mass the whole activity of the tube is effective, whereas if merely laid upon the surface of a growth little more than 30 per cent. of its rays come into action. Minor surgical operations are therefore performed to permit embedding, especially in the treatment of malignant disease of the breast, uterus, bladder, prostate, tongue, fauces, larynx, oesophagus, and stomach. The method is not suitable for growths of the parotid, carcinoma of the thyroid, and lympho-sarcoma of the neck, as all these show a tendency to fungate rapidly when any breach of the covering skin has occurred. In the other conditions enumerated the use of one or two large tubes containing from 25 to 100 mg. of radium element is being superseded by the use of many smaller tubes containing from 1 to 5 mg. In this way a more equal and effective radiation of the mass is obtained. The small size of the tubes enables them to be inserted rapidly and with the minimum of disturbance of the tissues and discomfort to the patient. The importance of getting the surface as surgically clean as possible before burying the tube is mentioned; thus in lesions of the mouth and fauces carious teeth should be extracted or stopped, and in carcinoma of the cervix it may be found advisable to keep the patient in the ward for some days to permit of thorough cleansing of the vagina and cervix, curettage of exuberant masses, and subsequent douching. In carcinoma of the bladder, if there is no cystotomy opening, tubes may best be inserted by means of a special operating cystoscope. In malignant disease of the oesophagus the introduction should always be performed under direct oesophagoscopy. When screen tubes of radium are buried in dense tissues a passage must be made with a tenotome or trocar, and for the introduction of the very small capsules of emanation a trocar and cannula can be used.

#### Reaction.

The chapter on reaction, though short, is highly important. The application of radium (or radon) is always attended by some reaction of the tissues, but its degree and extent varies, and the factors causing these variations are not well understood. There is such a thing as personal idiosyncrasy. In patients of a highly neurotic temperament the local systemic reactions are much more likely to be pronounced than in those of a phlegmatic type. Persons who freckle easily often develop pigmentation of the area treated after a lapse of several months. Age also makes a difference; the surface reaction develops earlier and is more intense in infants than in adults, and when treating infants for extensive capillary naevi it is advisable to proceed with great care until the degree of susceptibility has been clearly ascertained. Again, the reaction in patients suffering from locomotor ataxy, syringomyelia, paralysis, or any disease or operation affecting the functions of the trophic nerves is often excessive. For example, the elaborate and extensive dissection associated with the performance of Wertheim's hysterectomy appears to impair the vitality of the pelvic tissues, so that special caution must be exhibited in making exposures within two or three months after operation. Tissues which have previously received much treatment by x rays or ionization or have been cauterized or subjected to the action of carbon dioxide snow should be treated with much care, as any over-dosage may result in excessive breaking down of the old scar tissue. General reactions also occur when a large quantity of heavily screened radium has been employed and prolonged exposures given. Such systemic reactions are best seen in the treatment of lymphadenoma, lympho-sarcoma, and sarcomatous growths generally. The symptoms are those of toxæmia. The key-note of all this chapter is the need for caution.

Speaking generally, the degree of reaction depends upon the apparatus, screening, and dosage employed, on the extent of the area treated, and on the nature of the tissue. Mucous surfaces are much more susceptible than the skin—the reaction appears earlier and lasts for a longer time. The skin reaction is less in a dry surface than in a moist; vesication occurs more readily in such situations as the axilla and inguinal folds than at other parts. Finally,

carcinomatous or sarcomatous tissue does not display the same resistance to radium rays as normal cells, and it is upon the proper and correct appreciation of this fact that successful radium therapy in such cases largely depends. In a typical skin reaction, following upon treatment with unscreened or lightly screened apparatus emitting a large proportion of beta rays, four degrees may be distinguished: (1) simple erythema; (2) erythema followed by vesication; (3) vesication with superficial ulceration; and (4) deep ulceration generally followed by the formation of "limpet shell" radium crust beneath which repair takes place. The reaction in the skin usually begins to appear between the seventh and fifteenth days, and may never go beyond slight erythema. In other cases the interval may be longer—as much as three weeks. When radium or radon tubes are buried in the tissues the reaction depends largely upon the character of the screening; it is greater with thick screens, owing to the secondary radiations produced. Special means, therefore, must be taken for their absorption.

#### Fundamental Principles of Radium Therapy.

Given sufficient intensity and length of exposure the effect of radium emanations upon a living cell is, first, increase, then the arrest of cell activity, and finally a degeneration of the cell. These stages pass more quickly in a pathological condition than in a healthy cell. In radium therapy, therefore, the aim is to give such a dose and length of time as will cause the death of the pathological cell without appreciably affecting the functions and vitality of the normal cells. In this connexion the general condition of the patient is of importance, and cachexia militates against successful treatment. "Speaking in very general terms," we are told, "it is best to give a maximum dose at the first exposure."

#### The Treatment of Disease.

The remainder of the book, as has been said, deals with the treatment of disease, malignant and other, in various regions. There is a chapter on radium and internal medicine, which shows that this department of the subject is still in a rather empirical stage. The book will without doubt be, as its authors hope, of great use to general practitioners in enabling them to recognize the possibilities and limitations of radium therapy. No extravagant claims are made. The repute of radium therapy, it is truly said, has suffered from the irrational enthusiasm and unthinking expectations which so often attend the appearance of a new remedy, but it cannot be denied that radium as a therapeutic agent has great power. The preface concludes with the following modest statement: "With increased knowledge and improved technique it may be hoped that the time will come when the word 'cure' may be used deliberately and justifiably with regard to the radium treatment of a constantly increasing number of cases of malignant disease."

#### RADIUM IN DUBLIN.

At a meeting of the Section of Surgery of the Royal Academy of Medicine in Ireland, held on February 27th, Mr. SETON PRINGLE in the chair, Mr. WALTER C. STEVENSON gave a summary of radium treatment in Dublin during the year 1924.

Mr. Stevenson had treated altogether 174 patients, 105 of whom were suffering from malignant and 69 from non-malignant conditions. He employed mostly radium emanation in glass capillary tubes, supplied by the Irish Radium Committee, supplementing this with 53.53 mg. radium element in six capillary metal tubes. Since, in the majority of cases of malignant disease, treatment was symptomatic only, many cures could not be expected, yet many gratifying results had been obtained. Excluding 5 rodent ulcers cured, an apparent cure or the complete arrest of the disease was obtained in 15 cancers (1 lip, 3 tongues, 1 antrum, 4 breasts, 1 body of uterus, 5 skin cases) and 4 sarcomas of the neck and 1 of the thigh. He gave full details of the treatment in one case of apparent cure of cancer of the tongue, and indicated the doses employed in several other conditions. He emphasized the better results obtained by using larger quantities of radioactive material and distance pieces, which enabled a larger

dose to be administered and absorbed by the tissues in a more uniform manner. In non-malignant conditions the effect of radiation, continued for a long time, was most marked. In two cases of tuberculous peritonitis there appeared to be a complete recovery. Many scars, painful and otherwise, were treated with good results, and patients with painful stumps following war injuries were enabled to wear their artificial limbs. Among the non-malignant cases treated with satisfactory results were actinomycosis, corns, Dupuytren's contraction, fibroids of the uterus, fissure of the tongue and lip, Hodgkin's disease, keloid, lumbago, neuralgia, osteo-arthritis, pruritus ani, sinuses and ulcers, sciatica, spring catarrh, and warts. Mr. Stevenson also demonstrated his radium apparatus, consisting of brass boxes, needles, and series of six brass tubes of various sizes with interchangeable blunt, olive-pointed, and trocar-pointed ends. By the use of extension pieces, made up of short lengths marked in centimetres, which screwed into one another and into the radium container, a series of tubes or needles could be inserted into a tumour from end to end. Systematic radiation was obtained by introducing the radium at intervals into untreated areas, segments of the extension piece being screwed off as they appeared at the skin level. Tubes and needles were easily inserted trocar-fashion, the skin being first stabbed with the point of a knife. He also showed an aluminium distance piece for vaginal and rectal work, and an apparatus for fixing the wire screwed into a radium tube in the oesophagus; the radium could thus be moved as required without disturbing the patient or the dressings.

Dr. M. R. J. HAYES, reviewing his cases in 1924, stated that the treatment of rodent ulcer by radium gave excellent results. With correct dosage and filtration one application usually sufficed; the scar was scarcely perceptible and recurrences were rare. Rodent ulcers on the eyelids should receive fractional repeated doses rather than a single full application, since severe conjunctival reaction and photophobia followed massive doses in this region. The eye should be carefully protected by adequate filters from unnecessary and harmful radiation. If the ulcer had invaded bone or cartilage radium would not cure it, and the invaded tissue must be excised. Of 27 cases treated in 1924, 23 had healed and 4 were still under treatment. Two early cases of carcinoma of the lip and two recurrent cases healed rapidly after surface applications of radium. The cervical lymphatic glands were simultaneously irradiated, whether enlarged or not. Patients with inoperable and advanced carcinoma of the floor of the mouth were benefited, and although a cure could not always be expected the advance of the disease was retarded, and there was considerable relief from pain and suffering. Seven inoperable cases of carcinoma of the os and cervix uteri had been treated, and all were improved, pain, haemorrhage, and fetid discharge being arrested. Two patients died within a few months from metastases in other organs. One, aged 63, who was first treated in July, 1921, was still alive and healthy, and the disease had been kept in check. Since the maximum effect of radium was local the high-voltage  $\alpha$  rays were better than radium rays in obtaining uniform and homogeneous distribution of irradiation at depths inaccessible or dangerous for the implantation of radium needles. Three cases of fibrosarcoma and one of osteosarcoma showed considerable improvement after treatment. An inoperable case of carcinoma of the rectum in a man, aged 43, who had had colostomy performed in 1923, was treated by radium in December, 1923. Following this his pain, tenesmus, and discharge disappeared; he had put on weight, and was now able to perform his daily work without any discomfort or inconvenience.

Mr. H. H. POOLE referred to the relative efficiency of radium and  $\alpha$  rays with regard to deep  $\alpha$ -ray therapy. From the physical point of view, he supposed that the therapeutic action was purely a question of ionization, the only difference being that gamma rays were harder than any  $\alpha$  rays that could be produced. The beta rays produced by radium were of a much higher velocity, and had a greater penetration than those produced by  $\alpha$  rays; gamma rays were probably better for absorption. The real difference

between the action of  $\alpha$  rays and the action of beta rays was that with  $\alpha$  rays a very large amount of energy was available, and a much more uniform depth was obtainable, though with radium a somewhat similar effect could be obtained by large surface doses spread over a wide area of skin. The ionization produced by beta rays was approximately one hundred times greater than that produced by gamma rays, the reason being that the ionization was all concentrated in such a small depth.

Mr. S. PRINGLE said that the results obtained by radiologists were improving every day, and cases in which it would have been impossible to recommend any treatment at all five years ago were now being treated by  $\alpha$  rays and radium. In some of them the results were quite good, and he thought that better results could be hoped for in the future. It was only in comparatively superficial growths that a good result could be expected, though with the deeper growths the results were encouraging. Very few real cures could be hoped for from radium or even from deep  $\alpha$ -ray therapy, but he believed that with improved technique and greater knowledge it would be possible to deal with conditions that were at present outside the scope of treatment. He always radiated his patients who had suffered from cancer of the breast. Patients had been kept alive by means of  $\alpha$  rays before radium had been used, and their pain had been relieved for many years; in some cases the growth disappeared altogether but recurred some time later. He thought that in the future, when once the primary growth had been removed, the prophylactic post-operative treatment by  $\alpha$  rays and radium would be greatly improved.

Mr. W. C. MacFERRIDGE thought all cases of rodent ulcer of the eyelids should be treated by radium, if the ulcer was at all large. He had treated four cases of rodent ulcer recently; in one the ulcer was very small, and he excised it, which was the right treatment if the ulcer was small and could be excised without producing any deformity. In most cases, however, the ulcer was too large for excision, and radium was the treatment employed. Cases had been reported in which damage had been done to the cornea and the lens, but he, personally, had not seen a case in which this had occurred.

Dr. D. J. CANNON referred to the treatment of skin cases by  $\alpha$  rays and radium; in Vienna the treatment was largely used, with very good results; it had to be continued for a long time. He thought that radium was pre-eminently successful in cases of gynaecological haemorrhage and some cases of fibroid. Haemorrhage which resisted all other forms of medication could be cured by one application of radium or  $\alpha$  rays. This treatment, however, should not be used in patients who were suffering from pressure symptoms as well as from haemorrhage. He had recently had a case of haemorrhage occurring ten years after the menopause, and he suspected carcinoma. There was no evidence of degeneration and no pain, only haemorrhage. After one dose of radium the patient was cured and had no recurrence of the haemorrhage. The etiology of haemorrhage in young women was obscure; hypofunction of the ovary was suspected. These cases were, sometimes cured by small stimulating doses of  $\alpha$  rays.

## England and Wales.

### HEALTH ADMINISTRATION IN LONDON.

At its last two meetings the London County Council has had before it the lengthy report of a special committee on health administration in London, over which the new chairman of the Council, Captain Oscar Warburg, has presided. In view of a recent statement by the Minister of Health that he was giving attention to a new health bill, the time seemed opportune to the committee to consider problems awaiting solution in respect to London health services. A report was made to the Council by a similar committee in 1919, offering suggestions as to the general lines of a scheme for the better organization of such services, but only two important changes in that direction have since been effected. One is that by the combined operation of the National Insurance Act, 1920, and the

Public Health (Tuberculosis) Act, 1921, the legal responsibility for the institutional treatment of tuberculous insured persons has been transferred from Insurance Committees to local authorities, which were already responsible for the institutional treatment of tuberculosis in respect to the remainder of the population. The other is the formation of voluntary hospitals committees, as recommended by Lord Cave's committee, and the acceptance by King Edward's Hospital Fund of the functions of voluntary hospitals committee for the metropolis. Otherwise no special progress has been made towards the co-ordination of health functions during post-war years. No action has yet been taken to remove the anomalies and inconveniences arising owing to the Poor Law medical service being administered separately from the health services under municipal authorities. This is one of the questions awaiting national solution. The view of the committee is that the health functions of London Poor Law authorities should be divided between the County Council and the borough councils, and the Poor Law institutions transferred to the ownership and management of the County Council. It would then be possible for the Council, after conference with the King Edward's Hospital Fund, to advise the Minister of Health as to the total hospital provision to be made by public authorities. Other matters awaiting a national solution included the legislation on the use of preservatives and colouring matters in food, the amendment of Part I (infant life protection) of the Children Act, the tightening up of the Cleansing of Persons Act, regulations for the more effectual perfilation and ventilation of places of public entertainment and the exclusion of children therefrom as a precautionary measure when necessary against the spread of epidemic, endemic, or infectious disease, and the revision and codification of the existing enactments with regard to serious emissions of smoke. Certain local problems which involve other authorities besides the County Council include the disposal of house and other refuse as it affects the development for residential or industrial purposes of certain lands on the eastern outskirts, and the disposal of sewage from London and adjacent areas draining into the Thames. Of the problems affecting particular services the most important is the development of a comprehensive scheme for the treatment of tuberculosis. An early settlement as to the future of Poor Law infirmaries would advance the solution of the problem of making proper provision for advanced cases of tuberculosis, for the infirmaries could be utilized in part for residential accommodation. Inquiry is to be made into various questions of tuberculosis after-care, in particular the establishment of workshops, and the Council is to give evidence before the Royal Commission on National Health Insurance to the effect that insurance funds might suitably be applied towards approved work centres and other assistance for tuberculous persons. General health propaganda work has developed considerably in London during the past few years, and the committee recommends a further extension of the powers of the Council in this respect, also further periodical surveys—such as that now proceeding on the provision of treatment and education of children suffering from encephalitis lethargica—and periodical conferences with other authorities working in the same field. A number of recommendations were appended to the report, calling for action by the Government on the various matters above set out so far as such action was necessary to effect them. After some Labour criticism on the ground that the proposals were not sufficiently comprehensive and definite, the recommendations were carried.

#### THE LIVERPOOL SCHOOL LABORATORY AT SIERRA LEONE.

On the eve of their return to Sierra Leone to resume work as director of the Sir Alfred Jones Tropical Research Laboratory, Professor D. B. Blacklock and Mrs. Blacklock were the guests of Sir Francis and Lady Danson at luncheon at the Exchange Station Hotel, Liverpool, on March 20th. In the absence of Sir Francis Danson, who was detained in London, Dr. Richard Caton, chairman of the Liverpool School of Tropical Medicine, presided. He said that the luncheon was given for the purpose of bidding good-bye to Professor and Mrs. Blacklock, who were returning to Freetown, where they were doing excellent work in

tropical research. Dr. Caton said that the work carried on by the Liverpool school, which owed its foundation to the late Sir Alfred Jones, was of great benefit, not only to Europeans who resided in the tropics, but also to the native population. Every endeavour was being made to make the tropics more healthy, and thus improve the conditions under which trade could be carried on. The Lord Mayor of Liverpool, speaking as a commercial man, said that thanks were due to those who went out at the risk of their lives in the interest of science and for the benefit of future generations. He hoped that the money necessary for the maintenance of the laboratory—about £2,000 a year—would be shortly forthcoming. Professor Blacklock gave an account of some of the work conducted at Sierra Leone. During the last eighteen months the first subject investigated was schistosomiasis, and with Mrs. Blacklock's help he had been able to determine the species of snail which transmitted it. Two expeditions had been made for the investigation of goitre and to study the sanitation of native villages. Great improvements in the villages might be expected if the native could be educated to develop the natural resources of the country. As it was the sanitary conditions were very bad and the infantile mortality high. The best way to educate the native in hygiene was by demonstration, and that was what the school was endeavouring to do.

#### BIRMINGHAM GENERAL HOSPITAL.

On March 29th, 1924 (p. 596), we referred to the urgent need of increased accommodation for the Birmingham General Hospital. During the past year definite advance has been made in this direction. It is proposed to obtain the upper half of an adjoining churchyard for the erection of new buildings, and negotiations have been in progress with the Bishop, the City Council, and other authorities. It has been found necessary to promote a private bill to give authority for the demolition of the church, to close a street, and to remove human remains. The bill in question is still before the House of Lords, and it is hoped that parliamentary sanction will soon be obtained. The approval of the Bishop and the City Council was given, and the Executive Committee of the Hospital Saturday Fund, after a careful examination of the very urgent need of the hospital at the present time, and of its inability to undertake a larger scheme, have now agreed that the present proposals should be adopted in their entirety. The board of governors of the hospital has decided that the provision of more operating theatres—should be taken in hand at once in order to lessen the congestion due to the attempt to treat a large number of urgent surgical cases. It is hoped that actual building may be begun shortly, the cost (£7,000) of this part of the extension being provided from the invested funds of the hospital. The annual report of the hospital shows that during the past year the number of in-patients was 6,868, as compared with 6,153 in the previous year; the number of out-patients had similarly increased, from 47,696 to 51,777. More than 7,000 operations were performed in 1924. The income for the current year was £68,000, the expenditure £73,000. An increase in income has occurred each year for ten years in succession; the present deficit is due to the fact that the amount received from legacies in 1924 was considerably less than in the previous year.

#### MILL ROAD INFIRMARY, LIVERPOOL.

Three new departments, including an operating, an x-ray, and an electro-therapeutic department, were opened on March 24th, at the Mill Road Infirmary, Liverpool. The scheme of the operating department was devised by Dr. R. T. Bailey, medical superintendent, and Mr. O. Herbert Williams, visiting surgeon. This building is on the ground floor in a courtyard between two ward blocks. Around a central octagonal compartment, large enough for the simultaneous reversing in it of two ward ambulances, are two operating theatres and anaesthetic rooms, an instrument sterilization room, a laryngological theatre, and a cystoscopy room. A dressings sterilization room, a store room, a robing room for the surgeon and assistants, with a shower bath and lavatory and a robing room for nurses, are also provided. Each of the operating theatres is

25 feet long by 16 feet broad, and is lit by a north light; the central octagonal space is lit by a dome. The artificial lighting is designed to eliminate all shadows, and special attention has been paid to avoiding all sharp corners throughout the new buildings so that rigid surgical cleanliness may be obtained. The new building will be of great value to the infirmary, which contains 900 beds, and dealt with 7,000 patients in the course of last year.

## Scotland.

### THE ABERDEEN HOSPITAL FOR SICK CHILDREN.

A WELL equipped pediatric department is so important a constituent of a school of medicine that the resolve of the managers and staff of the Royal Aberdeen Hospital for Sick Children to erect a new building will be universally applauded by the medical profession. Old Aberdeen graduates will know that the project is overdue. A site was secured as long ago as 1914, plans had been drawn up, and £20,000 out of the £35,000 believed at that time to be necessary for the building had been received, when the scheme had to be suspended owing to the outbreak of war. The scheme was revived in 1919, and considerable progress towards obtaining the capital sum required was made, but the cost had then advanced to £70,000. The delay has not been altogether an evil thing, because it has now been possible, with the help of the Committee of the Joint Hospitals Scheme and the goodwill of the town council, for the directors to buy a fine site at Forresterhill. But the realization of the architect's plans will, at present prices, cost £110,000, and of this amount £45,000 remains to be raised. The plans show four ward blocks, an isolation block, and x-ray and out-patient departments; the site affords space for further extension. The wards face south-east; the administration department is to be on the north side, as also the nurses' home, the front of which will, however, look to the south-east. There are only three sick children's hospitals in Scotland—two in Edinburgh, one in Glasgow, and that in Aberdeen. In the present hospital in Aberdeen 32,000 patients have been treated, and every Scottish county from Forfar to Caithness, including Orkney and the Shetland Islands, has contributed patients. The staff, through the letter signed by Mr. Alexander Mitchell, surgeon to the hospital, published at page 680, appeals to old residents and old graduates to help. Contributions, marked "Staff Fund," may be sent to Miss Hill, superintendent of the hospital.

### CAMPAIGN AGAINST RATS.

An intensive campaign against rats opened on Monday, March 30th, and is to last for a week. It has general support from local authorities, who have undertaken to supervise the operations. Railway companies and the naval and military authorities throughout Scotland have also agreed to take special action. Poisoning, trapping, gassing, and ferreting are the special means extensively practised, and a special effort is being made in connexion with public sewers, sewage works, refuse bins, and other breeding places of rats. Special attention is also paid to the rat-proofing of buildings, as regards defective ventilators, holes under doorsteps, and crevices in external masonry. As the number of rats in any locality is directly proportionate to the food supply available to them, garbage and refuse are, as far as can be, removed or destroyed, so that the maximum benefit may be derived from the campaign. It is estimated that the cost of the destructive activities of rats cost the country somewhere about fifteen millions sterling a year, and the rat is well known to be a potential danger to the public health.

### THE PROBLEM OF MALARIA.

Professor J. H. Ashworth presided over a meeting of the Royal Society of Edinburgh on March 23rd, when Dr. Andrew Balfour, C.B., C.M.G., Director of the London School of Hygiene and Tropical Medicine, gave an address on malaria, which, he said, had acquired fresh importance in this country, owing to its use as a therapeutic agent in general paralysis, and also because there was at the present

time a certain amount of danger that biology and medicine might be treated in separate, water-tight compartments. The problem of malaria demonstrated very effectively the close association between the two studies. Dr. Balfour went on to consider the question of geographical distribution with reference to the case of Scotland; the early prevalence of malaria in Scotland was described and probable reasons for its decline suggested. An anopheline mosquito still abounded in Scotland, and it was quite possible that indigenous cases of malaria still occurred. A combined mosquito and malaria survey might be useful, at all events from the scientific and academic standpoint. The reasons why malaria causes death were considered, and special emphasis was laid on the condition of liver failure, which often occurred. The influence exerted by malaria upon industry and the economic welfare of a country were also considered, as well as the curious immunity which was shown by lower animals to the parasite of human malaria. Reference was made to the introduction of stovarsol as a rival to quinine in the treatment of malaria, and in connexion with the problem of periodicity it was pointed out that, although a great deal of work had been done, the prevalence of malaria still remained a most elusive question. The lecture was illustrated by a cinematograph film supplied by the Rockefeller Foundation.

### GLASGOW CANCER HOSPITAL.

The thirty-fourth annual general meeting of subscribers to the Glasgow Cancer Hospital was held on March 23rd, under the chairmanship of Sir J. Macleod, Bt. Lord Provost Montgomery, in moving the adoption of the annual report, said that he knew no work which commended itself more to the people of the city. He believed that cases of cancer were on the increase, and greater facilities for research were required in the hospital; for this reason he appealed for increased financial support. Sir George T. Beaton, senior surgeon of the hospital, in seconding the adoption of the report, said that the primary object with which the hospital had been founded was very faithfully fulfilled, and the directors had decided that to carry on the work of research satisfactorily there should be built up a special fund of at least £20,000, which would furnish, along with Government and other grants, an income that would meet the current expenses of this department. Towards this sum nearly £12,000 had been already collected, and one donor had promised the final £1,000 as soon as £19,000 had been subscribed. The real cause of cancer was still unknown, and the disease was largely on the increase, especially in regard to cancer of the digestive canal. Nevertheless, important advances in knowledge had been made in recent years, and, thanks to anaesthetics and antiseptics, increased success attended early operative treatment. In inoperable cases valuable aids to treatment were being found in radium and deep x-ray therapy. He urged that the general public should get rid of the idea that cancer was incurable by operation, and also that it was necessarily accompanied by intense suffering, and should take a hopeful, consolatory view. Professor D. Noël Paton said that the present aim of research work was to find out the nature of cancer and its cause. The discovery of the cause might come from some small laboratory, as many discoveries had come in this way.

### VETERINARY EDUCATION IN SCOTLAND.

A protest made by the Royal Faculty of Physicians and Surgeons of Glasgow in reference to the proposed withdrawal of the Government grant from the Glasgow Veterinary College was noticed in our issue of March 21st. A further protest was made at a public meeting held in Glasgow on March 25th. The point at issue appears to be that a departmental committee on agricultural education reported that the maintenance of two veterinary colleges in Scotland was, from a purely educational point of view, unnecessary, and that in view of the relative circumstances of the two existing colleges the grant of State assistance to the Glasgow College should be discontinued. Lord Provost Montgomery presided at the meeting, and in opening the proceedings said that he regretted the proposed discontinuance of the college as an inconvenience to students. In fact, it would be impossible for



a number of students resident in the West of Scotland to attend a college in Edinburgh. Professor Glaister, chairman of the governors, in stating the case for the Glasgow College, said that the meeting could be regarded as a protest against the Government and against its administrative body, the Board of Agriculture for Scotland, in regard to its intention to extinguish an institution in Glasgow which, during sixty-five years, had been doing work in furthering the interests of veterinary science. The trend of one section of public feeling favoured the centralization of veterinary education in Edinburgh. He pointed out that, with regard to the amount of financial assistance given by the State to the Glasgow and Edinburgh Veterinary Colleges respectively, the figures were: for 1922-23 £900 and £3,000, for 1923-24 £1,000 and £3,225, and for 1924-25 the estimates were £1,037 and £3,589. Sir Charles Cleland moved a resolution protesting against the action of the Board of Agriculture for Scotland; the college was a distinct educational asset, both from its past history and from the possibilities for the future. The Education Authority of Glasgow made a contribution towards the funds of the college annually, and it seemed to the authority that it would be ridiculous to be compelled by force of circumstances to contribute a similar or larger sum to Glasgow students, who would be forced to leave their native city and seek instruction in the East of Scotland. He did not think that in a city like Glasgow the public should permit such a useful institution to close its doors. The resolution was seconded by Mr. Gavin Hamilton, Lesmahagow, Convener of the County of Lanark, who said his council unanimously supported the continuance of the college. The resolution was adopted, and it was agreed that copies should be sent to the Prime Minister, the Secretary for Scotland, and the members of Parliament for the city of Glasgow.

#### EDINBURGH DENTAL HOSPITAL AND SCHOOL.

The thirty-third annual general meeting of the Edinburgh Dental Hospital and School was held in the hospital on March 20th, under the chairmanship of Dr. William Guy, F.R.C.S. It was stated that the work done in the hospital during the past year comprised a total of 12,703 conservation cases (fillings, inlays, dressings, and sealings), 1,237 cases under prosthesis, and 19,325 extractions; 1,005 skiagrams were taken. During the year 112 students had attended, as compared with 100 in the previous year. Reference was made to the building operations for the extension of the hospital and school now in progress; the Dental Board of the United Kingdom had promised a contribution of £5,000 towards the cost of this extension and a further sum of £1,000 for equipment; the Edinburgh Town Council had made a grant of £200 per annum for five years, or £1,000 in all, towards the cost, but a further sum of £12,000 would be required to cover the cost of furnishing, equipment, etc. Dr. W. Robertson, medical officer of health for Edinburgh, who moved the adoption of the report, said that the connexion between a public health department and an institution like the Dental Hospital was very close. Nearly all the ills that flesh was heir to were traceable to bad digestion, and if the teeth were properly attended to the people would not only be healthier, but also more contented.

## Ireland.

#### ULSTER MEDICAL SOCIETY.

A MEETING of the Ulster Medical Society was held in the Medical Institute, Belfast, on March 19th, to hear an address from Lieut.-Colonel L. W. Harrison, D.S.O., M.B., director of the V.D. Clinic, St. Thomas's Hospital, London, and to witness a cinematograph demonstration of the diagnosis and treatment of gonorrhoea. Dr. Cahill, vice-president, was in the chair in the absence of Dr. Darling, who, a few days earlier, had met with a motor accident. His car overturned, and though he suffered no serious injury he was confined to bed for a short time; when allowed to get up he was not able at once to return

to full work. Colonel Harrison gave a clear and illuminating exposition, which was closely followed by all present and much appreciated. Professor Fullerton proposed, and Professor Lindsay seconded, a very hearty and warm vote of thanks on behalf of the society to Colonel Harrison, which was passed with acclamation.

#### ROYAL VICTORIA HOSPITAL, BELFAST.

The annual meeting of the Royal Victoria Hospital, Belfast, was held in the King Edward Memorial Hall on March 23rd, when the one hundred and thirty-second annual report of the board of management was presented. Lord Londonderry presided, and there was a large attendance. The financial statement showed an income of £53,914, and an expenditure of £54,424; this small deficit was considered most satisfactory having regard to the abnormal conditions prevailing. The hospital, it was pointed out, owed a deep debt of gratitude to their financial authorities, and to the superintendent (Colonel Forrest), the matron (Miss Musson), and all who worked so diligently for the welfare of the institution. The cost of each occupied bed was £140 a year. The expenditure on the new buildings and wards and their equipment would be £120,000, and an additional income of £11,000 a year would be required for upkeep. This was a serious responsibility, but the board was determined to keep the hospital thoroughly up to date and worthy of the town and province. The chairman referred with great satisfaction to the magnificent response of the workpeople, which amounted to nearly £20,000 for 1924, and to the noble bequest of the late Mr. Musgrave, some £56,000. Mr. Mitchell, chairman of the medical staff, proposed, and Dr. Morrow seconded, the adoption of the medical report, which stated that the numbers in all departments were increasing; the waiting list still grew in spite of all efforts to provide adequate accommodation. In addition to the medical students there were now twenty-five dental students; the new dental department was in full swing and doing an immense amount of good. Twenty-four probationers had entered and passed the first preliminary State examination for the registration of nurses. The board had, on the recommendation of the medical staff, increased both the permanent and the auxiliary staff again and again; the pathological, biochemical, and radiological departments were all working at high pressure. A body of young volunteer adults had now been organized throughout the town, who were now tested and ready to give their blood when transfusion was required. After much routine business had been transacted, the chairman of the board of management, Professor Lindsay, who was elected chairman for the seventh year in succession, proposed a hearty vote of thanks to Lord Londonderry, which was carried by acclamation.

#### MAINTENANCE OF DUBLIN HOSPITALS.

That the imposition of a tax for the upkeep of hospitals on people who could afford to give was a proposition worth considering, was the declaration of the Provost of Trinity College, Dublin (the Most Rev. Dr. Bernard), at the annual meeting of the Royal Victoria Eye and Ear Hospital. He did not, he said, believe the deficit in the accounts of the hospital could be made up by an increase in voluntary subscriptions. He was not sure that the time had not come for some kind of tax to be imposed upon the public for the upkeep of institutions of that kind. How, he asked, were they to pick out the people who were best able to give? The people who went to the theatre? Entertainment tax was put upon them. People who kept motor cars? If a person was able to keep a motor car, he or she ought to be able to pay something for the upkeep of the great hospitals of Dublin. The Eye and Ear Hospital was a national institution; its work was not confined to Dublin, and consequently it should appeal to the public in a way in which a local hospital, however good, could not. The report states that 1,702 patients were admitted and occupied beds for a period equal to 29,593 days, giving an average of 89.52 beds occupied daily. In the out-patient department 8,119 new patients were registered and 3,256 attended for further treatment, making a total of 11,375. The total ordinary income for the year was £7,980, and

fell short of expenditure by £2,836. Legacies received during the year had to be allocated to the current account instead of to capital, with the result that unless some great reduction was made in ordinary expenditure, or some great addition to ordinary income, the overdraft would be very heavy. A comparison with the previous year showed a reduction of nearly £2,000 in income. The bequests amounted to £900. In moving the adoption of the report, Sir George Roche, president of the hospital, said that for the previous year the deficiency was only £63 odd, while for the past year it had increased to £1,553. He was sure that when that fact was brought home to the charitable Irish public the hospital would not appeal in vain. The figures quoted in the report showed the splendid voluntary work that had been done by the medical staff of the hospital, and that was all the more surprising when the smallness of the staff was considered. Supporters had learnt with pleasure that recently an order had been made by one of the judges declaring that the hospital was entitled to the fund available under the terms of the will of the late Mrs. Harvey Lewis, amounting, he thought, to £21,000; this, he hoped, would enable an additional wing to be built and equipped with forty beds. Chief Justice Kennedy, in seconding, said the report was extremely creditable; the accounts ought to appeal to everyone who read them as an incentive to do something to help the enthusiastic band who were carrying on the great work of the hospital.

### Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

THE House of Commons has this week advanced a number of Government bills, including the Housing Bill, Housing (Scotland) Bill, and Town Planning Bill—three codifying measures which received second reading on March 31st. A debate arose that evening on accidents in mines, with special allusion to the Scotswood pit disaster. A resolution calling for legislation to strengthen the provisions of the Coal Mines Act, 1911, was carried without a division, and in view of the sympathetic attitude of all parties such legislation seems probable. There have also been debates on unemployment and on the British Empire Exhibition. The House of Lords has rejected Lord Banbury's Dogs Protection Bill.

#### Penalties on Doctors.

##### *Minister of Health's Defence.*

Mr. Herbert Williams asked the Minister of Health, on March 26th, why penalties of £10 and £20 respectively were imposed on two doctors who had been accused by the London Insurance Committee of gross negligence in cases of appendicitis and diphtheria respectively, but had been found innocent by a committee appointed by the Ministry of Health. Mr. Neville Chamberlain replied that misapprehension had arisen regarding these cases. The death of two insured persons in London in 1924 led to complaints being lodged with the London Insurance Committee in regard to the treatment received by them from the two insurance practitioners concerned. These complaints were investigated by the Medical Service Subcommittee of the Insurance Committee, which, with the concurrence of its medical members, recommended that in both cases a substantial deduction should be made from the doctors' remuneration. The Insurance Committee itself, however, regarded the cases as cases of gross negligence, and accordingly made representations to the Minister of Health, under the Regulations, for the removal of both doctors from the medical list. These representations necessitated the appointment of an Inquiry Committee. That Committee, consisting of a barrister and two medical practitioners, found that the allegation of "gross" negligence was not established in either case, but their findings of fact indicated that in one case the doctor had failed to exercise reasonable care, and that in the other case the doctor had failed to respond to a request to visit the patient at what proved to be a critical period in the illness. After careful consideration of the reports of the Committee he (Mr. Chamberlain) came to the conclusion that, while the facts established were not such as to warrant the removal of either practitioner from the medical list, there was abundant ground for the original recommendation of the Medical Service Subcommittee that grant should be withheld. There was no ground for the statement that the practitioners were found innocent. The procedure followed in these cases presented no exceptional features, but followed the practice of the Insurance Commissioners and of previous Ministers of Health.

#### Dogs Protection Bill.

In the House of Lords, on March 31st, Lord Banbury moved the second reading of the Dogs Protection Bill, which had been rejected by the House last year. He cited an opinion of the late Sir Lambert Ormsby that all that could be found out by physiological experiment of value to man had been discovered, and adduced letters from Sir William Collins and Dr. Nash which, he said, were in favour of his bill. He said that Sir Frederick Treves had declared that in dealing with man he had been hampered by prior experiments on the intestines of dogs. Lord Banbury said that when applying for licences for operations on horses, mules, and asses the applicant had to state that the operation could not be performed on any other animal. If anaesthetics were to be employed no such declaration was necessary for a licensee to operate on dogs. Would Lord Knutsford agree to an amendment making such a declaration requisite? Two contradictory certificates were employed—one saying that the animal must be killed if the object of the experiment had been secured, the other that it must be killed if suffering severe pain or pain likely to endure. There were only two inspectors; how could they be present at any number of these operations? If not, who could be the judge of "severe pain" except the operator? The only protection which a dog had was the Act of 1885, as interpreted by the Home Secretary. He thought that the Act should itself lay down the conditions of experiment. He concluded by quoting an epitaph written by Lord Byron on a dog.

Lord Knutsford said he was told that since 1819 no motion for rejection of a bill had been allowed in that House, so he was compelled to move that it be read in a year's time. If this bill were to be brought in every year it would show that Lord Banbury's mind was not open to argument. He suggested that the stereotyped arguments for and against should be recorded for the gramophone so that they could enjoy them in the tea-room without wasting the time of the House. This was not a bill dealing with the question whether experiments should be allowed on animals, but whether dogs should be used for experiment. If the bill passed no experiment could be made on any dog, not even a feeding experiment to get rid of distemper. The whole physiological process of a dog was nearer to that of man than that of any other animal, except perhaps a monkey, and the whole medical and surgical world had never been so unanimous before as against this bill. The Royal College of Surgeons had declared that the bill would retard progress. Was that the attraction to Lord Banbury? Was there a subconscious awakening of his old instinct of obstruction? Other medical and surgical bodies had passed similar resolutions, and the Medical Research Council of the Privy Council had recorded its belief that the passage of the bill would put insuperable barriers in the way of some lines of research. Lord Curzon, when the bill was last before the House, had said that the scientific men of Oxford were against the bill, and the Royal Commission on Vivisection, from whom Lord Banbury had the hardihood to quote, had actually included dogs as suitable for experiment under the same conditions as horses. All were unwilling to use the dog, but recognized that it had to be done. The dictum of the late Sir L. Ormsby which had been quoted by Lord Banbury could not have been upheld had Sir Lambert lived till 1925, when insulin had been discovered and fresh discoveries were being made every day. The medical world did not deal with politics, and it was worthy of respect when it spoke unanimously on a subject such as this. Had the decision of the House last year been justified? Insulin had stood the test of time. Diabetes was no longer a sentence of death on boys and girls nor an intolerable burden on adults. That mitigation was entirely due to experiments on dogs. There were many other instances. During the past year progress had been made with the researches on distemper. Were experiments to be permitted to cure distemper, but not in the hope of saving human life? If there was a chance of benefiting mankind it seemed to him gross cruelty to refrain from gaining knowledge. England would be the laughing-stock of the whole world if it were to reject the opportunity to reduce suffering by research.

Lord Lambourne said he hoped to live to see two things: corporal punishment for offences against young children, and protection for the living body of the dog. The majority of experiments on the dog had been useless. There was no desire to hinder the greatest profession of the world. The objections of Lord Knutsford had been advanced to all previous Vivisection Acts, but despite the passage of those Acts had our surgeons fallen behind those of other countries in skill? The House of Commons would look upon such a bill as this with more favour at present than it had done for some time past.

Lord Mildmay confessed to astonishment that Lord Banbury had again ventured to bring forward this bill. He resented the implied imputation that opponents of the bill were inhumane. If he thought that those conducting research work were guilty of cruelty he would be up in arms in defence of the dog, but he thought that the campaign in favour of the bill had been conducted outside the House by unverified assertions and mere abuse. As the only member of the Medical Research Council in the House it was his duty to convey the opinion of that body. Its members authorized him to make known how strong and unalterable was their opposition to the bill as likely to impede the progress of medical science and the prevention of disease. The all-important discovery that rickets was a dietetic disease controllable irrespective of sunlight was entirely due to experiments on dogs. A short time ago one child in ten in the great cities suffered from rickets. Now it was reported to the Medical Research Council that a child so suffering could scarcely be found in London. He opposed the bill in the interests of dogs themselves. At the Medical Research Council's research farm at Mill Hill they were investigating the scourge of distemper. Were these experiments to be arrested, as they would be if the bill passed? The filter-passing agent of distemper was closely akin to the agent of influenza, and research into

animal and human disease could not be separated. The research was making progress, but results could not be announced till the third generation of immune puppies had been produced. Filter-passing agents were being attacked from many quarters with good promise of success, and success in one direction would lead to results, not only in foot-and-mouth disease, but, in influenza, chicken-pox, and possibly rheumatism. In his association with those engaged in medical research he had been impressed by their real beauty of character, and he felt compelled to speak his admiration of the way they worked for the one object of diminishing pain and suffering. To describe them as "meddling in entrails with blood-stained fingers" was blasphemy. The physiologists were steadily reducing suffering in men, women, children, and animals.

Lord Rayleigh said the people who did research were a small minority of the medical profession, and so far as he could learn none of the medical men cited by Lord Banbury a year ago in support of his case had ever made any discoveries.

Lord Buckmaster said Lord Knutsford had spoken with an authority gained by a life unstintingly devoted to the noblest of causes. He spoke as a man keenly anxious to consider whether in the interest of humanity existing laws needed to be modified. Lord Banbury had not laid before them new grounds to justify bringing forward his bill again so soon. He had not presented a new argument or a new fact. Lord Banbury had not ventured to contradict the assertion that diabetes and rickets had been countered by experiments on dogs. The bill's real appeal was to people who objected to vivisection altogether. He asked the House to reject the bill so emphatically that they would not be troubled with it again.

Speaking for the Home Office, Lord Desborough said it was not opposed to this bill now as it had been last year.

The bill was rejected by 77 votes to 8.

### Summer Time Bill.

In Standing Committee on the Summer Time Bill, on March 25th, Sir Henry Cantley moved an amendment to make summer time commence in future years as at present. Colonel Lambert Ward, in opposing the amendment, quoted the following passage from a letter from Sir Henry Gauvain: "It is not generally appreciated that towards the end of the winter many children are suffering from what may be termed shortly 'light hunger.' It is the spring light in the morning hours, when the air is clear and cool, and the heat rays are as yet unable to exercise their antagonistic action, that is especially therapeutically valuable."

The amendment was rejected, and the bill was reported to the House without amendment.

### Pensions.

**Late Development of Disability.**—In reply to Mr. Stephen, on March 26th, Colonel Stanley said that the Minister of Pensions had seen no evidence to justify the suggestion that the seven years' limit for lodging claims by ex-service men for pension should be removed. This time limit had been embodied in the War Pensions Act of 1921 in accordance with medical advice. The Ministry was not getting many complaints about the limit. Mr. Beckett asked whether there were not many disabilities, such as heart trouble, which did not show when a man was young, but at a later age. Colonel Stanley replied that the period had been put at seven years because the medical advisers to the Ministry considered that any such complaint would show itself within seven years. Answering a further question on the same day, the Prime Minister said that the Government was not aware of any grounds to justify the appointment of a Select Committee to inquire into the whole question of war pensions and the machinery of administration of the Ministry of Pensions. It would not be a good thing if so complicated a matter as a Royal Warrant were to be subjected to special investigation at frequent intervals.

**Medical Treatment.**—Mr. Groves asked the Minister of Pensions, on March 25th, whether his attention had been called to the position of numerous disabled ex-service men who, on applying for treatment and being examined by the medical referee of the Ministry, were decided to be unfit in consequence of their pensionable disability, but were advised that their treatment should be from their ordinary panel practitioner instead of from the Ministry; whether he was aware that these ex-service men, although decided to be unfit for work, did not receive any treatment allowances, although they might be out of benefit so far as national health insurance was concerned, and that they were therefore compelled to apply for parish relief or charitable assistance; and whether, in virtue of the fact that the Royal Warrant expressly stated that men certified as being in need of treatment would be provided with it at the expense of the Ministry and receive the appropriate allowance, he would cause investigation to be held respecting the present procedure. The Minister replied that Mr. Groves was under some misapprehension as to the provisions of the Royal Warrant. Article 6 of that Warrant empowered the Minister to grant special allowances only in those cases where a disabled man was certified to need a specific course of treatment in consequence of which he would be rendered incapable of supporting himself and his family. The conditions governing the grant of allowances under Article 6 of the Warrant were not identical with those which determined certification for the purpose of sickness benefit under the National Health Insurance Acts, and it was not the function of the medical officers of the Ministry to determine generally whether a disabled man was fit for work or not. The Ministry's information was that the intentions of the Royal Warrant were being carried out.

**Tuberculosis.**—The Minister of Pensions informed Mr. Groves, on March 26th, that ex-service men suffering from pulmonary tuberculosis or diabetes mellitus could still receive under the Pensions Regulations, if the circumstances required it, additional allowances in the form of special diet, provided that the pension was not at the maximum rate.

**Final Awards.**—The gross number of final awards for officers and men declared up to the end of February is 478,098. Under Circular 30 the Ministry has dealt with 416 cases on the ground of serious errors of diagnosis or of prognosis. At present 247,800 final awards of life pensions and 264,200 conditional pensions are in issue from the Ministry of Pensions.

**Medical Staff.**—It is intended to recommend forty-eight of the existing whole-time medical staff of the Ministry of Pensions for permanent appointments, but no such appointments have yet been made. The successful candidates will enter on their new posts at their existing rates of pay, subject in a few cases to slight adjustments up or down.

### Tuberculosis.

**Segregation.**—Colonel Day asked the Minister of Health, on March 26th, to consider appointing a court of inquiry to investigate and report on the prevailing conditions of the public health service of the country, and to inquire especially into the compulsory segregation of persons seriously affected with tuberculosis and in an infectious and incurable condition. Mr. Neville Chamberlain replied that as at present advised he saw no necessity for such an inquiry. Legislation on the compulsory segregation of persons suffering from tuberculosis and in an infectious condition had already been obtained by a number of local authorities, and possibly, as suggested by the Local Legislation Committee, an opportunity for dealing generally with the matter might be found on the Public Health Bill which the House had read a second time. Colonel Day further asked whether the Minister would take steps to provide protection to children and near relatives who, through lack of housing accommodation, were forced to live in close proximity to persons seriously affected with tuberculosis. Mr. Neville Chamberlain replied that it was for the local sanitary authorities to take all practicable steps to prevent the spread of infection.

**Institutional Treatment.**—Mr. W. C. Robinson asked what increased provision had been made for the treatment of tuberculosis in England since the issue of the circular of February 8th, 1924. Mr. Chamberlain replied that since then the provision of more than 1,300 additional beds had been approved. Local authorities had been authorized also to take additional beds at institutions belonging to voluntary bodies and to carry out other developments of their tuberculosis schemes. The number of persons under treatment for tuberculosis in residential institutions had increased by nearly 1,300 since February 1st, 1924. The net expenditure on tuberculosis by local authorities which was about to be sanctioned for 1925-6 was £100,000 in excess of the estimated net expenditure for 1924-5.

**Finance: Insurance Reserve Fund.**—Asked by Major Wheler and Mr. Bennett, on March 26th, why it was necessary to have so large a sum as £100,000,000 in reserve for England alone under the National Health Insurance Act, the Minister of Health said that liabilities under national health insurance increased with the age of the insured persons, while the contributions were fixed in all cases from 16 to 70, and were actuarially calculated to suffice for a person entering into insurance at 16. Whether funds had accumulated in excess of requirements was determined by the quinquennial valuations made under the Act. At the last valuation over £6,000,000 of surplus funds was distributed in additional benefits, and a considerably greater distribution was expected from the valuation now in progress. He thought that the reserve was still increasing, but the surplus from the last valuation would not be anything like £30,000,000.

**Poison Gas Experiments.**—Mr. Ammon asked the Prime Minister, on March 26th, if he would set up a public committee to inquire into the practice of subjecting young soldiers to the effects of poison gases for experimental purposes at the chemical warfare research department. The Financial Secretary to the War Office, Captain King, replied that there was no need for a public committee of inquiry. The conditions of the exposure of personnel to gas were carefully regulated in accordance with the best medical and scientific advice, and the experiments were made under the direction of medical officers. In answer to further questions, on March 31st, the Secretary for War said that 372 experiments with poison gas on human subjects had been made since 1918, and 188 soldiers were engaged in them. All volunteered for this special duty, and none suffered injury to the lungs or otherwise through being subjected to these tests. The experiments comprised exposures to low concentrations of gases to ascertain their physiological properties; exposure to gas of personnel protected by respirators; and tests on the human skin of new compounds to ascertain their irritant action, if any. All such experiments had been carried out under most stringent regulations, framed on the best medical advice obtainable to safeguard the health of those concerned.

**Factories Bill.**—Asked by Lord Henry Cavendish-Bentinck, on March 25th, whether the Government intended to pass the Factories Bill into law this session, the Home Secretary did not answer the question directly, but said that he must have further interviews and consultations before he could submit the proposed bill to the Cabinet, but he hoped shortly to be able to do so. (In a published statement the Home Secretary indicated that in the present depressed state of British trade he could not be responsible for

any legislation which would further reduce production and employment.) In an answer on March 26th, the Home Secretary said that one of the clauses of the Factories Bill was for bringing all workshops into the category of factories.

**Declarations of Objection to Vaccination.**—Mr. T. Thomson asked the Home Secretary, on March 26th, whether certain magistrates refused to witness statutory declarations under the Vaccination Act, 1907; and whether, following the precedent of one of his predecessors, he would address a circular to all magistrates, calling their attention to the legal obligations upon them to witness statutory declarations when sitting in open court, and pointing out to them that they are neither required nor authorized to cross-examine applicants as to the reason of their objection to vaccination. The Home Secretary replied that on March 17th he received a deputation from the National Anti-Vaccination League, which made representations on the subject. He would consider the question of issuing a circular when he had received and examined further particulars which he had asked the deputation to furnish.

**Preservatives in Food.**—In reply to a question, on March 25th, Sir Kingsley Wood, for the Minister of Health, said that the effect of the draft regulations of March 17th dealing with preservatives in foods was that all coal-tar colours which were not included in the schedule might be used in food till they were shown to be injurious to health. Although lead and arsenic were present in coal-tar products, the Minister was advised that the percentage of these substances liable to be introduced thereby into foodstuffs was so minute that it was unnecessary to extend the regulations by laying down the quantities of lead and arsenic permitted in such coal-tar compounds. He had arranged to receive a deputation from the confectionery, bakery, and allied trades with regard to the draft regulations. The scientific evidence on the effect of boric acid was thoroughly considered by the Departmental Committee on Preservatives in Food. Mr. Goodman Roberts, on March 30th, asked the Minister of Health whether he had any evidence that the small quantity of boron preservatives permitted to be used in liquid eggs was deleterious to health; whether it had been decided to prohibit this use of boron preservatives; and whether, before issuing regulations, he would consider the probable increased cost of important foodstuffs into which eggs enter, seeing that there was no adequate provision for cold storage in this country to make cold-storage eggs a practical substitute for liquid eggs. The Minister said that the Departmental Committee on Preservatives in Food was unanimously of opinion that boron preservatives were so harmful as to justify total prohibition. Before the final form of the regulations was settled full weight would be given to such considerations as Mr. Goodman Roberts mentioned.

#### Notes in Brief.

The Geneva International Labour Conference has decided against the inclusion of a draft convention on anthrax on its agenda, and the Home Secretary considers that nothing will be gained by a further attempt of the British Government to reopen the question.

Since the issue of the circular of February 8th, 1924, the number of maternity and child welfare centres in England and Wales has increased from 1,986 to 2,112. Proposals for about 30 additional centres are under consideration. Sessions for infant consultation, ante-natal work, and the like have been provided at 95 existing centres.

In 1924 £5,359,953 was paid as domiciliary poor relief to persons ordinarily engaged in some regular occupation and to their dependants. In the financial year 1924-5 the State paid £53,818,800 on health insurance, unemployment insurance, old age pensions, and unemployment grants. The charge for health insurance was £8,045,760.

From January 1st, 1924, to March 26th, 1925, 260 soldiers were discharged from the army for tuberculous disease.

The Prime Minister has announced that the Government has under careful consideration the statement of the Secretary for War that 5 out of every 8 recruits for the army are rejected as physically unfit.

The Royal Commission on Lunacy and Mental Disorder hopes to be able to present its report early next year.

Special provision is made, the President of the Board of Education announces, for the vocational training of students from special schools for defective children.

Deaths from malaria in India are included in the returns under the general heading of deaths from fever. In 1922 these were 3,600,000, of which a very large proportion were undoubtedly due to malaria. Recent reports showed that the desirability of attacking the breeding places of the mosquito was fully realized by the health authorities of the Provincial Governments, but the difficulties in the way of effective measures on a large scale were enormous.

The Minister of Agriculture informed Dr. Fremantle, on March 30th, that he has no power to arrange for the supply of the specific vaccine and serum for the prevention of pig erysipelas, which at present is only available from the Continent.

The Minister of Health does not consider it necessary to put on the Nursing Council the additional burden of issuing to registered nurses a detailed account of the moneys (approximating to £60,000) paid by them for the administration of the Act. An audited statement of accounts is issued annually.

In a question put on March 30th, Mr. Oliver suggested that 20 per cent. of the men employed in a certain factory were, in the week ending March 7th, affected with a complaint known as acetone gastritis. The Home Secretary states that the matter is being investigated.

## Correspondence.

### HEREDITY AND TUBERCULOSIS.

SIR,—In a leading article in your issue of March 14th (p. 517) you commented upon the opposing results obtained by Professor Raymond Pearl and Mr. G. J. Drolet in recent American researches into the hereditary factor in tuberculosis. If I may briefly recapitulate, the preliminary results of Professor Pearl's study of the family histories of tuberculous and non-tuberculous persons showed 8.9 per cent. of tuberculosis in the parental generation of the tuberculous, as compared with 1.8 per cent. in the parental generation of the non-tuberculous, figures which are at least consistent with the view that the hereditary factor is a real one. On the other hand, Mr. Drolet, in comparing the family histories of 2,605 tuberculous adults with those of 1,638 non-tuberculous adults, found rates of 12 and 13 per cent. respectively in the "preceding generation," which he defines in a footnote as "parents, grandparents, occasional aunt or uncle." I am quoting from Tables 2 and 3 on page 285 of his paper,<sup>1</sup> as this method of treatment, though open to criticism, brings out better the contrast with Professor Pearl's results. In the case of children the corresponding percentages were 42 for the tuberculous and 63 for the non-tuberculous.

In your article you urge that a fuller analysis of Mr. Drolet's material should be prepared before accepting his views regarding the hereditary factor, but as you do not suggest wherein the real fallacy lies, except that it may be in the accuracy of the family histories, I venture to do so, since the matter at issue is of considerable importance. It appears to me at once evident on reading Mr. Drolet's paper that the whole fallacy lies in the selection of his "non-tuberculous patients." As I understand the paper, these were all cases examined at the Bellevue Tuberculosis Dispensary, and found to be non-tuberculous; thus, in a footnote to Table 3, we are told that the material relating to these 2,509 patients was "compiled from the histories of all the non-tuberculous cases examined at the Tuberculosis Clinic of Bellevue Hospital, New York City, during the years 1913, 1914, and 1915." On page 281 Mr. Drolet says, "In the non-tuberculous part of the population examined in dispensaries, an ideal control group is available." My own view would be that for the purpose of studying the hereditary factor, no control group could possibly be more inadequate, for the obvious question arises—What are these non-tuberculous patients doing at a tuberculosis dispensary at all? Speaking from only a slight knowledge of tuberculosis dispensaries, I venture to suggest that the great bulk of the cases which appear on their books as non-tuberculous may be roughly placed into three groups:

1. Persons who have been expressly requested to attend the dispensary for examination by the medical officer or his staff of nurses because a parent, child, or sibling has been found to be tuberculous.
2. Persons who have come of their own choice, or, in the case of children, have been brought by their parents because they were nervous about their health, owing to a parent, child, or sibling being known to be tuberculous or to have died of the disease.
3. Persons sent by medical practitioners or coming on their own account for confirmation or otherwise of a suspicion of tuberculosis.

I should further judge, though I am prepared for contradiction by those who are better able to form an opinion, that for children under 16 these three groups would be roughly equal in size. If so, and the same conditions hold good in the American dispensaries, we should have to conclude that two-thirds of Mr. Drolet's "ideal control group" of non-tuberculous children had been in reality selected for the very reason that they had a near relative tuberculous! It is not surprising, therefore, that 63 per cent. of these children gave a history of tuberculosis in the preceding generation, and 12 per cent. more had a

<sup>1</sup> *American Review of Tuberculosis*, November, 1924, x, No. 3, pp. 280-288.



brother or sister affected. In the case of adults the first two groups would be relatively smaller and the effect of selection correspondingly less, but nevertheless sufficiently large, I believe, to account for most of the discrepancy between the 13 to 14 per cent. with parental tuberculosis and Professor Pearl's figure of 1.8 per cent.

Possibly I have overstated the case, but even so it must be evident that no quantitative conclusions whatever can be reached regarding the hereditary factor from a study of non-tuberculous patients on the books of a tuberculosis dispensary unless we are able to analyse exactly the reasons which brought them there. I may say that we have found the analysis of records of a tuberculosis dispensary in Great Britain, not as yet completed, to lead to very similar percentages to those found by Mr. Drolet, but the non-tuberculous patients have been regarded as useless for a control group in assessing the hereditary factor for the reasons I have given. Professor Pearl's control group was not, I think, open to these objections.—I am, etc.,

PENNY STOCKS.

Department of Applied Statistics, University  
College, London, W.C.1, March 26th.

\*. The considerations adduced by Dr. Stocks emphasize the caution we gave; but whether even these suffice to account for the apparent excess of tuberculosis in the descendants of the non-tuberculous, whether there is not some other peculiarity of the material, can only be determined after the fuller analysis which, in our view, should be published.

#### THE TREATMENT OF PNEUMOCOCCAL EMPYEMA.

SM.—I think it is possible that a faulty impression of the value of the "suction method" for the treatment of empyema devised by Mr. F. Reynolds, and described by us in the *Lancet* (1921, ii, 1109), may be given by Mr. Hathaway in his letter in your issue of March 28th (p. 632). This I should like to correct, because I believe it to be a method which careful trial and study will prove to be of real value. At present it cannot be claimed that it has been thoroughly evolved, but in my experience fibrinous masses have not proved an obstacle, for they have in our cases gradually melted away. That the cannula may be blocked at times is certain, but this can be easily corrected, as stated in our paper.

There is one difficulty, only to be overcome by careful observation, and this is the interpretation of the physical signs in the chest when the drainage is in progress, upon which must largely turn the indication for withdrawing the cannula. These signs differ from those found in the open method, and I submit can only be gauged by making exact notes and also by noting the reasons for doubt when the removal of the cannula is in question. In finding one's way forward there must be at first hesitation, and in one case we resected later we found the cavity well drained and the operation unneeded. In another, in which I was in doubt, but resection was not done, the patient died from a pneumococcal meningitis, and here again the cavity was thoroughly drained. It is my belief that the problem of the removal of the cannula will prove to be no more difficult than it is in the open cases, when the physical signs have been thoroughly established. The difficulties in keeping the cannula from slipping out are those of technique, and I believe such are always surmounted, given the determination and the asset of skilled nursing.

The advantages are great: the avoidance of a considerable operation, the rapid recovery, the absence of nerve-racking dressings for the child are sufficient in themselves. Some cases will be unsuitable, but many more are suitable for this method. At present hospital supervision is probably needful, and there is a very rightful suspicion of dealing with pus in the chest, except by opening the cavity and drainage, founded upon the fear of leaving a hidden pocket; but my experience leads me to believe that the method is one of real value and deserving of careful trial and that failure is not dependent upon the occurrence of thick lymph.—I am, etc.,

F. JOHN PONTON, M.D.,  
F.R.C.P.Lond.

London, W.1, March 29th.

#### THE IMMEDIATE AND REMOTE EFFECTS OF SUNLIGHT ON THE EPIDERMIS.

SM.—In reference to Sir Lenthal Cheate's interesting letter in the *JOURNAL* of March 28th (p. 631), may I point out that O. Bernhard of St. Moritz, in his excellent book *Sonnenlichtbehandlungen in der Chirurgie*, says that he has never seen a case of epithelioma of the face, or hands, in the guides, drivers, postillions, and postmen, who are constantly exposed in the Alpine passes to intense sun radiation with reflection from ice and snow. The ultra-violet rays are very strong in the Alpine heights; our method of measurement by bleaching of acetone methylene blue gave a reading at Leysin of 41 on one sunny day, against 23, the highest reading obtained at Peppard Common Sanatorium by Dr. Paul Tozer last summer; 5 is his highest reading so far for a sunny day this month.

Bernhard ascribes gardener's epithelioma to dirt and chemical irritation, which, he says, causes eczema. So, too, with seaman's cancer, which, I believe, has become rare since the giving up of sailing ships and of the use of tar. If there were danger of ultra-violet radiation causing cancer, as x rays have done, the operators and patients in such institutes as the Finsen would have shown this by now.—I am, etc.,

London, N.W.3, March 30th.

LEONARD HILL.

#### THE THYROID AND MANGANESE TREATMENT IN VARIOUS DISEASES.

SM.—I had the privilege of being acquainted with Dr. Nott's methods, and of making trial thereof, before publication of his able article in your issue of March 7th (p. 443). The great interest of his practice is indicated in your leader of the same date, and in your note of March 14th (p. 520) upon the prescription of manganese.

Exactly how this drug acts would appear to be still matter for speculation altogether too deep for the ordinary clinician, who will probably accept, in seeking an explanation of the end-results, the simple summing up of one practical authority who wrote in answer to my appeal for guidance on the point: "All we know about manganese is that it appears to have the property of 'activating' other elements such as iron. Why such a comparatively small quantity of manganese has so vigorous an action we are unable to find out."

Regarding manganese just as an "activator" makes it easier to form from analogy some idea of the enhanced antitoxic action in the blood of certain endocrine secretions and inorganic bases which results from its presence, for it would seem that the combined treatment advocated by Nott is capable of giving effects which either thyroid or parathyroid, with or without calcium, do not.

The cases which have interested me most are those in which a toxæmia is presumed to have occurred through the intestinal tract, especially those of rheumatoid arthritis in which the usual patent sites of infective foci were drawn blank. The discharge of casts and shreds in some of them, followed by advance in general well-being and improvement in affected joints, even when such joints looked almost hopeless from clinical and x-ray examination, is most striking.

I find it difficult to accept the explanation suggested in your prescription note that these casts are caused by the action of caustic alkali formed during the decomposition of the permanganate. Their discharge does not go on repeatedly with the injections; it seems to take place after a few days of the treatment, and is not continuous. The impression given is rather that some drastic clearing up of a catarrhal mucous membrane has occurred, and if we assume that manganese, like excess of iron, is excreted through the intestinal mucous membrane, then may it not be that the manganese, during the process of excretion "activates" the catarrhal cells to such effect that they recover from this condition and become once more capable of acting as an efficient barrier against the passage of both organized and unorganized toxins from the bowel? It would be of interest to have expert evidence of how manganese exactly is excreted from the system.

This line of argument suggests another point to all interested in spa treatment. Various theories have been



advanced to account for the superior action of natural medicinal waters over imitations containing their chief ingredients compounded in the laboratory—radio-activity, for instance. Since the effective dose of manganese is apparently very small, it may be that the presence of this element in such waters is of more importance than has hitherto been thought, especially if shown to be in greater amount than in ordinary water supplies. All the Cheltenham springs (the Fieldholme, Pitville, Lansdown, and the Chadnor) contain manganous sulphate or carbonate.—I am, etc.,

J. S. KELLETT SMITH, F.R.C.S.,  
D.M.R.E.

Cheltenham, March 16th.

#### TREATMENT OF DIABETES BY RAW FRESH GLAND (PANCREAS).

SIR,—Dr. Hollins's paper in the BRITISH MEDICAL JOURNAL of March 14th (p. 503) led me to try feeding the raw pancreas to a diabetic under my care in the Rutland County Hospital.

The patient, a youth aged 21, is a member of a "diabetic family," in which numerous deaths from diabetes have been traced, including a brother and sister. The patient could only deal with  $1\frac{1}{2}$  oz. of starchy food; anything more was followed by sugar in the urine. On March 14th I ordered raw pancreas and gradually modified the diet, until now he is on full ordinary diet (bread, potatoes, milk puddings), and there is not a trace of sugar in the urine. The matron told me that a gland (cost 8d.) was enough for four days' treatment. The patient is now at home and his mother has no difficulty in preparing the gland.

To my mind Dr. Hollins's discovery is of even greater practical importance than that of insulin, as it brings the treatment within the range of the mass of people, whereas insulin was only for the few.—I am, etc.,

Uppingham, March 24th.

WILLIAM DUNN.

#### LIME JUICE AND LEMON JUICE FOR PREVENTION OF SCURVY.

SIR,—Rear-Admiral Sir P. W. Bassett-Smith (JOURNAL, February 21st, p. 385) has evolved a method whereby an efficient and easily portable antiscorbutic capable of keeping its properties over a number of years can be prepared. From my own point of view his work is chiefly of interest from its value to polar exploration, but it has a much wider application.

Scurvy as a fully developed disease is rare in this country. Numerous cases occurred during the war amongst populations whose food had to be found by the British. A large number were seen during the campaign in North Russia. Some occurred amongst our own troops, but in the early stages—that is, what might be called the prescorbutic stage. They were not always recognized owing to the vagueness of symptoms and absence of well marked signs. The symptoms consisted chiefly of tiredness and lethargy, for which the victim was at a loss to account. The condition, as those who have suffered from it know, is a very real one, those affected being quite incapable of sustained effort, either mental or physical, and for all practical purposes are rendered *hors de combat*. McCarrison and others have shown that in this prescorbutic stage there are marked changes in the gastro-intestinal tract and in the endocrine glands. The cases I saw, both the early and fully developed conditions, cleared up readily when active antiscorbutic vitamin was added to the ration. The lemon juice as supplied to the troops proved quite effective, but was by no means easily portable, readily froze, causing the jars in which it was contained to break, and was so intensely bitter that the men could scarcely be induced to take it. It is probable that in other places and on other occasions numerous cases of scurvy in the prescorbutic stage occurred which were not recognized, but would have been prevented by routine use of an efficient antiscorbutic. The value of a portable and palatable preparation such as that in question cannot be doubted for use in military campaigns, where relief is required for destitute populations, for cruises such as that of the

Discovery about to be carried out under the auspices of the Colonial Office, and for polar expeditions. The trouble at present is to obtain the concentrated preparation, since the demand is small and firms will not put down an expensive plant where only limited quantities of the product are required; consequently the adoption of such a preparation by the Admiralty or the War Office would benefit, not only members of the services, but many outside.—I am, etc.,

Swindon, Feb. 22nd.

A. H. MACLEIN.

#### ROYAL ABERDEEN HOSPITAL FOR SICK CHILDREN.

SIR,—The directors of this hospital have decided to proceed at an early date with the erection of a new hospital. An excellent site has been obtained at Forresterhill, forming part of the ground on which it is hoped to concentrate the hospitals of the city according to the "joint hospital scheme" at present under consideration. Plans have been finally approved for a new children's hospital of 132 beds, with out-patient and other special departments.

While every consideration has been given to economy, it has been found that in order to get a really good and well equipped hospital in which the treatment of the diseases of children can be carried out according to modern standards of efficiency, it will be necessary, at the present high cost of building, to face an expenditure of not less than £110,000. Funds already collected and promised amount approximately to £65,000, and the directors are now issuing an appeal for the remaining £45,000. At a meeting of the honorary staff of the hospital it was resolved that a special appeal be made to all members of the staff, to old residents, and to any graduates of the University of Aberdeen who may care to contribute. We confidently hope that we may be able to collect a sum sufficient for the construction or for the equipment of some special part of the hospital.

The deplorable condition of the present hospital is so well known to graduates, and particularly to old residents, that it is not necessary to enlarge on it here; but it may be emphasized that the age and general unsuitability of the present building hamper, not only the efficient treatment of patients, but the adequate instruction of medical students and nurses. The provision of a new hospital will therefore benefit, not only the community, but also the Medical School in Aberdeen.

I have been asked by my colleagues on the staff to make this appeal through your columns, and we hope that it will meet with a ready response from those to whom it is addressed.

Contributions, marked "Staff Fund," may be sent to Miss Hill, Lady Superintendent of the Hospital, who has kindly promised to acknowledge their receipt.—I am, etc.,

ALEX. MITCHELL,  
Surgeon, Royal Aberdeen Hospital  
for Sick Children.

March 27th.

#### NEED FOR A POST-GRADUATE SCHOOL IN LONDON.

SIR,—Dr. F. Melville Harvey in the JOURNAL of March 28th (p. 637) has struck the right note.

My difficulty has been his—that I cannot be absent day after day. But I, like Dr. Harvey, and no doubt hosts of other men, could arrange one "hospital afternoon" a week practically all the year round, and would gladly pay for a "season ticket"; and, given teachers who can teach, I should consider those four or five hours the best in the week.

But this leads to one other point: Dr. H. B. Newham is reported to have criticized the existing schemes on two grounds. One, that some teachers could not teach; the other, that "curiosities" formed too large a part of the demonstrations. If I may venture to offer suggestions, they would be that on two afternoons in every week there should be four-hour courses—for example, on Tuesday from 3 to 7 p.m. a course at the Brompton Chest Hospital, on Friday at a throat and ear hospital; and each such course

should begin at the very rudiments, and advance through a term of six weeks or so to the requirements of the speciality.

How valuable, for instance, to many of us would be an attendance on four or six consecutive Fridays at a course of instruction on the heart; still more on the lungs.—I am, etc.,

March 30th.

A. O. W.

SIR,—I feel sure many will agree with Dr. Melville Harvey's letter on the need for special post-graduate facilities for London practitioners. It is to be hoped that his proposals will be considered by the Fellowship of Medicine.—I am, etc.,

London, N.W.1, March 30th.

RUSSELL STEELE.

SIR,—It may interest Dr. Melville Harvey to know that there is a post-graduate association in London which might be able to give him what he wants. Any general practitioner in active practice and permanently settled in the London area may become an annual member of the West London Hospital Post-Graduate College at a fee of three guineas a year, and for this he may attend the hospital practice once a week. A syllabus of the work done each day can be obtained on application to the secretary at the College, but as a typical example may I be permitted to set out the Monday afternoon time table.

*In-Patient Work.*—2 o'clock, surgeon No. 1, operations; 2, surgeon No. 2, surgical ward visit; 3, senior physician—medical ward visit.

*Out-Patient Work.*—2 o'clock, medical out-patients; 2, surgical out-patients; 2, diseases of the eye; 2, diseases of women.

On the second Monday of each month, at 4 p.m., a staff consultation is held, when cases of special interest are demonstrated and discussed by members of the hospital staff.—I am, etc.,

March 30th.

HENRY SIMON,  
Dean, West London Hospital.

### ISOLATION HOSPITALS AND SCARLET FEVER.

SIR,—I have no wish to enter into any discussion with Dr. J. A. Milne on his father's method for attempting to prevent the spread of scarlet fever without isolation. My reference was to the Barnardo Homes, Ilford, in which institution the photographs displayed by his father, illustrating the treatment, were taken. At this particular institution the treatment was found to be so inefficacious in the control of scarlet fever that the usual system of isolation is now enforced. Is it not a fact that isolation is now insisted on even at the Barnardo Home, Woodford Bridge, an institution actually under Dr. J. A. Milne's charge? Whether he still employs carbolic oil for its "analgesic" properties is beside the mark. The method was initiated to prevent the spread of infection and avoid the necessity for isolation, and it was on this question that the discussion in the *BRITISH MEDICAL JOURNAL* arose.

There is no need for Dr. J. A. Milne to refer me to the reports of other medical officers of health, with which I am quite familiar. A number of cases are nursed annually in Ilford in their homes (where conditions are suitable), without the Milne treatment, and as a rule there are no return cases. It is altogether a different question whether cases of scarlet fever should be nursed in workmen's dwellings in overcrowded and unhygienic conditions, reliance being placed on the Milne method to prevent the spread of infection.

In the Barnardo Homes, Ilford, taking one year only, the return case rate was 28 per cent. with the Milne treatment; in the same year the return case rate for the Ilford Isolation Hospital without the Milne treatment was 3 per cent. When, however, a full period of isolation was insisted upon at the Barnardo institution the return case rate for both institutions became the same.

These are the facts which Dr. J. A. Milne cannot gainsay. While we all respect his reverence for his father's method I confess I am unable to understand how any medical man could think (in view of our knowledge of

the difficulty of dealing with carriers generally) that the Milne treatment could render the scarlet fever organisms in the naso-pharynx innocuous.

The unchallenged published results, extending over a period of eighteen years, have added the final proof.—I am, etc.,

Ilford, Essex, March 22nd.

A. H. G. BURTON,  
Medical Officer of Health.

### THE TREATMENT OF INFANTILE PARALYSIS.

SIR,—Dr. Charles MacKay (*JOURNAL*, March 28th, p. 634) would give the credit for the muscle re-education treatment to Dr. William MacKenzie in 1915, but I suggest he should go fifty years back and give it to my grandfather, Dr. M. Roth, who, in his book on paralysis in infancy, etc., published in 1869, wrote: "As soon as possible rouse the action of the paralysed muscles by the most important functional stimulus of the will, which cannot be replaced by any other."

In Professor Hey Groves's account of the treatment I was amazed to observe the absence of any mention of the importance of keeping the affected limb warm. I thought it was now generally agreed that the prevention of deformity, the maintenance of warmth, and the re-education of muscles, constituted a trinity, no member of which was efficient without the other two. Did he omit this on purpose?—I am, etc.,

London, W.1, March 28th.

PAUL BERNARD ROTH.

### RADIUM EMANATION (RADON).

SIR,—It has recently been prominently stated in the lay press that the production and clinical use of radon (radium emanation) by the Middlesex Hospital is a "new discovery." In justice to the Radium Institute will you allow me to say that the technique of treatment by radon tubes has been practised here since 1912, and that the method adopted was published in the annual report of this institute for that year? Since that date radon tubes have been supplied in steadily increasing number to medical practitioners and hospitals throughout the country, and 1,067 such tubes were distributed in the year ending December 31st, 1924.—I am, etc.,

The Radium Institute, London, W.1,  
March 30th.

A. E. HAYWARD PINCH,  
Medical Superintendent.

## Medico-Legal.

### AN ALLEGATION OF NEGLIGENCE AT A CONFINEMENT.

GRAY AND WIFE v. PEACOCK.

An action was heard in the King's Bench Division, on March 25th, 26th, and 27th, before the Lord Chief Justice and a special jury, in which William Gray and his wife Alfreda claimed damages against William Ernest Peacock, M.D., a general practitioner of Great Portland Street, London, W., for alleged negligence in treating Mrs. Gray during her confinement. In his reply, Dr. Peacock denied any negligence, and said that if Mrs. Gray sustained any injury it was unavoidable, and that what he did was done in accordance with correct medical practice. The defendant counterclaimed for £42 16s., the amount of his fees. Mr. Barrington-Ward, K.C., with Mr. P. E. Sandlands, appeared for the plaintiffs, and Mr. H. C. Dickens for the defendant.

In opening the case, Mr. Barrington-Ward said that the plaintiffs, now both aged 23, were married in June, 1922. In the following November Mrs. Gray, who had become pregnant, consulted Dr. Peacock, and he undertook to treat her during her confinement for a fee of fifteen guineas. Between January and March, 1923, there were various consultations. It was alleged that at the confinement, on March 26th, the defendant applied forceps in the first stage of labour, and without the plaintiffs' consent. During delivery, shortly before 10 p.m., the perineum was ruptured. Dr. Peacock sent the husband for gut and needles and repaired the tear, but left without removing the placenta, saying that it might come away during the night. At 7 next morning the nurse, who had tried to remove the placenta, telephoned for Dr. Peacock; he arrived an hour later with Mr. R. M. Rowe, and the latter removed the placenta under chloroform. On March 31st the stitches gave way. On May 11th Mrs. Gray consulted Dr. Burnet, who advised her to discharge Dr. Peacock from further

attendance, and six days later she was operated on in a nursing home by Dr. F. J. McCann and Dr. Burnet. Counsel argued that the defendant's negligence had cost the plaintiffs \$220 in fees for the nursing home, nurses, and holidays. The defendant, he said, had not brought to his task that competence and care which the law required of everyone engaged in a skilled profession.

Both the plaintiffs gave evidence in support of counsel's opening speech, and were cross-examined by Mr. Dickens.

Dr. Edward Burnet said that he had had a large obstetrical experience, and expressed the opinion that it would be wrong to use forceps in the first stage of labour. The placenta should never be left unremoved for more than an hour. With a perineum torn as in this case a thorough reparative operation ought to be performed at once after the third stage of labour was concluded. When he first examined Mrs. Gray forty-six days after the birth her condition seemed to him such that she should be attended to without further delay, and he advised her to see a gynaecologist. He came to the conclusion that there was no justification for the damage that had been done or for the delay in repairing it. In cross-examination he said it was about ten years since he last attended a confinement. He did not agree with the school of thought which held that if a first suture failed an interval of three months should pass before re-suturing.

Dr. F. J. McCann, who performed the operation on May 17th, 1923, said that in his view the sooner ruptures of the perineum, such as Mrs. Gray had sustained, were repaired the better. He inclined to the opinion that the operation could properly have been performed before May 11th, when he first examined the patient. It was right to postpone an operation in cases of infection, but when he operated in this case there was no trace of infection. The condition of this patient might, however, quite possibly have been such that it would not have been prudent to perform the operation earlier than it was performed. Assuming that the labour pains began at 8 a.m., and became severe at 8 p.m., it seemed to him extraordinary that forceps should be applied at 9 p.m.; they ought never to be used in the first stage of labour. In reply to the Lord Chief Justice, Dr. McCann expressed the view that the patient's condition was undoubtedly produced by the forceps, but he would not be prepared to say that because forceps had been used such use was improper. Dr. W. E. Falconar also gave evidence for the plaintiffs.

Mr. Dickson, addressing the jury, described it as a monstrous thing to blame Dr. Packard, who was on the spot, and was the best person to judge what should be done. The only charge of negligence against him was that he brought about delivery with undue speed; but that was merely a matter of conjecture, which the medical witnesses for the defence would dispel. The child was born alive and healthy, and who was to say that the defendant was wrong in what he did?

Mr. Aleck W. Bourne, F.R.C.S., said that the injury in this case was one of the commonest happenings in confinements, especially a first confinement. In his view Dr. Peacock acted with fine judgement and skill, and was in no respect negligent. If the mother showed signs of exhaustion or the child showed that it was feeling the stress of labour unduly, it would be quite proper to apply forceps whatever the time.

Mr. Leonard Phillips, F.R.C.S., entirely agreed with what Mr. Bourne had said as to the use of forceps and with his evidence generally. He thought Dr. McCann had been lucky in obtaining a cure after operating so early as May 17th.

Mr. Victor Bonney, F.R.C.S., said he had known defendant for twenty years, and from what he had heard of this case considered Dr. Peacock was justified in the judgment he came to regarding the conduct of Mrs. Gray's confinement. Forceps delivery one hour after the beginning of the second stage of labour was not improper. Rupture of the perineum was not evidence of precipitancy on the part of the attendant; forceps properly applied might minimize the tear. In general, if the first sutures broke down his own practice was to wait six months before attempting operative repair; the reason for this was the risk of septic infection.

Dr. Peacock, giving evidence on his own behalf, said he had been in general practice for thirty years; he had a large midwifery practice, and had never lost a child nor had a case of sepsis. He still considered that he was right in what he did in connexion with Mrs. Gray's confinement. Her exhausted condition, through inability to take food, necessitated the use of forceps. The patient's exhaustion and the risk of sepsis led him to leave the placenta unremoved until the next morning. The first sutures, as often happened, broke down, and he postponed resuturing until such time as he should consider the patient's condition justified it.

Ekonor Ferry, the nurse in attendance at the confinement, described the birth as difficult, and said that before forceps were applied the patient appeared to be suffering from uterine inertia. She heard no complaint about the defendant's treatment of Mrs. Gray while she was attending the case.

Mr. R. M. Rowe, F.R.C.S., who accompanied the defendant to the case on the day after the confinement, said that in his view events justified Dr. Peacock's treatment.

that a doctor, despite his summing up, the Lord Chief Justice said out to practise medicine and surgery he undertook to have a reasonable and competent measure of skill, and to use reasonable care. The jury had to decide whether they were satisfied that defendant used forces in circumstances in which he should not have done so, and if the injury Mrs. Gray afterwards showed was due to the use of forces.

The jury returned a verdict for the defendant, and judgement was entered accordingly for Dr. Peacock on the claim and on the counterclaim for £42 16s., with costs.

### Universities and Colleges.

## UNIVERSITY OF OXFORD.

Radeliffe Prize and Travelling Fellowship.

ON the report of the examiners the Radcliffe Prize has been awarded by the Master and Fellows of University College to John M. H. Campbell, D.M. (Magdalen and New College). The work of Kenneth J. Franklin, M.A., B.M., Fellow of Oriel College, was highly commended. The prize is of the value of £20, and is awarded every two years for research work in medicine by a medical graduate of the University.

The Radcliffe Travelling Fellowship, 1925, has been awarded to Kenneth J. Franklin. The Fellowship is of the annual value of £300, and is tenable for two years, subject to certain conditions of travel and study abroad.

## UNIVERSITY OF DURHAM.

At the convocation held on March 28th the following degrees were conferred: .

M.B., B.S.—J. F. Hedley, Gwendolen Jones, M. H. Jones, W. F. Lascelles,  
H. Levy, F. Lisbman, Charlotte B. Schofield, A. B. W. Smart.

VICTORIA UNIVERSITY OF MANCHESTER.

DR. FREDERICK CRAVEN MOORE, at present lecturer in systematic medicine, has been appointed to the chair of systematic medicine.

## UNIVERSITY OF EDINBURGH.

The Senatus Academicus of the University of Edinburgh proposes to confer at the graduation ceremonial in July the honorary degree of Doctor of Laws upon Dr. A. A. Freeland Barbour, formerly Lecturer in Gynaecology, University of Edinburgh, Mr. Alexander Miles, M.D., F.R.C.S.E., formerly Lecturer in Clinical Surgery, University of Edinburgh, Dr. Robert Muir, F.R.S., Professor of Pathology, University of Glasgow, and Sir Harold J. Stiles, K.B.E., Regius Professor Emeritus of Clinical Surgery, University of Edinburgh. On the occasion of the meeting in June of the Interstate Post-Graduate Assembly the honorary degree of LL.D. will be conferred upon Dr. Charles H. Mayo, of Rochester, Minnesota.

At a graduation ceremony, held on March 26th, the following degree and diploma were conferred:

D.Sc. (Department of Pure Science).—Eric Ponder, M.B., Ch.B.  
D.P.H.—W. N. J. Chapman.

## UNIVERSITY OF ABERDEEN.

THE following candidates have been approved at the examinations indicated:

M.D.—M. M. Cruickshank, A. Mitchell, R. R. Trull, J. Maclellan.  
 FINAL M.B., CH.B.—P. Baser, H. C. Denney, W. Booth, L. Chanock.  
 \*A. Cruickshank, R. A. Jamming, J. M. Davidson, G. M. Davis.  
 C. A. Deane, J. Cessi, R. A. Dingwall, \*C. S. D. Don, A. T. Duncan.  
 C. A. Public, Margaret M. Gair, A. Galloway, J. A. Gordon.  
 J. P. Gordon, T. B. Gordon, Janet Johnston, W. Kelly, D. B. Laine,  
 J. Macarthur, \*P. D. A. Macdonald, K. C. Mackenzie, D. M. Mac-  
 kinnon, F. S. McLean, Anno G. I. Maclellan, \*W. A. Mac,  
 G. W. Mearns, L. Morgan, J. A. Mulligan, N. M. Munro, \*J. A. R.  
 Paterson, O. G. Prosser, W. J. Raiff, \*  
 son, \*M. C. G. Robertson, A. A. Simpson  
 Barbara W. Spark, D. S. Stewart, J.  
 J. D. Walker, \*R. W. H. Welch, A. D. F. White, A. R. Wilson.  
 Charlotte M. Wilson, D. E. Wilson.

\* Passed with distinction.

## UNIVERSITY OF DUBLIN.

SCHOOL OF PHYSIC, TRINITY COLLEGE.

THE following candidates have been approved at the examination indicated:

FINAL M.B., PART I.—*Materia Medica and Therapeutics, Medical Jurisprudence and Hygiene*.  
 O'Meara, J. W. Bowden, A. O.  
 Keown, J. H. McLean, J. B.  
 Brooks, J. N. S. Gonyea, J. W.  
 D. St. C. Mackenzie, G. C. Hardy,  
 D. J. Roux, J. Johnston, Christina M'Donald, Rachael E. Porter, Craig,  
 J. Quigley.  
 PART II.—*Medicine*. \*T. W. MacDowell, C. F. D. McCallin,  
 W. C. Somerville La ge, Kathleen P. Morrison, G. F. Gillespie,  
 E. M'Alpine, W. H. Anderson O'D. T. D. Browne, J. R. Gregory,  
 R. T. Cronin, J. Dick, T. C. Foster, P. N. H. Labuschagne, W. B.  
 Roastree, F. M. Purcell, N. M. Greaves, F. J. Marais, Annie T.  
 Deane, F. H. McKenna, J. V. Morris R. W. Harte, J. Cusseo, G. P.  
 Bamford, O. Chance, W. P. E. M'Intyre, Augusta M. Young,  
 W. Gallagher, J. L. Leviington, J. L. Marshall, Mary Galvin, F. V.  
 Duke, G. Lord-Flo-  
 H. Nelson, E. J. Horwich,  
 W. A. Redmond, B. J. Carson,  
 E. T. C. S. Rudd, E. f. L. C. Brough,  
 H. W. Strong, J. M. Johnston, C. du Plessis, E. J. Walsh, J. E. Beatty, J. Crawford, F. J. Marais, L. M. Whitsitt, E. A. Bennett, R. J. G. Hyde, J. G. Maguire, G. W. Garde, W. C. G. Potts, C. R. Moore, H. Brney, R. V. Franklin, R. A. Heatley, I. Sirasburg, Midwifery: \*C. R. Bo'and, \*J. F. Wildo, \*R. L. Forsyth, \*E. Rakoff, Elsiebeth V. D. Hewat, F. H. McKenna, J. E. Stokes, G. D. Edwards, A. A. Shañik, M. Shorov, W. Pike, L. W. R. Ha' Galvin, Henrietta Arms  
 M.Ch.—D. de Bruijn  
 M.A.O.—D. J. Malan.  
 DIPLOMA IN GYNAECOLOGY AND OBSTETRICS—Elizabeth M. Thompson

\* Passed on high marks.

LONDON SCHOOL OF HYGIENE AND TROPICAL  
MEDICINE.

## DIVISION OF TROPICAL MEDICINE AND HYGIENE.

THE following medical officers passed the school examination at the termination of the seventy-seventh session (January-March, 1925):

\*A. C. Craighead (Duncan medal), \*A. N. Haworth, \*R. Klaher, \*N. E. Goldsworthy, \*A. S. Mohamed, K. Lumsden, W. J. Vickers, P. C. C. Garnham, A. H. Campbell, E. N. Cook, J. N. Banks, J. W. Graham, A. H. Monks, R. M. Fraser, L. B. Struthers, P. F. A. Giot, H. H. Brown, J. H. Bowyer, M. Ali, J. Gordon, J. Manley, R. C. Spiers, T. S. Goodwin, F. G. Read, M. Lal, H. J. More, J. Enzer, O. G. Wilde, R. W. C. Thambiah, A. N. Coomarasamy, G. M. Moffatt, A. H. Macleod, J. L. Stuart, R. H. Mumford, T. C. Pan, V. F. T. Chan.

\* With distinction.

## The Services.

## FOREIGN DECORATIONS.

THE following are among the decorations and medals awarded by the Allied Powers to British forces for distinguished service rendered during the war 1914-19.

BY THE PRESIDENT OF THE FRENCH REPUBLIC.

*Médaille de la Reconnaissance Française*.—Eo Argent: Captain W. K. Campbell, D.S.O., M.B.E., M.C., R.A.M.C.; En Bronze, Major Wilfred Vickers, D.S.O., Army Medical Corps, Australian Imperial Force.

BY THE KING OF THE SERBS, CROATS, AND SLOVENES.

*Gold Medal for Distinguished Service*.—Captain W. L. Murphy, R.A.M.C.(T.F.).

*Silver Medal for Distinguished Service*.—Captains G. S. Davidson and E. D. D. Dickson, R.A.M.C. (S.R.).

## DEATHS IN THE SERVICES.

Lieutenant-Colonel David Wilson Scotland, Bengal Medical Service (ret.), died at Colinton, Midlothian, on February 19th. He was born at Saharanpur on November 16th, 1861, and was educated at Edinburgh, where he graduated M.B. and C.M. in 1886, and M.D. in 1899. He entered the I.M.S. as surgeon in 1886, became lieutenant-colonel after twenty years' service, and retired in 1907. Most of his service was spent in civil employ in the North-West Provinces, now the United Provinces of Agra and Oudh. He received the order of the Kaisari-Hind, second class, 1900.

Lieut.-Colonel John Gover Williamson, R.A.M.C.(ret.), died at Hastings on January 18th, aged 76. He was educated at St. Bartholomew's Hospital, and took the diplomas of M.R.C.S. and L.S.A. in 1869, and of L.R.C.P.Lond. in 1870. He entered the R.A.M.C. as assistant surgeon in 1871, and during his early years he served in the 65th Foot, now the 1st battalion of the York and Lancaster regiment. He attained the rank of brigade surgeon lieutenant-colonel in 1895, and retired in 1896. After retirement he was employed at Bull Point from 1896 to 1905, and at Leicester from 1905 to 1913. He served in the Afghan war of 1878-80, receiving the medal.

Lieut.-Colonel John Robert Stuart, R.A.M.C.(ret.), who died at Allassio, Italy, on February 27th, was born at Inverness on March 18th, 1855, the son of the late Colonel J. R. Stuart, Royal Scots Fusiliers. He entered the army as surgeon on February 3rd, 1883, became lieutenant-colonel after twenty years' service, and retired in 1910. He served in the Nile campaign of 1898, when he was present at the battle of Omdurman, and received the medal with a clasp and the Egyptian medal.

## Obituary.

DR. JAMES TAYLOR of Clifton, Bristol, who died on March 22nd, aged 71 years, was the elder of two sons of the late Dr. James Taylor, who practised at Bristol. He was educated at Bristol and Edinburgh, and took the diplomas of L.S.A. in 1875 and M.R.C.S.Eng. in 1876. He was one of the early workers in radiology, being the first skiagraphist appointed to the Bristol Royal Infirmary; on his retirement from that post he was appointed consulting radiologist to the infirmary. He held a commission as captain R.A.M.C.(T.), and was attached to the 2nd Southern General Hospital. Dr. Taylor was an enthusiastic musician, and often assisted the Medical Dramatic Club and the old Clifton Amateur Operatic Society in their performances. He was a member of the Bristol Division of the British Medical Association and of the Bristol Medico-Chirurgical Society.

Dr. NOGUEVUS, professor of children's diseases in the University of Valladolid, has recently died of leukaemia, at the age of 40.

Professor F. VILLAR, a well known surgeon of Bordeaux, has recently died.

## Medical News.

OWING to the Easter holidays it will be necessary for the next issue of the BRITISH MEDICAL JOURNAL to go to press a day earlier than usual. All communications and advertisements intended for insertion in the issue dated April 11th must therefore be received not later than Monday, April 6th. The offices of the British Medical Association and JOURNAL will be closed from Thursday evening, April 9th, till Tuesday morning, April 14th. We regret that, owing to a dispute between the Federation of Master Printers and the National Union of Printing, Bookbinding, Machine Ruling, and Paper Workers, there was some delay in issuing and dispatching the JOURNAL for last week, but no time was lost so soon as the dispute was settled.

THE Fellowship of Medicine announces that Sir Arbuthnot Lano will preside at the resumed discussion on post-graduate study in London at the house of the Royal Society of Medicine on April 8th, at 6 p.m. It is hoped that many members of the medical profession will attend and express their views. During the fortnight commencing April 20th there will be an intensive course in medicine, surgery, and the specialties at the Hampstead General Hospital, a course in diseases of children at the Queen's Hospital, Hackney Road, E.2, and a course in proctology at St. Mark's Hospital. Copies of the syllabus of these courses may be obtained from the Secretary to the Fellowship of Medicine, No. 1, Wimpole Street, W.1.

UNDER the auspices of the Strasbourg Faculty of Medicine an intensive post-graduate course in tuberculosis has been organized by Dr. Vaucher, general secretary of the Anti-tuberculosis Association of Alsace-Lorraine. It will be held in Strasbourg from October 9th to 24th, and will include lectures by a number of teachers in the faculty on various aspects of medical and surgical tuberculosis; instruction will be given also in bacteriology, radiology, and the operation of artificial pneumothorax. The fee for the course is 200 francs; further information may be obtained from Dr. Vaucher, 22, rue de l'Université, Strasbourg.

THE Physiological Society is meeting this week-end in Holland. The main business will be conducted in the Pharmacotherapeutical Institute and physiological laboratory at Leyden. A visit will also be paid to the physiological laboratories at Utrecht.

THE course in parasitology to be held in the Tropical Division of the London School of Hygiene and Tropical Medicine from April to June will commence on April 27th, and not as previously printed. Inquiries should be addressed to the Director of the School, c/o Institute of Historical Research, Malet Street, W.C.1.

THE Royal Microscopical Society will hold a conference in the University of Sheffield on April 20th, 21st, and 22nd. The first paper will be read by Mr. J. E. Barnard, F.R.S., of the National Institute of Medical Research, who will deal with modern microscopical methods. Papers having a pathological bearing will be read by Dr. W. E. Cooke on pernicious anaemia, by Sir Kenneth Goadby on lung fibrosis in iron mining, and demonstrations of the Golgi apparatus will be given by Dr. C. Da Fano, Mr. A. Subba Rao, and Dr. F. W. R. Brambell. A paper on the cytology of cancer will be read by Dr. R. J. Ludford. There will be a trade exhibition of scientific instruments and apparatus, and visits will be paid to several of the chief steel works in Sheffield.

THE Dutch Congress of Natural Science and Medicine will be held at Groningen from April 14th to 16th, when the following papers, among others, will be read in the Medical Section: psychological manifestations and x-ray diagnosis in cerebral tumour, by Professor C. Winkler of Utrecht; surgical treatment of cerebral tumour, by Professor H. J. Lameris of Utrecht; the study of intestinal motility, by Dr. B. Lauwers of Conrath; aneurysm of the aorta, by Dr. A. de Groodt of Antwerp; operative treatment of the small prostate, by Dr. G. van Houtum of the Hague; gastric syphilis, by Dr. J. Koopman of the Hague; the question of diabetes, by Professor Hijmans van den Bergh of Utrecht; active immunization against diphtheria, by Professor H. Aldehoff of Utrecht; and the question of constitution in gynaecology and obstetrics, by Dr. R. Remmelts of Amsterdam.

THE next election to the Grocers' Company's research scholarships, founded to encourage original research in sanitary science, will take place in May next. They are each of the value of £300 a year, with an allowance to meet the cost of apparatus and other expenses, and are renewable for a second or third year. Forms of application and further particulars can be obtained from the Clerk of the Grocers' Company, Grocers' Hall, London, E.C.2.





## An Address ON OCCUPATIONAL AND OTHER CAUSES OF PULMONARY FIBROSIS.

DELIVERED TO THE NORTH OF ENGLAND BRANCH OF THE  
BRITISH MEDICAL ASSOCIATION, FEBRUARY 19th, 1925,

BY

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Four years ago I gave to this Branch a demonstration of the pathological changes met with in fibrosis of the lungs caused by inhalation of dust by men following certain occupations, such as that of ganister mining and crushing, also by gold-miners who had worked in the Transvaal. I now wish to extend my remarks by drawing attention to other forms of illness during or after which, if the patient survives long enough, structural changes occur in the lungs, whereby they lose their spongy character, and, instead of remaining air-filled and elastic organs, they become semi-solid and unable to retract.

In order to appreciate what is meant by pulmonary fibrosis it is well to visualize a type of lung consolidated by an excessive increase of fibrous tissue, such as the lung of a gold-miner who has died of the malady. It was during and shortly after the close of the South African war that men who had previously been coal-miners in the Northumberland pits, and who had gone seven or eight years previously to South Africa, attracted thither by the high wages, were returning home with well lined purses, but, alas! only too frequently to die within a year or two of silicosis, caused by inhalation of dust given off during drilling of the rock in the mines of the Transvaal. As I was consulted by many of these men, they supplied me with the experience which formed the basis of my paper, entitled "Gold-miner's phthisis," published in the *Lancet* in 1902. Some of the men looked rather bronzed and weather-beaten, but the one particular circumstance which caught my attention was the marked dyspnoea which even the slightest exertion induced. On getting up from one chair in my consulting room to move to another, or on taking a few paces in the room, the breathing became short and difficult, so that the patients were glad to sit down and rest. I was impressed, too, by the marked reduction of their respiratory capacity. In many of the men, instead of there being a difference in chest measurement of two to three inches between inspiration and expiration, it was frequently only one inch. Here and there in the chest small areas of dullness were appreciable, especially towards the bases. The respiration was deficient in places, while over other portions of the lungs there could be heard small bronchial râles; but whether râles were heard or not the dyspnoea was always in excess of the physical signs.

If it was a miner whom I was examining in the early stages of the illness, few physical signs might be detected; probably the patient had lost weight, and was the subject of cough as well as of shortness of breath. In the early stages expectoration was not abundant, and on microscopic examination it was found to be free from the presence of tubercle bacilli. In some instances the illness pursued its course to a fatal termination without the lungs becoming tuberculous, as confirmed by *post-mortem* examination. The lungs would be found greyish-black in colour, hard to the touch, stony hard in fact, and giving rise to a gritty sensation on being cut with the knife. In the lungs of many of the men there were no signs of cavity, large or small, so that silicosis in its inception, and all through its duration, can be, and frequently is, a non-tuberculous disease. Some of the patients subsequently became tuberculous, and this was indicated by a rise of the evening temperature, by sweating, increase of cough, and expectoration in which tubercle bacilli might be found. When the malady had progressed to a further stage, the breathing would be found to have become still shorter; occasionally haemoptysis occurred, or the expectoration would be slightly streaked with blood; the expansion of the chest tended to become

more restricted, owing to extension of adhesions between the bases of the lungs and the diaphragm; dullness on percussion increased in area; moist râles became more abundant, and as digestion became impaired the general health declined correspondingly. On x-ray examination of the chest mottling of the lung in places could be detected.

It is interesting to compare the lungs of coal-miners with those of men who have followed such dusty occupations as ganister mining and crushing, also gold-mining. Ganister is a siliceous clay which is made into bricks for lining iron and steel furnaces, since the bricks are capable of withstanding enormously high temperatures. Of the various kinds of dust inhaled by workmen, that which contains silica is one of the most dangerous. Formerly it was taught that the injury inflicted upon the lung and which ended in fibrosis was the result of the physical action of the particles of dust. Since many of these are sharp-pointed, it was believed that during inhalation these were carried beyond the protective barrier of ciliated epithelium, much of which had probably disappeared as the result of recurrent catarrh, and having reached the small bronchi and the pulmonary alveoli they inflicted damage of a purely physical character. This is no longer regarded as the complete explanation. Professor Haldane of Oxford and Mavrogordato have shown by their experiments that when fine particles of soft coal are inhaled these are met by a reactive resistance on the part of the bronchial mucous membrane and the pulmonary alveoli, during which the large wandering cells lying in the alveoli, or on the inner surface of the minute bronchioles, take up the carbon particles, and as these cells are phagocytic in their function and are subsequently passed up into the bronchi, many of the carbon particles which have been inhaled are in this manner eliminated. Silica dust, on the other hand, is not readily soluble, nor are its particles easily phagocytosed; they penetrate into the lymphatics of the lungs and are carried to the glands at the hilum, or they induce pulmonary fibrosis. Although silica dust is very insoluble, yet Gye and Kettle have demonstrated that silica may become soluble in the lungs, and that the dissolved material is equally capable of acting harmfully upon the pulmonary tissue. The injury thus inflicted upon the lungs would be, according to this theory, not the result of the physical but of the chemical properties of the dust.

There still remains, however, the probability that the inert or undissolved particles of silica also play a considerable part in inducing inflammatory reactions in the lungs, and this raises the question as to how far the size of the particles can be regarded as contributing to the subsequent structural changes. On examining microscopically a section of a silicotic lung, the fibrotic portions appear as if they had been peppered with very fine dust. By means of a micrometer the size of these particles can be estimated: they are measured to one-thousandth part of a millimetre, the unit being known as a micron ( $\mu$ ). Pathological research in this country has shown that the larger number of particles present in the lungs are below 1 micron, and seldom above 2, although they may sometimes measure 10 microns or more. It would therefore appear as if it was the particles below 2 microns which are the most dangerous, so that while a man may be working in a thick atmosphere heavily laden with dust, readily visible to the naked eye, yet if most of these particles are above, say, 50 microns, there is less likelihood of this dust causing silicosis than an atmosphere in which the particles are smaller than 2 microns in dimension. It is these which, when inhaled, overleap the protective epithelial barrier in the larger respiratory passages and reach the lungs.

During the time I was following up the subject of Rand miner's phthisis from the clinical point of view, it was my wish to become practically acquainted with, as nearly as possible, the conditions under which gold-miners had been working. Accordingly I visited the tin mines in Cornwall, where rock drilling was much in use. The Cornish mines are much deeper than the coal-mines in the North of England, and the rock is harder. Along with an under mine manager, a working miner, who was an experienced rock driller, and the doctor, I went into a mine wherein we crawled through an opening into a chamber from which a certain amount of ore had already been extracted. After

we had squatted as best we could the rock drilling was begun. In a few minutes the atmosphere became so thick that breathing was, to those of the party unaccustomed to dust, somewhat uncomfortable and difficult, and although we were all squatting closely together we could not see each other. Even the glare of our lights could not penetrate the dusty atmosphere. In addition, as no air was circulating through the chamber, the temperature became uncomfortably hot. Subsequently we removed ourselves, as best we could, from the confined space, and travelled into one of the main ways where the air was clear and cool. We inspected other sections of the mine, and in two hours returned to the place where we had witnessed the rock drilling. By this time the dust had considerably settled and the air had become comparatively clear.

We were now to have the opportunity of seeing automatic water spraying carried on simultaneously with the rock drilling. The difference between the two operations was remarkable. Instead of the atmosphere becoming thick and dusty, and the temperature raised, the air remained clear, the temperature low, and we could not only see each other quite well, but could converse without difficulty. As to the utility and efficacy of water spraying during rock drilling there can be no doubt; but while water spraying lays dust, many of the finest particles may yet rise into the atmosphere with the spray, and although these particles may not be visible, yet it is they which, when inhaled, harmfully affect the lungs.

One of the dustiest industrial operations I have seen is asbestos crushing, carding, and grinding. Some of you have probably not seen asbestos in its native condition. It is an extremely hard rock with small white fluffy fibres attached to it, almost like finely frayed cotton wadding, and therefore suggesting vegetable origin, but it is really a mineral substance. The rock is crushed in closed machinery, but much fine dust and fibre escape into the workroom. From the finely comminuted pieces of stone the fibre is separated by a mechanical process of teasing, so that the material as it passes away from the machine looks like raw cotton, only the fibres are loose and not so adhesive. During these processes the atmosphere of the workroom is quite cloudy; the hair and clothing of the men become covered with white fluff. Even by brushing I had difficulty in removing the material from my clothes. After having been teased, the material is passed through carding machines, so as to transform it into a cord-like structure; this is subsequently spun or is woven into the flat plaques of asbestos with which all of you are familiar. I was rather surprised when the manager of the works informed me that the men never suffered from respiratory troubles. That such existed I had not the slightest doubt. In the *BRITISH MEDICAL JOURNAL* of July 26th, 1924, this was definitely shown by Dr. W. E. Cooke of Wigan in an interesting article entitled "Fibrosis of the lungs due to the inhalation of asbestos dust." So far as I know this is the first paper on the subject in the English language. Dr. Cooke informs us that asbestos contains, amongst other compounds, calcium and magnesium silicate, and 40 per cent. of  $\text{SiO}_2$  or silica. The mineral fibre is translucent, except at the fractured ends, where it is blackened. The patient whose illness and death supplied the basis of Dr. Cooke's information was a woman, aged 33, who had worked in asbestos factories since the age of 13—that is, for twenty years. Between 1917 and she had remained away from the factory, but subsequently she worked at intervals, and died in March, 1924. X-ray plate showed extensive fibrosis with calcareous nodules at the root of the lungs. On section the right lung was found to be fibrosed and airless; there was a large cavity in the apex and the pleura was thickened. The left lung was adherent and its pleura in places was also thickened; this lung too was considerably fibrosed. On microscopical examination fibrotic changes were very marked; around the caseating areas in the lungs giant cells and tubercle bacilli were found. The case was therefore one of silicosis accompanied by tuberculosis, the tubercle having been a later development, for Professor J. M. Beattie of Liverpool, whose research work on dust and pneumoconiosis is well known, has experimentally produced fibrosis in animals by causing them to inhale asbestos dust.

While mineral dust is a frequent cause of pulmonary fibrosis, the structure of the lung can be similarly altered by micro-organisms or their toxins in such diseases as tubercle and syphilis. Upon some of the less well known associations of these I should like to say a few words. In silicosis the pathological changes occur around the minute bronchi and within the alveolar septa. A little while ago my attention was drawn by Professor Stuart Macdonald to fibroplastic changes which had taken place in the lungs of one of my patients who had died from croupous pneumonia, but therein, and differing therefore from what occurs in silicosis, the initial changes had commenced within the exudate in the alveoli, and were rapidly leading to organization. In some of the alveolar spaces wherein the exudation had become softened, and partly removed by absorption, the leucocytes which had continued to be healthy and active were becoming transformed into fibroblasts, and these, becoming superimposed, lined the interior of the alveoli, and were gradually obliterating them. Had my patient lived long enough there would probably have occurred real fibrosis of those portions of the lung which had been during life the site of croupous pneumonia. This, I admit, is rather an uncommon sequel of pneumonia, for the exudate is usually absorbed, and the lung regains its previous resiliency.

In syphilis a similar thickening takes place; there may be gummata or diffused interstitial fibrosis. In the diffused form there is hyperplasia of the connective tissue. The alveolar walls become thickened, dense masses of fibrous tissue are formed in which the remains of compressed alveoli can be detected, and the walls of small blood vessels are thickened.

#### *Influenza and Pulmonary Fibrosis.*

A year ago Dr. Bernard Shaw gave an interesting demonstration, illustrated by lantern slides, of the relationship between influenza and pulmonary fibrosis. After showing how rapidly the epithelial lining of the small bronchi and the alveolar walls become destroyed in influenza, he indicated that just as rapidly were reparative processes taking place with, as a result, occlusion of several of the minute bronchi; the alveolar walls, too, were thickened by organization of fibroblasts; newly formed capillaries also could be observed extending into the leucocytic exudate whereby this material became changed into granulation-like tissue. There thus occurs early in some forms of influenza a rapid tendency to the development of pulmonary fibrosis.

In almost a similar manner the bronchopneumonia which accompanies measles is followed by an increase of the interstitial tissue of the lungs. This is the case in children, and is frequently the explanation of the lung troubles from which they suffer in later years. During the recent war similar changes were observed in the lungs of several of the United States soldiers who had been drawn from the agricultural areas. These healthy men when housed in barracks and overcrowded buildings, during their military training, became an easy prey to measles. Many of the men succumbed to the accompanying bronchopneumonia, and in their lungs fibrotic changes were found to have already taken place.

There is a growing opinion that a silicotic lung is more liable to become affected by tubercle than a non-silicotic. It would almost appear as if a larger percentage of gold-miners affected by silicosis had during recent years become more liable to pulmonary tuberculosis than three decades ago. It may be that the men had been brought into more immediate contact with infection than previously. In a well marked case of dust disease of the lungs the fibrous tissue is hard and thick, and it hardly seems to offer favourable conditions for the reception and multiplication of tubercle bacilli. But while certain portions of lung are fibrosed other portions are the seat of bronchial catarrh, so that it is possibly in those portions of the lung that the tubercle bacillus finds a suitable nidus for its development.

The causes of pulmonary fibrosis with which we have been concerned have in the main operated from within the alveoli inwards—that is, towards their interstitia. Frequently the operative agent has been inhaled dust,

or, it has been the presence of toxins in the exudate acting upon leucocytes therein and converting them into fibroblasts.

In my visit to Harvard University a little over a year ago I was extremely interested to learn from Dr. Drinker of some experiments he had been carrying out in regard to pulmonary fibrosis. It had occurred to Drinker that since fibrotic changes in the lungs are the result of inhaled dust having penetrated the alveolar wall and induced irritation of the interstitial tissue, possibly a similar chain of events might take place if particles of insoluble dust were injected into veins not far distant from the heart. Accordingly Drinker injected into the veins of animals extremely minute particles of manganese silicate, and he found that structural alterations were established in the lungs. Since my conversation with Dr. Drinker I have carried out a series of experiments on the Harvard lines, but instead of using manganese silicate I employed finely powdered bauxite, an aluminium ore. This was conveyed into the auricular veins of rabbits, and after a series of injections conducted over a few months we found in the microscopical sections of the lungs, kindly prepared for me by Mr. John Secker of the Physiology Department, large phagocytic cells lying within the alveoli and laden with dust particles, similar cells surrounded by mucus passing outwards by the small bronchi, and the same type of cell in the spleen. Until the series of experiments which I am at present carrying out is concluded, it is somewhat difficult to explain the presence and escape of the phagocytic cells alluded to. They are not leucocytes in the ordinary acceptance of the term. When an injection of finely divided particulate material is made into the veins of an animal not far from the heart the particles are carried along in the blood stream, and as the pulmonary capillaries are those through which, after leaving the heart, they would primarily pass, several of the particles are probably taken up by the endothelial cells. From the size and shape of the phagocytes found in the pulmonary interstitia and alveoli, also in the minute bronchi, the probability is that they are endothelial cells which have broken off from the pulmonary capillaries, and that they were fulfilling their function of eliminating foreign material from the blood. Their presence in the splenic pulp is similarly explained.

## PROLONGED MENINGOCOCCAEMIA WITH TERMINAL MENINGITIS.

BY

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THE following record emphasizes the importance of searching for the meningococcus in obscure cases of pyrexia, particularly of an intermittent type.

The patient was a man of 57, an engine fitter, who had been unusually healthy. For thirty-four years he had not lost a day's work; he lived comfortably, and was a teetotaler. About the beginning of May, 1924, he had an attack of so-called "influenza." It commenced abruptly with shivering and fever, but he had no headache or other pain, and no catarrh or pulmonary symptoms of any kind. He had some vomiting, and in a day or two slight diarrhoea came on, which lasted only a few days. Weakness was really the principal symptom. The fever was not continuous, but he had rigors at odd times, apparently almost daily. He was in bed for eight or nine weeks. He was up for about a fortnight before he was admitted to Ward 32, but could hardly walk because of weakness, and he had lost nearly 3 st. in weight. He came into the infirmary on July 8th, 1924.

His only symptoms were weakness and loss of appetite; the appetite returned after a few days in hospital. Physical examination gave entirely negative results, and need not be detailed. All the systems were normal for a man of his age, and remained so throughout. The spleen was not enlarged at any time. For the first two days the temperature remained

normal; on the third day it went up with a slight rigor, but only to 100° F., the next day to 101°, and on that day his white count was found to be 10,400. Throughout the illness this leucocytosis with polymorph increase persisted; the highest figure reached was 29,100, a month later.

From this time onwards there was, in the way of symptoms, nothing but increasing weakness. The temperature followed a most erratic course; on some days, and sometimes for two or three days together, there would be only a slight rise, say to 100° F., on others, coming singly or in small groups, rigors, when the temperature ran up for a short time to, say, 103°. These occurred at any hour of the day or night; between times the temperature was generally subnormal. From August 26th to September 9th the rigors occurred daily, and were more severe; the temperature was higher, reaching 104° or over on most days. The pulse rate varied strictly with the temperature: when it was subnormal the pulse was in the 60's, when it reached 104° it often ran up over 120. In the same way the respiration rate varied from 20 to 32.

Throughout this period everything we could think of was investigated in the hope of getting some light. The chest was x-rayed, with negative results; the urine was examined daily and was always normal. Though the persistent leucocytosis made enteric or malaria unlikely, the blood was subjected to the Widal test for the usual organisms, with negative results, and examined constantly for plasmodia, equally unsuccessfully. The spirochaete of rat-bite fever was sought in vain; the patient denied ever having been bitten by any animal, and it was only about ten days before his death that his wife remembered that about the middle of April he had been badly scratched on the back of the hand by a "wild" cat that lived by rat-catching. This led to several intravenous injections of novarsenobillon, without improvement. The Wassermann test was negative in both blood and cerebro-spinal fluid, and the latter showed no increase of cells and no organisms on culture. The first blood culture, in July, gave a growth of staphylococci and Gram-negative diplococci. As the staphylococci were almost certainly a contamination, it was thought the diplococci might be so also; but the observation was repeated a few days later and they were found alone, and again on August 12th. A blood culture was not made again till September 8th, and then no organism of any kind was found. Cultures were taken from the urethra, but no diplococci were found.

About September 9th meningeal symptoms began to develop—headache, head retraction, drowsiness, and incontinence of urine and faeces. The temperature was more continuously raised, seldom dropping to normal, but never running above 101°; usually it was about 100°. The rigors ceased. The patient gradually became weaker, emaciated very rapidly, grew more drowsy, and died suddenly on September 16th.

The first lumbar puncture to yield positive results was made on September 11th. The fluid was definitely under pressure, was turbid, and microscopically showed many polymorphs and large lymphocytes. In some parts of the films diplococci were found, practically all intracellular, and always in the large lymphocytes, never in the polymorphs. The same diplococcus which had been found in the blood was grown from this fluid. As lumbar puncture gave relief it was repeated daily. On the 12th the cell count was 5,800 per cubic millimetre. In the later punctures the fluid became clearer.

*Post mortem* a certain amount of bronchitis and hypostatic congestion of lungs were found. The heart was practically normal; very slight atheroma in the aorta; liver normal, except for some cloudy swelling and perhaps fatty degeneration; spleen not enlarged, apparently normal; cortex and medulla of both kidneys slightly narrowed; other organs all normal except the brain. The pia arachnoid showed areas of localized thickening in various parts, chiefly towards the base and over the cerebellum. These were evidently patches of meningitis, and on section microscopic examination confirmed this view. There was a marked exudate, with numerous polymorphs; slight excess of cerebro-spinal fluid, with slight dilatation of the ventricles internally, but the brain substance was normal.

Cultures made *post mortem* from the heart blood, spleen, and liver remained sterile, but the organism was obtained from the exudate at the base of the brain.

### The Micro-organism.

The diplococcus, when first obtained from the blood stream, resembled a meningococcus in its cultural characters, save that it grew more readily on ordinary media than do most strains of meningococcus. On plain agar slopes it grew well, even when inoculation was not particularly heavy, and when no accessory substances could have been carried over from the original medium. Growth on glucose-ascetic fluid agar (Thomson's) was profuse. After subculture for some time it lost this readiness of growth to some extent, and finally became indistinguishable culturally from type strains of meningococci, so far as readiness of growth on various media was

guishable from the meningococcus; it produced acid in glucose and maltose, no change in lactose, saccharose, and salicin. The gonococcus does not ferment maltose,

while *Micrococcus catarrhalis* ferments neither maltose nor glucose.

A rabbit and guinea-pig inoculated with cerebro-spinal fluid containing the organism showed no effect, though the guinea-pig died about a fortnight later. No pathological lesions were discovered, and cultures made from its brain and organs did not yield the organism in question.

Guinea-pigs inoculated with the patient's whole blood, with the plasma, and with cultures of the organism yielded similar negative results.

No agglutinating serums for meningococci could be obtained from various sources tried. A commercial polyvalent antimeningococcal serum did not agglutinate the organism even in low dilutions, but as it did not agglutinate the type strains of meningococcus I, II, III, and IV either, this observation was obviously not of value.

A beginning was therefore made in the immunization of two rabbits with the diplococcus from the patient. The organism was first found in the patient's cerebro-spinal fluid on September 11th. It was present in films of the fluid only in small numbers, but growth was obtained, although with difficulty. As obtained from the spinal fluid, it did not grow nearly so profusely as it had when obtained from the blood stream. It behaved now, in short, as a meningococcus, and there was now no hesitation in labelling it as such. The patient died before the agglutinating serum from the rabbits was ready.

Four type strains of meningococcus (Lister Institute Collection) were tested with the serum along with the organism under examination (the "Murray coccus"). The emulsions were made in saline from growths on Thomson's medium, and the macroscopic method in a water-bath at 55° C. was used. Readings were made at intervals up to four hours. Both serum and saline controls were used. The test was not carried beyond 1 in 64 with Type III meningococcus.

Identification of Type of Meningococcus.

	Murray coccus serum: Dilutions, one in—									Controls.
	16	32	64	128	256	512	1,024	2,048	4,096	
Murray diplo- coccus	+++	+++	+++	++	++	++	+	+	Trace	—
Meningococcus Type I	±	Trace	—	—	—	—	—	—	—	—
Meningococcus Type II	+++	+++	++	++	+	±	±	Trace	—	—
Meningococcus Type III	++	±	Trace	—	—	—	—	—	—	—
Meningococcus Type IV	++	±	±	Trace	—	—	—	—	—	—

+++ represents complete clearing with sedimentation, and the other signs correspondingly smaller degrees of agglutination.

The organism could therefore be definitely labelled meningococcus Type II of Gordon's types.

Dock<sup>1</sup> has recently analysed sixty-eight reported cases of meningococcaemia, occurring in different parts of the world. In the case which he studied personally the organism was not agglutinated by the patient's serum or by polyvalent antimeningococcus serum at the second or third subculture, but at a later date was agglutinable in low dilutions both by antimeningococcus and antigenococcus serums. It was at first thought to be a gonococcus, but ultimately determined to be a meningococcus. The intermittent character of the fever, often with a definite malaria-like periodicity, was a salient feature of these cases.

Rolleston<sup>2</sup> also drew attention in his Lumsian Lectures on cerebro-spinal fever to these cases of meningococcaemia, which "may precede, follow, or occur without meningeal infection." He quotes some interesting observations by Netter and Dopfer. Dopfer's observation is that whereas before the war 66 per cent. of the cases of meningococcal meningitis were infected with the meningococcus Type A (Gordon's I and III types) a change has taken place, so that now the parameningococcus or Type B (Gordon's II and IV) is responsible for an equal, if not a larger, number of the cases. Netter<sup>3</sup> comments that this observation may be correlated with an increased incidence of meningococcaemia, and meningococcal manifestations in the skin, joints, and eyes.

The organism in our case, a meningococcus of Type II (British classification) or Type B (French classification) certainly showed no particular affinity for the cerebro-spinal system, as it was more than four months before the

spinal fluid became infected. It is interesting that the organism disappeared from the blood stream before this terminal meningeal infection took place.

We shall not here embark on a discussion of the mutability or fixity to type of these bacteria beyond noting that the organism as obtained from the blood stream was a hardier, coarser-growing type than that obtained later from the cerebro-spinal fluid. Such a change might, of course, be merely a temporary or fluctuating variation due to environmental conditions, particularly as the hardier qualities were quickly lost on subculture.

The case emphasizes the necessity for bearing in mind the possibility of a change in the nature of meningococcal infections.

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## THE CHEMOTHERAPY OF RECENT EXPERIMENTAL WOUND INFECTIONS:

WITH SPECIAL REFERENCE TO THE ACTION OF  
ACRIFLAVINE.\*

BY

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THE question whether localized infections can or cannot be treated effectively by means of antiseptics applied to the infected area appears still to be a subject for argument. Animal experiment might be expected to yield a decisive answer. But a difficulty, as most workers have found (for example, see Watson Cheyne, Bassett-Smith, and Edmunds<sup>1</sup>), is the tendency for infections in small animals to become generalized and so to escape beyond the range of action of the antiseptic. In the case of mice inoculated intraperitoneally with organisms so highly invasive as virulent pneumococci, we<sup>2</sup> have shown that it is possible to effect cure sometimes by means of intraperitoneal injections of various antiseptics; but this line of work has not been pursued owing to the difficulty in controlling the virulence of the infection. Recently, the infection of experimental wounds in guinea-pigs with a virulent culture of *B. diphtheriae* has been recommended as a test object for investigating the therapeutic properties of antiseptics (Braun,<sup>3</sup> Feiler<sup>4</sup>). In the first place, there is very little tendency for the infection to become generalized; and secondly, when a highly virulent culture is employed the results are decisive, since the unmodified infection is rapidly fatal.

#### METHODS.

Guinea-pigs of about 200 to 250 grams weight were used. An area of the skin of the abdomen was shaved. When the animal was under the influence of a general anaesthetic two parallel linear cuts, each measuring about 1.75 cm. and at a distance apart of 0.8 cm., were made through the skin in the direction of the long axis of the body, care being taken not to incise the deeper tissues. Then, by means of a stout wire bent into a loop, the strip of skin between the cuts and also the skin for about 1 cm. on either side of the incisions was raised from the deeper structures, so that pockets were produced; there was, of course, very little bleeding from the wound. About a quarter of a well grown forty-eight hours' agar slope culture of *B. diphtheriae* was then rubbed into the wound and the pockets. The animals were left for varying periods and were then treated. Treatment consisted in placing the animal on its back and pouring slowly into the wound 1 c.cm. of a watery solution of the substance the action of which was to be investigated, the wound and pockets being meanwhile swabbed out with a small

\* Work done with the support of the Medical Research Council.

pledget of cotton-wool, like a throat swab, which had previously been soaked for several minutes in the same solution as that used to treat the wound. This procedure lasted for a minute and a quarter. At the end of this time any fluid which had not been absorbed by the tissue was allowed to drain away and the surrounding skin was swabbed dry. The wounds received no further treatment. (In the case of the experiments with bipp, as much of the undiluted mixture as would adhere to a swab was used to treat the surfaces of the wound and the pockets, any excess being wiped off the skin.)

The experiments were not considered as concluded until at least three weeks after the date of inoculation.

#### SERIES I.

Infection with highly virulent *B. diphtheriae* (strain A, recently isolated): designed to test whether effective treatment is possible. Twelve animals were inoculated. After intervals of 45, 75, and 120 minutes respectively two animals were treated with 1 per cent. watery solution of neutral acriflavine. At each period, by way of control, two animals were treated by washing the wounds similarly with 0.85 per cent. NaCl solution.

**Results.**—The animals treated with acriflavine (with one exception—treated after 14 hours—which died eight days after inoculation without having shown signs of illness previously) remained alive and well. The six controls\* treated with saline were all dead within forty-eight hours.

#### SERIES II.

Infection with highly virulent *B. diphtheriae* (strain A, recently isolated); in order to compare the therapeutic action of acriflavine and phenol and to ascertain the effect of treatment with 5 per cent. NaCl solution. The interval between inoculation and treatment was one hour.

##### Results.

Reagent used to Treat Wound.	No. of Animals treated.	Result.
Neutral acriflavine { 1 in 1,000 . . . . .	2	All survived.
1 in 400 . . . . .	2	
1 in 100 . . . . .	2	
Carbolic acid 1 in 20 . . . . .	2	1* died 4 days later.
NaCl solution, 5 per cent. . . . .	2	Both* died within 48 hours.
NaCl solution, 0.85 per cent. . . . .	2	Both* died within 48 hours.

#### SERIES III.

A distinctly less virulent diphtheria infection (strain A, some time after isolation) than that in Series I and II. Interval between inoculation and treatment, one hour.

##### Results.

Reagent used to Treat Wound.	No. of Animals treated.	Result.
Neutral acriflavine { 1 in 2,500 . . . . .	1	All survived.
1 in 2,000 . . . . .	1	
1 in 1,500 . . . . .	1	
1 in 1,000 . . . . .	1	
1 in 500 . . . . .	1	
1 in 250 . . . . .	1	
Carbolic acid { 1 in 100 . . . . .	1	Died* within 72 hours.
1 in 75 . . . . .	1	Died* within 72 hours.
1 in 50 . . . . .	1	Survived.
Bipp . . . . .	2	1* died within 72 hours. 1* died after 9 days.
NaCl solution, 5 per cent. . . . .	2	1* died within 72 hours. 1 died after 14 days.

#### SERIES IV.

A distinctly less virulent diphtheria infection (strain C) than that in Series III. Interval between inoculation and treatment, eighty minutes.

##### Results.

Reagent used to Treat Wound.	No. of Animals treated.	Result.
Neutral acriflavine { 1 in 5,000 . . . . .	1	All survived.
1 in 2,500 . . . . .	1	
1 in 1,000 . . . . .	1	
1 in 500 . . . . .	1	
1 in 200 . . . . .	1	
Carbolic acid { 1 in 20 . . . . .	1	Survived.
1 in 40 . . . . .	1	Died in 13 days.
Bipp . . . . .	1	Died* within 72 hours.
NaCl solution, 5 per cent. . . . .	1	Died* in 75 hours.
NaCl solution, 0.85 per cent. . . . .	1	Died* in 80 hours.

\* Indicates that in these animals the suprarenal bodies were haemorrhagic, which is the most constant change found in death due to diphtheria infection.

There is little doubt that the late deaths were mainly the result of the infection, although the characteristic changes were absent at this stage, since most of these animals had been obviously ill for several days after inoculation.

The results show that in highly virulent infections (Series I and II) treatment of the wound with neutral acriflavine in dilutions down to 1 in 1,000 (the highest dilution tested) regularly caused survival (one animal only out of twelve died, after an interval of eight days). Treatment with 5 per cent. carbolic acid caused only a protraction of the infection. Treatment with 5 or 0.85 per cent. salt solution was entirely without effect under these conditions as the animals so treated died within forty-eight hours after inoculation.

In somewhat less virulent infections (Series III and IV) acriflavine in dilutions down to 1 in 2,500 caused survival. Carbolic acid solution had a distinct effect. Thus in Series III carbolic acid in a concentration of 1 in 50 led to survival, but animals treated with concentrations of 1 in 75 and 1 in 100 died acutely; in Series IV, which had the least virulent infection of the four, treatment with concentrations of 1 in 40 and 1 in 80 carbolic acid led to survival or marked protraction of the infection. Of three animals treated with bipp all died with typical *post-mortem* findings; in only one was the illness protracted. In the latter two series, out of four animals treated with saline, one (belonging to Series III, treated with 5 per cent. NaCl solution) died after fourteen days; the rest died acutely.

In still less virulent infections only a proportion of animals treated with saline die acutely in two to five days with typical *post-mortem* appearances; the rest may fail to become ill or may recover, some after being obviously ill; of the latter a proportion die after several weeks. Thus in addition to the above experiments several series were inoculated with the Park-Williams strain No. 8 of *B. diphtheriae*,† which, in spite of its high capacity for producing toxin *in vitro*, is of comparatively low virulence when young cultures are tested in animals. All of the nineteen guinea-pigs treated with acriflavine 1 in 100 at intervals of forty to ninety minutes after inoculation with this strain survived. Of the nineteen controls whose wounds were washed out at similar intervals with 0.85 per cent. saline eight died (42 per cent.). This result also is in support of the efficacy of treatment with the antiseptic as compared with mere washing of the wounds.

Of course, the results recorded here do not affect the question of appropriate operative procedures in the treatment of infected wounds, nor do they bear upon the need for antitoxin treatment in cases of diphtheria in man.

The efficacy of acriflavine (trypaflavine) in the therapy of experimental wound diphtheria has also been demonstrated by Feiler<sup>4</sup> and by Reinhardt.<sup>5</sup> It has been shown that this effect cannot be ascribed to destruction of diphtheria toxin present in the culture used for inoculation by neutral acriflavine, but is the result of destruction of the bacilli (Braun<sup>1</sup>).

† For this culture we are indebted to Dr. R. A. O'Brien, Wellcome Research Laboratories.



## CONCLUSIONS.

1. The results of treating recent experimental wounds opening into the subcutaneous tissue which have been infected with highly virulent diphtheria bacilli prove the efficiency of antiseptic therapy. Under the conditions investigated brief treatment with a suitable antiseptic (neutral acriflavine in concentrations of 1 in 100 to 1 in 1,000) has caused survival of practically 100 per cent. of the infected animals. On the other hand, salt solution (either 0.85 or 5 per cent. NaCl) similarly applied did not prevent in any instance the acute illness and fatal termination.

2. When acriflavine and carbolic acid are compared, it is found that the ratio of their therapeutic effectiveness exceeds 50 to 1. This conforms with estimates of their relative potency previously arrived at by us<sup>3</sup> by other methods.

3. In less virulent infections the therapeutic action of carbolic acid is evident. But bipp showed practically no action even in the latter; it would appear that the therapeutic effect of this mixture, so frequently commented on by clinical observers, must depend on some property other than an antiseptic one.

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<sup>3</sup> Browning, Gulbransen, Kennaway, and Thornton: *British Medical Journal*, 1917, 1, p. 73; ii, p. 70; see also Browning's *Applied Bacteriology*, London, 1918, p. 65. \*Feiler: *Deut. Zeit. f. Chir.*, 1921, 154, p. 375.  
<sup>4</sup> Reinhardt: *Zeit. f. Hyg. u. Inf.*, 1922, 95, p. 1. \*Watson Cheyne, Bassett-Smith, and Edmunds; see Watson Cheyne, *Lancet*, February 27th, 1915.

## THE DECLINE OF LITHOLAPAXY.

BY

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In the *Principles and Practice of Surgery* (1914), by Dr. A. P. C. Ashhurst, the following passage occurs:

"The operation of litholapaxy is not now in general use because the mortality of cutting operations is less than when Bigelow's operation was introduced, and because recurrence of stone formation is frequent (18 per cent.), either because all the fragments are not removed at first, or because urinary obstruction or vesical infection are not relieved. But the primary mortality is very low (5 per cent.), and the operation may be done under local anaesthesia in very debilitated subjects. It is best reserved for such patients, provided no cystitis is present."

The book is an American one, and, though presumably representative of practice in the United States, does not necessarily speak for British surgery. But this is, in any case, strange doctrine for the country of Bigelow, and there is reason to believe that the same view is gaining ground amongst British surgeons. A short time ago, for instance, I met a keen and highly qualified junior surgeon in charge of an Indian hospital, who was doing no crushing, and told me that the operation of litholapaxy was now regarded as obsolete at home. He had spent several years in resident appointments at well known English hospitals; and one is continually hearing the same view from men who have recently passed through British medical schools. It is for this reason that I have thought it worth while to write the following note.

Thirty years ago my old chief, Mr. F. A. Southam, was using lithotrites successfully in the Manchester Royal Infirmary, and there was no doubt in those days, so far as I remember, as to litholapaxy being the operation of choice for stone in the bladder. The chief arguments now brought against it appear to be that suprapubic lithotomy can be done with nearly as great safety, that litholapaxy is difficult to learn and dangerous when performed by inexperienced operators, and that there are more recurrences after it than after lithotomy.

A statistical comparison of the results of the two operations is hardly possible in India, where for the most part only the bad cases are dealt with by the cutting operation, and I have never seen an effective comparison of British figures, which might presumably be obtainable. The impression is widely prevalent in India, however, that litholapaxy in skilled hands is much the less dangerous opera-

tion, and our figures speak for themselves, and still more emphatically if it is admitted, as we all contend, that, contrary to the impression at home, our cases on the average are far less promising than those which come to the English hospitals. We have a very large proportion of large stones and septic bladders to deal with, and we consider, moreover, that the idea which seems to prevail at home that Indian patients in general bear operation better than Europeans is entirely erroneous. It remains to be said that suprapubic lithotomy is not without its dangers. A very little disturbance of the cave of Retzius may lead to disastrous consequences.

The frequency of recurrence after litholapaxy is much exaggerated. Under proper conditions recurrences should be very rare. Experience of my own and other people's work is that they are quite infrequent, though it is unfortunately impossible to put up figures in proof of this statement. A fair test of the general result of the operation is its reputation with the public. The Indian cultivator, who furnishes the great majority of our up-country patients, is an acute judge of the practical results of surgery, as shown, for instance, in his appreciation of Bassini's operation for hernia. As regards litholapaxy, he made up his mind long ago, and there is no surer way of emptying one's hospital than by reverting to a cutting operation where crushing has formerly been in vogue. There is not only the escape from the knife but the early discharge from hospital to be considered, and it is, of course, quite common for children who have been relieved of small stones by the lithotrite in the morning to be running about in the afternoon. It is, I think one may say, the opinion of an overwhelming majority of Indian surgeons that litholapaxy in proper hands has great advantages over any of the cutting operations in all but a small percentage of complicated cases, and it would be a very great pity if the contrary view were to be generally accepted and taught in the British schools, particularly in the case of men who are destined to practise in the East. I append a list of cases treated in four representative hospitals of this Presidency. Many more extensive series have appeared in the pages of the *BRITISH MEDICAL JOURNAL*, but they seem to have passed too readily into oblivion.

I.—Cases operated on by Lieut.-Colonel R. W. Anthony, F.R.C.S.E., during three years and three months in 1920-25 at the Civil Hospital at Hyderabad, Sind.

	Cases.	Deaths.
Litholapaxy (including 30 perineal litholapaxies) ...	1,253	7*
Suprapubic lithotomy ...	11	3
Perineal lithotomy ...	0	0

\* Three others "discharged otherwise"—probably died.

This is the most noted centre for vesical calculus in this Presidency, and has dealt with an average of 464 cases a year during the last ten years. Colonel Anthony says that he looks on every case of stone as one for litholapaxy if it can be done, and that there are very few cases in which it cannot, given an experienced operator. If it is impossible to crush by the urethra in the ordinary way he performs perineal litholapaxy. He crushes stones up to about 6 ounces, and hardly ever gets one that he cannot deal with, either by the ordinary or perineal route, by means of a large lithotrite or a hammer. He apparently never does perineal lithotomy now, and only performs suprapubic lithotomy primarily from choice in patients with enlarged prostates. Thus, as he points out, his suprapubic cases must be taken largely as failed litholapaxies of a complicated nature—for example, cases in which the bladder has an hour-glass shape, or processes like the finger of a glove containing stone, or encysted stone; or those rare accidents where the lithotrite has jammed, or perforation of the bladder has accidentally occurred.

II.—Cases operated on by Lieut.-Colonel T. S. Novis, F.R.C.S., at the Jamshejee Jeejeebhoy Hospital, Bombay, from June 14th, 1920, to December 31st, 1925.

	Cases.	Deaths.
Litholapaxy ...	114	1
Perineal litholapaxy ...	0	0
Suprapubic lithotomy ...	17	5
Perineal lithotomy ...	2	0

Note.—Of the deaths from suprapubic lithotomy, two were complicated with prostatectomy, and two developed pneumonia.

This is the chief general hospital in Bombay, and associated with the Grant Medical College. Here, also, litholapaxy is the routine operation, the contraindications quoted by Colonel Novis being very large or very hard stones, very soft putty-like stones, stricture, enlarged prostate, extensive kidney disease, and bladder growth of any considerable size. He lays stress on a routine cystoscopic examination of the bladder, both before operation, to exclude the possibility of encystment of the stone or other complications, and immediately after, or at any rate before discharge,

to make sure no fragment is left behind. The series quoted includes two cases of haemorrhage, in both of which suprapubic cystotomy had to be performed, and in one an extraperitoneal rupture was found to exist. Both these recovered. Here also the suprapubic cases are the worst and cannot be quoted for purposes of comparison.

III.—Cases operated on by Mr. A. K. Dalal, F.R.C.S., also at the Jani-setjee Jeejeebhoy Hospital, from November 29th, 1921, to March 22nd, 1923.

	Cases.	Deaths.
Litholapaxy ...	13	0
Suprapubic lithotomy ...	8	0
Perineal lithotomy ...	1	0

IV.—Cases operated on by Lieut.-Colonel A. J. Vernon Betts, M.B., at the Civil Hospital, Nasik, from November 1st, 1922, to October 31st, 1923.

	Cases.	Deaths.
Litholapaxy ...	58	0
Perineal lithotomy ...	3	1
Suprapubic lithotomy ...	5	0
Perineal lithotomy ...	0	0

This is taken as a typical civil hospital with a fairly active surgical practice. The series is a small one because these are the only results for which he can personally vouch.

V.—Cases operated on by Lieut.-Colonel A. Hooton, I.M.S., at the Agency Hospital, Rajkot, from December 5th, 1920, to March 23rd, 1923.

	Cases.	Deaths.
Litholapaxy ...	94	2
Perineal litholapaxy ...	5	0
Suprapubic lithotomy ...	15	0
Perineal lithotomy ...	1	1

This also is taken as a typical civil hospital with a fairly active surgical practice.

Perineal lithotomy still has its uses (contrary to the dictum of some of the textbooks), though the occasions are not frequent. Encysted stones, or abscess associated with them, about the neck of the bladder, call for one or other of the perineal operations.

## A METHOD OF DETERMINING THE PATENCY OF THE FALLOPIAN TUBES BY X RAYS.

BY

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The investigation of certain cases of sterility involves an examination of the Fallopian tubes in order to ascertain whether they are patent. It was felt that the present

(Figs. 1 and 2). A simple apparatus (made by Allen and Hanburys) was devised for the introduction of bismuth or barium emulsion into the uterine cavity (Fig 3). The point we wish to emphasize is that the emulsion is merely dropped into the uterine cavity and is not forced in under pressure. An anaesthetic is not necessary.

The question how the particles find their way into the tubes naturally arises. The observations that better shadows are obtained if the patient has had an anaesthetic (with the accompanying post-anaesthetic retching and vomiting), and that Bond placed the particles in the vagina and not in the uterus, suggested the possibility of aspiration being the motive power, though the original conception was that the ciliated epithelium swept the particles up. To settle the point certain experiments

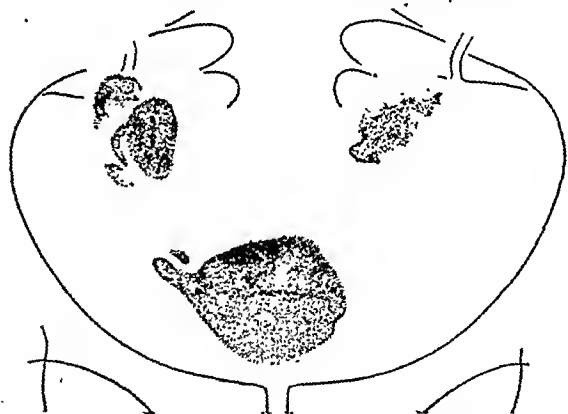


FIG. 1.—Shows shadow in uterine cavity and distal portions of tubes and amniotic extremities. (A normal case.)

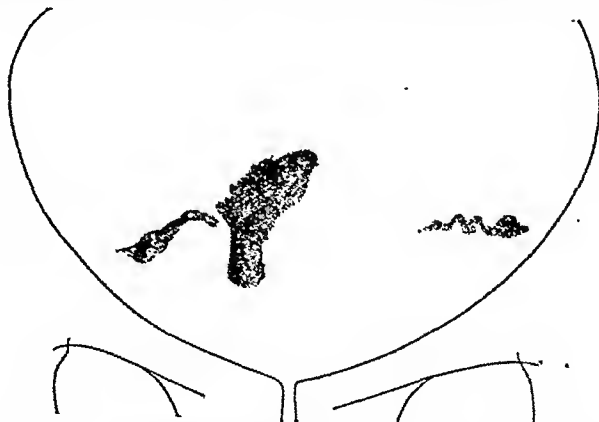


FIG. 2.—Shows shadows similar to Fig. 1. A normal case, ten hours after barium introduction.

methods of testing this patency are unsatisfactory, in that they are all open to the objection of causing an increased intruterine and intratubal pressure, in cases in which, from their very nature, it is anticipated that organisms may be lurking in the uterus or the tubes, and that it would therefore be safer to employ some method of investigation which does not depend upon creating a positive intrauterine or intratubal pressure.

A method suggested itself to one of us (E. W.) after reading of Bond's experiment of the recovery, at a laparotomy, of coloured particles from the peritoneal cavity of rabbits, after their previous introduction into the vagina. If particles opaque to x rays be substituted for coloured particles, a radiogram should indicate their passage through the tube. A method was tried in which particles of barium sulphate were insufflated into the cervix uteri, and x-ray photographs were taken twenty-four, forty-eight, and seventy-two hours later. Several cases of normal multiparous women were thus investigated. The photographs did not give a shadow sufficiently dense to be really satisfactory, and at Dr. Russell Reynolds's suggestion an emulsion of barium sulphate was tried, and gave good results, particularly when general anaesthesia was employed

were performed upon animals in which bismuth emulsion was introduced into the vagina alternately with and without ligation of the Fallopian tubes.

These experiments showed that the particles do not find their way up the Fallopian tubes unless there is a free communication between the tube and the peritoneal cavity. This suggests that a purely mechanical factor, such as aspiration, is more likely to be responsible than anything in the nature of ciliary activity. If the tubal ostia are patent, the emulsion travels from the uterus to the tube, and therefore, if the shadow is seen in the tube at all, it indicates patency of that tube. In the course of seventy-two hours the whole of the bismuth or barium has disappeared. In no instance have any after-effects been complained of by the patients.

Another point worthy of mention is that the shadow in the body of the uterus gives a much more accurate estimation of the size of the uterine cavity, in cases of infantile uterus or other maldevelopment, than does bimanual

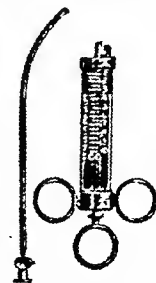


FIG. 3.—Syringe and cannula.

examination; the latter only reveals the gross size of the uterus, which may be masked by the presence of a fibroid or an unduly thick wall.

We have used the method to determine the patency of a tubo after salpingostomy for tubal mole (impossible by the other methods if the opposite tube is patent), and also in a case which proved to be an instance of a double uterus. The value of the method as an aid to diagnosis in other difficult cases is obvious.

We believe also that the demonstration of the passage of particles from the uterine cavity to the fimbriated extremity of the Fallopian tube throws some light on the origin of ascending infections of the genital tract, and perhaps also on that of endometrioma of the ovary and the deposit of fragments of exfoliating endometrium on the pelvic peritoneum and surface of the ovary.

In conclusion, we wish to express our thanks to Dr. Eden and Dr. Cuthbert Lockyer for permission to investigate cases in the hospital.

## THE HEART IN CHRONIC TOXAEMIA.

BY

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DURING the examination of patients suffering from infective arthritis and fibrositis, an attempt has been made to estimate the degree of involvement of the heart and arterial system in this form of chronic toxæmia. These types of cases can very frequently be traced to a local focus of infection, which most usually arises in or around the teeth, tonsils, or nasal accessory sinuses, but may later involve the colon, gall bladder, etc. Less frequently the source of infection is in the uro-genital tracts.

This paper is concerned principally with those streptococcal infections associated with cases classified as "rheumatic," or more properly "infective." No attempt has been made to include hearts poisoned—first, by acute diseases such as rheumatic fever, typhoid fever, dysentery, or malaria; secondly, by endogenous means, as, for example, excessive thyroid action or chronic kidney disease; thirdly, by an exogenous poison such as alcohol; or, lastly, by syphilis. Toxins may influence any property of heart muscle, altering its rhythm, excitability, conductivity, contractility, or toxicity. They act chiefly on those tissues which govern rhythm through stimulation of the accelerator nerves, causing sinus tachycardia, and also on the tonicity of the muscle; to a lesser extent they influence the excitability, and to a still smaller the conductivity and contractility. They may directly affect the tissue of the heart by their local action, or organisms in other parts of the body may affect the heart by their toxins. From the fact that they are set free within the body in varying quantities their effect on the heart will also vary in degree from time to time. Apparently in streptococcal infection of low virility extending over many years, the heart does not become profoundly poisoned as in Graves's disease or chronic nephritis, where myocardial degeneration is common.

That the heart has partaken of the general toxæmia may be established by physical examination.

1. *Palpation*.—Estimate first the position of the apex beat. In many cases it is found in the nipple line or outside it. Secondly, note its character. It is often diffused and rather feeble and slapping; if it is the latter, it has to be differentiated from mitral stenosis, where the left ventricle is unfilled, or from myocardial degeneration, where the left ventricle is weak. There is no left ventricular hypertrophy, except when aortic incompetence, increased blood pressure, or chronic Bright's disease exists as a complication.

2. *Percussion*.—By careful percussion the left border of the heart can be found to have moved outwards, measuring more than 31 in. from the mid-sternal line. Increase in transverse diameter may therefore amount to 1½ in. to 2 in., denoting myocardial weakness. The poisoned muscle fibres having lost their tonicity, there is an increase of pressure from a larger flow of blood into the heart during diastole, and an incomplete emptying is the result; in this way dilatation of the left ventricle takes place.

3. *Auscultation*.—Particular attention is to be paid—

(a) To the character of the first sound at the apex. It may be muffled and distant, or it may be short and sharp, or actually it

may be loud. If it is short and sharp, it must be remembered that the muscle may be inflamed, fatigued, or degenerated.

(b) To the absence or presence of a murmur. In the early stages no murmur is audible; later, when dilatation takes place, a mitral systolic murmur can be heard—that is, a murmur of relative incompetence, due to stretching of the circular muscular fibres around the auriculo-ventricular valves. This murmur is soft, diminishing in character, and is not conducted beyond the mid-axillary line. It is louder after inspiration and on lying down, disappearing on full expiration, cessation of respiration, and with exercise.

The toxic heart is a large heart with relative increase in the oblique diameter, and its long axis is horizontal. It is soft and atonic, with the transverse diameter measuring more when lying than standing. On examination by x rays it is seen to move up and down in the manner of a concertina, and its size, determined by percussion, can be verified. It is a heart of low efficiency. On standing up after resting, the normal difference of rate of 7 to 15 beats a minute is markedly increased. On exercise, the heart unduly accelerates, and returns slowly to normal; often several minutes elapse before it has regained its original rate; this should be accomplished in two minutes. During exercise the blood pressure sometimes fails to rise with the pulse rate, or even may actually fall.

### SYMPTOMS.

Certain general symptoms which are associated with any form of toxæmia may be present—for example, loss of weight and of the feeling of well-being. The skin is often yellow, and may present a papular rash. There is often some mental depression and irritability of temper. Vasomotor and nervous instability is prominent, and hence tremulousness, precordial pain, palpitation, breathlessness, giddiness, exhaustion, faintness, cold feet and hands, numbness, local sweating and flushing, dermatographism, or myotonic irritability may appear. Morning anorexia, nausea associated with gastro-intestinal disturbance (for example, offensive stools and flatulence), intestinal stasis and chronic constipation, headache and derangement of the endocrine glands, and sleeplessness are sometimes present. Night symptoms are frequent.

Taking particularly those symptoms most often present the commonest are:

1. *Palpitation*.—Tachycardia often makes its appearance at an early stage of the infection, and its severity bears some relation to the degree of toxæmia. An increase of 10 to 50 beats a minute represents the usual extent of the heart's acceleration. Quite frequently the symptom passes unnoticed by the patient. It is a sinus tachycardia.

2. *Breathlessness* on even slight exertion, such as going upstairs or climbing a moderate incline, is a common complaint.

3. *Exhaustion* is a troublesome symptom which causes patients more discomfort than increased effort.

4. *Precordial Pain*.—Pain is referred to an area situated usually below the left nipple, and is commonest in women. It must be looked upon as a vasomotor neurosis, or secondary angina caused by the circulation of toxins which increase the excitability of the nervous system and sensitivity of the reflex arc, so that mild stimuli are sufficient to produce an exaggerated impression. The pain is more usual when the patient is resting and in the evening. The attack may be precipitated by emotion or other reflex cause. Hyperalgesic areas of skin and referred pain follow the usual paths as in primary angina.

*The Condition of the Arterial System*.—Although admittedly in many cases systolic blood pressure is found considerably raised, yet more frequently sphygmomanometric readings are distinctly lower than normal. In 45 cases observed the following were the results:

Systolic Blood Pressure.					Cases.				
Between 120 and 130					Cases.				
Between 120 and 130	120	130	...	1	Between 130 and 140	130	140	...	9
" 120 " 130	120	130	...	4	" 130 " 140	130	140	...	10
" 130 " 140	130	140	...	4	" 140 " 150	140	150	...	8
" 140 " 150	140	150	...	1	" 150 " 160	150	160	...	6

William Russell has drawn attention to the fact that, irrespective of the pulse wave, arteries contract and relax, due to the fibres of the muscular coat being placed transversely. This variation in size indicates the degree of hypermyotonia and hypomyotonia, and is determined by



shins and backs of the hands was striking, it being shiny, thin, and stretched. Later, on November 10th, an extensive purpuric eruption developed on the legs; the petechiae being so numerous as to be almost confluent. This, however, was not associated with any further trouble, and indeed from this point the convalescence was uninterrupted, and to-day the patient enjoys his normal good health.

Accidents of this kind are probably extremely rare, but it is not difficult to imagine a chain of events similar to those described above occurring where ultra-violet light is used without medical advice and in a similar fashion—drowsiness, sleep, and in consequence an unduly prolonged exposure. The mishap may serve as a warning against the irregular use of a special method of treatment. Nothing, however, that has been said should be taken as discrediting a remedy of great value when properly employed.

Whether the phenomena related above should be considered representative or not we cannot say. There are at least some features which seem peculiar, and to them attention may be drawn. First, that an interval of days elapsed between the original burn and the subsequent dermatitis; secondly, the severity of the toxæmia, considerable enough indeed to place the patient's life in jeopardy and to give occasion for considerable alarm as to the outcome; and, thirdly, the fact that the skin on the back was affected, although this part of the body was not directly exposed to the ultra-violet light.

## Memoranda:

### MEDICAL, SURGICAL, OBSTETRICAL.

#### ASIATIC BILHARZIA DISEASE.

DURING the past twelve months nine cases of this disease have been reported by me on the frontiers of British India and China, where its existence had previously been unsuspected. Other cases have no doubt escaped notice.

As to the African form of bilharzia, there seems very little doubt that, originating in Egypt, the affection travelled south until at the present time the whole continent is involved and the disease has spread to the islands of the New World. The question is whether the more deadly Asiatic variety, starting as it probably did in the Far East, has gradually spread west, and whether the confines of British India are the present westerly limit. If so, how long will they remain so?

As regards Yunnan itself, there are two large freshwater lakes at Yunnan, Fu and Tali Fu, which are possibly breeding grounds for *Oncomelania hupensis*, etc. In its northern watershed arise Burmese rivers—for instance, the Shweli and other branches of the Irrawaddy, the Salween, etc., while on the eastern side the Yangtse-Kiang takes origin. If the sources of these rivers are continually being reinfected there appears to be no limit to the spread of the disease through Burma. It would appear that preventive measures should be directed towards two main channels—namely, to get rid of the disease in human beings by vigorous treatment with tartar emetic, after Christopher's method; and to destroy the intermediate host—the snail. Both have their advocates, but the former appears the weakest link in the chain to attack, and one which offers the most promising results. At the same time much research work on the carrier snail awaits the enthusiast.

London, W.C.1

J. P. CULLEN, M.D., D.P.H.

#### LITERATURE.

Case of Asiatic Schistosomiasis, *Proc. Roy. Soc. Med.*, vol. xvii, No. 6, August, 1924.  
Human Schistosomiasis in India, *Journ. of Trop. Med. and Hygiene*, December 15th, 1924.

#### MYELOGENOUS LEUKAEMIA IN A NEGRO: FAILURE OF TRYPARSAMIDE.

The case here recorded is of interest for the following reasons: (1) The rarity, in a district where the spleen is frequently enlarged from such diseases as malaria, trypanosomiasis, and bilharziasis, to find this sign due to leukaemia. (2) The fact that massive doses of an arsenic-rich compound tryparsamide failed to affect appreciably the

course of the disease. The patient received a total of 12 grams (representing 3 grams or 46 grains of arsenic) by intravenous injection within a fortnight. (3) In spite of this there was no amblyopia, although similar doses employed in the treatment of cases of trypanosomiasis with central nervous infection would have almost certainly produced very serious visual disturbance. As an example may be quoted the case of an adult male who three years ago showed trypanosomes in the cerebro-spinal fluid, but who after treatment with a similar quantity of tryparsamide in the same interval of time became completely blind, but is still in excellent health with a normal cerebro-spinal fluid.

This tolerance is the more remarkable in that retinal changes and haemorrhages are commonly found in the leukaemias, and incidentally supports the view that sleeping sickness patients are predisposed by the toxin of the disease itself to the development of arsenical neuritis of the optic nerve. The following are the clinical and haematological details:

Saidi, a male aged 20, complained of fullness of the abdomen, attended with dyspepsia and some shortness of breath. The condition had developed gradually and there was no history of haemorrhages or other symptoms. He was well nourished, though obviously anaemic and somewhat flabby. No oedema or swellings of lymphoid tissue were detected, but the spleen was enlarged and filled almost the entire left side of the abdomen. Its margin was hard and nodular.

A blood count on July 24th, 1924, was as follows:

Red blood cells*	...	...	2,850,000 per c.mm.
Haemoglobin	...	...	65 per cent.
Colour index	...	...	1.1
White blood cells	...	...	485,000 per c.mm.
Polymorphs	...	...	39 per cent.
Myelocytes	...	...	33 "
Large mononuclears	...	...	19 "
Lymphocytes	...	...	5 "
Eosinophils	...	...	3 "
Mast cells	...	...	1 "

\* There were the usual signs of deterioration together with normoblasts and megaloblasts.

After a week's treatment by rest, the white blood cells, on July 30th, numbered 346,000 per c.mm. Tryparsamide (2 grams of a 40 per cent. solution) was injected intravenously. On August 2nd the white cells numbered 390,000 per c.mm. Tryparsamide (3 grams) injected. On August 6th there were 454,000 white cells per c.mm. Tryparsamide (4 grams) injected. On August 13th the white cells numbered 339,000 per c.mm. Tryparsamide (3 grams) injected. On August 30th the white cells numbered 450,000 per c.mm.

The patient's symptoms were not alleviated, and he refused to remain longer in hospital.

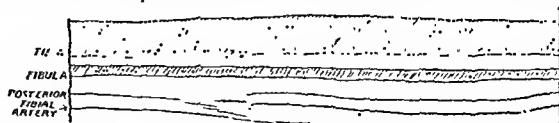
CLEMENT C. CHESTERMAN,  
O.B.E., M.D.

Baptist Missionary Society,  
Yakusu, Haut Congo Belge.

#### RUPTURE OF SCLEROSSED ARTERY.

I DESIRE to put on record the following case. The sketch showing the rupture is from an x-ray photograph.

A man, aged 48, received a heavy blow on the back of the right leg from some falling timber. When I saw him there was extensive bruising of the whole calf. This was treated in the ordinary way and was later massaged. The massago rapidly reduced the discoloration and swelling, with the exception of an area near the middle of the leg and just behind the internal margin of the tibia. A swelling of the size and shape of an egg persisted in this area;



it was much paler than the surrounding parts and was fluctuant. The swelling did not pulsate; it was diagnosed to be a deep haematoma. On the eighth day it was aspirated and bright red blood was removed. Firm pressure was then applied, but the swelling re-formed. Some days later it was again aspirated. A small notch could then be felt in the margin of the tibia. Pressure was again applied, but the swelling once more returned, on this occasion to a lesser degree. The leg was x-rayed on the sixteenth day, with the result shown.

There is an irregularity in the line of the posterior surface of the tibia, corresponding to the notch. The posterior tibial artery is in a fairly advanced condition of arterio-sclerosis; at the level of the notch the artery has been driven against the bone and has broken. The fracture of the artery is shown faintly but distinctly. The swelling ultimately subsided and there was no apparent interference with the circulation in the foot.

Birkenhead.

D. L. CHARTERS, M.B.



APRIL 11, 1925]

# ENDOCRINE THERAPY.

## Reports of Societies.

A SPECIAL discussion took place at the Royal Society of Medicine on March 31st on endocrine therapy. Sir WILLIAM HALE-WHITE presided.

A Rational Basis for the Treatment.

Dr. W. LANGDON BROWN said that endocrine therapy might have as its object the replacement of a deficient internal secretion, in which case they were on a sound ground with thyroid extract and insulin, on less sure ground with parathyroid and pituitary extracts. But it might ground with other glandular preparations. But it might also have as its object the employment of some extract for its pharmacological action, such as adrenaline simply for its vaso-constrictor effect or pituitrin for its stimulating effect on plain muscle. He would also include under endocrine therapy the use of other drugs which, by their influence on the endocrine glands, enabled those glands to carry out more successfully their normal function; he instanced iodine medication in diseases of the thyroid. As to methods of administration, apart from thyroid extract and (less constantly) pituitary extracts, the effect of oral administration was very uncertain. Nasal administration had met with a certain degree of success in the treatment of diabetes insipidus by pituitrin. Of rectal or intravenous injection, adrenalin, pituitrin, and insulin could readily produce powerful effects. Grafting and transplantation methods were still on their trial. It would appear that such grafts were treated, so that they would appear as foreign bodies and become absorbed, so that their effect was only temporary. Dr. Langdon Brown went on to attribute some of the recent disagreement between the physiologist and the clinician on endocrine therapy to non-realization by some laboratory workers of the urgency of the problem which a sick man presented, and to the uncritical enthusiasm and undue suggestibility of some observers at the bedside. Indiscriminate poly-glandular therapy had led certain laboratory workers to challenge the very existence of the endocrine system, yet others had recently obtained results which supported this conception. Agnosticism had even been carried to the point of doubting whether the observed pharmacological actions of adrenalin and pituitrin had any relation to the functions of the structures from which those extracts were prepared. He could hardly believe that the body was so ill designed as the widest application of all the endocrines and was the easiest in practice. Parathyroid extract was of doubtful value of great service in tetany and gastric ulcer. Adrenalin was of little if any use in substitution therapy; it was of great use for its local effect on blood vessels and for its effect on plain muscle. Pituitary extract was of doubtful value, though it might occasionally alleviate Frohlich's syndrome and adiposis dolorosa. Insulin was of value and as a temporary cardiac stimulant. He had a number of proved cases that if insulin was once given it must be continued for the rest of life. He had a number of patients who came under early treatment with it, and who were keeping free from glycosuria, with a normal blood sugar, although insulin had been discontinued for periods varying from three months to over a year. The existence of an ovarian hormone he regarded as proved, and it should not be beyond the wit of man to prepare a reliable extract. It was doubtful whether the present commercial preparations were active, but he had seen great benefit in thymic asthma and in a case of epileptiform seizures accompanied by temporary swelling of the thyroid. In conclusion, Dr. Langdon Brown said that he doubted whether any orchitic extract was effective.

## A Protest against Some Claims of "Clinical Endocrinology."

Professor SWALE VINCENT declared that the present boom in endocrine therapy was an evil of the same general nature as the indiscriminate sale of patent medicines. But whereas in the latter case it was the members of the general public who were so continually duped by the vendor of the drug, in the former the distressing spectacle was to be witnessed of hundreds or thousands of medical men being enjoined into prescribing preparations which were nearly always of doubtful value and were often quite inactive in health or disease. He recited a list of the various extracts now obtainable, also the various combinations of these preparations there was no evidence that any effects whatever were produced when they were given in the ordinary way by the mouth—unless in such quantities as to serve as foods! He thought there was justification for regarding with great suspicion any report that a pharmacologically inactive substance was of therapeutic value. Discussing certain preparations singly, he said that, of course, there was no need to emphasize the value of thyroid preparations in myxoedema and in rheumatism, rickets, degrees of hypothyroidism and in other conditions these preparations might also be useful on the general principle that a drug which stimulated the chemical activity of the whole body might be applicable in a variety of morbid conditions. The results of parathyroid medication were still very uncertain. Commercial preparations of ovary and parathyroid at present on the market were, according to the majority of competent observers, physiologically inactive, and in all probability useless as therapeutic agents. It had never been demonstrated in a satisfactory manner that treatment by pituitary extracts had any effect in remedying the symptoms thought to be due to pituitary insufficiency. Posterior lobe preparations were useful as drugs in the treatment of diabetes insipidus and to aid contractions of the uterus, but these uses had no relation to any known function of the organ, and were not instances of a substitution therapy. Adrenin was a very useful drug, but it would be rash to affirm that its usefulness was directly related to anything known about the functions of the adrenal body or the chromophil tissues. Extracts of ovary and testis produced no noticeable effects in health or disease when taken by the mouth; when given subcutaneously the commercial preparations appeared to be for the most part inactive, and at the best only produced a slight irritant effect. Insulin ranked with thyroid substitution as a means of instituting a very valuable substitution therapy. Thus there were only two clear instances of preparations—the thyroid and the pancreas—with which it was possible to effect such a therapy; and only one of these—the thyroid—was known to produce effects when swallowed. Out of some two dozen preparations of different organs and tissues, sold by manufacturing druggists and prescribed by clinical endocrinologists to be administered in the ordinary way by the mouth, only one was of proved value. Physicians who continued to prescribe preparations for the use of which there was no scientific basis and no sound clinical evidence were guilty of conduct unworthy of modern medicine.

Dr. LEONARD WILLIAMS asked whether Professor Vincent's rather comprehensive condemnation was based on clinical experience, or on grounds purely theoretical; but the chairman would not allow the question to be pursued at that stage of the debate.

Endocrine Preparations in Veterinary Practice.

Mr. LESLIE PRUGH, speaking of veterinary practice, said that pituitary extract was employed largely in obstetric work, and thyroid extract in a variety of conditions. Several disorders of the function of milk production in cattle were known and pituitary extract had been employed. Its general effect was to empty the udder more quickly, though the total milk yield was neither increased nor diminished. Thyroid extract had proved useful in the endocrine upset following cases in which the corpus luteum,

instead of atrophying after a period of activity, persisted, and thus prevented the uterine contractions that occurred at oestrus and that proved so helpful in eliminating retained discharges or infective material. He had attempted to bring about the expulsion of a mummified foetus from the uterus by the use of pituitrin and other glandular preparations, but in every case he had been compelled to dislodge the corpus luteum of pregnancy before obtaining this result.

#### *Effect of Certain Extracts on Obesity and Growth.*

Dr. H. GARDINER-HILL brought forward the results of some work undertaken in the Medical Unit at St. Thomas's Hospital on the treatment of obesity in adolescents and adults by a combination of thyroid and pituitary extracts. The adolescent cases showed, besides obesity, disturbances of growth and bone development, and disordered genital function and carbohydrate metabolism. The adult cases occurred chiefly in women following childbirth or at the menopause, or their obesity, first noticed at puberty, then became exaggerated. The cases were treated by a combination of thyroid and whole-gland pituitary extracts, given by the mouth in increasing doses. Thyroid extract alone, when swallowed, produced good results in some cases, but others showed thyroid intolerance, and this difficulty seemed to be overcome by the combined method. The effect of treatment was to render more normal the carbohydrate tolerance, and in many cases a reduction in weight was effected. Certain cases of defective growth were treated by thyroid and pituitary extracts. Three children who had a definite endocrine factor and were considerably undergrown for their age showed a distinct improvement in the rate of growth; six others, in whom no definite endocrine factor was recognized, but in whom growth was below the average and infantile characteristics persisted, also improved in rate of growth and in other respects under treatment. Many photographs and charts illustrating the progress of the cases were exhibited.

#### *Organotherapy of the Testis.*

Mr. KENNETH WALKER confined himself to discussing the therapy of the testis. The effort to obtain results from the oral administration of testicular extract had failed, and this had led to the use of testicular grafts. He referred to the work of Voronoff, who had now made some fifty or sixty transplants into the human subject from the higher apes, and claimed to have obtained valuable results. The grafts had been undertaken for various conditions—cunuchoidism, senility, neurasthenia, and sexual neurosis—and the chief benefit was said to be in the direction of improvement in the general health, increase of mental and muscular vigour, and stimulation of hair growth. Improvement was less definite in cases grafted for impotence or sexual neurosis. Other workers in this field had preferred to use human transplants, and had derived their material from newly executed criminals, patients dying of accidents, and cases of ectopia testis in which the removal of the misplaced organ was justified. It was from this last source that the speaker had himself obtained his grafts. The technique of transplantation was not difficult. Personally, he thought that Voronoff's use of a serous cavity like that of the tunica vaginalis for implantation was the best. Mr. Walker believed that vascularization and survival of the graft was an actual fact. At the same time, a steady atrophy of the engrafted material no doubt occurred, and the actual life of the transplant was, he thought, considerably shorter than that claimed for it by Voronoff. He would feel happy if he could be sure that complete atrophy did not occur within eighteen months. This, however, did not necessarily mean that at the end of that period all benefit was lost. A graft might stimulate the growth of existing testicular tissue, or the hormone supplied by the graft might tide the patient over a critical period until compensatory changes in other endocrine glands succeeded in restoring the endocrine balance. In conclusion, he said a few words about vasoligation as a means of stimulating the activity of the testis. Those familiar with Steinach's experiments on aged rats must certainly be impressed by the results of vasoligation. In

human beings the results of the operation had been less certain. In many cases there had been no benefit; in some the general health and mental vigour of the patient had improved, and in a few cases the results had been still more striking. The speaker had performed Steinach's operation in some fifteen cases, and, although it was difficult to eliminate the element of suggestion, he believed that in at least half of them an improvement in general health and mental vigour had taken place. He was particularly inclined to recommend the operation in the treatment of that hopeless malady of later life, paralysis agitans.

[At this point the discussion was adjourned for a short time, and on the resumption the chair was taken by Dr. LANGDON BROWN.]

#### *Experimental Effects of Glandular Extracts.*

Mr. J. E. R. McDONAGH described some researches on the effects of glandular extracts on animals; the object was to ascertain the effects on the blood and organs and so arrive at a basis for the chemotherapeutic employment of the drugs in man. Adrenaline caused the protein particles in the plasma to increase in number and then to go into solution, and this dual action of conduction and dehydration caused constriction of capillaries with rise of blood pressure. Insulin caused hydration of the protein particles, and adrenaline proved to be an antidote by dispersing the hydrated particles. When protein particles increased in size they were likely to be precipitated in capillaries; if in the cerebral ones, fits and convulsions ending in coma ensued; if in the lungs the consequence was the pulmonary form of shock. Adrenaline was not powerful enough in these conditions, and should be substituted by injecting glucose intravenously and oxygen subcutaneously. Adrenaline was apt to fail as a styptic because its later action of dehydration retarded coagulation. Thyroxin caused a slower dehydration of protein particles, and therefore was more valuable in the chronic stages of disease, when the protein particles increased in size and became too independent. When the particles gradually increased in size, thyroxin could break them up. Insulin was an excellent antidote against any powerful dehydrator. An acute bacterial infection might cause such profound dehydration as to call for insulin as the drug best suited to bring back to the colloidal state those protein particles which were passing into true solution. Insulin could also be employed with advantage in cases of anaemia associated with a great destruction of red corpuscles. The remaining extract with which he had experimented was ageratin (testicular extract), whose clinical behaviour suggested that it might be a phosphatide, related to cephaline. It protected an animal against infections, interfered with the antigenic action of the organic extract in the Wassermann reaction, and reduced the precipitating effect of a positively reacting serum. When once in the system this extract should prove useful as a protection against the invasion of parasite and chemical reagents.

#### *Other Speakers.*

Dr. H. CRICHTON MILLER pointed out the importance of the endocrine gland secretions from the subjective aspect, for which line of study, of course, animal subjects were not available. There was great need for evidence as to the action of the drugs on the human subject, and in this connexion he mentioned that a drug house of high standing which desired to withhold its name had placed a series of tablets for experimental trial at the disposal of the Tavistock Clinic, all labelled simply by letters of the alphabet, some of them for men and some for women, and the members of the staff and certain other medical colleagues had volunteered to consume them and report upon the results.

Dr. M. B. RAY gave an account of some ancient by-ways in pharmacy, such as the old belief in certain witch-hazels. He believed that the ductless glands exerted a powerful effect on the body metabolism, and he pictured various types of cases which were held to be significant of deficiency in one or other of these respects. He stressed particularly the relation of goitre to rheumatism in young

girls. In localities where goitre was endemic rheumatic fever, cardiac rheumatism, and rheumatoid arthritis had an abnormally high incidence.

#### Openers' Replies.

Dr. LANGDON BROWN thought that the discussion had proved that there was now less difference than was the case a few years ago between the clinical point of view and that of the laboratory. Some laboratory work was being done which confirmed what had already been indicated by clinical observers from their own bedside experience. He was anxious to ascertain whether Professor Swale Vincent, who had criticized the theory on the present occasion, still took the agnostic view with regard to pituitary gland secretion. He considered Mr. Leslie Pugh's contribution to the discussion of great interest. The effect of the stimulating action of the pituitary body on the mechanism of milk production in the cow confirmed observations which had been made on the human subject with regard to the sympathetic nervous system and the ductless glands.

Professor SWALE VINCENT, in reply to this question from the chair, said that to his mind the fact that one extracted an active juice from pituitary gland meant nothing more than that such a juice could be extracted. There was a similar lack of exact knowledge concerning the adrenals. With regard to the observations of MacKenzie Wallis on the blood sugar curves, he confessed that he was not favourably impressed by them, and the same was true of the data given by Professor Dixon which had also been quoted. [Dr. Langdon Brown had remarked that MacKenzie Wallis had shown that the blood sugar curve in the glycosuria of pregnancy was the same as that of pituitary glycosuria, and that Dixon had shown that the injection of ovarian extract caused the immediate secretion of pituitrin into the cerebro-spinal fluid.] Often the physiological material used was too delicate, and the doses, such as one in 500 million, were too small for conclusions to be based upon them. He contended that an attitude of greater scepticism was called for in the professing physician with regard to these matters. One was always in a position of entire ignorance as to what would have happened to a case if a certain treatment had not been adopted, and until the normal curve and incidence of a disorder was known it was dangerous to assume that a given remedy had been efficient, and it was particularly dangerous to give a mixture and attribute the result to one component of it. There were many pitfalls in therapeutics generally, and endocrinology supplied more of these than any other department.

#### EXPERIMENTAL ANASTOMOSIS OF NERVES.

A MEETING of the Section of Surgery of the Royal Society of Medicine was held on April 1st, with the President, Mr. H. J. PATERSON, in the chair.

Sir CHARLES BALLANCE, with Mr. LIONEL COLLEDGE and Dr. LIONEL BAILEY, presented a paper on the results of experimental anastomosis of nerves. Sir Charles Ballance first referred to the difficulty often met with in nerve injuries from war wounds when so considerable a length of nerve had been destroyed that end-to-end suture became impossible. In such cases he performed double lateral implantation of the injured nerve into a healthy nerve in the vicinity. Cases were quoted in which a very fair functional result had been attained by this procedure. In one case the middle trunk of the cervical plexus was thus implanted into the upper. Six years later the arm was wasted, but, in spite of the fact that no treatment had been given since operation, a faradic response was obtained in all the muscles of the arm and forearm except the extensores proprii pollicis and communes digitorum. In another case a gap of five and a half inches in the median nerve was bridged by double lateral implantation into the ulnar. The median intrinsics were wonderfully restored and the man was able to work. The technique of double lateral implantation was described. Three methods had been employed: (1) implantation of the cut proximal and distal ends of the nerve into small transverse incisions in the

healthy nerve, each anastomosis being held in place by a suture; (2) implantation by pressing the two cut ends into longitudinal incisions into the healthy nerve, the junctions being secured by a "varnish" of muscle fibres wrapped around; (3) was the same as (2) with the addition of one stitch at each junction for added security. The speaker next passed on to the experimental work done on paralysis of the vocal cord and the results obtained by the suture of the distal end of the recurrent laryngeal nerve to other nerves in the vicinity. This experimental work, as well as that on suture of the paralysed facial to other nerves, has already been described at length in papers by Sir Charles Ballance<sup>1</sup> and Mr. Lionel Colledge<sup>2</sup> in the *BRITISH MEDICAL JOURNAL*. The experimental work in monkeys showed that the best results in the case of the facial nerve were obtained by anastomosis with the glossopharyngeal, possibly owing to the very close relationship of the motor nuclei of the two nerves as well as their association through Jacobson's nerve and the ansa of Haller. In the case of the vocal cord slight success to the extent of restoring the tone of the paralysed cord was obtained by recurrent laryngeal-descendens noni anastomosis, but very striking results were obtained by anastomosis of the recurrent laryngeal to the phrenic nerve. In the latter case the movement of the previously paralysed cord during quiet respiration became actually increased as compared with the opposite side.

At the conclusion of the paper, which was profusely illustrated by lantern slides and diagrams, cinematograph films illustrating the results obtained in monkeys in facial and vocal cord palsy by various anastomoses were shown by Dr. BAILEY and Mr. COLLEDGE. In both series the results were very striking, and the cinematographic pictures of the larynx showing the cords in rhythmical movement during respiration formed a specially beautiful demonstration.

The paper was commented on briefly by the PRESIDENT, and by Mr. W. G. SPENCER and Mr. H. S. SOUTAR.

#### PAROXYSMAL RHINORRHOEA.

A MEETING of the Section of Laryngology of the Royal Society of Medicine, in which members of other Sections were also invited to take part, was held on April 3rd, with Dr. A. LOGAN TURNER in the chair, in order to discuss the subject of paroxysmal rhinorrhoea.

Dr. J. FREEMAN, director of the department of clinical bacteriology at St. Mary's Hospital, who opened the discussion, said that hay fever was only one symptom of a condition. The inherent character of hay fever was the reaction of the mucous membrane of a man who was sensitive to pollen when he met that pollen. Similarly, dust from the coat of a horse upset the "horse asthmatic," dust from a cat's fur the "cat asthmatic," and so on. But these substances could also reach the sensitive person through the blood as well as by the atmosphere. Hay fever was not a nasal disease; eye, throat, skin, and constitutional symptoms were also present. In the artificially prepared disease an urticarial rash was produced by bringing pollen into contact with a scratch, abdominal symptoms of the pollen were swallowed with food, pruritus and if it were injected up the rectum, angio-neurotic oedema, asthma, and urticaria if injected into a vein. If the serum of a hay fever patient were put into a normal person and his skin scratched and pollen applied, a dermal reaction would be produced. The symptoms of protein idiopathy might include paroxysmal rhinitis ("nasal asthma"), hay fever, horse asthma (cat asthma, etc.), asthma, urticaria, eczema, ichthyosis, angio-neurotic oedema, food sickness (vomiting and diarrhoea), epilepsy, migraine, paroxysmal arthritis, paroxysmal colitis or nephritis, and insect fevers. The causal chain comprised the hereditary factor, protein irritants, nervous factors (which were often strongly prominent), and trauma; angio-neurotic oedema appeared at a previously damaged part of the body. Some psychical affair often started an attack, such as witnessing a motor accident or a dog fight. He held that protein idiopathy was not an abnormal nervous condition. In regard to diagnosis and treatment, of recent

<sup>1</sup> *BRITISH MEDICAL JOURNAL*, August 30th, 1924, p. 349.

<sup>2</sup> *Ibid.*, March 21st, 1925, p. 547.

years he had come to the conclusion that to treat the condition by dodging the irritant and immunizing was impossible. In testing the skin reaction the thing that mattered most was easily missed, and the skin reaction did not correspond to the intensity of the symptoms. The actual substance was much better for testing than any of the extracts employed for that purpose; the accommodation of a consulting room, however, was not unlimited, yet, as regards fungi, which were common irritants, there were sixty-three varieties of dry rot alone. The immunologist, the neurologist, and the laryngologist must treat the condition from their own points of view.

Mr. A. BROWN KELLY, speaking as a rhinologist, said that the old term, "vasomotor rhinitis," was, in spite of criticisms that had been made, a correct term, as in a note in the *BRITISH MEDICAL JOURNAL* of the previous week<sup>1</sup> it had been pointed out that the suffix "itis" meant disease, and not inflammation. A nasal crisis was characterized by its not being due to infection, although it resembled a severe cold. It was marked by suddenness of onset and cessation. On probing, there was often sensitiveness of the nasal mucosa, particularly on the septum and at the anterior ends of the inferior turbinates, and the mucosa did not readily subside under cocaine. When treating nasal polypi it had to be kept in mind that the radical cure of polypi was impossible so long as vasomotor rhinitis was present. Heredity was an important causal element; a neurotic stock was particularly prone to the condition. A period of mental or physical tension often preceded an attack of vasomotor rhinitis. Toxaemia might lead to vasomotor disturbances; intestinal toxaemia was most frequent, but septic foci in the nasal sinuses and tonsils were also common.

Dr. JAMES ADAM said that paroxysmal rhinitis connoted two things—catarrh and spasm. In general they were due to toxaemia, caused by dietetic and hygienic errors. On examining 800 cases that had come within his experience, 42 per cent. began in the first decade of life, and of these over 21 per cent. gave a history of eczema. The cause of asthma was a toxaemia from carbohydrate excess; 75 per cent. of cases were cured by attention to diet and exercise, with a weekly mercurial purge. Anaphylaxis was not the most important element in asthma.

Dr. MARGARET C. TOD said that Dr. Logan Turner and Dr. J. S. FRASER had allowed her to go over all the cases of asthma treated in the ear and throat department of the Edinburgh Royal Infirmary from 1907 to 1924. There were 507 cases of asthma, and 315 operations had been performed for their relief. She had sent a simple form to each of these patients to inquire as to the results of operative treatment, and 173 had sent replies, representing 226 operations, some patients having had more than one operation; of these, 19 were cured, 76 improved, and 78 were no better. The prognosis was best in young adults. A striking result was the success of removal of tonsils and adenoids, and the comparative failure of cauterization; in most of the cases Francis's area had been the area cauterized. The conclusions were that the cure of asthma could not be promised by operation, but where the airway was blocked or septic foci were present the symptoms would be relieved.

Dr. MILLAIS CULPIN said that from the psychologist's point of view paroxysmal rhinorrhoea was only part of one big picture. As regards the nervous element in it, it was only by making a careful and skilled examination that a neurologist could say whether a person was nervous or not. The symptoms were often associated with phobias.

Sir JAMES DUNDAS-GRANT said he had found that the upper posterior part of the nasal septum was the most sensitive. Polypi sometimes produced asthmatic attacks, which were relieved by their removal.

Mr. FRANK COKE said that the persons who suffered from this condition were ordinary people, not neurasthenics. Cauterization of the septum sometimes relieved, as did the removal of tonsils and adenoids. Possibly anaphylaxis was due to some colloidal change in the blood.

Mr. T. B. LAYTON and Mr. ARDINGTON GIBB gave interesting accounts of personal experiences. Mr. C. A. PARKER

noted the polishing of mahogany in furniture making as among the causes.

Dr. A. WYLIE said that the majority of cases were due to an auto-intoxication, and the general health should be treated. The most valuable drug was calomel, and gr. 1/10 every day would reduce the blood pressure. Mr. P. WATSON-WILLIAMS said that in the treatment of paroxysmal rhinorrhoea he used, locally, a 10 per cent. solution of cocaine combined with atropine gr. 1/100. Dr. J. S. FRASER remarked that this subject eminently lent itself to team work; a clear idea on it could not be arrived at by any one man.

## CYSTOSCOPY.

At a meeting of the Brighton and Sussex Medical-Chirurgical Society held on April 2nd, Dr. E. F. MAYNARD, the President, in the chair, Mr. F. E. FEILDEN read a paper on cystoscopy.

Mr. Feilden said that the best cystoscope on the market was one of German or American manufacture. It was advisable to become accustomed to an instrument of known magnification, and to endeavour to distend the bladder with a uniform quantity of fluid. Cystoscopy was one of the most important methods of exploration in urological surgery. In cases of vesical calculus cystoscopy gave a direct diagnosis and indicated the correct method to adopt for the removal of the calculus. As to whether an anaesthetic was required or not depended upon the circumstances of the case; usually no anaesthetic was required. Tubercle bacilli, or *B. coli* might be found in the urine without any lesion of the kidney being present. Residual urine, a trabeculated bladder, and no evidence of urethral obstruction, usually indicated some lesion of the cord. The experiments of Dyko and Maybury seemed to indicate clearly the caution necessary in pyelography and irrigation of the kidney pelvis; cystitis due to the gonococcus was not common. In estimating the functional activity of the kidneys the most reliable test was the urea concentration one, but estimation of the blood cholesterol content appeared to be also of value. Too often cases of frequency of micturition were treated on expectant lines; early cystoscopy might prevent irreparable damage to the bladder wall. Meatoscopy was useful in the diagnosis of certain cases, but this was not so in the majority. New growth, stone, and tubercle were more common on the right side; this might be due to the fact that there were more structures crossing the right ureter than the left. A radiogram of a patient with a ureteric loop in situ was a valuable means of differentiating between a calculus in the ureter and a calcareous gland adjacent to the ureter. Not infrequently the failure of a nephropexy was due to the kidney not being fixed at a sufficiently high level. A double ureter should suggest other abnormalities in the urinary tract. In catheterizing healthy ureters when the bladder was known to be infected there was little likelihood of conveying the infection to the ureters. Nephrectomy in cases of haematuria of unknown origin was only justifiable when the bleeding was unilateral, or when, by its frequency or amount, it endangered the patient's life or seriously interfered with his occupation. Lastly, Mr. Feilden said that in selected cases diathermy through the cystoscope was a most successful procedure, obviating the prolonged convalescence that was often associated with an open operation.

### Malignant Growths of the Bladder.

Mr. FITZMAURICE-KELLY showed a case of epithelioma of the bladder. The patient, a woman aged 54, had no symptoms till September 26th, 1923, when a sudden large haemorrhage from the bladder occurred. This was followed by retention due to clots, necessitating catheterization. Cystoscopy on September 27th showed a papillomatous growth on the anterior wall of the bladder. At the operation on September 29th a hard flat ulcer was found just above the papilloma, and the whole thickness of the bladder wall bearing the growths with an area about 3/4 inch around was resected, and the bladder closed with drainage. Two applications of radium, 140 mg. in twelve hours,

<sup>1</sup> BRITISH MEDICAL JOURNAL, March 22nd, p. 621.

were made on October 6th and 7th through the suprapubic opening. Now, eighteen months after the operation, the patient remained well and free from symptoms.

Dr. H. M. GALT showed in this connexion some microscopical slides of malignant papilloma of the bladder, malignant papilloma of the bladder across the pedicle, simple epithelial papilloma of the bladder, and ova of bilharzia haematobia in the bladder wall.

Dr. C. G. WHOMLOW showed some radiograms taken with the Potter-Bucky diaphragm.

Dr. GEORGE MORGAN described a case of varicose veins of the prostate with severe attacks of haematuria every three months lasting two to three days, which cleared up when capsules containing turpentine (2 minims) were taken every four hours. He also quoted a case which was diagnosed by x rays as a small stone in the ureter, but which, on cystoscopy, was shown to be an old calcareous gland.

Dr. H. M. GALT thought that all villous growths of the bladder were clinically malignant and that the malignancy was purely a matter of degree; it was a waste of time to remove a small piece of growth for pathological report.

Mr. FITZMAURICE-KELLY said that cystoscopy should be performed under a local anaesthetic in males; in females an anaesthetic was not required. In cases of severe cystitis he thought that spinal anaesthesia should be employed also. In advanced tuberculous kidney, when it was important to estimate the function of the other kidney, spinal anaesthesia was very valuable when using the indigo carmine test for renal efficiency. In renal lavage it was quite safe to use a pressure of 15 inches—that is, below secretory pressure. Where there was difficulty in diagnosis between stone and tumour, a ureteric catheter could be used as a probe. Bleeding from one kidney might be caused by malignant disease; it was very important to diagnose the condition and operate at once. For this pyelography should be employed.

### TREATMENT OF VESICAL PAPILLOMA.

At the meeting of the Liverpool Medical Institution on March 5th the members of the Manchester Medical Society were guests and contributed the programme.

Mr. J. B. MACALPINE read a paper on the treatment of vesical papilloma by cystoscopic methods, combined with diathermy, illustrating it by lantern slides. He outlined his own technique, laying emphasis on the desirability of general anaesthesia in order to increase the length of the treatments, so diminishing the number of them required. In America and on the Continent, where local anaesthetics were in use, the number of treatments often exceeded twelve, whilst in his own practice it was very rare for more than four sittings to be required. Further, the burning of the base of the growth was painful, and therefore might be shirked when local anaesthesia was employed. The pre-urethral approach was, he thought, universally accepted as the method of choice in all cases where the growth was small, or where little recurrences were spotted early. With extended experience, it was possible to employ it for papillomata of greater size. Even when a large growth filled a considerable portion of the bladder and rendered the examination and treatment difficult, it was usually possible for the experienced cystoscopist to select a spot where the current could be applied with perfect safety; and even though the visibility became poor as the result of cloudiness of the medium much progress could be made, with the result that in three weeks' time, when the bladder was inspected again, the growth would have shrunk and treatment could be continued under direct vision. Such treatment had proved eminently satisfactory in his experience. The results were excellent if the cases were systematically followed up for a period of two or more years. To this end the patients had to be communicated with before their treatments became due, and when many patients were simultaneously under treatment this involved a properly organized "follow-up." Such a system was illustrated in

the lecture. Re-examination cystoscopies should be made at first over a period of three months and later at six-monthly intervals. This, together with the obtaining of the cases at the first onset of haematuria, was the secret of good results. Recurrences when quite early were easily and successfully treated. It was an interesting fact that return growths rarely took place on the site of the primary growth later than three months from the last treatment.

### MELANOMATA.

At a pathological meeting on March 19th at the Liverpool Medical Institution, Mr. H. C. W. NUTTALL read a short paper on melanomata. After discussing the normal distribution of melanin pigment and its relation to the pathological process, a brief description of the clinical characters and course followed. The danger arising from irritation of moles was emphasized, and the extreme rapidity of their recurrence after incomplete excision was pointed out. The histological appearances and the difficulty of deciding whether the growths were benign or malignant was next touched upon, and an analysis of thirty-five cases illustrated many of the points discussed. Mr. Nuttall reviewed the question of the origin of melanomata from either epidermal or mesoblastic cells, and showed that recent work was strongly in favour of an epidermal origin. A brief survey of the phylogeny and functions of the melanin pigment cell inclined to the view that, in white races at any rate, it was probably a vestigial structure, and therefore more liable to atypical growth.

Dr. ROBY JONES and Professor ERNEST GLYNN also read a short paper on abnormal blood groups among forty medical students, mainly discovered by cross-agglutination tests, but also by absorption tests. In the former case the serums and corpuscles of each student were tested against those of the remainder, 1,600 tests being performed by the macroscopic method, each in five dilutions. The cross-agglutination test showed 7 per cent. Group I, 30 per cent. Group II, 17 per cent. Group III, 46 per cent. Group IV. Abnormal agglutinations occurred in moderately high titre with four serums, three being Group IV, and four sets of corpuscles, three being Group IV. The blood from one Group IV student behaved abnormally both in its serums and corpuscles. Another abnormal Group IV serum was discovered by the absorption test. The relatively large percentage of Group IV students whose corpuscles agglutinated slightly was striking, and of considerable importance in blood transfusion.

### PLYMOUTH MEDICAL SOCIETY.

At a clinical meeting of the Plymouth Medical Society held on March 17th, the President, Mr. C. L. LANDER, showed a case of splenomegalic polycythaemia of many years' duration. He read a note on the relation of herpes to chicken-pox. Several members had noticed instances of the two diseases occurring together, and their further relation to poliomyelitis was considered. Mr. VELLACOTT showed a tumour of the lower part of the thigh in a man aged 27, who gave a history of six years' duration. A cystic tumour had been removed elsewhere two years before. It was generally held that the present condition was sarcomatous, and such it appeared to be to the naked eye on examination of a fragment, removed next day for microscopic report. Mr. KENNEDY showed a young man with an ulcer of the tongue, suffering also from tuberculous epidiidymitis and chronic phthisis; it was an example of the solitary tuberculous ulcer of the tongue. Mr. RIDDEL described a case of puerperal septicaemia, which recovered after many rigors with temperature 107°. The uterine condition quickly settled down after a large tube had been placed in the uterus to allow of frequent encol irrigations, but septic thrombosed piles seemed to provide the source of infection which led to the rigors with hyperpyrexia. Blood cultures were negative. Other cases were shown or discussed by Messrs. ROLSTON, ERIC WILSON, and HAMILTON WHITEFORD.



## Revelus.

### ANTIMALARIAL REMEDIES.

THE volume entitled *Chininum: Scriptioes Collectae Anno MCMXXIII editae*,<sup>1</sup> which is issued by the Dutch bureau for increasing the use of quinine, consists of translations into English of twenty-five articles on the medicinal use of quinine published in 1923. The articles contain a large amount of information concerning the production and use of quinine, and those dealing with the world supply and consumption of quinine are particularly interesting.

Figures are given of the cinchona bark production of 110 plantations which together supply about 90 per cent. of the Dutch bark. These plantations produced in 1923 bark containing 534,624 kilos of quinine sulphate; only 470,000 kilos were used in that year, and, in addition, the bark stored in Java and Amsterdam at the end of the year represented a further quantity of 239,680 kilos of quinine sulphate. These figures taken together seem to show clearly that the plantations are producing more quinine than the world can buy, and yet their present production does not represent their maximum output, for the harvest of bark has been restricted in many plantations since 1921. These facts reveal a deplorable state of affairs, since they show that the commercial demand for quinine is comparatively low, is indeed below the present output, while yet the world's real need for quinine is enormously in excess of the supply. The reason for this is, of course, that the vast malaria-stricken populations of Eastern countries which urgently need quinine live in such dire poverty that they cannot afford to buy the drug.

The true demand for quinine is indicated by figures quoted elsewhere in the volume. It was estimated that in 1920 the deaths from malaria in British India numbered 1,300,000, and that in 1923 there were 10,000,000 cases of malaria in Russia. Tables of the malaria mortality in Italy for the last half-century show the extraordinary benefit that can be produced in a malarial population by the efficient distribution of quinine. At the end of last century the deaths from malaria in Italy numbered about 150,000 a year; they have fallen steadily ever since the passing, at the commencement of this century, of laws providing for the State distribution of quinine, and deaths from malaria now total only about 3,000 a year.

The volume therefore provides very clear proof that the present production of quinine is in excess of the commercial demand, but that millions are suffering from malaria owing to lack of quinine. There appear to be only two possible remedies—either the provision of quinine in some cheaper form, or else extensive State assistance in the distribution of quinine. The latter solution is simple, and naturally commends itself to the producers of quinine. The former is much more difficult, and the only likely way of reducing the cost of antimalarial remedies seems to be the supply of some satisfactory preparation of the mixed alkaloids in a partially purified state. This policy, as is pointed out by Dr. Hofman in an article on the cinchona febrifuge, has already been tried by the Java planters. The policy was abandoned, however, because the supply of pure quinine to the relatively rich European populations is a much more attractive commercial proposition than is the endeavour to meet the needs of impoverished Oriental peoples with a cheaper mixture of the alkaloids.

How to supply the native populations for which this country is responsible with antimalarial remedies at a minimal cost is, however, one of the most obvious and urgent of imperial problems. The expenses of a thorough examination of this problem on a large scale would be trivial compared to the enormous interests involved. We are glad to note that this is one of the problems which the Malaria Commission of the League of Nations Health Organization proposes to investigate.

<sup>1</sup> *Chininum: Scriptioes Collectae Anno MCMXXIII editae*. Amsterdam: Bureau tot Bevordering van het Kinine-gebruik. 48, De Wittenkade. 1924. (Roy. 8vo, pp. 134; illustrated. Presented by the Bureau.)

### EXAMINATION OF THE BLOOD.

THE book by Professor LOVELL GULLAND and Dr. ALEXANDER GOODALL entitled *The Blood: a Guide to its Examination and to the Diagnosis and Treatment of its Diseases* has reached a third edition.<sup>2</sup> First published in 1912, this book, with its straightforward account of the diseases and diseased conditions of the blood and blood-forming organs, became a favourite with both students and practitioners because of its clear description, its lavish illustrations, and its eminently practical character.

Since 1912 not a few new doctrines about the origin of blood diseases have been proclaimed: towards these the authors have for the most part adopted a cautious attitude, and have resisted the temptation to be carried away by dialectics which have no immediate practical bearing. The latest edition remains a treatise on the histological, pathological, and clinical aspects of blood diseases. The authors do not go into details of chemical or serological tests, but give references to special works on these subjects. In addition to the twenty-nine figures in the text, the book is now illustrated with sixteen beautiful coloured plates.

### OPHTHALMOLOGICAL TEXTBOOKS.

THE issue of a fifth edition of MAY and WORTH'S *Manual of Diseases of the Eye*<sup>3</sup> is some measure of its usefulness. The first English edition was published in 1906, and besides the five editions there have been eight reprints; of the last edition alone there were four.

The book deserves the recognition it has obtained. It deals with diseases of the eye in so clear and straightforward a way that the student cannot fail to be informed and have his clinical interest stimulated by the study of its pages. Further, it is well balanced and inclusive in its statement of conditions and the means whereby these may be treated, and therefore it will remain a convenient book of reference after student days. Not the least valuable feature of the book is the profusion of illustrations; wherever a figure can usefully supplement the letterpress an illustration is provided. In this new edition the book has been carefully revised, and some new matter added. Happily this has been done without increasing the size of the book. The most noteworthy change is in the chapter on vaccines in ophthalmology, written by Dr. S. H. Browning. In that chapter of ten pages there is as succinct and faithful an account of clinical pathology and vaccine therapy in relation to the eyes as could be desired. The chapters on the ocular manifestations of general disease and on general ocular therapeutics are very good. The publishers inform us that the eleventh American edition was published simultaneously with the fifth English, that translations have appeared in Spanish, French, Italian, Dutch, German, Japanese, and Chinese, and that altogether 150,000 copies have been issued.

It is only about a couple of years ago that we noticed the last edition of the translations into English of FUCHS'S *Text-book of Ophthalmology*, and it speaks well for its vitality and popularity that in so short a time a new edition<sup>4</sup> should be published. The book is so well known that no lengthy notice of it is needed; anyone who seriously thinks of taking up the study of ophthalmology buys Fuchs's textbook as a matter of course. The changes in the new edition are not numerous, but the whole text has been revised and brought up to date by the inclusion of the latest work on the subject. Some of the illustrations have been redrawn and a few new ones have been added. Among

<sup>2</sup> *The Blood: a Guide to its Examination and to the Diagnosis and Treatment of its Diseases*. By G. Lovell Gulland, O.M.G., M.A., B.Sc., M.D., F.R.C.P.E., and Alexander Goodall, M.D., F.R.C.P.E. Third edition. Edinburgh: W. Green and Son, Ltd. 1925. (Roy. 8vo, pp. xvi + 429; 29 figures, 16 plates. 25s. net.)

<sup>3</sup> *A Manual of Diseases of the Eye*. By Charles H. May, M.D., New York, and Claud Worth, F.R.C.S.Eng. Fifth edition. London: Baillière, Tindall and Cox. 1924. (Demy 8vo, pp. viii + 460; 337 figures, 22 plates. 15s. net.)

<sup>4</sup> *Text-book of Ophthalmology*. By Hofrat Ernst Fuchs. Authorized translation from the twelfth German edition; completely revised and reset, with numerous additions specially supplied by the author and otherwise much enlarged by Alexander Duane, M.D. Eighth edition, revised. London: J. B. Lippincott Company. 1925. (Med. 8vo, pp. xv + 937; 455 figures. 42s. net.)

the improvements we note that additions have been made in the sections which deal with renal retinitis and diplopia, the neurology of the eye movements, and the untoward effects that may follow the use of serums and vaccines. The index also has undergone revision. The work is certainly one of the most authoritative on the subject with which it deals, and will, we are sure, continue to deserve the popularity it has for so many years enjoyed.

### INSANITY AND LAW.

DRS. H. DOUGLAS SINGER and WILLIAM O. KROHN have conjointly written a book entitled *Insanity and Law: A Treatise on Forensic Psychiatry*,<sup>5</sup> which is intended to provide the physician with a better knowledge of legal practice and ideals, and the lawyer with fuller information about mental disease. The authors feel that there is no fundamental conflict between medicine and law, and that difficulties disappear and co-operation becomes possible when each understands the other, for the views are really complementary. It is with the hope of contributing to this understanding that this book has been written. The first part furnishes a description of the various types of reaction and the different forms of mental disease; the second deals with insanity in its legal aspects, the subject being considered much more fully than in the ordinary textbook. Among the questions discussed are the legal definition of insanity; guardianship; insanity in relation to contracts, marriage, tort, criminal responsibility, and testamentary capacity; the physician in court; and the possible reforms in legal procedure.

The American laws in relation to insanity differ considerably from those in this country, and the book will thus be found most useful by American psychiatrists and lawyers. The lack of uniformity of legal procedure in the various American States makes the whole matter very complicated, and the authors point out that in no other subject have the laws enacted by the different States been so divergent and conflicting. On the whole we gain the impression that the procedures for commitment in cases of insanity are more elaborate and irksome than in England, and the possibilities of voluntary treatment do not appear to have been sufficiently realized or explored. Thus the authors express the view that while, theoretically, voluntary admission to institutions for the insane is an important step in advance, as a practical procedure it does not work well, except in comparatively few instances. Experience of the voluntary boarder system in this country has, of course, led to an entirely contrary view. The book is a balanced and judicial contribution to legal psychiatry, and it is obvious that the authors are thoroughly conversant with their subject in all its aspects.

### FOUR BOOKS ON BACTERIOLOGY.

BACTERIOLOGISTS, as a class, are prolific authors, and we have here to direct the attention of readers to four new books on the science of bacteriology. Literary fertility is to some extent a natural consequence of the bacteriologist's particular calling. As a rule, early in his career he engages in research work which becomes published in scientific journals, thereby initiating him, while still youthful, into the dignities of authorship. But we do not wish to imply that writing becomes a habit and ends in the appearance of books, for other reasons are to be found for this plenitude. It must be remembered that bacteriology is a new science, continually cultivating its territory and enlarging its dominions. Fresh statements of opinion are necessary, therefore, at comparatively short periods: former views must be revised, inaccuracies corrected, and knowledge recently gained must be incorporated in new books, or in later editions of successful textbooks, which began perhaps as slender brochures but grow eventually to imposing volumes. Because, also, of the relative instability of this science it happens frequently that those whose duty it is to teach bacteriology find themselves in disagreement with the

grammar of contemporary textbooks or feel that it might be presented in a more convincing or a more convenient fashion; the books do not contain quite the doctrines they themselves would teach and the facts they would wish their students to learn. Hints of this uneasiness are ill concealed in the humblest of prefaces, and in others the author boldly admits this to be the justification for the appearance of his book.

Influences such as these are responsible for the prominence which bacteriology gains in publishers' catalogues. We believe that the science benefits from the generous collection of books from which students may choose, and that such books as the four we have lately received form a useful addition to the bacteriological library.

The book which Professor T. J. MACKIE and Dr. J. E. MCCARTNEY have written is entitled *An Introduction to Practical Bacteriology*,<sup>6</sup> and is intended as a guide to bacteriological laboratory work. It is useful to have a book which deals only with the technique of laboratory work. Textbooks which set out to provide a complete exposition of such a science as this rarely give sufficiently detailed advice as to how various tests should be performed. In the descriptive textbook the thread of the narrative must not be interrupted too frequently by paragraphs of small print, and therefore the practical instructions become condensed in a preliminary chapter or relegated to an appendix. We welcome a practical handbook; it serves a very useful purpose because it gives to students precise directions about the use of the microscope, the staining and cultivation of microbes, and the identification of the living agents of infectious disease. The book which Professor Mackie and Dr. McCartney have written, though designed for the use of medical students, will certainly be useful also to more experienced laboratory workers because of its references to recent improvements in technique. The authors have handled difficult subjects very skilfully; questions not easily understood by the student, such as the magnification and numerical aperture of objectives, and the standardization of media by the hydrogen-ion concentration, are carefully explained. The book is of convenient size, well arranged, adequately indexed, and provided with a number of blank pages for notes at the end. It is likely to be a popular book with students.

Professor J. W. BIGGER's book is entitled a *Handbook of Bacteriology for Students and Practitioners of Medicine*.<sup>7</sup> It appears from the preface that Dr. Bigger's students have often complained that existing textbooks are too much encumbered with unessential matter, and the student does not find it easy to distinguish between the more important and the less. We believe that murmurs of discontent have been heard elsewhere than in Dublin. A medical student is happiest with a book which will tell him clearly all he needs to know in order to satisfy his examiner. He hates superfluity, and also despises "cram" books, to which, however, necessity may compel him to resort. Dr. Bigger has succeeded in writing a book of about four hundred pages which gives all a medical student is likely to be asked about bacteriology. We have looked through it carefully and do not find that anything of importance has been omitted. It is illustrated with five coloured plates and sixty-six figures. Medical students, in Ireland at any rate, will have to think of some new excuse if in the future they fail to pass the bacteriology examination.

*Principles of Bacteriology*<sup>8</sup> is the title of Dr. ARTHUR EISENBERG's textbook. It is a useful book for nurses or for those studying bacteriology who have not had a medical training. A special feature which must serve to recommend it to this class of reader is that all difficult technical

<sup>5</sup> *Insanity and Law: A Treatise on Forensic Psychiatry*. By H. Douglas Singer, M.D., M.R.C.P. Lond., and William O. Krohn, A.M., M.D., Ph.D. Philadelphia: P. Blakiston's Son and Co. 1924. (Demy 8vo, pp. xii + 437. 6 dollars.)

<sup>6</sup> *An Introduction to Practical Bacteriology, as Applied to Medicine and Public Health*. By T. J. Mackie, M.D. Glas., D.P.H. Oxford, and J. E. McCartney, M.D., D.Sc. Edin. Edinburgh: E. and S. Livingstone. 1925. (Cr. 8vo, pp. 297; illustrated. 8s. 6d. net.)

<sup>7</sup> *Handbook of Bacteriology for Students and Practitioners of Medicine*. By Joseph W. Bigger, M.D. Dublin, F.R.C.P.I., D.P.H. London: Baillière, Tindall and Cox. (Demy 8vo, pp. xv + 413; 66 figures, 5 plates. 12s. 6d. net.)

<sup>8</sup> *Principles of Bacteriology*. By Arthur A. Eisenberg, A.B., M.D. Third edition. London: Henry Kimpton. 1924. (Post 8vo, pp. 216; 40 figures. 10s. 6d. net.)

words are explained by giving a translation of the Greek or Latin from which the word is derived. In a short, semi-popular book of this sort the main difficulty is not what to put in, but what to leave out, and, on the whole, the author has been wise in his selection. The book would have been more accurately named "Principles of Medical Bacteriology," for it concerns itself entirely with pathogenic germs. It is true that it contains paragraphs on the bacteriology of air, water, soil, and milk, but very little space is given to these subjects, and the only germs to which the author refers are such as cause disease in man.

*Pathogenic Microorganisms: A Practical Manual for Students, Physicians, and Health Officers* is a popular American textbook of bacteriology written by Drs. WILLIAM PARK, ANNA WILLIAMS, and CHARLES KRUMWIEDE. It has grown with the times. The first edition was called *Bacteriology in Medicine and Surgery*, and the present title appeared first with the third edition. In the succeeding editions which have been called for new matter has been added and the old rewritten, so that the eighth edition now presented bears little resemblance to the original volume. It differs from its immediate predecessor chiefly in that alterations in nomenclature have been made in order to conform with the classification adopted by the Society of American Bacteriologists. It contains also a valuable section on experience gained in New York with active immunization against diphtheria, and it includes the new views which have recently been put forward on the etiology of scarlet fever, measles, typhus fever, and tularemia. This is a much more comprehensive book than either of the other three reviewed above. It contains over 800 pages and is illustrated with 211 engravings and 9 full-page plates. Its substantial proportions appear to be a product of American team work, for in addition to the three authors whose names appear on the title-page, those of three other doctors are mentioned in the preface, who, because of their specialized knowledge, have been asked to revise or rewrite particular chapters of the book.

### JACOBINE DIVAGATIONS.

To the far-flung many who were medical students at Edinburgh University within the past forty years the *Divagations of a Doctor*,<sup>10</sup> from the pen of Dr. ALEXANDER JAMES, will be very welcome. For all who know him are loyal "Jacobites": to them, while in "Auld Reekie," he was James I and Last; there was no room for any other James. "These divagations" (he says himself) "of a septuagenarian Æsculapian are dedicated to his brother Æsculapians present and future, obviously without their permission, but with his assurance that at any rate a perusal can do them no harm." This mildly negative claim upon the attention of his fellow club members is characteristically modest; for no one can read his book without being the better of it. Gifted as he is with the power—none too common—of writing both good English and good sense, and hating (as he honestly and openly does) all millennium-mongers, his papers on "The doctor in evolution," "Tubercular disease and germ," "The school teacher in evolution," "Juvenile crime," "Socialism in evolution," "State-made millenniumitis," and "Individual and communal evolution," are well worthy of being read and digested by all medical practitioners throughout the length and breadth of Great Britain; while "The Æsculapian oration on its 150th anniversary" is provocative of healthy chuckling. But whether it be prose or verse, he never "jokes w' deefenulty," and when one reads even in cold print his "Golfing song" or "Stop percussin', Jock," the kindest memories crop up of his inimitable singing of them, and the characteristic play of features and hands that drove the points home.

<sup>10</sup> *Pathogenic Microorganisms: A Practical Manual for Students, Physicians, and Health Officers*. By William Hallock Park, M.D., Anna Williams, M.D., and Charles Krumwiede, M.D. Eighth edition. Philadelphia and New York: Lee and Febiger; London: Baillière, Tindall and Cox. 1924. (Med. 8vo, pp. x + 811; 211 figures, 9 plates. 5s. net.)

<sup>11</sup> *Divagations of a Doctor*. Being a Commixture in Prose and Verse, Medical and Lay, Grave and Convivial, Social and Personal, Polite and Vulgar. By Alexander James, M.D. Edinburgh and London: Oliver and Boyd. 1924. (Fool 8vo, pp. 192. 4s. net.)

### NOTES ON BOOKS.

Dr. G. DELAMARE, who is professor at the Constantinople Faculty of Medicine, has devoted an interesting and richly documented monograph to the study of respiratory spirochaetosis.<sup>11</sup> The condition is defined by him as the series of nasal, laryngeal, tracheo-bronchial, alveolar, and pleural manifestations of a catarrhal, haemorrhagic, suppurative, febrile, or gangrenous type caused by the presence in the respiratory tract, and more rarely in the pleura, of a large number of spirochaetes which have been identified with *S. buccalis* (Cohn, 1875), *T. dentium* (Koch, 1877), *S. vincenti* (Blanchard, 1906), or *S. bronchialis* (Castellani, 1907). After an historical sketch, in which the author rightly attributes the first satisfactory description of the disease to Castellani, an account is given of its geographical distribution; it is shown that bronchial spirochaetosis, far from being exclusively a tropical disease, may be found in all latitudes in a sporadic form. The following sections deal with the etiology, parasitology, experimental pathology, epidemiology, morbid anatomy, symptomatology, diagnosis, prognosis, and treatment. It is noteworthy that arsenical preparations, which have such a rapid and striking effect in infections with Vincent's organisms, are often disappointing in bronchial spirochaetosis. A copious bibliography of recent literature is appended.

IN THE BRITISH MEDICAL JOURNAL of January 24th, 1925 (pp. 179-185), a very full report was given of the joint meeting of the Sections of Medicine and Electro-Therapeutics of the Royal Society of Medicine, held on January 16th, when a preliminary report on the electronic reactions of Abrams, with special reference to the galvanometer technique of Boyd, was presented by Sir Thomas Horder on behalf of a small investigating committee of which he acted as chairman. The other members were Dr. C. B. Heald, medical adviser to the Director of Civil Aviation; Lieut.-Colonel H. P. T. Lefroy, head of Wireless Research at the Air Ministry; Mr. W. Whately Smith, employed as a physicist at the same Ministry; and Mr. M. D. Hart, employed as a physicist at the War Office. The committee at a later stage had the co-operation of Mr. E. J. Dingwall, research officer to the Society of Psychological Research, and was assisted by Mr. H. St. G. Anson, recommended by the authorities of Faraday House for his ability to undertake original work in experimental physics. The full text of the committee's preliminary report has now been published in pamphlet form.<sup>12</sup> The report is arranged under the following headings: Foreword; introductory; historical and descriptive, the claims of Abrams; critical review of previous investigations and comments; the genesis of the present inquiry; the *prima facie* evidence; the nature of the problem; the first phase of the inquiry; the second phase, critical tests; conclusions; afterword. There are two appendices, one being a report by Mr. Whately Smith on galvanometer tests conducted with Dr. W. E. Boyd at Glasgow in June, 1924, and the other an account of a second series of experiments in Glasgow at the end of August.

A report of the lecture Professor René Cruchet of Bordeaux gave under the auspices of the University of London at the end of February was published in our issue of March 7th (p. 474), and we are indebted to Professor CRUCHET for a copy of a book entitled *Les États Parkinsoniens*<sup>13</sup> by himself and Professor VERGER, with the assistance of Dr. Anglado and Professor Hesnard. The general character of the valuable work done in the Bordeaux School of Medicine will have been gathered from Professor Cruchet's lecture. The volume consists of the text of eleven lectures delivered during the summer session last year; they were founded upon researches which were commenced in 1919.

*Medical Electricity for Nurses*,<sup>14</sup> by Dr. HAROLD WIGG, radiographer to the Royal Buckinghamshire Hospital, is a useful little handbook. Since, to-day, many small hospitals have well equipped electrical departments it is necessary that nurses should acquire a working knowledge of medical electricity. This education cannot be gained without some knowledge of the principles of electricity. Dr. Wigg supplies such information in simple and popular language. He describes also the different forms of apparatus used in electrical diagnosis and treatment. The book is well illustrated.

<sup>12</sup> *Electronic Reactions of Abrams*, with special reference to the galvanometer technique of Boyd. London: John Bale, S. post 8vo, pp. 55. 2s. 6d. net.)

<sup>13</sup> *Les États Parkinsoniens et le Syndrome Bradykinétique*. Par Henri Cruchet et René Cruchet. Paris: J. B. Baillière et Fils. 1925. (Demy 8vo, pp. 204; 24 figures.)

<sup>14</sup> *Medical Electricity for Nurses*. By Harold Wigg. London: Scientific Press, Ltd. 1925. (Cr. 8vo, pp. viii + 80. 3s. 6d. net.)

## PREPARATIONS AND APPLIANCES.

*Ethidol.*

The molecule of ricinoleic acid, the acid radicle of the principal constituent of castor oil having the ethylenic double bond, combines directly with iodine. The compound thus produced (iodo-ricinoleic acid) presents active iodine in true organic combination. In the form of a calcium salt it has been used with success in the treatment of goitre, rheumatoid arthritis, and some skin affections. The ethyl ester of the same compound is now being manufactured by Messrs. Burroughs Wellcome and Co. as an alternative to the calcium salt, and is sold under the name of ethidol. It is a liquid of oily character, but hardly to be called viscous; by virtue of its chemical constitution it is more easy of absorption than any corresponding compound derived from other fatty acids. It is suitable for intraglandular injection, and may also be used as an injection. It is not injured by heating to the temperature of boiling water for sterilization.

*An Electric Bed-warming Apparatus.*

The Medical Supply Association (167-185, Gray's Inn Road, London, W.C.1) has manufactured an electric apparatus for applying warmth to patients in bed. The apparatus consists of two shallow boxes in which are fitted electric lamps, which are covered on one surface with a wire guard, which prevents the patient coming in actual contact with the lamps. These boxes are placed right and left of the patient, and extend the whole length of the bed. They are held together at the bottom by a light bar.

## BRITISH EMPIRE EXHIBITION, 1925.

## MEDICAL SECTION.

With the commencement, in the first week in May, of the second year of the British Empire Exhibition at Wembley, there will be thrown open to the general public one of the most comprehensive and detailed displays of the steps in the evolution of modern medicine and hygiene that has yet been devised in any country. The Ministry of Health, which is responsible for the organization of this section, has received active support from a large number of public health authorities, museums, and commercial firms. It has set out to trace the story of medicine through past ages, to illustrate the present, and to anticipate the future, so that the various exhibits may appear as episodes in a drama rather than as curiosities on a museum shelf. Besides a large number of models of various kinds, and an extensive collection of objects of historical interest, there will be even more striking illuminated diagrams than those which characterized the Tropical Health Section in last year's Exhibition; summaries of the exhibits will be provided on the walls, so that visitors will have their attention drawn to the most important subjects illustrated. A small guide book to be published in connexion with this section will serve as a memento, and also have an educational value. That part of the British Government Pavilion which was devoted last year to the Navy, Army, and Air Force has been taken over this year by the Ministry of Health for its section, and the three halls will depict medicine in the past, the present, and the future.

*Medicine in the Past.*

On entering the Exhibition some primitive ideas of preventive medicine will be suggested by a life-size tableau of an African "medicine-man," from which the transition is natural to a collection of charms, votive offerings, and amulets, ranging from the prehistoric to rheumatism rings of the present day. It is perhaps significant that this part of the Exhibition is entitled "past-present," with the possible implication that there still remain vestiges of the ancient superstitions in some popular conceptions of disease to-day. The total contents of this section will be indicated by an illuminated kaleidoscopic apparatus, continuously calling attention in the space of a minute or so to the outstanding exhibits. Another life-size tableau will illustrate the days of the mediaeval alchemists, one of their "kitchens" being shown completely equipped with the actual crucibles and other apparatus in which the lotions and elixirs were compounded, and researches made in the transmutation of metals. This tableau will be balanced, so to speak, by another showing a modern

bacteriologist at work in his laboratory, and a public health chemist engaged in water analysis. The historical aspects of certain diseases, such as leprosy and malaria, will also receive consideration. In connexion with the latter disease there will be a complete exhibition of models of all the biting insects of England, in addition to the mosquito. Maps will show the extent of malaria in this country in the past and the present, and the stages of the evolution of quinine treatment will be demonstrated. In the case of leprosy the story of the preparation of the ethyl esters from chaulmoogra oil will be told. In one bay dealing with plague will be shown the various procedures adopted to prevent such diseases invading England; mooring cables with rat-guards attached, and the various other appliances used by port sanitary officers, will be represented. Special attention is paid to louse-borne diseases, such as typhus and relapsing fever; the improved disinfectors used in the war in various countries will be contrasted with the most modern achievements of bacteriology. A collection of old toilet requisites, dug up in the London area, and largely concerned with the care of the hair, will illustrate another side of the prevention of disease.

*Modern Medicine.*

In the hall devoted to modern medicine the first collection is concerned with infectious diseases, and an interesting group of allegorical paintings of such diseases as typhoid and plague has been brought together. The intention is to illustrate the importance of the control of these diseases by isolation, and secondly, the possibility of producing immunity in a certain number of cases. A model of the general lay-out of a modern fever hospital has been constructed, and the problems associated with small-pox and vaccination are also dealt with. Particular interest will doubtless be taken in what may be termed the "Lister exhibit," illustrating the conquest of sepsis. An illuminated model of the original ward in which Lister worked has been prepared, special attention being paid to perspective so as to introduce the atmosphere of reality, which is so often lacking in models of this kind. A collection of the instruments of this period with their wooden handles will indicate some of the advances that have been made in surgery in consequence of Lister's work. Several copies have been obtained of old paintings of operations in ancient days, and the surgery of those times will be further thrown into relief by the contrast provided by a full-size model of a modern operating theatre with all the most recent improvements. A novel and striking representation is being prepared to indicate the increasing possibility of utilizing products derived from the household refuse collected in town cleansing. Filtration and purification processes of water will be demonstrated, and a model will furnish striking illustration of the fly peril. In the centre of this hall there will be several working models illustrating modern methods of water purification and sewage disposal, including a complete lay-out of sewage disposal works. The water supply of Liverpool and other towns will be depicted by photographs, and some of the supply pipes of old London will also be shown.

*Medicine To-day and To-morrow.*

In the third part of the Exhibition the Ministry of Health will attempt to indicate the lines along which further progress in health is likely to run, as well as to illustrate the more recent improvements in the prevention and treatment of disease. Considerable attention will be devoted to maternity and child welfare; the model of a maternity ward has been prepared, and a considerable collection made of clothing worn by children at different historical periods. A comparison of the shoes of ancient times with those of the present will suggest that the modern rivalry between square and pointed toes is of very ancient origin; the evil effects of imperfectly fitting footwear will also be shown. Different varieties of children's feeding-bottles, including Roman and mediaeval types, will be displayed. The value of sunlight in respect of human growth and health will be illustrated by comparison with plant life. Dental problems will be represented by models of teeth, healthy and diseased; the need

of dental care in childhood will be graphically shown, and a series of tooth forceps used through the ages, including ancient Egyptian times, is presumably meant to convey a cautionary message. Progress in orthopaedics will be shown by various models, illustrations, and apparatus. The modern tendency to provide more open air for children in their educational hours finds expression; a model of an open-air classroom will be shown, and the way to secure more accommodation for open-air games will be indicated. Another section will be concerned with the training of mentally defective children in various grades, showing the great advance that has been made in this matter and the encouraging results that are being obtained. A further exhibit will illustrate propaganda work against venereal diseases, and the prevention and treatment of tuberculosis will receive, as is right, very considerable attention. The various possibilities of sunlight treatment will be demonstrated, and a model will be shown of a sunlight treatment centre, together with the provision of artificial sunlight by means of ultra-violet ray lamps. Other illustrative models in this connexion will include the general layout of a sanatorium, revolving shelters, and sanatorium wards.

The smoke prevention exhibits of the last exhibition will be extended to teach the deleterious effect of coal smoke, not only in disintegrating stonework, but also in cutting off rays of light from human beings. Improvements in town planning will be shown by models of good and bad plans; also diagrammatic representations of slum areas that have been abolished, and of good and bad principles in house construction generally. It may here be mentioned that the Minister of Health is chairman of a committee which is arranging a great housing display occupying over 60,000 square feet in the Palace of Engineering. Besides illustrating various types of working-class houses, week-end cottages, and bungalows, this will include sections of walls and component parts to demonstrate improvements in construction designed to make these houses far healthier than those of the past. In a section dealing with trade diseases, attention will be paid to diseases notifiable under the Factories Act; one exhibit illustrates how infection was spread by "shuttle-kissing" under old conditions, and how these shuttles have now been replaced by others in which there is no possibility of the thread being sucked through by the workers. Gas poisoning in factories and mines will be dealt with, and the apparatus used in prevention and rescue work will be shown. The food models will probably cause general interest: an attempt will be made to indicate what people should eat at various ages, and model diets for different meals will be realistically displayed. Other models and exhibits will be devoted to vitamins, the production of pure milk, clean meat, and the present thorny problems of food preservation.

### CEREAL FOODS AS A FACTOR IN RICKETS.

THE Medical Research Council has just issued a report by Professor Edward Mellanby on the effect of cereals and their interaction with other factors of diet and environment in producing rickets,<sup>1</sup> in which he describes experiments made with the object of developing this aspect of the problem of rickets. As he observes in his introduction, probably in no physiological activity so far studied do action and reaction of dietetic elements stand out more prominently than in the growth and hardening of bone.

This research proves that the various common cereals—oatmeal, wholemeal flour, white flour, rice, barley, etc.—have different effects on the growing animal, and that such differences cannot as yet be explained on the basis of their known constituents. Evidence is brought forward showing that some cereals and cereal products have a strongly adverse influence on bone calcification, and that this varies, not only with the amount and type of the particular cereal eaten, but with the general make-up of the diet. The "cereal action" can be completely antagonized by the

antirachitic vitamin, especially by cod-liver oil, and to some extent also by exposing either the animal or the cereal food to ultra-violet radiations.

Many of the experimental results detailed in the present report have already been described by the author when making communications to various scientific bodies; for example, in the Oliver-Sharpey Lectures before the Royal College of Physicians in 1922, and in his paper read to a joint meeting of the Sections of Physiology and Diseases of Children at the Glasgow meeting of the British Medical Association in the same year, when opening a discussion on the etiology of rickets.<sup>2</sup> Since then he has endeavoured to follow the sequence of events, and more especially to find the substance or substances in cereals which under some conditions interfere with the calcification of bone and the proper functioning of other tissues. The task, he says, has proved more difficult than he supposed, for its solution does not appear to depend, as seemed at first likely, upon some well recognized dietetic factor or factors. Although the research is still incomplete, he reports progress at the present stage for three reasons. One is the practical importance in dietetics of the facts so far observed; the second is because they put into better perspective the significance of the phosphorus and calcium elements of the diet in the etiology of rickets; the third is the emphasis they give to the great importance of balance in dietary constituents. On this last point he writes of the "constant battle going on among dietetic elements as regards the calcification of bone, some substances stimulating and others preventing the process; and the ultimate structure of the bone is the outcome of the conflict."

Most of the experiments here recorded were carried out at the Field Laboratory, Sheffield University, in which the conditions were more uniform than those at Cambridge, where much of the earlier work was done. Professor Mellanby first gives an account of experiments demonstrating the relative rickets-producing effect of different cereals, and then describes some of the attempts made to discover the cause of these differences. Later, he marshals the evidence showing that this cereal effect can be modified in varying degree, not only by other constituents of the diet, but also by ultra-violet radiations.

With a diet deficient in antirachitic vitamin, increasing the amount of cereal brings about worse-formed bones if other factors of diet and environment remain constant. Of the different cereals examined, oatmeal, contrary to what might be supposed, has by far the worst influence on bone formation. Next come maize and barley, rice, and wheaten flour, the last having the least harmful effect. The germ of wheaten flour, if enough is added, also interferes with bone calcification.

Of the foodstuffs containing the antirachitic vitamin which antagonizes "cereal action," cod-liver oil is by far the most effective, and quite small quantities suffice. Whole milk in fairly large amount, and egg yolk, are also potent antagonists; but butter, unless accompanied by a fairly high calcium intake, is of comparatively small value. Both calcium carbonate and calcium phosphate work well in conjunction with the vitamin of butter fat. The antirachitic effect of separated milk is more potent than can be accounted for by its calcium content alone. Even when the diet is greatly deficient in antirachitic vitamin the development of rickets is hindered to some extent by increasing the calcium content, preferably by addition of the carbonate.

As regards the means whereby cereals bring about this rickets-producing effect, Professor Mellanby suggests that two different kinds of action may be at work:

"In the first place that part of the cereal which is actually incorporated in the growing organism and leads to its growth is probably partially responsible. In this way the carbohydrate and the protein would be involved. In the second place there is present in the one cereal tested—namely, oatmeal—a chemical grouping which, after digestion and absorption of the grain, is capable of interfering with bone calcification. After many attempts had been made to explain this action in terms of known constituents of cereals and to find out the nature of the causative agent or agents, some evidence has finally been obtained which suggests that a substance in oatmeal which interferes with the laying down

<sup>1</sup> Experimental Rickets. Special Report Series, No. 33. London: H.M. Stationery Office, 1925. (2s. 6d. net.)



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## NOVA ET VETERA: WILLIAM LEVETT.

of calcium in bones is associated with the fatty acids. This substance can be obtained by saponification of oatmeal with soda and extracting the acidified mixture with petrol ether. Further work is necessary to establish the nature and properties of this cereal constituent and also to determine its mode of action."

A little further on in the summary of results he writes:

"Since the antirachitic vitamin supplies in the food and exposure of the animal or of the food eaten to ultra-violet radiations tend to conserve ingested calcium and phosphorus for the use of the growing organism, and since the cereals work in the opposite direction, it is evident that the amount of calcium and phosphorus in the food is of but secondary importance in the control of the deposition of these elements in growing bone, although, of course, there must be a sufficiency of these salts for the formation of perfect bones. In view of the evidence of interaction and balance among food constituents provided by this investigation, the value of the expression 'optimum calcium content of a diet,' so commonly used in dietetic descriptions and discussions nowadays, must be doubted. The optimum varies every time the other elements of the diet are changed."

In conclusion, Professor Mellanby touches briefly on two practical points of dietetics which arise out of the experimental findings set out in this report. One is the question, Why, if oatmeal is so detrimental to bone formation, fine races of men have been reared on diets of which this cereal forms a large part? The other is, What is the bearing of these experiments upon the wholemeal versus white bread controversy? In answer to the first question, the author suggests that the diet of the oatmeal-eating people has also included much of foods rich in antirachitic vitamin (milk, eggs, and fat fish); while in tropical countries, where cereals such as rice and maize form a large part of the diet, the sunlight is no doubt an important factor in antagonizing the work here recorded shows that perfect bone formation can be obtained even when large quantities of oatmeal are eaten, provided the rest of the diet is adequate. In regard to the controversy about wholemeal bread and the nutritive properties of the wheat embryo, Professor Mellanby thinks this question is of but little practical importance from the point of view of rickets. To those who ascribe special virtues to various grains because of their calcium and phosphorus content, his experimental results, he suggests, ought to bring a special message of caution.

## Nova et Vetera.

## WILLIAM LEVETT.

On January 17th, 1782, Dr. Johnson wrote, "Our old friend, Mr. Levett, who was last night eminently cheerful, died this morning," adding, "so has ended the long life of a very blameless and a very useful man." Thus did Johnson epitomize the character of his apothecary comrade, William Levett, whom he had befriended for close on forty years, and who for a long period of time had been one of the inmates of the lexicographer's home, "where Mr. Levett occupied his post in the garret," says Boswell. The occasional references to Levett in Boswell's *Life of Samuel Johnson*, and an article in the *Gentleman's Magazine* for February, 1785, give indications from which interest may be gleaned, and an endeavour made to reconstruct his story and character.

Levett was originally a waiter in a Parisian coffee house, which was a resort of the medical fraternity. These patrons, noting his aptitude, made a subscription and themselves gave him tuition, arranged for his admission to lectures, and so started him on his professional career. Later we find him in practice in London, apparently in the neighbourhood of Fleet Street. It is obvious that his clientele was of the humblest: Boswell calls him, with perhaps a touch of scorn, "an obscure practitioner of physic amongst the lower people," but also states that his practice was so widespread that he used to walk from Houndsditch to Marylebone. His fees were small, and where money was lacking he was sometimes content to be paid in provisions, and sometimes, it is to be feared, in less reputable ways. Johnson says that Levett was probably the only man who ever became intoxicated through motives

of prudence: the interpretation of which cryptic saying is that, as there might be no other reward, would take what he, being apprehensive of no other reward, would take what was offered at the moment in the guise of gin or brandy. Perhaps it was this unusual form of prudence which limited his clientele, perhaps also his manner and appearance, for we are told that he was "of a strange grotesque appearance, stiff and formal in his manner," and that he possessed a "visage swarthy, adust, and corrugated." But whatever others may have thought of Levett, Johnson had a high opinion of him; indeed, he told Boswell that unless he had Levett with him also he would not be satisfied with the presence of the whole College of Physicians. Levett's attendance on the sage appears to have been generally fortified by the advice in earlier days of Dr. Lawrence, and later of Dr. Heberden.

Besides being handicapped by an ungainly mien and a corrugated visage and the nature of his fees, poor Levett contracted an unfortunate marriage. Johnson says in one of his letters, "Levett is lately married not without much suspicion that he has been wretchedly treated in his match," and again, "Mr. Levett has married a street walker." There was certainly ground for suspicion. The lady cozened her suitor with the story that she was a member of a wealthy family, and on the other hand was led to entertain the view that he was a prosperous physician. There was rapid disillusionment, and Mrs. Levett was soon afterwards arrested for pocket picking. It was said rather unkindly that Levett was with difficulty dissuaded from attending the trial in the hope that she would be sentenced to death. She was, however, acquitted, and the ill matched pair then parted.

It appears to have been at this juncture that Johnson, with his warm-hearted practical sympathy, made his friend a member of his household; as Goldsmith put it, that he was poor and honest was sufficient recommendation to Johnson. Here he lived for the remainder of his life, though seemingly not in complete amity with the other inmates—"Levett hates Desmoulins and does not love Williams." He was not a dependant, for Johnson says that Levett was never indebted to him save for his share in a penny loaf at breakfast and an occasional Sunday dinner. At this breakfast table Levett would preside over the tea kettle, and a visitor says that Johnson would tear out the crumb of bread for himself and throw over the crust to his housemate. After breakfast the obscure practitioner would leave the house and was generally not seen again until midnight; doubtless if his daily round involved a tramp from Houndsditch to Marylebone his hours would need to be long, and he it said to his credit that some of his time was spent in attendance on Hunter's lectures.

Such is a brief summary of Levett's career until his sudden death and his burial in St. Bride's. He makes an enigmatic figure as he flits across the interesting stage of that period: a lean, swarthy, ungainly man, the friend and companion of one of England's greatest men, privileged to see and to converse with others whose names are writ large, but spending his working days in a weary round of ill requited toil beside the sick beds of the poor. It was the curiously assorted career of a curiously assorted man. Johnson, with his accustomed charity, enshrined the virtue and excused the weakness, and so Levett was to him a very good and a very blameless man. And he filled in the picture with generous lines in verses which he later wrote, of which these may be quoted:

In Misery's darkest cavern known,  
His ready help was ever nigh,  
Where hopeless Anguish pour'd his groans,  
And lonely Want retir'd to die.

No summons marked by chill delay,  
No petty gains disdain'd by pride;  
The modest wants of every day  
The toil of every day supply'd.

His virtues walked their narrow round  
Nor made a pause, or left a void;  
And sure the Eternal Master found  
His simple talent well employ'd.

So we say good-bye to Levett, "of every friendless name the friend," and fortunate himself in being befriended by the large-hearted Johnson and so remembered to-day.

J. P.

# British Medical Journal.

SATURDAY, APRIL 11TH, 1925.

## OSTEOPATHY AND CHIROPRACTIC.

In an article on osteopathy and chiropractic which we published on May 31st, 1924 (p. 963), the doctrines and methods of the two cults were fully examined, and it was pointed out that they exhibited no essential differences, the cults being, in fact, branches of one and the same stock. A notable difference, however, was indicated as regards their power of development. While each started on an equal level of ignorance, chiropractic remained stationary, whereas osteopathy exhibited a tendency to become assimilated to orthodox medicine by the introduction of such subjects as bacteriology and surgery into its curriculum. This being so, it was inevitable that the interests of the two cults should ultimately come into collision, the chiropractors enjoying an undue advantage over their osteopathic competitors because their system requires no medical knowledge or technical skill. Matters appear now to have reached an acute stage in this respect, and osteopathy as a back entrance to medical practice is ceasing to be attractive in comparison with the cheaper introduction afforded by chiropractic.

In these circumstances it is not surprising that osteopaths are seeking to strengthen their position, and they have, accordingly, called in aid the services of members of Parliament. A circular, signed by twenty-one members, was recently issued to M.P.s inviting them to attend a meeting of the British Osteopathic Association to hear an address by Dr. W. Kelman Macdonald of Edinburgh on the present position of osteopathy. The meeting was held on March 31st, about thirty members of Parliament attending, and a report of the proceedings will be found at page 716. Dr. K. Macdonald, after giving an account of the principles and methods of osteopathy, urged, first, that the Legislature should grant the British Osteopathic Association the privilege of conferring diplomas in osteopathy; and, secondly, that the General Medical Council should be debarred from forbidding anaesthetists to work with registered osteopaths.<sup>1</sup> The resolution of the General Medical Council will be generally regarded as a wise one, but were Parliament to see fit to authorize the conferring of diplomas in osteopathy the rule might then, apparently, be held not to apply to those holding that diploma. The question of interest, therefore, is reduced to that of the desirability or otherwise of granting diplomas in osteopathy.

A canvass of the medical profession on this matter would probably disclose an almost unanimous opposition to the granting of such a diploma, but some members of Parliament, in common with other laymen, may find a difficulty in arriving at an independent opinion, owing to the tendency for the issues involved to be obscured by technicalities. Divested of technicalities, however, the problem should not be difficult of comprehension. If existing recognized

<sup>1</sup> *Forming Notice of the General Medical Council:* "5. Association with unqualified persons.—Any registered medical practitioner who, either by administering anaesthetics or otherwise, assists an unqualified or unregistered person to attend, treat, or perform an operation upon any other person, in respect of matters requiring professional discretion or skill, will be liable on proof of the facts to have his name erased from the Medical Register."

diplomas are examined it will be found that the differ from one another, not in respect of medical tenets or doctrines, but as regards the extent of the responsibility to be assumed. The diploma in dentistry places

practitioner in all diseases relating to the teeth, excluding him from taking responsibility in more general diseases, such as typhoid fever, which, if they came under his notice, he would properly hand over to the physician. A registrable diploma in medicine, on the other hand, has the widest possible scope, and permits the assumption of responsibility in disease of every kind, although it is customary for the practitioner to call in the assistance of the dentist in cases that fall within his proper sphere. In practice, however, the distinction is not as clean-cut as it might at first appear. Patients suffering from disorders which fall strictly within the province of the medical practitioner may, in the first place, apply for treatment to the dentist, and it therefore behoves the latter to have some knowledge of medicine generally, in order that he may avoid the danger of failing to recognize the disease and that he may transfer the patient to the proper quarter. The ideal arrangement is that adopted in this country, as also in France, Germany, and the Scandinavian countries—namely, that all medical practitioners must be qualified to practise medicine, surgery, and midwifery. The Medical Act of 1886 laid down in effect that no one might have his name entered on the *Medical Register* unless he had passed a qualifying examination in all three branches. Turning now to the osteopaths, we find that they undertake responsibility for treatment in disease of every kind, although, like regular medical practitioners, they hand over certain cases to the surgeon. It is obvious, therefore, that the type of diploma appropriate to them is the medical diploma and nothing less. The existing diploma is available, and they should take it before receiving a licence to practise. According to a manifesto recently issued by the British Osteopathic Association the demand is for a more restricted diploma, corresponding to that in dentistry. The above considerations will show that such a demand is inadmissible; osteopaths deal with all manner of diseases, and therefore the wider medical diploma should be insisted on.

Assuming that the osteopath is willing to take a medical diploma, it remains to consider whether it is desirable to create a special diploma in osteopathy for him, to be taken in addition to the former. One reason put forward by Dr. K. Macdonald for demanding a special diploma is that if osteopaths become absorbed into the medical profession their discovery (if discovery it be) will be smothered. They desire to have another fifty years outside the profession in order to demonstrate their art. As we have pointed out above, diplomas have nothing to do with medical discoveries, but merely with the delimitation of medical responsibility. But apart from this, a mere glance into current medical literature will convince anyone that Dr. K. Macdonald's apprehensions are entirely unfounded. At the present day every claim to discovery that is properly advanced is criticized and canvassed all the world over; and such a striking "discovery" as that of the osteopaths—that almost all diseases under the sun have their one and only cause in slight irregularities of the backbone, and may in most cases be readily cured by a simple manipulation of the back—is not likely to be overlooked. Another reason given for the demand is that osteopaths have many impostors among them, and a recognized diploma would serve to distinguish the sheep from the goats.

Dr. K. Macdonald reports that impostors of this type are establishing schools in the Midlands at the present time, and expresses a praiseworthy desire that the public should be protected against them; but there is no need to create a special diploma for this purpose; the ordinary diplomas are available. On the whole, therefore, it appears that the osteopaths wish to join us and yet remain distinct. What is the object of this attitude? We can only surmise that they would find the proposed diploma useful as a species of trade-mark or advertisement. But that is not at all in accordance with the sentiments and traditions of the medical profession, and we bar it as inadmissible.

It may remove some misapprehension if an explanation is given of the manifest indifference with which osteopathy is received in this country on the part of medical men. It may, perhaps, be inferred that we consider there is nothing in it. Such is by no means the case. We are aware that osteopaths profess to make use of approved hygienic measures in their treatment, and that they attach importance, with a view to treatment, to deformities of the spine, such as lateral curvature, with which the regular practitioner is quite familiar. When, however, osteopaths refer innumerable diseases to small derangements in the form of the backbone—irregularities which we are unable to detect at *post-mortem* examination, with the body open before us—we regard their theories as far-fetched and fanciful, and, when applied to grave diseases such as typhoid fever and diphtheria, as decidedly dangerous. When we are asked to believe that a cold in the head, a crop of pimples on the face, an attack of vomiting and diarrhoea after a gorge, an attack of gout or measles—that these and a host of other diseases too numerous to mention are, one and all, due to small spinal irregularities which may be readily corrected by manipulation of the back, we experience a difficulty; it leaves us, so to speak, cold. It may be objected that no such difficulty has been felt in America, where osteopathy has had an enthusiastic reception. It should be remembered, however, that America is the land of freedom—freedom for faddists, among others. Just as, in the words of Dr. K. Macdonald, “the backbone is the happy hunting ground of the osteopath,” so America may be said to be the happy hunting ground of the crank. His activities have free play there, and, if need be, he will found a college to promulgate his notions. Few Englishmen realize the ease with which a State charter for an educational institution can be obtained in the United States, and the editor of *Truth* hardly exaggerated in saying that it seemed easier to establish a university in the United States than to open a “pub” in England. It was and is. Only ten of the forty-eight States in the Union make any provision for the slightest control over the charters of educational institutions. In thirty-eight States, therefore, any coterie of men, by paying an insignificantly small fee, can obtain permission to open an institution with the avowed purpose of granting any degree in any subject. When these States grant charters they ask no questions as to whether the institution is properly equipped or has teachers qualified to furnish the education usually demanded before degrees are granted. Furthermore, even after such institutions have been exposed as worthless or fraudulent there is no legal provision for revoking their charters. We are not to be understood as implying that osteopathic schools are necessarily fraudulent; our object is to point out that because in America a given State grants a charter to an osteopathic college, it does not follow

that such a college has any standing from an educational point of view. The conditions are not the same in the two countries, and we think that our osteopathic visitors will have to fall in with our ways.

## PULMONARY FIBROSIS.

UNDER the name “pulmonary fibrosis” are grouped together all chronic diseases of the lung which are characterized by an overgrowth of connective tissue. The fibroblastic cells, starting from situations where normally connective tissue is most abundant—that is to say, round air passages and blood vessels and interlobular septa—grow in all directions, compressing the air vesicles, causing the lung to lose its elasticity, and finally converting it into a tough, almost rigid organ. Such progressive degenerations betray themselves in many chronic diseases—in phthisis, for instance, or syphilis—but there are two causes of fibrous tissue overgrowth in the lungs of patients whose other organs are healthy: these are the toxic action of bacterial poisons and the inhalation of irritating dust. To these Sir Thomas Oliver may perhaps add a third if the experiments, described in his paper published this week (p. 685), on the intravenous injection of aluminium metal, bauxite, in a finely powdered state, should lead to pulmonary fibrosis, as his preliminary results suggest. In undertaking this line of research he followed the method of Dr. Drinker, who injected minute particles of manganese silicate intravenously and found structural alterations in the lungs of the injected animals. The argument seems to be that finely particulate material in the blood stream, when passing through the pulmonary capillaries, is taken up by the endothelial cells, and, once localized, may initiate a fibrotic reaction round about.

Returning to the two well established causes of fibrosis: The variety which appears after an acute lobar pneumonia is fortunately an unusual sequel, but a patchy type of fibrosis often attends the healing of bronchopneumonia, and, as Dr. Bernard Shaw and others have recently reminded us, a disabling overgrowth of fibrous tissue not uncommonly follows in the wake of influenza. Further discussion of these toxic origins of pulmonary fibrosis would take us too far from the main theme of Sir Thomas Oliver's lecture—occupational pulmonary fibrosis, a subject he has studied for many years. There are points in his paper which deserve special emphasis at the present time.

So much has been said about silicosis as a predisposing cause of tuberculosis that it is easy to overlook the fact that the serious deformity, silicotic pulmonary fibrosis, may be responsible for dyspnoea and marked reduction of respiratory capacity, in the absence of the more serious infection of the tubercle bacillus. Pulmonary silicosis is a disease *sui generis*: some cases may proceed to a fatal end without the lungs ever becoming tuberculous; this has been proved by the results of *post-mortem* examination. Patients with uncomplicated silicosis suffer from dyspnoea, and later, owing to obstruction of the circulation, from hypertrophy of the right heart, general venous congestion, and oedema. Undoubtedly many more victims of silicosis are hurried on the downward path by a superimposed tuberculous infection to which they are peculiarly susceptible.

Though all inhaled particulate matter is liable to damage the lungs, two factors—the shape and the size of the particles—determine the amount of damage which will be inflicted. The chemical composition also probably plays a greater part than has previously

been admitted. It would seem natural to assume that sharp mineral particles are more dangerous than smooth, and in support of this it is sufficient to mention the heavy toll of health demanded by rock drilling in the mines of the Transvaal. But damage follows the inhalation of particles other than the sharp and gritty, as witness the fibrosis of the lungs due to the inhalation of asbestos dust about which Dr. W. E. Cooke of Wigan wrote recently in this JOURNAL.<sup>1</sup> When the asbestos rock is crushed much fine dust and fibre escape into the workroom, and Sir Thomas Oliver describes how during these processes the atmosphere of the workroom is quite cloudy, so that the hair and clothing of the men become covered with white fluff. Asbestos contains a large quantity of silica compounds, and it is possible that this notoriously dangerous substance may be the chief agent in damaging the lung. A good deal of new work has been published lately on the mode of action of silica on the lungs, and it seems likely that the chemical composition and not the physical properties of silica dust is most to blame.

The second factor of chief importance is the size of the particles. The experiments which have been carried out by Dr. Mavrogordato in South Africa<sup>2</sup> teach us that particles above 10 microns in size are not very harmful to the lungs, and ultramicroscopic particles, less than a tenth of a micron in diameter, probably are not injurious at all. Curiously enough, it is the particles about the size of the common pathogenic microbes, 1 to 4 microns, which do most harm.

The health of the industrial worker is a problem of great national importance. In many industries employers now realize that the most hopeful path to increased production is improved health of the workers, for sickness is responsible for a tragic loss of time and efficiency. On the other hand, social statisticians tell us that restlessness and discontent among employees waxes and wanes with the tide of sickness. A healthy worker is more likely to be a contented worker; but sickness breeds ill will. Therefore, those who study occupational diseases and further our knowledge of how these may be diminished render a national service singularly helpful in these days.

#### DANGERS OF ULTRA-VIOLET LIGHT BATHS.

No one who has made himself acquainted with the benefits to be derived from ultra-violet light as a therapeutic agent can fail to recognize its value in certain forms of disease. That it can be followed by harm is less generally known, and it is therefore opportune that Sir Lenthal Cheatle has communicated in a letter (BRITISH MEDICAL JOURNAL, March 28th, p. 631) the result of some observations made by him on the skin of an individual "bronzed" by sunlight. The comments (April 4th, p. 679) of Dr. Leonard Hill on this letter seem to show that no real apprehension need be entertained as to the possibility of a late development of carcinoma among patients treated by this new remedy, and this is satisfactory so far as it goes. What, however, may appear to be disquieting is the use to which ultra-violet light is being put by those who possess little knowledge of its qualities. In a letter published in the present issue (p. 717) Dr. C. B. Heald states that a firm of builders contemplated equipping the bathrooms of some houses with ultra-violet lamps. If it were the case that the light generated by artificial means were exactly similar to sunlight, no doubt only good would result; but as it is well known that in certain circumstances exposure may be followed by most undesirable results the procedure would appear to be of very dubious value. We know that the

eyes have to be carefully protected, that persons of a light complexion may be considerably affected, that in cases of pulmonary tuberculosis the disease may be aggravated, and that other, if minor, inconveniences may be caused. Dr. MacCormac and Dr. McCrea record in this issue (p. 693) the very serious consequences that followed an unduly prolonged exposure in a patient who was taking "light baths" without medical advice. Where this remedy is used, as it should be, under proper control, it is a powerful agent for good. The public have come to believe that ultra-violet light in all forms can be employed with perfect safety, a belief that has already been productive of harm. It would be well if they were to recognize that overdosage may occur, and may be attended with unexpected and undesired consequences.

#### QUEEN MARY'S HOSPITAL AT ROEHAMPTON.

In our issue of August 11th, 1923, we announced the decision of the Minister of Pensions to transfer the Special Surgical Hospital from Du Cano Road, Shepherd's Bush, to Roehampton House. This change was made necessary by the decision of the Hammersmith Board of Guardians to resume possession of the premises at Shepherd's Bush, which had been built and used as a Poor Law infirmary previous to their lease to the Government during the war. Queen Mary's Convalescent Auxiliary Hospital at Roehampton was established in 1915 in order to supply prostheses to the large number of officers and men who had lost limbs in the war; there they were dealt with in ever-increasing numbers until at one time there were nearly 1,000 patients in hospital at a time, and over 300 first limbs were supplied every month. This was rendered possible by supplementing the accommodation in the old house and its wings by wooden huts. Unfortunately the committee did not see fit to make any provision for the performance of operations, and consequently those patients—and they were many—whose stumps required active surgical treatment had to be transferred temporarily to other institutions. An artificial separation was thus made between operative and prosthetic orthopaedic surgery, and this separation became still more marked when the Military Orthopaedic Hospitals (since renamed Special Surgical Hospitals) were established under Sir Robert Jones. The intention referred to by us in August, 1923, is now being carried into effect, and on May 6th the necessary extensions at Roehampton will be formally opened by the Queen, who has always taken a warm interest in this hospital and those associated with it. These extensions consist of five new wards built of brick, each containing forty beds, which have replaced some of the wooden huts, an operation block containing two theatres, and special wards for electrotherapeutics and other purposes. Five hundred orthopaedic and a few medical cases are being transferred from Shepherd's Bush this month, and eighty facial cases from Sidcup will follow. This reinforcement of Queen Mary's Hospital by the staff and patients from Shepherd's Bush will not affect the prosthetic work which is still being carried on in the limb-fitting hospital, for which there is still plenty of scope. In the last two years 500 limbs, which surgeons have been trying in vain to save, have been amputated, and the patients sent to Roehampton for the provision of artificial limbs. Moreover, there is a constant stream of old patients returning for the provision of new prostheses or the repair of old ones, to the extent of some eighty each week. The committee of Queen Mary's Convalescent Auxiliary Hospitals provides the buildings and maintenance for all the patients, but the surgical staff is appointed and paid by the Ministry of Pensions. The separation between prosthetics and orthopaedic treatment should never have occurred and has continued too long; but "all's well that ends well," and we heartily welcome

<sup>1</sup> BRITISH MEDICAL JOURNAL, July 26th, 1924.  
<sup>2</sup> *Ibid.*, March 21st, 1925, p. 566.

their reunion on the pleasant lawns and under the stately oaks of Roehampton House. The committee has long had in view the desirability of placing the skill and experience of the limb-makers at Roehampton at the service of civilian amputees. Arrangements have already been made with the great railway companies, the L.M.S. and the L.N.E.R., whereby all amputation cases among men in their employ may be sent to Queen Mary's Hospital for fitting. It is hoped that the colliery owners will soon follow suit, and no doubt further developments will occur, provided the cost of the prostheses supplied is within the means of charitable agencies which are without access to the public purse.

#### PENSIONS OF R.A.M.C. OFFICERS.

IN a leading article in the *JOURNAL* of October 18th, 1919, we called attention to the unfair manner in which majors in the Royal Army Medical Corps had been treated in regard to pensions under the new Royal Warrant. The much heralded increases that were to be given all round ended in these officers losing a sum of £44 per annum. Prior to the new Warrant of 1919 a major with twenty years' service was entitled to a pension of £1 a day, or £365 a year, and there is no doubt that to many officers this was a great inducement to join the service. Under the new order of things the pension of a major with twenty years' service was reduced to £321 per annum. We assume that this was an unforeseen result of the new method of calculating pensions—namely, the granting of a "service element" (in this case £225) and a "rank element" (£96). The Council of the British Medical Association at once called the attention of the War Office to two facts: first, that in this new pension scheme no financial recognition was being given to the R.A.M.C. officer for coming into the army fully equipped with his profession some five years later than officers in other branches whose professional equipment was obtained at the expense of the country; and secondly, that the major R.A.M.C. had actually lost £44 per annum on his pre-war rate of pension. The first matter was promptly dealt with in the following way. The sum of £75 was added to the "service element" for all medical officers, thus bringing the pension up to £300 from £225. The second matter has never been put right, because the "rank element" remained unaltered. The result of the addition of £75 was that the major got back the £44 he had lost, but only gained on the whole transaction £31, bringing his pension to £396—an increase of 8½ per cent. to meet an increase in the cost of living which at the time when the Warrant came out was 174 per cent. above the normal. Another extraordinary provision was that the new rate of pension was liable to a reduction amounting in all to 20 per cent., which was to be carried out by instalments—the first at the end of five years, and three others at the end of further periods of three years each. The inequity of this arrangement is now becoming apparent, because majors who were captains when the new Warrant came into force are just beginning to come due for retirement after twenty years' service. These officers, although they were in the corps before the new Warrant became effective, are given no option but to accept its terms. It is also worthy of note that whereas a soldier can retire on any warrant which gives him the most favourable terms, an officer cannot do so. A major with twenty years' service retiring to-day gets a pension of £396, less 5½ per cent. (approximately £20), leaving him with £375 as against £365 pre-war. A second reduction falls due three years from last July, and if this reduction is one of only 3 per cent. the whole of the increase over pre-war rates will have gone. As there is a provision for further decreases after the first, amounting in all to 14½ per cent., it is clear that, notwithstanding statements

which have been made to the contrary, the pensions of these officers can fall, not only below, but far below, the pre-war rate. They might, as a matter of fact, be reduced to about £320 per annum. This is bad enough, but the lot of the major who has counted twenty years by virtue of putting in service in certain unhealthy districts, where one year counts for two, is infinitely worse. The following case has just been brought to the notice of the British Medical Association, and we understand that there will be many more officers in a similar plight. X, who put in four years in an unhealthy climate, where time counts double for pension purposes (that is, eight years in his case), recently retired under the twenty years' provision after sixteen years' actual service, only four of which could be in the rank of major. His pension, therefore, under the present Warrant, worked out at £348—£300 service element and £12 for each year in the rank of major; but as the first reduction of 5½ per cent. had come into force before he retired he gets no more than £328, and in the next nine years his pension may be reduced to £280 because there is still a further 14½ per cent. reduction which can operate against him. He states that his chief inducement to join the corps was the fact that he would get a pension of £365 after twenty years' service or the equivalent of twenty years' service if he had served part of his time in unhealthy areas. These anomalies are due to the unfair operation of the rank element method of reckoning pensions, and also to the extraordinary provision that the increases given by the new Warrant are subject to a reduction of 20 per cent., not on the increase alone, but on the whole pension.

#### SIR THOMAS LEGGE.

SIR THOMAS LEGGE, the principal medical inspector of factories, who recently received the honour of knighthood, was entertained to dinner by his fellow workers in the sphere of industrial medicine at the Hotel Cecil, London, on April 1st. The arrangements had been carried out by the Association of Certifying Factory Surgeons, and its president, Dr. R. Prosser White, himself a well known authority on industrial skin affections, was in the chair. Certifying surgeons, experts in industrial medicine, representatives of the Home Office, medical and other members of Parliament, forgathered to the number of seventy. The guest of the evening was the recipient of many good wishes from far and near. Dr. Edsall of Harvard, Boston, cabled for himself and American colleagues, Dr. Glibert on behalf of the Belgian factory medical service, and Dr. Geier of Cincinnati for the U.S.A. Public Health Service. Of the numerous letters of felicitation received the most notable were from Sir Arthur Whitelegge, Professor Leonard Hill, Dr. C. S. Myers, Dr. H. M. Vernon, Professor E. Collis, Dr. J. C. Bridge, Dr. L. Carozzi of the International Labour Office, Geneva, and Mr. Rhys Davies, late Under Secretary of State. Dr. René Sand, secretary of the International League of Red Cross Societies, was at the last moment prevented from attending owing to the severe illness of a near relative. The President proposed the toast of the evening, and was followed by Sir Kenneth Goadby, who spoke as a very old friend and one of the earliest co-operators with Sir Thomas in his particular specialty. Sir Thomas Legge, in his response, gave a survey of the wonderful progress made by industrial medicine during the present century, and spoke very feelingly of the happy relationship which existed between himself and certifying factory surgeons. The toast of "Industrial medicine," coupled with the names of Sir Thomas Oliver, Dr. O'Donovan, and Dr. A. Leitch, was proposed by Dr. D. McKail. The visitors were toasted by Dr. T. Watts, M.P., and Mr. Bannatyne of the Home Office, Sir Gerald Bellhouse, Dr. R. A. Bolam, and Miss E. Kelly, president



of the Instituto of Industrial Welfare Workers, suitably responded. Sir Henry Craik and Dr. Fremantle, who should have spoken to this toast, were unfortunately compelled to leave early owing to Parliamentary duties.

### OLD AND NEW HAMPSTEAD.

HAMPSTEAD savours of romance. The Heath, Jack Straw's Castle, the Spaniards (with its memories of Dick Turpin and of Mr. Pickwick), the Bull and Bush—the names suggest old times and old doings. Moreover, in the seventeenth and eighteenth centuries the Hampstead chalybeate springs (now dried up, and commemorated only in Well Walk and Flask Walk) were held in high esteem for their supposed curative virtues. In a lecture on the health of Hampstead, past and present, delivered in 1923 and now published, Dr. F. E. Searse, the medical officer of health for the borough, discourses on Hampstead, not only as it is, but as it was. He explains that the hill of Hampstead is formed by a huge elevation in the bed of the London clay, which there supports an extensive cap of sand, in some places eighty feet thick. This rendered it easy to get water; whereas from the line of what is now Oxford Street, northwards to the foot of Hampstead Hill, there was only a great expanse of non-water-bearing clay. Thus, with its water supply old Hampstead was a place apart, and until the water companies came London could not extend in that direction. But from the sandy height streams took their rise. One, the Kilbourne, ran across Finchley Road, along what is now West End Lane, and turned westward near the old Kilburn Wells, to become a tributary of the Westbourne, whose course in Hyde Park is marked by the Serpentine. To-day the curiously winding course taken by the bus-frequented West End Lane is perhaps to be explained by the meanderings of the Kilbourne. Another stream, the Tybourne, rising in the conduit spring on the southern slope below Hampstead village, followed the line of the present Fitzjohn's Avenue, ran down through Belsize, skirted the west side of Regent's Park, and crossed Oxford Street and Piccadilly on its way to join the Thames at Westminster. On the east side arose the Fleet River, or Halebourn (whence Holborn), whose main source was a stream fed by springs issuing from the higher parts of Hampstead Heath. Such water-courses, as time passed, were turned into sewers, which received the waste water resulting from the supplies by the new water companies. It is all very interesting, but we cannot follow Dr. Searse in his story from ancient to modern, nor refer to the instruction he imparts as to the value of the present-day public health system which has developed from these humble beginnings, when (to use the words of the first medical officer of health) the very ground was "saturated with the faeculence of ages." If we venture on a word of criticism, it is to express regret that so good a pamphlet has been issued without correction of a few slips.

### ANKYLOSTOMIASIS AND BILHARZIASIS IN EGYPT.<sup>1</sup>

ANKYLOSTOMIASIS has been endemic in Egypt probably since the time of the ancient Egyptians; but it is only since 1847 that the hookworms have been regarded as pathogenic. At the beginning of this century Looss wrote his famous memoir on the anatomy and life-history of the parasite, but until recently little exact knowledge of the incidence of ankylostomes in the country was available. Bilharziasis is likewise a very ancient disease—indeed, the characteristic ova of the parasite have been found in the kidneys of

mummies of 1250 to 1000 B.C. The disease was known from the earliest times, but its parasitic nature was unsuspected until 1852. The search for the secret of the life-history was unsuccessful until the war period, when Leiper's brilliant investigation not only solved this problem, but also proved that the urinary and intestinal forms of the disease were due to two different species of worm. Although little was known of the incidence of the disease before 1913, it was regarded as the most widespread serious malady in Egypt. Towards the end of 1913, the Department of Public Health, on the initiative of Lord Kitchener, appointed a committee to conduct a campaign against ankylostomiasis, and to investigate the spread of bilharziasis and pellagra. During 1914 and 1915 it was ascertained that the parasite was present in about three-quarters of the population, and the possibility of treating ankylostomiasis on a large scale was demonstrated. The infections with schistosoma, however, were only recorded from statements by patients—a method since found to be almost valueless. The committee suspended operations in April, 1915, and it was not until 1919 that it again resumed its activities. During the interim Leiper had discovered the intermediate hosts of the bilharzia worm, and Cristopherson had found that tartar emetic was a specific for the disease. The work of the committee was extended to include the treatment of the flukes as well as the hookworm. The reconstituted committee under Dr. Todd held its first meeting in January 1921, and commenced to attack the problem of these two diseases. Various annexes, situated close to general hospitals, were started at Government expense for the treatment of the diseases, and patients were examined for the presence of parasites and treated accordingly. During the period from 1920 to 1923 over 100,000 cases have been treated at these annexes. At the same time a considerable amount of propaganda work was undertaken by means of leaflets and posters; some of these, reproduced in the report, are most effective and instructive. The investigation section was under the direction of Dr. M. Khalil, who proceeded to Egypt in November, 1922, from the London School of Tropical Medicine, and who, in addition to a considerable amount of personal research, is mainly responsible for the present report. His confirmatory experiments on the use of carbon tetrachloride as an anthelmintic show that it is, if pure, a safe and valuable drug to use against hookworm and pinworm, although of doubtful efficiency against ascarids. He has also conducted a large series of experiments on the control of bilharziasis. His recommendations are practically the same as those suggested in 1918 by Leiper, with the additional application of the recent use of copper sulphate in high dilution for the destruction of the molluscan intermediary of the parasite in the water in which it lives. In a survey undertaken at one village to provide an index to the parasitic infection among the Egyptians, Khalil found that only 4 per cent. of the inhabitants were free from parasites, and that 73 per cent. harboured *Schistosoma haematobium*, 34 per cent. *S. mansoni*, 64 per cent. ascarids, and 16 per cent. hookworms. This low incidence of hookworm is not the rule in Egypt; its prevalence appears to be very irregular. In a second survey in Upper Egypt about 75 per cent. of those examined showed the presence of *S. haematobium*; no infection with *S. mansoni*, the cause of intestinal bilharziasis, was, however, found, although several cases of intestinal infection with *S. haematobium* were detected. The absence of *S. mansoni* was confirmed by the absence also of planorbis snails, the specific intermediary, from the canals and drains of the district. The most recent statistics accordingly show that about 75 per cent. of the inhabitants of Egypt are affected with bilharzia worms, and the direct mortality is estimated to be about 8 to 25 per cent. of the total deaths; the infection also predisposes to dysentery and other diseases. The report is an extremely valuable

<sup>1</sup> Reports and Notes of the Public Health Laboratories, Cairo, No. 6: *Ankylostomiasis and Bilharziasis in Egypt*. Government Publications Office, Ministry of Finance, Dawson, P.O., Cairo. (Pp. 126. Price P.T. 20.)

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contribution to the parasitology and public health of Egypt. It is unfortunate, however, that an otherwise excellent production should be somewhat marred by many misprints. The Public Laboratories in Cairo are to be congratulated on the possession of such a valuable worker as Dr. Khalil, whose energy has made this volume possible.

# JEAN PECQUET.

JEAN PECQUET, the tercentenary of whose birth was celebrated at his native town of Dieppe in 1922, has hitherto been principally known as the first to describe the receptaculum chyli, which is called in Franco the "citerno de Pecquet." Dr. Jean Lucq, who has devoted his inaugural thesis to the study of the life and work of this eminent French anatomist, claims that Pecquet is entitled to a more important place in the history of anatomy, and that he is to be credited with the discovery of the circulation of the chyle. Previous observers, from the time of Galen, had maintained that the chyle was conveyed by mesenteric veins to the liver, where it was converted into blood. Even Asellius, who discovered the lacteal vessels in 1622, was of opinion that they emptied themselves into the liver. In his *Experimenta nova anatomica*, published in 1651 while he was still a student in Paris, Pecquet gave the first description of the receptaculum chyli and the passage of the chyle through the thorax into the innominate vein. His discovery was met by incredulity, especially on the part of Riolanus, who attacked him with considerable bitterness, suggesting that the dogs he had been dissecting had made him mad; but the Danish anatomist Bartholin, after some hesitation, confirmed Pecquet's observations. Lo Noble, a physician of Rouen, endeavoured to conciliate both sides by suggesting that part of the chyle was distributed to the heart and part to the liver, but the opposition to Pecquet ceased after the death of Riolan in 1657. Dr. Lucq is inclined to discredit the accusation of alcoholism brought against Pecquet in his latter years, though this factor may have contributed to his death at the comparatively early age of 52. Apart from his anatomical investigations, Pecquet took some part in the political life of the time in his capacity of friend and medical attendant to the celebrated superintendent of finance Nicolas Fouquet, whose imprisonment he shared for over three years. Subsequently Pecquet became the medical adviser of Madame de Sévigné, who makes several allusions to him in her letters.

## MEDICAL SOCIOLOGY AT THE BATH ANNUAL MEETING.

THE officers of the Section of Medical Sociology in the forthcoming Annual Meeting of the British Medical Association at Bath have now drawn up the programme of work in their Section on the day allotted to it—Friday, July 24th. The morning session will be given up to a discussion of the question, "What should be the standard of purity of milk?" This will be opened by Dr. R. Stenhouse Williams, of the National Institute for Research in Dairying, Reading; from the point of view of the medical officer of health by Dr. W. G. Savage, M.O.H. for the county of Somerset; and from the dietetic point of view by Dr. Eric Pritchard. An allied subject—By what means can pure milk be obtained, and at what cost?—will be debated also from three aspects. Mr. Wilfred Buckley, of the National Clean Milk Society, will open from the standpoint of the producer; Mr. G. P. Maggs from that of the distributor. Cinematograph films of certified milk on an English farm and the handling and distribution of milk in New York City.

## England and Wales.

### ROYAL VICTORIA INFIRMARY, NEWCASTLE.

THE most prominent feature of the work of the Royal Victoria Infirmary, Newcastle-upon-Tyne, during 1924 was the overwhelming demand for beds. The number of in-patients treated during the year, 12,865, was the highest yet reached, and was an increase of 706 over the previous year, which also was a record. The number of patients awaiting admission to hospital at the end of 1924 was 1,202. Although the normal bed accommodation is 534, there was a daily average occupation of 539, and as high a number as 589 had been recorded. To provide for this extra number of patients additional beds had to be placed in the wards, on some occasions more than fifty beds being brought into use during a single week. These conditions necessarily resulted in an injurious shortening of the duration of the treatment of in-patients. Similar difficulties were experienced in 1913 and 1918, while in 1920 the strain continued to be felt in spite of the fact that two extra wards, each containing twenty-six beds, had been added to the hospital. The overcrowding was particularly marked in the wards for women and children. The two factors which mainly contributed to the large increase in the number of in-patients were the severity of the accidents brought to the hospital and the number of cases in which immediate operation was required. During the year under review, 17,352 accident cases were treated, a daily average of 47; of these cases, 1,909 required admission to the hospital. A special inquiry made by the House Committee led to the belief that 75 per cent. of the motor accidents dealt with by the hospital were of such a serious character as to require admission. The committee, therefore, placed the facts before the City Council in the hope that it might be possible to reduce these figures, and also to obtain more financial support from the City Council, since 70 per cent. of the out-patients and 42 per cent. of the in-patients concerned had met with their accidents in the streets of Newcastle itself. The total number of out-patients was 110,525, an increase of 5,000 on the previous year. The total subsequent attendances of these patients reached 189,049. A balance of over £7,000 remained after meeting the year's expenditure, and this had been used to relieve the overdraft at the bank. An increase in subscriptions and donations had occurred, and the endowment fund had been raised by £4,000.

### BIRMINGHAM HOME OF REST.

Dr. Mary Sturge Memorial Wing. The Lord Mayor of Birmingham opened a new nurses' home at the Taylor Memorial Home of Rest, Sparkhill, on April 1st. The extension is to be known as the Dr. Mary Sturge Memorial Wing, in remembrance of the deep interest she always took in the work of the institution, and during her active life had initiated the scheme for the erection of a nurses' home. The cost of the new building was between £3,000 and £4,000, of which £400 had been received in response to an appeal composed by Dr. Sturge not long before her death. Mr. Christopher Martin, F.R.C.S., who presided, said that the home was established in order that poor women suffering from inoperable malignant disease might be nursed and made as comfortable as possible. He referred to Dr. Mary Sturge's ardent and enthusiastic support of the institution since its foundation, and said that her dying request to her relatives was that all possible help should be afforded in support and maintenance of the home. It was felt that the best memorial they could give to her was to open a Dr. Mary Sturge Memorial Fund, the object of which would be to pay for the extension and to provide an endowment fund to carry it on and to increase its usefulness. A letter was read from Mr. W. H. Sturge, stating on behalf of his brothers and sisters that they desired to give £1,000 in memory of their sister, with the object of providing accommodation for more patients, in accordance with her wishes. In declaring the extension open the Lord Mayor paid tribute to the work and devoted service of Dr. Sturge, who, he said, never spared herself when the opportunity occurred.

for helping those in distress. Subscriptions to the Dr. Mary Sturge Memorial Fund may be sent to Mrs. H. C. Ashton (honorary secretary), or to Mr. C. H. Saunders (honorary treasurer), at the Taylor Memorial Home, Showell Green Lane, Sparkhill, Birmingham.

#### THE IMPORTATION OF FOOD.

The Minister of Health has issued a new series of regulations<sup>1</sup> dealing with imported food, which will come into force on June 1st. These regulations amend and consolidate the previous regulations of 1908 and 1909, which have been extended so as to apply to importations of food by train-ferry service and by aircraft. The enforcement in the case of these services is entrusted to the sanitary authorities for the areas where the food is unloaded from the railway truck or aircraft. The provisions for dealing with food found on examination to be unsound are substantially the same as in the previous regulations, but a new clause makes it a definite offence to import any food which has at any stage in its preparation been contaminated in another country. Two schedules deal with classes of overseas meat made subject to special control. The first schedule includes a list of prohibited meat, and special attention is drawn to cases where there is evidence that one of the deep-seated lymphatic glands has been deliberately removed; such meat may not be imported under any conditions. The second schedule deals with meat conditionally admissible; where, for instance, a part has been cut off so as just to exclude one of these glands, such a part may be admitted if accompanied by an official certificate, except in the case of heads cut off so as not to include submaxillary glands. An official certificate is now required for lard, dripping, edible tallow, and other rendered fats. The official certificates of certain countries have already been recognized, and before the new regulations come into operation a notice will be inserted in the *London Gazette* specifying all the certificates which will be recognized from the date of commencement. A further circular will then be issued containing a copy of the notice.

#### NATIONAL LEAGUE FOR HEALTH, MATERNITY, AND CHILD WELFARE.

The National League for Health, Maternity, and Child Welfare originated in 1905, and now includes the National Association for the Prevention of Infant Mortality, the Association of Infant Welfare and Maternity Centres, the National League for Physical Education and Improvement, the National Baby Week Council, the National Society of Day Nurseries, the National Council for the Unmarried Mother and her Child, and the Women's National Health Association of Ireland. During the past year particular attention was paid by the league to extension of the child welfare movement, and a list of suggestions sent to the Ministry of Health contained recommendations for the teaching of biology to school girls, as a foundation for subsequent teaching in hygiene and mothercraft. It was also recommended that there should be more extensive provision of facilities for the diagnosis and treatment of venereal disease, and for convalescent treatment for mothers and children, more dental clinics, nursery schools, and hospitals for illegitimate children. Health lectures were given to the members of working girls' clubs—twenty-five in the provinces and ninety-six in London. It is proposed to organize free courses of popular lectures on general health topics, the expenses to be borne by the Women's Imperial Health Association Fund. A cinematograph film is to be prepared to illustrate such activities as swimming, field and playground games, drilling, sports, and the physical training of adolescents. It is announced that this film will be lent, free of charge, to local education authorities, or to any other organization which can provide an audience of parents, teachers, and others interested. The library of the league has received a considerable number of new books dealing with child care, psychology, and heliotherapy. The annual report of the league for 1924 states, further, that the sale of the league's publications during last year has passed all previous records, the total income resulting therefrom

being over £2,000, which has been of the greatest value in carrying on the work of the league. The fourth edition of *Mothercraft*, published at the end of February, 1924, was almost entirely sold out by the end of the year, and the fifth edition has now appeared. The "Tired Mothers Holiday Fund" has provided forty-three grants, an increase of ten over the previous year. The league's report contains the annual report of the associated societies, and a statement of accounts for 1924.

## Scotland.

#### VOLUNTARY ADMISSION OF RATE-AIDED PATIENTS TO MENTAL HOSPITALS.

THE board of direction of the Crichton Royal Institution, Dumfries, has presented a memorial to the Secretary for Scotland urging the importance of making suitable statutory provisions so that rate-aided patients may be admitted as voluntary patients to mental hospitals in Scotland. The memorial points out that the present Scottish Lunacy Acts are defective in so far as they debar the rate-aided or poorer classes of the community from receiving treatment as voluntary patients in the public mental hospitals of the country. This involves the postponement of treatment until they have become certifiable as insane, and in many cases such patients become, as the result of the delay, incurable. In the Crichton Royal Institution approximately two-thirds of the patients are private and one-third rate-aided. The private patients, who are maintained by themselves or their relatives, are received either as voluntary patients or under certificates of insanity. A great change has taken place in the relative proportions of these two classes since 1908, when the reception of voluntary patients began. Previously, about 20 per cent. of the private admissions were voluntary and 80 per cent. were certificated. Since 1908, 70 per cent. of the private patients admitted are voluntary and only 30 per cent. under certificates. As a result, while there were 21 voluntary patients in residence on December 31st, 1907, there were 212 on December 31st, 1924. Experience at the institution has gradually proved that the great majority of patients can be treated suitably in a mental hospital under the voluntary procedure, which has the great advantage of encouraging earlier treatment, and is more attractive to the patients as well as to the relatives and all concerned than the alternative of certification with its legal and other disabilities. In contrast to the private patients, the rate-aided patients are all admitted under certificates of insanity from the various parishes of Dumfriesshire and Galloway. A tabular statement is presented in the memorial comparing the results of treatment among the private voluntary, private certified, and rate-aided certified groups. The results of treatment are shown to be better among the voluntary than among the certified of the private class, for the reason that the former exhibited in larger proportion illnesses of less serious type and more recent duration. The great majority of private patients had been previously treated in nursing homes and private houses, whereas the rate-aided patients were sent direct from their homes in nearly all cases. It is pointed out that the more favourable results of mental hospital treatment among private as compared with rate-aided patients from a city may to some extent be explained by the difference in the previous mode of life and social environment of the two classes, but this consideration is hardly applicable to rate-aided patients from the healthy rural areas of Dumfriesshire and Galloway, amongst whom it might have been expected that the results of treatment would have been even better than among the private class. On the contrary, it was found that the recovery rate (or number discharged as recovered per 100 admitted) of the private voluntary group exceeded that of the rate-aided certificated group by 9.2 per cent. If those discharged as improved were included with those discharged as recovered, the rate for the private voluntary group exceeded that for the rate-aided certificated group by 23.3 per cent. The memorial expresses the belief that on a conservative estimate the

<sup>1</sup> Statutory Rules and Orders, 1925, No. 273. London: H.M. Stationery Office. S.L. n.2.

results of the treatment of rate-aided certified patients would be 10 or 15 per cent. better if they were admitted as voluntary patients, and that this was worthy of consideration, not only from the humanitarian aspect, but also from the point of view of the national welfare. Under the present arrangements, rate-aided patients can be legally admitted for treatment as voluntary patients in Scottish asylums, but there is a practical bar to their admission in the fact that the lunacy grant is paid to parish councils towards the cost of "pauper lunatics" only, and parish councils have been reluctant to lose the benefit of the grant (as they would) if rate-aided patients were admitted as voluntary patients to asylums. Consequently, they have not encouraged the voluntary system. It may be recalled that in our issue of March 7th (p. 475) it was pointed out that certain parishes, notably in Argyllshire and recently the Edinburgh Parish Council, had decided that the poor should be put in a position to enjoy the advantages of voluntary treatment notwithstanding that this involved relinquishing the grant-in-aid. The memorial considers it only fair to expect that if the disabilities mentioned were removed and the early treatment of mental diseases was encouraged in the ways indicated, rate-supported mental patients would in time come to the mental hospitals at least as willingly as private patients at present, and perhaps eventually with no more reluctance than the rate-aided inmates of fever hospitals and sanatoriums.

**MEMORIAL TO THE LATE DR. C. B. KER.**  
A subscription list has been opened to provide a memorial to the late Dr. C. B. Ker, medical superintendent of the City Hospital, Edinburgh, and a circular has been issued to all past and present members of the medical and nursing staffs of the hospital whose addresses are known inviting them to contribute. The appeal is being issued in the names of Dr. Alexander James, the consulting physician to the hospital; Dr. William Robertson, the medical officer of health for the city; Miss Thomas, the matron of the hospital; and Dr. A. Joe, the senior assistant. It is proposed that the memorial should take the shape of a monument at Dr. Ker's grave in Morningside Cemetery, and, if funds permit, the erection of a plaque in the hospital, both in this country and abroad, who will be desirous of contributing, but whose addresses are not known, and all such are invited to send donations to Mr. Macdonald, steward, City Hospital, Edinburgh.

**PHYSICAL EDUCATION IN SCOTLAND.**  
The annual general meeting of the Association of School Medical Officers, held in Edinburgh on March 23rd, was addressed by Colonel V. E. Gooderson, D.S.O., superintendent of physical education to the Glasgow Education Authority. Physical education was, he said, an aspect of the larger problem of general education, and real physical education could not be relegated to gymnastics and games alone. Physical education might be so conducted as to set a standard of living and behaviour that would surpass the average, and, like moral instruction, in order to be effective, its spirit must pervade the entire curriculum. There should be more appreciation of the value of an active physical life, and the teacher of physical education must know the physical, psychic, and social characteristics of children and the time and manner of their development. Facilities should be provided for all children to express themselves in spontaneous play, but it was also desirable that much in the way of physical and moral development should be obtained by directed play and organized physical expression. Systematic organized play impressed the ideals taught by organization and co-operation. Games, athletics, dancing, and swimming were all special forms of controlled physical education and were found more controlled part of physical education was to be found in gymnastics. Gymnastics had a twofold aim—corrective and developmental—and might form a preparatory treatment to surgical measures and also serve as a necessary after-treatment. This part of physical education was worthy of more thorough scientific investigation. Instruction in healthy living and physical efficiency should be related to life rather than to physiology and anatomy.

Instruction in hygiene might, to some extent, be correlated with biology and nature study, but it should chiefly collect information regarding the art of preserving a sound body. Only four out of thirty-seven education authorities in Scotland had yet appointed a superintendent of physical training, and five county authorities were still without a single teacher of physical education. Medical examination of children was providing records of size, growth, abnormality, and illness, but not much information was available regarding the relation between physical and mental ability. He thought that peculiarities in mental development might depend upon corresponding changes in physical or physiological development.

**DEACONESS HOSPITAL, EDINBURGH.**  
The annual meeting of the Church of Scotland Deaconess Hospital, Edinburgh, was held on March 31st. Professor Archibald Main, D.D., presided, and Lord Sands, chairman of the hospital board of management, submitted the annual report. The total number of patients during 1924 had been 5,762. The number of patients treated in the hospital had been somewhat less than previously owing to closure of part of the hospital for some months for reconstruction, but had totalled 705; the number of operations performed had been 625. This number included patients from all over Scotland, including Orkney, Shetland, and the Outer Hebrides. In the children's ward 124 infants, as well as 107 older children, had been treated. A large number of these were received in connexion with the maternity and child welfare scheme of the Edinburgh Public Health Department. The number of out-patients treated during the year had been 4,849, with a total attendance of 15,672. The total income, including that from investments, was £5,576, while the total ordinary expenditure chargeable against income had been £5,541. This leaves the hospital in the satisfactory position of having a small surplus. This, the chairman not be said of many hospital budgets. Every bed that was endowed lightened the annual burden, and he appealed for further public support in this direction. During the past year an annexe had been added at a cost of nearly £3,000, which was partly defrayed by special subscriptions and partly chargeable to the capital reserve fund. The total sum received from approved societies for treatment of insured persons during the thirteen years since the Act of 1912 came into force had amounted to less than £65, although during the last year alone no fewer than 124 insured persons had been treated in the hospital. In view of the obvious inadequacy of the sums thus received from approved societies in the past in recognition of the benefits conferred by the hospital on their members, the board had again decided not to accept any similar payments in the future, but to treat all insured patients without any payments by approved societies on their behalf. The report was adopted on the motion of Mr. W. J. Stewart, F.R.C.S.E., consulting surgeon to the hospital. Mrs. R. K. Hannay moved a vote of thanks to the staff, to which Dr. John D. Comrie, physician to the hospital, replied. Votes of thanks to the subscribers and chairman respectively were moved by Dr. W. G. Sym and Town Councillor Dr. T. G. Nasmyth.

#### MESSAGE AS AN ADDITIONAL BENEFIT FOR INSURED PERSONS.

At the annual meeting of the Edinburgh, Leith, and District Friendly Societies' Council, held in Edinburgh on March 28th, an address on message and allied treatments as an additional benefit for insured persons was delivered by Miss E. W. Binning, honorary secretary of the Edinburgh Committee of the Chartered Society of Massage and Medical Gymnastics. A scheme, she said, had been proposed to provide for the keeping of a register of members of the Chartered Society of Massage who were willing to provide treatment for insured persons at a flat rate, and also for the organization of clinics for a similar purpose. Such treatment would only be given by members of the society under the orders of a registered medical practitioner. A report was presented by Mr. Thomas J. Addy, embodying the views of the approved societies affiliated to the council for submission to the Royal Commission on National Health

**Insurance.** This report was said to represent the collective opinions of 100,000 insured persons in the district obtained by a series of special meetings for discussion of national health insurance.

#### EMPLOYMENT FOR DEAF AND DUMB.

The eighty-fourth annual meeting of subscribers to the Edinburgh Deaf and Dumb Benevolent Society was held on March 25th. Baillie Couston, who was in the chair, said that now that the society had entered into extended premises, which he hoped meant increased activities, subscribers had increased from both town and country. It was very difficult for the ordinary employer to find a niche for the people among whom the society worked, but there must be many openings for shoemakers, tailors, and other employments for which they were fitted. Sheriff J. L. Wark, K.C., said that there were on the roll of the society more than 600 names of deaf and dumb, some also blind, resident in Edinburgh and district. A home for the society's aged and infirm was urgently needed, and the directors hoped in the near future to be able to realize this long-desired want.

#### SMOKELESS FUEL IN SCOTLAND.

At a conference of the Scottish District of the British Commercial Gas Association, held on March 24th in the Town Hall, Greenock, reference was made to the damage done to health by the pollution of air by smoke. Baillie Millar of Greenock, who presided, gave an address, in the course of which he said that a young Scotsman named Murdoch had been the first to light his house in Cornwall, in the year 1792, with coal gas, so that it was well over a century since gas was first used as a means of illumination. The centenary of the use of gas in Greenock would be celebrated two years hence. At the afternoon session Dr. J. H. G. Whiteford, medical officer of health for Greenock, delivered an address on atmospheric pollution in relation to health. The most efficient epidemic officer was sunlight, which cost the community nothing, and which, when germs were few in number and had not been allowed time to increase, was most effective. This made out an excellent *prima-facie* case for action in regard to smoke abatement. Mr. John Keiller dealt with the contribution of the gas industry towards reducing atmospheric pollution. The only way to put an end to the free pouring out of smoke into the atmosphere was to cease burning coal in its raw state, whether in the factory or in the home. This could be done by treating coal before using in such a way as to produce completely smokeless fuel. The gas produced from coal was clean, smokeless fuel, far more efficient than the coal itself; and in its production there were recovered coke and many other valuable by-products which were used in the manufacture of drugs, fertilizers, perfumes, dyes, and scores of important chemical products. These by-products, if coal was burned raw, were either destroyed at low efficiency or sent up the chimney unburned in the form of smoke and noxious vapours. Dr. C. W. Saleeby in the evening delivered a lecture in which he spoke of the brilliance of the light and clearness of the air in Canadian and American cities as compared with British cities. He did not propose that all houses should be reconstructed to accord with ideas for the abatement of smoke, but it would be reasonable to begin right with the two million houses which the Ministry of Health had promised to construct. The question of smokeless housing had been solved in recent schemes at Luton and Dundee.

## Ireland.

#### LOCAL GOVERNMENT ACT, 1925: IMPORTANT PENSIONS SECTIONS.

The Local Government Bill (Irish Free State) has been passed by the Dail and Senate and is now law. Since its introduction into the Dail its pensions sections, as the result of representations made by the Irish Medical Committee, have been modified to the advantage of officials generally, especially Poor Law medical officials. The pension rights of an existing medical officer, who was in office at the

date of the passing of the Act, and at that date had more than ten years' service as an officer of a local body, can, for the purposes of his pension, choose to remain under Section 8 of the Local Government Act, 1919. It will, however, be necessary for a medical officer who desires to be pensioned under Section 8 of the Act of 1919 to signify in writing within four months after the passing of the Local Government Act, 1925, to the body of which he is an official, that it is his intention *not* to avail himself of all the provisions of Part IV of the Local Government Act, 1925. In the event of a medical officer selecting Section 8 of the Local Government Act, 1919, for pension purposes, Sections 43, 46, 49, 50, 53, 54, 55, and 56 of the Local Government Act, 1925, nevertheless, will be applied to him. These sections do not adversely affect the pension rights of existing medical officers as defined under the Act. For existing medical officers, with less than ten years' service, and future officers the mandatory right to a pension, for the first time provided under Section 8 of the 1919 Act, has been restored to the 1925 Act, and it is not possible under this Act for any local body to refuse a pension to an official without the consent of the Minister. In this respect Section 44 (1) provides:

A local body shall, with the consent of the Minister, grant to a pensionable officer in their employment, who either—

(a) has attained the age of 65 years and has at least twenty-five years' service, or

(b) becomes incapable of discharging the duties of his office with efficiency by reason of permanent infirmity of mind or body, or of old age, and has not less than ten years' service, upon his resigning or otherwise ceasing to hold his office an annual allowance for his life not greater than two-thirds of his yearly salary and emoluments.

## Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

THE House of Commons adjourned on Thursday, April 9th, for the Easter Recess, after a week spent chiefly in advancing minor legislation. It reassembles on April 28th, when the Budget will be introduced. The second reading of the Therapeutic Substances Bill was moved on April 6th, but objection was taken and the bill was postponed.

Lord Sydenham gave notice that in the House of Lords on April 6th he would call attention to the grievances of the Indian Medical Services, but he did not pursue the subject. Lord Amthill that day drew attention to the case of civil servants employed by Indian provincial Governments, and Lord Birkenhead, the Secretary for India, promised to look into it.

The Cabinet is understood to have decided that the Factories and Workshops Bill should be introduced before Whitsun and passed into law this session. Its text was considered on April 6th by the Home Affairs Committee of the Cabinet.

#### Factories and Workshops Bill.

On April 2nd the Medical Committee of the House of Commons met representatives of the British Medical Association and of the certifying factory surgeons to discuss the bearing which the Government's promised Factories and Workshops Bill would have upon the health administration of the country. Opinions were exchanged on the proposed replacement of the system of certifying factory surgeons by "works doctors," either in the employment of the local authorities or appointed by the Ministry of Health. After two hours' discussion of various points it was agreed that the bill as a whole should be supported, but that further consideration of several points in dispute should be postponed until the new version of the bill appeared. No agreement was reached on the particular point, though all were ready to support the bill as a whole. Those attending this conference, over which Dr. Fremantle presided, included Dr. Brackenbury, Dr. Cox, Dr. Wallace Henry, Dr. Bolam, Mr. E. B. Turner, Dr. Courtenay Lord, Dr. Dearden, Dr. Ridley Bailey, and Dr. Beadles.

#### Health in Scotland.

The House of Commons, on April 6th, debated in Committee the Estimates for the Scottish Board of Health. The Under Secretary of Health for Scotland, Dr. Walter Elliot, said the House was reviewing the vital statistics of an industrial State swept by the full blast of unemployment; 181,000 people totally without work were living on relief, and the fear of anyone responsible for the health of the country was that lowered vitality would be shown in a movement of all sickness curves. Unemployment was now somewhat greater than at the same period last year. Public health last year was unsatisfactory.



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The movement of vital statistics was adverse. The year 1923 was the healthiest on record in Scotland, with a death rate of 12.9 per 1,000, but last year it rose to 14.4. Infantile mortality moved from 79 in 1923 to 93 per 1,000 in 1924, and insurance returns showed an increase of 15 to 20 per cent. in sickness last year. Yet although the general death rate moved adversely, the tuberculosis statistics were unchanged, or slightly more favourable. It seemed that in Scotland the sickness curves moved unfavourably owing to an epidemic of influenza in the early part of 1924, and the position now was not as bad as the figures suggested. The investigations did not bear out the suggestion that the long period of unemployment was having a bad effect. Increased infantile mortality seemed to have been due largely to epidemics, which were now slackening. The infantile death rate, which was 132 in the first quarter of this year under review, would fall to 109 in the first quarter of 1925, and it might be expected that this year would be healthier for infants than last. The increase in the sickness rate was paralleled in England, where the general death rate had increased by 0.6; in France, also, there was an increase of 0.3 in the death rate though there was no unemployment, and Denmark showed an increase of 0.1. A wave of ill health had passed over Western Europe last year. Some people said that it was due to the sunless summer. In Scotland, for whatever reason, £40,000 more had been spent on drugs than last year. The measles grant, the increased grant for pneumonia and bronchitis, the investigations, were steps taken to improve the organism had been discovered, were steps taken to improve the public health. Infective jaundice had been shown to occur not only among miners, but among the general public, where it had sometimes been attributed to ill health following influenza. It also occurred in dogs after distemper. It had been made a notifiable disease in Scotland.

Dr. Drummond Shiels, speaking of tuberculosis, said that there was not a subject for congratulation. I encourage his department, it tested.

Dr. Drummond Shiels, speaking of tuberculosis, said that its general incidence was not a subject for congratulation. In the Spallinger treatment there was at least a ray of hope, and he asked Dr. Elliot to encourage his department to co-operate with the Ministry of Health to get it tested. He also drew attention to the need for light treatment centres; Scotland was behind in that matter. He referred to tuberculous milk, and declared that ungraded milk was now of poorer quality than when the grading system was introduced.

**Registration of Deaths.**

Dr. Fremantle, after discussion with the Medical Committee of the House of Commons, has sent the text of the Births and Deaths Registration Bill to be printed. A memorandum states that the object of the bill is to render the law of the certification of death at once simple and complete, so as to leave no room for certification on insufficient evidence, and to eliminate so far as possible all risk of premature burial or failure to detect crime. Provision is made for medical inspection of the body in all cases before certification of the fact of death, and for adequate inquiry before certification of its cause. The bill would require stillbirths to be certified and registered. Relevant clauses are:

*Certificate of Fact of Death.*—(1) A medical certificate of birth or stillbirth shall be given by a registered medical practitioner, who has viewed and examined the body of the child, and is satisfied that it is dead. (2) Such practitioner,

3. *Medical Certificate of Fact of Death.*—(1) A medical certificate of the fact of every death or stillbirth shall be given by a registered medical practitioner who has viewed and examined the dead body and is satisfied that life is extinct. (2) Such practitioner shall, whenever reasonably possible, be the practitioner, if any, who last attended the deceased person during life or was present at the stillbirth. (3) If no such practitioner so attended the deceased or was present at the stillbirth, it shall be the duty of the person legally responsible for notifying the death in accordance with Section 10 or Section 11, as the case may be, of the Births and Deaths Registration Act, 1874, to secure a registered practitioner to certify the fact of death or of stillbirth in accordance with this Act. (4) If such person for any reason is unable to secure the services of a registered medical practitioner for the purpose aforesaid, then it shall be the duty of that person for the purpose of the district in which the death or stillbirth occurred of this fact, and a registrar receiving such information shall within twenty-four hours thereafter inform the coroner of the said district, whose duty it shall then be to appoint a registered medical practitioner for the purpose.

4. *Medical Certificate of Cause of Death.*—(1) A medical certificate of death shall be personally given by a registered medical practitioner who attended the deceased person during life or was present at the stillbirth, if any, who last attended the deceased person during life or was present at the stillbirth, it shall be the duty of the person legally responsible for notifying the death in accordance with Section 10 or Section 11, as the case may be, of the Births and Deaths Registration Act, 1874, to secure a registered practitioner to certify the fact of death or of stillbirth in accordance with this Act. (4) If such person for any reason is unable to secure the services of a registered medical practitioner for the purpose aforesaid, then it shall be the duty of that person for the purpose of the district in which the death or stillbirth occurred of this fact, and a registrar receiving such information shall within twenty-four hours thereafter inform the coroner of the said district, whose duty it shall then be to appoint a registered medical practitioner for the purpose.

**4. Medical Certificate of Cause of Death.**—(1) A medical certificate of the cause of death shall be given by a registered medical practitioner wherever possible during life, and if no such practitioner has attended the deceased person professionally during life, or the person so attending is unable to give or does not give the registrar to report the fact to the coroner of the district in which the death has occurred, and it shall be the duty of the registrar upon receiving such a report from the coroner of the district to satisfy himself concerning the cause of death and to issue the said certificate of the cause of death to the registrar, forthwith.

(2) A registered medical practitioner shall not be required to certify the contents of the stomach, intestines, or other organs of a deceased person, for the purpose of ascertaining the cause of death, if he states that he is unable to do so.

(2) A registered medical practitioner shall not be required to make an analysis of the contents of the stomach, intestines, or any other part of the body of a deceased person, for the purpose of establishing the cause of death, if he states that he is unable or unwilling to do so.

13 (3) Nothing in this Act shall affect the provisions of the Anatomy Act, 1832, or any Act amending that Act.

Provision is also made in the bill to ensure the orderly disposal of the dead and to prevent retention of dead bodies before disposal in those cases which are not already covered by the Public Health Acts. The bill, which does not apply to Scotland or Northern Ireland, is backed by Mr. Gerald Hurst, Mr. Morris, Dr. Haden Guest, and Sir Henry Slessor.

*Pensions.*—Colonel Sir Arthur Balfour, Minister of Pensions whether a sessional medical

*Pensions.*—Colonel Sir Arthur Holbrook, on April 1st, asked the Minister of Pensions whether it was intended that ex-full-time medical officers on sessional medical board work should be given preference for such work over medical men who had not been full-time medical officers of the Ministry; and, if so, whether instructions to that effect had been given, or would now be given, to all area deputy commissioners for their future guidance. Colonel Stanley, repeating an assurance given on March 11th, said it was the intention that former full-time salaried medical officers of the Ministry of Pensions should generally be given preference in the allocation of part-time sessional work, and instructions were being issued accordingly.

*Final Awards.*—On April 2nd, Colonel Stanley said that no instructions had been issued to members of the medical boards or the audit staff that the assessment of pensions should be made on the maximum possible basis. Since November 1st the rate of pension had been reduced, and the rate of reassessment during the degree of

**Pensions.**—Colonel Stanley said that no audit staff had been issued to members of the medical boards since November 1st the rate of assessment had been reduced after medical examination in 12,200 cases, or 16 per cent. of the total, and increased in 21,300 cases, or 27 per cent. of the total. The net result of reassessment during the year cent. had been an average increase in the degree of disability of 2.7 per cent. questions defined by the Ministry found had been

period had been an average increase in the net result of the time limit was assessed of 2.7 per cent. In reply to questions on April 2nd, Colonel Stanley said that an erroneous award was defined by the Ministry as an award which, as a result of a course of medical treatment and observation, it was seen to have involved an error of medical diagnosis or prognosis. The cases in which a serious error was suggested were few. Each had to be judged on its merits, and the Minister had no authority to modify a statutory final award where no more than a slight temporary worsening could be shown. For such cases the scheme of final awards included the provision of treatment as an essential feature. Every case where the responsible advisers, medical and other, of the Minister was recommended for a grant of special sanction. The working of the arrangements was being carefully watched, and as the local medical staff of the Ministry understood better the nature of the problem involved their recommendations were found in an increasing majority of cases to be justified. In reply to another question, Colonel Stanley stated that the total number of out-of-time cases which the appeal tribunals thought they were debarred from considering, owing only to the expiration of the time limit was diminishing, but an increasing proportion represented cases in which the man was genuinely prevented by unavoidable cause from appealing within the statutory time. The arrangement for correction of cases in which a final award was found to be erroneous, was, in the opinion of the Minister, adequate.

—*Indian Medical Service*.—Brigadier-General Charteris for India, on April 6th, officers of British applied to the Indian Army, the Indian

*Pay of Indian Medical Service.*—Brigadier-General Charteris asked the Under Secretary of State for India, on April 6th, whether the recent augmentation of pay of British officers in India, both of the British Army and of the Indian Army, applied to all officers except those of the Dental Corps, and the Royal Army Medical Service, tho Army Medical Corps, and the Veterinary Corps; that this was certain to prejudice future recruitments for these essential services in India; and what was the reason for this decision. Lord Winterton replied that officers of the Indian Medical Service in military employ had been granted the same pay concession as those in civil employ, as a result of the recommendations of the Commission on the Superior Civil Services in India, and officers of the Indian Army. The ease recently been granted to officers had been reserved for further consideration, as there was a possibility of changes affecting them of the other services mentioned in a further question by Mr. Buckness.—In reply to a further question by Mr. Buckness (678) as to the high rate of artificial silk manufacture was highly the matter was highly

**Acetone and Sickness.**—In reply to a further question by Mr. Oliver (see April 4th, p. 678) as to the high rate of sickness among operatives engaged in the manufacture of artificial silk from acetone, the Home Secretary said that the matter was highly technical and was still under investigation. The works had been visited by a medical inspector, who reported that a number of the cases of sickness which recently occurred there were influenza, and that the effects of acetone on the workers had not been so serious as represented. He stated, however, that the workers were affected to some extent and that improvements were needed in the arrangements. One of the engineering inspectors would visit in the works this week and advise on the alterations required. As soon as his report was received steps would be taken without delay to secure necessary improvements.

serious as reported. One of the English members were affected to some extent by the arrangements in the works this week and advised steps would be taken soon as his report was received. Improvements in the delay to secure the necessary improvements. On April 2nd, the Homo *Cannabis Indica*.—In reply to questions on April 2nd, the Homo *Cannabis Indica*.—In reply to questions on April 2nd, the Homo Secretary said: (1) That there was no power to postpone the operation of the Order scheduling cannabis indica as a poison. Under the statute, the resolution of the Council of the Pharmaceutical Society for the inclusion of a substance in the poisons schedule took effect one month after the Order of the Privy Council Office approving it had been advertised in the *London Gazette*. As the resolution was passed as long ago as last

August, ample notice had been given to all interested parties, and there did not appear to be any grounds on which the Government could properly intervene now. He was sure that no harsh measures would be taken by the Pharmaceutical Society in the enforcement of the law. (2) That the Government had not heard that any foreign Powers had yet ratified the convention concluded by the second Opium Conference at Geneva. The Central Board proposed in that convention could not come into existence until the convention had been ratified by ten Powers.

**Women Members of Asylum Visiting Committees.**—Sir Robert Newman asked the Minister of Health, on April 2nd, whether over 30,000 women patients of unsound mind were detained in borough and county mental hospitals where there was no lady member on the visiting committee; and whether he proposed to take steps to make it compulsory, if necessary by legislation, that in all public institutions where women of unsound mind were detained there should be some of their own sex on the visiting committees. Mr. Neville Chamberlain replied that the importance of the presence of women on visiting committees was fully recognized, and the matter had already been brought to the notice of the Royal Commission on Lunacy. A clause ensuring the appointment of women visitors had been included in a bill the Ministry of Health introduced in 1923.

**Scarlet Fever Toxin-antitoxin.**—Dr. Fremantle asked the Minister of Health, on April 2nd, if his department and the Medical Research Council had now sufficiently examined the efficacy of the toxin and antitoxin for test, prevention, and cure of scarlet fever, as officially used in several of the United States of America, and with what result. Mr. Chamberlain said that investigations were being actively pursued by the Ministry of Health and by the Medical Research Council, and the results would be published from time to time. These investigations entailed prolonged laboratory and clinical observations before a confident statement could be made of the efficacy of these procedures on the strength of tests in this country.

**Expenditure on Medical Research.**—Mr. John Williams asked the Minister of Health, on April 2nd, the amount of money spent on the prevention and cure of tuberculosis; the amount spent similarly on cancer; and the amount spent on research work for the prevention and cure of disease. Mr. Neville Chamberlain replied that it was difficult to estimate the expenditure from public funds on the prevention of tuberculosis. The estimated gross expenditure on treatment by local authorities during the financial year 1924-5 was £2,850,000. No State-aided scheme was in force for the treatment of cancer. On the co-ordinating Departmental Committee on Cancer at the Ministry of Health £2,300 was spent in 1924-5. The vote for the Medical Research Council in the same year was £140,000, and during that year approximately £5,000 was spent out of the Ministry of Health vote on research work, including the work of the Committee on Cancer.

**The Spallinger Treatment.**—In reply to Mr. Thomas Williams on April 2nd, the Minister of Health said that all practicable steps had been taken by the Ministry of Health to secure, for scientific investigation, a supply of M. Spallinger's preparations for the treatment of tuberculosis, but the Ministry was still without information as to when such a supply would be available in this country. The question of giving financial assistance to any local authority which obtained a supply of this serum for use in its institutions would be considered if and when it arose.

**Approved Societies and Hospitals.**—Mr. Timne, on April 2nd, asked the Minister of Health whether, having regard to the unremunerated services rendered by voluntary hospitals to insured persons, he would bring influence to bear upon the approved societies to make suitable contributions out of the unpaid health insurance surplus to the funds of voluntary hospitals treating insured persons. Mr. Chamberlain replied that for some time considerable sums had been paid yearly by societies to voluntary hospitals out of disposable surplus, and he hoped such sums would be increased in the future. The question would doubtless be reviewed by the Royal Commission on National Health Insurance.

**Insurance.**—The Minister of Health has stated that no occasion has arisen for approved societies to keep statistics of the number of persons in receipt of sickness benefits for each year. In 1924 the insured persons numbered 13,573,000, and £13,028,000 was paid in sickness benefit.

#### Notes in Brief.

Down to March 30th 71 cases of small-pox were notified in the urban district of Kettering, and 7 in the rural district. Of the 78 patients, the vaccinal condition of one was doubtful, 51 were stated to have been vaccinated in infancy, and one at 5 years old. None had been revaccinated, and all, except one aged 25, were over 39 years old.

In reply to a question as to a bill promoted by the Bradford Corporation to acquire certain powers now vested in boards of guardians, Sir Kingsley Wood said that he could not anticipate the Minister of Health's statement on that bill, nor the proposals for the Poor Law reform which the Minister hoped to submit in due course.

The Home Secretary states that he has no power to exempt the provisions of the Lottery Act.

unable to show the number of unemployed nor the number temporarily taken off the through sickness.

In reply to Mr. Clarry, the Office of Works states that in installing a gymnasium at the House of Commons for the purpose of ensuring the health and physical fitness of members would not be practicable.

In reply to Dr. Graham Little, on April 2nd, Sir Burton Chadwick, Parliamentary Secretary of the Board of Trade, said he was aware that certain special types of x-ray apparatus were not introduced in this country, but he was not prepared to introduce a bill removing them from the schedule of the Safeguarding of Industries Act.

Eleven slum clearance schemes have been approved since November 1st, 1924, and sixty-nine in all since January 1st, 1919. Clearance is in progress or complete in sixteen schemes.

The approximate number of beneficiaries from the Ministry Pensions was 3,004,000 in 1921, and 2,080,000 in 1924.

Mr. Neville Chamberlain does not propose to introduce a Milk and Dairies Bill this session.

The Chartered Associations (Protection of Names and Uniforms) Bill, which passed through Committee in the House of Lords on April 6th, is designed to prohibit the wearing by unauthorized persons of the uniforms of nursing and other associations.

The Home Secretary informed Mr. George Harvey on April 6th that he was considering the introduction of a bill to give effect to those parts of the International Convention, signed at Geneva in 1921, on the use of white lead in painting buildings, on which there was general agreement.

The Minister of Health estimates the number of persons between 65 and 70 years of age at 1,029,056.

#### M.P.s and Osteopathy.

A circular signed by twenty-one members of Parliament invited M.P.s to attend a meeting on March 31st to meet the president and other members of the British Osteopathic Association, and to hear an address by Dr. W. Kelman Macdonald of Edinburgh on the objects of the association and the present position of osteopathy. About thirty members of Parliament attended.

Mr. Basil Peto, taking the chair, said there was no recognized school of osteopathy in this country nor any board of osteopathy with the result that the public was exposed to charlatans. Forty-eight States of America this new science was recognized, as there were immense numbers of students. He felt it time that those in the House who were interested in the subject should ask the Ministry of Health to make this new body of knowledge available and to save this country from being a C3 nation. At present the General Medical Council held that the administration of anaesthetic for a manipulative surgeon or osteopath was infamous conduct and rendered the offender liable to the taking away of his degree. Should they not say that the time had come when they must declare there was something more than the ordinary physician's art of healing by drugs? He suggested the establishment of a committee to uphold the interests of osteopaths in the House of Commons and to press for their recognition.

Dr. Kelman Macdonald said that since 1910 he had entirely given up the use of drugs in dealing with the sick, save during service years when he had more or less to conform to orthodox practice. Osteopathy could relieve or cure most diseases by ensuring a good arterial and nerve supply to the tissues and by ensuring that the veins and lymphatics which carried away the waste products remained freely open. It did not matter what the discoveries of the future might be in the chemical or electrical world, the great principle of structural integrity remained, and on it osteopathy was founded. A disturbed artery determined to an hour the onset of disease. He quoted the declaration by Dr. Still, the founder of osteopathy, that all diseases were mere effects. It must be admitted that some of the early schools of osteopathy did not give a tremendously adequate training in general osteopathy. But the American Osteopathic Association now had 4,000 members, and there were seven approved osteopathic colleges in America, each with a four years' course. At present 4,000 persons were taking this course to be osteopathic physicians. The truth was that the osteopathic colleges were attracting the best type of American manhood and womanhood. The Editor of the *BRITISH MEDICAL JOURNAL* looked on osteopathy as a cult, but there were now more than 10,000 osteopaths, so that it was "some cult." Dr. Macdonald went on to explain that "the backbone is the happy hunting ground of the osteopath." The osteopath studied the tissues, but the bones interested him most, and the scientific adjustment of a bone out of place formed the keystone of his therapy. The osteopath banded with special success the treatment of those unfortunate persons called neurotics. The osteopath broke through the vicious circle causing neurasthenia by moving soft tissue and making a lesioned vertebra retrace the path it had taken from normality. Osteopaths were able to treat with success a large number of diseases which had defied the ordinary practitioner. Was it not refreshing that there was a definite framework abnormality to be dealt with when drugs, psycho-analysis, and the short-circuiting of the bowel or the removal of bowel "kinks" had failed? The osteopaths had broken away from the drug-giving school of medicine. They wished to remain outside and to have another fifty years to demonstrate their art. Their discovery would be smothered by the medical profession if the osteopaths were absorbed now, but a change would take place. The fetid bottle of medicine would go. Children died officially of measles, really of bronchopneumonia, because their bodies were not encouraged to eliminate poisons. Was it any wonder that a man who had sat at a desk in a faulty position for twenty years should suffer from constipation and religious doubts? The osteopath would remove the curve in his back, ease his subconscious mind, and persuade him that he had no use for the surgeon. Osteopathy appealed in all classes. It appealed pre-eminently to theosophists, lawyers, and politicians. Six registered British medical practitioners were practising osteopathy, and nearly 120,000 patients had been treated in this country. Importers from America had founded schools of osteopathy in this country, and had issued diplomas to pupils who were now practising in the Midlands. They held it time that the British public was protected from this. British medical practitioners should be granted a diploma by the British Osteopathic Association after one year's training, for which many were anxious. The British Osteopathic Association was anxious to demand or to

CORRESPONDENCE.

force the General Medical Council to allow anaesthetists to work with registered osteopaths. Think, he said, of the amount of suffering which could be avoided if all school children could have their backbones treated by osteopaths. Only 20 per cent. of children had normal backbones. Orthodox medicine was not a science but a collection of empirical procedures without any underlying principle. Osteopathy was an art with a basic principle. Dr. Drummond Shiels asked whether at the osteopathic school at Kirkcaldy there was nowadays a departure from the principles of osteopathy and a teaching of general surgery. Dr. Macdonald said that was because the State boards insisted on asking questions on general surgery before issuing a certificate. He admitted that the position was similar in this country, but he was asking that the position for a special school of osteopathy might possess valuable recognition for a special school of osteopathy. The osteopaths asked Dr. Graham Little said the country such special knowledge was acquired at the end of a general training. The osteopaths asked them to recognize a short cut. They would command more respect if they recognized that their claim to learn all about the spinal column in four years was absurd. Dr. Salter asked whether cancer, tuberculosis, and small-pox were outside the field of osteopathy, but not cancer. That he sent at once to the surgeon.

Mrs. Hilton Philipson cited the case of a young woman with consumption who went to an osteopath against the advice of her physician, with the result that the lung had been injured and haemorrhage caused. Was that possible? If so, was the osteopath one of the charlatans against whom Dr. Macdonald warned them? Dr. Macdonald answered that such a mishap was possible. He had seen a case.

Another speaker drew attention to the fact that a bill for the registration of medical herbalists had been circulated. Was their registration to be supported by the meeting? Dr. Macdonald replied that they power to sign death certificates. Dr. Macdonald's declaration definitely did not.

Dr. Fremantle called attention to Dr. Macdonald's declaration that framework abnormalities were the basis of ill health. Were that the cause of small-pox and tuberculosis? Dr. Macdonald replied that the tubercle bacillus could not make a start without abnormality of the spinal column. The osteopath worked to improve the blood supply to the affected area. Dr. Fremantle then asked whether histology, physiology, and anatomy were taught to osteopathic students. Dr. Macdonald replied that they were part of the preliminary examination.

Mr. Rosslyn Mitchell suggested that a consultative committee should be appointed so that the members of Parliament participating should not be regarded as pledged to the advocacy of osteopathy. Mr. Mackenzie Livingstone and Mr. Arthur Greenwood were appointed to summon a meeting of all members interested in the subject, who might be present, but did not speak before this Sir Herbert Barker was present, and he briefly declared his interest in the case put forward by the osteopaths.

Correspondence.

THE IMMEDIATE AND REMOTE EFFECTS OF SUNLIGHT.

Sir,—The note of warning sounded by Sir George Lenthal Cheatle (JOURNAL, March 28th, p. 631) with regard to the possibility of harmful effects to the skin from ultra-violet irradiation will, I am sure, find support from all those who are genuinely anxious that this valuable therapeutic aid shall not be brought into discredit by extravagant claims as to the conditions it is likely to benefit.

Unfortunately, when a remedy for certain diseases, however old and well tried, becomes popularized in the lay press the public swings the pendulum too far to the other extreme. Those who have had experience of this treatment know well, not only the possibility of overdose, but also the possibility of harmful exacerbations occurring. Cases of quiescent phthisis have been known to be lighted up in circumstances pointing strongly to the injudicious use of ultra-violet rays, and I have seen a case of arthritis react with a recurrence of acute abdominal symptoms in the region of the appendix which previously had not given trouble for many years.

Two examples of how "fools rush in" will, I hope, give emphasis to Sir Lenthal Cheatle's call for care and judgment, especially when every masseuse and electrical clinician, especially when recommending sun-ray baths for every ailment, are giving or recommending to press upon me a stand with a revolving chair with no less than six tungsten arcs ranged closely round it! And he assured me that "you can easily obtain an erythema dose in three minutes" Sir Henry Gauvain has emphasized again and again that we have no definite or final evidence that bronzing of the skin can be correlated with satisfactory clinical results,

while the danger of overdosage does not seem to have been considered. On another occasion a manufacturer of electrical equipment was approached by a firm of builders to supply ultraviolet are lamps in the bath rooms of some houses that were being erected—I am, etc., C. B. HEALD.

London, W.1, April 2nd.

BACTERIAL VACCINES.

Sir,—May I draw attention to a paper published in the JOURNAL of December 13th last (p. 1103) by Dr. L. S. P. Davidson on the effects of physical and chemical agencies on bacterial vaccines, read at the Annual Meeting of the Association at Bradford?

The opening statement reads: "For some considerable time it has been my opinion that physical and chemical agencies when applied to a vaccine would result in a great part of its antigenic value being lost." He next refers to his earlier experiments upon rabbits with typhoid vaccine emulsion and "detoxicated" typhoid vaccine, and states that he immunized rabbits with the former and inoculated rabbits with the latter, but on subsequently testing the serums of the six animals by the agglutination and complement fixation tests comes to the conclusion that, "as evidenced by the antibody response to the different antigens, very marked diminution in antigenic value was noted in the case of the detoxicated vaccine." The presumption is that he regards agglutination and complement fixation as evidence of formation of antibody, and in the remainder of his most interesting paper—which affords much food for thought—he develops the theme by means of a series of experiments in which *B. tuberculosis*, *B. suis*, *pestifer*, and the pneumococci are employed.

The author's conclusions bear out his opening statement. He says:

"(1) As shown by *in vitro* immunity reactions, the antigenic values of detoxicated and defatted vaccines are in no way comparable with those of the ordinary heat-killed bacillary emulsions in saline. (2) It would therefore appear that the physical and chemical processes involved in the preparation of the detoxicated and defatted vaccines are responsible for the marked loss of antigenic value."

I trust he will continue his experiments, and in doing so will take account of the experience of two workers, S. Rowland and A. S. Leyton (Grünbaum)—both now passed away—with whom I had the privilege of some association. I refer particularly to Rowland's work on the plague bacillus, for it was from a growth of this organism that he isolated a toxic nucleo-protein with which he immunized horses and so obtained a serum showing marked curative and protective properties when administered to rats infected by the same strain of organism.

With reference to the interpretation of Leyton's phenomenon of specific agglutination, I can confirm unreservedly that even under the stringent conditions with which he surrounded this test—namely, microscopic observation only, a definite degree of serum dilution, a stated and limited period of observation, a definite stage of the illness for making the test—he always recognized the possibility of so large an error as 1 in 8, so far as the typhoid group of infections is concerned. At no time did he consider the agglutination method other than of application in diagnosis only, to be read generally in conjunction with clinical findings. I never heard him state otherwise than that as the outcome of many years' observations his conviction remained that agglutination bore no relation to immunity. Notwithstanding the large possibility of error when applied to isolated cases, no one can doubt the exceeding value of his agglutination test when applied to a series of cases in presence of an outbreak—and this is the recognized upper limit of its value.

Dr. Davidson, in his experiments upon rabbits infected with the *B. suis* *pestifer*, confirms observations of previous workers as to failure to protect against a fatal dose when the animals, previously prepared by varying vaccines, detoxicated and otherwise, are subsequently given an ascertained minimum lethal dose of the living organism, with the result that practically all the "prepared" animals

<sup>1</sup> Rowland's publications upon this and cognate subjects appear in the *Journal of Hygiene*, vol. xi, December, 1911, pp. 11 et seq., and in the *Plague Supplement*, Nos. III and IV, vol. xiii (1914) and vol. xiv (1915) respectively.

succumbed. His final statement leaves much room for thought:

"The conclusion to be drawn from this protection experiment is that the virulence of the test culture was of such high grade that the increased resistance produced by vaccine immunization was still insufficient to protect these animals from lethal doses."

He is here evidently wedded to the view that certain serological phenomena—namely, agglutination and complement fixation—are terms interchangeable with increase of natural immunity. Yet all his experiments are directly to the contrary.

I trust he will bring forward fresh evidence in support of his views, for many practitioners, including myself, are by no means happy upon the subject, and we would like more enlightenment. This matter has much too important a bearing on clinical medicine to be disposed of by generalizations based on somewhat narrow laboratory tests involving misinterpretation and misapplication of fundamental phenomena whose value and limitations have been recognized and confirmed by many clinical workers. Detoxicated and other vaccines are now undergoing extensive clinical trials; as matters stand, time alone will tell which of the preparations are likely to survive.—I am, etc.,

MYER COPLAND.

London, N.W.4, March 23rd.

### THE PAINFUL DYSPESIAS.

SIR,—In your issue of March 21st (p. 556), in the report of a recent meeting of the Brighton and Sussex Medical-Chirurgical Society, there are a few lines on my remarks during the discussion on Mr. Fletcher's paper. As these stand they are calculated to give a somewhat erroneous idea of my meaning, and therefore I hope you will allow me now to try to correct any such false impression. It is, I know, very easy for a few unprepared remarks to be misinterpreted.

What I wished to convey was this—that too much must not be expected of the mere black and white evidence of an x-ray photograph (or series of photographs) *per se*; and that, in most cases, everything depends upon the capacity of the radiologist making the examination, and his ability to interpret what he sees. The screen examination in a gastric or duodenal case is much more important than any photograph, or series of photographs. The x-ray evidence obtained must be taken in conjunction with the clinical evidence, and the diagnosis arrived at by carefully considering both.

I am a firm believer in the great value of x-ray evidence in these gastric and intestinal cases, and think that there are very few of them in which we can afford to do without it. The x-ray investigation is as important as any other method, and of more value than some. It is very often the deciding factor in arriving at a diagnosis. The trouble is that it is frequently used in much too loose a way, and, as I said before, too much is often expected of black and white evidence *per se*; x-ray investigations of these cases—just like ordinary clinical investigations—depend for their value upon the capacity and intelligence of the man who carries them out.

In speaking of gastric carcinoma, my chief object was to point out the value of x-rays in the general diagnosis of these cases, and not only to lay stress on the special point of their value in deciding the possibility of operation. It has been stated that, at the Mayo Clinic, 95 per cent. of cases of gastric carcinoma have been diagnosed by x-rays.—I am, etc.,

W. BARRINGTON PROWSE,  
Honorary Radiologist, Sussex County Hospital.

Brighton, March 22nd.

### RESPIRATORY ORTHOPAEDICS.

SIR,—I am gratified to learn from the letter of Mr. Alan H. Todd (March 28th, p. 635) that the orthopaedic specialist is actively interested in the difficult problem of the adenoid child, for it is to him that we must look for help in certain aspects of it. How difficult that problem is, and how deeply the whole question of national health is involved therein, can be fully realized only by those who have to deal with it practically.

Upon the otological side the great advances of quite recent years (I need only mention the perfection of the modern tonsil and adenoid technique, or the splendid work of Friel on zinc ionization in tympanic disease) are sufficient to keep alive the hope that the school otologist will yet rid the world of all the dreadful consequences of middle-ear disease. We are accustomed to look upon the surgery of the temporal bone, with its wonderful elaborations and extensions, as one of the triumphs of modern medicine, and those of us who practise it are very rightly and properly proud of whatever degree of skill we may individually possess. But the school otologist must in a special degree look upon his most successful case of the kind as a compromise at the best, for the very reason of his existence is that he may render major operations unnecessary. I have for many years believed, and never tire of preaching to the few who will listen, that when the importance of the adenoid problem is universally realized the surgery of the temporal bone will always begin, and usually end, in the nasopharynx.

There is no advance in the treatment of the respiratory complications which can be in any way compared to the otological; mainly, it is to be supposed, because we have in the respiratory mechanism of the adenoid child a problem which is as yet unsolved. It is commonly held, for example, and I believe taught by authority, that the insufficient aeration of the blood and the thoracic deformity of the adenoid child are due to his being unable to take in enough air because of the mechanical obstruction by the growth. That cannot be the explanation in the many cases with bad adenoids without enlargement of the faucial tonsils. There is in these no mechanical obstruction between the outer air and the glottis; and, the mouth being wider than the nares, it would be possible to inspire through it a correspondingly greater volume of air but for the presence of some factor of deeper physiological significance than mechanical obstruction of the posterior nares. The position of expiration which the thoracic structures of the adenoid child tend always to assume can be explained only by the recognition of this further factor, which is reflex stimulation.

1. The presence of the adenoid growth in the nasopharynx sends constant expiratory stimuli to the respiratory centre in the medulla through the glosso-pharyngeal nerve.

2. The inspiration of raw air by the mouth irritates the sensory nerve of the larynx (the superior laryngeal). The purely expiratory nature of this stimulation reinforces the expiratory reflexes from the nasopharynx through the glosso-pharyngeal.

3. Such irritation of the superior laryngeal nerve, a constant factor in every case, is a vagal stimulation which, by decreasing the calibre of the bronchioles, furthermore increases the resistance to the inspired current.

The effects of these constant impulses to expiration are seen in the resultant deformity of the thoracic cage with all its associated disasters. In the course of a very short time there is established an abnormal respiratory rhythm, which is not greatly influenced by the mere surgical removal of the naso-pharyngeal growth which initiated it. Operation certainly provides an airway through which the child can breathe if he will, but, as Mr. Todd so truly says, "usually he does not will." The adenoid subject never takes a deep breath—partly because he is too engrossed in the child's subjective world of reverie and make-believe to overcome a physical deficiency by an act of will (that is to say, he cannot be bothered), but chiefly because even such shallow diaphragm-breathing as he has become accustomed to is a constant struggle against reflex expiratory impulses and the resulting thoracic disability.

Respiratory exercises for the correction of abnormal rhythm are useless unless scientifically devised so as to be applicable in their different forms to the several varieties of disability. The form of exercise which improves or cures a case of faulty breathing with a mobile thorax is useless or actually harmful where there is shallow diaphragm-breathing with rigid thorax and a dilated right heart.—I am, etc.,

F. PEARCE STURM, Ch.M.Aberd.  
Ear and Throat Clinic, Leigh, Lancs,  
April 5th.



APRIL 11, 1925]

OBITUARY.

Obituary.

DISEASE AND HABITS OF INTemperance.

Sir,—I enclose a rather entertaining card. Great capital is being made here [Breslau, Germany] by those interested in liquor out of figures purporting to be based on statistics compiled for the British Medical Association. Some of the professors here would like to be able to refute these figures if they have been falsified. I should be exceedingly grateful if you would very kindly inform me (1) if these figures accurately represent the result of the statistics, and (2) where I can find an account of the methods employed in the investigation.—I am, etc.,  
W. N. GOLDSCHMIDT, M.R.C.P.Lond.

(Dated) Breslau, March 21st.

••The figures alluded to are taken from the report of the Collective Investigation Committee on the Connexion of Disease with Habits of Intemperance. It was published in the BRITISH MEDICAL JOURNAL of June 23rd, 1888, where it filled twelve pages. It was compiled by Dr. (now Sir) Isambard Owen, who acted as secretary of the committee. We referred the above letter to him and he has been good enough to send the following note:

The inquiry reported on was not primarily concerned with vital statistics, though some interesting information bearing on the subject was incidentally obtained. Its object was to ascertain what particular forms of disease were especially attributable to alcoholic excess. The table quoted was followed in the report by a statement that the figure for the total abstainers was presumably greatly influenced by the low average age of then living total abstainers as compared with that of the other classes, the ranks of abstainers having been recently largely recruited by propaganda among the young. This was further shown by additional calculations to have been actually the case. The final conclusion on this point was that "We have not in these returns the means of coming to any conclusion as to the relative duration of life of total abstainers and habitually temperate drinkers of alcoholic liquors."

An enterprising journalist communicated the table to the lay press, suppressing the context and announcing the bare figures as the "conclusions" of the British Medical Association. No great harm would have been done by this, had not a certain number of zealots for total abstinence, men into the trap, and, without taking the trouble to verify the accuracy of the newspaper paragraphs, incautiously rushed into print to combat these imaginary "conclusions" by wholesale charges of incompetence, bias, and so forth, against everybody concerned with the report. This brought the liquor trade into the field, and the supposed "conclusions" were soon transferred to large posters and displayed in a number of public houses and bars in various parts of the Kingdom.

I wrote at that time some two hundred letters to the press to warn the public against these notices and similar statements, and was backed up by the then ablest advocate of total abstinence—the late Dr. Norman Kerr. The notices disappeared, but some germs of the malady seem to have survived to cause an occasional sporadic outbreak.

RADIUM EMANATION (RADON).

Sir,—In reply to the letter of Mr. Hayward Pinch in your issue of April 4th (p. 681), the Radium Committee of the Middlesex Hospital does not hold itself responsible for certain unjustifiable claims which have appeared in the press respecting the new Radon Centre at the Middlesex Hospital. This centre has been established at the request of the Medical Research Council, and with the financial support of the British Empire Cancer Campaign, to enable a wider research to be made into the uses of radium emanation. The services of the new installation will not be restricted to the Middlesex Hospital, but will be available for certain other hospitals.

The Middlesex Hospital has always recognized the valuable pioneer work of other centres in the use of emanation in this country, and has already in the lay press disclaimed priority in this field.—I am, etc.,  
W. SAMPPSON HANDLEY,  
Chairman of the Radium Committee of the Middlesex Hospital.

April 6th.

ABRAHAM EMRYS JONES, M.D.  
Dr. ABRAHAM EMRYS JONES, who died at his residence in Manchester on March 31st, was born in 1852 at Llanarth, Cardiganshire. His early education was received at Cardigan Grammar School, and later at a school at Frome in Somerset. He left school at the age of 16, and developed an active interest in politics. Later, however, he turned to medicine, and after studying in Glasgow graduated M.B., C.M., and L.M. at the University of Edinburgh in 1875. In the following year he obtained the diploma of Membership of the Royal College of Surgeons of England. In 1877, for a thesis on work connected with the eye, he received the degree of M.D. Edin. with special commendation. In 1875 he held the appointment of resident surgeon officer to the Hulme Dispensary, Manchester, and shortly afterwards was appointed house-surgeon to the Manchester Royal Eye Hospital, becoming honorary assistant surgeon to that hospital in 1879. He held numerous other appointments during his active career, including those of consulting ophthalmic surgeon to the Bolton Infirmary, the Jubilee ing ophthalmic surgeon to the Bolton Infirmary, the Jubilee oculist to the Barnes Home Industrial Schools, the Jubilee Schools, and the Warehousemen and Clerks' Schools. In addition he was a medical referee under the Workmen's Compensation Act for injuries to the eye. He contributed a number of papers to medical literature on ophthalmic subjects. From time to time he delivered a series of lectures and discourses on various subjects, and one of his addresses on the disposal of the dead, under the presidency of Cardinal Vaughan, then Bishop of Salford, must be specially mentioned. This lecture led to the erection of the crematorium at Manchester, of which he was a strong supporter. His name will always be associated with many public movements, but owing to his later dislike of politics he never took an active part in municipal affairs, but he was a justice of the peace for the city of Manchester. Politically Dr. Emrys Jones was a liberal. He was patron and president of the Welsh National Society and the Manchester Ophthalmic Society, and of the Medical Board of the University of Wales. In 1911 he was elected president of the Manchester Medical Society; his presidential address was devoted to the life of Lord Lister, and contained many interesting references to his work as a surgeon and a teacher.

During the active part of his career he occupied a prominent position as one of the leading eye specialists in the district. Though he retired from active practice many years ago he still continued to live at his old consulting rooms in St. John Street, and was to be seen almost daily taking his walks in Manchester. His favourite pursuits, apart from his work, were literature and music, and his love of nature and romance was greatly deepened by his Welsh character and temperament. The funeral service was held at the Manchester Crematorium on April 3rd, and was attended by a number of his medical colleagues. Representatives were present from the Manchester Royal Eye Hospital and the Manchester and Salford Sanitary Association.

JAMES E. KELLY, M.D., F.R.C.S.I.,  
New York.

A very original and interesting personality, in the person of James E. Kelly of New York, died in that city on February 28th. He was born at Oakmount, co. Galway, eighty years ago, and studied medicine in Dublin, becoming F.R.C.S.I. and surgeon to the Jervis Street Hospital, where he soon acquired a great reputation as a brilliant and original surgeon, a most attractive and popular lecturer in surgery at the hospital and the Loder Medical School, since merged in the school of the Royal College of Surgeons in Ireland. He was beloved alike by students and patients for his many alluring qualities of head and heart. In 1883 he was established in Dublin as a surgeon of great



eminence, with a very large practice and a brilliant professional future in front of him, contributing arresting articles to the surgical journals and to *Bryant's Surgery*, a standard book of the period. To the amazement of his hosts of friends he suddenly, under the influence of Henry George, decided to leave Dublin and sacrifice his established position because he felt the political atmosphere of Dublin at that time was oppressive to his strong democratic views. He cut his cable and sailed with his young and numerous family—a nineteenth century pilgrim—to Boston; but with a very different political and religious ideal from that of the earlier pilgrims. He became surgeon to the largest hospital in Boston—the Charity. He only spent three years in Boston, as even there he did not find that full democratic freedom which he yearned for. So to New York he migrated, where he practised and flourished for forty years. He was surgeon on the staff of the City, the Gouverneur, and the French Hospitals, professor of anatomy and surgery at the Post-Graduate Medical Society (New York), and founder of the New York Celtic Medical Society. In New York, as in Dublin, he soon established a wonderful reputation for surgical skill of the highest order, great originality, and independence of character that almost verged, in its integrity, on the quixotic; the loss of fees or patients never weighed for a second with J. E. Kelly if any small or big point of principle or professional dignity was at stake. Almost to the last he continued the practice of his profession. He was a man of extraordinary physical and mental energy. Almost daily, through his long years of residence in New York, he went to the New York Athletic Club ground to cycle and box with the well known amateur and professional boxers of the day, and indulged in other athletic pursuits. His activities were numerous and his personality was of arresting interest to all who came within the charmed circle of his friendship. He leaves behind him his widow (formerly Miss Morrough of Dublin), two sons (one a distinguished ophthalmologist in New York), and a married daughter. The outstanding feature of James E. Kelly was his mesmeric personality, his devotion to his profession, with the highest and noblest ideals, his kindness to friends and patients, his loyalty to all.

#### REDMOND ROCHE.

Dr. ALBERT WILLIAM BEAUMONT died at his residence, Oak Hall, East Ham, on March 26th, in his 71st year, after many years of ill health. He was educated at St. John's College, Cambridge, and St. Mary's Hospital, obtaining the diploma of L.S.A. in 1882, the L.R.C.S. Ed. and L.M. in 1885, and graduating M.D. Dubl. in 1898. In 1886 he began to practise in East Ham, and was appointed surgeon to the Gas, Light, and Coke Company's Workmen's Provident Society, holding the post for nearly forty years. For many years he was medical officer of health for East Ham before it became a county borough, resigning subsequently owing to the pressure of private practice. His other appointments included those of medical officer to the East Ham Division of the West Ham Union for over thirty years, and consulting surgeon to the East Ham Cottage Hospital. He was a member of the British Medical Association and a Fellow of the Society of Medical Officers of Health. In 1918 he was joined in partnership by his eldest son, Dr. O. A. Beaumont, who succeeds him in the practice.

Dr. HENRY JOHNSTON BOYD of Hillsborough, co. Down, Northern Ireland, died in a private nursing home in Belfast on March 29th. He had been ailing for some time, and finally sought relief in an operation, but his strength was not equal to the demands made upon it, and he never fully rallied. He took the diplomas of L.R.C.P. and S. Ed. in 1880, and had been forty-one years dispensary medical officer of the Hillsborough district; he was most unremitting, painstaking, and conscientious in the discharge of his duties, beloved by his patients and all who came closely in contact with him, and universally respected and trusted in his area. He was always a member of the various local committees of the British Medical Association, and attended the meetings when his time was not occupied by numerous

other calls. He held a high place in the estimation of his medical brethren, on account both of his professional ability and of his sterling worth, and as one who kept himself acquainted with recent medical advance. He leaves a widow and one son, at present assistant tuberculosis officer for County Down; with them much sympathy is felt.

Professor RUDOLF THIES SOEN, director of the Freiburg University Surgical Clinic, has recently died of pulmonary embolism following fracture of the femur, at the age of 41. A memoir of him appears in the *Zentralblatt für Chirurgie* of March 28th.

Dr. LEO TESTUT, the well known professor of anatomy in the Lyons Faculty of Medicine, has recently died.

## Universities and Colleges.

### UNIVERSITY OF LIVERPOOL.

THE following candidates have passed the examination for the diploma in tropical medicine:

J. Black, E. J. Crawford, Mary W. Ellam, F. N. Green, J. T. Johnson, Elizabeth K. Mackay, K. S. Shah, C. H. B. Thompson, J. J. de Wael.

\* Recommended for the A. H. Milne Medal.

### UNIVERSITY OF ABERDEEN.

A GRADUATION ceremony was held on April 1st, when the degree of M.D. was conferred upon four successful candidates and those of M.B., Ch.B. upon fifty-one candidates; the names were printed in our issue of April 4th (p. 682).

The diploma in public health was conferred upon the following successful candidates: Agnes M. E. Benzie, J. C. Kerrin, Christina R. Laing, J. C. Milne, Lily M. Watt, Mabel Wilson.

### QUEEN'S UNIVERSITY, BELFAST.

THE special spring graduation ceremony of the Queen's University, Belfast, was held on March 31st, when the following degrees and diplomas were conferred:

M.D. (with commendation).—Edward Armstrong.

M.B., B. Ch., B.A.O.—Rachel A. Elliott, R. J. C. Maxwell, Margaret Bamber, D. D. Barker, Norah E. Bingham, Rabie A. Browne, N. C. Burns, W. M. Burns, R. J. W. Burrell, J. E. Campbell, Kathleen Cathcart, Charlotte C. Carlisle, P. H. Deeny, D. S. Gordon, P. Higgins, F. V. Hill, R. S. Johnston, J. A. Kelly, C. A. Keph, M. C. MacCormac, J. McGeough, C. Macready, T. A. Muckle, W. C. S. Murray, J. Purce, S. Robinson, G. Scarlett, Jane S. Walker, Margaret Young.

D.P.H.—J. Patton.

\* With second-class honours.

### ROYAL COLLEGE OF PHYSICIANS OF LONDON.

#### RE-ELECTION OF PRESIDENT.

AN extraordinary Comitia of the Royal College of Physicians of London was held on Monday, April 6th, at 5 p.m., the President, Sir Humphry Rolleston, being in the chair.

He referred to the loss the College had sustained by the recent death of the Registrar, Dr. J. A. Ormerod, and, on the motion of the Second Censor, a resolution expressing condolence with his family and referring to his services in the office of Registrar for more than sixteen years was passed in silence, all the Fellows standing.

The President then delivered the annual presidential address. He referred to the fact that there are now 373 Fellows as against 91 a hundred years ago, and that the Members now numbered 688, while there was still one Extra-licentiate. He referred to the work of the College during the past year, mentioning the special alteration of the by-laws, permitting the admission of women to the Fellowship. He then delivered obituary addresses upon the eleven Fellows who had died during the presidential year—namely, Dr. Hugh Walsham, Dr. R. Hingston Fox, Sir Sydney Russell-Wells, Dr. Sidney H. C. Martin, Dr. Henry Gervis, Dr. J. F. W. Tatham, Dr. Herbert Williamson, Dr. Clement Dukes, Sir James Mackenzie, the Right Hon. Sir Clifford Allbutt, and Dr. J. A. Ormerod.

On the motion of the Senior Fellow, Sir William Church, a hearty vote of thanks was accorded to the President for his address. Sir Humphry Rolleston vacated the presidential chair and the College proceeded to the election of President. Sir Humphry Rolleston obtained 83 votes out of 94 voting, and was re-elected President for the ensuing year.

Licences were granted to four candidates, and permission given to seal their diplomas. Communications were received from the Secretary of the Royal College of Surgeons, dated February 13th and March 12th. The meeting was then constituted as a special extraordinary Comitia for the purposes of a report from the Censors' Board. This report having been adopted, the following resolution was passed on the motion of the Senior Censor:

"That William Lovell be declared to be no longer a Licentiate of the College; that he forfeit all the rights and privileges of a Licentiate; and that his name be expunged from the List of Licentiates during the pleasure of the College."

The President afterwards dissolved the Comitia.

## ROYAL COLLEGE OF SURGEONS OF ENGLAND.

A QUARTERLY Council meeting was held on April 2nd, when the President, Sir John Bland-Sutton, was in the chair.

## Election of Fellows.

The following Members of twenty years' standing were elected Fellows: Dr. Alexander Primrose, C.B., Professor of Clinical Surgery in the University of Toronto; and Mr. J. Basil Hall, M.Chir. Cantab., Consulting Surgeon, Bradford Royal Infirmary, President of the British Medical Association.

## Diplomas and Licence.

Diplomas of membership were granted to two candidates. The licence in dental surgery was granted to one candidate.

## Jacksonian Prize.

The Jacksonian Prize for 1924 was awarded to Mr. A. Lawrence Abel, the subject for that year being "The pathology, diagnosis, and treatment of oesophageal obstruction." A certificate of honourable mention and an honorarium were awarded to Mr. E. Musgrave Woodman for his dissertation on this subject. The subject for the Jacksonian Prize for 1925 will be "The pathology, diagnosis, and treatment of abscess of the brain."

## ROYAL COLLEGE OF PHYSICIANS OF IRELAND.

At the monthly meeting of the President and Fellows, held on April 3rd, Francis Joseph O'Donnell, L.R.C.P. and S.I., M.R.C.P.I., was elected a Fellow of the College.

The following were admitted as licentiates in medicine and midwifery:

Anna M. Allen, M. J. Cleary, R. F. G. Dickson, J. A. Donworth, W. J. Finnerty, C. Gardner, J. Graff, T. Griffith, D. J. Keane, M. J. Kelly, T. R. McCabe, M. A. Monahan, Aileen M. Mulcahy, M. O'Regan, B. Plunkett.

## The Services.

## AUXILIARY R.A.M.C. FUNDS.

THE annual meeting of the members of the Auxiliary Royal Army Medical Corps Funds will be held at 2.30 p.m. on Friday, April 24th, at 11, Chandos Street, London, W.1, when the annual report and financial statement for the year ended December 31st, 1924, will be presented, and the officers and committee for the current year elected.

## Medical News.

DURING the last three weeks the number of deaths ascribed to influenza in the great towns of England and Wales has not varied much; the figures were 283, 304, 278. The numbers of cases of pneumonia (primary) notified in England and Wales have followed a similar course (1,395, 1,523, 1,418). In the South the stress of the epidemic seems to be past, but in the Birmingham district the mortality is still high. Last week Birmingham recorded 34 deaths, the same number as in the previous week. The only London, with 26 deaths) which returned Trent (15), Liverpool (15),

A COURSE of lectures and demonstrations will be given at the General Hospital, and at the Queen's Hospital, Birmingham, on April 21st and Fridays from 3.30 to 5 p.m., commencing on April 21st and May 1st respectively. The course, which includes demonstrations on medical and surgical cases, skin diseases, ophthalmic cases, children's diseases, urinary diseases, insulin treatment, etc., will be given by the medical and surgical staffs. One demonstration will be given at the Children's Hospital, Ladywood Road, Birmingham. The fee for the course is 1 guinea. Further particulars can be obtained on application to the hospitals.

THE Fellowship of Medicine announces an intensive course in medicine, surgery, and the special departments, beginning on April 20th at the Hampstead General Hospital. From April 20th to May 2nd a course in proctology will be held at St. Mark's Hospital, and a special course in diseases of children at the Queen's Hospital, Hackney Road. In May courses will be given in dermatology at the Hospital for Diseases of the Skin, Blackfriars; in diseases of infants, at the Infants Hospital; in diseases of the throat, nose, and ear, at the Central London Throat, Nose, and Ear Hospital; and in psychological medicine, at the Maudsley Hospital. Copies of the syllabus of these courses may be obtained from the Secretary to the Fellowship of Medicine, No. 1, Wimpole Street, W.1.

On April 1st Lord Balfour opened the new Hebrew University of Jerusalem, the organization of which was described in our issue of March 7th (p. 471). In his speech Lord Balfour pointed out that the Hebrew language, associated in the past with the poetry and religious teaching of

Isaiah, was capable of being used in such modern extensions of science as microbiology. Three great theories in science—those of creative evolution, the new psychology, and relativity—had been enunciated by Jewish investigators, and in the darkest days of the Middle Ages Jews and Arabs had combined to provide the first sparks which had led eventually to the scientific illumination of Europe. The British Medical Association was represented by Wing Commander W. Tyrrell, D.S.O., M.C., R.A.F.M.S., Principal Medical Officer of the Palestine Command.

THE KING has approved the award of a Royal medal—the Patron's Medal—by the Royal Geographical Society to Dr. A. F. R. Wollaston, D.S.O., for his explorations and journeys in Dutch New Guinea, Central Africa, and many other parts of the world. Dr. Wollaston was medical officer and naturalist to the first Mount Everest Expedition in 1921.

THE Kensington Division of the British Medical Association is arranging a ball in aid of the Royal Medical Benevolent Fund and Guild, to be held at the Kensington Town Hall, on Thursday, May 7th, from 9 to 2 o'clock. Corelli Windeatt's band has been engaged. Tickets, 1 guinea each, or six for 5 guineas, can be obtained from the Honorary Secretary, Dr. Howard Stratford, 20, Upper Phillimore Place, Kensington. As a result of last year's dance the Division was able to hand over £125 to the Fund after all expenses had been paid.

THE annual meeting of the Medical Missions Department of the Society for the Propagation of the Gospel in Foreign Parts will be held at 8 p.m. on April 22nd, in the Great Hall of the Church House, Westminster. The chairman will be the Bishop of Singapore, and the principal speaker will be Dr. F. S. Drowe, from Holy Cross Hospital, East Pondoland, who will show some new and beautiful slides of his medical work there.

THE report presented to the annual meeting of the Hospital Saturday Fund on April 4th showed that the total receipts for the year had been £107,342, while the total sum awarded was £76,488; the management expenses of the fund were £9,406, or 8.75 per cent. of the gross receipts.

AT the recent annual meeting of the British Spa Federation, which includes the New Zealand spas, certain conditions of membership were laid down. They include the possession of natural mineral waters of approved therapeutic value and of a bathing or pump-room establishment approved by the Federation, and also the existence of suitable local medical authority devoted to spa practice. Treatment must be given only under medical prescription. The amenities and sanitary conditions of the spa must be approved by the Federation, and the spa must be controlled by a public body or an approved private body. Before admitting a spa the Federation will depute three representatives (one of whom shall be a spa medical practitioner) to visit the spa and report fully thereon. Mr. John Hatton, Director of the Baths at Bath, was elected honorary secretary of the Federation to fill the vacancy caused by the resignation of Mr. F. J. C. Broome of Harrogate.

An obituary notice of Sir Clifford Allbutt, with an excellent portrait, appears in *Il Policlinico* (Sezione Pratica) of March 30th.

THE Ministry of Health has issued a *Memorandum* on the duties of medical officers of health in England and Wales. It consists of an introduction and two appendices, the second being "an index to the statutes, orders, regulations, etc., relating to the powers and duties of the medical officer of health." This second appendix is a formidable list, and shows the multiplicity and complexity of his duties. The memorandum can be obtained from the Stationery Office, price 2d. net.

THE University Press announces for early publication a collection of papers written by the late Sir German Sims Woodhead, the late Sir Clifford Allbutt, and Dr. P. C. Varrier-Jones, as the result of experience gained at the settlement for consumptives at Papworth, Cambridgeshire. The volume, to which Sir James Kingston Fowler has contributed an introduction, has been printed at the Papworth Press.

THE late Dr. E. E. Klein, F.R.S., formerly lecturer on advanced bacteriology at St. Bartholomew's Hospital Medical School, who died in February last, aged 80, has left estate of the gross value of £14,598.

MR. E. TUDOR OWEN, O.B.E., has been appointed an assistant secretary of the Ministry of Health.

THE thirty-eighth French congress of ophthalmology will be held at Bordeaux on infantile glaucoma. Further information can be obtained from the general secretary, Dr. René Oufroy, 6, Avenue de la Motte-Picquet, Paris, VII<sup>e</sup>.

THE fourth International Medical Congress of Industrial Accidents and Diseases will meet at Amsterdam from September 7th to 12th. The honorary president is the Minister of the Netherlands to England, Joulkeer Dr. R. de Marees van Swinderen. Apart from the scientific proceedings there will be receptions by the County Council of Amsterdam and the Minister of Labour at the Hague and a trip to the harbours and the surrounding country. The president of the Congress is Sir Thomas Oliver and the honorary secretary Dr. Herman S. N. Menko, 2, Grosvenor Gardens, Cricklewood, N.W.2.

A SET of tables for computing standard metabolism by means of Krogh's respiration apparatus has been published in a small pamphlet by J. H. Schultz, publisher, of 15, Haynagade, Copenhagen. The price is Kr. 1.50.

A COMMITTEE has been formed for the erection of a monument to the Italian physiologist, Angelo Mosso, in his native town of Chiari.

DR. W. W. Keen of Philadelphia and Professor Sanarelli of Rome have been elected honorary foreign members of the Royal Academy of Medicine of Belgium.

DR. TERRIEN has been appointed professor of clinical ophthalmology in the Paris Faculty of Medicine, and Dr. Duvergy professor of urinary diseases in the Bordeaux Faculty.

THE Italian Antituberculosis Congress will be held at Naples from May 25th to 28th, under the presidency of Professor Andrea Fernanini.

## Letters, Notes, and Answers.

THE telephone number of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is Gerrard 2630 (Internal Exchange). The telegraphic addresses are:

EDITOR of the BRITISH MEDICAL JOURNAL, Aitiology Westrand, London.

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), Articulate Westrand, London.

MEDICAL SECRETARY, Mediscera Westrand, London.

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Draculus, Dublin*; telephone: 4751 Dublin), and of the Scottish Office, 6, Rutland Square, Edinburgh (telegrams: *Associate, Edinburgh*; telephone: 4361 Central).

## QUERIES AND ANSWERS.

### INCOME TAX. Motor Car Transaction.

"W. A. W." bought in 1922 a B. car for £414, sold it in 1924 for £175, and bought a C. car for £355. The inspector of taxes refuses to allow the net cost, £355-£175=£180, saying that the maximum amount allowable is the excess over £175 of the cost of a car exactly similar to the B., now being sold at £320, instead of at the former £414.

The inspector's contention is unusual and would not, we believe, be supported on appeal. The statutory provision dealing with the question of capital is No. 3 (f) of the rules applicable to Cases I and II, Schedule D, which reads as follows: "Any capital expended or intended to be expended as capital in respect of any trade, profession . . ." shall not be allowed as a deduction. Was any portion of the net £180 expended "capital expenditure"? We think not. "W. A. W." had sunk £414 in equipping himself with a motor car, and for income tax purposes he is not entitled to any depreciation. For such purposes therefore it must be assumed that at the time when the transaction in question took place that was still the amount of capital in the equipment. The contention of the inspector is, in effect, that the transaction added £45 to the capital, which, taking all the circumstances into account, seems to be capable of refutation on the face of it. We suggest that our correspondent should put this argument to the inspector, intimating that he is advised that he would have a good prospect of succeeding in an appeal to the General or Special Commissioners.

## LETTERS, NOTES, ETC.

### THE SUNLESS WINTER.

THE records made at the Agricultural Experimental Station, Rothamsted, Herts., confirm the general impression that the winter of 1924-25 was, if the past tense can be used, uncommonly wet and sunless. For the six months—September 1st to February 28th, which is reckoned the first half of the harvest year, the amount of rain was 20.83 inches, an excess of 5.83 inches. There was practically no extra evaporation from the soil and almost

the whole of the excess of rain drained through it; the amount was 16.029 inches, or 5.749 inches above the average. The average amount of moisture lost by evaporation during the six cold months should be about 5 inches; last winter it was only 4. The annual average amount of sunlight daily should be 2 1/2 hours; it was 2 1/2, and the total amount of sunshine for the six months was 92.2 hours below the average; only January received over the average amount, and then it was only one hour. Though March was dry, the rainfall being 0.781, as compared with 1.219, the amount of sunshine was below the average. No month since last July has been unusually sunny, and so far the hope of Dr. Christmas, of the Records Department, that the spring allowance will be more liberal, has not been fulfilled.

### MATERNAL MORTALITY.

MR. ALECK BOURNE, F.R.C.S. (London), writes: If "A Country Practitioner" (JOURNAL, March 21st, p. 586) and "A Town Practitioner" (April 4th, p. 634), who believe that maternal mortality is "grossly exaggerated," wish to know the cold facts of the situation, they should read the very lucid report on this subject written by Dr. Janet Campbell and published by the Ministry of Health in 1921. There they will see that the death rate per 1,000 births in 1922 was 3.81, of which 1.33 were due to sepsis and 2.43 to "other causes." Compared with some other European countries, the mortality per 1,000 for the years 1911-13 was as follows: Scotland 5.7, France 4.78, England and Wales 3.91, Norway 2.90, Italy 2.44, and Holland 2.29. Spain and Switzerland both had higher rates than England and Wales, but the position of Scotland, as head of the list, and England and Wales, more than half-way up, cannot be any reason for complacency. The distribution of mortality in this country is highest on the whole for rural areas—thus, Breconshire (1919-22) reported 7.88 per 1,000 and Westmorland 6.75, while the average for all the rural districts was 4.22, as opposed to 2.98 for London (1921). It is quite true that many men will have conducted large obstetric practices for many years without a death, but their happy experience is not a true reflex of the condition as a whole. The death rate of a large maternity hospital is inevitably higher than that of any single general practice, but, after all, the death rate in hospitals occurs almost solely amongst the women who are not somebody's practice outside. Having seen the figures, and read the report, it will be for your correspondents to judge for themselves whether there is "gross exaggeration" or too much "fuss" made about a particularly important aspect of public health.

### TREATMENT OF PSORIASIS.

DR. J. B. MACKAY (Alberta, Canada) has sent us a paper on the treatment of psoriasis, from which we extract the following passages:

I believe I have discovered a combined treatment for psoriasis which is not only effective but simple. All possible sources of infection must first be carefully eliminated. I have, rightly or wrongly, traced the original source of the disease in several cases directly to oral sepsis, and I should not expect a satisfactory result until such foci have been removed. The treatment consists of four concurrent procedures, the most important of which is, I think, a series of intramuscular protein injections. Having found it handy and effective, I have used throughout Abbott's "lactigen," commencing with 5 c.c.m. and gradually increasing the subsequent doses to 10 or even 15 c.c.m. The injections are given every three or four days, the rate of increase being determined by the amount of reaction. Usually six injections are sufficient, and, within reasonable limits, the more defulio the reaction is the better are the results. A rise of temperature to 101° or 102° F. during the night following the injection is desirable. An ointment containing chrysarobin is applied daily to each patch (chrysarobin gr. xx, liq. carb. deterg. m. xxx, ung. hydrarg. ammon. chlor. 5 ij, petrolatum ad 3 j). It is essential that this should be rubbed in; any irritation of the surrounding skin can usually be relieved with talcum powder. Once a week a hot bath is taken, after which the exact state of the lesions can be readily seen. Internally thymus gland in 5-grain capsules, three or four times a day, is prescribed. If preferred it may be given by intramuscular injection, or the same effect may be produced by stimulating the thymus with small doses of x-rays, as recommended by Brock (*Muench. med. Woch.*, lxxvii, 191, 1921). Without thymus medication the same steady improvement is not seen; the healing process is more irregular and the results less satisfactory. Lastly, a low protein diet will hasten results; it should be maintained after cure. In my hands the average length of time for the disappearance of all lesions and the return of the skin to normal has been five weeks. The more recent the appearance, or the more "acute" the case, the more speedily it responds; a change can generally be seen within the two days following the first injection, after which the improvement is steadily maintained to ultimate cure. All the amounts stated above refer to adult doses. In my series of cases only one relapsed after treatment; this patient had patches of psoriasis all over the body, and the condition had lasted for many years. Two further injections resulted in cure.

### VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 35, 37, 38, and 39 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 35 and 37.

A short summary of vacant posts notified in the advertisement columns appears in the Supplement at page 172.

APRIL 18, 1925]

THE MORTALITY OF APPENDICITIS.

An Address  
ON  
THE MORTALITY OF APPENDICITIS.  
BY  
JOSEPH E. ADAMS, M.S., F.R.C.S.,  
SURGEON TO ST. THOMAS'S HOSPITAL.

The incidence of a disease and its mortality are the two criteria by which the capacity of the medical profession should be judged. To prevent we must eliminate cause. The cause or causes of appendicitis have been a subject for both speculation and research for more than thirty years, but little has been established beyond the fact that the appendix is a dangerous possession. Its removal is therefore the surest method of preventing appendicitis, and the practice of removing the appendix which is to all appearances healthy, when the abdomen is opened for some other operative procedure, is quite sound provided it does not delay matters and add to the difficulty of the operation in hand. There has been talk of a function for the appendix, but as far as I am aware no one really knows what it is, and, surgically speaking, it is not an organ which it is a nuisance. Unfortunately the risk of having one's operation can never be reduced to that of having one's hair cut, and therefore preventive appendicectomy is customarily limited to those cases where there is evidence of a present or past attack.

Unless an epidemic occurs it is difficult to be dogmatic concerning the incidence of any particular disease. The increase or decrease can be gauged by personal impressions on the part of practitioners, by the collected statistics of institutions, and, lastly, by the returns of the Registrar-General. The last mentioned are certainly the most reliable source of information, but, unfortunately, they deal only with fatal cases. Mortality is not a fair criterion of incidence. If it be accepted that where mortality figures show an increase this must mean a rise in incidence, then much of what I wish to say becomes pointless. The chief value of the Registrar-General's statistics is that they cover the whole of England and Wales, bearing relation to some forty million inhabitants. Institutional figures are not easy to obtain so that they can all be massed in one total, and the impressions of practitioners, so far as I have been able to benefit by them, do not support the view that appendicitis is noticeably on the increase. The question has been carefully studied by Rendle Short.<sup>1</sup> He states that "appendicitis did not become a separately notifiable and recorded cause of death until 1901." This was about the time of King Edward's historic operation for appendicular abscess on the eve of his coronation. The figures Rendle Short quotes end with 1918. His conclusions are important, and those which bear most directly on our subject are as follows:

1. Appendicitis was present, but was relatively rare in this and other countries until the end of the nineteenth century. Since then it has become very common in most highly civilized countries.
2. The rise in Bristol, and probably throughout England, was beginning in 1895, and was pronounced.
3. This rise was most marked at first in towns, in the male sex, and probably amongst the better-off class.
4. The privations of war did not reduce it.

Six years have passed since 1918 and the mortality is certainly higher. In 1918 the number of deaths shown by the figures published by the Registrar-General was 2,416; in 1923 it was 2,826. If the last part of Rendle Short's second paragraph is correct we have ample justification for inquiring why the returns of the Registrar-General show a steady rise in the death rate. I show below the complete figures from 1913 to 1923 inclusive, with their relation to the population (irrespective of sex). I take 1913 because it is a pre-war year, and 1923 because it is the last year available. The figures for the war years refer only to the civil population, and as this meant the

withdrawal of a large number of males from the statistics they are no doubt vitiated.

Year.	Deaths from Appendicitis and Typhlitis. (Registrar-General's Returns.)		Total.	Persons per Million.
	Male.	Female.		
1913	1387	1141	2528	69
1914	1573	1111	2684	71
1915	1441	1062	2503	67
1916	1474	1123	2603	70
1917	1390	1118	2443	67
1918	1298	1151	2418	66
1919	1278	1142	2429	67
1920	1389	1237	2711	72
1921	1474	1211	2735	72
1922	1524	1218	2826	74
1923	1603	1218	2826	74

It may be urged that deaths from peritonitis of unstated origin will show a decrease *pari passu* with the rise in appendicitis deaths. Such, indeed, is the fact, but the total decrease from about 490 to 420 is far too small a figure to afford an adequate explanation for an addition of nearly three hundred deaths from appendicitis. Nor do I think that any satisfaction can be extracted from the variation of the total number of inhabitants of England and Wales. A sufficiently striking contrast is afforded by the difference between the year 1920, when demobilization of the army was completed, and 1923, the respective figures being 67 and 74 deaths per million. These are post-war years, and my own view is that we should be justified in looking for a decrease. Instead there is a rise in these deaths, which most surgeons would be inclined to regard as preventable.

In order to gain further information as to the incidence of the disease I have obtained figures from the leading hospitals and Poor Law institutions in the London district. These should reflect the incidence in the London population, and I have endeavoured to get figures down to the year 1922. The hospital cases show slight diminution since 1912, and the infirmary figures a definite increase. The explanation of this turnover from hospital to infirmary is that the general practitioner, realizing the urgency of cases of appendicitis and the lack of empty beds in the hospitals, prefers to send his cases where he knows they will be admitted without delay. This attitude is, no doubt, correct, and it remains only to demand that the treatment of the infirmary shall be as good as that of the hospital. The mere change of name from "infirmary" to "hospital," which has become the fashion since the war, will not suffice. There must have been a change of spirit and an increased keenness and capacity on the part of the Poor Law medical officers. Such I believe to have been the case, but I regret that these institutions collectively have been unable to supply detailed figures which could be instructively tabulated. The surgical equipment of many of them may well be the envy of the voluntary hospitals, but down to ten years ago this was not the case, and I believe the merits of surgery were largely overlooked by the guardians until the war enlightened them.

Both hospital and infirmary authorities have kindly replied to my inquiry, but the figures obtained are not sufficiently uniform to be massed together. Such figures have little or no bearing on the occurrence of the disease amongst the rural population, as it is recognized that long journeys are forbidden for acute cases, and most country practitioners do not trouble the London hospitals with their appendix cases. So far as the evidence of general practitioners has been available I have not found that it points to any particular increase in either the incidence or the severity of attacks of appendicitis.

MORTALITY.  
At this stage of my argument I propose to leave the statistical method and consider the pathological side of the question. The death rate is certainly proportional to the degree of sepsis present before the case comes under treatment. If an inflamed appendix can drain into the caecum the attack will subside favourably, and this is the state of affairs in catarrhal appendicitis, the mortality of which is nil. If a diseased appendix drains by perforation into the peritoneal cavity the prognosis is grave.

[3355]

\* Delivered in opening a discussion in the Section of Surgery of the Royal Society of Medicine.



A localized abscess may form, and this may be successfully dealt with by Nature or the surgeon. There is little doubt that appendicular pus may be absorbed and disappear without anything more serious than temporary impairment of the patient's health. Appendix abscesses also do burst into the bowel, and if pus is discharged with the faeces the patient may escape the consequences of perforative appendicitis. The two conditions which may precede perforation are ulceration of the wall of the appendix or obstruction of its lumen. In the latter case the tension inside the appendix ultimately becomes so great that it bursts like a distended paper bag, and most surgeons have experienced this during a difficult operation for appendicitis in the obstructed stage. In the former condition local necrosis of the wall, proceeding from mucosa to serosa, occurs without distension. There is no doubt which is the more serious event. The ruptured appendix pours a quantity of infective material into an unprepared peritoneal cavity. The ulcerated appendix is rather comparable to the leaking gastric ulcer. Protective steps on the part of that very useful ally, the omentum, are likely to have been taken, and a perforated appendix is not infrequently rendered almost harmless by being wrapped up in a covering of omentum. The analogy with the large and small gastric perforation is striking. It is rare to find evidence that the omentum has made any attempt to lessen the size of a large perforation of the stomach. Such perforations, on the other hand, are often obscured by reason of the reaction of the omentum, that energetic "plumber" of the peritoneum.

If, then, the mortality of appendicitis is to be abolished by treatment of the disease, sepsis must be eliminated, and the problem becomes one of early diagnosis. This is an ideal which is not likely to be attained, certainly not until it is recognized by the public in general, and mothers in particular, that stomach-ache is not an indication for a dose of castor oil. The mortality of appendicitis ever since it was first classified by the Registrar-General as a cause of death has always been highest between the ages of 5 and 15. This corresponds to the period when the mother is most apt to dose her offspring with aperients, and also that when the doctor finds the interpretation of symptoms extremely difficult. The liability of the doctor only begins with the first consultation, and the treatment of appendicitis is appendicectomy. Medical experience all goes to show that there are two safe periods for operation—one within twenty-four to thirty-six hours of the onset of disease, the other when the inflammation has subsided. With regard to operation in the acute stage, the capacity of the peritoneum is such that although sepsis may be encountered the convalescence of the patient is rarely affected by it. This means that the mortality is little higher than that of the interval operation, which is usually about 3.5 per cent.

#### TREATMENT.

If the incidence has not gone up, why is it that the number of deaths has increased? Can there be anything wrong with our treatment of appendicitis? In his presidential address to the Section of Surgery of the Royal Society of Medicine two years ago Mr. James Berry<sup>2</sup> raised this question. He called attention to the fact that both the public and the medical profession were under the impression that the custom of operating freely for acute appendicitis had resulted in great saving of life. Would that the Registrar-General could support this optimistic view. Mr. Berry hinted that all was not well with the surgery of the appendix, and that greater care was needed in the selection of cases for operation as regards both time and manner. It may therefore not be out of place to review briefly some of the important steps in the history of the treatment.

We start with the beginning of this century. It then required a physician to diagnose the disease and a surgeon to operate on it when required. This plan gave the physician a deal of anxiety and caused the surgeon considerable vexation. Frequently the operator complained that he was not called in soon enough. The physician's attitude gradually underwent a change, and the late Sir William Osler crystallized the position when he wrote in

a late edition of his famous textbook, "There is no medicinal treatment for appendicitis."

There being no scope for drugs, and the diagnosis becoming simple, the physician tended to withdraw from the case. This was the surgeon's opportunity, and the late Edmund Owen, rather more than twelve years ago, was perhaps the most insistent on immediate operation, and immediate appendicectomy, as soon as the diagnosis was made. Postulating that no one could tell the actual condition of the appendix by abdominal examination he made out a strong case, and I think I am right when I say that he carried the bulk of surgical opinion with him. Discussion there certainly was, but the main effect was to enlighten the public and to place the treatment of appendicitis on a firmer surgical footing. The notable achievement was that the practitioner learnt to rush his appendix cases into a surgical home, or hospital, as early in the disease as he could. The Hippocratic facies disappeared, and it did not take long to prove beyond dispute that the mortality for appendicectomy in acute appendicitis when the disease is so limited is very little higher than that for the interval operation.

Sir George Beatson was perhaps Owen's most strenuous opponent, and he advocated a policy of delay. This is in accord with the experience of the American surgeon Ochsner, who since 1892 has practised a policy of delay in appendicular cases. Ochsner maintained that absolute rest in the Fowler position, with only water by the mouth, and the withholding of aperients and morphine, would cause a subsidence of symptoms and an improvement in physical signs in a very short time, even in cases with general peritonitis. That resolution of an inflamed appendix could be confidently expected under this treatment gave the surgeon a new opportunity to practise the art of the physician. Appendicectomy was, and still is, the goal to be aimed at, but the time for the operation is best selected by the operator. It has long been known that the majority of deaths occur amongst cases operated upon from the third to the sixth day of the disease. Therefore if cases can be successfully watched until these days are passed the mortality should be lowered. Many of the cases first seen at this period have an inflammatory mass in the right iliac fossa with little rigidity elsewhere. All such should be classified as having local peritonitis. Some others have general peritonitis. If all these cases are treated by appendicectomy at sight a high mortality must be faced. The patient has already absorbed toxins, and his resistance is an uncertain factor. The disturbance of appendicectomy may just turn the balance of toxic absorption against him before he has had time to develop antibodies and neutralize the toxins present. If all such cases are treated by the Ochsner method, the most favourable result obtainable will be resolution in some and local abscess formation in others. Experience in this country seems to show that there will still be a certain proportion where the symptoms will progress, and because of increasing pain, rising temperature and pulse, and worsened facial aspect, the surgeon will feel impelled to operate. This aspect of treatment has recently been studied by Mr. McNeill Love,<sup>3</sup> and two very interesting papers have been published by him based on the statistics of the London Hospital. He agrees with every other observer that cases operated upon during the first twenty-four hours show a low mortality—namely, 0.9 per cent. The same death rate holds for all cases where the disease is limited to the appendix.

The recognized mortality for the so-called interval operation, where inflammation is presumably in abeyance, is rather less than this—namely, 0.5 per cent. Love presents two tables which give the mortality of acute appendicitis treated by immediate operation and by postponed operation: Operation in both instances means appendicectomy, and immediate operation shows a percentage of deaths as high as 5.8, whereas cases treated on delayed lines are only fatal in 3.5 per cent. These figures are important because the immediate operation cases include a high proportion with general peritonitis—one-seventh of the total—and these have a mortality at the London Hospital of 20 per cent.

Statistical proofs are often looked upon with scorn, but nevertheless a surgeon is influenced by his own statistical results, and it behoves us all to know, and to watch, our



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personal figures. For this reason I have prepared, with the aid of Mr. A. C. Halliwell, until recently surgical registrar at St. Thomas's Hospital, and now resident assistant surgeon, figures for the years 1919 to 1923, which may be usefully compared with those published by Mr. Love in the *British Journal of Surgery*. These latter are from the London Hospital, and refer to the years 1920 to 1923.

TABLE I.—Cases Operated on within Twenty-four Hours of Onset.

	London.	St. Thomas's.
Number of cases ...	221	303
Recovered ...	219	296
Died ...	2	7
Mortality per cent. ...	0.9	2.3

TABLE II.—Cases Treated on Delayed Lines.

	London.	St. Thomas's.
Inflammation Subsided:		
Number of cases ...	232	143
Recovered ...	227	143
Died ...	5	0
Mortality per cent. ...	2.1	0.0

Unsuccessfully Delayed:

	London.	St. Thomas's.
Number of cases ...	109	71
Recovered ...	102	62
Died ...	7	9
Mortality per cent. ...	6.4	14.0

Total:

	London.	St. Thomas's.
Number of cases ...	341	214
Recovered ...	329	205
Died ...	12	8
Mortality per cent. ...	3.5	4.2

TABLE III.—Cases in which Immediate Operation was Performed.

	London.	St. Thomas's.
Inflammation limited to the Appendix:		
Number of cases ...	633	348
Recovered ...	627	345
Died ...	6	3
Mortality per cent. ...	0.9	0.8

Local Peritonitis:

	London.	St. Thomas's.
Number of cases ...	467	271
Recovered ...	438	257
Died ...	29	14
Mortality per cent. ...	6.2	5.2

Local Abscess:

	London.	St. Thomas's.
Number of cases ...	347	95
Recovered ...	331	91
Died ...	16	4
Mortality per cent. ...	4.6	4.2

General Peritonitis:

	London.	St. Thomas's.
Number of cases ...	230	187
Recovered ...	185	132
Died ...	47	55
Mortality per cent. ...	20.5	29.4

Total:

	London.	St. Thomas's.
Number of cases ...	1677	901
Recovered ...	1579	825
Died ...	98	76
Mortality per cent. ...	5.8	8.4

TABLE IV.—General Peritonitis Cases. (All treated by immediate operation.)

Day of Attack.	London (230 Cases). Per cent.	St. Thomas's (187 Cases). Per cent.
First ...	6.6	10.6
Second ...	29.8	46.5
Third ...	35.6	21.3
Fourth ...	13.3	9.0
Fifth ...	6.6	5.8
Sixth ...	4.7	1.0
Seventh ...	1.1	3.7

With regard to Table I the higher mortality of the St. Thomas's column may perhaps be excused by the fact that the notes record a rather high proportion of what are called fulminating attacks. Anyhow the figure is higher than it ought to be for such early operation, where the presumption is that the disease is limited to the appendix itself. The last table will show that 10 per cent. of our cases of general peritonitis gave a history of only twenty-four hours, and I shall comment on this later.

Table II seems to show that St. Thomas's has gained the first section the patients it lost in Table I, and I rather think in reading Mr. Love's paper that the operation has been undertaken unduly early, and thus the higher mortality at the London Hospital is accounted for. I think no great clinical acumen is required to recognize that a large number of cases come to hospital with more than twenty-four hours' history, when the attack is obviously subsiding, and these, if sufficient patience is exhibited, will go far to improve

the statistics under this heading. They are cases which without a twenty-four hour rule could be dealt with at once and do no harm to the mortality table. The heading "Unsuccessfully Delayed" is more important, and here I freely admit that our high figure of 14 per cent. is attributable largely to the pernicious system of dual control.

There are one or two points of difference in the practice of the two hospitals to which I should like to draw attention, and I have to thank Mr. Love for information so far as the London Hospital is concerned. In the first place, he tells me that all appendix cases are treated in the surgical wards at that hospital; that many of the surgeons adopt the expectant line of treatment in late cases more or less as a routine. At St. Thomas's Hospital, on the other hand, very little expectant treatment is indulged in on the surgical side, and a large number of appendix cases are still admitted to medical wards. Cases there are seen in the first instance by the resident assistant physician and surgeon, and where the disease appears limited to the appendix or the patient appears to have general peritonitis, immediate operation is arranged for. Where an appendicular mass is diagnosed the case is commonly admitted on the medical side, and here expectant treatment is practised. Dual control I have no hesitation in condemning, and I am convinced that it does not serve the interest of the patient; appendicitis is a surgical disease, and the man who sees and handles the most accurate estimate of the physical signs. A study of the nine fatal cases in our series of seventy-one shows that the mortality was attributable to imperfect appreciation of the degree of infection, and not to the fact that operation was done in the dangerous period of the third to the sixth days. Three of them had general peritonitis when the delayed operation was performed, and an equal number a sub-phreatic abscess, while the remaining three had obstruction of the small bowel.

If we turn now to Table III we shall see that at both hospitals the mortality is weighed down by the cases of general peritonitis. We all know that if our ideals of diagnostic accuracy could be reached the number of these widespread infections would shrink very considerably. General peritonitis is rare with only one day's history, and if we cut out these cases altogether and perform immediate operation on all cases, as shown in Table III, the St. Thomas's mortality comes down to 2.9 per cent. and that of the London to 3.5. These are very respectable figures, and seem to me to justify the gospel I have prepared a fourth table, which deals only with cases of general peritonitis, and shows the day of the disease when they were operated upon in accordance with the principle of immediate attack. It will be obvious that it is the first twenty-four hours which give the diagnostician his chance. It matters not whether he be general practitioner, physician, or surgeon—ho must make up his mind early or the risk to the patient will be increased. It may not matter vastly who does the surgery, but it does matter when the patient first comes under medical observation, and who sees the case. Diagnosis will always be the highest art both in surgery and in medicine, and let us recognize that herein lies the chance of practising preventive surgery, which alone can bring down the mortality of this disease to a level consistent with the pride of our profession.

I think I shall find general agreement when I say that there are three main types of acute appendicitis viewed from the clinical aspect. There is one where the disease is limited to the appendix, characterized by local pain, local tenderness, and usually hyperaesthesia of the skin above Poupart's ligament. To the second variety the old fashioned name of "perityphlitis" might still be applied, for the infection has passed beyond the confines of the appendix, which itself is often gangrenous and usually perforated. The infected peritoneal zone is that of the right iliac fossa or the pelvis. A localized abscess, an inflammatory mass without evidence of pus, or infection ill limited by adhesions, may be in existence at the time the patient is seen. The third main class is that where

there is widespread inflammation, diffuse rigidity of the abdominal wall, very little respiratory excursion, and an anxious expression on the face of the patient. In this last type general peritonitis may be inferred.

If it is true that immediate operation in the first class carries with it a death rate of 1, or less than 1, per cent., I think we shall all agree that we have learnt the correct line of treatment. Personally I do not feel disposed to pay very strict attention to the alleged day of the disease. Appendicitis seldom exhibits the dramatic onset of a gastric perforation, and frequently there is a day or two of ill health before actual pain is felt. I think there may be marked pathological changes in the appendix which cause no pain at all, and they may certainly give rise to no vomiting. If so, the patient may easily be forty-eight hours out in his length of history. If the clinical signs point to appendicitis proper, appendicectomy is the quickest route to restored health. This is in accordance with the view that one can never tell what the diseased appendix will do next.

In the case of general peritonitis I doubt if a policy of "wait and see" has much to recommend it. When it was always thought necessary for a physician to diagnose and a surgeon to operate, some fifteen to twenty years ago, the mortality was 70 per cent. at St. Thomas's. Now it is 29 per cent., and at the London Hospital 20 per cent. These cases still bulk far too largely in our tables, for in the London Hospital cases 13 per cent. of the total treated by immediate operation had general peritonitis, and at St. Thomas's 20 per cent. In spite of this our hospital figures are better than they were fifteen years ago, and I think the credit of this should be given to the improved capacity for diagnosis on the part of the general practitioner, and also to the doctrine of immediate operation for appendicitis. The actual fall in mortality since 1910 for all types of the disease is from 8 to 5 per cent. at St. Thomas's. Another factor, which has perhaps been overlooked, is the abolition of chloroform from operations on septic patients. I say this rather than the introduction of gas and oxygen anaesthesia, because I think that ether is still the anaesthetic most generally used, and when given by the open method it is most satisfactory for the surgeon, and almost anyone can administer it. It is true that cases of general peritonitis under treatment by starvation, the withholding of aperients, and the Fowler position, undergo resolution, or the infection may settle down to a localized abscess, but at present I think we have very few data which will guide us in the selection of such cases if we meet them for the first time with generalized peritoneal involvement.

If, as Mr. Love states, delayed treatment can only be carried out satisfactorily under hospital conditions, are we not in danger of reverting to the old state of affairs? For what the hospitals do to-day the general practitioner will do to-morrow. Let it be admitted that each case presents an individual clinical problem. Is it not so with every disease? But let it be recognized by the public that immediate operation yields the best results in appendicitis and the doctor's duty will be simplified. If we change this point of view the public will get the idea that appendicitis should be treated on medical and not surgical lines, and I think there is a very real danger of the mortality continuing to rise. Public opinion is first trained by the medical profession. Later the same public opinion tends to call the tune for medical treatment. As a proof of this I need only refer to the recent trial of a doctor who failed to take a throat swab in a case of diphtheria and objected to the use of antitoxin. He was prosecuted, not by his medical enemies, but by the Crown for manslaughter. The Crown prosecution was at the instigation of a coroner's jury. Such a power over us does public opinion acquire as the result of education by ourselves. For our peace of mind I think it was a blessing he was acquitted; but the fact that the trial took place shows how careful we must be in formulating rules for public guidance. Patients are less exigent than before the war in demanding the immediate attention of their doctors. Perhaps they are more prone to treat their abdominal pains before summoning assistance. I hope this does not mean that the precious surgical opportunity afforded by

the first twenty-four hours of an attack of appendicitis is often allowed to slip. As long as the ownership of children is vested in the parents I am afraid mothers will continue to misuse aperients, and I am heartily in agreement with Mr. Love when he writes that delayed treatment is hardly to be recommended in the case of young children. Nearly every surgeon, I think, has had bitter experience in this connexion. I would add also that at the other extreme of life, in advanced age, watching and waiting have greater dangers.

It has been advised by some, particularly Sherren, as long ago as 1905,<sup>4</sup> that when cases are seen after the first thirty-six hours of the disease—that is, when the infection is likely to have spread beyond the appendix itself—the tendency should always be towards a policy of delay. Nevertheless he admitted then, and other surgeons have admitted since, that we may regret leaving a case, but we are not likely to regret operating when there is a doubt as to the chance of temporary improvement.

Sherren based his doctrine on the state of cutaneous tenderness present. If superficial tenderness is present in the "appendix triangle," bounded below by Poupart's ligament, above by a line drawn out from the umbilicus, and to the inner side by a vertical line just to the right of the mid-line, it usually means that the appendix is distended and intact. In cases that are subsiding the area becomes smaller and smaller. Disappearance of tenderness without signs of improvement of the patient means serious mischief in the appendix. This latter is a call for immediate operation irrespective of the disease. The presence of cutaneous hyperaesthesia, however, is not a proof of safety, since the infection may spread outside the appendix without leading to any loss of tension within its lumen.

The important discussion, I think, centres around the proper treatment of those cases which I have included in the second clinical type. The disease is no longer limited to the appendix, but as far as the clinical signs are capable of interpretation the name of general peritonitis is not justified. There may be an inflammatory mass, there may be a visible tumour in the right iliac fossa, there may be pus in the pelvis. The day of the disease may be anything from the third to the fourteenth. Cutaneous hyperaesthesia may be present, though usually it has disappeared. What is the proper treatment, viewed in the light of our knowledge of the mortality statistics? Love says that if you practise the delayed operation and choose your cases aright you may expect a mortality as low as 2.1 per cent. If, however, you plan your operation in the future and are compelled to do it in the present, the mortality in unsuccessfully delayed cases will be 6.4 per cent. If you perform immediate operation on cases with local peritonitis or local abscess, the mortality you may expect is 5.52 per cent. He puts together the first two figures and gets the more favourable result of 3.5 per cent. mortality for all cases treated on delayed lines, but I suggest that this includes a large proportion of cases where the condition is obviously subsiding. I do not feel disposed to quarrel with these figures, but I would suggest that it is still good surgery to drain local abscesses rather than to trust to Nature to absorb or discharge the pus.

With regard to the absorption of pus in the peritoneal cavity, I think a note of caution must be sounded. It is true that it can be absorbed, and actual pus may thus disappear, and in due time render the operation of appendicectomy easy; but is it certain that the patient may not suffer in the process? A recent unpleasant experience makes me hesitate to subscribe to this as an ideal process. A previously healthy man was admitted to a medical ward with what was diagnosed as an appendix abscess. His fever lasted only a few days, and in about a fortnight the mass had subsided. He convalesced satisfactorily, and was discharged from the medical ward with instructions to return on the surgical side for appendicectomy. This he did, and the operation was done without any undue difficulty, no pus being encountered. All went well until the tenth or twelfth day, when his heart suddenly began to fail and he died within twenty-four hours. All that the post-mortem examination revealed was a fatty and degenerate heart muscle. Personally I am inclined to

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attribute this to the toxins absorbed from his abscess. It is one thing for the peritoneum to absorb pus; it is quite another matter for the system to absorb toxins. Relief of tension is the best method of prevention, and I believe that this unfortunate event would not have occurred if the abscess in the first instance had been surgically drained.

In doubtful cases, where the presence of pus is uncertain but there is an inflammatory mass, there is much to be said for the operation of coeliostomy. Drainage, preferably with corrugated rubber, may with advantage be made down to the appendicular lump, and discharge, or resolution, hastened in this way. Immediate operation should not always mean immediate appendicectomy, but rather the relief of intraperitoneal tension. If there is scope for this the general principle for the urgency of surgery is unaltered, and I do not think that the watching and waiting policy is likely to be revived in the case of general peritonitis, except in those cases where the condition of the patient does not appear to warrant any operation. Anything short of appendicectomy here appears to be rarely successful, and if the patient will not stand this by all means give Nature a chance to localize the infection.

In conclusion I would suggest that the treatment of acute appendicitis should now be standardized on the following lines irrespective of the length of the illness:

- For acute appendicitis limited to the appendix, appendicectomy without drainage.
- For appendicitis with general peritonitis, appendicectomy with cleansing of the peritoneum and perhaps temporary drainage.
- For appendicitis with local peritonitis, relief of tension with subsequent appendicectomy.

The last suggestion is not intended to imply immediate operation in all cases, and treatment by physiological rest and the application of heat may be as successful in the treatment of acute inflammation in the right iliac fossa as in other parts of the body.

Treatment which is based on success gradually becomes standardized by the profession and recognized by the public. Experiment gradually gives place to routine, and it is our business to see that our practices are based on sound principles. Immutability is not to be expected in human affairs, but pathological laws do not change greatly, and to lower the mortality of a disease we must either prevent it, or fashion our cure to meet the disease when its victim will best respond to the treatment.

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## An Address ON

## APPENDICITIS.

DELIVERED AT THE NORTH-EAST LONDON POST-GRADUATE  
COLLEGE ON FEBRUARY 16TH, 1925,  
BY

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DURING the year 1923, according to the Registrar-General's statistics, there were 2,826 deaths (1,608 male and 1,218 female) registered as due to appendicitis in England and Wales. There has been a little fluctuation in the death rate from year to year, but this was the largest number of deaths yet recorded; in 1913 it was 2,529 (1,387 male, 1,142 female). These figures cannot be considered exact, as cases of resulting intestinal obstruction, peritonitis, or other direct complications are not necessarily included, but they do give us an approximate idea. When we consider that the majority of cases of acute appendicitis occur in the young it is a serious figure, and in itself would be sufficient excuse for venturing to take up your time by speaking to you on a subject about which you might think there was nothing more to be said.

The damage done, however, is by no means limited to this loss of life. Among those that recover, in many there

has been an enormous waste of working time and much suffering that could have been prevented if the condition was surgically treated while it was still appendicitis. In the hospital to which I am attached we still get these cases too late—for example, in the twelve months preceding September 30th last 102 cases of acute appendicitis (57 male and 45 female) were admitted to my firm's beds at the London Hospital; of these only 27 were within the first twenty-four hours of the attack—the most favourable time for operation—and these were almost the only cases which could be treated as uncomplicated appendicitis. We should have advanced far from the day when it was stated, "The disease is essentially a variety of peritonitis; its manifestations, its effects, and its possibilities are those only of peritonitis. Whatever be the antecedent condition, an attack of appendicitis is not in evidence, and, indeed, does not exist until the peritoneum is implicated." We should now say that the disease has ceased to be simply appendicitis when this has happened, and that cure is no longer certain by simple removal of the appendix.

I wish specially to direct attention to the symptoms, particularly, but not entirely, in so-called chronic appendicitis. I say advisedly, as I have repeatedly said before, pain starting in and confined to the right iliac fossa is not the symptom of appendicitis. This conception of the symptoms dates, I feel sure, from the time when much of our knowledge was based on swellings in the right iliac fossa; the disease was called perityphilitis, of which inflammation of the appendix was not the only cause. No surgeon saw the case while it was still appendicitis; he was not called in until pus was diagnosed and the pain had become right-sided. That is, however, ancient history, and yet the number of individuals with right-sided pain who are admitted to hospital as acute or chronic appendicitis, or are seen after the appendix has been removed, without relief, shows no diminution. It is for these reasons—delay in submitting cases to operation and want of appreciation of the exact symptoms—that I consider there is still need for education in the matter of diagnosis and treatment.

Sometimes the delay in operating on acute cases is on the part of the public, who think, excusably, that as the appendix is on the right side, pain produced by its inflammation must be right-sided also. But in the majority of cases the patient has seen a medical man, and here there should now be no excuse for delay in recognizing the condition because the pain is general, on the other hand, cases of right-sided pain are still sent into my beds at hospital by medical officers of that institution as appendicitis.

There is now no sufficient reason for considering the symptoms of appendicitis to consist of pain in the right iliac fossa. Even the early writers on acute cases is on this country correctly realized its symptoms and mentioned the general nature of the pain, although they did not lay sufficient stress on it or always act on that knowledge. Treves spoke of it, but in his last contribution this was not insisted upon, and in his last contribution these words occur: "Removal of the appendix is also to be recommended in chronic appendicitis, in those examples in which there are no active attacks but in which there is abiding discomfort in the right iliac fossa with exacerbations of uneasiness." These, of course, are the cases in which appendicectomy is unlikely to bring relief. Tubby, in his excellent little monograph, published twenty-five years ago, was one of the first to direct sufficient attention to it, and writes: "A sudden and severe pain in the abdomen is in nearly every case the first symptom. Its situation is, during the first twenty-four to thirty-six hours, all over the abdomen." Lockwood also drew attention to it. Battle and Corner are perfectly clear on this matter. In a paper read at the Medical Society in 1907 by Sir Holburt Waring on "Some surgical affections of the right iliac fossa which simulate appendicitis," he wisely prefaced his illustrative cases with this observation: "I shall also restrict my remarks to those cases in which the cardinal clinical symptoms of an attack of acute or subacute appendicitis have been manifested—by these I understand abdominal pain commencing usually in the umbilical or epigastric region." In the most widely read student's textbook of surgery (Rose and Carless) the symptoms are correctly given, as they are in

the admirable article on the subject in the new edition of Choyce's *System of Surgery*.

Early in my dealing with this disease I recognized that pain confined to the right iliac fossa was not a symptom of appendicitis, acute or chronic. The first case that brought this home to me was in 1905, when I operated on a girl of 18 with pain in the right iliac fossa of three days' duration, in whom careful examination of chest and urine had failed to elicit any abnormality. Operation revealed a normal appendix, and the pain recurred as before. It was not long before I was convinced of the failure of appendicectomy to cure cases of right-sided pain in so-called chronic appendicitis; the results demonstrated the incorrectness of the diagnosis. I have taught for at least fifteen years that right-sided pain is not evidence of appendicitis, and I have published these remarks in several papers. It seems obvious from what I have quoted that the teaching in the hospitals of London must be on correct lines, as I have mentioned teachers at most of them. In spite of this, however, it seems difficult to get the correct symptoms realized; the idea is still fixed among many that appendicitis is the cause of right-sided pain. It may be the mental effect of the situation of the appendix, allowing the pain to fit its anatomical position, but it is most likely due to want of sufficient accuracy in teaching and writing, and also lack of differentiation between pain and tenderness.

In acute appendicitis the pain in the first instance is generalized, it is diffuse, usually umbilical or epigastric, and only later, when there is peritonitis or local peritoneal irritation, is the pain in the right iliac fossa. In a first attack of acute appendicitis the pain never starts in the right side. Appendicitis should be the last, not the first, disease to think of in a patient with pain starting in the right side of the abdomen. It is conceivable that if the appendix is buried in adhesions as the result of a previous acute attack the pain may commence locally. In a considerable experience of this condition I have known this to happen twice only. When we come to consider the cause of the symptoms, the overdistension of the appendix or irritation of its wall, it is obvious why the pain is generalized. The nerve supply is from the abdominal sympathetic, and it is not until there is irritation of parietal peritoneum or structures beneath it that the pain is local. The march of the symptoms is always the same—pain first; it never starts with vomiting, diarrhoea, or a rise of temperature. We are all familiar with attacks of pain in the right side of the abdomen accompanied by vomiting, sometimes by a slight rise of temperature, and more common in women. These are never appendicular in origin, but all need careful investigation, and at present in many of them the most we can say is that they are associated with ptosis. There are, however, more serious causes of acute right-sided abdominal pain, which may necessitate immediate or remote surgical treatment. I would mention leakage from a chronic duodenal ulcer, carcinoma of the pelvic colon, or any part distal to the caecum, tubal diseases, twisted ovarian tumours, renal conditions, and last, but not least, thoracic diseases. The last we should always bear in mind, as it still causes difficulties in diagnosis, and cases of pneumonia are yet often admitted into the surgical beds of a hospital. In some cases an attack of right-sided pain is due to a lymphadenitis of the group of glands in the ileo-caecal region, usually tuberculous in nature. The following is an excellent example:

A nurse was sent into the sick-room with a provisional diagnosis of appendicitis. She had been seized with pain in the right side of the abdomen six days before; it doubled her up and made her vomit. Her temperature was 99°, her pulse 100. The pain was entirely right-sided. Her temperature and her pulse rate remained the same, but her pain increased in severity and there was marked tenderness and slight rigidity in the right iliac fossa. Eleven months previously I had operated on her for tuberculous glands region. As her condition was getting worse I operated on March 7th, 1924, three days after admission, and found a mass of cascading glands extending upwards from the ileo-caecal angle. I evacuated the mass and closed the abdomen; the pain was at once relieved; she went out a month later, and remains well. The appendix was normal to naked eye and microscopic

Right-sided renal conditions should never be mistaken for appendicitis; the pain is never general, and the sym-

ptoms of the two are entirely different, yet such mistakes are by no means infrequently made. I will give a typical example:

A girl of 18 was sent to see me by her medical man because she had had no relief from appendicectomy. I obtained the following history: for years she had had attacks of pain in the right side, which she described as very bad, and which often made her vomit. Six weeks previously the appendix had been removed during an acute attack, and shortly after leaving hospital she had had further symptoms. On abdominal examination I discovered a definite renal tumour, which proved at operation to be a hydronephrosis.

An attack of right renal colic due to a calculus in the ureter is by no means infrequently diagnosed as acute appendicitis. It has been reported by R. F. O'Neill<sup>1</sup> that 25 per cent. of the patients in the Massachusetts General Hospital who had operations for ureteral calculi had had a previous operation for appendicitis or some other supposed intra-abdominal lesion without relief.

What, then, are the symptoms of acute appendicitis? There is the onset, usually sudden, of general abdominal pain, often waking the patient from sleep in the early hours of the morning. There may be no rise of pulse rate, and a high temperature is uncommon; it may be normal, but within twelve hours is usually from 99° to 100°. There is at first superficial tenderness, and deep tenderness is present in the right iliac fossa, beneath the liver, or per rectum, according to the position of the appendix, but the initial pain, as felt by the patient, is the same and the superficial tenderness remains the same. The symptoms are perfectly clear—general pain, local tenderness. We can probably all recall cases of this nature in which it was supposed that the patient had eaten something that disagreed or had "ptomaine poisoning," the disease not diagnosed until a swelling in the right iliac fossa made its appearance, or in the former cases matters were precipitated by an aperient. It is a common idea among patients to attribute all pains to some external influence, such as food taken, or to some half-forgotten injury, rather than to definite abdominal disease.

Symptoms such as I have described call for immediate operation. No aperient should be given, nothing but water by the mouth and morphine, if necessary, after the diagnosis has been made. Early removal when the inflammation is confined to the appendix would not only abolish the death rate from appendicitis, but would restore the patient to health and work in a very short time—eight or nine days in bed, and work resumed in four weeks.

Look at the other side of the picture: the patient is seen on the third day with obvious peritonitis; whatever treatment is then adopted—and I shall discuss this later—if recovery takes place it will be after a long illness, resulting in the loss, perhaps, of months of work or education. Or, again, the patient comes under observation on the sixth or seventh day with a localized mass; if operation is performed at once or delayed, much time is lost, and even if the patient returns to work within two months it is usually with a weakened abdominal wall, the result of drainage. There are also the risks of infection of other abdominal organs, the chest, and also intestinal obstruction.

In all that I have to say about the management of the later cases of acute appendicitis I want this to be borne in mind—there is only one treatment, and that is appendicectomy; the question to be discussed is at what time it is safest and best to operate. There is no exception to the rule that in acute appendicitis the appendix should always be removed while the disease is still confined to it; this is usually within the first twenty-four hours; occasionally we may be able to do it later. But if the patient has been seen medically there is no need for even this delay; most could be removed within the first twelve hours, and the earlier the better. Drainage is then unnecessary, and work is resumed within a very short time. When the patient is seen later, either with diffuse peritonitis or with a localized swelling, I am of the opinion, as I have been for many years, that the death rate is less, the disability time shorter, the complications fewer, and the abdominal wall stronger if operation is delayed. In the first paper that I published on the treatment of acute appendicitis, in 1905,<sup>2</sup> I wrote of these patients that they should be tided over the attack if

possible and the appendix removed later. This has been the rule in my wards at the London Hospital, and nearly twenty years' experience has only served to strengthen the opinion that this is the best treatment. Love<sup>9</sup> has written two papers on this subject based on a review of over 2,000 cases at the London Hospital under the care of all the surgeons. He found that the mortality in 221 cases operated on within twenty-four hours was 0.9 per cent. Excluding these, of cases which were treated by immediate operation at all stages after the first twenty-four hours the mortality was 5.8 per cent.; of those treated on delayed lines 3.5 per cent. He stated also that complications are three times as common in those late cases operated on immediately. I consider that these two papers are sufficient justification for the line of treatment I have advocated and adopted at the London Hospital since I first began to operate. The only change I have made has been to greater conservatism and more patience in dealing with cases of appendix abscess.

My routine is as follows: If there is reason to suppose the disease is still confined to the appendix, immediate operation; if it is not, the patient is put in the Fowler position, as much water allowed by mouth as is needed, unless there is vomiting, when continuous saline is given by the rectum and the stomach washed out; no aperient or enema is allowed. Morphine is administered subcutaneously if necessary, and a four-hour chart of pulse and temperature is kept. As a rule, within twenty-four hours the condition improves and the temperature begins to fall. I do not allow anything beyond water till the pulse and temperature have settled for twenty-four hours; an enema is given at about the same time. Too early feeding sends the temperature up at once. I have often kept the patient for six or seven days on water in this way. I have been astonished at the way in which large swellings gradually disappear under this treatment. If there is no improvement, the simplest operation is done—drainage; no attempt is made to search for the appendix; it is removed if it presents itself. When an abscess needs opening it should be through a small incision where it is pointing; if it can be felt per rectum it should be left until there is obvious fluctuation and opened by this route and a tube inserted. This can usually be removed in forty-eight hours. When abscesses have been drained or when swellings have taken considerable time to disappear, the patient is sent out and returns in three months for appendicectomy. It is astonishing how few adhesions are present and how usual it is for the appendix to show no sign of perforation, even when, from the escape of a concretion, one knows it has perforated.

The more experience I have of this method, and the more thoroughly it is carried out, the more I am pleased with it. I am convinced it shortens convalescence; the death rate is much less and there is an absence of complications such as intestinal obstruction, residual abscesses, and ventral herniae. But it requires skilful nursing and confidence on the part of the patient and friends. There must be no weakening on the subject of "food to keep up the patient's strength."

Before leaving the subject of acute appendicitis I should like to say a word on the increase of the disease and also on the change in sex incidence. The increase in the number of cases was remarkable between the years 1895 and 1905; this has been shown from the Bristol records by Rendle Short,<sup>10</sup> as well as by myself. The increase has been little since then, although the disease is certainly not on the decline. There has, however, been a remarkable change in the sex incidence. In 1903 I found, in the London Hospital cases, it was 2.5 times as common in the male sex; in the same year Grey Turner<sup>11</sup> found it about the same. In 1907 among 311 cases at the London Hospital there were 65 per cent. males; in 1922, among 625 cases, there were only 55 per cent. males. In my own acute cases at hospital in a year before September 30th, the percentage was about the same. This change in sex incidence has also been noted by Rendle Short.

Let us now pass to chronic appendicitis. In spite of all that has been said such a condition does exist, but it is not characterized by pain in the "appendix" region. I hold very strongly that a patient with pain confined to

the right iliac fossa with tenderness is not suffering from chronic appendicitis, and removal of the appendix is unjustifiable. It is because of its failure to relieve pain here that many have become sceptical of its existence. In America, where operations for "chronic appendicitis" were much more common even than in this country, many writers have drawn attention to the failure of appendicectomy to cure. A recent paper had as its title "Chronic appendicitis—is it a myth?"<sup>12</sup> and a dictum of a physician is quoted which runs: "There are two kinds of appendicitis—acute appendicitis and appendicitis for revenue only." Connell,<sup>13</sup> in a paper on pseudo-appendicitis, records failure to cure in 48 out of 212 patients operated on by himself, and draws attention to the fact that "After eliminating all demonstrable pathologic conditions that might possibly be confused with 'chronic appendicitis,' there remains, in certain cases, some cause for pain in the right iliac fossa, other than the appendix, the exact cause of which is as yet not definitely known."

Stanton,<sup>14</sup> in 1911, wrote as follows: "In our cured cases of chronic appendicitis the pain has been almost constantly referred to as epigastric or mid-abdominal rather than right inguinal. On the other hand, nearly all the patients not benefited by operation complained of right inguinal pain as one of their chief symptoms. . . . Our uncured patients almost without exception complained of pain in the right lower quadrant as their chief symptom." Chalfant<sup>15</sup> stated that "the results of operation for chronic appendicitis are among the poorest in surgery."

In the discussion on the subsequent course and later history of appendicitis after operation, at the Medico-Chirurgical Society in 1905, Treves,<sup>16</sup> who opened it, gave details of cases of failure to relieve. After eliminating such causes as incomplete removal of the appendix and persistent sinus, there were seven cases of persistent pain in the right iliac fossa, two of mobile kidney, and one renal calculus, all obviously cases operated on for right-sided pain.

In 1913 I wrote as follows:<sup>17</sup> "I first wish to direct your attention to pain in appendicitis—in the initial stage of the acute attack; it is generalized, and later shifts to the right iliac fossa. In chronic appendicitis I have been in the habit of teaching that pain is not in the right iliac fossa, and, if here, its principal seat is elsewhere. Less would be heard of failure to relieve symptoms by the removal of the appendix if we were sceptical of the sole appendicular origin of pain which is limited to the right iliac fossa."

When cases of pain in the right iliac fossa are excluded, there remain two definite groups in which chronic abdominal symptoms are certainly due to disease of the appendix. It may show itself first by attacks of pain in the abdomen, generalized or in the epigastric or umbilical region, severe but of short duration; and secondly, by dyspeptic symptoms, sometimes accompanied by haematemesis and occasionally by colicky pains and irregularity of the bowels. Removal of the appendix, as I have known it advised, to cure headaches or pains in the joints seems to me unjustifiable unless we have definite evidence from abdominal symptoms that the appendix is diseased.

I am beginning to doubt if it is ever justifiable to operate for what is supposed to be chronic appendicitis through a small incision. Certainly in cases in the second group, in which dyspepsia is diagnosed as being due to appendicular disease, it is never so—the whole abdomen must be explored. I have had to operate on numerous patients with gastric ulcer, duodenal ulcer, and gall-bladder disease in whom the appendix had previously been removed through a small incision in the right iliac fossa on the diagnosis of appendix dyspepsia. I will give examples of both types of disease.

I operated recently on a patient with the following history: A man, aged 32, was transferred to my care at the London Hospital by Dr. Robert Hutchison. He had not been in good digestive health for nine months following a severe attack of epigastric pain which lasted about an hour. Since then he had suffered from flatulence, and had had seven or eight attacks of upper abdominal pain, each lasting about seven hours. He was a stout man with no tenderness in the abdomen. A test meal showed lowered acidity. I explored the whole abdomen on January 23rd, 1925. The gall bladder on external examination



was normal, and there were no enlarged glands. I opened it; the mucous membrane was normal, and bacteriological examination of the bile showed it to be sterile. The stomach and duodenum were normal. The appendix was enlarged to the size of my index finger, and was adherent at its base. On cutting into it its walls were thickened; it was strictured at its base and contained muco-pus.

This is typical of the first group, and the diagnosis can only be made certainly if there is definite tenderness in the right iliac fossa during an attack. To show how necessary general exploration may be I will give you another example.

In 1919 I was asked to see a lady with a view to removing her appendix for dyspepsia. The following was the history given me: a year previously she had waked in the middle of the night with abdominal pain, diagnosed as acute appendicitis. She was kept in bed fourteen days. Since then she had had much nausea and occasional abdominal discomfort, both waking her and keeping her awake, and three months previously a milder attack of nocturnal pain. The report after a barium meal was that she had visceroptosis. Acting on the rule I have laid down, that although you may diagnose appendix dyspepsia you should never act on it—that is, never be content with removing the appendix alone—I found an atrophied adherent appendix, which I removed. On exploring the upper abdomen the cause for her abdominal pain became evident—there was cholecystitis with gall stones.

In chronic appendicitis causing dyspepsia the pain is not right-sided, although during an attack there may be tenderness in the right iliac fossa, and pressure here causes epigastric discomfort. But I wish to press home the fact that in these cases thorough examination of the whole abdomen is necessary at operation; only then can a certain diagnosis of appendix dyspepsia be made.

The object of choosing this subject has been to draw attention to the necessity of early operation in cases of acute appendicitis and to the care necessary in their diagnosis; and secondly, to warn you against too readily diagnosing chronic appendicitis—it is a disease that does exist and cause symptoms, but is not nearly as common as is often supposed.

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## AN ANOXAEMIC TYPE OF INFANTILE ATROPHY.

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THE term "atrophy" is used to describe a condition in infants which is characterized by an obstinate refusal to gain weight and thrive, in spite of dietetic or medicinal treatment, and in whom no cause can be found to account for this failure to grow. Atrophy is seldom associated with dyspepsia. If this is present at all it is very slight, quite insufficient to account for the infant's lack of progress, and quite possibly a result, rather than a cause, of the condition. In a few cases, however, there may be a history of previous dyspepsia, following which the atrophic state becomes evident; such cases may be classified as dyspeptic atrophies and may or may not respond to dietetic treatment. Again, atrophy may be due to endocrine or vitamin deficiency, and this type responds to the appropriate treatment. There is still, however, a form of atrophy which fails to respond to dietetic, endocrine, or vitamin treatment, and it is with cases of this kind that this preliminary note is concerned.

It is a common experience that at necropsies on cases of infantile atrophy little or no organic change is revealed which throws any light on the causation of the disease. This in itself might suggest that some physiological factor, other

than those mentioned above, is at fault. The idea that these particular cases are due to the disorder of some fundamental physiological function led to the consideration of the possibility of anoxaemia, either general, due to some deficiency in the functioning of the lungs, or local, due possibly to capillary stasis in the intestine as a result of initial digestive disturbances of either a mild or severe type. Regarding the former, it is well known that failure to saturate the blood in the lungs with oxygen, or deficient saturation brought about by other means, can profoundly affect the physiological condition of an animal. The subject has been fully dealt with by Haldane<sup>1</sup> and need not be elaborated here. That cyanosis and anoxaemia may occur in premature infants has been recorded by Bakwin,<sup>2</sup> who has described the results of treatment of two such cases with oxygen. About the occurrence of local want of oxygen in a tissue or organ, however, we have few or no data. It is true that this must play a part in certain well recognized pathological states—for example, in the liver and kidney in cases of mitral stenosis and in other conditions of circulatory failure, either local or general. Whether simple capillary stasis can occur in a single organ due to localized abnormal conditions and thus be a cause of local anoxaemia is, however, not so certain. It may be remembered that surgical shock is generally believed to be associated with widespread capillary stasis. The phenomena of shock can also be closely simulated in animals under anaesthesia by injection of histamine, which is a product capable of production by tissue breakdown. It does not appear inconceivable therefore that, under certain conditions, dysfunction of a tissue may be brought about locally through the action of toxic substances produced by bacterial action and that this may have, as a concomitant, local anoxaemia due to failure of the capillary circulation.

These were the underlying ideas that prompted us to try the effect of oxygen administration in certain cases of infantile atrophy. The cases are not as a rule cyanosed, but a slight degree of this condition may sometimes be observed. It seemed that a direct answer to the question whether a generalized anoxaemia was present would be best obtained by determining the results of oxygen therapy. On the other hand, oxygen therapy in localized anoxaemia due to capillary stasis would only act by increasing the dissolved oxygen of the blood, and this might be expected to yield good results only if continued for a considerable length of time and if the local anoxaemia were not severe.

The results we have obtained have so far been promising, and although the work is by no means completed it seems worth while placing them on record at this stage of the inquiry, which promises to be a long one. The preliminary experiments were carried out by two of us at the Leeds General Infirmary, through the kindness of Dr. C. W. Vining, but the greater part of the work has been done at the Manchester Babies' Hospital. For the facilities accorded to us there we are very greatly indebted to Dr. Catherine Chisholm. The cases chosen for oxygen treatment have been those which, after a period of dietetic treatment, have shown themselves to be refractory, as judged by failure to gain weight. In these cases digestive disturbances are never a marked feature, although they may occur, and are then of a mild type. When failure to gain in weight was established and the child was still on a diet to which it had not responded, the oxygen treatment was commenced. Thereafter the composition of the diet was not changed, but increased amounts of food were given as necessitated by the increase in weight and appetite of the child. The oxygen treatment was carried out in the small closed cot which was exhibited by us to the Physiological Society two years ago.

It consists essentially of an air-tight box (29 in. by 18 in. by 20 in.) with a glass lid and apertures for admitting oxygen at a known rate and for sampling the air within it. The infant is placed inside on a hammock. A small fan inside serves for mixing the contained air and providing for its movement. No arrangements are made for removing the carbon dioxide which accumulates while the infant is in the cot. In a two-hour period the carbon dioxide content of the air rises to between 2 and 3 per cent., depending on the size of the child and the amount of movement it makes. The oxygen is admitted from a cylinder provided with reducing valve and pressure gauge, and passes through a modified Pitot's tube, whereby, after a preliminary standardization, the rate of flow can be determined. After placing the child in the cot, the

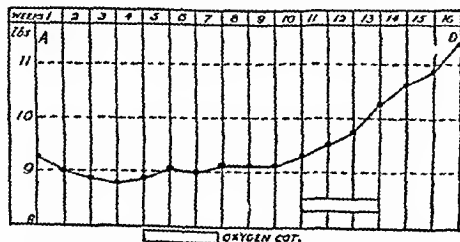
glass lid is clamped on, the fan started, and oxygen rapidly admitted in sufficient amount to produce an atmosphere in the cot containing about 45 per cent. of oxygen. When this is attained (in four to six minutes) the flow is diminished to that amount which is necessary to maintain the oxygen concentration at about the same level. The infant is kept in the cot for two to two and a half hours and then removed for feeding, etc. It is then replaced in the cot, the air again enriched with oxygen, and so on for a further period of two to two and a half hours.

This treatment has been carried out during the day only. At the commencement the period of treatment with oxygen is limited to two hours on the first day, four on the second, and is increased to a maximum of about eight hours by the fourth day. The length of time during which it has been carried out has varied between two and three weeks. Except for one case which died within two days, and in which treatment was only instituted when the child was almost moribund and had lost weight rapidly, most of the infants treated have responded with a notable gain in weight, which has been continued after the treatment was stopped. Since the treatment has been continued over a period of two or three weeks it was necessary to rule out the factor of coincidence, because atrophic infants may occasionally begin to gain weight for no apparent reason. We have now treated 16 cases, of which 13 have shown a satisfactory gain in weight within a week from the beginning of the oxygen administration, and in our opinion this cannot be accounted for as a mere coincidence, but is due to the treatment.

It is possible that the mere increase of carbon dioxide in the air in the cot might be responsible for the good results obtained. A number of cases have therefore been treated in a similar cot in which the oxygen content was kept at the usual atmospheric level, but the carbon dioxide was allowed to accumulate. Of 5 cases thus treated, 4 began to gain weight slightly, whereas 1 remained stationary. The gain in weight was not so marked as that obtained in other cases treated in the oxygen-enriched air. All these 5 cases subsequently gained weight, but at a much more rapid rate when treatment with oxygen-enriched air was instituted. The following brief data with weight charts illustrate the kind of result obtained in successful cases.

## CASE I.

A male infant was admitted to hospital at the age of 2 months with a history of loss of weight and some dyspepsia: he was pale and thin but not wasted, and nothing abnormal was detected on examination. During nine weeks in hospital the infant's weight remained obstinately stationary in spite of various changes in diet; throughout this period his appetite was poor, but dyspeptic symptoms were slight; vitamin and glandular extracts produced no beneficial results.



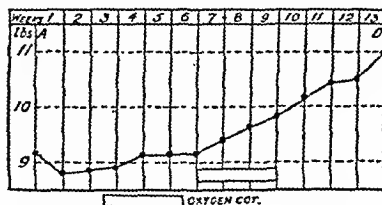
CASE I.—Weight Chart. Feeds: Week 1—simple milk and water; week 2—Bengerized milk and water; weeks 3 to 6—lactified milk and water; weeks 6 to 15—Bengerized milk and water; week 16—simple milk and water. A, admission; D, discharge.

Ultimately the infant was placed in the oxygen cot for three weeks, the diet remaining the same in type as during the three previous weeks. While in the cot he gained 1 lb. in weight and another pound was added during the ensuing three weeks before discharge. The child's appetite commenced to improve after the institution of the cot treatment; the colour also improved and the muscular tone became much more firm.

## CASE II.

A male infant, aged 2 months, was admitted with a history of failure to gain weight and of some previous mild dyspepsia; the type of food had been altered two or three times without pro-

ducing any good results. On admission the infant was pale, with flabby muscles, but on the whole development was quite good. No abnormalities in the organs were present. The weight after six weeks was the same as on admission, though the appetite had been fair and no dyspeptic symptoms had been present. During

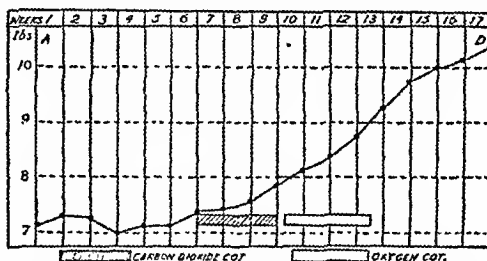


CASE II.—Weight Chart. Feeds: Week 1 to discharge—simple milk and water. A, admission; D, discharge.

twenty-three days in the oxygen cot, on the same form of diet, 12 oz. of weight were gained, and a further 17 oz. in the interval between the termination of the cot treatment and discharge. Muscular tone and general condition had also improved markedly since the commencement of the oxygen treatment.

## CASE III.

A male infant, aged 1 month, was admitted with an indefinite history of failure to thrive in spite of partial breast-feeding. He was, on admission, a small, pale, and slightly wasted infant, with a spotty skin; the Wassermann reaction was negative. The child was tried on various kinds of food, and for a time even received some breast-milk feeds; he took feeds well, with only one slight initial attack of dyspepsia, but he completely failed to put on weight, and after six weeks in hospital only weighed 1 oz. more than on admission. With no alteration of diet, the infant was then placed for three weeks in the carbon dioxide cot (in which the carbon



CASE III.—Weight Chart. Feeds: Week 1—simple milk and water; weeks 2 to 4—Bengerized milk and water; weeks 4 to 15—lactified milk and water; week 17—simple milk and water. A, admission; D, discharge.

dioxide was allowed to accumulate but the oxygen content was kept approximately equal to that of the atmosphere). During this period 7 oz. of weight were gained. After three days' interval he was transferred to the oxygen cot for three weeks, and in this cot 17 oz. were gained, and another 27 oz. before discharge six weeks later. Later on the child developed some septic areas on his scalp with subsequent glandular enlargement, and also some auricular discharge. All these conditions, however, cleared up satisfactorily, and on discharge the infant's general condition had greatly improved.

Since the small increase in carbon dioxide in the air of the cot without any oxygen enrichment was beneficial, we are inclined to accept this as supporting the view that some degree of general anoxaemia was present in these cases and that this was the cause of their failure to thrive. The increased ventilation of the lungs which the greater amount of carbon dioxide produces would in any case be of benefit if anoxaemia were present, but one would expect a better result by enriching the air with oxygen as well. This has been our experience.

It is obvious that further data from a much larger series of cases will have to be collected before more can be said about the treatment than that placed on record here. The work is therefore being continued and extended.

We wish to express our thanks to the Medical Research Council for defraying a part of the expense of this work.

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## A METHOD OF TREATING INFECTED ULCERS.

BY

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In 1910 I published an account of a new method for the treatment of infected ulcers, based on principles which had not been previously applied to therapeutics. The ordinary antiseptic treatment of ulcers does not always yield satisfactory results, owing to the fact that even the strongest antiseptics, applied to an ulcer, only kill the surface bacteria, without reaching those at even a slight depth, these being destroyed eventually by the general bactericidal powers of the patient. This destruction is, in general, satisfactory, except in the case of tuberculous, syphilitic, and certain tropical ulcers; but the time taken is often very long, which is very trying to the patient and the physician. I therefore set out to find a means of attacking the bacteria with a sufficiently strong antiseptic, not only on the surface of an ulcer, but also in the subjacent tissues. I thought this might be effected by the use of two substances which would interact to form a third substance with antiseptic properties. Moreover, since elements in the nascent state have enhanced chemical affinities, and consequently greater bactericidal properties, I wished to make use of this fact in the new treatment.

For the first of these substances I have used sodium iodide, administered orally, one of the elements in which is the highly potent iodine. This salt is non-poisonous, and in medicinal doses is ordinarily without unpleasant results; it is very quickly absorbed into the blood and is so carried by the circulation to the ulcer. There it meets some second substance, applied locally, which can set free iodine from the compound salt. Such substances are not difficult to find, the chemical combination of iodine with sodium being loose. It is not only freed by chlorino and the hypochlorites (Dakin's and Carrel's solutions) but also by any strongly oxidizing substance such as ozone and hydrogen peroxide. I have tried all these substances, and I generally prefer the peroxide solution as being the handiest and always constant in composition.

Iodine, for long considered one of our very best antiseptics, acts under these conditions in the nascent state, thus increasing its already great bactericidal properties. I must also draw attention to a subordinate point that may in some cases be important. Hydrogen peroxide, when in acid solution, frees iodine more easily and to a greater extent than in a neutral solution, the sodium radicle entering into combination with the acid. I therefore now acidify the peroxide solution with a small quantity of an acid, it does not matter which; I generally use acetic acid, but employ boric acid in treatment in the mouth, thus avoiding injury to the teeth.

*Practical Application of the Method.*

In the case of an ulcer on the surface of the body or the limbs I give sodium iodide in an average dose of 15 grains two or three times a day. Larger doses may be given, 60 to 90 grains a day, the effect of the treatment then being greater; but this entails some risk of iodism. Immediately after the first dose of sodium iodide the local peroxide treatment begins. The ulcer is covered by a layer of cotton-wool, not too thick, which is kept continually soaked with the peroxide solution dropping from a dropping-phial every tenth or fifteenth minute, or even more frequently. The more thoroughly the wool is soaked with peroxide the greater is the effect obtained. The strength of the peroxide solution must be kept at 1 to 3 per cent., generally 1 to 1½ per cent., because stronger solutions often irritate the sound skin around the ulcer. An addition of 1/4 to 1/2 per cent. acetic acid will prove quite sufficient for acidifying.

Since the blood contains most sodium iodide about one to two hours after its administration, special attention should be devoted during that time to the thorough soaking of the ulcer with peroxide solution. After the last dose of sodium iodide has been given for the day the local

treatment of the ulcer should be continued for at least three to four hours in order to make full use of the iodine which is still circulating in the blood and will be gradually excreted by the kidneys.

When the ulcer has invaded the deeper tissue layers, forming pockets, it is necessary to tampon the pockets loosely with gauze in order to bring the infected walls of the ulcer into intimate contact with the peroxide solution dripped on the gauze. Infected cavities in bones and joints are to be treated in the same manner. Fistulae, however, usually cannot be directly treated, it being difficult, or even impossible, to conduct the peroxide solution in sufficient quantity through the narrow ducts. It cannot be repeated too often or too strongly emphasized that the efficiency of the method depends upon there being an intimate and prolonged contact between fresh hydrogen peroxide and the infected surface to which sodium iodide is being carried through the blood vessels. A surgical operation will sometimes make a fistula suitable for this treatment.

For treating ulcerations in the nose the nasal cavity must be loosely plugged with gauze upon which the peroxide solution must be dripped as before indicated, care being taken that the patient's head is held back so as to enable the liquid to flow up into the nose. In treatment of affections in the mouth and throat the method of applying the peroxide solution must be changed. In the case of the mouth it is usually sufficient to rinse it frequently with peroxide at intervals of a quarter of an hour or less. For treating the throat a spray apparatus is necessary; different types are on the market, some being driven by compressed air. When hydrogen peroxide is being used for treatment of affections in the mouth and throat it must be remembered that it is not permissible to make the solution acid with the common acids, lest the teeth should be injured. The only acid suitable is boric acid, this being inoffensive to the teeth and quite effective in a 1 per cent. dilution.

The efficiency of this method of treatment is due to the antiseptic agent, iodine, being generated in the nascent state locally; it operates at a deeper level in the infected tissues than do other antiseptics, the iodine being generated not only on the surface but also at some depth under it. Nevertheless, we must presume that even this strong bactericide cannot itself kill all the microbes in an infected ulcer; to do this it must be aided by the bactericidal powers of the patient. These are always a very important factor in the healing of every local or general infectious disease. The method suggested is designed to help the body to conquer a local lesion, thus shortening the duration of the infection and accelerating its cure. In cases where the body cannot unaided overcome a local infection this procedure will supply an additional bactericidal auxiliary.

*Conditions in which the Method has proved Successful.*

The ulcerations in which the method has been employed may conveniently be divided into two groups—namely, common infected ulcers and tuberculous ulcers. In the former group may be included all ulcers appearing spontaneously, or after trauma, or infected by pyogenic organisms; in the latter all tuberculous and lupoid ulcerations. All ulcers belonging to the first group are generally treated successfully by the method, but since its application is less convenient than the usual methods of treatment it should be reserved for serious cases, in which these latter methods are less efficacious, such as phagedenic chancre and infection in open joints and bones. The method has proved very valuable in treating infectious conditions and ulcerations in the mouth and pharynx, such as mercury stomatitis, pyorrhoea, gingivitis, and angina necrotica (Vincenti). It has an extensive application in dental surgery for treating pyorrhoea, but the gum must first be separated from the teeth to enable the peroxide solution to reach the actual infected spot.

The method has been frequently employed in treating tuberculous and lupoid ulcerations in the nose and throat, but with variable results. This is due partly to the histological structure of the tuberculous ulcer and partly to the mode of action of the method. Tuberculous tissue commonly extends deeply below the free surface of the

ulcer, superficial tuberculous infections being comparatively rare, and the extent of the remedial action is necessarily limited. It follows that only in the case of superficial tuberculous ulcers can a thorough and permanent cure be expected; with deeper infections no lasting cure is to be obtained. Superficial healing will often occur, but deeper down the tubercles continue to grow; sooner or later they will sprout through the cicatrix or beside it.

Laryngeal tuberculosis deserves special mention. I have treated a large number of cases by my method, and in many of them I have obtained a perfect and lasting cure; others, which remained unaffected, indicating the correctness of the two principles mentioned previously. Careful attention must be paid to the condition of the lungs. If these are too extensively diseased it is no use trying to cure a local tuberculous affection. Advanced and progressive lung tuberculosis, with its corollaries of anaemia and cachexia, forbids the application of the method, since the patients can barely tolerate it, and the body has lost its power of recuperation. The treatment of local tuberculosis may be summed up as follows. For tuberculous and lupoid ulcers a complete and lasting cure can be obtained if the infection has not penetrated too far into the tissues, but if the infection is deep, as is commonly the case, only a superficial healing, or none at all, is to be expected.

#### The Treatment of Tropical Ulcers.

It is well known that external ulcers are very numerous and difficult to cure in the tropics. Not only are there those ulcers which commonly occur in temperate climates and which, owing to unfavourable tropical conditions, progress unfavourably, but also there are ulcers which are indigenous. I believe that my method should be particularly useful in the treatment of these tropical ulcers, and, since the British Empire includes the most extensive tropical dominion in the world, I have ventured to submit my proposal to the BRITISH MEDICAL JOURNAL in the hope that it will thus reach those regions where it is likely to prove of most use.

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## Memoranda:

### MEDICAL, SURGICAL, OBSTETRICAL.

#### TRACHEOTOMY TUBE WORN FOR OVER SIXTY YEARS.

I saw recently, in consultation with Dr. Benson Goulding, a case that may be worth recording.

It was that of an old lady, aged 81, who when 10 years old got "scarlatina followed by croup," and was tracheotomized very urgently in her home by Mr. Hutton, of "railroad catheter" fame in this city. She still wears the tube. She quotes Mr. Hutton as saying that she was only the third case of tracheotomy in Dublin, the other two having been performed in the Richmond Hospital.

The operation was a high tracheotomy. The voice when she stops the tube is quite good and pleasing. The larynx appears normal in phonation, but the rima glottidis does not open from ankylosis of the arytenoids. She has been perfectly healthy since the operation except for some rheumatic

arthritis, has never had bronchitis, and is mentally as active as the average individual of 40.

A noteworthy feature of her case is that she can never leave the tube out without putting in a substitute at once, for fear of choking, the fistula, in spite of its age, still preserving its tendency to close.

In her 20's she spent two winters in Canada, crossing Lake Ontario in the mail sleigh on her way home. She married at about 28 and has had seven children, five of whom are alive.

Dublin.

ROBERT WOODS.

#### DIPHTHERIA IN OLD AGE.

DIPHTHERIA is essentially a disease of childhood, but cases may be met with in any age period, and, though relatively infrequent in old age, it is by no means as uncommon as the paucity of recorded cases would suggest. Former hospital statistics understate the incidence, because, as one might expect, the tendency is for practitioners to treat aged patients in their own homes. In 1913 fourteen notifications relating to cases of diphtheria in patients of over 60 years of age were received in the metropolitan area, but only two of these cases were admitted to hospital. In the previous year nine such cases were notified, but none of them received hospital treatment. The following table is self-explanatory:

Cases of Diphtheria in the Fever Hospitals of the Metropolitan Asylums Board, 1895 to 1914.

Total number of cases (all age groups), 110,741.

		Males.	Females.	Total.
Aged 60 and upwards	...	15	21	36
Deaths	...	3	7	10

In early life diphtheria is slightly commoner and more fatal in the female sex. In old age both the incidence and mortality rate are much higher in females. With one exception all the cases I have been able to trace from the literature have referred to female patients. The following is an instance of diphtheria in a patient of advanced age.

A woman, aged 94, was admitted to the Grove Hospital in July, 1924. On admission an exudate covered both tonsils and there was slight bilateral cervical adenitis. The clinical diagnosis was confirmed bacteriologically, and she received 21,000 units of antitoxin. Five days after admission the throat was clean, and the subsequent course was uneventful. She had no paralytic sequelae, and except for a slight albuminuria there were no complications. She was discharged well after a stay of thirty-eight days in hospital.

In some of the recorded cases the exudate consisted of a small patch on a somewhat atrophic faucial mucous membrane. The false membrane showed little tendency to spread, and deliquescence was sluggish. Paralysis, noted in some of the cases, did not differ from the type observed in younger patients. The mortality must have been unfavourably influenced by the age of the patients and the consequent increased liability to intercurrent affections.

Laryngeal forms are very rare in old age, but their occasional occurrence has led Akesson to emphasize the importance of examining for the diphtheria bacillus in the laryngitis of elderly people. As J. D. Rolleston has pointed out, the prognosis in the laryngeal diphtheria of adults is grave on account of the likelihood of an extension of membrane to the bronchi and lungs. The laryngitis from which George Washington died, at the age of 67, was supposed by Bretonneau to have been diphtherial.

From the notes of a case recently reported by Muir it would appear that there is a possibility that some of the cases of rhinitis in the aged may have a diphtherial origin. The non-specific therapeutic value of horse serum is well recognized, and it is interesting to note that in the cases recorded by Birt and Keyes the administration of antitoxin was followed by the apparent cure of gout in one case and of a varicose ulcer in the other.

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## A CASE OF CHOREA IN INFANCY.

THE absence from Dr. Mary Bertram's series (*BRITISH MEDICAL JOURNAL*, March 14th, p. 496) of any case of chorea under the age of 3 prompts me to record one seen by me some years ago, frequently mentioned to students, but not hitherto given more permanent record. The patient was a female infant, aged 1 year and 10 months. The choreic movements were of recent origin and moderate severity, and there was quite definite carditis with mitral systolic bruit conducted outwards. The child had also a very rachitic head which had been wrongly considered to be hydrocephalus, beaded ribs, and other evidences of rickets. Furthermore, there was a very neurotic family history, the father being a confirmed epileptic. The subsequent history of the case is unknown to me. The patient was also seen in consultation by my senior colleague on the staff of the Children's Infirmary, Dr. Peter Davidson, whose opinion coincided with mine that the case was undoubtedly one of rheumatic chorea.

Liverpool.

HUBERT ARMSTRONG, M.D.

## SPONTANEOUS RUPTURE OF THE HEART.

THE report of the following case had been written out before the publication of the paper on a similar case by Drs. Skeen and Rutherford Dow in the *BRITISH MEDICAL JOURNAL* of February 7th (p. 262). The cases have certain features in common. In neither was the heart enlarged, the accident did not take place during violent exertion, and in both there was marked arterio-sclerosis of the coronary vessels. In the case now reported the spontaneous rupture can also be attributed to "a diminished blood supply with consequent secondary degenerative changes in the heart muscles."

A man, aged 70, recently attended at Dr. Kahan's surgery and complained that during the previous night he had been seized with severe pain in the epigastric region. At the time of examination the pain was practically gone, and nothing abnormal was detected. Five days later he again called and stated that he was feeling much better. Three days afterwards he appeared at the surgery about 10.30 a.m. At 10.45 another patient offered to allow him to go into the consulting room before his turn, as he looked so bad. He, however, did not move. Dr. Kahan and I immediately examined him. We could not feel his pulse; the corneal reflex was practically absent; the breathing was slow and stertorous; and the cardiac sounds were not audible. In about ten minutes from the onset of the attack the respiration ceased and the man was dead.

*Post-mortem Examination.*—The body was well nourished, with a tendency to obesity. As a cerebral haemorrhage was suspected, the brain was examined first, but no sign of a haemorrhage was found; the membranes were thickened and somewhat adherent to the surface of the brain; the cerebral arteries were definitely thickened. On opening the chest the pericardium was seen to be well covered with fat. The pericardial sac, opened *in situ*, contained about 8 oz. of blood. The heart appeared of normal size. The valves were competent, but showed evidence of sclerosis. The cardiac musculature was flabby and apparently in a state of degeneration. Near the apex, and adjacent to the septum, on the internal surface of the anterior wall of the left ventricle, was a tear  $3/4$  in. long. On attempting to pass a probe through this rent it came through only at the lower end to the external surface of the heart. The muscle immediately surrounding the rupture was necrotic. The coronary arteries were sclerosed and their lumen narrowed. On the inner surface of the aorta there were numerous atheromatous plaques. The lungs were slightly emphysematous. The liver was enlarged and congested, and the gall bladder contained ten small gall stones. The spleen was congested. The kidneys were of average size, but their cortex was narrowed and contained two or three small cysts. Their capsules were somewhat adherent, and their surface showed only slight granulations. The stomach contained some semisolid pulsatious food. The other organs showed nothing abnormal.

The sudden attack of pain of which the man first complained may have been due to gall-stone colic, or may perhaps have been associated with the splitting of the endocardium and myocardium, and death resulted when the epicardium gave way.

Spontaneous rupture of the heart usually occurs during violent exertion; but this was not the case here, as the man was sitting quietly when the catastrophe happened.

The heart was not enlarged. It may perhaps be deduced from this that the tension in the arterial system was not greatly increased. Monro<sup>1</sup> writes:

<sup>1</sup> *Manual of Medicine*, fourth edition, pp. 353-354.

"There is reason to believe that certain toxic agents, such as alcohol and lead, give rise to degenerative changes in the arteries through their direct influence, and without necessarily causing increase of tension. It is possible, too, that endogenous poisons resulting from perverted metabolism may have a similar effect."

Of course, the sclerosis of the coronaries, by interfering with the nutrition of the heart, would tend to its atrophy. This man was a compositor, but had done no work for several years. He was not a teetotaler. Though there was extensive cardio-vascular degeneration, the man apparently enjoyed good health till about one week before his death.

London, E.L. M. COHEN, M.B., Ch.B.Glas.

## TRAUMATIC INTUSSUSCEPTION.

JUDGING from the scantiness of the literature on the subject it is clear that the condition described in the following case must be rare.

A girl, aged 10 years, fell across a chair at school and hurt her abdomen. She fainted, but rapidly recovered, and returned home complaining of pain in the umbilical region. She vomited many times during the night and next morning. When seen twenty-two hours after the accident the temperature was subnormal; the pulse was about 100, very irregular, and rather thin. The tongue was dry and she was still vomiting (pure bile). The abdomen moved fairly well, but was tender all over the left side and slightly rigid, especially in the upper left segment. As it was feared that rupture of the intestine had occurred, immediate laparotomy was performed. A little free blood was found in the peritoneal cavity, and considerable extravasation was present in the layers of the great omentum and in the lesser sac, though not sufficient to form a swelling. Tracing up the ileum from the caecum an intussusception was found at the lower end of the jejunum, the upper portion entering the lower for about one and a half inches. A few feet higher up another "double intussusception" was found, both upper and lower segments entering the gut for about one inch and meeting in the middle of the tumour. In both lesions the gut was absolutely normal in appearance, calibre, and texture, and obviously no obstruction, either circulatory or intestinal, had arisen. Both lesions were undone with the greatest ease, leaving no trace of where they had occurred.

Obviously they were due to violent and irregular peristalsis following the trauma. Recovery was only slightly delayed by influenza.

D. A. MITCHELL, M.B.Lond.,  
F.R.C.S.Ed.

Midsomer Norton, Somerset.

## LONG SURVIVAL WITH CANCER OF THE BREAST.

ALTHOUGH it has long been known that patients suffering from carcinoma of the breast may live for a long time, the following case may prove to be of interest.

Mrs. M. B., aged 78, first consulted me on January 1st, 1924. She complained of headaches and a feeling of weakness, but had no pain. Practically the whole of the left side of the chest was eaten away. There were no respiratory movements and no physical signs of acting lung on that side. The heart appeared normal. The walls of this cavity were insensible to touch or heat or cold, but bled readily when touched. There were no evidences of metastases.

I obtained the following history: Twenty-five years ago she noticed a lump in the left breast which slowly grew until at the end of a year it was about the size of a golf ball. She was then operated upon by a surgeon who is now dead (I could not discover the scope of the operation). Twelve months after the operation there was recurrence in the scars, which she refused to have operated upon. The growth gradually ate into the chest, ultimately producing the condition I have described above.

She died on March 2nd, 1925, conscious to the last, but extremely weak. There was at no time evidence of metastases. A *post-mortem* examination was refused.

Preston.

J. BERNSTEIN, M.B., M.R.C.S.



# THE GOLD TREATMENT OF TUBERCULOSIS.

## PRELIMINARY REPORT BY THE MEDICAL RESEARCH COUNCIL.

VARIOUS gold compounds have from time to time been used in the treatment of tuberculosis. Recently a soluble complex salt of gold and sodium—namely, sodium aurithiosulphate, which has long been known to chemists, and is now made available under the trade mark of "sanocrysin"—has been introduced to therapeutics as a treatment for tuberculosis by Professor Moellgaard of Copenhagen, who has found that it has the advantage of dissociation into complex ions, so that toxicity due to free gold ions is avoided. Such toxic effects as this compound produces in tuberculous but not in normal subjects are attributed to destruction of the bacilli and increased liberation of tubercle toxins; and Professor Moellgaard has also prepared an antitoxic serum for use, when necessary, to counteract these ill effects. The results of experiments on animals and of numerous trials on human patients in some Danish hospitals have been fully described in his book on the *Chemotherapy of Tuberculosis* (autumn, 1924). Critical summaries of these results and of other work in Denmark have been published recently in the *British Medical Journal*<sup>1</sup> and in the *Lancet*. Clinical trials are now proceeding also in Germany and in Canada.

Professor Moellgaard very courteously gave to the Medical Research Council a full supply both of the gold salt and of the protective serum for clinical trial in England, but desired that the preparations should not be made available for general use in medicine until the results of these trials were completed. In December he and his chief colleague, Dr. Secker, visited England, and made a personal communication on the subject to those who were asked to try the preparations; while Dr. Secker remained in London long enough to visit several hospitals, advise on the selection of cases, and give the observers invaluable help during the treatment of individual patients by instruction drawn from his own wide experience.

The preparations were issued by the Council, as on the similar occasion of the introduction of insulin to therapeutics, only to those who were not engaged in private practice—that is, to whole-time professors of medicine or to tuberculosis officers. The Ministry of Health was kept in close touch with the work through a liaison officer. On account of the general interest aroused by discussion of this method of treatment, the Council thinks it desirable to issue this preliminary report on the early results of cases so far treated in Great Britain, and to explain its further policy.

Work in England has been in progress for less than three months; it has not been on a large scale, but the value of the opinions formed has been enhanced by the arrangement which used several observers of small groups working at first independently of each other rather than one observer of a large group. It was evident, when the observers subsequently met in the first conference upon which this report is based, that there was so great a divergence of opinion upon the value of the drug that any single observer, relying solely on his own experience, might easily have been led to a summary opinion that would have been unduly emphatic in his judgement for or against the

treatment. The report deals solely with clinical results, and does not consider the laboratory evidence for the effect of the gold salt on tubercle bacilli or infected tissues, nor that for the protective action of the specific serum.<sup>2</sup>

Each dose of sanocrysin was dissolved in 10 c.cm. of distilled water and injected intravenously. The usual amount was 0.5 g. for the first injection and then repeated injections of 1 g. each at intervals of about three days, unless a severe reaction on the part of the patient occurred and compelled delay until the reaction had subsided. The total amount used in any case was generally about 5 or 6 g., and the injections were rarely continued until the goal suggested by the Danish experiences was attained—namely, a final state in which the last injection produced no rise of temperature.

The specific serum, usually from horses immunized by diaphyte tubercle vaccine, though at first a weaker calf serum also received trial, was injected into the muscles in doses of 20 c.cm. Its action is supposed to be that of neutralizing the flood of tuberculous toxins liberated by the action of the gold salt on the infected tissues, and thus of lessening the general severity of the reaction to the chemotherapeutic injection. In cases with heavy tuberculous infection the serum was used either before or together with the first gold injection as a preliminary measure. In mild cases it was not used until a reaction of some severity had occurred, and in many instances it was never used at all.

### EFFECTS OF THE INJECTION OF SANOCRYSIN.

Vomiting was often noticed as an immediate effect within a few minutes of the injection. In one control patient, without evidence of tuberculous disease, there was nausea and prolonged anorexia after three injections, but no rise of temperature or any other reaction. There were no other control observations of cases with fever from known causes other than tuberculosis, so that the evidence is not sufficient to ascertain whether the gold salt can be used as a test to distinguish non-tuberculous from tuberculous febrile states. In a group of five cases of pulmonary tuberculosis that were clinically mild but radiologically moderately extensive, there were slight pyrexia and trifling albuminuria, but no other features of reaction. The gold salt in amounts up to 5 or 6 g. therefore seemed to be non-toxic for patients with only slight tuberculous lesions.

Severe reactions were generally produced in cases of more extensive infection. The temperature rose within a few hours to 103° or 104°; but there was no case of hyperpyrexia or of critical fall. Vomiting often recurred, but diarrhoea was not often observed. The patient felt ill, depressed, and lost appetite. A metallic taste was sometimes complained of, and there was a tendency to ulceration of the mouth and throat. The rise of temperature lasted three or four days, but was generally less with each successive dose. After the second or third dose rashes often appeared, like those of measles or scarlet fever, and not often itching. In one case an erythematous rash persisted for a fortnight and was accompanied by an outbreak of many indolent open sores. The rashes were seen in cases where no serum had been given. They were perhaps more frequent in cases of closed tuberculous infection.

Albuminuria was a common occurrence, and in some cases exceeded 1 per cent., though it did not last long. No oedema resulted and there was no evidence of persistent renal lesions. Measurements of blood urea were not made in any of the cases of severe albuminuria. In one necropsy, where there had never been more than trifling albuminuria, 8 per cent. of the total metallic gold injected was found in the kidneys on death twenty-eight days after the last injection.

<sup>2</sup> These matters are discussed by Professor Moellgaard in the paper published in this JOURNAL on April 4th.—Editor, BRITISH MEDICAL JOURNAL.

<sup>1</sup> It may be added that a paper by Professor Moellgaard on "The theoretical basis of the sanocrysin treatment of tuberculosis" was published in the BRITISH MEDICAL JOURNAL of April 4th (p. 643). In it he fully explained the theoretical considerations which led him to employ sodium aurithiosulphate, related some of the experiments on animals he has carried out, and indicated the precautions which should be taken in the administration of the drug.—Editor, BRITISH MEDICAL JOURNAL.

of sanocrysin. Gold was proved to be excreted by the bowels and by the kidneys after an injection of sanocrysin. Jaundice of a grave nature, which in the Danish experience was a very rare event, occurred in another patient who died, and a relatively large amount of gold was found on analysis of the liver.

Features strongly suggesting that the gold salt had a direct action at the site of the tuberculous infection were often seen. Thus, in the lungs a focal reaction was evidenced by local pain, a sense of tightness, and by prolonged tachypnoea. This was in at least three instances aggravated by the development of a very critical state in which the pulse became rapid and feeble and the patient so collapsed, though the temperature did not fall seriously, that great anxiety was aroused as to the chances of recovery. Except for a local increase of crepitant râles, there were no clear changes in the physical signs in the lungs during these focal reactions. Cough, however, was generally increased and sputum was at first more abundant if the patient had strength for expectoration. Subsequently both cough and sputum tended to lessen.

Headache was never intense. A general state of depression and lack of vitality, together with loss of weight, tended to develop in cases of extensive infection after a course of treatment, and this retarded subsequent recovery in the hospital wards.

#### EFFECTS OF THE INJECTION OF THE PROTECTIVE SERUM.

Clinical experience varied on this point. At some hospitals nearly every patient had severe serum sickness, perhaps with its own rash and vomiting, and certainly with severe joint and muscle pains. Other observers never saw such effects. The differences were not explained by reference to any particular batch of serum, or to different effect of calf or of horse serum respectively. There were, however, no examples of dangerous anaphylactic phenomena.

It was difficult to form a clear conclusion as to the benefit of the serum. Some observers thought they had proof of its power to control albuminuria and focal reactions in the lungs, if given early and before these features became serious; others were not convinced. In general, serum was freely used for severe cases of infection. A few trials were made of the influence of the serum on the general state of a tuberculous patient apart from the use of sanocrysin, but they led to no demonstrable results.

#### SUMMARY OF CLINICAL RESULTS.

Clinical experience in Britain has confirmed the description in Professor Moellgaard's book of the immediate effects of sanocrysin as seen in Danish hospitals. The drug does appear clinically to have a specific action on tissues infected by tubercle bacilli, and the severity of the constitutional reactions does appear to be directly related to the intensity of the tuberculous infection. Further, the drug seems to have but slight toxicity for human patients who are not infected by tuberculosis, though in this respect very few control observations have been made. On account of the severity of the reactions in the first tuberculous patients chosen for treatment, no observer at the beginning felt justified in deliberately making control observations in other febrile infections. For the same reason no one cared to begin straight away with the treatment on a large number of tuberculous cases, but each observer preferred to select three or four individual patients and proceed cautiously.

The total number of cases covered by this preliminary report is small—about thirty, of whom twenty-two definitely had tuberculous infections of the lungs. Two of the pulmonary cases died, death in one hopeless case being perhaps accelerated by the treatment, and occurring in the other unexpectedly as the result of toxic jaundice. The remaining twenty do not lend themselves to any numerical analysis. Uncomplicated pulmonary tuberculosis is a disease of which few physicians can confidently foretell the progress, upward or downward, during any given period of two or three months, which was all the time available for these preliminary observations. But it was the opinion of those observers who had had most experience in dealing with

consumption that the early cases of open tuberculous infection of the lungs did show some evident improvement, though there was no dramatic benefit, such as that seen with insulin or salvarsan in their corresponding diseases. On the other hand, cases with more advanced disease did not stand the treatment well, and the condition of some of these has been made worse. The latter experience accords with that of Dr. Seeker of Copenhagen. Serious cases of long standing cannot endure the treatment in its present form.

There were two cases, not included in the preceding twenty, in which most striking improvement followed at once upon the use of the drug, both the patients having lain three months in hospital previously without making any advance. One appeared to be a case of closed tuberculosis of the lung, spreading out from hilum glands, though it could not be proved that the pulmonary inflammation was caused by tubercle bacilli and not by some other smouldering infection. The other was a case of tuberculous peritonitis with an encysted collection of fluid that vanished at once upon treatment. In each instance the patient showed the rash and rise of temperature that in other proved cases of tuberculosis have followed the injection of sanocrysin. No case of pleural effusion was treated in this preliminary group because the results in this condition would not have offered any decisive evidence. Lupus of the skin, spinal caries, renal tuberculosis, and tuberculous glands are now being treated, but their progress is not sufficiently advanced to be included in this report.

The evidence, therefore, despite the relatively poor results in open pulmonary tuberculosis—and that is unhappily the commonest form of tuberculosis—is sufficiently encouraging to demand further clinical study. This is particularly so in view of the one experience common to all observers—namely, that the drug seems to exert a specific action on tuberculous tissues. The Medical Research Council expects that many months will pass after the issue of this preliminary report before any further definite conclusions can be drawn. Trial on a larger scale is now justified, and it is hoped to widen the field of work with the help of more observers. But the Council is of opinion that such further trial and extended observations are imperatively required before it can be clearly stated that this gold salt is of value in the treatment of tuberculosis and before it should be made available for general use in medical practice in Great Britain.

#### SUMMARY OF CLINICAL OBSERVATIONS.

The following section briefly summarizes the clinical observations at the several places where the treatment was used. In every patient radiograms of the chest were taken before, during, and after treatment.

##### ST. BARTHOLOMEW'S HOSPITAL (PROFESSOR F. R. FRASER).

One case, aged 30. General pulmonary tuberculosis; tubercle bacilli found once. Total gold salt used, 5.25 g. Severe reaction at first, but final injection of 1 g. caused no rise of temperature. No definite change.

##### LONDON HOSPITAL (PROFESSOR A. W. M. ELLIS).

Five cases of pulmonary tuberculosis, one case of tuberculous meningitis, and one non-tuberculous control. The general impression of the results was definitely unfavourable.

—, aged 17. Four years' history. Extensive pulmonary tuberculosis both lungs. General condition good; had gained 1 st. in weight. Tubercle bacilli found once during treatment. Total gold salt used, 6.5 g. in eight weeks. Severe reactions, fever, rash, ophthalmic reactions, albuminuria, loss of weight. Gradual recovery on stopping treatment to conditions very much as on admission. No change in physical signs. Result: No change.

—, aged 53. Three months' history of pleural effusion and fibrosis. General condition fair. Tubercle bacilli present on one occasion only. Total gold salt used, 2.75 g. Gold salt discontinued because of prostration, albuminuria, prolonged nausea, and anorexia. Severe serum sickness. Lost weight and has not regained it two months after cessation of treatment. Result: No improvement; apparently made worse by treatment.

—, aged 23. Two years' history. Extensive pulmonary tuberculosis both lungs. General condition good; had recently gained 1 st. in weight. Tubercle bacilli disappeared from the sputum during treatment but reappeared later in large numbers. Total gold salt used, 1.5 g. Gold salt discontinued because of vomiting

and continuous hiccup. Prolonged anorexia. Fever, rash, and albuminuria. Three weeks after last injection, onset of hectic temperature with physical signs indicating rapid and extensive spread in the area of pulmonary involvement. No subsequent improvement. Is going steadily downhill. Result: Treatment led to extensive spread of the disease and marked general deterioration.

—, aged 36. Three years' history. Extensive chronic tuberculosis both lungs. General condition excellent; afebrile. Albuminuria. Renal function normal. Tubercle bacilli absent. Total gold salt used, 5.5 g. Moderately severe febrile reactions, nausea, and vomiting. Ten days after the last injection temperature became hectic and has remained so, with marked increase in physical signs and evidence of rapid spread of the infection. At the same time there appeared a very severe exfoliative dermatitis, apparently identical with that seen in severe arsenical poisoning. Result: Extensive spread of the disease; severe exfoliative dermatitis.

—, aged 19. Three years' history. Extensive chronic pulmonary tuberculosis of left lung; early involvement of right. General condition excellent; afebrile. Tubercle bacilli disappeared during early part of treatment, but reappeared later in increasing numbers. Total gold salt used, 7.5 g. Treatment followed by severe and prolonged reactions with fever, rash, albuminuria, and breathlessness. Severe serum sickness. After the third injection the temperature never again reached normal, the physical signs in the chest increased both in quantity and in extent, and tubercle bacilli reappeared in the sputum. Subsequent injections failed to influence the course of the disease. Serum, when given, resulted in violent reactions with rigors and collapse. The resulting situation was a very difficult one. It was obvious that the patient was going steadily downhill. It was decided to try and increase the concentration of the drug, even though, on account of the reactions, serum could not be given. Two injections of 1 g. were therefore given, with one day intervening. Four hours after the second injection there was dyspnoea, cyanosis, and blood-stained frothy sputum. Death occurred in two hours. There was no *post-mortem* examination. Result: Death.

—, aged 9 months. Tuberculous meningitis. Total gold salt used, 0.4 g. in two days. No evidence of any effect was seen. Death occurred on third day. Result: No influence detected.

In addition a case of lymphadenoma or Hodgkin's disease was treated as a control. The patient received three injections of the gold salt and no serum. There was no rise of temperature, no albuminuria, and no rash, but nausea and prolonged anorexia resulted.

#### ST. MARY'S HOSPITAL (PROFESSOR F. LANGMEAD).

Three cases of pulmonary tuberculosis. The early results were unfavourable and one patient died, apparently in consequence of the treatment.

—, aged 18. General condition good, but tubercle bacilli abundant. Total gold salt, 1.5 g. in four days, and over 200 c.cm. serum. Vomiting, diarrhoea, rash, fever, albuminuria, and definite serum reaction. Focal reaction in lungs. On tenth day after the last injection of gold salt, jaundice appeared and rapidly deepened. The patient died with haemorrhage from the bowels twenty-nine days after the last injection.

Necropsy found spreading tuberculosis in the lungs and recent tuberculous ulceration of the bowels. There was only one hypertrophied kidney, and that showed tubular nephritis. The kidney was not analysed for gold, but in the liver was found 0.028 g. of gold—that is, 4.75 per cent. of the total metal injected.

—, aged 32. Early disease of right apex, afebrile. Tubercle bacilli present. Total gold salt, 5 g. Fever, rash, loss of weight, albuminuria; general condition deteriorated, but is now improving, and temperature is again normal. Physical signs unchanged and tubercle bacilli still present in sputum.

—, aged 29. Peribronchial fibrosis and doubtful physical signs, but tubercle bacilli present; temperature normal. Total gold salt, 6 g. Fever, severe serum sickness, loss of weight, slight albuminuria, pain in chest, and increased expectoration. General condition at first worse, but later improving. No tubercle bacilli in sputum in last three weekly examinations, but patient developed pleurisy seven weeks after treatment was ended.

#### ST. THOMAS'S HOSPITAL (PROFESSOR H. MACLEAN).

Only early or slight pulmonary tuberculosis was treated, in five cases of which four had tubercle bacilli present. They were in fairly good general health, with few symptoms and generally very little pyrexia. Gold salt was given in doses of 1 g. at four to seven days' interval up to a total of 4 or 5 g. No serum was used. The reactions were slight, a little pyrexia, some albuminuria, and increase of cough. No focal pain in the chest, no anorexia. All the five cases have subsequently improved, but it is difficult to decide whether this improvement is more than would have been effected by ordinary hospital treatment. This group is, however, of great importance as a control to show that the gold salt exerts little obvious effect on the general health of patients with only mild tuberculous infections.

—, aged 27. Three months' history. No tubercle bacilli. Gold salt given, 4.5 g. No reactions except slight albuminuria persisting since fourth dose. General condition improved. X-ray examination

showed disappearance of triangular opacity in right axilla which had suggested tuberculous infiltration.

—, aged 21. Six months' history. Tubercle bacilli present. X-ray examination: Disease upper third of both lungs. Very dense right apex, moderately dense left. Some fibrotic contraction right apex. Had begun to improve already with hospital treatment. Gold salt given, 4.25 g. Slight temperature reactions. Transient albuminuria for five days after fourth dose. Result: Previous rate of improvement maintained or accelerated. Final radiogram shows no change except increased contraction right apex, though radiogram taken during reaction showed increase of shadows. Tubercle bacilli present on discharge, but some evidence of fragmentation.

—, aged 23. Three months' history. Tubercle bacilli present. X-ray changes of medium density both lungs, occupying one-third of pulmonary fields. Gold salt given, 5.25 g. No definite reactions. Irregular pyrexia persisted. Attack of pleurisy after four weeks. Result: General condition improved; x-ray examination, no change.

—, aged 18. Short history. Tubercle bacilli present. X-ray examination: Medium opacity upper half both lungs. General condition good. Gold salt given, 5.25 g. No marked reactions. Result: General condition improved. Sputum—no tubercle bacilli on March 9th, 1925. No sputum since.

—, aged 24. Eighteen months' history. Tubercle bacilli present. X-ray examination: Very slight changes left apex. General condition not very good. Two doses, each followed by slight pyrexia. Rash resembling erythema multiforme two days after second injection; increased slowly during next six days; began to fade on fifteenth day. Treatment in consequence delayed, and is now being completed.

#### UNIVERSITY COLLEGE HOSPITAL (PROFESSOR T. R. ELLIOTT).

Four cases, of which two appeared to be cured by the treatment, though the evidence was not conclusive. In two pulmonary cases with tubercle bacilli in the sputum the results were, on the other hand, definitely unfavourable.

—, aged 18. Bilateral apical infection with one year's history. Poor condition, though afebrile, and tubercle bacilli always in sputum. Total gold salt, 6.25 g. in thirty-four days, with 360 c.cm. serum. Much albuminuria, no rash, no severe serum sickness. Marked focal reaction in lungs, with pain, dyspnoea, and a serious circulatory collapse twice. Prolonged vomiting and anorexia. General condition worse and tubercle bacilli in sputum more abundant.

—, aged 29. A hopelessly rapid caseous tuberculosis, chiefly of right lung with less than six months' history. Tubercle bacilli in sputum. Patient so ill that he seemed unlikely to survive more than a couple of months. Total gold salt, 4 g. in eleven days, with 300 c.cm. serum. Slight albuminuria and no rash. Marked focal reaction in lungs with dyspnoea that persisted. Died four weeks after last gold injection, with repeated pulmonary oozings of blood.

Necropsy.—Necropsy confirmed the radiograms in showing that the caseous changes had spread rapidly into the left lung since treatment began; and the detachment of one large mass of caseous lung tissue loose within a cavity on the right side suggested that some unusually active process of destruction had been taking place. There was no tuberculosis outside of the lungs.

Disappearance of Gold from the Tissues.—Analysis found that of the total metallic gold given (40 per cent. of 4 g. salt—that is, 1.60 g.) 0.128 g., or 8 per cent., was still present in the kidneys. The percentage of gold to the weight of the kidney was 0.037. The liver retained a total of 0.012 g.—that is, barely 1/70 of the percentage found in the kidney. The lungs contained only traces that could not be measured. This rapid disappearance of the gold from the tissues where its effect was desired suggests that the salt should not be given intensively in severe cases, as advised by the Danish physicians, but at longer-spaced intervals.

—, aged 20. Tuberculous peritonitis with large encysted collection of fluid in the lower abdomen. Pleurisy at 14, with present x-ray evidence of fibrosis on right side. No tubercle bacilli in sputum and abdomen not explored. Condition stationary during three months' rest in hospital previous to treatment. Total gold salt, 4.5 g. in seventeen days and 80 c.cm. serum. Febrile reaction, with rash and some pain in right chest and in abdomen. The tumour had vanished by the time the last dose was given. No recurrence a month later, but still some chronic inflammation found on rectal palpation of the uterine adnexa. Patient gaining weight. Apparently a most definite improvement as the immediate result of treatment.

—, aged 14. Query localized tuberculous bronchopneumonia. Admitted for large quiescent tuberculous glands in neck, which were excised and microscoped. After anaesthetic for this operation the patient developed consolidation of left lower lobe, which took four weeks to clear up. X-rays subsequently showed much enlargement of hilum glands and a shadow spreading outwards in the middle of the right lower lobe. The patient was under medical treatment in hospital for three months, during which time there were no tubercle bacilli in sputum, but there was continuous pyrexia and varying loss of weight. Boy seemed seriously ill when gold treatment was begun. Weight 5 st. 7 lb. Total gold, 1.25 g. in six days. Severe and prolonged rash, rise of temperature, and fall of weight to 5 st. 2 lb. No focal reaction in glands of neck. Then recovery,

with temperature thenceforward normal, and rise of weight by 2 or 3 lb. weekly to 6 st. 5 lb. on discharge from hospital. Still faint x-ray evidence of fibrosis in area of earlier opaqueness in right lung. The boy was cured with unusual rapidity of his lung inflammation, which was not actually proved to be tuberculous, though its appearance was clinically identical with that of ilium tuberculosis.

#### CARDIFF (PROFESSOR S. L. CUMMINS).

Three cases of early pulmonary tuberculosis, of which two showed definite improvement, and one, whose preliminary course of treatment has only just been completed, feels better, although he has not yet started to regain weight.

—, aged 21. Early disease involving two lobes, but only slight in density. Fair general condition. Tubercle bacilli present. Total gold salt, 4.5 g. in five weeks, and 92 c.cm. horse serum. Moderate reactions after first four doses. Sputum ceased. Tubercle bacilli vanished. Lost 2½ lb. during treatment. Has now regained this and added about 4 lb. to original weight.

—, aged 28. Definite pulmonary disease right apex, with cavitation. Tubercle bacilli present in great abundance. Total gold salt, 6.5 g. in seven weeks, and 95 c.cm. horse serum. Moderate reactions and transient albuminuria after gold salt. Severe reactions after serum. Sputum diminished and tubercle bacilli greatly reduced in number. Has lost 9 lb. during treatment. Is now feeling "as he used to before illness," but has not yet started to regain weight.

—, aged 15. Dullness and bronchial breathing upper third right lung. Tubercle bacilli present in fair numbers. Good general condition. Total gold salt, 3.25 g. in five weeks, and 36 c.cm. serum. Reaction and slight albuminuria after first dose. Intense serum sickness. Lost 3 lb. at first. Has now put on 4 lb. Is still under treatment. Appears much improved so far. No tubercle bacilli in sputum on last three examinations.

#### EDINBURGH (PROFESSOR SIR ROBERT PHILIP AND PROFESSOR D. MURRAY LYON).

Work at Edinburgh was not commenced until January, and while a much larger series of cases was tried than at any individual centre in London, few of these have yet reached the end of treatment. In general the results seem favourable. Serum was sparingly used, and in many cases not at all. In some tuberculous cases the Danish antituberculin serum was used alone without the gold salt, and it was not seen to have any constant influence on the temperature curve. All the patients selected were without exception afebrile at the beginning of the treatment. In the pulmonary cases tubercle bacilli were present at the commencement.

**Immediate Effects of the Drug.**—The first dose of 1/2 g. sanocrysin produced either very little reaction or a rise of about 2° F., the whole disturbance as a rule passing off in twenty-four to forty-eight hours. In two cases the temperature reaction to the first dose was prolonged for about ten days, a swinging temperature increasing for the first three or four days, reaching to about 103° F., and then gradually disappearing. No albuminuria or rash followed the first dose. The second dose of sanocrysin was usually followed by much larger temperature disturbance, lasting a little longer than that of the half-dose, but in most cases each subsequent dose gave rise to a smaller temperature response, until in some cases no rise occurred at all. A large number of the cases complained of loss of appetite, and in some the anorexia was very severe; vomiting has been frequent—in some cases within a few minutes after each dose, in other cases a few hours later; or, again, occurring only in the early morning each day.

**Albuminuria.**—A considerable quantity of albuminuria might appear after the second or third dose and remain present for several days, gradually decreasing in quantity, even without the use of serum. Renal cells and casts were present in some of the cases, but there have been no other signs of renal irritation or nephritis. A case of tuberculous kidney showed no increase in albuminuria under treatment, but after four doses treatment had to be suspended because of recurring vomiting.

**Rashes.**—Skin rashes have appeared in about three-quarters of the cases, irrespective of whether they have had serum or not. The rashes have varied considerably in character, from fleeting erythemas and urticarias to persistent dermatitis. In some cases the whole rash disappeared in a few hours, and in many it lasted for three or four days. The rashes were judged by an observer who had clinical familiarity with those caused by extensive tuberculin treatment to be very similar to the latter. In one pulmonary case a severe reaction has persisted for about three weeks, the whole skin being inflamed, the tissues about the face swollen, and there has been a universal desquamation. Apparently this subject had had some previous skin trouble.

**Results.**—In three pulmonary cases with abundant tubercle bacilli and definite x-ray changes there was some improvement. Sputum was lessened, but a severe rash occurred in two, and in one of these there was persistent vomiting and anorexia. In eight other cases, including lupus of the face, renal tuberculosis, and scrofulous glands of the neck, no alarming features of reaction have yet been observed.

## British Medical Association.

### CLINICAL AND SCIENTIFIC PROCEEDINGS.

#### OXFORD DIVISION.

The second meeting of the year was held at the Radcliffe Infirmary, Oxford, on March 25th. Dr. A. W. NEILL was in the chair, and about forty members were present.

#### SKIN DISEASES IN CHILDHOOD.

A paper on some common skin diseases in infants and children was read by Dr. A. M. H. GRAY, physician for diseases of the skin, University College Hospital, London, and the Hospital for Sick Children, Great Ormond Street. He said that the skin of infants was very delicate, but was usually well protected by the attentions of parents and nurses, consequently bacterial infection was not very common. Streptococcal and staphylococcal infections were, however, met with. Streptococcal infection took the form of a bullous eruption, starting from the site of inoculation and spreading eccentrically. The rate of spread varied mainly with the virulence of the organism. Bullous impetigo or pemphigus neonatorum could be distinguished from syphilitic pemphigus by the symmetry of the latter, its tendency to affect the palms and soles, the presence of other types of lesion, and the malnutrition of the patient. In treating streptococcal pemphigus care must be taken to avoid loss of body heat, and large wet dressings should be avoided. The most convenient dressing was lin. calamine to which 1 or 2 per cent. of ammoniated mercury had been added; strips of linen were soaked in this and pads of cotton-wool applied outside. Staphylococcal infection took the form of multiple boils, which were seen in weakly infants. Incision and drainage, keeping the patient warm, and care as to feeding, were the lines along which treatment should be directed.

Infants (Dr. Gray continued) were very prone to eczema of the face and scalp. Two varieties were generally recognized. The commonest form started on one or both cheeks as a red itchy patch, and friction caused the eruption to spread over the rest of the face; the eyelids and perinasal region often escaped, as they were protected by their position from friction. Later the scalp might become involved, and eczematous patches develop on the trunk and limbs. This type occurred chiefly in fat children under 1 year old, and was seen mainly in winter. It appeared to be generally associated with overfeeding. Treatment consisted in reducing the quantity of the feeds, whether breast or bottle, protection of the face from the air by a suitable mask and from friction by fixing down the hands, and by avoiding exposure to extremes of heat and cold. Coal-tar ointment applied on the mask was most generally useful; 3 per cent. crude coal tar in pasta zinci (B.P.C.) acted extremely well. The tar should not be applied if much sepsis was present; septic crusts could be first dealt with by 1 in 1,000 flavine-starch poultices. The other type of facial eczema usually began on the scalp and appeared to be independent of the nutrition of the child; it was thought to be primarily of seborrhoeic origin, but usually responded to the tar ointment. In some cases 1 or 2 per cent. sulphur and salicylic acid ointment was of value.

In children past the first year of life eczema was less often seen except in association with septic infection. Streptococcal infection was, however, very common. Varying forms were seen. The ordinary impetigo contagiosa started as a small thin-walled blister which rapidly ruptured, but the serum exuding from the base of the blister dried to form a crust. The lesions were usually isolated and the spread was eccentric. In some cases, however, bullae were produced and the spread might be more rapid. Lotions were the most suitable for this condition, 1 in 1,000 flavine applied on lint or linen and changed several times daily being advised. In other cases slowly spreading blisters, which flattened down and dried up in the centre, but continued to spread at the edge, were found—the so-called circinate impetigo. This was treated by

dimite white precipitate ointment. Streptococcal infection was liable to occur in the deeper folds of the face, behind the ears, in the angles of the mouth, nose, and eyelids. Here fissures tended to occur, and these were often troublesome to heal. The point was to prevent the cracks from being opened when changing the dressings; this was easy except at the angles of the mouth, and here in troublesome cases it might be necessary to fix the angle of the mouth by a small piece of zinc oxide strapping after applying the weak mercurial ointment. The pale, dry, circumscribed scaly patches, known as pityriasis alba, seen on the faces of children were usually, though not always, of streptococcal origin. They often responded to an ointment of ac. salicyl. gr. x, ung. hydr. ammon. dil. ad 5j. Severe impetigo of the ear and surrounding area due to middle-ear discharge often spread to the scalp and produced a severe form of septic dermatitis with much secondary staphylococcal folliculitis. Such cases were extremely troublesome to treat, and required all the resources of the dermatologist. Impetigo contagiosa often complicated infection by animal parasites. In these cases, where scratching was a marked feature, ulceration occurred in some of the lesions and ecthyma was produced. Ecchyma lesions were best treated by tying up with 3 per cent. ammoniated mercury in pasta zinci (B.P.C.) after the crusts had been removed; and the parasitic condition, of course, must first be treated.

A condition often seen among children was an itchiness of the flexures of the elbows and knees, sometimes affecting the flexures, and also the sides and front of the neck and the face. The cause of the itching was still undetermined. The skin lesions seen were the result of friction. These cases could often be cured in the early stages by tying the affected areas with the coal-tar paste; more resistant cases often responded to x-ray treatment. An endeavour should be made to get these young patients well, because if the condition drifted on to adult life it was extremely intractable.

#### LABORATORY DIAGNOSIS OF ENTERIC FEVERS.

A paper on the laboratory diagnosis of the enteric group of fevers was read by Dr. W. T. COLLIER, honorary assistant physician to the Radcliffe Infirmary. It was based upon the investigation of the 20 cases of enteric admitted to the infirmary during the five years 1920-24. Of these, 12 were due to *B. paratyphosus* B, 6 to *B. typhosus*, and 2 apparently to mixed infections. There were no deaths. Of the 6 cases of typhoid, 3 occurred in three members of the same family. A rough clinical classification showed that only 8 of the 20 cases could possibly be described as severe; 4 were regarded as moderate and 8 as mild. The mild cases had an average febrile period of seventeen days; they were all cases of paratyphoid B, except one case of *B. typhosus* infection in a baby aged 2. It was this frequency of the mild case of paratyphoid B which led Dr. Collier to bring forward the question of diagnosis, for most of the cases treated outside the hospital had also been mild cases of paratyphoid B, and he felt convinced that a good many cases must escape detection. With a severe infection the possibility of typhoid was usually obvious enough to suggest an examination of the blood; but in the mild case this possibility might not even be considered. The only two diseases in his experience with which confusion tended to occur had been influenza and acute appendicitis. One case in the present series was sent into the hospital as a case of appendicitis, and he knew of two cases outside in which appendicectomy was performed before the disease was recognized.

In the diagnosis of enteric (Dr. Collier continued) three laboratory methods merited consideration—the white cell count, the Widal or agglutination test, and direct culture of the organism.

**White Cell Count.**—In enteric this showed a leucopenia and not a leucocytosis. It was unfortunate that several of the diseases from which typhoid might have to be distinguished—for example, influenza, tuberculosis, subacute bacterial endocarditis—also showed a leucopenia; but where a septic infection was in question the white count might be of great value.

**The Widal Reaction.**—This was the most generally useful means of diagnosis they possessed; in all the twenty cases, except one, it was positive at the first examination and in most of them to a dilution of 1 in 250. All the cases were examined by Dreyer's macroscopic method: in inoculated individuals this method was essential. Since this was an immunity reaction, depending on the formation of agglutinins, the test did not usually become diagnostic until the seventh to the tenth day. It attained its maximum on the eighteenth to twentieth day, and then fell, at first rapidly and later more slowly, and might persist for many years after the infection. A single dose of vaccine, on the other hand, produced a maximum response in a much shorter period, for which reason even to ten days was chosen as the optimum interval between doses. The Widal reaction remained positive for a very variable period after inoculation, but probably for never less than two years. Moreover, there was very great variation in the individual's response to the three components of the vaccine. It was interesting to note that detoxicated vaccine did not apparently produce a positive Widal reaction. As to the significance of a positive Widal reaction, it might mean one of three things: (1) active infection, (2) past infection, and (3) past inoculation with the particular organism. While diagnosis in an inoculated individual was a comparatively simple matter, it must be based on two or three comparative tests performed at three- or four-day intervals—and this delay, of course, detracted to some extent from its usefulness. Diagnosis was based in the earlier stages on a rise, in the later on a fall in the titre of the reaction. The phenomenon of coagglutination (occasional non-specific stimulation of agglutinin formation) did not in actual practice usually cause difficulty. Thus, especially in the inoculated, infection with typhoid might cause some rise in the A and B agglutinins, and a non-specific infection such as pneumonia might slightly raise the agglutinin titre of all three. The limitations of the Widal test were: (1) it did not usually become positive until the seventh to tenth day, and in rare cases might remain negative throughout; (2) it might only be evidence of a past infection, so that unless the clinical condition was suggestive of typhoid the "agglutination curve" must be ascertained by a second test after an interval of three or four days; (3) in all inoculated cases the same procedure was necessary, and the blood usually had to be examined thrice.

**Culture of the Organism.**—Much the most trustworthy method was that of blood culture. The disease commenced with a bacteraemia, and in the first week blood culture was almost invariably positive; it was therefore a valuable complementary test to the Widal reaction. After the first week the chance of cultivating the organism from the blood gradually diminished. The organisms were also present in the stools at a fairly early period, but their isolation was apt to be difficult and tedious, and the method was not therefore very useful for diagnosis. In the urine the organism was only present in some cases, and usually in the later stages.

#### MISCELLANEOUS CASES.

Mr. E. C. BEYERS showed a patient in whom he had performed aseptic resection of the colon for carcinoma by Fraser's method, and described the technique of the operation.

Mr. HUGH WHITELOCKE showed two cases for diagnosis: (1) A boy, aged 15, with a painless cystic swelling the size of a hen's egg at the root of the right side of the neck of four weeks' duration. Since first seen some days previously the swelling had undergone a change, and in view of the supervening redness of the skin Mr. Whitelocke agreed with the suggestion that it was probably a breaking down tuberculous supraclavicular gland. (2) A man, aged 40, with a painless general enlargement of the liver, slight cyanosis of the face and hands, and transient oedema of the feet. The liver, which reached the umbilicus, was smooth and firm, and had been first noticed to be enlarged six weeks before by the patient's doctor (Dr. Bingham Marshall of Buckingham) during the routine examination for an attack of bronchitis. There was no enlargement of the spleen, and various laboratory tests were negative. In view of the uncertainty of the diagnosis exploratory laparotomy was to be carried out at a later date (the condition was then found to be one of portal cirrhosis).

Mr. STEVENS showed a man, aged 47, also with hepatic enlargement. The history dated from seven weeks before admission to hospital, when the patient noticed fullness and flatulence after meals, with a subsequent feeling of weakness and loss of weight. The case was regarded generally as one of malignant disease.



## Reports of Societies.

### MORTALITY OF APPENDICITIS.

A MEETING of the Section of Surgery of the Royal Society of Medicine was held on March 4th, with the President, Mr. H. J. PATERSON, in the chair. A discussion upon the mortality of appendicitis was opened by Mr. JOSEPH E. ADAMS (whose remarks appear in full at page 723 this week).

Mr. R. J. McNEILL LOVE, who continued the discussion, referred to the two schools of thought with regard to the treatment of certain types of appendicitis; one school operated upon all cases as soon as diagnosed, whereas the other school in certain selected cases gave the acute inflammatory reaction an opportunity to subside before operating. In two articles in the *British Journal of Surgery* he had analysed a number of statistics referring to a total of 2,018 cases of acute appendicitis, of which 110 died, giving a mortality of 5.45 per cent. These cases were divisible into two types: (1) immediate operation, 1,677 cases with 98 deaths, a mortality of 5.8 per cent.; (2) expectant treatment, 228 cases, of which 8 died, a mortality of 3.5 per cent. All surgeons were agreed that in the early stages when the appendix was not perforated operation should be performed at once. The mortality in his series for operation within forty-eight hours of the onset was 2.2 per cent. of 718 cases. When the cases where operation was performed between the third and fifth days were considered it was found that the mortality (of 612 cases) was no less than 10.2 per cent. During this period natural immunity had been exhausted and acquired immunity was not yet established, and operation accelerated the absorption of toxins where the patient was least able to deal with them. For such cases the risks of expectant treatment were considerably less. The risk of rupture into the peritoneal cavity of a localized abscess was reduced to a minimum by permitting only water at first and later fluids by the mouth, and withholding all aperients. Fomentations were applied and Fowler's position adopted, and, if necessary, a glycerin enema was given to relieve discomfort. In his series there was only one case where the calamity of intraperitoneal rupture of an abscess occurred, and that followed the sudden distension of the colon by a soap-and-water enema. Of 228 cases in which expectant treatment was adopted, 151 (nearly 70 per cent.) subsided and were subsequently submitted to appendicectomy, with a mortality of 1.9 per cent. In the remaining 77 cases expectant treatment had to be abandoned and operation was performed, either because the general symptoms became more marked or because a local abscess formed which increased in size. The mortality of these 77 cases was 5 or 6.5 per cent., only a fraction more than the mortality of cases submitted to immediate operation, so that a brief delay, even when the symptoms did not subside, did not appreciably increase the mortality. When expectant treatment had been successfully adopted there remained the question of the best time for operation. In his series, 151 cases had been operated upon one week after the temperature and pulse were normal, but this period was probably too short, as it was found necessary to drain 40 per cent. of the cases. Sir George Beatson recommended operation when the temperature, pulse, and blood count were normal, the latter indicating resolution of the inflammation or the presence of merely sterile pus. A third school advocated operation after a delay of three months from the time when infection had subsided. In addition to the definitely lower mortality of expectant treatment there were also the advantages that immediate post-operative complications such as intestinal obstruction, faecal fistula, etc., were diminished, late sequelae such as incisional hernia were less frequent, and the operation itself was much simplified. Expectant treatment imposed a greater tax on the nursing staff and necessitated continuous supervision by the surgeon, and for these reasons was only practicable in hospital practice.

Mr. C. A. R. NIXON considered that the problem of the treatment of cases first seen about the fourth day was an exceedingly difficult one. In such cases where there was a

mass to be felt in the abdomen he usually adopted the expectant plan, but felt the responsibility of doing so to be very heavy, since the mortality of a slowly leaking abscess was very high. As regards the time for appendicectomy in delayed cases, he preferred to wait for three weeks after the infection had subsided, since he had known patients to die of general peritonitis when the period was reduced to one week after the temperature and pulse were normal. A still longer delay, on the other hand, meant denser adhesions and a more difficult operation.

Mr. CECIL ROWNTREE said he always adopted the plan of immediate operation. In cases at about the fourth or fifth day when the appendix was difficult to find he did not persist in the search, but merely drained; he performed the operation of removal of the appendix about three months later, when the inflammatory mass had disappeared, leaving singularly little in the way of adhesions, so that the operation was a simple one. His impression was that the mortality of appendicitis was definitely less now than it was ten years ago, and he suggested that the Registrar-General's figures, which showed an increase in the mortality, were accounted for by the number of semi-skilled surgeons now operating and to their persistence in removing the appendix in cases where it would more safely be left.

Mr. A. E. ROCHE related two cases which showed the extreme difficulty of deciding which cases were suitable for expectant treatment. In one case, first seen on the ninth day with an abscess, operation was delayed until the thirteenth day, when the appendix, with an encysted abscess in the omentum, was removed without pus being seen. It was possible to close the abdomen completely, and the patient made an excellent recovery. In the other case, first seen on the fourth day, operation was delayed on account of some doubt as to the diagnosis. On the eleventh day, after the temperature and pulse had been normal for some days, there was a sudden drop in the temperature with a rise in the pulse, and the patient rapidly succumbed. *Post mortem* pus was found up to the diaphragm.

Mr. H. S. SOUTAR invariably operated within an hour of making the diagnosis, although he agreed that operation was often very difficult about the third to fifth day, and required the highest degree of surgical skill and judgement. He used a small incision in order to limit the field, and did not persist in attempting to remove the appendix when it was not easily found. On the other hand, he knew of cases where the expectant form of treatment was followed with complete success. One country practitioner boasted that he never called upon a surgeon for cases of appendicitis, as abscesses when they formed invariably burst into the rectum. At the age of 65 this practitioner himself had appendicitis and refused to be operated upon. In due course an abscess formed which burst into the rectum, and complete recovery ensued.

Mr. H. W. CARSON thought that the time factor was not the only one to be considered. The age of the patient was also important. For children he considered the safest plan was to operate at once. But in the case of adults there was a period, generally about the fourth day, when an ill timed operation had to be concluded by draining a bleeding granulating mass left by the surgeon, although no pus might have been seen. He thought that one week's delay after the temperature and pulse had fallen to normal, in the cases treated expectantly, was insufficient, as the same state of affairs might exist then. There was one position of the appendix which called for operation without delay at any stage—namely, the 5 o'clock position, in which the appendix was hanging over the brim of the pelvis; in this event the diagnosis was made by rectal examination, for abdominal signs might be completely absent. He considered that the important question of pre-operative treatment had not received due attention from teachers of surgery; the adoption of the Fowler position, for example, was just as necessary before operation as after, and yet it was rarely practised as a pre-operative measure.

The President considered that in addition to the 5 o'clock appendix the retrocaecal appendix should be removed at once. His usual practice was to operate at once, and he nearly always removed the appendix; he thought that he only abandoned the search for the appendix in about 2 per cent. of cases. He asked Mr. Adams how, short of opera-

tion, it was possible to tell when the inflammation had spread beyond the appendix.

Mr. McNEILL LOVE, in reply, agreed that a week was too short a period to allow after the temperature and pulse fell to normal, as was proved by the fact that 40 per cent. of cases operated on after this interval needed drainage. Expectant treatment was not so successful in children.

Mr. ADAMS, in reply, said that of 9 cases which died after expectant treatment, 3 died of general peritonitis, 3 of small bowel obstruction, and 3 of subphrenic abscess. In reply to the President, he said it was impossible to tell accurately what was happening inside the abdomen except at operation. If expectant treatment were generally adopted by hospitals there was a danger that the practice would extend to those treated elsewhere, whereas expectant treatment should only be adopted when the case was under the constant supervision of the surgeon who would, if and when necessary, operate.

### IMMUNIZATION AGAINST TUBERCULOSIS.

At a meeting of the Section of Pathology of the Royal Academy of Medicine in Ireland held on March 27th, the President, Professor J. T. WICHAM, in the chair, Dr. NATHAN RAW read a paper on the immunization of animals and man against tuberculosis.

Dr. Raw maintained that the protection of the human race and cattle by some safe and scientific method of active immunization was the only effective way by which this preventable scourge could be eradicated. Cattle, being susceptible only to bovine infection, could be protected more easily than human beings, who were susceptible to infection by both human and bovine bacilli, though not simultaneously. The vaccine he had used in his endeavour to immunize cattle was prepared from cultures of human tubercle bacilli which had been attenuated by monthly subculture during the last eighteen years. The present cultures, representing the 216th generation, were still true to type, but even when injected in large quantities into animals were non-tuberculo-genic and avirulent. Nearly all calves were born free from tubercle, and it was possible to give them sufficient immunity to resist ordinary infection. He had up to the present vaccinated over two hundred pedigree calves. The first injection of 0.025 mg. of human bacilli, previously killed by heat, was given at the age of one week, and the second injection at the end of the second week; almost all of these calves were negative to the test with Pasteur's tuberculin during the last two years. He could not say how long the immunity would last. The problem of immunizing children was more difficult, but during the last seven years he had treated over four hundred children, each of whom had a tuberculous parent, with two doses of bovine vaccine. Sufficient time had not elapsed to express any opinion as to its value. The vaccine, being prepared from dead attenuated cultures, was quite harmless, and gave rise to no reactions.

Sir JAMES CRAIG was particularly impressed by Dr. Raw's remark that there could be no hope of reducing the amount of tuberculosis in the country until better housing conditions were introduced, with better food and clothing for the poor.

Sir JOHN MOORE referred to the danger in the consumption of dairy milk, owing to the mixing of the milk from various farms, and emphasized the importance of the duties of the medical officers of health.

Professor J. E. CRAIG said that in Ireland only a half-hearted attempt was being made to check the disease in cattle. At present the aim of the Tuberculosis Order in Ireland was not so much the control of the disease in cattle as the prevention of its transference through milk to human beings. Unfortunately this Order was not being rigidly enforced, and milk infected with tubercle bacilli was often sold to the public. In England attempts were being made to get tubercle-free herds; but even this did not benefit poor people, for the milk from these herds was sold at a higher price than other milk. He felt that the object of workers should be, not to immunize cattle to disease,

but to eradicate it. In America and Canada some progress had been made. Although good results had been obtained experimentally by immunization the results in the fields had not been good. Von Behring had prepared a vaccine from human bacilli, and in his experiments good results had been obtained. Animals inoculated with this vaccine only remained immune while the organism continued in the body, and therefore an animal which was tubercle-free while a calf was liable to contract tuberculosis when a cow, and to convey the infection to its milk. Immunity apparently depended on the retention of living tubercle bacilli in the body. In Great Britain the use of vaccines had been employed on a fairly large scale, with the object of eliminating tuberculosis in cattle, but the results obtained by these vaccines were quite different from those of Dr. Raw. It seemed to him that vaccination in connexion with immunity had not yet gone beyond the experimental stage; he hoped that in the future preventive vaccination would succeed, and that calves, even of tuberculous animals, kept under ordinary conditions, would remain free from the disease. This would remove a great deal of the expense and trouble with which dairy farmers were at present faced.

Dr. W. D. O'KELLY said that in countries where the dairy industry was well developed about 50 per cent. of the cattle were tuberculous. In order to stamp out bovine infection in human beings he thought it would be necessary to sterilize all milk. Men, oxen, fowls, and monkeys were most susceptible to tuberculosis; pigs were less susceptible, the disease only occurring in about 3 per cent., and it was the same with sheep and goats: The endothelium of the lung was very susceptible to infection by tubercle bacilli, and in rabbits inoculated with the human bacillus the first parts infected were the lungs and the kidneys. Then, if the animals survived long enough, the joints became infected. The lungs of the ox could be to some extent infected with human bacilli, and if large doses of human bacilli were given to an ox it might die. An ox, when infected, developed an acute attack, but generally, if it overcame this, it survived. Tubercle bacilli were not found in the muscles, and the salivary glands usually escaped, but in 80 per cent. of tuberculous pigs the salivary glands were involved. He did not think the bovine bacillus was the common organism in the joints and bones; young children were perhaps more liable to an infection of the joints and bones than adults, since in adults the bones were more mature. He did not see why, if the vaccine was avirulent and non-toxic, the animals to which the vaccine was administered must be free from tubercle bacilli; he thought this was contrary to the experience of other observers. If the organism was non-toxic and avirulent, what sort of an antibody did it produce? Why could not living attenuated micro-organisms be given? He was glad to notice that Dr. Raw did not favour the transmutation of micro-organisms.

Professor JAMES WILSON said that when he was a student at Edinburgh Koch's tuberculin had been introduced, and great results were expected, but it was soon found to be not a cure for tuberculosis, though a very good diagnostic agent. Some years ago, on his father's farm, there had been a suspected case of tuberculosis in a cow, and by the use of the tuberculin test seventeen cows out of a herd of forty-five were found to be tuberculous, as well as a yearling heifer. Very few of the cows, however, had the udder infected. The infected cows were isolated, and those with healthy udders were allowed to suckle their calves. The premises were thoroughly disinfected, and at the end of the year all the calves were found by the tuberculin test to be free from infection. In some cases the infected cows continued to react to the tuberculin test for upwards of five years, but none of the calves treated on this plan were infected. A similar experiment in two farms in Aberdeenshire gave similar results, and pointed to the great importance of a thorough disinfection of the byres. The two most important things in connexion with the disease in cattle were thorough disinfection and separation of the infected cattle from the non-infected.

Professor J. W. BIGGER said that in a series of fifty Dublin specimens of milk which he had examined he

found that four contained tubercle bacilli. Diseases could be put into two classes: (1) self-curing, such as diphtheria or scarlet fever, the survival from which usually conferred complete immunity; and (2) those which were not self-curing, such as tuberculosis and syphilis. Tuberculous patients might improve, but after some time they usually became ill again and died. This fact was rather depressing when considering the possibility of curing the disease. Calmette, in France, had acted on the assumption that immunity could not be produced without injections of living tubercle bacilli, and had obtained some very good results. This method was very suggestive in view of Pasteur's original work on anthrax. Dr. Raw had referred to the antagonism between the human and the bovine bacillus, and said that if a child contracted bovine tuberculosis from milk it would not develop human tuberculosis. This was a most pernicious doctrine. There was considerable difficulty in isolating human and bovine bacilli from the same patient, but it was not right to say that the two types could not coexist in the body.

Mr. NORRIS said that undoubtedly tuberculosis was the most serious scourge with which veterinary surgeons had to contend. During the last forty years various methods had been adopted for the treatment of this disease in cattle, but they might all be classed as unsatisfactory up to the present time. Sometimes a herd was tubercle-free for a long time, and then suddenly some of the herd became infected again. In America tuberculous cattle were slaughtered, and the State paid compensation for such animals. By this method quite good results were obtained, but it was too expensive for use over here. In some parts of the country the Tuberculosis Order was strictly enforced, but in others not; vaccination had been practised for a long time, but he thought it had been a failure. Dr. Raw had vaccinated some two or three hundred calves, but had not used control animals with them, and the only way he tested them was with tuberculin after several months or a year, and so far no reaction had been noticed. It was a pity that the animals had not been inoculated with virulent material, and also that they were not controlled, in order to test the results; he saw no other way of arriving at a conclusion. Much good would result from the co-operation of medical practitioners and veterinary surgeons in connexion with tuberculosis amongst animals.

### LATERAL HEMIANOPSIA.

A MEETING of the Devon and Exeter Medico-Chirurgical Society was held at the Royal Devon and Exeter Hospital on March 26th, the President, Mr. R. WORTHINGTON, in the chair.

Dr. R. N. CRAIG showed a married woman, aged 28, a nullipara, who for five years had suffered from a variety of symptoms. There was no definite history beyond influenza, worry, and family bereavement. There had been transitory occipital headache, some paresis of face, also transitory, and right lateral hemianopsia. She was depressed and inclined to be hypochondriacal, but without morbid impulses; the memory was poor. The hair was thin, the scalp dry, and the individual hairs shortened. She suffered from chilblains in both feet, and the glucose curve showed variations from the normal; there was dulling of the previously normal sexual life. Dr. Craig considered that there had been improvement under treatment with calcium lactate and parathyroid.

Dr. RANSOM PICKARD considered that transitory hemianopsia was frequently related to a localized transitory oedema of the brain. He had seen a somewhat similar case in a girl responding likewise to calcium lactate. Dr. F. A. ROPER remarked that no one particular endocrine deficiency could be assigned as a cause for the deficiency and that it would seem that the ovary, pancreas, and thyroid could be equally arraigned. Dr. CRAIG, in reply to the President, said he considered that parathyroid intensified the action of calcium lactate. He was about to employ pituitary also in this case.

Mr. NORMAN LOCK showed a lad, aged 21, who had sustained a compound fracture of the right humerus, together with extensive burn of the arm, the injury having

of a printing press. Excellent progress had been made with local applications of chlorinated eucalyptol and paraffin. There was still stiffness at the elbow-joint, but the raw surface was now fit to take a graft.

Dr. SHAW read notes on the case of a boy, aged 14, in whom a large swelling of the humerus was stated to have followed almost immediately on a fall on the hand during a game of skittles. A radiogram showed what seemed to be a myeloid tumour of the humerus. Dr. Shaw excised the myeloid area of the bone and rejoined instead of grafting. Sections of the tumour indicated the condition known as osteitis fibrosa. Discussing this case, Mr. B. DYBALL referred to the recent work of Mr. Elnslic, whose cases ranged from blood cyst of bone to true myeloma. In Mr. Dyball's opinion the case before the meeting closely approached to myeloma.

Dr. MILLER MUIR read notes on, and showed skiagrams to illustrate, a case of large tumour in the left sacral region with slight extension over the middle line. The case had been greatly relieved by x-ray treatment, although, as regards the calcified portion of the tumour, there was diminution in area.

Dr. J. M. HENDERSON described eleven cases of dysentery occurring recently in the Devon County Mental Hospital. In six of these a positive Flexner reaction was obtained, and his results had been confirmed by Dr. R. SOLLY. A Shiga organism had been isolated, but agglutination was negative. Dr. Henderson showed the lower part of the ileum from one of these cases, the ulcerative process confining itself to the small intestine.

Mr. DYBALL read notes on two cases: (1) A girl with a twisted Fallopian tube. (2) A boy admitted to hospital with ruptured spleen, the interest being that the direct violence causing the rupture was delivered at the fifth left intercostal space—unusually high for this injury.

Dr. SOLLY read, in association with Mr. DYBALL, a short paper on malignant disease of the testicle illustrated by a case of carcinoma recently operated upon by Mr. Dyball. Dr. MILLER MUIR thought that the outlook was not good from the point of view of x-ray treatment in those cases where there was glandular infiltration above the groin.

### INDUCTION OF PREMATURE LABOUR.

At a meeting of the North of England Obstetrical and Gynaecological Society at Liverpool on March 20th Miss M. H. F. IVENS (Liverpool) read a paper on the induction of premature labour, a record of seventy-two consecutive cases.

Miss Ivens, after a brief historical reference to the introduction of this procedure, and to the changes in method introduced at various times, discussed the propriety of the operation, more especially in cases of minor pelvic contraction. Williams thought that the operation had lost popularity in America owing to the high foetal mortality. Statistics by Ahlfeld, Bar, Leopold, and Pinard showed a foetal mortality of 12 to 45 per cent.; they held that the operation was no longer justified, and that equally good results for the mother, and far better results for the child, would be obtained by subjecting the patient to the second stage of labour and resorting, if necessary, to Caesarean section. Kleinwächter thought the operation should be abandoned except when the child was abnormally large or there was undue prolongation of pregnancy. In the Queen Charlotte's Hospital records of 10,000 labours there were 206 inductions; there was no maternal mortality, but 26 infants did not survive, a 12.6 per cent. foetal mortality. Professor Briggs had recorded, in 1922, a series of bougie inductions in minor degrees of contraction with an 8 per cent. foetal and neonatal death rate. Most authorities believed that the child required greater care than a full-time child, and that the ultimate chance of life of the premature infant had to be carefully considered. Prophylactic induction was most likely to be successful when pregnancy had reached the thirty-sixth week and the conjugate of the brim measured at least 3½ in. Some thought labour should not be induced in a first pregnancy, but with a history of previous difficulty or loss of the child induction might be performed. The proper time had to be

determined by the estimation of the relation between the size of the pelvis and that of the foetal head, and the operation performed as soon as there was difficulty in pushing the head into the pelvis. A general anaesthetic was given and the vagina was douched with 1 in 2,000 mercury bichloride lotion; a toy balloon (as recommended by Professor Lowry of Belfast) was introduced with bullet forceps through the cervix. The balloon could be boiled, and so the risk of sepsis was less than with a gum elastic bougie, which could not be so efficiently sterilized. The membranes were not ruptured, and the risk of this happening was small; there was no interference with a normally situated placenta. The toy balloon was easy to insert, and there was no need of preliminary dilatation; it was distended with not more than 16 oz. of sterile water introduced with a piston syringe; the tubing was tied, and a gauze pack was left in the vagina.

The present investigation comprised 72 consecutive cases (with the exception of one case reported elsewhere), which were under observation during the years 1923 and 1924 at the Liverpool Maternity Hospital and Maternity Home; 30 were primigravidae, 42 were multigravidae. In 65 cases delivery was effected naturally, while 7 were delivered by Caesarean section. In these 65 cases the average period of gestation was thirty-eight and one-fifth weeks. The average weight of the children was 6 lb. 12 oz., and the average length 19.2 in. The average time from induction until pains began was 2 hours 47 minutes in the primigravidae and 3 hours in the multigravidae, if two cases were excluded where this time was much prolonged (110½ hours and 183½ hours). The average time from induction until delivery was 29 hours 17 minutes. The indications were: a minor degree of pelvic contraction in 63 cases, post-maturity and large foetus in 6 cases, and maternal disease in 5 cases. In 41 cases there was a minor degree of general contraction, the diagonal conjugate averaging 4.4 in. In 22 cases there was a minor degree of flattening, the diagonal conjugate averaging 4.3 in. Natural delivery resulted in 52 cases, delivery by forceps was performed in 9 cases, breech extraction in 4 cases, and Caesarean section in 7 cases where the head remained above the brim when the cervix was fully dilated. All the mothers survived. There were 74 infants (twins born on two occasions); 72 were born alive. Of the two stillbirths one was a hydrocephalic monster, and the other had been a pelvic presentation in a primigravida in which there was difficulty with the after-coming head. The neonatal deaths were due to (1) meningitis (fourth day), (2) diarrhoea and vomiting (twelfth day). All the infants but 4 (5.4 per cent.) left the hospital alive. Of the 70 living infants 58 had been traced, of whom 55 were alive, 3 having died in the first year. Only one case was complicated: delivery had been effected by high forceps, and the temperature remained high for a few days, but ultimately this patient made a good recovery. Miss Ivens claimed that by the induction of premature labour in suitable cases a considerable amount of suffering from prolonged labour due to minor pelvic contraction might be avoided, and she believed that this operation was not so inimical to the child as published statistics maintained.

#### *Operative Treatment of Chronic Endocervicitis.*

Dr. J. W. BURNS (Liverpool) read a note on the end-results of the operative treatment of chronic endocervicitis. The operation, which he had described to the society in 1922, consisted in the removal of the eroded area of the cervix together with the lower half or two-thirds of the cervical canal—namely, the infected portion—as devised by Sturmhorff. The immediate results were excellent—the vaginal discharge, haemorrhage, and profuse leucorrhoea disappeared, and the patients' general health rapidly improved. To investigate the effect of this operation upon subsequent conception, pregnancy, and labour, Dr. Burns collected cases which had been operated upon during 1922 and 1923, and endeavoured to follow them up. The total number of cases in which pregnancy might have been expected to occur was 65. Of these, 14 became pregnant within a period varying from two months to two years following the operation (21.5 per cent.). The average age of these patients at the time of operation was 35 years. Of the

14 patients 1 became pregnant twice within the two years, and 13 once, so producing 15 pregnancies; of these 15 pregnancies 10 went to full term, 3 terminated in miscarriage, and 2 were expecting confinement. Labour in the 10 at full term was natural. In 9 of the 14 cases dealt with there had been periods of sterility varying from two to eight years preceding the operation. Dr. Burns held that not only did the operation bring about rapid and permanent cure of the endocervicitis, but also that it had little effect in preventing conception, and that a normal labour might be expected at full term.

#### *Disease of the Urethra.*

Dr. W. FLETCHER SHAW (Manchester) described a case of double urethra with an epithelioma arising from one orifice. The patient, 42 years of age, had had recurrent flooding during the last four years. Dr. Shaw found she had a retroflexed uterus with a hard polypus half-way up the vaginal wall. Under an anaesthetic no malignancy was found in the body of the uterus or cervix, but an epithelioma, the size of a threepenny piece, was discovered on the anterior edge of the urethra. About half an inch to the right of this urethral orifice another opening was found, when a probe was passed through it, to enter the bladder and meet the other urethra, half an inch from the surface.

Dr. D. DOUGAL (Manchester) read notes of two cases of acute prolapse of the urethra occurring in elderly women. In each the onset was sudden, with acute pain and the desire to micturate frequently. In one case a small amount of blood was passed for a few days. On examination each presented a dark red swelling protruding from the urethral orifice, and it was thought that a carcinoma of the urethra might be present. Under anaesthesia the prolapsed portion was removed by circular incisions and the edges of the skin and mucous membrane brought together with catgut sutures; in each case the recovery was good. Histological examination showed that there was no malignancy, but that the tissue consisted of urethral mucous membrane with 'extensive haemorrhage' and thrombosis. Acute prolapse of the urethra was generally met with in children and elderly women, and only occasionally in women during active middle life. Senile changes caused shrinkage of the vulval tissues, and the urethral orifice became more relaxed and the connexions of the mucous membrane less secure. The diagnosis was usually easy, and treatment, as in these two cases, had given the best results.

Mr. MILES H. PHILLIPS (Sheffield) described three cases of prolapse of the urethra. The first occurred in a girl of 8, and was apparently caused by riding an adult's bicycle; the second, in a unipara of 26, three months after a confinement; and the third in a spinster of 56, who had had symptoms of chronic urethritis for some years. In all three cases the oedematous prolapsed mucous membrane was nearly an inch in length. Excision and restoration of the mucous canal was effected as Dr. Dougal had described.

#### *Clinical Cases.*

Dr. D. DOUGAL (Manchester) showed a specimen of primary carcinoma of the vagina removed from an unmarried woman, aged 26, who had had two children, the second two years previously; the only symptom was irregular haemorrhage of three weeks' duration. The specimen consisted of the uterus, appendages, and upper two-thirds of the vagina. The vagina contained a large fungating growth arising from the posterior wall, and reaching to the posterior lip of the cervix; histological examination showed it to be a squamous carcinoma. Its removal was easy as the growth was not adherent to the rectum in any way. Dr. Dougal also showed a pyometra associated with submucous uterine fibroids. The specimen consisted of the uterus and appendages removed by total hysterectomy, from a patient aged 55, six years after the menopause. The cavity of the uterus was dilated and filled with a large quantity of stinking pus. In the neighbourhood of the internal os were two pedunculated submucous fibroids, which had evidently blocked the cervical canal and led to the retention of the uterine secretions.

Dr. W. FLETCHER SHAW (Manchester) reported a case of normal pregnancy and labour after removal of twenty-three fibroids by myomectomy in a patient 40 years of age.

## Rebelsus.

### CANCER.

THE educational aspect of the cancer problem is dealt with in two books we have recently received—one by a past President of the British Medical Association, Mr. C. P. Childo of Portsmouth, and the other by Mr. H. W. S. Wright of Shantung, China.

Mr. CHILDE's book is entitled *Cancer and the Public*,<sup>1</sup> and is dedicated to the public. His object is to explain in simple language what surgeons and scientists know about cancer, and to emphasize the fact that thousands of lives are lost each year because patients suffering from cancer do not consult a doctor early enough. In 1906 he wrote a book, one of the earliest of this type, called *The Control of a Scourge, or How Cancer is Curable*, which was so much appreciated that Mr. Childe was pressed to address himself once more to the general public. The second book, still inspired by the same aim, is a fuller exposition of the subject under a new title. The reason for this change of name is evidence in itself that educational propaganda is bearing fruit, for Mr. Childe tells us that he had chosen the title "Cancer and the Public" for his former book, but the publishers were unwilling to agree to this, because, they said, the public would be afraid to read it. That was in 1906: in 1925 it appears that publishers show less timidity, and are not adverse to the author's choice of title. We predict that *Cancer and the Public* will not be handicapped, but rather prospered, by its outspoken designation.

Mr. Childe has proved by his arresting statistics that a book such as this is needed. In the chapter on the conditions of cure of cancer he takes each manifestation of malignant disease, and, quoting the figures of different hospitals, illustrates what a high proportion of patients with cancer only seek surgical aid when the time for surgical cure has passed. Thus, speaking of cancer of the rectum, he quotes the figures of St. Mark's Hospital, London, which prove that 83 per cent. of cases of cancer of the rectum are inoperable when first seen by the surgeon. We find but little more enlightenment amongst the non-hospital class, for an eminent rectal specialist in London admits that 50 per cent. of his private patients suffering from rectal cancer, when first seen, have passed beyond the stage when surgery can hold out any hopes of cure. Similar figures are given for cancer of other regions of the body.

Mr. Childe hopes that his words will reach to his medical and surgical colleagues also. How far have doctors done their duty by telling patients what medical science has discovered about cancer, by educating them to its earliest signs, and by warning them of the dangers of delay? The majority of the profession are acquainted with the ideas presented in such compelling fashion in this book, but the author declares "that there is not sufficient general conviction to impart the necessary 'ginger' to get a move on." Mr. Childe's missionary enthusiasm is calculated to "ginger up" the most Laodicean practitioner: it will also equip a new recruit with an aggressive armamentarium of facts and figures for a local educational campaign.

The other book, *The Conquest of Cancer*,<sup>2</sup> by Mr. H. W. S. WRIGHT, M.S., F.R.C.S., is one of the little series of scientific essays, "To-day and To-morrow," and keeps company with *Daedalus*, *Icarus*, and *Callinicus*, to which we have recently referred. It aims at telling the public what it ought to know about cancer: this object the author may be said to have achieved, though he does not beguile us on the road with the flights of imagination and literary wiles which have graced preceding members of this little series of books. His argument leads up to the conclusion that—

"If all persons over 40 years of age were routinely examined every six months to see that they had not cancer, or a pre-

<sup>1</sup> *Cancer and the Public*. By Charles P. Childo, B.A., F.R.C.S. (L.R.C.P.E. London: Methuen and Co., Ltd. 1906. 2s. 6d. net.)

<sup>2</sup> *The Conquest of Cancer*. By H. W. S. Wright, M.S., F.R.C.S. (Intro.) Trench, Trubner and Co., Ltd. New York: E. P. Dutton and Co. 1924. 1 x 61. pp. 86. 2s. 6d. net.)

cancerous condition, and if these, when found, were promptly dealt with, then cancers of the rectum, tongue, lip, breast, skin, and uterus would cease to be the plagues they are at present."

Here Mr. Wright rather weakens his case by overstatement. Perhaps after reading this a few anxious people may direct their steps towards the consulting room, but the more robust will have neither time nor inclination for such a general inspection until led to suspect that something is amiss. What people need to know is how cancer begins, and the sort of apparently trivial things they ought to ask their doctor about. Mr. Wright's methods would fill the consulting rooms of the psychotherapist more certainly than those of the physician. We are bound to say also that the introduction by Dr. CROOKSHANK, which occupies more than a third of the book, strikes an alarmist note.

### THE PITUITARY AND PINEAL BODIES IN EARLY LIFE.

THE title of Dr. LEREBONNET's little book, *Les Syndromes Hypophysaires et Epiphysaires en Clinique Infantile*,<sup>3</sup> is one that perhaps requires a little explanation. It deals with the clinical conditions produced by disorders of the pituitary and pineal bodies, either tumour growth or abnormal functioning; and not merely in infancy but throughout the early period of life when growth is the dominating tendency, and when disturbance in growth can assume various and remarkable forms.

Dr. Lerebonnet is well qualified to deal with the subject, in that he has already contributed numerous and important papers to its literature. In the volume before us he gives a brief review of the present state of knowledge and opinion regarding the pituitary and the pineal glands. The subject has raised obscure and complicated questions, and a very large literature has now accumulated. But the author brings to his essay the characteristic French gifts of lucidity and order, and he has provided what is both an admirable introduction to, and a review of, the subject. Approximately the same space is devoted to the pituitary as to the pineal gland; in each subject we are given first an account of the anatomy and microscopic structure; this is followed by an account of the results of operative interference and removal in animals, and then at greater length we have a relation of the various clinical entities in the period of childhood and adolescence that have come to be associated with tumour growth and disturbed function of these glands. These clinical conditions are indeed rare, but are remarkable and interesting. The principal clinical features of juvenile acromegaly, gigantism and dwarfism, obesity with or without retarded sexual development, precocious puberty, and diabetes insipidus are described, and a few illustrative cases are cited where the clinical data were found on post-mortem examination to be definitely associated with morbid conditions of the hypophysis and epiphysis. Treatment, both operative and by glandular extracts, is also discussed.

### THE PUERPERIUM.

THAT a second edition of Dr. LONGRIDGE's little book, *The Puerperium*,<sup>4</sup> should be called for proves that it has fulfilled the purpose for which it was intended. The book is designed primarily to assist the inexperienced practitioner in the successful management of his puerperal patients, but the author also addresses much wise counsel to midwives. The book is full of useful little tips which, while they do not find a place in a textbook, are nevertheless of considerable practical importance, and his advice throughout bears the obvious stamp of much clinical experience.

The author very concisely covers the whole of the lying-in period, including the care of the infant, advice as to feeding, and so on. Incidentally, Dr. Longridge pleads for an extension of the actual lying-in period to include at least three weeks' rest in bed—a prolongation which,

<sup>3</sup> *Les Syndromes Hypophysaires et Epiphysaires en Clinique Infantile*. Par Dr. P. Lerebonnet. J. B. Baillière et Fils, 1924. (Imp. 16mo. pp. 112. 12s. 6d. net.)

<sup>4</sup> *The Puerperium*. By Dr. J. B. Longridge, M.D., Ch.B. (Vict., F.R.C.S. Eng.). Second edition. London: Adlard and Son and West Newman, Ltd. 1924. (Cr. 8vo. pp. ix + 280. 6s. 6d. net.)



though having much to recommend it, will not, it is to be feared, make such a wide or attractive appeal to the mothers as it might to their attendants. The advice given is thoroughly sound and eminently practical throughout, and should prove of great service to those for whom it is intended.

### NEW BOOKS ON CHEMISTRY AND PHYSICS.

RECENTLY we have received a number of books on chemistry and physics, some written from the purely scientific and some from the applied point of view. Amongst the former we note with pleasure that the important book by Professor HAAS of Vienna has been translated into English by Mr. T. VERSEHOYLE, and appears under the title of *Introduction to Theoretical Physics*.<sup>5</sup> As Professor DONNAN points out in his foreword, the time has passed when a scientific worker is adequately equipped with a book on "heat, light, sound, and a little electricity," garnished with nothing more piquant than quadratic equations. Dr. Haas's book is a masterpiece on the principles of mathematical physics. It is based on lectures delivered at the Universities of Leipzig and Vienna, the author's object being to combine classical and modern physics into one united whole.

The third volume of a *System of Physical Chemistry*, planned by Sir William Ramsay and Professor DONNAN, is a book by Professor W. C. MCC. LEWIS on the quantum theory. It is intended for advanced students of physics, and deals with some physicochemical applications of the principles of statistical mechanics. First published in 1916, the present third edition<sup>6</sup> has been entirely revised and largely extended.

*Elementary Physics*,<sup>7</sup> by Mr. G. STEAN, reader in physics at Guy's Hospital Medical School, is an introductory textbook for medical students and first-year university students. It is intended for use in connexion with a course of lectures, accompanied by practical demonstrations on the lecture table, for it leaves out practical details of the experiments described, on the ground that these should be learnt in the laboratory. The author has had several years' experience in teaching medical students, and this book should be very useful as a guide to the preliminary medical examinations.

*Outlines of Organic Chemistry*,<sup>8</sup> by Mr. E. J. HOLMYARD, of the science department of Clifton College, begins with history, methods of analysis, and elementary theory, passes on to more advanced theory, aliphatic compounds, and leads up to carbocyclic and heterocyclic compounds. It represents what the author is accustomed to teach senior boys and medical students; it is written in an interesting way and adorned with five photographs of illustrious chemists.

*A Manual of Practical Chemistry for Public Health Students*,<sup>9</sup> by Dr. A. W. STEWART, is a small book especially arranged for those studying for the D.P.H. Eleven years have passed since the appearance of the first edition, and the experience of this period has persuaded the author that nothing can be expressed too simply for the guidance of students. Dr. Stewart appears to have taken a good deal of trouble not to incorporate anything that is not absolutely necessary for the practical chemistry exercises of D.P.H. students.

The French textbook *Précis de Chimie Physique*,<sup>10</sup> written by Dr. H. VIGNERON, covers the whole ground of physical chemistry. Though not addressed especially to medical readers, this book would certainly be useful to doctors

or students looking for a straightforward account of the principles and laws of physical chemistry. The second volume of *Pharmacodynamic des Colloïdes*,<sup>11</sup> by Dr. W. KOPACZEWSKI, deals with protein therapy and the transfusion of blood. We group it under the head of books on chemistry and physics because the author concludes that the introduction into the circulation of different proteins always causes a disturbance of colloid equilibrium, especially in the blood cells. This conclusion is based, not on symptoms, but on an analysis of the biological modification of body fluids and their physicochemical properties. The book includes an extensive bibliography.

### ANNALS OF MEDICAL HISTORY.

The first article in the winter number of the *Annals of Medical History*<sup>12</sup> is by Dr. Eli Meschcowitz on the first editions of Sir Thomas Browne's works, and is well illustrated by portraits in the text and by one of the Knight of Norwich on the cover. The frontispiece of the number represents Samuel Thomas von Sömmerring (1776-1830), whose life and work are sketched by Dr. Theodore H. Bast of Madison, Wisconsin. Inspired in his student days by Wrisberg and Blumenbach with enthusiasm for research, von Sömmerring had great difficulty in inducing his father to supply him with funds sufficient for his education, but his successful thesis opened the paternal purse, and it is thought excited the jealousy of Wrisberg, who did not exert himself to obtain a professorship for his able pupil. However, after a visit to England, where in 1778 he sat at the feet of John Hunter in London and Alexander Monro in Edinburgh, he became professor of anatomy at Kassel, and five years later moved to Mainz, where he began a long friendship with Goethe; there he brought out his famous handbook on anatomy in five volumes, and incidentally a paper, which aroused much criticism, on "The Organ of the Soul," dedicated to Kant, who, though a great admirer of his previous work, had nothing favourable to say about this one. After vicissitudes due to the French occupation of Mainz, he settled for a time in practice at Frankfurt, and in 1805 became Geheimrat and member of the Academy at Munich, where eventually he ended his days in great honour. Lieutenant-Commander W. M. Kerr of the Medical Corps of the United States Navy describes the life of W. M. Wood (1809-1880), the first surgeon-general of his service, with numerous excerpts from his writings and letters. In his interesting biographical history of physical diagnosis Dr. W. S. Middleton traces the subject from Hippocrates to Austin Flint (1812-1886), who was called the American Laënnec by Samuel D. Gross. A scholarly article by Dr. M. A. van Andel of Gorinchem, Holland, on "The Ceraunia or Thunder-axe: its use in Folk Medicine," shows that prehistoric flint implements are still regarded in some parts of Europe as of celestial origin and due to lightning, and are believed to have curative properties. In an essay on "Rabelais a physician" Dr. Isador Coriat of Boston, Mass., contends that this unique genius, who was primarily a man of letters and a medical man by the way, represents our own uncensored selves, and that he wrote as he thought, whereas most people when writing are constantly censoring their conscious and unconscious thoughts on account of the external pressure of social repression and custom. Dr. Charles Greene Cumston, now of Geneva, contributes some historical notes on small-pox and inoculation, showing that at one time paralysis was a sequel of variola. Dr. W. G. Aitken Robertson's article on Andrew Boorde's *Brevariary of Health* contains some curious information and incidentally mentions that this sixteenth century author died in the Fleet Prison, to which he had been removed "on its being discovered that he had kept a brothel for his brother-bachelors." The last original article on the careers and contributions to science and education of the two Seguinis of New York, Edouard and Edward C., father and son, is by Dr. Charles L. Dana. This, the concluding,

<sup>11</sup> *Pharmacodynamic des Colloïdes*. Par W. Kopaczewski. Tome II. Prothéologie et Transfusion du Sang. Paris: G. Doin. 1925. (Cr. 8vo, Pp. xii + 331; 2 portraits. Fr. 12.)

<sup>12</sup> *Annals of Medical History*. December, 1924. Vol. vi, No. 4. Edited by Francis R. Packard, M.D. New York: Paul B. Hoeber; London: Baillière, Tindall and Cox. 1924. (8½ x 12½, pp. 363-493; illustrated. Subscription in Great Britain, £2 2s. for four numbers.)

<sup>5</sup> *Introduction to Theoretical Physics*. By Arthur Haas, Ph.D. Vol. I. (R.U.I.). D.Sc. Liv., F. Inst. P. Third edition. In three volumes. Vol. III. Quantum Theory. Textbooks of Physical Chemistry. London and New York: Longmans, Green and Co. 1924. (Demy 8vo, pp. xiv + 331; 57 figures. 21s. net.)

<sup>6</sup> *A System of Physical Chemistry*. By William C. McC. Lewis, M.A. (R.U.I.). D.Sc. Liv., F. Inst. P. Third edition. In three volumes. Vol. III. Quantum Theory. Textbooks of Physical Chemistry. London and New York: Longmans, Green and Co. 1924. (Demy 8vo, pp. x + 407; 24 figures. 15s. net.)

<sup>7</sup> *Elementary Physics*. By G. Stead, M.A. London: J. and A. Churchill. 1924. (Demy 8vo, pp. xiv + 453; 288 figures. 10s. 6d. net.)

<sup>8</sup> *Outlines of Organic Chemistry*. By E. J. Holmyard, M.A., F.I.C. London: E. Arnold and Co. 1924. (Cr. 8vo, pp. xi + 468; 6 plates. 7s. 6d. net.)

<sup>9</sup> *A Manual of Practical Chemistry for Public Health Students*. By Alan W. Stewart, D.Sc., A.I.C. Second edition. London: J. Bale, Sons and Danielsson, Ltd. 1924. (Cr. 8vo, pp. 82; illustrated. 5s. net.)

<sup>10</sup> *Précis de Chimie Physique*. Par H. Vigneron. Paris: Masson et Cie. (5½ x 8½, pp. xii + 408; 117 figures. Fr. 30.)

number of the sixth volume of the *Annals of Medical History* contains most interesting material, and deserves, for its admirable printing, illustrations, and style, widespread support from medical readers.

### NOTES ON BOOKS.

DR. E. F. CYRIAX'S *Collected Papers on Mechano-Therapeutics*<sup>13</sup> are written in English, French, or German, and were contributed to various medical journals, sometimes jointly with Melville. These methods of manual treatment appear to have originated with P. H. Ling in Sweden about 1835, but were modified by Henrik Kellgren, of the Royal Gymnastic Central Institute in Stockholm, after he had settled in Gotha as a medical gymnast in 1869. According to Dr. Cyriax, it was Kellgren who assigned particular value to the mechanical treatment of the nerves, and extended the treatment to neurotic conditions for which Ling considered his own form of treatment unsuitable. Kellgren had a great vogue in the seroties and eighties of last century; he established an institute in London, and ultimately founded others at Norderney, Baden-Baden, and Paris. Dr. Cyriax has treated by Kellgren's methods many nerve diseases, affections of the bones and joints, displacements of the vertebrae and the ilium, constipation, high blood pressure, diabetes, some forms of heart disease, albuminuria, and polyuria, and influenza. His treatment appears to have resulted in almost invariably successful, but whether this may not have been due to particularly rose-coloured spectacles in the possession of Dr. Cyriax or his patients is not clear. The manipulations and vibrations used are very gentle, and no doubt from constant practice have become most efficient. But we have grave doubts about the routine treatment of pneumonia in this way; at all events, by anyone less skilled in the art than Dr. Cyriax. Apart from the feeling we have that in acute febrile conditions the patient dislikes being disturbed, we are doubtful of the physiological results enumerated by Dr. Cyriax. The book is profusely illustrated with many excellent photographs.

The fact that Professor H. A. HARE'S *Textbook of Practical Therapeutics* has now reached its nineteenth edition<sup>14</sup> is an indication of its well established popularity. The last edition appeared in 1922. The general arrangement of the volume remains unchanged, but the text has been altered extensively. The author points out in his preface that progress in therapeutics is much wider and more rapid than is generally realized, and remarks that the changes in the past three years have necessitated more extensive alterations and additions in his book than have been required in any previous edition. The first half of the book consists of brief descriptions of the pharmacological actions of many hundreds of drugs disposed in alphabetical order. The value of these summaries varies considerably, and some of the statements would not find general acceptance in this country. The section on remedial measures other than drugs is particularly interesting. The latter half of the book is an index of treatment of disease, and gives a short account of the treatment of all the chief diseases. The book is well illustrated with line drawings, photographs, and coloured plates.

The first volume of the second edition of the handbook of internal medicine, originally edited by Professor L. Mohr of Halle and Professor R. STAEHELIN of Basle, has recently been published in Berlin.<sup>15</sup> Professor Mohr died in 1918, and has been succeeded by Professor G. VON BERGMANN of Frankfurt as co-editor. Of the other contributors to the first edition a quarter have died. In the previous edition only one volume was devoted to infectious diseases, but owing to the great increase in our knowledge of this subject since 1911—the date of the first volume of the first edition—only twenty-three infectious diseases are discussed in the present work; the remainder are to be considered in the second volume. Professor F. Rolly of Leipzig and Professor E. Müller of Marburg, who are the only two surviving contributors to the corresponding volume of the first edition, have revised their

<sup>13</sup> *Collected Papers on Mechano-Therapeutics*. By Edgar F. Cyriax, M.D., Edin. London: John Bale, Sons and Danielsson, Ltd. 1924. (Cr. 4to, pp. xiv + 472; 125 figures, 12s. net.)  
<sup>14</sup> *A Textbook of Practical Therapeutics*. By H. A. Hare, B.Sc., M.D., F.R.C.P. Nineteenth edition, enlarged, thoroughly revised, and largely rewritten. London: Henry Kimpton. 1925. (Med. 8vo, pp. x + 1061; 153 figures, 8 plates, 36s. net.)  
<sup>15</sup> *Handbuch der inneren Medizin*. Zweite Auflage, herausgegeben von G. von Bergmann und R. Stachelin. 1. Band. 1 Teil. Infektionskrankheiten. Berlin: Julius Springer. 1925. (Roy. 8vo, pp. xii + 717; 232 figures, G.M.45.)

articles on the acute exanthemata and epidemic poliomyelitis respectively. A new section in the former article is devoted to erythema infectiosum. Professor R. Massini of Basle contributes the chapters on influenza and herpetic fever, which were formerly the work of Professor P. Krause of Bonn. The articles on whooping-cough and mumps, which were also previously written by Professor Krause, are now from the pen of Professor M. Klotz of Lubeck. The chapter on diphtheria, previously written by Professor Krause, has been entrusted to Professor F. Göppert of Göttingen, who is also responsible for the chapter on cerebro-spinal fever, which had previously been written by Professor Jochmann. The chapter on cholera is now the joint work of Professor H. Elias of Vienna and Professor K. Doerr of Basle. The new articles in the volume are those on epidemic encephalitis by Professor Stachelin of Basle and Professor W. Loeffler of Zürich, and on infectious jaundice, trench fever, and serum disease and anaphylaxis by Professor A. Schittenhelm of Kiel, who also deals with tetanus and typhus fever, previously discussed by Professor Krause, and with the dysentery, for which Professor Jochmann was previously responsible. The book, which is well printed and illustrated, will be found useful for reference by those familiar with the German language.

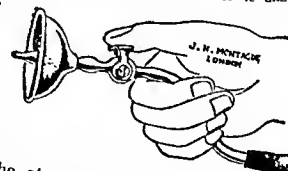
### MEDICAL AND SURGICAL APPLIANCES.

*Nitrous Oxide Inhaler.* Mr. FRANKIS EVANS writes: The apparatus illustrated is a modification of Paterson's nose-piece for the administration of nitrous oxide. The nose-piece is the same shape as the original, and has a wide and deep rubber pad. In my experience it fits noses of all shapes very well. The mouth-piece is connected to the nose-piece by a stout rubber tube, and can be swung round to the back. This movement cuts off the supply of gas to the mouth-piece by closing a valve at the top of the nose-piece. When not in use the mouth-piece rests on the head-rest of the chair, and the whole apparatus is then held quite firmly to the nose by the weight of the gas-piece hanging behind. On the nose-piece is an expiratory valve of the hairspring type, which does not stick as the rubber flap type may.



A rebreathing position is afforded by turning the tube carrying the expiratory valve through an angle of 45 degrees. The apparatus has been made by Messrs. Coxeter and Son, Ltd., 171-175, Finsbury Road, N.W.1.

*Urethral Irrigators.* Mr. W. K. IRWIN, surgeon to out-patients, St. Paul's Hospital, for Genito-Urinary Diseases, writes: The irrigator depicted differs slightly from those in ordinary use. Its main feature is the shape of the stem, which is curved instead of straight. The curved stem forms a convenient handle, and the instrument is so much easier to use than those of the ordinary type that it is difficult to believe that, as I am told, it has not been made before. Further advantages are that the curvature prevents the irrigator from rolling about when placed on the table and minimizes the risk of the rubber tube kinking at its junction with the metal part. Extra elevation of the container will readily compensate for any loss of force in the stream due to the curve. This makes it easy to remember which position is "on" and which is "off." Both the shield and the nozzle fit tightly on to the stem, but are easily removable for sterilization. The nozzle can be inserted into the funnel-shaped end of a gum-elastic catheter, so that the instrument is convenient for washing out the bladder. It has been made in accordance with my instructions by Mr. Montague of New Bond Street.



*An Arm-sling.* The Euphoros arm-sling has been designed by Miss I. M. RANGLER to obviate the strain on the neck caused by the usual form of arm-sling and to allow the maximum amount of freedom to the elbow and shoulder-joints, while giving perfect support to the forearm. A curved back-piece is attached to a waist belt. Straps of webbing start from its upper points, and, passing over the shoulders, are connected by buckles with the sling for the forearm, which can thus be easily adjusted to the required height or angle by the patient himself. The sling has a perfectly level base; a gusset at the elbow covers the end of the splint, and rest for the arm is obtained without the sense of carrying weight. It is made of a light and durable black material, and can be obtained from Squire and Sons, Ltd., 413, Oxford Street, London, W.1, price 10s. 6d.

## Nova et Vetera.

### LIMBS AND BRAIN.

THE consideration in the JOURNAL last year (January 12th, 1924, p. 79) of the case of a man without arms, and of the success with which the legs and feet may be trained to take on themselves the functions of the missing limbs, prompts the question to what extent and in what manner life is possible for individuals born without limbs of any sort, or possessing, at the most, rudimentary stumps too short and too little differentiated to be prehensile. An answer to this question is contained in the very full and active life of the Right Hon. Arthur MacMurrough Kavanagh, M.P., who took a considerable part in the public affairs of his time, and whose remarkable achievements surpassed even those of Ducornet (a pupil of Watteau), to whom reference is made below in the note on Mrs. X—. The following brief account of Mr. Kavanagh will give some idea of the manner in which he overcame his physical disabilities.

#### MR. ARTHUR M. KAVANAGH.

Born with the merest rudiments of limbs, Mr. Kavanagh overcame every difficulty that presented. At the age of 16, strapped upon the saddle of his horse, he rode a long tour through the Near East. His elder brother, who accompanied him, writes home: "Arthur shoots much better than Mr. Wood, who began about the same time that he did, and can hit a bird flying quite well. His shooting is quite as wonderful as his riding. He is the only one of the party who can speak Arabic, which he does perfectly." (*Life of A. M. Kavanagh*, Macmillan and Co., 1891, p. 26.) Later on in India he shot tiger. At 23 years of age he succeeded to the family estates, and in the next year, 1855, he married. When 37 years old he was returned to Parliament as member for County Wicklow. In the troublesome Irish politics of his day he played an important part until his death in 1889. His *Life*, published two years later, is reticent as to his physical disabilities and the means by which he overcame them. Of his childhood nothing is told us in detail. His friends and intimates are now a diminishing band. Mrs. Rees-Mogg, who as a young girl knew him well, has been good enough to send us the following reminiscences:

"Mr. Kavanagh was the fourth son. He married a cousin. He rode up most days to see my people at Mt. Leinster. He had a sort of seat like a chair strapped to the horse. He held the reins wrapped round his arm. One arm was a little longer than the other, finishing a little below the elbow-joint; the other arm was thinner and smaller and ended above the elbow. He held the whip under one arm and the reins were twisted round the other. He wore a long skirt, and his legs did not come as far as the knee. I rode with him often, and sat behind him on the horse, holding on to the belt which he had round him somehow attached to the reins. Of course, I rode sideways.

"He wrote putting his two stumps together and so held the pen, taking it between his teeth to dig into the ink.

"Every morning when you came down there was Mr. Kavanagh sitting by a table in the window with a Bible before him, and read prayers. He used to jump on to his servant's back, who stooped for him to jump on to. He used to help the soup at dinner and pour out the coffee at breakfast. He was so absolutely charming and attractive that all the young lady guests used to fight as to who should sit next him. My sister and I and a friend went on a tour with him on his yacht the *Era* (about 230 tons), which he always steered himself, being his own captain. He had his own servant with him. He used to push himself about on the clean deck on his stumps. We went to Corfu for four months. He had an aunt there who had married a Greek. Mr. Kavanagh took photographs, which he did very well. We also went to the Adriatic."

We are also indebted to Mrs. Rees-Mogg for the loan of a valentine that Kavanagh sent her when she was a child. The valentine is of quarto size, and the first page is printed on lace paper. It contains a picture of "love's barometer" mounted on satin, and assured the young lady that it was ever sunshine when she was near. On the second page Kavanagh had written some verses, of which the first two are here reproduced in facsimile. (The eagle's feather refers apparently to Kavanagh's pen.)

For many years he copied into the first page of each new diary a prayer for strength and Longfellow's "Psalm of Life."

"Let us then be up and doing,  
With a heart for any fate,  
Still achieving, still pursuing,  
Learn to labour and to wait."

It is probable that these cases are not quite so rare as would appear from the scanty records of medical societies and medical journals. If there were a literature of the circus and of the travelling show the total of "limbless wonders" might be found to be considerable. Stow, the chronicler, makes mention of a Dutchman who, with his two arm-stumps, could keep a cup in the air, throwing it from stump to stump like a juggler, and who could shoot an arrow.

MR. ARTHUR KAVANAGH.

Reproduced by permission of Messrs. Macmillan and Co. from "The Right Honorable Arthur MacMurrough Kavanagh," a biography compiled by his cousin, Sarah L. Steele. 1891.

*Oh bliss untold if Cupid's dart  
And not the Eagle's feather  
Had found a refuge in your heart  
I would then be sunny weather*

*Oh Lizzy could a hope appear  
That Love's Barometer wld rise  
To quell the fangs of jealous fear  
Show light before one's eyes*

Mrs. X—.

I have enjoyed an opportunity of making the acquaintance of the present-day representative of these limbless performers—Mrs. X—, 42 years of age. I am indebted to Dr. A. G. Phear for the introduction, and to Mr. Ulysses Williams for the x-ray plates here reproduced. Her infancy was very delicate, and it was long before she could sit up or pass beyond the stage of helpless dependence on others. From about the age of 8 she began to

make rapid progress. From the age of 16 she has managed all her own affairs, and made her own arrangements for the tours on which she exhibits her remarkable dexterity. She writes a clear flowing hand, makes her own clothes, knits, crochets, dresses her own hair, and threads the rings of her earrings in and out of her pierced ears. In the house she pushes herself up and down stairs without assistance, and is active in domestic work. The adductors of the arm-stumps are

of very great power, and the neck muscles similarly are much hypertrophied. The handiwork which she does with such pride and delight is accomplished with the two arm-stumps, each with a single projecting rudimentary digit, while meeting and opposing them, with innumerable rapid perfectly co-ordinated movements, are chin, lips, and sometimes tongue or teeth. The left arm is about six inches long, the right about four inches; the right leg ends about the knee, the left is a mere rudiment. The pen is held fast against the chin by the pressure of the left stump of arm, which is considerably more dexterous than the right, and the movement is imparted almost entirely by the action of the neck muscles. Watching the quick, clever movements of this woman makes less incredible the achievements of Watteau's pupil, Caesar Ducornet, who was born without arms and with only rudimentary legs; yet he carried off all the prizes at Lille, won gold medals at Paris, and had pictures at the Louvre.

#### CASES RECORDED IN MEDICAL LITERATURE.

The medical literature concerning such cases is strangely scanty. It is possible that some references have been overlooked, for search has brought to light only the following cases.

Hastings reports the case of a male child born with the merest rudiments of limbs, under the title "Description of a monster in whom the upper and inferior extremities were entirely wanting." Only in place of the left leg was there a rudimentary projection. "On the left side, at the part of the ossa innominata into which the head of the thigh bone is generally received, there is a little process in the shape of a finger, consisting of two small bones united by ligaments and covered with skin and cellular membrane. This projection has muscles attached to it, as it is constantly moved by the cries and struggles of the child. The projection is thick at the base and runs to a point, and there is a nail affixed to it." "The desire of the parents," says Dr. Hastings, "to derive pecuniary advantage by exhibiting this monstrous production has proved fatal to it. They carried the child to most of the towns in this neighbourhood and exhibited it to many hundred persons. In one of these excursions inflammation of the lungs came on and the child died." Its age at the time of death was 6 months. (*Trans. Med.-Chir. Soc. of Edinburgh*, 1826, p. 39.)

Garlick reports the case of a child which survived some time with stumps of limbs which did not exceed three inches in length. (*Provincial Med. and Surg. Journ.*, 1849, p. 279.)

A similar case was reported in 1853. The child, a male aged 6 weeks, had the power of moving the stumps freely and strongly. This case appears to have been the first in which it was suggested that there had been amputation during foetal life by means of constricting bands—either amniotic adhesions or the umbilical cord—in this case, as in that reported by Hastings, of a rudimentary toe. One speaker at the discussion alone addressed himself to this difficulty. The toe he regarded as an attempt at repair after amputation, and compared it with the formation of new limbs

after traumatic loss in crabs. (*Med. Times and Gazette*, 1853, p. 604.)

Mr. (afterwards Sir Jonathan) Hutchinson reported the case of a child with all limbs reduced to mere stumps, which was alive and well at the age of 2 months. (*Trans. Path. Soc. London*, vol. v, 1854, p. 343.)

Baker Brown exhibited a 3 months old child "with short stumps replacing both upper and lower limbs." (*Trans. London Obstet. Soc.*, vol. viii, 1865, p. 102.)

Cook reported the case of a living child with all four limbs reduced to merest rudiments. (*BRITISH MEDICAL JOURNAL*, June 14th, 1890, p. 1360.)

Weinlechner exhibited before the Medical Society of Vienna a man, aged 27, who was devoid of all extremities except that, on the right side, a small stump of the arm had permitted the adjustment of an artificial apparatus. He could write, thread a needle, and pour water from a bottle. It is probable that the man shown on this occasion was the well known Nicolai Wassiliewitch Kobelkoff, a celebrated performer in the circus at that time. He was born at Troizk in Siberia in 1852, a fourteenth child, all his brothers and sisters being normal. He married in 1876 and had five children; all of whom were normal. Kobelkoff had the rudiments of legs, one thigh being about six inches long, the other about two inches longer, but for a right arm merely a conical mound, and for a left a rounded projection representing the humerus. With these stumps he conducted an entertainment exhibiting in the different towns of Europe. He could fix a pin between his cheek and arm, and wrote a good clear hand. He could cut paper with scissors, pour water from a bottle into a glass, eat with a fork and spoon, take his watch from his pocket and open it, thread a needle, and fire a pistol. (*Ally. Wien. mcd. Zeit.*, January 22nd, 1878, p. 38. See *Day's Even Paper*, July 2nd, 1887, vol. ix, p. 637.)

Sarah Biffin, who, also showed herself at fairs, and whose name may be seen on one of the show boards in Rowlandson's picture of Bartholomew Fair in 1799, later also achieved celebrity as a miniature painter. She died in 1850. Recently one of her miniatures realized forty guineas at Pittick and Simpson's auction rooms (see *John o' London's Weekly*, November 8th, 1921).

The lessons to be drawn from such cases are obvious enough. The brain, so long as its quality is unimpaired, may achieve great results, however ill adapted seemingly the appliances with which it has to work. So long as somehow and by some means the body can achieve the mobility necessary to acquire and refine sensory impressions the loss of the specialized limb is compensated. It seems as if sensorimotor auto-education would be impossible only if we could suppose a state of limblessness combined with an ankylosis of the cervical spine.

The slightest cerebral defect or damage is productive of incapacity immeasurably greater than that entailed by the almost complete absence of all four limbs. Oliver Wendell Holmes declared that some special Providence watched over and inspired Helen Keller in her conquest of blindness and deafness. So with Kavanagh. The immensity of the difficulties of his task seems to have evoked and been balanced by a patience and perseverance equally great.

H. C. CAMERON, M.D., F.R.C.P.



Mrs. X.—: the rudimentary left humerus and digit.



Mrs. X.—: the rudimentary lower extremities.

# British Medical Journal.

SATURDAY, APRIL 18TH, 1925.

## APPENDICITIS.

THE new year has seen a revival of interest in what has come to be regarded as a well worn subject—appendicitis. Mr. Rendle Short's lectures<sup>1</sup> on the subject have been quickly followed by Mr. Sherren's contribution and the address given by Mr. J. E. Adams before the Section of Surgery of the Royal Society of Medicine. Both are printed in the opening pages of this issue, and a report of the discussion which followed in the Section will be found at page 739. Some rather alarming figures of the numbers of deaths from the disease, and the suggestion that immediate operation is not certainly the best routine treatment for appendicular peritonitis, are the stormy petrels of the moment.

It is as perfectly clear as ever it was that immediate operation is the treatment of choice during the early stages of appendicitis—that is, while the condition is still truly one of appendicitis and not yet a peritonitis, or if that, only in its earliest stages and least degrees. We trust that there will never be any misconception on that point. Owing to individual variations the time at which the one merges into the more serious other is variable, but it may be taken that peritonitis is at a minimum in the earlier hours. When this stage has been passed a certain mortality begins to creep in. Even in the early groups there is a mortality of something under 1 per cent., rising in some series even to 2 per cent., of deaths in twenty-four-hour cases. These are the fulminating cases, or, if ordinary, certain unusual complicating circumstances account for the deaths. Allowing for the small percentage of error in diagnosis by skilled clinicians which must be reckoned on in any large series of cases, it is evidently within our power to lower vastly the death rate by operating on all cases of appendicitis within the most favourable period. Were this done we should not have lost 2,826 cases in 1923, and certainly not as many as 28,000 cases (the population of a country town) in the last ten years. When we remember that these dead were mostly young people we realize what this loss may have meant. Then we have to consider the working time lost and the expense to the hospitals and to the community which those cases requiring drainage and prolonged hospitalization cause. There is the added factor of abdominal walls weakened by incisional hernias, and so forth. The general practitioner cannot be blamed for all the delay before surgical assistance is sought, for in industrial and in country areas the generalized colicky abdominal pain which is the chief feature of the early hours is often not regarded as serious enough to warrant calling in the doctor. Too often it is not until the mischief has definitely located itself in the right iliac fossa that help is sought, and this change means that the case is no longer one of obstructive appendicitis but one of appendicular peritonitis. Mr. Sherren's remarks on the symptomatology of appendicitis are very sound, and should be memorized by all who are not already acquainted with these facts. Equally true are his sentences on chronic right iliac pain, which does not denote, as is so often thought, chronic appendicitis. The diagnosis of acute appendicitis is rarely difficult, and all doubtful

cases should be removed from their homes for skilled observation.

For those cases which have, for one reason or another, not been subjected to operation within the first few hours what are we to do? It is generally agreed that the mortality is highest in those patients on whom the operation is performed on the third day, and there is growing up in England a school—comparable to that of Ochsner of Chicago—which advocates starvation, morphine, and no purgation, in order to obtain absolute peritoneal rest. If the case settles down, appendicectomy is performed at the end of a week or two, when, it is hoped, a clean operation may be done with immediate closure. This late appendicectomy is not really part of the treatment of appendicitis in these instances, but is rather of a prophylactic nature. Indeed, this treatment of appendicitis is essentially, non-operative, with a reservation. The reservation is that if at any time the case does not seem to be settling down operation will be undertaken at the discretion of the surgeon. The statistics of the London Hospital and of St. Thomas's Hospital show that a large number of cases do not so settle.

It must be said at once that this treatment places a great responsibility on the shoulders of the surgeon. It should never be carried out at the patient's home, and if it fails, if the patient subsequently dies after a delayed operation, considerable unpleasantness may arise. Still, if it can be proved that a lowered mortality can be obtained by this method, obviously it should be adopted. Before we trust our judgment to the tender mercy of statistics we must be sure that the cases being compared are in truth comparable, that they are true scientific controls the one of the other. Certainly much larger series of cases are needed before we can be quite certain where we are. Similarly the fact that 2,826 people died from appendicitis in 1923 and 2,528 in 1913 does not necessarily mean that we are doing worse than we did ten years ago. It may mean that, but it does not necessarily mean that. No figures are available of the total numbers afflicted, and none could be so available unless the problem were thought serious enough to require compulsory notification of appendicitis. The one fact that is clear is that even to-day, after a quarter of a century of skilled treatment and of educational battalions of people are still dying . . . appendicitis.

Mr. Adams's objections to the "wait and see" policy are very pertinent, and we feel sure that it would be nothing less than a disaster if the method were to be employed generally out of hospital. If it is to find an established place for itself it will, we trust, remain a surgeon's treatment, a variety of institutional treatment, with a certain operation at the end of it. In other words, it is a form of pre-operative treatment, and not an end in itself.

## THE MORTALITY OF THE MEDICAL PROFESSION.

IN the *Journal of the American Medical Association* (January 10th, 1925) there appeared an interesting leading article on the deaths of physicians in 1924. Our contemporary estimated the number of practising physicians in the United States (the term "physician" is, of course, to be taken to cover all regular practitioners) to be 145,966, and, adding 2 per cent. to the recorded total to allow for possible omissions, put the deaths at 2,536, giving an annual death rate of 17.37 per 1,000. The average over the last twenty-three

<sup>1</sup> *Lancet*, January 31st and February 7th, 1925.



years is stated to have been 16.94 per 1,000. This latter figure agrees almost exactly with that deduced from the Registrar-General's Occupational Mortality Supplement, which deals with the experience of England and Wales in 1910-12. In these three years 1,246 registered practitioners (physicians, surgeons) died, and this, brought into relation with the number exposed to risk, 73,659 (three times the enumerated population at the census), gives a rate of mortality of 16.92 per 1,000. The rate in America in 1924 was slightly worse than ours a decade ago, but the fact that five physicians were killed by bandits suggests that the practice of our art in the United States may be somewhat more hazardous than here; that ten of the deceased physicians were bank presidents is perhaps evidence that it may also be more lucrative.

We publish in this issue an analysis by Mr. A. B. Hill of the mortality amongst English physicians of a bygone age, the word "physician" being here used in a restricted sense—namely, of Fellows and Licentiates of the London College of Physicians admitted at least a hundred years ago. The longevity of these old-time doctors is much superior to that of all medical practitioners in our own age, and compares favourably with that of married peers of the realm in their own age; Dr. Brownlee has kindly permitted Mr. Hill to quote the data about the peers from unpublished material. In the current issue of the *Proceedings of the Royal Society* (Series A, vol. 107, p. 368) Sir Arthur Schuster has estimated the expectation of life of Fellows of the Royal Society from the data of the last seventy years. Taking as an example the expectation of life at the age of 45, we find that Sir Arthur Schuster reaches for Fellows of the Royal Society 28.4 years; Mr. Hill obtains for physicians born between 1750 and 1799 27.2 years, and Dr. Brownlee obtained for peers 26.0 years. Mr. Hill deduces from the experience of 1910-12 for all medical practitioners 24.7 years, and the value in English Life Table No. 8 (all males, experience 1910-12) is 23.9 years.

The bearers of the gold-headed cane come very well out of this comparison; they were, indeed, a little worse off than those who have surmounted the intellectual obstacles which have, since the number of admissions was limited, guarded the portals of the premier scientific society; but, having regard to paucity of numbers and differences in method of calculation, one cannot put much weight upon the difference. On the other hand, it is improbable that the advantage of the physicians of a hundred years and more ago over all practitioners of our time is illusory. Something must be allowed for age selection—the average age on admission as a candidate or licentiate was certainly higher than the average age of registration now; something for social class—all the Fellows in the eighteenth and most in the other centuries were graduates of Oxford and Cambridge; but, having regard to the results in the peerage, these can hardly be the whole explanation. Perhaps the truth is that the more leisured life of a physician in the eighteenth century—he probably indulged less than his lay contemporaries in the vice of hard drinking—was a quite sufficient makeweight for the superior scientific resources of his twentieth century brother in general practice. One wonders whether an investigation such as Mr. Hill has made, if extended to Fellows and Members of the Royal College of Physicians of the last fifty years, would produce similar results, and substantiate a claim for a reduction of the life assurance premiums of those who have satisfied the Censors' Board.

#### THE NATIONAL PHYSICAL LABORATORY.

The activities of the National Physical Laboratory for 1924 are reported in a stout quarto volume.<sup>1</sup> The greater part of the research carried on at Teddington is not of a kind from which conclusive results can be expected within a particular year. Work on various international standards and scales, or along lines of research which require prolonged investigations to be repeated for one material or one set of conditions after another, has necessarily to be continued over a period which may be represented by several annual reports. While there is much to interest the reader of a scientific bent of mind in these 200 pages, there is very little in the way of absolute conclusion to be winnowed out. The mills of the National Physical Laboratory "grind exceedingly small." It is hoped next year, however, to complete the work, which has been proceeding for some time, on x-ray protective materials, and in this connexion it is noted that recommendations on somewhat similar lines to those established by the laboratory have been drawn up by protection committees in America and in France and Germany and some five other European countries. Most of the work of the laboratory, so far as x rays are concerned, has been on spectrometry and other questions falling under the head of what is called "atomic physics," but the x-ray departments of a number of hospitals have also been inspected, and advice has been given on the equipment of proposed new departments. The new x-ray apparatus submitted for inspection show marked improvement both in construction and in the protection afforded. Preliminary experiments have been made with cathodes of various curvatures with a view to the design of an x-ray tube capable of passing extra heavy currents and of withstanding increased potentials. Radium testing has become a routine procedure at the laboratory, and institutions in which radium is in constant use are sending their tubes and applicators periodically to the laboratory for examination for leakage; 111 tests of radium preparations were made during the year. Apart from work on x rays and radium, the report touches here and there on matters of medical interest, although these matters are few in number in comparison with the bulk of the work of the laboratory, which embraces not only the whole field of physics, but electricity, metallurgical chemistry, and aerodynamics. A number of problems in connexion with refrigeration are being investigated by the Food Research Board. A novel apparatus has been constructed at the laboratory for controlling humidity conditions in food and other forms of storage. Nearly 700,000 clinical thermometers have been tested during the year, and it is remarked that the quality is well maintained, and that the proportion of instruments which fail to obtain approval and marking is now low. Clinical thermometers made of soft soda glass are more likely to develop defects due to the presence of air than are instruments constructed of lead or other accepted thermometric glass. Some useful work has been done in optics, particularly in colour standardization; here a suitable filter for producing a standard of white light has been evolved, and now requires only some modification in detail. Among other lighting inquiries in progress is an investigation of the characteristics of light transmission of the commercial types of window glass. Experiments, relating in the first instance to compositors, have also been carried out, in association with the Industrial Fatigue Research Board of the Medical Research Council, on the effect of illumination on accuracy and speed of work, but here again the work is at a stage at which apparently not even a provisional report can be made. All this is the most cursory glance at the activities of a great institution, with a staff of 500, engaged continuously upon a bewildering multitude of subjects, including, to take examples at haphazard, the wind resistance

<sup>1</sup> The National Physical Laboratory: Report for the Year 1924. H.M. Stationery Office, Adastral House, Kingsway, W.C. 8s. 6d. net.

of motor cars, the expansion of concrete, the properties of lenses, the thrust of propellers, the measurement of carbon dioxide, and the problems of sound. On this last subject a number of large- and small-scale tests of the absorbing and reflecting power of materials have been made, and the advice of the laboratory has been sought by various bodies—including the Ulster Government, for its Parliament House—on the acoustics of buildings.

#### TYPHOID FEVER IN A LONDON BOROUGH.

LATELY (March 21st, p. 563) we gave some account of an outbreak of milk-borne enteric fever in a rural district in Lancashire, and in that connexion made some observations on public health administration in rural districts. There has now come to hand a report by Dr. Geoffrey E. Oates, M.O.H. Bethnal Green, of a similar outbreak in that borough. It was tackled promptly, all modern means of investigation being brought into immediate use, yet the disease, which came under notice at the end of September, 1924, was not extirpated until the end of the year. The number of known cases was 81, and all were typhoid fever, not paratyphoid. The deaths numbered 12, or 14.8 per cent. As in the Lancashire outbreak, the spread of the infection was largely due to milk. Of 65 primary cases, 51 had milk from one dairy, and a few of the other 14 may have consumed the same milk on occasion. The first notification was on September 27th, but the milk supply of that case was not from the source implicated in the outbreak as a whole. Within a few days three more cases were intimated, all among customers of one milk dealer, and it was found that the proprietor and manager of the business was in bed on the premises, suffering from what had been regarded as an influenzal illness. The possibility of typhoid was discussed with the medical attendant, but ruled out for the time being. In two days, however, the patient was removed to the London Hospital, and there the diagnosis of typhoid fever was made. This illness had begun in the middle of September, and from the start no part was taken by the patient in the conduct of the business, though he took to bed only on September 23rd. When the early notifications were made, every one of thirteen persons resident or employed on the premises was examined by the usual tests, but without practical result. The thirteen included three roundsmen, one of whom, owing to the result of an agglutination test, came under suspicion, but examination of excreta proved negative, and, in fact, the rounds of all the three men were affected to the same extent. A veterinary examination of every one of forty-five cows also proved negative. The dairy premises, though they had no pasteurizing plant, could not be blamed for the outbreak. In spite of careful exploration of all avenues of infection that could be thought of, the ascertained facts were so puzzling as to prevent Dr. Oates from arriving at a very definite conclusion, and he submits two or three different hypotheses. Against the suggestion that the proprietor and manager might himself have been the origin of the outbreak are the facts that the source of his own infection was undiscovered, and that by the time he began to feel ill four cases had already occurred among his customers, and six others had been infected. Indeed, if he were responsible he must have been a carrier of the disease three weeks before he sickened, and also, Dr. Oates points out, he must have infected the last primary case, though that case sickened on November 12th, nearly seven weeks after the proprietor himself went to bed ill. Further, it has already been stated that the proprietor was taken to hospital early in October, so that some of the primary cases must have had a remarkably long period, if not of incubation, at least of non-infection. Another hypothesis considered is early and temporary pollution of the milk

supply, which might have infected alike the proprietor and some of his customers, but there is no evidence of this. A further possibility is a continuous undiscovered source of infection all through September and October, but to Dr. Oates and those whom he consulted this seemed impossible. So firmly was this view held that Dr. Oates states that he took the responsibility for advising the borough council not to interdict the milk supply. Shellfish, greenstuff, ice cream, and fried fish were all considered, and ruled out. In the course of his summary and conclusions Dr. Oates states that the dairy proprietor "was probably the source of infection, but whether he contracted typhoid fever from his own milk supply in common with his customers or from another source is uncertain." Other points are that there was striking evidence that the nursing of typhoid by unskilled persons is dangerous; that during a typhoid epidemic all cases of continued fever should be notified and removed to hospital for diagnosis; that bacteriology contributed to the control of the outbreak; that early notice should be given of any illness in a dairy business; and that there should be systematic medical inspection of milk employees.

#### THE PHARMACEUTICAL CURRICULUM.

PHARMACISTS have now to bear a heavier load of responsibility than was previously the case, and consequently it has been felt for some time that changes in the education of pharmaceutical students, and in their qualifying examinations, have become necessary. New regulations introducing modifications into the three examinations (primary, preliminary scientific, and final) have now been approved by the Council of the Pharmaceutical Society of Great Britain. The new requirements for the preliminary examination prior to registration as a student provide for one language other than English to be offered, so that Welsh is now admitted. Latin is, however, not a compulsory subject, although in the final examination the student is tested in the translating of Latin prescriptions. Before entering for the second examination the student must be certified as having received an approved systematic course of instruction in chemistry of at least 200 hours, and in botany and in physics of 120 hours each. Before entering for the final examination, which enables the candidate to use the title "pharmacist" and to engage in the business of a chemist and druggist, the candidate must have received training under the supervision of a pharmacist for 4,000 hours, in accordance with the Pharmacy Acts of 1868 and 1908, including not less than two years in a chemist's shop or hospital dispensary. He must also have received an approved course of instruction of not less than 720 hours in the subjects of the examination, which include pharmaceutical chemistry, pharmacognosy, pharmacy, and forensic pharmacy. In addition to this qualifying examination for registration there exist also examinations for the title of pharmaceutical chemist, and for the new degree of Bachelor of Pharmacy, conferred by the University of London. Registration as an "apprentice" or "student" will still be possible under the old regulations until January 1st, 1927. The date up to which a candidate who has passed Part I of the qualifying examination will be exempted from the new curriculum of Part II has been extended to August 1st, 1928, so that students will be able to prepare for both parts of the examination on a nine months' course up to and including the course which begins in October, 1927. Moreover, until August, 1928, candidates may continue to enter for both parts of the examination at the same time, but they may not proceed to the qualifying examination until they have received a certificate of having passed the preliminary scientific examination. These extensions largely do away with the injustice that would have followed an earlier enforcement of the new

regulations; and, further, the President of Council of the Pharmaceutical Society has expressed the hope that it may be possible to introduce amendments of the Charter, and, if necessary, of the Pharmacy Acts, in order to obtain a more representative governing organization in place of the present consultative and advisory body.

#### THE CAMPAIGN AGAINST CANCER.

THE quarterly meeting of the Grand Council of the British Empire Cancer Campaign was held on April 7th, with the Lord Chancellor, Viscount Cave, in the chair. Sums amounting to nearly £12,000 in all were allocated, for the purpose of research in cancer, to the following institutions and individual workers: £3,000 to the Middlesex Hospital; £2,500 to the research department of the Cancer Hospital; £1,695 to St. Bartholomew's Hospital, for radiological research; £400 to St. Mark's Hospital; £500 to Dr. Thomas Lumsden of the Lister Institute; and £300 to Dr. Malcolm Donaldson of St. Bartholomew's Hospital to facilitate research into certain forms of inoperable cancer. A further sum of £1,400 was granted to the Middlesex Hospital for special radiological research, subject to confirmation by the Radiology Committee of the Medical Research Council. The above sums are in addition to grants in furtherance of cancer research, amounting to £6,480, made during the current financial year; nor do they include the sum of £5,000 for radium, for use in the cancer research departments of St. Bartholomew's Hospital and St. Peter's Hospital, by the cancer research committee of the London Association of the Medical Women's Federation, and in the radium emanation depot to be set up at the Middlesex Hospital. The foundation of a periodical to contain abstracts on cancer research throughout the world, and the formation of a library of reprints, was the subject of a report from the Scientific Advisory Committee. A sub-committee to work out the details was appointed as follows: Sir William Leishman, Director-General A.M.S.; Professor C. J. Martin, director of the Lister Institute of Preventive Medicine; Dr. Archibald Leitch, director of the Research Department, Cancer Hospital, London; and Professor W. S. Lazarus-Barlow, of the Cancer Research Laboratory, Middlesex Hospital. It was reported that the questionnaire on cancer has now been circulated, through the agency of medical missionaries, to some 900 centres in different parts of the world.

#### THE EQUIPMENT OF THE PRIVATE RADIOLOGIST.

Two years ago Dr. A. E. Barclay, now the president of the Röntgen Society, gave a description before that body of the organization and equipment of the x-ray department of a large hospital (BRITISH MEDICAL JOURNAL, January 13th, 1923, p. 73). As a corollary to this Dr. R. Craig Rodgers of Burnley, in a paper read to the same society on April 7th, described the organization and equipment of x-ray rooms arranged for the private radiologist. He had in mind the radiologist who found it necessary to undertake all forms of diagnosis and treatment, and to utilize diathermy, ionization, and ultra-violet radiation. He excluded intensive or deep therapy, believing that this form of treatment would be undertaken in the future only in nursing homes or hospitals where the radiologist could secure the collaboration of physician, surgeon, and pathologist, and an adequate nursing service. The primary requirement for the x-ray department was a house in a central area, but remote from noisy traffic. He found such a house in Burnley, and fitted it up entirely for x-ray and associated work. The x-ray room (two rooms made into one) was on the ground floor; the entrance to it was so arranged that a stretcher case could be carried in from the ambulance and placed on the couch without turning a corner. Such a room, Dr. Rodgers considered, should be bright and airy,

and about twice as long as it was broad; this allowed the essential pieces of apparatus to be placed conveniently, and avoided the interlacing and possible entanglement of overhead gear. The accessory rooms grouped around the x-ray room were the waiting room, two dressing rooms, lavatory, power room, loading room (where cassettes could be loaded and films obtained at a moment's notice), and the photographic room. For the x-ray room panelled walls, although expensive initially, presented many advantages and were preferable in appearance to wallpaper and paint. The illumination of the room was worthy of attention. By using concealed strip lamps in the cornice at the top of the panelling the light was reflected from the ceiling, resulting in an even, diffused, glowing effect, not only restful to the eyes of the operator, but also useful in making them ready for screening. He found it advantageous to place a resistance in the circuit so that the white light could be dimmed out and a violet light started up, which in its turn was dimmed out, thereby avoiding the sudden plunge into total darkness which was distressing for nervous patients. The decoration of the waiting and other rooms was important also. The colour scheme in his own waiting room was a cheerful blue and orange, and as soon as patients entered the house they got an effect of sunniness and cheerfulness even on a dreary day. For the developing room he used a cellar, approached by a winding staircase which served as a light trap. The rooms for diathermy, ionization, and ultra-violet radiation, with a room used as a personal study, were on the upper floor. The power unit, which consisted of a high-tension transformer and a coil outfit, was assembled in a room leading out of the x-ray room, and had a floor of thick concrete, thereby greatly diminishing any vibration from the machinery. This disposal of the power unit in a separate room had many advantages, among them the absence of the usual cabinets, which took up floor space, the greater ease in getting round the apparatus for testing and cleaning, the diminution of noise and vibration, the concealment of any visible sparking, and the elimination of noxious fumes. The principal items of apparatus in the x-ray room were an upright screen stand, a screening couch, a table for the Potter-Bucky diaphragm, a movable tube stand, and switch controls for the transformer and coil outfits. It was desirable to have a ready means of cutting off the electrical supply from the whole establishment, both in order to check expenditure and to comply with the requirements of the insurance companies; therefore he had a main switch placed behind the front door, and made it a rule for the last person leaving the rooms to switch off the current. Dr. Rodgers showed various photographs and plans of this house, and specially emphasized the arrangements for securing adequate ventilation. The poor health of many x-ray workers might be caused, he thought, not only by x-rays leaking from insufficiently protected apparatus, but from unhealthy atmospheric conditions created during the production of the radiations, owing to ionization of the atmosphere, noxious chemical fumes, the by-products produced by electrical discharges, escape of coal gas from interrupters, and also, of course, the products of respiration. The danger arising from alterations in atmospheric conditions in small, badly ventilated x-ray rooms was worthy of greater consideration than it had so far received.

#### THE ADVANTAGES OF DRAFTS.

SIR WILLIAM OSLER said that no author ought to send anything to be printed until he had had five drafts and corrected each. This was the number Renan required. Sir Clifford Allbutt put the minimum at three, not counting the first rough note. Anatole Franco, about whose habits a stream of little books has been appearing since his death, said seven, with an eighth to make sure that the correc-

ons on the seventh had been understood. In the first he alivened what had been platitudinous. The second was for weeding out the dandelions," whos, whichs, and whoms. a the third he eliminated the semicolons, shortened his sentences, and struck out phrases which merely linked one outeuce with another, or marked a transition from one thought to another, a task that should be left to the reader. n the fourth draft he gave special attention to the order f sentences and to the repetition of the same word; he ooked on the recurrence as a warning to rowrite the sentence, not to search for a synonym. The fifth draft saw ho disappearance of adjectives, for he was of the opinion f Voltaire, that though the adjective might agree with the substantive in gender, number, and case, vory often it did ot suit it. From the sixth draft he chipped away what o called the pastry, all that was adventitious and redund- ant, and over the seventh draft ho passed the plane, for, o said, a good writer is liko a good cabinet maker—he planes his phrases smooth. Franco would have agreed with Byron's epigram had ho known it—"Easy writing's d—d hard reading."

#### CONVENTION OF ENGLISH-SPEAKING OPHTHALMO-LOGICAL SOCIETIES.

THE Ophthalmological Society of the United Kingdom, together with its affiliated societies, will, as wo announced ome months ago, hold in London from July 14th to 17th next a Convention of English-speaking Ophthalmological Societies and Associations. Letters have been sent to the presidents of such bodies in the different parts of the British Empire and the United States of America inviting them to appoint official delegates. On the evening before the Convention opens a reception will be held at the Royal Collogo of Surgeons of England. Four mornings, two afternoons, and one evening will be devoted to scientific work. On the evening of July 15th there will be a symposium on the evolution of binocular vision, in which Sir Charles Shorrington, O.M., G.B.E., P.R.S., Sir Arthur Keith, F.R.S., Sir Frederick Mott, F.R.S., Professor G. Elliot Smith, F.R.S., and Professor S. E. Whitnall will take part. The Bowman Lecture will be delivered by Sir John Parsons, F.R.S., on the afternoon of July 16th. One of the subjects for discussion is the microscopy of the living eye. It will be opened by Dr. Gordon Byers (Montreal), Dr. Arthur J. Bedell (Albany, U.S.A.), Mr. Harrison Butler, and Mr. Basil Graves. One afternoon will be set apart for a visit to institutions of ophthalmic interest, and there will be a museum of drawings, instruments, and pathological and anatomical specimens. At a general meeting of the Convention the re-establishment of international ophthalmological congresses on the pre-war basis will be considered. Social functions will include a reception at the Royal Institution by its president and council, a garden party given by Sir William and Lady Lister, and a reception at the Wellcome Historical Medical Museum by the President of the Convention, Mr. E. Treacher Collins. The official banquet of the Convention will be held on the evening of July 17th. On the following day there will be excursions to Oxford and Cambridge, and local committees in various parts of Great Britain will assist those desirous of making more extended excursions. The general secretary is Mr. C. B. Goulden, 79, Portland Place, W.1.

THE Société de Neurologie de Paris intends to celebrate its own twenty-fifth anniversary and the centenary of Charcot by a meeting in Paris on May 25th, 26th, 27th, and 28th. The centenary will be specially celebrated on Tuesday, May 26th, when a series of addresses will be given by representatives of various societies. On Wednesday, May 27th, the Société will hold a discussion on migraine.

### Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

**Divorce and Venereal Disease.**—When the report stage of the Summary Jurisdiction Bill was taken in the House of Commons, on April 8th, Mr. Harney moved to add to the grounds for judicial separation "that her husband is suffering from venereal disease and insists on cohabiting." The cruelty to future generations had, he said, to be remembered, and not only the question of infecting the wife, though that had been held to constitute cruelty. Mr. G. Locker-Lampson replied that the Home Office was advised that the Act of 1895 covered the case, and that no further reference in the present bill was necessary. If in the opinion of eminent lawyers in the House of Lords this was not so, the Government would see that a provision was put into the bill. The amendment was withdrawn.

**Royal Army Medical Corps.**—Sir Philip Richardson asked, on April 7th, whether the falling off in the number of entrants for the Royal Army Medical Corps was not due to the fact that the pay and pensions of medical officers, particularly those in India, were smaller in purchasing power than in 1914. The Secretary for War replied that the falling off was due to a number of causes, and he hoped it would be possible to find a remedy without undue delay.

**Vaccination.**—Mr. Whiteley asked the Minister of Health, on April 7th, what was the criterion of successful vaccination adopted in the classification of small-pox cases by the medical officers of the Ministry. Sir Kingsley Wood replied that the statements of the medical officers of the hospitals to which the cases were admitted were classified as to the presence or absence of vaccination cicatrices. A table supplied by the Minister of Health to Mr. Groves on April 9th shows that in 1872 vaccinations in England and Wales were 85 per cent. of births and the small-pox deaths numbered 19,022, or 8.2 of the population. In 1922 vaccinations were 40.3 per cent. and small-pox deaths were 27. The percentage of vaccination was in 1923 and 1924 not available; the deaths were 7 and 13. In London, in 1872, the vaccinations were 81.9 per cent. of births and the small-pox deaths 1,786, or 5.4 per 10,000. In 1922 vaccinations in London were 45.7 of births and the small-pox deaths numbered 20. In 1923 London reported one death and in 1924 none.

**Conveyance of Tuberculous Patients.**—Sir Kingsley Wood stated, in answer to Dr. Watts on April 7th, that the Minister of Health had been in communication with the Manchester Corporation about the conveyance of tuberculous patients to and from the Baguley Sanatorium in corporation motor omnibuses. Arrangements had now been made for disinfecting such omnibuses after such use.

**Pensions.**—The Minister of Pensions informed Sir Wilfrid Sugden, on April 9th, that the Regional Director of the North-Western Pensions Region, the Commissioner of Medical Services, the Regional Awarding Officer, and the Medical Assessors all denied absolutely the charge that assessors in the North-Western Region were required to reduce a certain number of pensions weekly. Such a practice, Major Tryon added, would be entirely contrary to all instructions. In reply to Sir A. Holbrook, on April 9th, the Minister of Pensions said that the increase in salary of £50 per annum to be given to full-time medical officers of the Ministry was neither a bonus nor a gratuity, but part of a general revision of the remuneration of the administrative medical staff of the Ministry. The work of the Ministry had diminished, but the staff had been reduced correspondingly, and the work and responsibilities of individual officers remained as great as before.

#### Answers in Brief.

At the Chemical Warfare Research Department since 1918 317 officers and 207 other ranks have been subjected to poison gas tests.

The provisional figures for the manufacture of dangerous drugs in Great Britain during 1924 are: morphine 99,400 oz., heroin 16,700 oz., codeine 153,300 oz.

Approximately 100 local authorities in England and Wales possess public abattoirs.

Provision for maternity and child welfare has now been made in every sanitary district of England and Wales. Milk is provided for mothers and young children by 426 local authorities.

The Minister of Labour does not think that the time is opportune to approach the French and German Governments with a view to ratifying the Washington Hours of Labour Convention.

The Home Secretary does not see his way to introduce legislation to allow the children of women prisoners to be born outside of prison; 19 children were born in prison during 1924.

An annual grant of money, varying from year to year, is made to the National Council for Combating Venereal Diseases, and a return is made to the Ministry of Health showing in detail how it is expended. For the last financial year the grant was £9,183.

Expenditure by the State on health, including health insurance, and housing rose from 2s. 3½d. a head of the population of the United Kingdom in 1913-14 to 9s. 1½d. a head in Great Britain in 1923-24.

Of 49,245 recruits rejected by the army as physically unfit in 1924, 12,813 came from London, 3,641 from Glasgow, 2,147 from Gloucestershire, 1,757 from the West Riding, 1,698 from Sheffield, 1,321 from Manchester, 1,283 from Liverpool, 1,090 from South Wales, 1,408 from Birmingham, and 1,075 from Staffordshire.

The completed results of the second quinquennial valuation under the National Health Insurance Act will not be known until after the end of this year.

## THE LONGEVITY OF PHYSICIANS.

## ON THE AVERAGE LONGEVITY OF PHYSICIANS.

BY  
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IMPERFECT as are our means of assessing the hygienic conditions of England and Wales before the establishment of the General Register Office, the work of various vital statisticians, of Rickman and Farr in the past and of Brownlee and others in our own time, has made it almost certain that the general expectation of life in the eighteenth and earlier centuries was less than now; we are well assured that it is still improving.

It is a matter of some interest to try to determine whether what is true for the whole population is true for some particular class of it. Dr. Brownlee, in some unpublished researches to which he has kindly allowed me access, has studied the vital statistics of one part of the medical profession—namely, physicians—might profitably be made. To this end I have utilized the rich statistical material contained in the *Roll of the Royal College of Physicians of London* compiled by Munk, whose record tends back to the foundation of the College in 1518. Down to the beginning of the seventeenth century for statistical purposes and the particulars insufficient for statistical study. Thereafter the material is more satisfactory, and I have carried out the necessary statistical analysis in order to determine the average length of life of a physician at different dates.

The procedure has been to calculate for each individual the record of whom is sufficiently detailed (1) his age at admission as licentiate, candidate, or Fellow, and (2) his age at death. From these data the numbers exposed to risk and the numbers dying at any age have been computed, and the "mean expectation of life at age  $x$ " obtained. The results are shown in Table I. Before turning to this, attention must be paid to two points of importance. (1) The bulk of the records of birth, death, and entry are given in two forms, examples of which are as follows: (a) born 1760, entered 1787, died 1833; (b) entered 1787, died 1833, aged 73. In the building up of a life table these two entries should be treated differently, for in the first case the mean age of entry is 27 years and the mean age at death is 73 years; in the second case the corresponding mean ages are 27½ and 73½ years.\* Unfortunately in taking out the records this point was overlooked and the two classes were treated alike. It was calculated, however, that if all the records were first treated as belonging to class (a) and then all treated as belonging to class (b)—that is, the extreme case—the difference made in the expectation of life at any age is never greater than half a year. The error introduced is thus not of any great importance. Actually treating all the data as class (a) gives the lower "expectation," and to avoid any exaggeration of length of life this was adopted. (It makes some proportion become exposed to risk half a year too early and die half a year too early.) (2) A more important question is the possibility of a bias being present tending to lengthen the expectation of life. This consists of the fact that those members whose records are most detailed may tend to be the more renowned, and hence to some extent the longer lived. There were no very definite signs of such bias to be seen in taking out the actual records, but the possibility must not be overlooked. In Table I, it will be seen, the members have been divided into four groups according to their date of birth. The periods are, roughly, (1) the seventeenth century, (2) the first half of the eighteenth century, (3) the second half of the eighteenth century, and (4) the first quarter of the nineteenth century. No births occurring after 1825 can be used, for this would not ensure the death of all exposed to risk.

\* For in the first case the physician might have died at any age between 72 years (that is, if he were born at the very end of 1760, and died at the very beginning of 1833) and 74 years (that is, if he were born at the very beginning of 1760, and died at the very end of 1833). This gives a mean age at death of 73 years. In the second case the physician died between 73 and 74 years of age—a mean age at death of 73½ years. The same reasoning applies to age at entry.

TABLE I.

The expectation of life at different ages of physicians grouped according to their date of birth.

Age.	194 Births 1570-1689. Expectation of life* at each age in years.	176 Births 1690-1749. Expectation of life at each age in years.	307 Births 1750-1799. Expectation of life at each age in years.	125 Births 1800-1825. Expectation of life at each age in years.
35	30.3	32.1	35.3	—
40	27.0	23.9	31.3	—
45	23.2	25.4	27.2	31.9
50	19.1	22.3	23.1	26.9
55	15.5	18.6	19.4	22.0
60	13.5	15.1	16.1	17.5
65	11.3	12.1	13.2	13.7
70	9.1	8.4	11.2	10.5
75	6.7	5.8	8.5	8.4
80	4.9	4.5	6.3	5.9
85	3.6	3.7	3.9	4.2

\* Complete expectation of life.

For the last group (1800-1825) it was possible only to take out the records of Fellows (the earlier groups comprising extra-licentiates, licentiates, and candidates as well). The *Roll* compiled by Munk gives no records of members born later than 1800, so that to obtain the details for this last group recourse had to be made to the annual lists of the College and to the obituary notices in contemporary numbers of the *British Medical Journal* and the *Lancet*. After the Medical Act of 1858 the numbers of members of lower rank became so great that the births and deaths are rarely recorded, while the task of going through the annual lists would have been very heavy. It was, however, possible to carry on the table till 1825, but the expectation of life cannot be calculated for this period before 45 years of age, for the age of entry as a Fellow is naturally more advanced and the numbers exposed to risk before age 45 are very small.

As would be anticipated, the expectation of life has steadily increased between the earliest period (1570-1689) and the last (1800-1825). At ages 45 and 50 the increase is as much as eight to nine years; in other words, whereas the "average" physician of 45 years of age in the seventeenth century might expect to live to be 68 (according to these data), his prototype at the beginning of the nineteenth century might expect to live to be 77. If he were 60 years of age in the nineteenth century he might expect four more years of life than his ancestor in the seventeenth century. The increases shown between one period and that immediately following it are somewhat erratic, more especially in the last four age groups, where several times an actual decrease occurs. This is probably due in part to the smallness of the sample, so that the numbers exposed to risk at these later ages became too reduced to give consistent results.

A comparison of interest can be made between the average duration of life of these physicians, at different dates, and the average duration of life of English peers at the same periods. The data relating to the latter have been worked out by Dr. Brownlee, to whom I am again indebted for permission to use these hitherto unpublished figures. The comparison is set out in Table II.

At each period, it will be seen, the physicians of 35, 40, and 45 years of age had an expectation of one to two years' more life than the peers of corresponding age. At the later ages, in the 1570-1689 period, there is little difference between the two classes until the age of 75 is reached. At and beyond that age the peers hold a distinct superiority. In the period 1690-1749 the physicians continue to have the greater expectation up till 65 years of age. At 70 and beyond the peers have again the superiority. In the last period (the dates are not quite identical for the two classes) the physicians continue to



TABLE II.

Comparison of the expectation of life of physicians and peers\* at different dates.

Age.	1570-1689.		1690-1749.		1750-1799.		1750-1809.
	Physicians.	Peers.	Physicians.	Peers.	Physicians.	Peers.	
35	30.3	28.6	32.1	31.0	35.3	33.7	
40	27.0	25.1	28.9	27.6	31.3	29.8	
45	23.2	21.9	25.4	23.6	27.2	26.0	
50	19.1	18.8	22.3	20.3	23.1	22.4	
55	15.5	15.7	18.6	17.2	19.1	18.7	
60	13.5	13.4	15.1	14.2	16.1	15.3	
65	11.3	11.2	12.1	11.8	13.2	12.2	
70	9.1	9.2	8.4	9.5	11.2	9.4	
75	6.7	7.6	5.8	7.5	8.6	7.3	
80	4.9	6.6	4.5	5.8	6.3	5.6	
85	3.6	5.7	3.7	4.5	3.9	4.2	

\* These figures relate only to married peers. The expectation of life for married classes is, however, usually greater than that for the unmarried, so that all peers would possibly be at a still greater disadvantage in comparison with the physicians.

have the larger expectation until the final age of 85 years, when their expectation is 0.3 of a year less than that of the peers.

These variations may again be partly due to the small numbers of physicians exposed to risk at the later ages (the largest group is that of 1750-1799); on the whole, it does appear that the physicians are the better lives, and more especially so at the earlier ages. Perhaps they more easily follow a simple life and more easily pursue "the even tenor of their way" (in spite of a life of harder work); or possibly they constitute a "select" class even in comparison with the peers—to enter at all upon the profession of medicine demands a certain level of health. It is possible, too, that by the age of 35 years, at which age the expectation of life is first calculated, the physician has acquired some immunity to diseases such as tuberculosis. On the other hand, constant contact with all forms of disease would, it might be thought, expose the physician to greater risks than those run by a normal population.

An indication as to whether a more modern population of doctors is a select class in comparison with the whole male population can be gained by use of the occupational death rates, for 1910-12, for physicians, surgeons, and other registered practitioners. From these rates the expectation of life can be calculated for this class by the method devised by Dr. E. C. Snow (Cmd. 1010). A slight adjustment is necessary to obtain the years of life lived over 75. The death rate is given for age group 75 years and over. It is required for 85 years and over. The procedure has been to divide it in the same proportion as the death rates for all English males of 75-85 years and 85 years and over bear to one another. This, if anything, will probably understate the expectation of life for the doctors, but the error can be only very slight, and an alternative method of obtaining their expectation gave very closely similar results.

In Table III comparison is made between the expectation of life for practitioners, thus calculated, and the expectation of life for all English males (1) based upon mortality in 1838-54, and (2) mortality in 1910-12.

It will be seen that the medical class has a longer expectation of life—a year at 35 years of age—than all English males (1910-12 mortality), and thus they are to some extent a select population or exposed to less risks of mortality. The physicians on the Roll of the College at the earlier dates would be a still more select population, for they might be said to represent Harley Street, while the 1910-12 mortality represents rather the general practitioners. Dr. William Guy, from an examination of length of life of members of the medical profession dying between 1848 and 1853, came to the conclusion that "the duration of life is greater among physicians and surgeons than among the

TABLE III.

Expectation of life of all English males based upon mortality (1) in 1838-54 and (2) 1910-12, and of physicians, surgeons, and registered practitioners based upon mortality of 1910-12.

Age.	Mortality 1838-1854. Expectation of life (years).	Mortality 1910-12. Expectation of life (years).	Physicians, Surgeons, and Registered Practitioners. Mortality 1910-12. Expectation of life (years).
35	29.4	31.7	32.7
40	26.1	27.7	
45	22.8	23.9	24.7
50	19.5	20.3	
55	16.5	16.9	17.6
60	13.5	13.8	
65	10.8	11.0	11.4
70	8.5	8.5	
75	6.5	6.5	6.5
80	4.9	4.9	
85	3.7	3.7	3.3

general practitioners of medicine and surgery"—but his data were scanty (On the Duration of Life among Medical Men, *Journal of the Statistical Society*, vol. xvii, 1854). By referring to the expectation of life of physicians whose births fall between 1690 and 1749 (Table II) it can be seen that they are superior in length of life to their brethren dying in 1910-12 (Table III).

Realizing thus how select is the class in question it is not so surprising to observe that the physicians born in the seventeenth century have a longer expectation at nearly every age after 35 years than all English males dying in the second quarter of the nineteenth century. The peers do not hold a similar advantage (except at the later ages) till the period 1690-1749. On the other hand, the physicians born in this period are superior in length of life to all English males dying in the early years of the present century. Or, if mortality in 1910-12 be roughly translated into births between 1810 and 1875, the expectation of life at ages 35 and over of males born between these dates is inferior to the expectation of this select class of physicians born over one hundred years earlier.

In conclusion, I wish to express my indebtedness to Dr. M. Greenwood, at whose suggestion and with whose kindly advice this paper was undertaken; and likewise to the Royal College of Physicians for the facilities readily placed at my disposal.

## POST-GRADUATE STUDY IN LONDON.

### RESUMED DISCUSSION.

THE discussion on post-graduate education in London, held under the auspices of the Fellowship of Medicine and Post-Graduate Association, which was adjourned on March 18th,<sup>1</sup> was resumed at the house of the Royal Society of Medicine on April 8th. There was again a good attendance.

Sir W. ARBUTHNOT LANE, who presided, said that many helpful suggestions had been made in the first part of the discussion, and these it was hoped to incorporate in the work of the Fellowship. That the Fellowship had met a need was proved by the increasing number of practitioners who took advantage of its facilities.

Sir THOMAS HORDER, in opening the discussion, said that there was general agreement on two points: the need in London of post-graduate education, and the desirability of extending the present efforts of the Fellowship. He shared the view already expressed that the post-graduate habit in this country needed stimulating. The sooner it was cultivated in Great Britain the better. It would be lamentable if the habit had to be forced upon the profession from outside, yet it was within the bounds of possibility that the public or a wiser Government than had yet appeared might

<sup>1</sup> BRITISH MEDICAL JOURNAL, March 28th (p. 613).

POST-GRADUATE

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make it a necessity. Of the suggestions he himself had to make, two were not new to the Council of the Fellowship, but before whom he had advanced them several times, and both had been received sympathetically. The first was that the panel—if such a term could be used for the 270 medical men whose names were set out as ready to give post-graduate instruction—should be made smaller and yet smaller. It led to confusion, whether or not the members of the staff of various hospitals, assist. The panel of post-graduate students must be kept men—men whose names had been suggested to the list in order to get an suggestion was that an certain teachers in post-

had been recalled to the panel—if such a thing had been possible—men whose names were smaller. It led to confusion of the staff of various hospitals, had expressed willingness to assist. The panel of post-graduate tutors must be keen men—men whose names had not been merely added to the list in order to get an impressive array. His second suggestion was that an attempt should be made to recapture certain teachers in the undergraduate schools. It was a severe blow to the graduate teaching when the deans and committees of the majority of undergraduate schools withdrew their active interest. Such action might have been in the interest of the schools concerned, but so far as post-graduate education was concerned the result had been very unfortunate. He held that the dean of a medical school should not have so much control over the teaching power of members of his staff as he has given adequate service to the teaching post-graduates, he should be without running the risk of giving them the undesirable, but desirable, opportunity to do what they please.

If a man, having given up his own practice, wished to become a teacher of undergraduates, though probably it might be desirable that he should be allowed to do so without running the risk of becoming unpopular, the two classes of students, that in order not to mix the two classes of students, that he should undertake his post-graduate teaching elsewhere than at his own hospital. Sir Thomas Horder added that recently he wrote to seventeen teachers attached to medical schools, asking them whether they desired to help in post-graduate education, and in every case but one—and in that one instance the letter miscarried—the reply was favourable. In the first place, however, the Association had no local habitation or name, and therefore the body of the Fellowship. In the second place, now to live body of the Association to have a local habitation and name, for the Association to have a local habitation and name.

He came now to two subjects of importance before the executive body of the Association. By a local habitation as well as a name. The first meant not merely such hospitality as it enjoyed at the time of the Royal Society of Medicine, but a centre where tuition could go on by demonstration and lecture, something like the Polyclinic of years gone by. This should be known to the hono of post-graduate teaching in London. Secondly, a hostel was almost an essential part of a post-graduate scheme, not necessarily that men from overseas or from other parts of the country should be accommodated at the hostel, but that they should be accommodated at places of conference, and that their stay for post-graduate study should be so arranged that no single be satisfactory for

scheme,  
provinces should  
should be referred  
lodging during their stay for a scheme  
could not help feeling that no scheme  
education in London would ultimately be satisfactory.  
it included a college for teaching and a hospital for  
This might seem visionary. If it did, let those int  
least go ahead with the formation of a panel o  
admission to which would be rather jealously g  
setting up, or rather the extension, of the present  
information, and the establishment of some temp  
until such time as a wealthy philanthropist  
Government provided a permanent and wort  
Guiffryn referred to the account of  
the first meeting by

Dr. W. Guérin remarks that facilities for members at the first meeting which had been given at the first meeting of the navy and army, and the lack of any in the civilian medical services. It would plan if the authorities responsible for nation-ance would provide opportunities for tioners to undertake post-graduate study be entirely the gain of the insurance r of the public, and the cost should be b itself, and not by the individual pr men on the panel should at intervals men without pecuniary sacrifice on the where such

men on the leave, without pecuniary centres such as the place where such be acquired as the place where a proper given. He believed that such a proposition forward by the Fellowship of Medicine sympathetic response from Mr. N. he suggested that an influential upon the Minister with this object along these lines by radiologists. Dr. F. HENNING-JONSSON was started, but little progress

secured (in Welbeck Street), and the Institute of Radiology, as it was called, came into being. The Mackenzie Davidson Memorial Fund of some £1,500 was the basis of the venture, but radiologists themselves had raised £1,600 or £1,700, and had guaranteed certain annual funds for some time to come. All this experience seemed to bear out Sir Thomas Horder's plea that a definite home must be obtained before any considerable progress could be made. The Institute of Radiology hoped to take a large share in post-graduate work, and possibly to it might be delegated the work of the Fellowship so far as radiological matters were concerned. Sir J. DUNDAS-GRANT recalled the programme of the old Polyclinic, where the demonstrations, and to some extent the lectures, were arranged on a methodical plan so as to cover various subjects within a certain time. No honorarium was paid, but distinguished lecturers and demonstrators were worthy of adoption. He thought that the Polyclinic was worthy of adoption. He thought that the Polyclinic was worthy of adoption. He thought that the Polyclinic was worthy of adoption.

Sir J. L. ...  
Polyclinic, where ...  
the lectures, were arranged ...  
cover various subjects with a cer ...  
was paid, but distinguished lecturers ...  
came forward most readily. He thought that the ...  
scheme in outline was worthy of adoption.

Dr. F. J. McCann said that the Fellowship of Medicine  
had nestled under the fostering care of that mother of  
societies, the Royal Society of Independent Existence.  
time; it should now lead as three things were required.  
order that it might do so three things were required.  
first was money, always an appeal be launched from the Mar ...  
enlist the philanthropic interest o ...  
that a sum such as £500,000 ...  
the success of the ...

order was money; and he suggested that an House of London, and that a sum should be boldly aimed at. He pointed to the success of the Empire Cancer Campaign in this connexion. The essential was a home, which should be termed the 'Medical Graduates' College, and situated, if possible, where in Bloomsbury, because the majority of the came for post-graduate instruction to London living in the district. This college should be linked up with more general hospitals and certain special hospitals and demonstrators at the college should be assured. The third essential was that the college should act as principal centre for the post-graduate students and

[illegible]

part of the... from overseas or... at the hostel, but they... to places of comfortable... post-graduate study. He... scheme for post-graduate... to be satisfactory unless... and a hospital for teaching... if it did, let those interested at... of a panel of teachers, the... rather jealously guarded, the... of the present bureau of... of some temporary fabric... of a wise... home.

At the North-East London Hospital School of Post-graduate Medicine, Dr. SOPHIA JEVOX said that she had been in

[illegible]

...minister with the description of  
...MAN-JONSSON described. Fire  
...lines by radiologists. Fire  
...but little progress was made until a

The meeting should concentrate on something immediate and practical.

Dr. BERNARD MYERS said that he had asked at least a hundred people from abroad or from the provinces what it was exactly that they wanted in the way of post-graduate facilities. What they wanted was practical work; they wanted to see cases, chiefly common cases, not too many rare cases, though a few of those, and cases which they could themselves examine in detail. They desired also to acquaint themselves with the most recent work that was going forward, and from this point of view they liked their instructors to be authorities on the subject. Post-graduates from abroad—even Americans—stated that they could see better cases in London than in any other part of the world. It would be a distinct advantage to have a centre, preferably in Bloomsbury, but the case of the local practitioner, who did not want to be too far away from the calls of his practice, had also to be considered, and arrangements might be made for him to attend a local hospital, even a cottage hospital. About eighteen months ago he made a suggestion to the British Medical Association that men should be sent down to cottage hospitals to give lectures and practical demonstrations, and virtually to take over the work of the hospital for an afternoon, but the British Medical Association thought the time was not quite ripe.

Sir HENRY SIMSON pointed out that there were four post-graduate hospitals which catered for the needs of the doctors in their neighbourhood—the North-East London, the Great Northern, the West London, and the Hampstead General. The reason for the failure of the Polyclinic was because general practitioners did not want lectures; they wanted to see cases and to do practical work. A lecture once a day to general practitioners would not accomplish very much, because they could get all that they wanted along that line from the medical journals. Some post-graduates coming to London desired to see the work of a certain eminent man, others wanted demonstrations in special subjects. All this could be arranged from a central bureau. Others wanted a three or four weeks' general "rub up." For these the hospitals he had named were available. Others, again, were London practitioners who wanted some facilities for study on just one day a week. The post-graduate hospitals covering four districts of London should go some way to meet this need also.

Professor LOUISE McILROY deplored the absence of obstetrics from the programme of the Fellowship. She knew that a good many graduates coming from abroad were satisfied with the rest of the teaching, but criticized this omission; to make it good would probably necessitate some combination of hospitals and teaching staffs. Ante-natal clinics were being started throughout the country, and young graduates were expected to have a good deal of experience in this direction.

Mr. E. B. TURNER thought that the possibility of a house, including a hostel, as a post-graduate centre in London, in a very favourable situation, was well within the bounds of practical politics. The expenditure would be comparatively small, and the hostel might even be made a remunerative speculation which would assist the general funds. Those who came for post-graduate work wanted, not the set academic lecture, but the cases which they could see and examine for themselves more intimately than cases shown in illustration of a clinical lecture. They wanted initiation into the technique of case management. It would, of course, be a great thing to establish a central post-graduate hospital; in the meantime, why not make use of the wonderful clinical material available in Poor Law hospitals? With regard to the granting of study leave to insurance practitioners, as Dr. Griffith had suggested, the insurance practitioner was in the great majority of cases a private practitioner as well, and although the Ministry of Health might make arrangements for the carrying on of his insurance practice during his study leave, he would still find it difficult to get away from the calls of his private practice.

Mr. J. P. LOCKHART-MUMMERY said that two things were necessary—a keen desire for post-graduate work and a central institution. The main difficulty was the question of money. It was no use to ask the public to give money for post-graduate teaching. Post-graduate work had got to "carry its own load." Could money be got out of

post-graduates? His own belief was that it could not. There were over 40,000 practitioners in this country; if 5,000 of them would pay £1 a year a central institution could be run on most satisfactory lines, but he was not sanguine that the 5,000 would be forthcoming.

Dr. R. A. GRIMMOND also was quite sure that money would not be forthcoming from the public. An appeal might be made to the profession for a moderate subscription which would justify an attempt being made to start a central institution.

Dr. C. M. WILSON said that he did not think the man in general practice would come forward for a fortnight's or three weeks' course. He would come on a particular day or to special lectures whenever the material was provided which he desired. With regard to overseas practitioners, anyone who had been to Berlin would realize certain respects in which post-graduate facilities in London fell short. In Berlin there was one centre—the university—where everything could be found. In London a man had to go first to one part and then to another. It was quite impossible to give practical lectures and demonstrations to such a large number as a hundred. Practitioners would come even to these set lectures when they were well given, but a polyclinic would not solve the practical problem of the man who wanted to examine his case beforehand and then hear it talked upon.

Sir ARTHUR LANE, in closing the meeting, said that he thought the Fellowship could congratulate itself on the result of the discussion. A comparison with Berlin had been made, but there was one advantage in London as against Berlin, or Vienna, or Paris—namely, that the people who came for post-graduate instruction spoke a common language. All the suggestions made during the discussion would be brought before the next meeting of the Council.

In the course of the proceedings a letter addressed to the officers of the Fellowship from an experienced post-graduate overseas was read by one of the honorary secretaries, Dr. A. J. WHITING. After urging some criticisms of what he had found in London, such as that medical schools were widely separated, that some lecturers failed to put in an appearance when announced, and that the gift of imparting knowledge was not always evident in the teachers, he went on to say that he would be willing to pay a fee of 50 guineas for a month's concentrated tuition, or 100 guineas for a ten weeks' course, a week to consist of five and a half days of six or more hours' instruction a day. For such fees he would expect—

- (1) to see selected out-patients and hear the cases discussed by a master in his own subject; this master should be able to outline his own teaching and then give the various forms of diagnoses and treatment by first-rank men in Europe and the United States;
- (2) to visit wards daily and to follow up medical cases and see surgical treatment;
- (3) to find that all possible examinations (pathological and bacteriological) in regard to a case were done and could be seen;
- (4) to see a first-class x-ray department and operator;
- (5) to see demonstrations on the cadaver and models;
- (6) to have constant revision of anatomy and opportunity for private or team study by post-graduates themselves;
- (7) to see operations done in all branches of any specialty.

This correspondent added that he would not expect lectures of any systematic sort, or a collection of cases and an address thereon, nor did he want long-winded dissertations on this or that theory, or an autobiography of the teacher!

## ROYAL COMMISSION ON LUNACY AND MENTAL DISORDER.

### MENTAL HOSPITALS ASSOCIATION.

THE evidence given by the Mental Hospitals Association before the Royal Commission on Lunacy and Mental Disorder was reported in the *BRITISH MEDICAL JOURNAL* of March 28th (p. 611). We have since received from that association a summary of the evidence submitted beforehand to the members of the Commission, which embodies points not brought out in the verbal examination of the witnesses. It may be explained that such a summary as this, which is customarily submitted by bodies giving evidence, is for the private information of the members of the Commission, and does not form part of the Commission's proceedings (unless the Commission so orders, as it did in the case of the British Medical Association's Memorandum),

and is not distributed to the press. It is merely a document from which members of the Commission put questions to the witnesses, and the answers to the questions are technically the evidence. We note that the summary is entirely in the name of Sir William Hodgson, who is a member of the medical profession, though Alderman Taggart was associated with him in the verbal evidence. Points other than those brought out in the verbal evidence are as follows.

Sir William Hodgson urged that in future all medical superintendents should be required to hold diplomas in mental science. He described some of the recent statements in criticism of asylum administration as not only unjust, but based upon inadequate experience of the character and work of these institutions. He wished the Lunacy Act of 1890 to be amended so as to prevent any patient from being discharged without the consent of the majority of the committee present at the hearing of the case. Any committee which overrode the opinion of the medical officer who saw the patient from day to day and found himself unable to approve of discharge was incurring a grave responsibility. It was wrong to suppose that insufficient care was taken to protect dangerous patients. Sir William Hodgson went on to refer to the growing improvement in nursing efficiency, and to the full justification of the innovation whereby female nurses were introduced into male wards. Provision made in public mental hospitals for private cases should, where possible, be made in a separate building. The strictly private hospital would always be wanted by a limited class of people. With regard to the general inspection of mental hospitals, medical inspectors should be in the majority on any staff, but legally trained minds were also required to decide many points of difficulty. Inspectors should submit their reports to a small body of educated and experienced men of affairs, only half of whom should be doctors. The importance of having representatives of the public and of local authorities on these bodies was stressed. He pleaded for a more equitable adjustment of the cost of maintenance as between local authorities and the State in the shape of increased Government grants.

With regard to after-care, it was necessary, Sir William Hodgson said, to ensure that any grants under this head should not degenerate into "doles"; they must be used to assist individuals to become self-supporting. But nothing substantial could be done unless the imperial exchequer bore its fair share of the burden. He argued that it would be a considerable economy in management if the medical and nursing staff of a mental institution could properly organize the work of looking after low-grade mental defectives. In connexion with research work, he protested against a clause in the recent Mental Treatment Bill which provided that mental hospitals should carry out research work on a scheme approved by the Board of Control. Many of these hospitals had now well equipped laboratories fitted on modern lines for pathological and bacteriological research, and it was putting back the clock to try to limit the liberty of mind which was necessary for invention and discovery. Any suggestions which the Board of Control might make to the laboratory experts or medical staff would be thankfully received, but to attempt to control this work by a central authority was a step in the wrong direction. Sir William Hodgson's memorandum concluded with some remarks on slanders on mental hospitals, and insisted that the complaints which were made as to ill treatment were in the main quite untrue.

## Scotland.

### PROPOSED MATERNITY HOSPITAL AT INVERNESS.

THE Highland Maternity and Child Welfare Union has issued an appeal on behalf of a proposed maternity hospital at Inverness, signed by the Duchess of Sutherland (president of the union), Lady Lovat (vice-president), and Mrs. Merry of Belladrum (chairman and honorary treasurer). The appeal states that a maternity hospital ought to be established in Inverness for the northern counties. It is suggested that it should contain two wards of six beds each and private wards in which paying patients would be received. Such an institution would provide also a training centre for nurses; there is at present no such centre further north than Aberdeen. The only beds for maternity cases available in the town of Inverness, excepting those in the poorhouse, are three beds in the Bowmont Child Welfare Centre. The union considers it would be necessary to collect £10,000, but so far only £700 is in hand.

### THE CRICHTON ROYAL INSTITUTION, DUMFRIES.

In our last issue (p. 712) particulars were given of the memorial presented by the board of direction of the Crichton Royal Institution to the Secretary for Scotland, urging the importance of making suitable statutory provisions to allow of rate-aided persons being received as

voluntary patients in mental hospitals in Scotland. In his annual report for the year 1924 Dr. C. C. Easterbrook has dealt at considerable length with this grievance; 70 per cent. of the private patients admitted during 1924 to the Crichton Royal Institution came of their own accord, whereas all the rate-aided cases were admitted under certificate. There can surely be no two opinions on the value of the voluntary principle in regard to admission to a mental hospital, and we are in entire agreement with Dr. Easterbrook in his praise of it. The admission of mentally affected persons on a voluntary basis allows of their malady being attended to in time where this is possible, and many patients are thus prevented from drifting into a grave state rendering certification necessary and cure improbable. It is surely, then, necessary that the benefits of early voluntary admission should be available to all classes of the community, and that any impediment to their being utilized by that larger part of the community who seek treatment on account of mental illness should be speedily removed. At the same time it must be noted that the statute does not expressly forbid rate-aided persons being admitted as voluntary patients. It is to the existence of the lunacy grant which is paid to the parish councils in the case of certified rate-aided cases only, and to the fact that few parish councils have been able to see their way to forgo the benefit of this grant, that the present position must be traced. The grant for the year ending May 15th, 1923, amounted to £115,703, or about 2s. 9d. a week for each certified patient. The unwisdom of allowing this grant only in the case of certified patients is already manifest, and a few parish councils have had the foresight to put the interests of the patient before those of a false economy; but insult is added to injury when the certified rate-aided patient is still officially referred to as a "pauper lunatic." It is, to say the least, unfortunate that the official terminology is calculated to wound the feelings of the patient and of his family, and so dangerously to postpone his admission to hospital. Dr. Easterbrook refers to the disability of certification and to that of pauperization. The former would be reduced to its proper dimensions if the practice of admitting rate-aided cases as voluntary patients to mental hospitals were made general. The latter disability he would remove by the transfer of the present lunacy obligations of the parish councils to the District Boards of Control, "thereby bringing the administration of mental disease into line with that of infectious diseases, including tuberculosis."

### SCOTTISH HOUSING AND SLUM CLEARANCES.

At the annual general meeting of the Convention of the Royal Burghs of Scotland, held in Edinburgh on April 8th, housing was one of the main topics of discussion. The Lord Provost of Edinburgh (Sir W. L. Sleight) was in the chair. Provost W. B. Inglis of Alyth moved a resolution to the effect that any future legislation ought to provide that any building which, in the opinion of a local authority, had got into such a state of dilapidation or disrepair as to affect injuriously the interests or amenity of a town or neighbourhood, should be held to constitute a nuisance which the town council should be entitled to require the owner to remove or remedy. The motion was approved although it was pointed out that there would be some difficulty in wording a clause in a bill. Bailie Riddell moved that the liability on the rates of local authorities with regard to all schemes of housing and slum clearance should be limited to a fixed amount in the £ on the public health rate, and that local responsibility should be limited to a definite figure, which should not be heavy. In the Addison Act that principle had been recognized, and he suggested 2d. in the £ of rental was a fair and reasonable contribution by the locality. Sir Henry Keith said that the question of slum clearance had changed considerably so far as the burden of local authorities was concerned within the last two years. When Sir George McCrae was in charge of the Scottish Health Department a proposal had been made to give Scotland £30,000 for slum clearance, to be divided amongst local authorities as far as it would go. This was found to be totally inadequate. More recent

the Government had offered 50 per cent. of the cost of slum clearance, which was the position at present. He had grave doubts whether the Government could be induced to give what Countbridge wanted, and he suggested that the matter should be remitted to the Annual Committee; this suggestion was accepted. Sir Henry Keith called attention to the work of this committee on housing, and said that the Wheatley scheme was not being used to any great extent. Local authorities could proceed under the 1923 Chamberlain scheme with a subsidy of £6, or under the Wheatley scheme with a subsidy of £9, but with limitations in regard to rents. Some of the English authorities were continuing under the Chamberlain scheme because it gave a greater flexibility than the Wheatley scheme in regard to charging an economic rent. Housing, he said, continued to be a war problem, and for that reason the State, he thought, should bear the burden of the excess expenditure.

#### PERTH INFIRMARY AND DUNDEE STUDENTS.

The students of University College, Dundee, on April 3rd and 4th carried out an intensive campaign in Perth with the view of clearing off the deficit of £1,289 which had been incurred in the work of Perth County and City Royal Infirmary during the past year. The students arrived in the city on Friday in motor vehicles lent for the occasion, and scattered over the towns and villages surrounding the city, where they spent the greater part of the day in collecting a sum of £250. On the same evening a variety entertainment, held in the Alhambra Theatre, Perth, added another £107. During Saturday the activities of the students, who were clad in many varieties of fancy dress, were directed to collecting in the city of Perth. During the day an amusing interlude took place when the Lord Provost of the City, the Hon. John Dewar, and the general manager of the General Accident Fire and Life Assurance Corporation, Mr. F. Norie-Miller, were "kidnapped" by students disguised as brigands and driven through the streets of the city in a motor lorry to be "sold" by public auction in the local market for a heavy ransom to be devoted to the funds of the hospital. The festivities of the day were ended by a hockey match, procession, and dance, and resulted in a total collection of well over £1,000.

#### NEW TYPE OF HOUSE.

A new type of dwelling-house, designed and constructed by Mr. J. Livingstone, building contractor, Falkirk, was inspected on April 8th by a large deputation from the Corporation of Edinburgh, which was favourably impressed by the house. It is built of concrete slabs in a reinforced frame with a continuous cavity all round the foundation as a protection against damp. The model house inspected consisted of a bedroom, living room, "kitchenette," and bathroom; it had been erected by three men in a week, and could be sold for £275.

## England and Wales.

#### LEEDS INFIRMARY.

A CONSIDERABLE amount of anxiety is felt with regard to the General Infirmary at Leeds, the present financial position being unsatisfactory, while the pressure of general work continues unabated. At the end of 1924 no fewer than 1,347 patients were awaiting admission, and at one time during the year there were as many as 1,530. The number of casualties treated in the hospital has increased, and out-patient attendances mounted from 260,794 in the previous year to 336,462. The ordinary income decreased from £72,012 in 1923 to £69,069, and, though there was a reduction in expenditure, there remains a deficiency of £27,293 on the year's working; in addition to this there is an overdraft at the bank of £50,000. In spite of the severe trade depression Sir Edwin Airey's Fund for Leeds hospitals has already reached over £80,000, and when the

infirmary obtains its share from this fund the financial position will be considerably relieved. The chairman, Mr. T. L. Taylor, at the annual meeting on March 26th, pointed out, however, that it was now necessary to take steps to increase the ordinary income materially. During the last six months serious consideration had been given to the question of requiring some payment from patients, and a special committee had been formed in order to devise some scheme for submission to the hospital board. The Workmen's Hospital Fund had increased considerably during the previous year, owing to extra money received from collieries, and if this advance continued the income would approach the expenditure very closely. The growth of the dental school had been so vigorous that fresh accommodation had become necessary. It had been decided, therefore, to provide a site on which the University would build a new dental school.

#### NOTTINGHAM CHILDREN'S HOSPITAL.

Notwithstanding the shortage of accommodation, particularly in the dental, massage, and electrotherapeutic departments, the work of the Nottingham Children's Hospital increased considerably during 1924. The gift to the hospital of an apparatus for the production of ultra-violet rays has been of very great benefit to the children, and the treatment of various diseases has been very much improved by it. The erection of the new wing of the hospital is continuing steadily, and at the annual meeting of the hospital on April 7th the chairman, Mr. H. Bell Tawse, F.R.C.S., expressed the hope that it would be in full working order by the summer of 1926, in time for the Annual Meeting of the British Medical Association. The annual report showed that there was a surplus of income over expenditure for the year of £479, subscriptions having slightly increased, though donations and box collections were lower. During the year 600 in-patients had been admitted, and 239 operations performed. In the out-patient department 2,082 children had been operated upon under anaesthetics, an increase of 511 over the previous year.

#### FRENCHAY PARK, BRISTOL.

The Bristol public health committee proposes to develop its Frenchay Park estate extensively on Alton lines, and so avoid the necessity of sending patients to distant hospitals. For many years the problem of crippling due to tuberculosis has been under active consideration by the committee, and it is now hoped to concentrate treatment locally at Frenchay Sanatorium. When this has been accomplished there will then only be necessary the provision of a seaside sanatorium to take up the function of Hayling Island in the Alton scheme. This addition will probably have to wait until private benevolence is forthcoming. The appointment of a consulting orthopaedic surgeon has enabled the facilities for treatment in Bristol to be made more complete. At the suggestion of the chairman of the health committee a small subcommittee has been formed to consult with other committees concerned with a view to providing better treatment for cases of crippling not included in the tuberculosis scheme. Children under the age of 5 suffering from paralysis and in need of institutional treatment are dealt with under the infant welfare scheme; but there still remains a considerable number of patients for whom provision cannot be made by health committees, but who come under the care of the education committee, which is at present unable to obtain a grant for capital expenditure, although a grant is available for maintenance. Voluntary help is, therefore, necessary, but the Bristol education committee has been able to provide a clinic for physically defective children to accommodate 140. When necessary these children are conveyed to and from school in special ambulances. An orthopaedic surgeon has been appointed, and a fully equipped treatment centre is provided. It is hoped that by extending the accommodation of Frenchay estate it will be possible to economize expenditure considerably, and yet enable a finer building to be erected for the available money than would be the case if a site had to be found elsewhere.



## Correspondence.

### THE DECLINE OF LITHOLAPAXY.

SIR,—I have read with much interest the article in the *BRITISH MEDICAL JOURNAL* of April 11th (p. 690) by Major-General Hooton, C.I.E., Poona, India, formerly my house-surgeon at the Manchester Royal Infirmary, on the decline of litholapaxy. About six months ago my attention was drawn to this subject, for I found that in the previous ten years (1914-23), while only 6 operations of litholapaxy had been performed in the Manchester Royal Infirmary, the cases of suprapubic lithotomy were 65 in number.

On making inquiries at several of the London hospitals it was ascertained that litholapaxy, which during the war had temporarily fallen into disuse, was again coming into favour. Mr. Hamilton Bailey of the London Hospital informed me that in the ten years ending 1922, 34 cases had been treated by litholapaxy out of a total of 131 cases of vesical calculus. Mr. Geoffrey Keynes of St. Bartholomew's Hospital reports 19 cases of litholapaxy and 33 cases of suprapubic lithotomy during the same period.

In 1881 my first operation was performed for stone in the bladder. In 1910, on retiring from the active staff of the hospital, my last operation was undertaken, having in the interval operated upon 170 cases of calculus vesicae. In 62 cases, or more than one-third, litholapaxy was the operation selected. In the 62 cases of litholapaxy the operation proved fatal in only one case—namely, a male patient who was in his 73rd year.

Litholapaxy is an operation which may safely be performed at any period of life—in the very young as well as in those advanced in years. Six of the patients were between 70 and 80 years of age. Ten were under 10 years of age; in six the age did not exceed 5 years, the youngest being 3½ years of age.

My thanks are due to Mr. Geoffrey Keynes, Mr. Hamilton Bailey, and the surgical registrars at the Royal Infirmary (Messrs. Galloway and Scotson) for the above figures.—I am, etc.,

F. A. SOUTHAM,  
Consulting Surgeon, Manchester Royal  
Infirmary.

April 11th.

### THE SEPARATION OF THE PLACENTA.

SIR,—I was very interested to read Dr. Vaughan's memorandum on the separation of the placenta (*BRITISH MEDICAL JOURNAL*, April 4th, p. 656).

For many years it has been my custom to leave untied the maternal end of the umbilical cord. The chief advantage lies in the better separation of placenta and membranes. It is difficult to say whether it lessens the risk of septic infection through the maternal sinuses.—I am, etc.,

Dublin, April 4th.

BETHEL SOLOMONS.

SIR,—When assistant in a rural district in the North of England nearly fifty years ago, I was much concerned with the large proportion of cases requiring manual removal of the placenta, and I began the practice of single ligature. I was so impressed with the advantages of it that it has been my invariable practice ever since, and it must be quite forty years ago that I explained its advantages to the class in the Rotunda, but it did not catch on. My original idea was that it lessened the bulk of the placenta, which it does, but it also allows it to fold up so that the edge presents, and it occupies less space in expulsion. I quite agree with Dr. Vaughan that it allows the uterus to contract more efficiently, and lessens haemorrhage, but also, if manual expression is necessary, it is much more likely to be successful.—I am, etc.,

Frome, April 5th.

W. G. EVANS.

SIR,—The late Dr. D. Berry Hart taught that the maternal end of the cut umbilical cord should not be tied, except in the case of twins. His recommendation was based on his theory of the method of the separation of the placenta. See his *Guide to Midwifery*.—I am, etc.,

Elthurst, nr. Rotherham, April 6th.

C. J. HILL ATKIN, M.D.

### TREATMENT OF DIABETES BY RAW FRESH GLAND (PANCREAS).

SIR,—I was interested in the observations of Dr. Hollins and of Dr. Young in the *BRITISH MEDICAL JOURNAL* of March 14th (p. 503) and March 28th (p. 632), and decided to repeat their experiment under carefully controlled conditions.

The first case was a severe one of five years' duration—a woman aged 34, who has been treated with insulin for the last two years. For the last twenty-five weeks she has been on a constant intake of 60 g. carbohydrate, 70 g. protein, and 150 g. fat, together with 20 units of insulin, half an hour before breakfast, and 14 units just before tea. Under these conditions her blood-sugar curve has been much the same day after day (see columns 2 and 3 of table). From March 27th to 31st, both inclusive, she ate daily 2 oz. raw pancreas with her lettuce, the diet and dose of insulin remaining constant. The pancreas was obtained through the courtesy of Messrs. The British Drug Houses, Ltd. It was frozen immediately after removal from the body, and kept on ice right up to the time that it was minced by the patient, a few minutes before eating it with her meal.

Had the raw pancreas any influence on the diabetic state the blood-sugar curve on the fifth day (March 31st) would have been at a lower level, and there would probably have been symptoms of hypoglycaemia during the five days she was taking the raw pancreas. It will be seen from the table printed below that the blood-sugar curve was not appreciably affected: there were never any signs of hypoglycaemic reaction.

Hours after Insulin.	Blood Sugar, mg. per 100 c.cm.		
	March 17th, 1925: 20 units Insulin; no Raw Pancreas.	March 24th, 1925: 20 units Insulin; no Raw Pancreas.	March 31st, 1925: 20 units Insulin; 5th day on Raw Pancreas.
0	223	193	229
1	215	203	206
2	295	147	161
3	264	89	105
4	119	94	74
5	116	108	79
6	101	108	82

Note.—Breakfast ½ hour and lunch ¾ hours after the insulin. On March 31st, 1925, 5 grams of the protein of breakfast were taken in the form of 1 oz. of raw fresh pancreas.

A second patient, a little girl aged 4, who has been on a fixed intake of 40 g. carbohydrate, 50 g. protein, and 80 g. fat, with 35 units of insulin daily, was given fresh raw pancreas by her mother, who obtained it from her butcher herself. She arranged with the butcher that the pancreas should be delivered within a few hours of removal from the body. The child ate 6 oz. in a period of fourteen days, the diet and dose of insulin being unaltered. Neither the hyperglycaemia nor the glycosuria was in the least influenced.

It will be seen, then, that I am unable to confirm the opinion of Dr. Hollins and Dr. Young as to the value of raw fresh pancreas. From the many investigations on insulin reported in the literature, I did not expect that raw fresh gland taken by the mouth would act as a supply of insulin to these patients, but there was the possibility that while their clinical observations were correct, the interpretation of the results was a different one. I would ascribe the improvement obtained by Dr. Hollins and Dr. Young in their patients to alterations in the diet, and not to the action of raw fresh pancreas. At any rate, I maintain that it is unwise in diabetes to claim improvement as due to any particular preparation (including insulin) unless the diet be fixed rigidly and the effect of the diet alone be determined over a period of several weeks or months before trying the preparation. My reason for this is the well recognized fact that (quantitative) dieting alone may achieve such astounding results, particularly in diabetes of short duration.

In experimental work, in order to demonstrate the part played by insulin, I should try the effect of diet alone in the first place, and then add insulin to the same fixed diet. In ordinary practice, needless to say, like many other physicians, I often make use of both insulin and quantitative dieting from the very first day of treatment.—I am, etc.,

G. A. HARRISON, M.B., B.Ch.

The Hospital for Sick Children, Great Ormond Street, W.C., April 8th.

#### NODAL FEVER.

SIR,—Dr. Lendon's article on nodal fever (*JOURNAL*, April 4th, p. 651) raises some interesting questions in regard to this disease. I am, as he says, in general agreement with him in regarding erythema nodosum as a specific infective fever, but before that view is generally accepted several points will have to be cleared up.

In England and on the Continent erythema nodosum has a definite seasonal incidence, the largest number of cases occurring in the second quarter of the year. The absence of such seasonal incidence in Australia is probably due to the more equable climate, but it would be interesting to know if measles and scarlet fever in Australia show characteristic curves as they do in this country. Very wisely Dr. Lendon has laid emphasis on two symptoms of the disease—namely, phlyctenulae and subungual haemorrhages—for the diagnostic value of these has not been generally recognized.

Most of the acute fevers have been ascertained to have a definite incubation period, and a fixed time between the initial symptoms and the appearance of the rash. Both these periods are very indefinite in nodal fever, and it is desirable that observers should publish cases in which one or both appear to be clearly defined.

Before accepting Dr. Lendon's view that erythema multiforme and erythema nodosum are but phases of the one specific fever, further evidence must be brought forward. The first point to ascertain would be whether erythema multiforme has the same infectivity, epidemicity, seasonal, age, and sex incidence as nodal fever. I certainly have seen cases in which it was impossible to say whether the condition was erythema nodosum or erythema multiforme. While agreeing that the proportion of tuberculous manifestation preceding nodal fever is not greater than one would expect; considering how widely spread tuberculosis is, yet I should differ from Dr. Lendon when he says that tuberculous sequelae are comparatively rare. I have witnessed such in at least 10 per cent. of my cases.—I am, etc.,

Clifton, April 6th.

J. ODERY SYMES.

#### HEART STRAIN.

SIR,—The letter by Dr. E. S. Miller (*JOURNAL*, March 7th, p. 482), criticizing Dr. Pullar's and Dr. Brockbank's suggestion that the pressure transmitted backwards from the aorta to the left ventricle during diastole would be greater in the case of a small leak than in that of a large, is opportune, and his conclusion appears to me sound. The size of the leak makes no difference on the wall of the ventricle, for the reasons he states. One must not, however, accept his statement, "there is no analogy whatever with the effect of a Bramah press," beyond the purpose for which he applies that statement.

The heart beat throughout can only be fully understood and followed if the principle of the Bramah press be grasped. For instance, suppose that the aortic orifice were 1 inch square in area, and the internal surface of the ventricle 6 square inches in area, at the moment the ventricle contracts: the ventricle would then have to exert a force great enough to produce a pressure equal to the aortic pressure on each of the 6 square inches of its surface. When, by contraction, it had reduced its internal area to 3 square inches it could produce an equal pressure on those 3 square inches, with only half the force it had to exert when pressing on the 6 square inches of blood surface, and so on. Thus the ventricular effort would be ever decreasing as it contracted, though the pressure on the blood might remain the same.

Now I have shown, in many communications to the

BRITISH MEDICAL JOURNAL, that the advantage the ventricle or auricle gains on contracting roughly increases inversely as the cube of the diameter, of which a large part—namely, the square—is due to the Bramah press principle, for the area of the inner surface decreases as the square of the diameter.

In the case of mitral stenosis, probably the chief reason why the heart can maintain its circulation for so many years is that the auricle, when by its contraction it becomes small, can force its residual contents into the ventricle through the narrowed orifice, even though the ventricle enter into contraction before the auricle has finished. The auricle, by starting its contraction first, becomes small; while the ventricle is filling and becoming large. Hence the auricle, being small, would be more than a match for the ventricle, being large, when their contractions overlap, as they appear to do.

Though the mitral orifice is incompetent, there is, as we know, no regurgitation and no systolic murmur. Nothing can explain this, unless we admit that the contracting auricle is capable of resisting any regurgitation, and, indeed, it is theoretically capable of actually driving its blood on through the narrowed orifice into the big contracting ventricle, while their contractions overlap.

It is only when the auricle dilates that a systolic murmur occurs, with regurgitation and cardiac breakdown.—I am, etc.,

Mentone, March 31st.

D. W. SAMWAYS.

#### INFECTIVITY OF SMALL-POX IN THE INCUBATION STAGE.

SIR,—In his letter (*JOURNAL*, March 28th, p. 636) Dr. Thomas states "emphatically that small-pox is not infectious even after the onset of the symptoms before the rash has appeared."

I must state just as emphatically that it is in certain cases, and give the following particulars to prove it.

Some years ago I was asked by one of the leading practitioners in the town to see the body of a young woman, who had died after two days illness. The symptoms were severe headache, vomiting, with subsequent coma and death. He had been in attendance since the onset of the illness, and attributed the death to some form of meningitis. Small-pox was present in the town, but there were no cases within a mile of the house of the patient, and there was no history that she had been in contact with a case of the disease. There was not the slightest evidence of any rash, congestion, or infiltration of the skin which could suggest small-pox. Such a case, according to Dr. Thomas, could not be infectious, yet twelve days later six members of the family were taken ill with symptoms of small-pox, and on the sixteenth day from the death of the woman there were eight persons in the home suffering from well marked and virulent small-pox, and the disease ended fatally in three.

Inquiries into another case of small-pox, which was discovered in another part of the town, elicited the fact that the young woman had visited the house a fortnight previous to the onset of her illness, when there was a concealed case of the disease. The remainder of the family had no connexion with the second house, and it is hardly likely that eight cases would occur simultaneously, unless the infection had actually been an intimate one, due to residing in the same house.

I have seen other cases which indicate that infection does exist before the rash appears, but none so definite as the above.—I am, etc.,

JAMES B. WILKINSON,  
Medical Officer of Health.

Oldham, April 3rd.

#### IMMEDIATE AND REMOTE EFFECTS OF SUNLIGHT ON THE EPIDERMIS.

SIR,—As a worker with artificial sunlight since 1917, I should like to support Dr. Leoard Hill's views by saying that, "with due regard to dosage," I have never seen the slightest evidence to support the theory advanced by Sir Lenthal Cheate.

In two cases of squamous-celled carcinoma of the hands, after excision of the growth, I have dressed the wounds with gauze and paraffin and treated them with short daily exposures of ultra-violet rays. The results in both cases were most satisfactory, healing with good clean tissue taking place in one case in six weeks, and in the other in four weeks. After eighteen months in the first case and two months in the second, there has been no sign of recurrence and the scars appear to be perfectly healthy. The preceding factor in one instance was apparently a wart,

in the other x rays. The growths in both were examined pathologically, and no doubt could be entertained as to diagnosis.

The case Sir Lenthal Cheatele refers to, in the last paragraph of his letter, was, I have reason to believe, a case of keloid. During the war and after I treated several cases of keloid with ultra-violet rays with most gratifying results. They are tedious, slow cases to deal with, but I have no hesitation in saying that good results are obtained from this method, and I have never seen the slightest sign of malignancy in any case. I merely refer to this because I think Sir Lenthal was under a misapprehension when he spoke of "speculative therapeutical procedure."

In conclusion I would like to refer to the condition of my own hands. After approximately 35,000 administrations of ultra-violet rays I think there is distinctly less sign of "biotripsis" than is customary at the age of 52, though I have never safeguarded my skin in any way.—I am, etc.,

London, W.1, April 6th.

EDWARD JAMES DECK.

#### BACTERIAL VACCINES.

SIR,—On behalf of Dr. L. S. P. Davidson, who is at present abroad, may I take the opportunity of replying to the letter by Dr. Myer Coplans in your issue of April 11th (p. 717)?

If Dr. Coplans will refer to the *Edinburgh Medical Journal*, April, 1925, vol. 32, transactions of the Medico-Chirurgical Society of December 3rd, 1924, pp. 70-78, he will obtain striking evidence in further support of Dr. Davidson's contentions regarding the antigenic value of different types of vaccines. This is embodied in a paper by Dr. Davidson on immunity to the pneumococcus (abstracted in the *BRITISH MEDICAL JOURNAL*, December 27th, 1924, p. 1200).

Having followed closely Dr. Davidson's work, and appreciating the difficulties in interpreting results put forward by Dr. Coplans, I think this paper should help to reassure the latter with regard to the claims which he criticizes. In the experiments recorded in this communication the criterion of immunity has been actual protection of animals from multiple lethal doses, and it is of some interest in regard to the significance of antibody reactions that the results should lead to the same conclusions as those arrived at in the previous paper which Dr. Coplans now comments on.—I am, etc.,

T. J. MACKIE,

Professor of Bacteriology, University of Edinburgh.

April 13th.

#### THE MAKING OF SERUM PEPTONE.

SIR,—In my article on this subject, published in the *JOURNAL* of March 7th, I omitted to mention that with the stronger solutions of peptone, the serum peptone may not appear very readily or get detached from the blood clot sufficiently freely to be poured off. To prevent this, as soon as the tube is removed from the incubator I pass a long and very thin bistoury right round between the blood clot and the glass. Next day, the clot will have collapsed, and the upper part of the tube contains a clear fluid, which is readily poured or pipetted off. It may be as well to mention this.—I am, etc.,

London, W.1, April 8th.

A. G. AULD.

#### Obituary.

DR. WILLIAM WATKIN LEIGH, who died suddenly on April 10th, in his 71st year, was educated at Cowbridge School, King's College, London, and Guy's Hospital, obtaining in 1878 the diplomas L.R.C.P. Ed., M.R.C.S. Eng., and L.S.A. Lond. He joined his father, Dr. John Leigh, in practice at Llanfabon, Nelson, and Treharris, and after his father's death in 1885 he continued the practice until 1919, when he retired, his son, Dr. H. V. Leigh, succeeding him. Dr. Watkin Leigh had held the following appointments: medical officer of health for Llanfabon; senior surgeon to the Ocean colliery, Treharris; the Dowlais-Cardiff colliery, Abergynon; Penalta colliery, Gellygaer; certifying factory surgeon to the Nelson district; Poor Law

medical officer and public vaccinator for the Nelson district of the Pontypridd Union, and for the Treharris, Trelewis, Bedlinog, Gellygaer, Bargoed, Ystrad Mynach, and Llanbadach districts of the Merthyr Tydfil union; medical officer to the Board of Education and the Post Office; Treharris, Bedlinog, and Nelson; medical referee for numerous medical insurance companies; and he was member of the honorary medical staff of the Pontypridd Cottage Hospital. He was an ex-president of the South Wales and Monmouthshire Branch of the British Medical Association, and a member of the Cardiff Medical Society. He was also a member of the governing body of the Church of Wales, and he took a great interest in public affairs of all kinds; he was made a justice of the peace for the county of Glamorgan in 1885. He is survived by his wife, two sons, and one daughter.

Dr. E. TENISON COLLINS of Cardiff died on April 8th. He was a native of Staffordshire, and received his education at the Universities of Edinburgh, Birmingham, and Cambridge; he took the diplomas of L.S.A. in 1880 and M.R.C.S. in 1890. After serving as house-surgeon at the Jessop Hospital for Women, Sheffield, and resident obstetric assistant at the Queen's Hospital, Birmingham, he settled in Cardiff, where he became gynaecologist to the Cardiff Infirmary, the Pontypool Hospital, and Cardiff City Mental Hospital, as well as consulting gynaecologist to the Bridgend and Abergavenny Hospitals. Throughout his life he was closely associated with the Volunteer and Territorial movements, and held the rank of Lieutenant-colonel R.A.M.C.T. (ret.). He had received the Territorial Decoration. He commanded the 2nd Welsh Field Ambulance at Gallipoli in 1915, and subsequently was in charge of one of the medical boards at the Cardiff recruiting headquarters. He was an ex-president of the Cardiff Medical Society. He took great interest in all sports, and was one of the founders of the Welsh Golfing Union, of which he was for many years secretary and later president. He had recently undergone an operation, from which he appeared to be making a quick recovery, when a relapse set in and proved fatal.

#### Universities and Colleges.

##### UNIVERSITY OF LONDON.

THE following have been recognized as teachers of the University in the subjects and at the institutions indicated:

*London Hospital Medical College.*—Dr. G. Riddoch (medicine).  
*Maudsley Hospital.*—Teachers of Mental Diseases: Dr. H. Deane (psychiatry), Dr. E. B. Rieu (medical medicine).

Mr. James Sherrin, C.B.E., F.R.C.S., has been reappointed the representative of the Royal College of Surgeons of England on the Senate.

The ceremony of presentation day will be held in the Royal Albert Hall on Wednesday, May 13th, at 3 p.m. The annual service for members of the University will be held at Westminster Abbey at 5.45 p.m., when the Right Rev. L. H. Burrows, D.D., Bishop of Sheffield, will preach, and the graduation dinner will take place at the Drapers' Hall, Throgmorton Street, at 8 p.m. on the same day.

Four lectures on cardiology will be given at University College Hospital Medical School by Dr. John Hay, Professor of Medicine, University of Liverpool, on June 11th, 12th, 13th, and 14th. Dr. B. Brouwer, Professor of Anatomy in the University of Amsterdam, will give a lecture at Charing Cross Hospital Medical School, on a date in May to be announced later, on the projection of the retina in the brain.

Four lectures on physiology will be given by Dr. H. H. Dale, C.B.E., F.R.S., head of the Department of Biochemistry and Pharmacology under the Medical Research Council, at St. Bartholomew's Hospital Medical School, on May 15th, 19th, 22nd, and 29th, at 5 p.m.

A course of lectures on medical hydrology will be given at the central buildings of the University from April 27th to May 2nd. The lectures will be supplemented by demonstrations and clinical lectures at a British spa.

A course of lectures on mental deficiency, supplemented by a course of clinical instruction, will be given at the central buildings of the University from May 18th to 23rd.

A grant of £1,000 from the Dixon Fund for assisting researches will be received by the Academic Registrar on May 15th, from whom further particulars may be obtained.

A Carpenter medal, together with a money prize of the value of £20 in all, will be awarded by the Senate in 1925 for a thesis

of exceptional distinction in statistical, genetic, comparative, or experimental psychology, including the functions of the central nervous system and special senses for which a doctor's degree (other than the Ph.D. degree) has been awarded during the period of three years ending on May 31st, 1925. No award will be made unless a thesis of sufficient merit is presented. Applications must be sent to the Academic Registrar by June 10th, from whom further particulars can be obtained.

Applications for grants from the Thomas Smythe Hughes Medical Research Fund for assisting original medical research must be sent to the Academic Registrar not earlier than May 1st and not later than June 15th, 1925.

April 23rd is the latest date for the receipt of applications for the University chair of biochemistry, tenable at the Middlesex Hospital Medical School; salary, £800 a year.

#### UNIVERSITY OF GLASGOW.

THE following candidates have been approved at the examination indicated:

FINAL M.B., CH.B.—M. Allan, C. W. Andersen, Bessie R. Barr, J. Barr, M. J. Bastible, J. A. Bell, D. M'D. Bell, N. L. Dennie, Ann K. Black, A. D. Boyd, W. Brock, A. R. Brown, D. Brown, H. Brown, Edna W. Bruce, D. H. Campbell, A. Clark, A. F. Clark, J. S. Clark, D. H. Clutterbuck, E. Cochrane, J. M. Cormack, Elizabeth Comland, J. Cray, J. Crawford, G. Cross, J. Cunningham, Janet B. Cunningham, M. Curran, R. A. Currie, Ethel M. Deane, R. C. Deans, M. O. Douglas, G. D. Draper, Lucy M. Dron, W. W. Ferguson, J. W. Fergie, A. J. Finlayson, J. D. Finlayson, J. Flynn, J. C. Forsyth, J. M. Forsyth, M. A. Foulis, C. A. I. Fuge, Elizabeth S. Galbraith, W. D. Gillespie, T. L. Gerden, Tina Gray, R. G. R. Grieve, J. B. Harrower, R. Harver, Ellen M. Hegarty, J. Hill, G. Hutcheson, R. G. Hutcheson, R. S. Hynd, J. A. Imrie, T. Imrie, R. F. Innes, Dora Karwowski, D. H. Kinnmont, N. M. A. Lees, A. Leiper, M. Lurie, T. B. M'Alcer, D. A. P. Macalister, A. MacArthur, I. E. MacArthur, J. C. Macarthur, A. G. M'Callum, D. M'Callum, N. M'Diarmid, P. A. M'Duggall, D. T. M'Gibben, J. MacGowan, E. J. MacIntyre, N. D. Mackinnon, A. MacLachlan, S. H. P. MacLachlan, N. MacL. MacLean, Elizabeth V. MacLeod, H. A. Macmillan, W. M'Allen, A. E. M'Neil, T. S. Moignan, W. Moiklich, Isomay Mitchell, C. M. Morton, J. Munn, A. G. M. Murdoch, D. S. Murray, J. A. Murray, S. D. S. Park, J. Paterson, W. Paterson, J. Peter, Margaret I. Prangnell, L. W. Quoleh, R. Ramsay, H. C. Reid, T. G. Rennie, A. Roberts, G. S. Robertson, H. J. Scott, Gertrude R. S. G. Smith, H. Smith, J. Smith, J. T. Smith, W. H. Smith, W. F. Stalker, R. G. Stark, Neral MacK. Steele, T. J. Steven, W. R. M. Stevens, M. Stewart, J. M. Stebe, T. F. Straug, D. Struthers, J. W. Struthers, W. Tait, Matilda D. Tennent, D. Thomson, J. Thomson, P. D. Thomson, R. N. Walker, Agnes B. T. Varden, J. Warren, A. W. Watt, J. D. Wilson, J. Wilson, G. M. Wyburn, J. Yeung.

\* With distinction in surgery.

#### ROYAL FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW.

At the monthly meeting of the Royal Faculty of Physicians and Surgeons of Glasgow on April 6th the following were, after examination, admitted Fellows: James Pearson Brown, D.S.O., Arthur Charles Lodge La Frenais, Thomas Murray Newton.

Dr. James Alexander Adams was elected the representative on the General Medical Council for a period of five years.

## Medical News.

THE Minister for Local Government and Public Health of the Irish Free State has appointed a committee to advise him on the question of the future position regarding medical registration. The committee consists of Senator Dr. O'Sullivan, Dr. T. Hennessy, T.D., Professor A. F. Dixon, Sir James Craig, T.D., Mr. Mannsell, Dr. Coffey, and Dr. Magennis.

THE new nurses' home in connexion with the Royal Berkshire Hospital was opened by H.R.H. Princess Mary, Viscountess Lascelles, on April 7th. The home is a building of three stories, and will accommodate ninety nurses. The British Red Cross Society made a grant of £15,000 towards its cost. Princess Mary subsequently visited the Royal Berkshire Hospital and was conducted over the wards, giving special attention to the children's ward, which was endowed as a county memorial to King Edward VII. She also paid a short visit to the Girls' Friendly Society Hostel, which bears her name, and represents part of the gift of Reading to her on the occasion of her marriage.

THE Committee for the Study of Medical Hydrology in England invites all medical practitioners interested in the subject to take part in the course of lectures and demonstrations at the University of London, April 27th to 30th. Lectures will be given by Dr. Thresh on types of water, Mr. Dewey on hydrogeology, Professor Barcroft on the capillary circulation in the skin, Dr. Fortescue Fox on the use of heat in the treatment of disease, Dr. Burt on disorders of digestion, Dr. Coates on arthritis, and Dr. Rupert Collins on neurasthenia; a visit will afterwards be paid to Buxton. Those proposing to be present at the lectures or at Buxton are asked to notify the Honorary Secretary, Hydrology Committee, University of London, South Kensington, S.W.7.

THREE post-graduate lectures have been arranged at the Manchester Babies' Hospital, Burnage Lane, Levenshulme. To-day (Friday, April 17th) Dr. Leonard Parsons (Birmingham) will speak on the role of fats in the production of infantile atrophy. On Friday, May 1st, Dr. George Graham deals with the use of insulin for young children, and on Friday, May 15th, Miss Herzfeld, F.R.C.S., will lecture on hernia in infants. The lectures will be delivered at 8 p.m.

A COURSE of ten lectures on the treatment of functional nerve disease will be given at the Tavistock Clinic for Functional Nerve Cases, 51, Tavistock Square, W.C.1, on Tuesdays at 5 p.m., commencing on May 5th. The fee for the course to medical practitioners is £2 2s. and for medical students £1 1s. A syllabus of the lectures and further particulars can be obtained on application to the Honorary Lecture Secretary at the clinic.

THREE lectures on recent advances in the study of living cells will be given at King's College, London, by Professor Robert Chambers (professor of microscopic anatomy in Cornell University, New York), on April 27th, 28th, and 29th, at 5.30 p.m. Admission is free.

THE annual congress of the Royal Institute of Public Health will be held at Brighton at Whitsuntide under the presidency of the Lord Lieutenant of the county of Sussex (Lord Leconfield). It will be opened on Wednesday, May 27th, when the mayor of Brighton will give a reception; the six sections will begin their discussions on Thursday, May 28th. In the Section of State Medicine and Municipal Hygiene there will be discussions on immunization against diphtheria, on tuberculosis and employment, on obstetrics and public health, and on the control of venereal disease. The Naval, Military, and Air Section will hold discussions on the teaching of hygiene, and on mother and child welfare in the army, on occupational deafness, and on bismuth in the treatment of syphilis. In the Sections of Industrial Hygiene, Tropical Diseases, and Pathology the presidents, who are respectively Sir Max Muspratt, Bt. (Liverpool), Dr. Andrew Balfour, and Professor E. C. C. Baly (Liverpool), will give opening addresses, to be followed in each instance by a number of papers. In the Section of Women and the Public Health discussions will take place on heliotherapy and actinotherapy, on the relation between mental and physical disorders, and on birth control in relation to infant and child welfare. The congress dinner will be held on May 28th, and a number of excursions have been arranged on other days.

THE annual general meeting of the Hunterian Society of London, which had been postponed, will be held on May 11th, at Simpson's Restaurant, Cheapside.

APPLICATIONS for the Dickinson surgery scholarship must be sent to the secretary to the trustees, Manchester Royal Infirmary, by April 30th. The scholarship is of the value of £75, tenable for one year, and is open to students who shall have received at the University and the Manchester Royal Infirmary instruction in pathology, medicine, and surgery necessary for taking the M.B., Ch.B. Manch. degrees.

At the meeting of the Central Midwives Board for England and Wales on April 2nd Sir Francis Champneys, Bt., was re-elected chairman. The following appointments to act as representatives on the Board were announced: County Councils' Association, Mr. Leonard Henry West, O.B.E., LL.D.; Royal College of Surgeons, Dr. W. S. A. Griffith, C.B.E.; Society of Apothecaries, Mr. Charles Sangster, M.R.C.S., L.S.A.; Queen Victoria's Jubilee Institute for Nurses, Mrs. Bruce Richmond.

DR. PHILLIP JAMES, who has resided in Senghenydd for thirty-two years, has been presented by his friends and patients in the district with a public testimonial, consisting of a cheque for £428, in recognition of his great services to the community. Before going to Senghenydd, Dr. James practised at Pontypridd, and was one of the recipients of the bronze medal awarded in 1877 by the British Medical Association for heroic conduct, self-denial, and humanity at a colliery accident at Pontypridd.

DR. CANVY has been nominated professor of oto-rhino-laryngology in the Strasbourg Faculty of Medicine.

DR. WRIGHT MASON, who recently retired from the office of medical officer of health for Hull, has been presented by the head officials of the corporation with a silver salver as a mark of their good will and esteem.

MR. J. D. ROCKEFELLER, jun., has presented £400,000 to the Tokyo Imperial University to assist in the restoration of the University Library, which was destroyed in September, 1923. This will enable the University to enlarge the plan of the library and to perfect its fireproof, sanitary, and other equipment. The University has also received a grant of £130,000 from the Government. The new library will accommodate 1,000 students, as compared with 300 in the last building. A special fireproof stockroom is to be constructed for particularly valuable books.

THE London office of the Italian State Railways and State Tourist Department (12, Waterloo Place, Regent Street, S.W.1) announces that the annual international visit of doctors to Italian health resorts will take place from September 5th to 21st. Among the places to be visited are San Pellegrino, Fonte Bracca, Aequi, Alassio, San Remo, Ospedaletti, Bordighera, Pietra Ligure, Nervi, Rapallo, Santa Margherita, Portofino, Viareggio, Montecatini, Monsummano, Chianciano, Fuggi. The members of the party (limited to 200 in number) will travel by special train in Italy and will be accommodated at first-class hotels. A limited number of places in the tour are reserved for members of the families of participants. Italian doctors, speaking fluent English, accompany the tour and assist in the medical conference held at each centre. The charge for the tour, including cost of travel from Milan to Rome, railway and hotel expenses, will be lire 1,600 (about £15). Members will be granted reduced rate tickets from the Italian frontier to Milan and from Rome back to the frontier.

## Letters, Notes, and Answers.

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the BRITISH MEDICAL JOURNAL alone unless the contrary be stated. Authors desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Financial Secretary and Business Manager, 429, Strand, W.C.2, on receipt of proof.

ALL communications with reference to advertisements as well as orders for copies of the JOURNAL should be addressed to the Financial Secretary and Business Manager, 429, Strand, London, W.C.2. Attention to this request will avoid delay. Communications with reference to editorial business should be addressed to the Editor, BRITISH MEDICAL JOURNAL, 429, Strand, W.C.2.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—not necessarily for publication.

Communications intended for the current issue should be posted so as to arrive by the first post on Monday or at latest be received not later than Tuesday morning.

THE telephone number of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is Gerrard 2530 (Internal Exchange). The telegraphic addresses are:

EDITOR of the BRITISH MEDICAL JOURNAL, Aitiology Westrand, London.

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), Articulate Westrand, London.

MEDICAL SECRETARY, Mediscera Westrand, London.  
The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Facillus, Dublin*; telephone: 4737 Dublin), and of the Scottish Office, 6, Rutland Square, Edinburgh (telegrams: *Associate, Edinburgh*; telephone: 4361 Central).

## QUERIES AND ANSWERS.

### INCOME TAX.

#### Extension of Premises.

"H." bought a new house over a year ago, and, as there was no consulting room accommodation, had to build additional rooms at a cost of £700.

"\*." In our opinion, no portion of the £700 can be claimed as expenditure deductible for the purpose of income tax, Schedule D, Rule 3, applying to Cases I and II, Schedule D, is to the effect that "no sum shall be deducted in respect of . . . any sum expended for repairs of premises . . . beyond the sum usually expended for those purposes according to an average of three years. . . ." The exact meaning of that rule may be open to some doubt, but it is fairly clear that it would exclude by implication expenditure on adding rooms to an existing house. From a practical point of view, too, the £700 was capital outlay—that is, money invested to bring in returns over a future tract of time; "H." spent a certain sum in acquiring suitable premises, and it is immaterial that the total was laid out in two separate sums and not in a single payment for the final result.

## LETTERS, NOTES, ETC.

### IODINE IN WHEAT PRODUCTS.

MR. ALBERT E. PARKES, F.I.C., F.C.S., public analyst to the Metropolitan Borough of Poplar, has examined a number of specimens of wheat products to ascertain the amount of iodine present, with the following results:

Whole flour: Less than 1 per 5,000,000.  
Whole meal: 2.5 parts per 1,000,000 (17,100 gr. per lb.).  
Bran: 3.8 parts per 1,000,000 (27,100 gr. per lb.).  
Draughts: 0.6 part per 1,000,000 (4,500 gr. per lb.).  
Germ: 3 parts per 1,000,000 (25,100 gr. per lb.).  
Results expressed as iodine: Iodine  $\times 1.2$  = sodium iodide.

## GALL STONES.

DR. DOROTHY A. DALY (Fairlight Sanatorium) writes: I have been interested in the correspondence regarding the age at which gall stones may be found. When a student in Trinity College, Dublin, a girl of 11 was brought into one of the Dublin hospitals as an emergency case of appendicitis. On opening the abdomen the trouble was located in the gall bladder, from which two fair-sized stones were removed. I almost think this establishes a record.

## A NEW TUBERCULIN.

WITH reference to Dr. Lundie's paper, "A new tuberculin," in the BRITISH MEDICAL JOURNAL of February 28th (p. 426) Dr. A. W. CRAWFORD (Bolton) has forwarded the following criticism and queries:

(1) Which serum is used, human or bovine? (2) At what stage is it used—whether in the early stage, when bovine infection is predominant, or in the second stage, from 13 to 19, when there is a combination of human and bovine, or in the later stages, when the human only is found? (3) In one patient both were used with great benefit. To which preparation must the benefit be attributed? It is necessary to understand clearly the stage of the disease and the nature of the tuberculin used. (4) Dr. Lundie asks about a solvent for acid-fast substances associated with the bacillus. The coating of the bacillus consists of insoluble salts with animal matter, of which fat is a constituent. They are soluble in a solution of potash; acetic acid, in my opinion, is preferable to hydrochloric acid. (5) Dr. Lundie states that guinea-pigs are more susceptible to tuberculosis than man: which form, human or bovine?—a very important distinction. (6) Wherever tubercle is deposited there is associated with it the growth of fibrous material, which is nature's method of delimitation, and is of epithelial origin, as in cancer. If this encasing substance is sustained, calcification would ensue and tuberculosis receive a check. I should like to suggest to Dr. Lundie that this might be accomplished by the use of a properly selected tuberculin, combined with prepared juices of embryonic tissues. How far this may go to prevent the spreading of tuberculosis I cannot say, but I think it is a step on the way.

We have submitted this letter to Dr. Lundie, who writes:

In reply to Dr. Crawford's very kind criticism, I use the word "tuberculin" in its original sense, which does not include serums. (1) I have used both human and bovine preparations. (2) "Stage" here would be better expressed as "age incidence." I do not think it a useful guide to treatment, but agree that it is most important to understand both the type of infecting organism and the nature of the therapeutic agent. (3) Both preparations appeared to do good. (4) I did not ask, as I am sure about this point. The acid-fast material is mycolic laurate, said to be held in the form of an emulsion in a protein substrate. I believe it is probably chemically united to protein. (5) I stated that man has a much greater natural resistance than guinea-pigs or rabbits. Bovine tuberculosis is always more virulent to these animals than to man, and I think the human type is sometimes so also. I believe that many children become immunized in course of time by a series of . . . bacilli, administered in all good fa . . . ty of guinea-pig cells concerned in the process. Calcium salts penetrate tubercles with remarkable ease, despite their density and non-vascularity, but the impregnation with calcium experimentally has not been proved to have any beneficial value at all. I do not know what benefit embryonic extracts would confer, beyond causing protein shock, which would be better avoided.

## GOATS AND COWS.

DR. S. K. VINES (W. Hythe, Kent) writes: The old-style farmer has long believed that keeping a goat among the cows "prevents miscarriage." This is, interesting in the light of recent contributions in your columns on the resemblance between *B. melitensis* and *B. abortus*. Goats would seem not to be subject to epizootic abortion. I do not know what proportion of them in this country carry, or have immunity from, *B. melitensis*. Probably the goat vaccinates the cow with a dead culture.

## WILLIAM LEVETT.

G. E. W. writes to point out that the last line on Levett by Dr. Johnson should run "His single talent well employed"—not "simple" as printed by inadvertence in our issue of April 11th (p. 705).

## CORRECTION.

IN our reference on April 11th (p. 722) to the fourth International Medical Congress on Industrial Accidents and Diseases at Amsterdam it has been stated that the president of the Congress was Dr. J. H. van Eden of Amsterdam, and that Sir Thomas Oliver, F.R.S., was the British executive committee. The British executive committee is honorary president of the Congress.

## VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 37, 38, 39, 41, 42, and 43 of our advertisement columns, and advertisements as to partnerships, assistantships, and locum tenencies at pages 40 and 41.

A short summary of vacant posts notified in the advertisement columns appears in the Supplement at page 183.



## Lumleian Lectures

ON

## SOME FORMS OF VOMITING IN INFANCY.

DELIVERED BEFORE THE ROYAL COLLEGE OF PHYSICIANS OF LONDON, MARCH-APRIL, 1925.

BY

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## LECTURE I.—VOMITING DUE TO OBSTRUCTION FROM DEVELOPMENTAL DEFECT IN THE UPPER ALIMENTARY TRACT.

PERSISTENT vomiting as a symptom of infantile disorders is frequent enough. It is the rule in dyspeptic states of all sorts as well as in infective pyrexial disorders. Yet, just because of the predominance and frequency of this symptom in many of the most common ailments of infancy, it is especially necessary to bear in mind the possibility that the vomiting may be due to other and local causes, to developmental failure high in the intestinal tract, to inco-ordination of the intestinal musculature, or to purely functional disturbance of the gastric movements.

## THE CHARACTER OF VOMITING DUE TO DYSPEPSIA.

I exclude altogether from consideration the vomiting which is symptomatic of most states of dyspepsia in infants, even although that vomiting may be long continued and severe. In infancy the dyspeptic state is almost always associated with some coincident disturbance of the bowels, and the intestinal disturbance is generally more constant than the gastric. In health the infant's bowels are opened with the least possible disturbance, and the faecal material flows quietly from the anus with little apparent effort. In dyspepsia the character of the stools and the manner of defaecation are both altered. When fermentative changes are in excess the stools are acid and irritating, are hurried along the intestinal canal by powerful peristaltic waves and expelled from the anus with great violence, with the audible escape of gas and with the outpouring of much watery secretion from the bowel. Defaecation is then generally a painful process, as is shown by the facial expression of the infant, by the cry and the movements of arms and legs. The irritating quality of the stools may be gauged by the erythema and excoriations produced upon the skin of buttocks, thighs, and heels wherever the restless movements of the child bring it into contact with the dejecta. When, on the other hand, the putrefactive processes are in excess and the acidity of the intestinal contents is unduly diminished the reaction of the stools is alkaline, the fatty acids combine with calcium and magnesium to form soaps, and the stools become hard and scyhalous. For the infant the ejection of such stools is a matter of difficulty. With great straining and much distension of the anus the stool, sometimes streaked with mucus or with blood, is painfully ejected. In a second group of infantile gastro-intestinal disorders the disturbance is due, not, as in dyspepsia, to changes in the reaction and character of the intestinal contents, but is the accompaniment of an infection, catarrhal or even ulcerative, of the mucous membrane of the intestinal wall. In catarrhal and ulcerative enteritis and colitis in infancy the disorder is also constantly manifested by changes in the stools, and especially by the presence of mucus, blood, and pus in considerable quantities, while defaecation is painful and often accompanied by tenesmus.

Both in dyspeptic and in infective diarrhoea vomiting of stomach contents may be severe and persistent, but the vomiting is then associated with characteristic changes in the stools and in the manner of defaecation. In the conditions of habitual and persistent vomiting which I shall consider it is to be noticed, in the first place, that the stools and the manner of defaecation will show none

of the characteristics of dyspeptic or of infective diarrhoea. In all of them vomiting alone is prominent, associated perhaps with a varying degree of constipation or with the passage of such stools as are characteristic of the state of inanition.

## CLASSIFICATION OF THE CASES TO BE CONSIDERED.

Vomiting, then, so far as it forms a part of the picture of dyspepsia, so far as it is to be regarded as a reaction in the interests of the child designed to assist in the removal of irritating and harmful products of digestion, is excluded from consideration. In these lectures I propose to deal only with the cases of persistent vomiting which are dependent upon some disorder in the mechanism of the movements of the stomach and bowel. In some the disturbance is due to the presence of gross defects in the structure of the alimentary tube; in others neuromuscular inco-ordination imposes an obstruction to the passage of the intestinal contents little less yielding; in yet others the explanation is to be found in a variety of purely functional disturbances.

## VOMITING DUE TO OBSTRUCTION FROM DEVELOPMENTAL DEFECT IN THE UPPER ALIMENTARY TRACT (Lecture I).

## (A) Duodenal Obstruction:

- (1) Intrinsic—Duodenal atresia and stenosis.
- (2) Extrinsic—Abnormalities of intestinal rotation and peritoneal fixation, giving rise to volvulus and kinking of the bowel.

- (B) Pyloric Obstruction: Pyloric stenosis of Landerer and Maier
- (C) Oesophageal Obstruction.

## VOMITING DUE TO OBSTRUCTION FROM NEUROMUSCULAR INCO-ORDINATION (Lecture II).

- (A) Pyloric Obstruction: Hypertrophic pyloric stenosis, achalasia of the pyloric sphincter.
- (B) Obstruction at the Ileo-caecal Valve: Generalized intestinal spasm, achalasia of the ileo-caecal sphincter.
- (C) Obstruction at the Anus and in the Rectum: Hirschsprung's disease, achalasia of the ano-rectal sphincter.
- (D) Obstruction at the Cardia: Cardiospasm, achalasia of the cardiac sphincter.

## SOME FORMS OF HABITUAL VOMITING IN INFANCY (Lecture III).

- (A) Vomiting and Acrophagy.
- (B) Vomiting and Nervousness.
- (C) Vomiting and Idiosyncrasy against Cow's Milk.
- (D) Vomiting and Rumination.

## FREQUENCY OF THE CONDITIONS TO BE CONSIDERED.

Although such a condition as congenital occlusion of the bowel could hardly escape recognition so soon as post-mortem examinations came habitually to be practised upon a considerable scale—Oslander in 1797 was probably the first accurately to describe a case—it is only during the last twenty or thirty years that knowledge has slowly accumulated with regard to the majority of the disorders I shall have to consider. The successful application of the method of examination by Roentgen rays and an opaque meal in the case of young children is of comparatively recent date. The constant development of surgical technique to-day enables us successfully to submit the infant and even the newly born to operative procedures which in the past have invariably proved fatal, while in the case of the primarily functional disorders a clearer appreciation of the nature of the disturbance has enabled serviceable treatment to be devised. But, it may be urged, experience has seemed to show that many, if not all, of these conditions are of considerable rarity. Diligent search in the literature may find recorded perhaps one hundred or more examples of duodenal atresia or a similar number of oesophageal atresia—Spriggs in 1912 in his admirable paper quoted 328 examples of intestinal occlusion, of which 92 were in the duodenum. Of this total he himself provided 24 examples previously undescribed. The next year Edington added 7 very completely studied cases occurring within a short time of each other in his own practice. Jewesbury and Page in 1923 reported 4 cases of different varieties of duodenal obstruction in young infants met with in one year in St. Thomas's Hospital. In 1924 Smellie reported 3 cases of intrinsic duodenal obstruction studied by him in hospital practice during the same year. But the impressions derived from a study of the recorded cases are of little value in indicating the actual frequency of such conditions. Before 1900 the number of cases of hypertrophic pyloric stenosis

was insignificant; they were recognized by only a few physicians who had paid attention to the subject. To-day, although very many still escape detection, the great frequency of the disease is apparent, because a knowledge of its existence and symptomatology has become widely spread, and the lives of hundreds of infants may be said to be saved annually by timely operation. Of the frequency of all disorders in the first days of life we are relatively ignorant, partly because of their real obscurity, but partly because of a pessimistic attitude too widely spread towards the diseases of the newborn which tends to leave recovery to the test of time. Only if the child is born in an institution or hurried in the first days of life to a hospital is the diagnosis likely to be made. Braun calculates that in Germany imperforate anus, which is not likely to escape recognition, occurs about once in 17,000 births. Occlusion at a higher level is estimated by Theremin to occur once in from 16,000 to 55,000 infants. The value of these figures and estimates is very slight. It is at least possible that the frequency may be much greater. Complete atresia is more common in the records of *post-mortem* inspections than partial stenosis, but the partial obstruction is clearly the more elusive and the less likely to be differentiated from a state of marasmus or dyspepsia. Similarly, it is frequently found that spastic states of the bowel, of which the hypertrophic stenosis of the pylorus is the most common, are more apt to pass undetected if the obstruction is only intermittent and of slight degree. Such children waste, their immunity to infection falls and their tolerance for food diminishes, until death ultimately occurs from pulmonary disease or from a secondary state of true dyspepsia. With the exception of hypertrophic stenosis of the pylorus and of some of the minor functional disturbances, one can only conclude that the conditions which I shall describe are not common, but that they are less rare than is generally supposed, and that they are beginning to be identified in increasing numbers as attention is directed towards them.

## I.—ORGANIC OBSTRUCTION OF THE UPPER ALIMENTARY TRACT.

### A. DUODENAL OBSTRUCTION.

It is to duodenal obstruction that I shall devote most attention, not only because obstruction in that situation, taking all cases into consideration, is relatively common, but because the diagnosis, supported by a characteristic radiographic appearance, is often not difficult, and because, sometimes at least, we may hope to save life by means of a timely operation following upon early diagnosis. In the past the interest in these conditions has been mainly in their developmental and pathological bearings. In the future it will pass more and more to the bedside.

The cases to be considered fall into two groups, differing widely in etiology and to a considerable extent in symptomatology, in their treatment, and in their prognosis. They must therefore receive separate consideration.

#### *Etiology.*

**1. Intrinsic Duodenal Obstruction: Duodenal Atresia and Stenosis.**—In the alimentary tract, from the oesophagus to the anus, we meet with cases both of atresia and of stenosis which have been the subject of exhaustive pathological studies. Cordes, Spriggs, Kreuter, Kuliga, and Cautley have contributed valuable studies of the literature. In all situations we meet with three varieties of obstruction: (1) by a diaphragm or membrane, perforate or imperforate; (2) by the interposition in the length of the lumen of a fibrous cord-like structure which may or may not contain a narrow lumen; (3) by complete separation of the gut which terminates blindly and begins again after a gap which is completely unbridged.

The embryological studies of Tandler, Kreuter, Forssner, Odematt, and others have done much to make clear the origin of atresia and stenosis of the alimentary tract. These studies take us back to the fifth week of embryonic life—to a time when the bowel is a simple tube stretching from the mouth to the allantois, and showing but little differentiation into its separate parts except for a slight widening of the stomach and some convolution in that part which is to become the small intestine. The coats of the bowel wall are in no way differentiated, and the

central lumen is lined by a layer of primitive rounded endodermal cells. At this stage there sets in a rapid proliferation of the primitive epithelium, which results in the complete obliteration of the temporary lumen. Only some weeks later does a permanent lumen form by the fusion of certain vacuoles or cleft-like spaces which appear in the solid cord of endodermal cells. The epithelium lining this permanent lumen becomes differentiated into that characteristic of the various parts of the intestine, and the submucous and muscular coats of the bowel become distinct. The growth of the mesenchyme and the differentiation into muscular and fibrous coats may begin at a time when the occlusion by primitive epithelium is still present. This process of obliteration of the lumen of the bowel has been shown to occur normally in the oesophagus of the embryos of many animals (Marshall, Balfour), in the oesophagus of the human embryo (Kreuter), and in the duodenum of the human embryo (Tandler). Forssner has attempted to show that exceptionally it may occur in all situations in the bowel. He has argued very convincingly that the ingrowth of the mesenchyme and the persistence of epithelial occlusion will account for the three types of obstruction, representatives of each of which are found from time to time in most, if not in all, of the segments of the intestinal canal which are developed from this primitive tube. If the persistence of the foetal obliteration of the lumen of the primitive gut involves but a minimal length of bowel the diaphragmatic variety is produced, and the mesenchyme may, or may not, penetrate within its folds. In specimens examined microscopically it is found that the diaphragm in some cases consists mainly of a double layer of epithelium placed, as it were, back to back, while in others the epithelial layers are separated by fibrous tissue and muscle. If, on the other hand, the obliteration extends for some distance along the length of the bowel, the mesenchyme grows closely around the mass of embryonic epithelium, which atrophies and disappears, as such tissue tends to do, notably in the case of the vitelline duct, leaving no trace of its presence. If, as the result of changes in further development, the slender cord of fibrous tissue, enclosing perhaps the remnants of muscle and glandular tissue, is sundered, the two parts of the bowel at birth would be completely separated.

In the duodenum, as in the oesophagus and rectum, we are spared the necessity of discussing an extensive literature concerned to prove that atresia and stenosis by a diaphragm or by the interposition of a fibrous cord may be the result of foetal accidents such as volvulus and intussusception, or of foetal diseases such as peritonitis. If we were dealing with occlusions of the intestine at a lower level, where the bowel has a greater mobility, such factors would have to be considered, although even there it is difficult to understand how a volvulus or an intussusception could disappear, leaving no trace of its presence save a diaphragmatic or cord-like occlusion of the bowel, or to believe that the inflammatory changes involved in peritonitis could take place at so early a stage of foetal life. The belief that duodenal atresia and stenosis are due to a primary fault of development is supported by the frequency with which other developmental anomalies are found in association with the duodenal obstruction (11 out of 57 cases, Cordes).

Bland-Sutton has emphasized that the parts of the bowel which are most prone to exhibit developmental defects are those in which the developmental process is particularly complicated, the seat, as he says, of an "embryological event," as, for instance, in the neighbourhood of the vitelline duct or around the bile papilla. In many cases of duodenal atresia it is clear that the obstruction is closely connected with the outgrowth of liver and pancreas from the primitive gut. Not only are many obstructions found in the near neighbourhood of the papilla, but abnormalities of the common bile duct are frequent accompaniments. Thus, Buchanan describes a case in which the bile duct opened upon the upper surface of a perforate diaphragm, the pancreatic duct entering below. Edington figures his histological examination of a similar case in which the diaphragm was traversed by a channel which was lined by columnar epithelium, continuous with the ducts in the pancreatic tissue above and with the

lumen of the bowel below. Smellie describes a case of complete isolation of the stomach and first part of the duodenum which ended blindly. The gall bladder was in the correct position. The cystic and the hepatic ducts, joining to form the common duct, gradually merged into the second part of the duodenum, so that it was not possible to say where the common duct ended and where the duodenum began; presumably it was just below the entrance of the pancreatic duct. Many other cases of a like nature could be quoted. Often abnormality of the bile duct leads to a double outflow, bile entering both below and above the obstruction. In many cases of duodenal obstruction in which the main orifice of the bile duct is found to be above a complete obstruction the intestines have contained bile. Similarly, bile has been vomited when the papilla is situated below a complete obstruction. That bile so vomited may be due to swallowed amniotic fluid containing bile, or that the bile found in the intestine below an obstruction reached that situation at a time antecedent to the development of the obstruction, are possible, if somewhat unlikely, explanations. According to Savariaud, bile does not normally reach the duodenum until the fifth month. The presence of a minute accessory duct is probably often overlooked, and is the explanation of the presence of bile on what would appear to be the wrong side of a complete obstruction. Spriggs, Cordes, and Cockayne have dealt fully with this point of the distribution of bile in congenital duodenal obstruction. In other cases it may be that the condition is in reality one, not of complete atresia, but of stenosis, and that there exists a minute channel which has escaped detection. The difficulty of detecting minute fistular communications after death is considerable. There is a specimen in the St. Bartholomew's Hospital Museum from an infant, aged 9 months, showing a diaphragmatic septum in the duodenum. There is no evidence of an orifice in this diaphragm, though the history of the case and the duration of life seem to prove that some opening must have existed. We may conclude, with Cordes, that since the region of the bile papilla from an early period in the life of the embryo undergoes radical formative changes as the result of which the liver and pancreas develop, epithelial obliteration in the manner described, which may occur in any situation, is peculiarly prone to affect the near neighbourhood of the ampulla of Vater, and to be accompanied by abnormality in the distribution of bile ducts and pancreatic ducts.

**2. Extrinsic Obstruction: Abnormalities of Intestinal Rotation, etc.**—In the duodenum at the duodeno-jejunal flexure we meet with a second group of cases of obstruction, due also to developmental anomalies but of a very different nature. In the state of development characteristic of the human embryo of the fifth week, the three parts of the intestinal canal are clearly marked by their separate blood supply—the fore-gut digestive in function, the mid-gut absorptive, the hind-gut excretory. The blood supply of the mid-gut is the superior mesenteric artery, which crosses directly to the umbilicus and vitelline duct. A considerable part of the mid-gut lies outside the abdomen, traversing the ring which is to be the site of the future umbilicus. The pre-arterial segment of the mid-gut elongates at a very much greater rate than the post-arterial, which contains the caecum. By the tenth week the coils of intestine come more and more to occupy the abdominal cavity and to leave the umbilical sac. The pre-arterial coils enter first and pass over to the left side of the abdomen behind the transversus colon and behind the mesenteric vessels, so that they come to lie, not on the right, but on the left side of the mesentery. The superior mesenteric artery crosses the pre-arterial gut at a point near the termination of the duodenum, and the primitive relation of this vessel, lying as it does between the duodenum and the colon, is never lost. When later the caecum and ascending colon leave the sac they occupy a situation on the right side of the mesentery, while the descending colon maintains its primitive position on the left.

Dorangements of this intestinal rotation—non-rotation with a left-sided caecum and appendix, reversed rotation with the duodenal loop crossing in front of the artery, and with the colon most posterior of all, malrotation with reversed rotation of the pre-arterial segment, and arrested

rotation of the post-arterial segment—are met with from time to time. The abnormal disposition of the intestine implies abnormal attachments and fixation of the peritoneal folds, and this may or may not give rise to untoward results. Undue fixation may cause kinking of the bowel, especially at the duodeno-jejunal flexure, or there may be direct pressure upon the duodenum by the superior mesenteric artery or by abnormal peritoneal folds. On the other hand, undue want of fixation predisposes to volvulus. Dott, in a very valuable paper, has pointed out how widely this characteristic volvulus neonatorum differs from the usual variety of acquired volvulus. Acquired volvulus is confined to a limited portion of gut, sharply defined above and below. The bowel involved suffers from compression or occlusion of its blood vessels, and can be easily recognized as a greatly congested and widely distended portion of the intestine. In volvulus neonatorum the extent of bowel involved is so great as to render its recognition difficult. There is obstruction only at one end of the twisted bowel—the duodenal end. The lower extremity in ileum or colon suffers no occlusion. The degree of vascular congestion is slight. Collapse rather than distension is likely to occur, and only the upper duodenum and the stomach become greatly distended. In general the symptoms are those occasioned by duodenal obstruction.

### Symptomatology.

**1. Intrinsic Duodenal Obstruction: Duodenal Atresia and Stenosis.**—*SEX.*—In contrast to the rule in hypertrophic pyloric stenosis, where more than four-fifths of the whole occur in males, boys and girls seem equally affected.

*Prematurity and other Malformations.*—In congenital duodenal stenosis or atresia the infant is not infrequently premature, sometimes the subject of other congenital malformations, yet most often strong, healthy, and well formed in other respects at the moment of birth.

*Age.*—The age of the infant at which serious symptoms first attract attention depends upon the completeness of the obstruction. In the great majority the occlusion is complete, or all but complete, and unless relieved by operation life is not prolonged beyond two or three weeks. Many have died about the ninth day. In only a very few is a painful existence maintained for a few months. Smellie's case lived nearly three months; Buchanan's eighteen months; Cautley's eighteen months; von Koos's thirteen months before operation and two months after. Silcock, Perry and Shaw, and Moore have recorded the accidental finding of duodenal stenosis, thought to be congenital, in the *post-mortem* examinations of adults. In general, in spite of these occasional exceptions, it may be said that if operative interference is to save life the diagnosis must be established within a few days of birth.

*The Vomiting.*—The persistent vomiting of bile-stained fluid in a newly born child should always arouse the suspicion of duodenal obstruction. The vomiting begins upon the first, second, or third day of life, so soon as food is taken in considerable quantities. It occurs with great regularity soon after a meal. Although vomiting is profuse, it lacks the explosive character of the act in hypertrophic pyloric stenosis. In more than 80 per cent. of the recorded cases the vomit is brightly stained with bile. In the remainder, when the obstruction is above the papilla, there may be no bile in the vomit. In the later stages haematemesis is common. Bilious vomiting is rare in hypertrophic pyloric stenosis; I have met with it only once.

*The Stools.*—Some degree of constipation is the rule, but the complete absence of meconium and the passage of only a little glairy mucus, as is the rule in intestinal occlusion at a lower level, do not occur. Generally it is noted that on one or more occasions a little meconium, not very abnormal in appearance, has been voided, but that as the days pass there is no sign whatever of the usual change to yellow milk stools. In hypertrophic pyloric stenosis the change to milk stools always takes place in the usual way, although at the height of the disturbance the stools may again assume a character which reminds one of meconium—that is, they become the slimy, deeply pigmented stools of complete inanition. Microscopic examination, in cases of complete obstruction, may show the absence of lanugo.

**The Examination of the Rectum.**—In duodenal stenosis or atresia the examining finger encounters nothing very abnormal in the rectum. In occlusion of the lower alimentary tract the rectum and pelvic colon are often quite undistended, so that the finger cannot be passed more than 2 or 3 inches from the anus. It is to be remembered that rectal atresia is always situated within 2 inches of the anus, so that confusion should not arise. In several instances the inability to pass the finger into the rectum has led to the erroneous diagnosis of a rectal rather than an intestinal atresia. For the same reason in an ileal or colic obstruction it is usually possible to inject only minimal amounts of fluid into the bowel. In duodenal obstruction, on the other hand, the same difficulty is less likely to be encountered.

**The Abdomen.**—In duodenal obstruction the abdomen seldom shows any general distension. Only the epigastrium may be full and the outline of the stomach, with faint indications of peristaltic activity, may be apparent. Immense peristaltic waves, such as gradually develop in the later stages of hypertrophic pyloric stenosis, are not seen. On the other hand, it is important to notice that the visible peristalsis may be appreciable in the first days of life, while in hypertrophic pyloric stenosis it develops slowly after an interval, usually of some weeks. In intestinal occlusion at a lower level the abdomen may be greatly or irregularly distended, and visible intestinal peristalsis rather than gastric peristalsis is the rule. Auscultation over the distended abdomen will often disclose a great variety of loud gurgling sounds and borborygmi, while in duodenal obstruction there is unusual silence.

**The General Condition.**—After the first few days of life emaciation and dehydration proceed rapidly. Soon the temperature becomes subnormal, the extremities cold and cyanosed, and the pulse rapid. The facial expression is anxious and the child looks very ill, contrasting with the eager, alert, if pained, expression of the baby with hypertrophic pyloric stenosis. Anuria is common. Many are jaundiced more deeply than is the rule with the newly born.

**The X-ray Picture.**—In nearly all cases an x-ray examination after a bismuth meal will show a quite characteristic picture, which can hardly fail to make the diagnosis clear. The duodenum is seen as a widely distended pouch, ending abruptly at the site of the obstruction. By an x-ray examination, and by careful clinical examination, it ought to be possible to avoid confusion with intestinal occlusion at a lower level, in which constipation and the abdominal distension rather than the vomiting are the prominent features. For this reason I have excluded consideration of ileal and colic atresia.

The following case, which came under my care in the children's department at Guy's Hospital, is an example of congenital duodenal stenosis, with complete or almost complete obstruction.

The baby, a girl, weighed at birth 3½ lb. She was a first child, born after one miscarriage. On the first and second days nothing occurred to arouse anxiety. On the third day vomiting began, and continued with increasing severity after every breast feed. The vomit was deeply bile-stained. The baby was seen by me on the fifth day. I was told that up to that time the bowels had opened twice and a little meconium, not noticeably abnormal. There was no visible peristalsis of the small intestine, and although close inspection seemed to show the outline of the distended stomach no definite peristaltic waves were seen. An examination after a bismuth meal showed a dilated stomach with nothing leaving the pylorus. Thirty minutes later a second examination showed the outline of the greatly distended duodenum (Fig. 1), which ended abruptly at a point apparently in its second part. Two small opaque spots below suggested that a small amount of the meal had passed an obstruction which was barely perforate. On this day, the fifth of life, the infant's weight was 16 oz. less than at birth, although very little meconium had been passed. That

afternoon Mr. Steward performed a posterior gastro-enterostomy. There were a few ounces of straw-coloured fluid in the peritoneal cavity, but no other evidence of peritonitis. The site of obstruction was marked outside the gut by a paler area, perhaps half an inch long, above which the bowel was greatly dilated and engorged, while below it was collapsed and empty.

For the first six days after operation bilious vomiting continued, although in decreasing amount. The bowels were open on the day after the operation. Three weeks after the operation x-ray examination showed the opaque meal issuing from the stoma, while the distended outline of the duodenum was still apparent.

On the twenty-fifth day after the operation the child was sent home, weighing 8 lb. 5 oz. When 3 months old, during hot weather, the infant suffered severely from an attack of diarrhoea and vomiting, and, as might be expected from the conditions produced by the operation, the vomited matter was bile-stained. Fig. 2 is a photograph of this baby, now apparently healthy, at the age of 8 months.



FIG. 1.—Congenital duodenal stenosis, showing dilatation of upper duodenum.

Pélu and Auberge, who have recently exhaustively reviewed the literature of duodenal obstruction in childhood, divide the cases into two groups: cases of stenosis and atresia, here called "intrinsic," which they term "cases incompatible with existence"; and cases, here named "extrinsic," which they call "cases compatible with existence." I have recounted this success in detail because I feel that the view implied in this nomenclature is altogether too gloomy. *Post-mortem* records show a very large number of cases which almost certainly might have been saved in the same way had the diagnosis been established in the first days of life by means of the characteristic x-ray picture.

In the literature, however, only one other case is reported as having been saved by timely operation. In 1916 Ernst of Copenhagen successfully performed duodeno-enterostomy, which would appear to be the operation of choice in a case of duodenal atresia.

**2. Extrinsic Duodenal Obstruction: Abnormalities of Intestinal Rotation, etc.—Age.**—The symptoms in extrinsic cases are often less complete and less characteristic. The history in general is one of recurrent attacks or bouts of severe vomiting of bilious material, together with abdominal pain, dating back in many cases to earliest infancy, but often beginning in later life. It is clear that the anomaly of intestinal rotation and of peritoneal fixation can be present without producing any obstruction, but that it does powerfully predispose to a variety of accidents, such as volvulus, ptosis, and kinking of the duodeno-jejunal flexure, or duodenal obstruction by peritoneal bands and by

the superior mesenteric artery as it passes into the root of the mesentery.

Of twenty-eight cases of duodenal obstruction of this variety recorded in the literature as being relieved by operation, and reviewed by Duval and Gatellier, in six the subjects were children. Dubose's case was 8 weeks old, Frank's 11 months, Downes's 4½ years, Ombredanne's 11½ years, Kotzareff's 12 years, and Foisy's 14 years. Rixford has recorded successful reduction of volvulus at 5 years of age. Poynton

has recently published four cases in children occurring within a short time of each other in his own practice, all of which, however, proved fatal. Since all the characteristic features of a localized intestinal volvulus are absent, he rightly emphasizes the likelihood of confusion with that more common cause of bouts of uncontrollable vomiting in childhood, the so-called cyclical vomiting.

In very many cases, however, it would appear that the first attack of duodenal obstruction is fatal. Of Dott's series of thirteen cases in which duodenal obstruction had occurred, collected from the literature, symptoms developed within a few days of birth in six. In his own two cases the infants died on the twelfth and sixth days of life, immediately after an unsuccessful attempt to reduce the

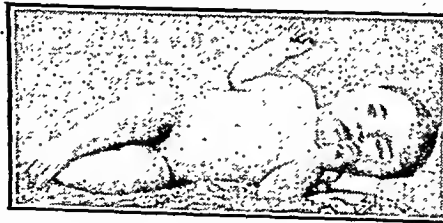


FIG. 2.—Photograph of the infant with congenital duodenal stenosis taken when aged 8 months.

obstruction by operation. Of the four cases published in 1923 by Jewesbury and Pago, occurring in young infants admitted to St. Thomas's Hospital within a short time of each other, one was an example of atresia and one of extrinsic duodenal obstruction by arterial pressure. Both of these died. Two others, in which the extrinsic obstruction was by kinking of the duodeno-jejunal flexure by peritoneal bands, were saved by operation. I agree with Dott that in all probability extrinsic obstruction is more common in the newborn than is generally supposed. Such cases are sure to be confounded with dyspepsia and treated by dietetic prescriptions. The danger to life must vary with the precise nature of the accident to which the obstruction is due. It is likely to be much greater in volvulus than in obstruction by peritoneal folds or bands.

**Vomiting.**—The vomit is always bile-stained. In the later stages haematemesis may occur. The act follows closely upon the intake of food.

**The Stools.**—Meconium is voided normally after birth, and if the onset of the obstruction is delayed for some days the change to milk stools may take place normally. Later, constipation will be severe and the stools become those characteristic of a state of inanition.

**The Abdomen.**—Distension will only affect the epigastrium, where the outline of the stomach and perhaps gastric peristalsis may be dimly apparent.

**The X-ray Picture.**—The diagnosis is only likely to be made with certainty by means of an x-ray examination. It must be directed to the elucidation of two points. Normally the duodenum empties with great rapidity. For a few seconds, perhaps five or six, the issuing shadow will be seen to pause in the first part of the duodenum immediately beyond the pylorus. The remaining parts of the duodenum are traversed in the space of six or eight seconds more. In extrinsic duodenal obstruction in older subjects the duodenum is seen to be greatly dilated, and to empty with difficulty and very slowly. Peristaltic waves are observable, and sometimes reverse peristalsis with return of the food through a "forced" pylorus. In infants something of the same may be seen, if perhaps in less developed form. Secondly, in cases of doubt attention should be paid to the position of the caecum and ascending colon. If there is a left-sided caecum, or if it is otherwise abnormal in situation or unduly movable, the probability that we are dealing with a case of obstruction from abnormality of peritoneal fixation is greatly strengthened. For this examination a bismuth enema is valuable. Such an examination in an older child may be necessary to distinguish the condition from one of cyclical vomiting.

Dott has discussed the operative procedure indicated if laparotomy reveals a neo-natal volvulus. The pressure can be relieved by the reduction of the volvulus, as was successfully done in Rixford's case. Dott favours the delivery of the intestines and their rapid untwisting, deciding in each case whether to return them in the position of malrotation or to complete the rotation to the normal position by hand. He advises fixation of the caecum as an additional security against recurrence. If on account of adhesions reduction is impossible, a gastro-enterostomy should be performed. In obstruction by peritoneal bands it may only be necessary to free the duodenum from their pressure.

#### B. OBSTRUCTION OF THE PYLORUS.

True organic stenosis at the pyloric valve from congenital defect is occasionally found in adults. Landerer in 1879 and Maier in 1885 were the first to record a series of cases of this defect which had in common an absence of the ring-like thickening due to the musculature of the pyloric sphincter, while the mucous membrane passed inwards at the point to form a valve-like diaphragm pierced by a quite small opening. In Landerer's cases the pyloric canal and stomach showed dilatation, but little or no hypertrophy. Maier described at least one similar case without hypertrophy, but added a large number in which, in addition to the valvular obstruction, there was present a considerable hypertrophy of the muscle of the whole pyloric canal and pyloric part of the stomach. It seems likely that cases in adults of pyloric stenosis and hypertrophy described by Maylard, Barling, and others in this country and thought to resemble the common hypertrophic pyloric stenosis of

infancy, were in reality of the type described by Landerer and Maier in Germany and recognized by Russell in this country. It is interesting to recall that Hirschsprung, in calling the attention of the profession to the common hypertrophic stenosis of infants, made the opposite mistake, and was at first under the impression that he was recording cases in infancy of the organic stenosis of the type described by Landerer and Maier. In hypertrophic pyloric stenosis there is present, of course, no true organic stenosis at all. Within the rigid spastic musculature of the pyloric canal there lies a lumen in every way normal, but so folded that on transverse section the outline appears shaped like a star or rosette. Since Hirschsprung's first communication innumerable cases of hypertrophic pyloric stenosis have been encountered and recorded, and the great frequency of the condition is now fully appreciated. On the other hand, even among adults the records of cases of organic stenosis remain very few. In infancy, I know of but one undoubted case, that described by Schäfer. It is characteristic of this form of pyloric obstruction that the symptoms begin at some time during later childhood, but not during infancy.

Schäfer's post-mortem examination showed closure of the pylorus by a membranous diaphragm composed of mucous membrane with a central lumen which permitted the passage of only a very narrow sonad. During life a litre of malted milk had passed the obstruction daily without giving rise to any appreciable discomfort. A most minute examination showed no trace of the pyloric ring sphincter muscle, but in its place a fold of mucous membrane; this was confirmed by histological examination.

Faber has recently reviewed the literature; it may be remarked that the condition seems almost completely to have escaped attention in this country.

I am unable to add to the single observation in an infant accidentally made by Schäfer, but I show two specimens from adults typical of this congenital hypoplasia of the pyloric ring muscle.

The first is the stomach from a man 38 years of age, who had suffered from the age of 12 with abdominal pain, vomiting, and tetany, of great severity. He came under the care of Dr. Fawcett, to whom I am indebted for the specimen, but died suddenly before operation could be undertaken. The stomach is very greatly dilated. The pyloric canal has been distended and taken up into the body of the stomach, much as the cervical canal is taken up by the pregnant uterus at the commencement of labour. Separating the small duodenum from this huge stomach is a membranous diaphragm, perforated by a small aperture.

This man's father, who also came under Dr. Fawcett's care, suffered apparently from a similar defect of development. At the age of 63 he too was admitted for attacks of abdominal pain and vomiting of "fifty years' duration." At times as much as nine pints of fluid had been removed from the stomach by the pump. The state of his kidneys, however, made operation inadvisable.

I show also a specimen from the museum of Guy's Hospital, of which I think the description in the catalogue is misleading. It shows the pyloric end of a very greatly dilated stomach, which measured 30 in. by 9 in., from a man, aged 38, who had suffered with symptoms of pyloric obstruction since the age of 12. The specimen shows the same hypoplasia of the pylorus, with a fold of mucous membrane in the form of a diaphragm, perforated by a small central aperture.

It is, I think, clear that these two specimens, so alike in every detail, both in their clinical history and in their post-mortem appearances, are examples of the congenital pyloric stenosis of the type described by Landerer and Maier.

#### ŒSOPHAGEAL OBSTRUCTION.

In order to complete the list of causes of persistent vomiting in infancy due to anatomical defect, it is necessary to say a word as to the condition of oesophageal stenosis or atresia. Cautley has recently reviewed the literature so exhaustively that there is little that can be usefully added.

**Etiology.**—A study of the developmental defects which involve the oesophagus entails also a study of similar defects in larynx and trachea.

Keith has discussed the results of abnormality in the development of the tracheo-oesophageal septum. De Vries of Amsterdam has figured diagrammatically the possible results of failure of this septum to develop normally, and has found in Continental literature cases recorded which illustrate every variety. By far the most common form is that in which atresia of the oesophagus is combined with an opening between the lower oesophagus, below the atresia, and the trachea. The opening may be wide or it may be narrow. A similar atresia or stenosis



of the larynx with a communication between the normal oesophagus and the lower trachea or a bronchus is also encountered. On the other hand, atresia of oesophagus without communication with the trachea is very rare. Atresia or stenosis of larynx without communication with oesophagus may also occur. A small fistulous communication between the two passages, due to developmental error, may be present without other defect, or it may complicate the more usual oesophageal atresia. Traction diverticula may represent such a fistulous communication in an incomplete form.

**Symptoms.**—In the form most frequently met with—oesophageal atresia, with communication between the lower oesophagus and the trachea—death invariably follows within a few days. The child, though sucking strongly and hungrily, is able to swallow only the first few mouthfuls; thereafter the attempt to swallow leads to a free regurgitation from the mouth and the nose. The attempt to take food; moreover, has commonly to be given up because of asphyxial attacks or attacks of choking and coughing. A sound is held up, very often at a distance of some 10 cm. from the gums. The shadow of an opaque meal shows clearly the obstruction in the oesophagus. Death is commonly from an inhalation bronchopneumonia, due to the fistulous opening between trachea and the lower segment below the obstruction. In a few cases the respiratory movements have served to bring about great inflation of the stomach with air which has passed along the same route. The existence of this communication serves to make even the desperate expedient of gastrostomy useless and inadvisable.

In oesophageal obstruction the regurgitation of the milk is so clearly due to a failure to swallow that the condition can hardly be confused with any other. Even in diaphragmatic hernia, with the stomach within the thoracic cavity, the difficulty does not concern the act of swallowing, although here again we may meet with asphyxial attacks which are produced by the attempt to take food. In oesophageal stenosis, as distinct from atresia, symptoms are seldom prominent during infancy while the diet remains fluid. The cases present themselves for examination in later childhood.

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## PUERPERAL SEPSIS IN WALES.\*

BY

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THE tables and diagrams exhibited, taken in conjunction with those for previous years, show that Wales has a consistently high maternal mortality rate, and that the Welsh figures are much higher than the combined figures for England and Wales. Further, the fact emerges that whilst the "sepsis" death rates are somewhat higher in Wales than in England and Wales, the chief disproportion is from "other causes." I have to thank the Registrar-General for permission to quote the figures in the table relating to 1923, which have not yet been published.

*Distribution for Wales and for England and Wales of Mortality of Women in Childbirth, per 1,000 Children Born Alive, distinguishing Septic and other Causes, 1921, 1922, and 1923.*

	1921.		1922.		1923.	
	Wales.	England and Wales.	Wales.	England and Wales.	Wales.	England and Wales.
<b>County Boroughs—</b>						
Sepsis ...	1.35	1.54	3.32	1.62	1.54	1.41
Other causes ...	2.99	2.40	3.34	2.28	2.67	2.60
All causes ...	4.34	3.94	6.56	3.90	4.61	4.01
<b>Other Urban Districts—</b>						
Sepsis ...	1.72	1.27	1.31	1.27	1.49	1.25
Other causes ...	3.47	2.76	3.77	2.68	3.92	2.67
All causes ...	5.19	4.03	5.08	3.95	5.41	3.92
<b>Rural Districts—</b>						
Sepsis ...	1.80	1.25	1.45	1.16	1.51	1.15
Other causes ...	4.55	2.97	3.83	2.85	4.54	2.72
All causes ...	6.35	4.22	5.28	4.01	6.05	3.87
<b>All Districts—</b>						
Sepsis ...	1.67	1.38	1.75	1.38	1.59	1.30
Other causes ...	3.68	2.53	3.68	2.43	3.83	2.51
All causes ...	5.35	3.91	5.43	3.81	5.42	3.81

The three types of population compared are—

- (1) County borough populations, which are truly urban in character.
- (2) Other urban districts, which contain a large number of people living under semi-rural conditions.
- (3) Rural districts, the bulk of whose populations are country dwellers.

It will be seen that in England and Wales as a whole the death rate from sepsis is lowest in rural districts, and becomes higher proportionately as the urbanization of the population increases. With regard to the death rates from "other causes," the position is reversed. The more highly urbanized populations show the lowest maternal mortality from "other causes." This may be attributable to the better medical and surgical facilities available and to the provision of maternity beds.

In Wales the sepsis death rates show no regular variation with the type of population concerned; but regarding deaths from "other causes," the table shows how much greater is the risk for the rural mothers than for the mothers in the urbanized communities.

The first report of the Welsh Consultative Council draws attention to the fact that Wales is a rugged and mountainous area, consisting for the most part of rural counties sparsely populated, with exceptional difficulties

\* Paper preliminary to a discussion on puerperal sepsis at the British Congress of Obstetrics and Gynaecology, London, April 22nd.

in intercommunication, and also containing some very congested industrial districts where the population has accumulated within recent years with a rapidity that has created unfortunate conditions for the amenities of life and the health of the people. A special feature of importance is the marked contrast in population distribution existing between, on the one hand, the area covered by the geographical counties of Glamorgan and Monmouth, and, on the other hand, the area covered by the remaining eleven counties. The estimated population of Wales in the recent census (1923) is 2,704,000 in round figures. Of this total 1,765,000 reside in the geographical counties of Glamorgan (1,298,500) and Monmouth (466,500). Thus approximately two-thirds of the entire population of Wales live in two geographical counties, the remaining one-third being spread over eleven counties, the average population of which is only 85,000 (round figures).

We have sent in from the maternity department of the Cardiff Royal Infirmary our quota of records of puerperal sepsis, and these have been merged in the consolidated report of the Obstetrical and Gynaecological Section. Apart, however, from the purely clinical and laboratory aspect of the subject, I venture to offer to the Congress some observations, arising out of certain visits of inquiry, made to some seven or eight centres in the Principality during 1923-24. On four of these occasions—one in North and three in South Wales—I was accompanied by some colleagues of the Council and of the Welsh Board of Health, and it was a special advantage to meet the medical officers of health (county and district) and representatives of health committees, nursing associations, practising midwives, insurance committees, voluntary organizations, and others interested in general health questions. The conference was held in the morning, and in the afternoon the doctors of the area attended in goodly numbers, and a frank and unfettered discussion ensued. Nothing was more striking than the keen desire on the part of the members of the profession and of the various bodies represented and concerned to bring about a betterment in the mortality and morbidity rates associated with childbirth and childbed. I will endeavour to indicate some of what appear to me to be the more important facts emerging and impressions gained at these local inquiries.

1. *Locality.*—As between rural, industrial, and mixed areas it would seem that the incidence of maternal mortality from puerperal sepsis is not demonstrably influenced to an appreciable degree by geographical location or by questions affecting distribution of population.

2. *Midwives.*—Although some medical practitioners consider that the old bona-fide midwife was more likely to send for medical help on the occurrence of difficulties, the opinion of the doctors generally, as well as of the various representatives, was strongly in favour of a larger supply and a more satisfactory distribution of fully qualified midwives. It was agreed that such a distribution might be effected on lines which allowed of a reasonable degree of freedom of choice by the patients and satisfactory sharing of the work by the midwives. A systematic distribution should also provide, by substitution or otherwise, for the contingency of midwives becoming "contact" with septic or other infective conditions.

3. *Midwives, Health Visitors, and District Nurses.*—It was generally agreed that, subject to satisfactory distribution, the midwives should be restricted to the practice of midwifery, but that where this was not practicable—for instance, in some rural areas—it was preferable to combine the duties of the midwife with those of the health visitor rather than with those of the district nurse.

4. *Home Helps.*—Some divergence of opinion was evident as to the feasibility of establishing the status of what are called "home helps" in any health scheme. The really efficient home help must represent a consolidation of good qualities rarely seen.

5. *Maternity Homes, Maternity Wards, and Ante-natal Clinics.*—The value of these was fully recognized at the conferences in all the centres visited. In certain areas local opinion had to be educated as to the essential value of these establishments in order to lead to their being freely used. Prejudices in regard to the work of the trained midwives and health visitors had at first existed,

but had in large measure disappeared, and the evidence went to show that where lying-in beds and ante-natal clinics had been made available a similar experience had accrued. To have the ante-natal clinic within the curtilage of the maternity hospital had been found to be a convenient and educative arrangement. In the larger towns it had been found of great advantage to link up the maternity ward or wards with the general hospital, so that the service of the medical, surgical, and special departments would, if required, be available for the expectant or parturient mother. The importance of the medical officers of the ante-natal clinics keeping in touch with the general practitioners and advising them of any abnormality discovered was strongly emphasized, and in midwives' as well as doctors' cases the value of periodic examination of the urine during pregnancy was readily conceded.

6. *Mothers' Teeth.*—In the rural areas, especially, care of the teeth during pregnancy was little thought of, and the adage "for every child a tooth" had been expanded into the prevalent belief that in the expectant mother dental caries was inevitable and its treatment undesirable. At one of the inquiries a medical officer of health stated that the condition of the mouths of the mothers who attended the infant welfare centres was "appalling"; and at another a medical practitioner said that the condition of the teeth of the people generally was very bad—"that no woman ever thought of going to a dentist unless she had toothache, and that there was a fallacious general belief that women ought never to have their teeth attended to by a dentist during pregnancy." In the rural areas there is difficulty in obtaining the services of qualified dentists.

7. *Nourishment of Expectant Mothers.*—In the more rural areas the inquiries went to show that the general standard of living of the mothers was very poor, and their dietaries inadequate and badly balanced. It was stated that in the smaller homes families seldom saw a joint of fresh meat; that milk was often unobtainable; that the people had not acquired a taste for fresh vegetables which could so easily be grown; and that they seldom had any form of fresh food. The family fare consisted too largely of tea and bread-and-butter—"the teapot never gets cold till late at night"; and the tendency, even where produce was grown, was to sell the best of everything and keep the poorest for consumption at home. Statements were made to the effect that, even in these circumstances, the mothers by their own act "came last," and were often markedly anaemic and debilitated, with the result that at the time of confinement their powers of resistance, whether in regard to infection or other parturient risks, were at the lowest ebb. In the industrial areas the unselfishness of the mother was an important factor, especially under the present economic conditions, both as regards improper and insufficient dietary and also as regards the strain of the almost continuous household duties—in the colliery districts, for instance, where the husband, sons, and lodgers may be engaged in different work shifts at the pits.

8. *Housing Conditions and Environment.*—Much evidence was forthcoming to show the need for a more enlightened public opinion as to the capital importance of sanitation and other hygienic conditions. Apart from the admitted shortage of housing accommodation, the dilapidation of existing houses, and the existence of overcrowding, which are unquestionably contributory factors in the problem, there remains the fact that even in present conditions there is scope for much improvement in the habits and customs prevailing in many parts of the country—improvement that can only be achieved by a vigorous educational effort by health authorities and all who are interested in bringing about a fuller appreciation of the laws of health—both by those who build the houses and by those who live in them. In the country the houses are often very small and badly ventilated. Many of the cottages consist of two rooms with a loft, and the flooring may be of mud or sometimes slate. As many as 20 per cent. of the houses have no sanitary arrangements whatsoever. There is too often a lack of personal and household cleanliness and a general disinclination to change personal or bed clothing. Occasionally women may be confined on the floor, lying on clothing already soiled, to save the bed. In the industrial areas there is a great deal of overcrowding. In the Rhondda district over

10,000 families live in houses occupied by more than one family, and in this and other areas instances were quoted where two or more families lived in the same house, and that of small dimensions, with the result that confinements had often to take place under the most undesirable and unseemly conditions. The plea for the establishment of maternity homes and hospitals in such areas is overwhelming, but the response is slow.

**9. Non-disclosure of Puerperal Sepsis.**—Either avoidably or unavoidably, the requirements with regard to notification are not properly observed. For the five years 1918-22 inclusive, while there were 503 deaths from puerperal sepsis in Wales and Monmouthshire, the number of notifications was only 579, and in some areas the number of deaths exceeded the notifications. This important matter was fully discussed at all the meetings with the doctors, and there was general agreement that, notwithstanding the disabilities in the practices of doctors and midwives which might accrue from notification of sepsis, the urgency of taking all steps to prevent the spread of the infection, as well as to secure such help in the management of the case as the local authority could furnish, should prevent the avoidance of this responsible duty.

**Diagnosis.**—At the same time many of the practitioners drew attention to some real difficulties. First, as to diagnosis, it was fairly stated that, apart from pyrexial conditions which are quite independent of the puerperium as such, and excluding also the so-called "reactionary" rises in the first twenty-four hours, temporary elevations of temperature from 100° to 102° F. may occur during the first week from errors of diet, constipation, emotion, or other nervous disturbance, or from unimportant mammary conditions. More guidance was asked for in regard to differential diagnosis.

**Notification.**—As desiderata it would appear to be considered that either a readily applied clinical test should be evolved or a more comprehensive formula employed as the basis for notification. The difficulties might be that with the former not a few cases of sepsis would escape detection, and that the latter would include more than all the cases of infection. At one of the meetings a recommendation was made indicating the desirability of district medical officers arranging with registrars of births and deaths of the sub-districts for the supply of earlier information of deaths caused by puerperal fever, as this would enable the medical officers of health concerned to make prompt inquiries as to actual and contributory causes. Another handicap to notification was the objection sometimes raised by the lying-in woman herself or by her relatives and friends. Notification which results in nothing beyond visitation by various officials cannot be other than unpopular, but if and when it is followed by helpful service and, where necessary, institutional treatment, the prospects of its acceptance and efficiency are more assured.

**"Brad-gyfarfod."**—Complacency is another contributory cause to inefficiency. This was especially illustrated by the discovery in one of the rural counties of the tradition that a mother recently confined must have a rise of temperature, the condition being dignified by the title "brad-gyfarfod," which, freely translated, may be taken to mean "a combative meeting," the factors in the combat being regarded as the lochia and the mammary secretion. It is not contended that such a belief is generally current, but it would certainly be true to say that the existence and even the persistence of a temperature in childbed is far too often regarded by the patient and her friends with the minimum of concern.

**10. Attendance by Doctors and Midwives.**—There is considerable diversity in various parts of Wales in regard to the number of confinements attended by midwives only and the number attended by doctors (with or without midwives). Thus, in Merionethshire—a rural county—the proportion of cases attended by doctors is very high, the figures being 18 per cent. attended by midwives only and 82 per cent. by doctors (with or without midwives). At the other extreme, in the Rhondda district (Glamorgan) 81 per cent. were attended by midwives only and 16 per cent. by doctors (with or without midwives). Speaking generally, these variable proportions, as between rural and industrial areas, prevail throughout Wales and Monmouth-

shire. It would be fallacious to infer from these proportions that the rates of morbidity and mortality follow in either one direction or the other. Fears were expressed in some of the industrial areas that the high proportion of cases attended by midwives was disadvantageous to the patients, but on the whole it was found that in these areas the midwives are well trained and sufficiently impressed with the importance of sending for medical aid as occasion may require. In the rural areas the dearth of trained midwives accounts for the large proportion of cases in which the doctor is engaged, and it is claimed, too, that the unskilled services of the handy-woman contributed largely to the high sepsis rate. It was agreed that an increased supply of qualified midwives is especially urgent for the rural areas.

**11. Ages of Marriage.**—In the counties of Wales and Monmouthshire a comparison of the percentage of the total marriages of women contracted (1) before the age of 21, and (2) after the age of 35, shows that in 1921 there was a higher percentage of early marriages in Wales (18.2) than in England and Wales (14.9), and a lower percentage in the later marriages (Wales 9.3, England and Wales 10.7). It is significant that some of the counties showing the highest percentages of late marriages are also amongst those with the highest maternal mortality rates.

**12. Abortion.**—The impression was gained that abortion and attempted abortion, both by means of drugs and various instruments, is prevalent to a considerable and an increasing degree in the industrial parts of Wales. In one such area with Pontypridd as its population centre the figures show that 11.5 per cent. of the deaths arising out of pregnancy and childbirth were attributed to this cause.

**13. Use of Forceps.**—The question of the use and abuse of the forceps was fully and frankly discussed at the doctors' meetings. There was common agreement in the view that, whilst in a proportion of cases the use of the forceps was advisable or imperative, in no case could the mere saving of time of those in attendance be regarded as a justifiable indication, having regard to the admitted increase in the risks of infection and injury which their employment entails. As to the use of forceps generally, not a few of the doctors claimed that they applied them much less often than was their habit some years ago, and that this was, in part at least, attributable to the good results of ante-natal clinics as well as to pronouncements of some latter-day obstetricians.

**14. Rubber Gloves and Sterilized Obstetrical "Outfits."**—The doctors and the representatives of the midwives concurred in the view that the intelligent use of rubber gloves and the provision of sterilized "outfits" would do much to combat those domestic conditions which so largely increase the risks of septic infection.

**15. Notification of Pregnancy.**—Compulsory notification, however valuable it might be as leading to adequate supervision during pregnancy, was regarded by all parties represented at the various conferences as impracticable. It was thought, however, that the principle of voluntary notification would ultimately prevail when, by wise propaganda and the continued advice of doctors, midwives, and health visitors, the benefits deriving therefrom were more generally appreciated.

#### Summary and Conclusion.

The facts and responsible opinions emerging from these representative conferences justify the conclusion that the efforts which the community must make toward the solving of this urgent problem must include the following:

1. A more complete and better organized provision of thoroughly well trained and suitably educated midwives and health visitors.
2. A considerable extension of well supervised schemes for the ante-natal supervision of mothers, both domiciliary and at clinics.
3. An extended and improved supply of milk and other necessary forms of nourishment for expectant and nursing mothers.
4. A very substantial addition to the existing provision of maternity homes and of maternity wards in or in connexion with the general hospitals.

Finally, I am convinced that by better organized clinical and laboratory research such further light can be thrown

upon the predisposing and the actual causes of puerperal sepsis as will lead to a much larger measure of prevention and to more effective treatment, and there can be little doubt that a very real contribution to that end will be reckoned among the many good results of this Congress.

## A CLINICAL AND BACTERIOLOGICAL INVESTIGATION OF PUERPERAL FEVER IN THE ROTUNDA HOSPITAL, DUBLIN.\*

BY

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THE 57 cases of acute puerperal fever considered in this paper were treated in the Rotunda Hospital during the past four years. The deaths numbered 23 (51 per cent.). Fifteen cases developed amongst patients wholly treated in the hospital and 9 died; 25 developed in the hospital district and 7 died; 17 were patients sent into hospital either late in labour with complications, or after delivery with fever, having been previously treated but not in the hospital district, and of these cases 13 died.

### INCIDENCE OF INFECTION.

During the four years 14,380 confinements were attended—6,810 in the hospital and 7,570 in the hospital district—and of these 40 appear as acute puerperal sepsis, with 16 deaths; this gives an incidence of infection of 2.8 per 1,000 and a mortality of 1.1 per 1,000. Of the hospital cases, 25 were spontaneous deliveries, 2 were simple low forceps, and 1 a breech; of these 28 cases 8 died. Two cases were first seen after complete abortions, and both died. Of the remaining 10 cases Caesarean section was performed in 2 and pubiotomy in 1, secondary post-partum haemorrhage occurred in 1, and in 6 manual removal of the placenta was practised; of these 6 died.

Three cases were almost certainly not of genital origin.

Case 1 was spontaneously delivered and had returned home after a perfectly normal puerperium; on the eleventh day she suffered from retention of urine, and had to be relieved by catheter; on the fourteenth evening she had a rigor, and died seven days later. The history suggests that infection occurred at the time of catheterization.

Case 2 died of acute endocarditis; her morbidity started with acute tonsillitis; laparotomy was done on the twenty-second day and the peritoneum and pelvic organs found normal. Uterine swabs were persistently sterile.

Case 3 had been seriously ill with rigors and high fever for several days before labour; she was confined prematurely of a macerated foetus, and died of acute endocarditis. The only reason for suspecting a genital origin in these two cases was the removal of the placenta manually.

Excluding these three cases, there remain 27 infections after normal deliveries, with 7 deaths; and 8 infections after complicated labours, with 4 deaths. Among 17 cases sent into hospital on account of difficulty or complications previously treated, 13 deaths occurred; omitting 4 cases that ended in spontaneous delivery, although 3 died, there are 13 seriously protracted labours followed by infection, with 10 deaths. Although the incidence of infection amongst cases wholly treated in the hospital is only 2.2 per 1,000, compared with 3.3 per 1,000 cases attended in the hospital district, the mortality in the hospital is 1.3 per 1,000, against 0.9 per 1,000 in the district.

### Conclusions.

The incidence of acute puerperal infection should not reach 1 per 1,000. It must be recognized that complicated cases met with in the district are sent into hospital early for treatment.

Any interference in labour, other than low forceps over the perineum and simple laceration of the perineum, considerably increases the incidence of infection and the resulting mortality.

Impacted labour, particularly with devitalization of the pelvic tissues and debilitating haemorrhages, increases the incidence more than any other cause, and the resulting mortality is very great.

### SOURCE OF INFECTION.

There has never been any traceable connexion, by vaginal examination, between two cases in the hospital or in the district, but there have been suspicious instances of a second case developing while another was under treatment, although there has not even been ward contact.

Table showing Nature of Infecting Organisms.

	Cases.	Deaths
Haemolytic streptococci ...	32	14
Non-haemolytic streptococci ...	8	4
Anaerobic streptococci ...	1	1
Streptococci not classed ...	6	1
Gram-positive cocci (smears only examined) ...	3	2
<i>Bacillus welchii</i> ...	1	1
Cases not examined ...	6	6

There is little reason to suppose that the three unclassified cocci were other than streptococci, or that the six fatal cases not examined would have varied from those examined. One case gave *Staphylococcus aureus* from the uterus, but haemolytic streptococci from the heart and lungs post mortem.

### Conclusions.

From these and other observations\* it may be concluded:

- (1) That acute puerperal infection is almost invariably due to streptococci, most commonly haemolytic.
- (2) That cultures made from the interior of the uterus during the puerperium are of the greatest possible value in diagnosis. Material should be cultured within a few hours if a negative result as to streptococci is to be accepted.
- (3) That blood cultures are a further assistance if they are positive, but when negative do not exclude serious infection.
- (4) That when haemolytic streptococci are obtained from any part the prognosis is most serious, and probably the infection is always exogenous in origin.
- (5) That non-haemolytic streptococci from the uterus is serious, and from the blood most serious.
- (6) That non-haemolytic streptococci from the uterus, the blood, or from the uterus and blood, is probably often of an extragonital origin.
- (7) That negative results for streptococci from the cervix may usually be accepted, provided the culture is not dominated by other organisms.
- (8) That cultures from the blood positive to either haemolytic or non-haemolytic streptococci are equally serious, but neither is necessarily fatal.
- (9) That *Staphylococcus aureus*, *Bacillus coli*, and gonococci are likely to produce local infections, but do not tend to become general.

### CLINICAL MANIFESTATIONS.

#### Onset of Fever and Period of Invasion.

Of the 57 cases recorded, 24 had a sudden onset, in 6 with rigor and 2 with profuse sweating, the previous temperature having been perfectly normal; 4 had a sudden rise, 2 with rigor, and preceded by slight elevation; 4 had a gradual rise to a high level. The remaining 25 all had elevation of temperature ante partum, from delivery, or within thirty-six hours after delivery, except 7, who were in collapse when delivered or first seen and died without rallying, and 2 others who developed high temperatures when they recovered from the primary collapse.

\* Abridged text of a paper preliminary to a discussion on puerperal sepsis at the British Congress of Obstetrics and Gynaecology, London, April 22nd.

\* Omitted here.

Of the 28 cases with a sudden rise, one had protracted labour requiring pubiotomy, in 2 the placenta was removed manually, one had late post-partum haemorrhage, and in one the presentation was a breech; otherwise the labours were easy. In 21 cases the onset was on the third or fourth day, and in 4 on the second day. The cases with a gradual onset were all easy deliveries. The 25 cases with elevated temperature from or before the first day include only 6 cases with easy deliveries, but 2 of these were abortions, one had post-partum haemorrhage, and one had innumerable vaginal examinations, leaving only 2 easy deliveries not interfered with. In several of these cases collapse temperature, with very rapid or imperceptible pulse, developing shortly after delivery and persisting to death, was the only indication of infection. In such cases the peritoneum will invariably be found infected, without any reaction or symptoms. Professor Crichton of Capetown reported that, having seen an observation on this subject in the last Rotunda report, he had a blood culture made just before death in a case of unaccountable shock following delivery by craniotomy, and found pure haemolytic streptococci. The fact has been established in the Rotunda Hospital, not only in maternity cases that have been tested, but also in gynaecological cases dying of apparent post-operative shock.

#### Conclusions.

That the incubation period of acute puerperal sepsis is probably three days.

That when the patient is not debilitated the onset is sudden, sometimes with rigor.

That damage to tissues and debility from protracted labour disguise the onset.

That collapse setting in after delivery and progressing to rapid death is often the only evidence of infection introduced during a protracted labour.

That "labour shock" is never a justifiable diagnosis of the cause of death after protracted labour until infection has been excluded by a cultural examination of a swab from the peritoneal cavity. These cases are frequently the most rapid and virulent type of sepsis.

#### Prognosis.

Rigors occurred in 14 of the 57 cases in the table and in 2 of the 22 morbidity cases. Profuse sweating, which was probably an abortive rigor, occurred in 3 cases. In 4 cases rigor or sweating only occurred at the onset of fever, in 13 cases they were repeated or developed later. Three patients had rigors almost daily for several weeks, and 2 recovered. Six cases with rigors died.

The occurrence of rigors indicates the more serious type of infection, but nothing as to the course likely to be followed. High persistent or remittent temperature with high spikes is always indicative of serious infection. A four-hourly chart is essential to show the characters. In the second week persistent high temperature is bad, but very high spikes are not necessarily of ill omen if the remissions are good. The pulse commonly follows the temperature; when proportionally lower it is good, but when above the prognosis is bad.

The lochia seldom shows change unless after protracted labour, when it may be profuse and is often fetid. Absence of lochia on the second or third day of fever is a bad sign, but change to pus or the appearance of pus after absence may be considered a definite improvement. Necrosis of tissue or even gangrene and puerperal ulcer of the vulva and vagina do not necessarily indicate acute infection. In the absence of necrosis and fetid lochia the involution of the uterus is frequently normal.

#### DURATION.

Taking the duration of the disease from the first evidence of fever until either death or recovery, then 14 cases terminated in the first week; only 3 recovered, the other 11 succumbed to the shock of invasion. In 13 patients the fever persisted for over twenty-two days, and 8 of these finally died; 9 developed secondary conditions such as abscesses, peritonitis, or endocarditis. The remaining 30 cases terminated in the second or third week—20 recovered and 10 died.

#### Conclusions.

The duration of the fever is most commonly ten to twenty days. A number of patients succumb from the intensity of the onset, and this is promoted by protracted labour causing damage to tissue. When a partial resistance is established secondary complications develop and the cases may be very protracted; the prognosis is not improved—it depends upon the site and nature of the secondary developments.

#### TREATMENT.

Acute puerperal fever appears to be due to invasion by an exogenous organism, and the result depends upon the powers of the patient to resist the invasion or establish a resistance to overcome the infection. So far no specific remedy has been found, and dependence must be placed on general tonic treatment. When evidence of resistance appears, as by local formation of pus, benefit will be derived from drainage or removal of the abscess, but removal of tissue will not produce benefit if resistance has not previously developed.

**Antistreptococcal Serum.**—Polyvalent serum was used in 34 of the cases in the table, and 17 died. Of the 24 cases not given serum 10 died. The dose given varied from 20 to 100 c.c.m., most commonly 20 or 30 c.c.m., repeated once or twice. Prophylactic doses of 30 to 60 c.c.m., sometimes repeated in 30 to 40 c.c.m., were given in 16 cases; 5 of these cases are included in the table, and all died; they were all cases of protracted labour treated outside the hospital. The remaining 11 cases did not develop infection, but only 2 were treated outside the hospital. No conclusions can be drawn from these facts, but serum does no harm, and is given as a routine in suspected cases in doses of 30 c.c.m. repeated once or twice.

**Iodine.**—Intravenous injections of 10 c.c.m. of colloidal iodine are given on the same day or the day after serum is started, and repeated in doses of 10 to 40 c.c.m. at twenty-four to forty-eight hour intervals. The results sometimes suggest extraordinary benefit, and the injections are never detrimental.

**Sodium Bicarbonate.**—Intravenous injections of sodium bicarbonate solution (0.9), 20 to 40 ounces repeated once or twice, or given by repeated rectal injections, appear to do good in some cases, especially when the patient begins to show debility.

**Douching** appears to be useless in the symptomless cases, and entails the risk of peritoneal infection directly through the Fallopian tubes, which are quite patent in the unresisted cases. On the other hand, when pus has formed in the uterus a single or even repeated douche is of unquestionable benefit. Also in cases with profuse fetid lochia a simple douche does good; but no attempt should ever be made to remove material with either a dull or sharp curette or even the finger, and a douche is better not resorted to until drainage by sitting up, even out of bed, has been tried and failed. All cases should be drained by free movement and frequent sitting upright.

**Operative Procedures.**—Whenever pus forms it should be evacuated—cellulitic abscesses, above Poupart's ligament, through the vaginal fornices, or even by laparotomy. If multiple abscesses form in the uterus, hysterectomy, vaginal or abdominal, is indicated. If peritoneal fluid forms it should be drained. When there is suggestion of pus formation in the pelvis but the site is doubtful, a laparotomy is advisable, as any site can be reached and the pelvis drained. Until localization has developed operative measures appear useless. All cases that continue into the third or fourth week should be closely watched for local abscess formation.

#### Post-mortem Examination.

In the great majority of the cases that died an examination of the abdomen and pelvis at least was made. With the exception of the cases with sloughing or necrosis of tissue the organs showed little or no change from the normal, beyond anaemia and slight flabbiness. In no case without evidence of reaction were the pelvic veins thrombosed, and thrombosis was absent when looked for in the few cases with pus formation.



# AN INVESTIGATION INTO THE ETIOLOGY OF PUERPERAL FEVER.\*

BY

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WHILE certain cases of puerperal sepsis are due to staphylococci, *B. coli*, or other bacteria, the majority are attributable to streptococci. Of these the greater number are caused by haemolytic streptococci (chiefly *Strep. pyogenes*), but the residue of cases, due to non-haemolytic streptococci (*viridans* type) are sufficiently numerous to deserve consideration.

Infection of the uterus, as of other parts of the body, may be either exogenous or endogenous. There can be no doubt that a true exogenous infection does occur, as is shown by the recorded instances of doctors and midwives acting as carriers of infection. In many cases, however, the possibility of this mode of infection seems to be slight, and it was with the object of throwing light on what may, for the moment, be called spontaneous puerperal sepsis that the investigation here recorded was undertaken. Briefly stated, we sought to discover whether, in the case of normal labours, streptococci were present in the vagina before delivery and in the vagina and uterus after delivery and of what type. All the cases examined were intern patients in the Rotunda Hospital, Dublin, and, as is to be expected, show a higher percentage of abnormalities than would a normal series. In only one, however, was there any evidence of the existence of any septic condition in the body before delivery.

Swabs were taken from the posterior fornix of the vagina either on admission or soon after. In the majority of cases labour had commenced when the specimens were collected. In a small number of cases where, for some reason, a swab was not then taken, one was secured after the rupture of the membranes. This was also done occasionally in addition to the first swabbing. In all cases swabs of the posterior fornix and of the interior of the uterus were taken during the puerperium, usually between the second and the seventh day after delivery.

## Method of Swabbing.

The patient was placed in the left lateral or Sims's position. The vulva was opened and a Sims's speculum passed in to draw back the perineum, thus fully exposing the cervix. The vaginal swabs were then taken from the posterior fornix. For the uterine swabs the external os and just inside was wiped completely clear of discharge. The cervix was then steadied with a clip and was again wiped out with sterile cotton passed well inside and the culture swab passed directly up into the uterine cavity. The swabs were obtained between noon and 2 p.m., so as to be sent to the laboratory for culture at 2 p.m. The first eighteen in the series were taken by Dr. Wyndham Williams and the remainder by Dr. C. Coghlan, who were attending post-graduate courses. To both these gentlemen we are deeply indebted for their co-operation and for their interest in the investigation.

Since the object of the investigation was to determine whether streptococci were present or not, the laboratory technique was different from that used in dealing with swabs from patients clinically suspected of sepsis, in which cases the diagnosis depends largely on whether streptococci are present in significant numbers, the presence of one or two colonies being usually of no importance. Every effort was made to supply any streptococci present with their optimum nutrient material and to prevent any deaths of the bacteria from drying or delay. Cultures were made within, at most, a few hours of the collection of the swabs. We wish to lay stress on this point: our technique was devised to find whether even a single streptococcus was present on the swab examined. Had the swabs been cultured on solid media, as are swabs sent for diagnostic purposes, the result would have been, in the majority of cases, either no growth or a growth of only a few colonies,

and very many of the streptococci actually isolated would have been missed. We satisfied ourselves on this point by carrying out duplicate cultures on solid and fluid media on the first dozen or so swabs. The method we finally relied upon gave infinitely better results than were obtained by the use of solid medium.

## Method of Cultivation.

The basis of the fluid medium used for primary culture was tryptic broth (pH 7.4) to which was added 20 per cent. of sterile hydrocele fluid and 10 per cent. of a sterile 10 per cent. solution of glucose. The swabs were thoroughly washed out in this medium, which was incubated at 37° C. until the following day, when it was examined. The medium is almost a selective one for streptococci of all varieties, and renders possible their isolation from material in which these organisms are scanty and other bacteria numerous. Streptococci may produce a turbidity with only slight deposit, but more usually form a dense deposit, leaving the upper part of the fluid clear. This deposit was examined microscopically, and if streptococci were seen the result was noted as positive. At the same time the average number of cocci in each chain was recorded. A loopful of the deposit was plated on human blood agar, and the plates incubated for twenty-four hours. Colonies believed to be of streptococci were then subcultured into glucose hydrocele broth, which was incubated until the following day. In many cases two or more colonies were picked where these presented differences visible with a hand lens. The glucose hydrocele broth cultures were examined for purity and to determine the morphology of the streptococci, and subcultured into carbohydrate media for purposes of classification. Blood agar plates were also made which, when examined after twenty-four and again after forty-eight hours, supplied the first basis of classification of the streptococci into the two main groups, haemolytic and non-haemolytic. At the same time notes of the size and morphology of the colonies were made as a control of the other basis of classification.

The classification of streptococci cannot at present be regarded as satisfactory, and since in this investigation some simple basis appeared desirable it was decided to follow Holman's method<sup>1</sup>—splitting up the two main groups of haemolytic and non-haemolytic streptococci by means of the fermentative action of the isolated bacteria on three carbohydrates—lactose, mannite, and salicin. The basis of the medium was equal parts of tryptic broth and 1 per cent. peptone water. Tryptic broth was used, as better growth was secured by its presence than when peptone water was alone employed. It was not used exclusively owing to the possible action of streptococci on the glycerin which is present in it in small amount. It is doubtful if this precaution is really essential, as, in many controls made, no evidence of such action in sufficient amount to introduce any fallacy was observed; 1 per cent. of the carbohydrate was added and also 1 per cent. of Andrade's indicator. The tubes containing this medium were sterilized by the fractional method, and, after steaming, were enriched by the addition of 20 per cent. of sterile hydrocele fluid. They were always incubated for forty-eight hours before use to determine if any had become contaminated. After the three tubes were inoculated with each strain isolated, they were incubated and examined daily for five days. Usually the reactions were sharp and clearly read after twenty-four or, at most, forty-eight hours. Only very rarely were subsequent changes noted.

It is not contended that Holman's classification is perfect. Probably the number of types thus found is too small, but this appears to be preferable to a classification based on fermentative action on a large number of carbohydrates, which results in a multiplication of types. In all cases the morphology of the cocci and types of growth were compared with the results of carbohydrate fermentation, and only in a very few cases was any possible discrepancy observed.

## Results.

In all, 158 swabs were examined, and streptococci were found to be present in 101. In 3 cases two types of streptococci were found in the one swab. It is probable that if the number of colonies picked had been increased this would have occurred more frequently. In 13 cases streptococci were seen in the original broth culture, but were not typed. The reason, in 5 cases, was that it was impossible to isolate them owing to the presence of other organisms (*B. proteus*, etc.), while eight accidents in the laboratory (breaking of plates or tubes, too hasty discarding of plates, etc.) were responsible for the other omissions to type the organisms.

\*A paper preliminary to a discussion on puerperal sepsis at the British Congress of Obstetrics and Gynaecology, London, April 22nd.

An analysis of the results must now be attempted. For this purpose "probables," as explained above, are treated as if the organism had been correctly typed. The error so introduced, if any, is small.

TABLE I.—Gross Results Obtained.

Number of patients ...	50
Number of swabs ...	158
Streptococci absent ...	57
Streptococci present ...	101
Streptococci found ...	104
<i>Strep. faecalis</i> ...	43
<i>Strep. mitis</i> ...	42
<i>Strep. equinus</i> ...	10
<i>Strep. salivarius</i> ...	7
<i>Strep. equi</i> ...	1
<i>Strep. infrequens</i> ...	1

Of these streptococci only two, *Strep. equi* and *Strep. infrequens*, were haemolytic. *Strep. equi* was only moderately haemolytic, while *Strep. infrequens* was very actively so. The rarity of the haemolytic streptococci and the fact that neither of those found was identical with the *Strep. pyogenes*, the commonest cause of puerperal sepsis, tend to confirm our preconceived opinion that this organism is usually, if not always, introduced into the vagina from without in those cases in which puerperal sepsis from this cause appears, and that it is incapable of existing there as a saprophyte which becomes pathogenic on reaching the damaged uterine tissues. It must not, however, be forgotten that we only examined fifty cases, and that further material might cause us to change our opinion on this point.

All the other streptococci isolated were of the non-haemolytic or viridans type. The most numerous were the *Strep. faecalis* and the *Strep. mitis*, which were about equal in numbers, *Strep. equinus* and *Strep. salivarius* being less frequently found.

TABLE II.—Showing the Occurrence of the Various Organisms in the Vagina Before Delivery and in the Vagina and Uterus After Delivery.

	Before Delivery.		After Delivery.	
	Vagina.	Uterus.	Vagina.	Uterus.
Number of swabs ...	58	50	50	50
Streptococci absent ...	26	8	23	23
Streptococci present ...	32	42	27	27
<i>Strep. faecalis</i> ...	16	16	10	10
<i>Strep. mitis</i> ...	10	20	13	13
<i>Strep. equinus</i> ...	5	3	2	2
<i>Strep. salivarius</i> ...	3	2	2	2
<i>Strep. equi</i> ...	—	1	—	—
<i>Strep. infrequens</i> ...	—	1	—	—

We may first contrast the bacterial condition of the vagina before and after delivery. The figures seem to show, beyond doubt, that streptococci are more frequently present after than before the birth of the infant. In only 4 of the 50 cases were streptococci absent at all examinations. In 3 streptococci were present in the vagina before delivery, but were not found subsequently, while in 15 they were absent before delivery, but were found in that situation after the birth of the infant. The flushing of the vagina by the waters had evidently no more than a transient effect, if any, which was outweighed by the more suitable environment in which the streptococci found themselves after delivery, owing probably to the food material supplied by the lochia.

From the uterus itself we get our most surprising result. In 27 out of the 50 cases, streptococci were present in the swabs taken from the interior of the uterus with great care during the puerperium. It would appear that invasion of the uterus by vaginal streptococci does occur after delivery, but every invasion does not, of necessity, mean an infection. In four of our cases morbidity was shown by the temperature of the patient. One of these can be eliminated owing to the existence of pyelitis, leaving three for consideration. In two of these streptococci (*Strep. faecalis*) were isolated from the uterus, while the uterine swab from the other contained no streptococci. It is noteworthy that of the 27 instances of uterine invasion, the same organism was present in the uterus as in the vagina in 25; in 1 different

organisms were present, and in 1 streptococci were found in the uterus but not in the vagina.

The constancy of the vaginal and uterine flora at the three or more examinations made is worthy of some remark. Out of the 50 cases, in only 4 were all examinations for streptococci negative. In 37, including one case where a double invasion was found, either the same streptococcus or none was found at all examinations. In 9 there was a change of type. It is probable that a more extensive sampling of colonies would have revealed double invasions in many of these cases.

We do not wish to obscure by further analyses of our results what we consider our most important finding—namely, uterine invasions by streptococci in 54 per cent. of cases. While we were satisfied that our technique was good, we felt that we must face one obvious and fair criticism. To pass a swab into the uterus it is necessary to pass through the cervix in intimate contact with the vagina, admittedly containing streptococci. This passage permits the possibility of the picking up, by the swab, of streptococci not actually in the uterus. That this criticism is sound would appear by considering the first 25 and the second 25 of our cases separately. In the first 25 cases 17 uterine invasions were recorded, and only 10 in the second. Two gynaecologists were engaged in the collection of swabs in the first half of the series, both of whom had to learn by experience the best technique. In the second half all the swabs were taken by one individual who had already mastered the technique.

In order to meet this criticism a further investigation, which was confined to the puerperal uterine, was undertaken. The technique, which was as follows, was entirely carried out personally by one of us (G. F.G.). The patients were placed in a gynaecological chair, a posterior speculum was gradually passed into the posterior fornix, and the vagina wiped quite clear of lochia. The anterior lip of the cervix was then held and the cervical canal wiped clear. A 3/8 in. glass tube which had about 1 in. of cotton plug at one end and overlapping the edges of the tube, was prepared by boiling, and was then passed direct from the sterilizer for at least 2 in. into the uterine cavity. The culture swab was then passed up the glass tube and dislodged the cotton plug as it entered the uterine cavity. In all cases a flow of lochia came from the uterus into the glass tube, and in most cases flowed freely through the tube. The culture swab was then withdrawn and restored to its protecting test tube. It was thought that it would be helpful to attempt a numerical estimation of any streptococci found in these swabs, and therefore each swab, on receipt, was thoroughly washed in 5 c.c.m. of glucose hydrococo broth. Of this 0.5 c.c.m. was transferred to a second tube of the same medium and 0.1 c.c.m. to a third. A positive finding in the third tube indicated at least 50 streptococci in the swab, in the second 10, and in the first 1. The methods used for the isolation and typing of the streptococci was similar to that previously stated. In this series 25 patients were examined, on either the fifth or sixth day after delivery.

TABLE III.—Swabs from Puerperal Uterus.

Patient.	Streptococci found.	No. in Swab.
18 patients ...	None	—
A. J. ...	<i>Strep. mitis</i>	10
A. M. ...	<i>Strep. mitis</i>	1
M. McL. ...	<i>Strep. faecalis</i>	50
C. D. ...	<i>Strep. mitis</i>	1
M. P. ...	<i>Strep. faecalis</i>	50
C. H. ...	<i>Strep. faecalis</i>	50
M. K. ...	<i>Strep. non-haemolyticus</i>	10

Streptococci were therefore found in 28 per cent. of the uteri, as contrasted with 54 per cent. in the first series. This would seem to point to faulty technique in the earlier investigation, but, even if this be allowed, 28 per cent. of positive results is still very considerable. The very sceptical may hesitate to accept a single streptococcus (more probably a single chain of streptococci) as significant, but even if these are discarded there remain 20 per cent. of puerperal uteri invaded by streptococci of the viridans type in women exhibiting no sign of morbidity as determinable by temperature, pulse, or local condition.

## SUMMARY.

1. Streptococci were found in the vagina before and after delivery in 69 per cent. of the cases examined. They may therefore be regarded as among the normal flora of the part.

2. Haemolytic streptococci were only found twice in the examination of 108 vaginal swabs. *Strep. pyogenes* was never found.

3. The predominant non-haemolytic streptococci of the vagina were *Strep. faecalis* and *Strep. mitis*.

4. Non-haemolytic streptococci were present in the post-partum uterus in at least 20 per cent. of the cases examined.

We hesitate to draw any conclusions from our findings, but we suggest the following without wishing to dogmatize.

1. The commonest form of puerperal sepsis, that caused by haemolytic streptococci (and particularly *Strep. pyogenes*), is due to exogenous infection.

2. Non-haemolytic streptococci do occasionally cause puerperal sepsis. These organisms are present in the vagina of the majority of parturient women and are found fairly frequently in the uterus post partum. They are normal body saprophytes, but are opportunists as regards pathogenicity. (The *Strep. faecalis* may give rise to suppurative in wounds, and the *Strep. mitis* to septicaemia and subacute endocarditis.) Puerperal sepsis due to non-haemolytic streptococci is an endogenous infection. The cause is the streptococci of the vagina plus some unknown factor, which may be a local or general lowering of the patient's resistance or a rapidly enhanced virulence of the organism.

## REFERENCE.

<sup>1</sup> Holman, W. L.: The Classification of Streptococci, *Journal of Medical Research*, xxxiv, 1915.

## BLOOD COAGULATION TIME IN THE INSANE.

BY

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TICEHURST.

WHEN discussing with my friend Dr. F. E. Taylor the occurrence of haematoma auris in insane persons, he mentioned that it had been found that in cases of spontaneous haemorrhage into the vitreous the coagulation of the patient's blood had been delayed, and suggested that haematoma auris might be due to the same cause. It was Dr. Taylor's suggestion that induced me to make the investigation here recorded.

I found that the blood coagulation time was markedly prolonged in cases of haematoma auris, and I then deemed it advisable to test the blood of cases of insanity in general. The only reference I can discover in the literature to the blood coagulation time of insane persons is a paper by E. J. Larsen and H. Lind, who in 1920 recorded a series of 50 insane patients. They found that in all these patients the time was within normal range. I have not been able to see the original paper and do not know what method they used.

I have not succeeded in finding any reference to the matter in any of the textbooks or other works to which I have been able to refer. The subject of blood coagulation time, but without reference to insane subjects, has occupied the attention of many observers.

The method of measuring blood coagulation time adopted by different observers not only varies extremely, but there is no uniformity in the end-reaction which is sought. Thus, E. H. Lepper,<sup>1</sup> adopting the method of Dale and Laidlaw, takes the onset of coagulation as the point to be determined. This method is obviously objectionable as coagulation would be hastened by the agitation employed.

J. Addis<sup>2</sup> views under the microscope the edge of a drop of blood suspended in oil and acted on by a current of oil streaming against the edge of the drop. When a continuous smooth flow of the corpuscles ceases he concludes that coagulation has occurred in the drop. The apparatus used is not simple, and is open to the objection that contact with oil hinders or prevents coagulation.

The method of Sir Almoth Wright<sup>3</sup> is the simplest and most easily applicable. I adopted his method in a modified form in my experiments. I used capillary glass tubes 1 mm. in diameter and 6 cm. long; 2 cm. of the tube were filled with finger blood, the blood aspirated into the middle of the tube, and one end sealed in the flame. The unsealed ends

are then fixed in plasticine, and nipple, glass tubing, and plasticine are floated in a beaker of water kept at 37° C. A Hagedorn straight needle was used for pricking the finger, momentarily congested by a tape, and it is easy to fill simultaneously the four tubes used for each experiment by holding the tubes fan-shape between finger and thumb and inserting the approximated ends in the drop of blood.

I examined 117 cases, all being free from organic disease. In addition I examined 12 cases of normal sane persons. The average coagulation time in the 117 cases was 4.69 minutes. The average time in 12 normal sane persons was 3.75 minutes. This corresponds closely with the time given by other observers. J. H. Drysdale<sup>4</sup> says that normal coagulation time at temperature of body is about three or four minutes. E. R. Stitt<sup>5</sup> says that by Sabrazès's method finger blood coagulates in three to four minutes at room temperature.

Of the whole 117 cases, 63 gave coagulation times over the normal in sane patients. Of 10 cases of haematoma auris, 7 gave coagulation times above the normal. While these were the general results, it was noted that in 19 cases the time was six minutes, and 11 of these cases were mania. On the other hand, 14 cases gave a time under four minutes, and 10 of these were cases of dementia.

For some reason or another cases of haematoma auris are now very rare among the insane. In the private asylum where I am employed there are only 2 cases (recent), and at the East Sussex County Mental Hospital at Hellingly, with 1,350 patients, there were only 8 cases, and these were all old ones.

Tabulating the results we find—giving coagulation time over the normal: haematoma auris cases, 70 per cent.; insane cases, excluding haematoma, 52.3 per cent.; sane cases, 16.6 per cent. Coagulation time tends to decrease with increase of age of the patient.

## Conclusions.

1. The proportion of insane patients showing an abnormal condition of the blood is sufficiently large to indicate a line of treatment.

2. The prolonged coagulation time may well account for malnutrition of the brain tissue, and for the cerebral haemorrhages which so often occur in the insane.

3. The method of determining the coagulation time, as I have described it, is so simple that it can be easily done at the bedside.

4. Further investigation is needed to ascertain the factor or factors which prolong the coagulation time.

Is delayed coagulation in insanics due to decalcification, or to deficiency of prothrombin, or to deficiency of thrombokinase, which activates prothrombin, or which, according to Howell, is of lipid nature and neutralizes antithrombin?

It is probably not due to toxic substances produced by infective agents, as these would liberate a certain amount of nucleo-protein in the blood, and so produce coagulation.<sup>7</sup>

Halliburton<sup>8</sup> says that if we reject the thrombin theory with all its superstructures we accept a physical and not a chemical change as the cause of coagulation.

Sir A. E. Wright<sup>9</sup> points out that diminished coagulability of the blood is of very great practical importance, because it interferes with haemostasis, and also because it conduces to serious haemorrhage (in other words, to increased transudation).

It is to be noted that the observed blood coagulation time varies according to conditions of observation, temperature, etc., and the relative time between sane and insane is the important point. All my observations were made under exactly the same conditions. The absolute time will vary according to the method of observation.

My thanks are due to Dr. Taylor for the suggestion and much kindly advice, and to Dr. J. N. Greene Nolan of the East Sussex County Mental Hospital, Hellingly, where most of the work was done by kind permission of the medical superintendent. The rest of the work was done at Ticehurst House, Sussex, and I have to thank Dr. Colin McDowall for the facilities he gave me.

## REFERENCES.

- <sup>1</sup> Arch. Middlesex Hosp., London, 1912, xxvii, 191-204.
- <sup>2</sup> Halliburton: *Handbook of Physiology*, p. 470.
- <sup>3</sup> Quart. Journ. Exper. Physiol., London, 1938, i, 305-334.
- <sup>4</sup> The Technique of the Test and Capillary Glass Tube, 1921.
- <sup>5</sup> Allbutt and Rolleston: *System of Med.*, 1905, vol. i, p. 689.
- <sup>6</sup> Practical Bacteriology, Blood Work, and Animal Parasitology, 1925.
- <sup>7</sup> Martin, S., *British Medical Journal*, 1900, i, 871.
- <sup>8</sup> On the Association of Serious Haemorrhages with Conditions of Defective Blood Coagulability, *Lancet*, September 19th, 1916.

## Memoranda:

### MEDICAL, SURGICAL, OBSTETRICAL.

#### TRACHEOTOMY TUBE WORN FOR OVER SEVENTY YEARS.\*

So far as my reading and experience go, the case reported in the JOURNAL of April 18th by Sir Robert Woods is the "record." In the JOURNAL for 1912 (April 6th, p. 816) Mr. W. A. Berridge records the wearing of a tracheotomy tube for over fifty years by a patient who died of senile decay at the age of 81. But in the case of Sir Robert Woods a patient of 81 has worn a tube for seventy years, and it is noted that "she never had bronchitis." These and many similar cases show that a disposition to bronchitis and other respiratory troubles is not a necessary sequel of the permanent wearing of a tracheotomy tube. Many such patients ("cannulars," as they call them in France) enjoy excellent health, earn their living by manual or other labour, play games and dance, and the females bear children after normal accouchements. If stenosis of the larynx is not complete, and the vocal cords, or even one of them, still functions, speaking can be carried on without blocking the tube, if the latter is fitted with a hinged valve. Of course, the operation must have been well carried out and the tube should fit properly. If the opening is made as low as possible in the neck—both for the sake of appearance and for scientific reasons—the tube is easily concealed behind a collar or a veil, and there is no social disability connected with it.

Such satisfactory records should make us pause, in certain cases, before embarking on difficult, tedious, and often unsatisfactory measures for dilating a stenosed larynx.

London, W.1.

STCLAIR THOMSON.

#### ACUTE CHOLECYSTITIS AT THE AGE OF THREE.

THREE years must be a very early age for the occurrence of acute cholecystitis, and this case is therefore thought to be worthy of record.

The child, a girl, was admitted on January 25th, 1925, with acute abdominal pain and vomiting. There was a previous history of eighteen months of vague abdominal pains, but never severe. She had never been jaundiced. At 10.30 p.m. on January 22nd she was awakened by vomiting, and severe pain in the abdomen. On the following day she was much better, and the parents thought she had recovered. The bowels were opened twice, and the stools were of normal colour. On January 24th, at 8.30 p.m., vomiting and abdominal pain again occurred, and continued all night. The bowels did not act. On January 25th the child was said to have been exhausted and was brought to hospital at 7 p.m.

When admitted she looked ill; the face was flushed, the temperature was 100°, the pulse 128, and the respirations 36. She was not jaundiced. The abdomen was distended, moving poorly on respiration. The point of maximum pain was at a spot 1½ in. to the right of the umbilicus and on a level with it. The whole abdomen was rigid, but especially in the right upper quadrant. No tumour or enlargement of the liver could be detected. Rectal examination revealed nothing abnormal. No abnormal urinary constituents were found now or later.

**Operation.**—Mr. J. E. H. Roberts, on January 25th at 11 p.m., examined the abdomen under an anaesthetic and felt a rounded tumour the size of a golf ball under the right costal margin; it was tense and fairly freely mobile. A right paramedian incision was made at the level of the umbilicus. A right paramedian incision was present in the peritoneal cavity. The gall bladder presented at the wound, and was greatly distended (5 in. by 1½ in.). The surface was smooth, shiny, and of a mottled purple colour. About 20 c.cm. of a transparent fluid, grass-green, and of the consistency of bile, was removed by a needle. Careful palpation failed to detect any calculi in any of the biliary passages. The gall bladder was then opened. The mucous membrane was very injected and bled freely. No stone was found with a spoon. A small rubber drainage tube

was sewn into the gall bladder, which was dropped back into the abdominal cavity. The remainder of the wound was then closed.

**Pathological Examination.**—The fluid from the peritoneal cavity on culture yielded *Staphylococcus aureus* and *albus* in the proportion of 1 to 10. The fluid from the gall bladder was acid and contained bile; it was sterile on culture, and no cells or organisms were present in it. Section of a portion of the gall-bladder wall showed it to be in a state of acute inflammation.

Except for some bronchitis and a little suppuration in the wound the child made an uninterrupted recovery, and was discharged quite well on March 3rd.

I am indebted to Mr. J. E. H. Roberts, who performed the operation, and to Mr. L. Batho Rawling, who afterwards had charge of the case, for permission to publish these notes.

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House-Surgeon, St. Bartholomew's Hospital, London.

#### TORSION OF FALLOPIAN TUBES.

In recent numbers of the BRITISH MEDICAL JOURNAL there have been several references to this condition, which is apparently a definite clinical entity simulating acute appendicitis and affecting normal tubes. The cases recorded occurred during or within a few days of menstruation, and were characterized by abdominal pain and tenderness, rigidity of the lower fibres of the recti, and vomiting.

Reference to some recent textbooks of gynaecology has failed to reveal any mention of the condition, which, however, giving rise as it does to signs of an acute intra-abdominal catastrophe, might well be included in the differential diagnosis of such conditions as appendicitis, salpingitis, or ruptured ectopic gestation.

The following case, for permission to record which I am indebted to Dr. J. T. Bailey, exemplifies the condition.

A girl of 16 was admitted to hospital on August 1st, 1924, suffering from acute pain in the lower abdomen and vomiting. The attack had commenced the day before. She had not been constipated previously and was menstruating at the time. The lower fibres of both recti were rigid, particularly those of the muscle of the right side. There was tenderness in the right iliac fossa.

Laparotomy was performed, splitting the lower fibres of the right rectus. The ampullary part of the right Fallopian tube was black, swollen, and twisted on its mesosalpinx. The left tube, which had also undergone torsion but to a less extent, was congested, but not black, and on this side the twist was undone and the tube left *in situ*. The right tube was amputated and appendicectomy performed. Convalescence was uneventful.

A section of the right tube showed "a dense haemorrhage in which the remains of the wall of the tube could be seen." Dr. E. W. Bowell, assistant director of the Clinical Research Association, to whom I am indebted for the pathological report, commenting on this specimen, stated that several specimens very like it had been sent to him for examination. The specimens were mostly from young girls who had recently begun to menstruate. One was from a girl of 14, who was athletic, and it was suggested that exercise was a factor in her case.

In reviewing the records of cases of torsion of Fallopian tubes the outstanding feature is the absence of any external cause of torsion, such as adhesions, herniae, or the presence of tumours. Factors in the etiology would appear to be:

1. **Menstruation.**—The cases recorded have occurred during or in relation to menstruation. Several have occurred in association with the onset of menstruation at puberty, but P. R. Michaël has reported a case in a woman of 47 in whom, however, a normal menstrual period commenced three days after operation (*Epitome*, March 14th, 1925, para. 287).

2. **An abnormally long and free mesosalpinx.**

3. **Some muscular effort.**—In one or two instances attacks appear to have been precipitated by some strenuous exertion.

Torsion of otherwise normal Fallopian tubes is rare, but sufficiently common to merit attention and to be borne in mind when considering the differential diagnosis of acute intra-abdominal conditions. It most closely resembles appendicitis.

The Infirmary, Stockport. LAMBERT ROGERS, F.R.C.S.Ed.

\* A Sir Stclair Thomson notes, and another correspondent has written to a similar effect on this point, "over sixty years" in the title of Sir Robert Woods's memorandum was an understatement. The lady seems in fact to have worn the tube for seventy years.

## Congress of Obstetrics and Gynaecology.

THE fifth British Congress of Obstetrics and Gynaecology is being held this week in London at the house of the Royal Society of Medicine under the presidency of Dr. H. Russell Andrews. The constituent societies are the Section of Obstetrics and Gynaecology of the Royal Society of Medicine, the Edinburgh Obstetrical Society, the North of England Obstetrical and Gynaecological Society, the Midland Obstetrical and Gynaecological Society, the Section of Obstetrics of the Royal Academy of Medicine in Ireland, and the Ulster Medical Society. The official guests of the Congress are Professor J. Whitridge Williams of Baltimore and Professor W. W. Chipman of Montreal. The proceedings opened on the morning of Wednesday, April 22nd, with the President of the Congress in the chair, when reports-in-chief on the "Prognosis and treatment of puerperal sepsis" were presented by a London Committee and a North of England Committee, as recorded below. These reports were followed by communications by Sir Ewen J. Maclean on puerperal sepsis in Wales (printed in full at page 770 this week); by Dr. Gibson FitzGibbon and Professor J. W. Bigger of Dublin (see pp. 773 and 775); and by Dr. L. P. Lockhart of Manchester on bacteriological examinations during pregnancy. Dr. Lockhart's paper comprised an abstract of a report of an investigation, which appears in full in the current issue of the *Journal of Obstetrics and Gynaecology*. The afternoon of April 22nd was devoted to a discussion on puerperal sepsis, of which we hope to publish a report in our next issue, together with an account of the later proceedings of the Congress.

### PUERPERAL SEPSIS.

#### LONDON COMMITTEE'S REPORT.

The following report on puerperal sepsis, compiled by a committee appointed by the Section of Obstetrics and Gynaecology of the Royal Society of Medicine, is signed by Dr. H. Russell Andrews (chairman), Sir Ewen J. Maclean, and Mr. Aleck Bourne. In preparing this report, and that of the North of England Committee, for publication here, some abridgement has been necessary.

#### INTRODUCTION.

We were asked to prepare a report, on as large a number of cases of puerperal sepsis as possible, which would serve as a basis of discussion. We sent out a large number of forms with numerous headings under which details of cases of puerperal sepsis were to be entered, and, on the suggestion of the North of England Committee, laid down rules as to what cases were to be considered suitable to be recorded, as follows:

"Reference is made only to cases arising within the first twenty-one days of the puerperium from infections of the placental site or from lacerations of the genital canal. Positive indications of blood infections should be taken to be one or more of the following: (1) isolation of the organism, by blood culture; (2) prolonged pyrexia; (3) repeated rigors; (4) pyaemia, including septic pneumonia; (5) death from puerperal fever irrespective of *ante-mortem* symptoms."

The response from some parts of the country was most encouraging to the continuance of this form of collective investigation, while the response from other parts was meagre in the extreme. Altogether details of 408 cases were sent in. A careful process of selection reduced the numbers to 247. Some had to be excluded as not showing sufficient evidence of blood infection, others because the notes were not sufficiently full. In a great many of the cases some of the details asked for were missing. This was inevitable, as in few, if any, institutions are septic puerperal cases allotted to students for routine history-taking and note-taking, and the officers in charge of these cases have usually more urgent duties than that of taking comprehensive notes.

The report is based on analyses of these 247 cases, in which recovery took place in 160, and death in 87. (We do not wish it to be thought for a moment that we consider that these figures prove that 64 per cent. of cases of puerperal sepsis recover and 36 per cent. die!) The original arrangement was that the North of England report, which was to be printed separately, should be blended with this report, but it was decided later that if this blending was to be carried out it would have to be done after the meeting of the Congress, as it might be necessary to spend a good deal of time over it in case the selection of cases had been made more drastically by one committee than by the other.

#### ETIOLOGY.

A statement which is frequently heard at consultations is that puerperal sepsis occurs in cases in which the labour has been left to nature, the medical attendant possibly not even making a vaginal examination, and that cases in which a great deal has to be done seldom "go wrong." Our figures do not at all bear out the latter part of this view, but show that in 25 per cent. of cases there is no obvious etiological factor present.

In 160 cases in which recovery took place there were 42, or 26 per cent., and in 87 fatal cases there were 19, or 22 per cent., in which the labour could be said to be normal and spontaneous, with no special risk of infection from lacerations, cervical or vaginal discharge, or from other causes. This is the group which presents the greatest problem.

**Exhaustion.**—In the cases in which recovery took place the labour was said to be prolonged in 16 cases. In one of these cases it apparently finished spontaneously. The mode of delivery in the other cases was: forceps, 3; forceps, craniotomy, tear, 1; forceps, manual removal of placenta, 1; pubiotomy, sloughing of vagina, 1; breech, 1; breech, laceration, 1; breech, blunt hook, very severe laceration, 1; extensive laceration, 1; craniotomy, 5. In 65 fatal cases excessive length of the labour is noted in 7 cases; protracted labour, pubiotomy, forceps, 1; protracted labour, forceps, episiotomy, perineal tear, 1; protracted labour, putrid liquor amnii, episiotomy, forceps tear, 1; long impaction of head, craniotomy, 1; long impaction of shoulder, version, 1; prolonged labour, six days, 1; prolonged breech extraction, 1. Exhaustion was probably a factor in many other cases—for example, "obstructed labour, forceps"; "forceps applied four times, tear"; "forceps, cephalotripsy, bladder injured, terrible tearing"; "many attempts at delivery by the forceps and version"; "impacted shoulder, internal version, small tear of anterior wall of uterus," etc. It may be taken that in any forcible method of delivery which resulted in extensive laceration exhaustion may have been present.

**Laceration, Bruising, and Manipulation.**—In 160 cases in which recovery took place there were 42 cases of normal, spontaneous labour with no tear, with no retention of a portion of placenta, no gonococcal or cervical discharge, and no direct or indirect contact with septic cases—that is, 26 per cent. in which there was no suggestion of a source of infection, except that in some cases the recorder blamed the midwife or the doctor, on what evidence we do not know. [The Committee's tabular analysis of the abnormalities or interferences in the other 118 cases is omitted here.] Thus there was some extra risk of infection in no less than 74 per cent. of the cases in which recovery took place, and in 21 cases or 13 per cent. of the whole number the placenta was removed by hand. In 37 cases at least there was some laceration. These figures may be analysed from another point of view—namely, "What amount of interference had there been in the labours of patients who became infected and recovered?" Cases in which lacerations occurring in spontaneous labour were sutured, and in which a portion of retained placenta was removed, are not included under the term "interference in labour." (We do not suggest that the interference was unnecessary in the circumstances and are making no criticism, but are simply recording facts from



the figures given above.) Out of 160 labours of patients who recovered there was interference in 78, or 49 per cent. The forceps was used, frequently with resulting laceration, sometimes followed by craniotomy or version, in 44 cases. Version was performed in 4 cases, craniotomy in 6 cases, Caesarean section in 2 cases, and pubiotomy in 2 cases. Labour was induced in 6 cases, assistance was given with the breech in advance in 5 cases. In one case the patient tried to bring on labour herself by intravaginal manipulations. In 21 cases the placenta was removed manually. Out of 87 fatal cases, labour was spontaneous and normal in 19; spontaneous with laceration of the perineum, vagina, or cervix in 9; spontaneous with retention of a portion of placenta in 5; spontaneous with bleeding in 2; spontaneous with "contact" in 5—that is, spontaneous in 40 or 46 per cent. (One of the "spontaneous and normal" labours was followed by gangrene of the vagina and uterus.) In the remaining 47 cases, or 54 per cent., labour was abnormal. [The details of abnormal labour in the 87 fatal cases are omitted here.] In 47 fatal cases out of 87 there was interference in the labour—that is, in 54 per cent. In 57 fatal cases out of 87 there was some special risk of infection (retention of a portion of placenta after spontaneous labour being included and tearing in spontaneous labour being excluded)—that is, in 65 per cent. of cases. An analysis of the 160 non-fatal and 87 fatal cases taken together gives the following figures:

Out of 247 cases labour was spontaneous in 122, or 49.4 per cent.; there was interference in labour in 125, or 50.6 per cent.

Excluding laceration in spontaneous labour there was some special risk of infection in 154 cases, or 63 per cent.

Including laceration in spontaneous labour there was some special risk of infection in 186 cases, or 75 per cent.

**Manual Removal of the Placenta.**—It is difficult, by statistics, to show with much accuracy the frequency with which manual removal of the placenta was followed by septic infection, because in many cases the relative importance of this factor was complicated by the performance of other manipulations or operations. The placenta was removed manually in 34 cases—21 non-fatal and 13 fatal. Among the non-fatal cases the placenta was removed manually in 16 cases after spontaneous labour. In one of these the cervix had been torn, in one there was a sloughing perineal tear, in one case there was albuminuria, and in one case there was "latent gonorrhoea." In several cases there had been post-partum haemorrhage of varying degree and in some the placenta was not removed until several hours after the birth of the child. . . .

Among the fatal cases the placenta was removed manually without other operation, in seven cases, in one of which post-partum haemorrhage is recorded. One of the spontaneous cases was followed by gangrene of the vaginal wall and uterus.

**"Contact" Cases.**—Direct transference of infection from one patient to another, which formerly bulked so largely as the cause of puerperal fever, was directly observed and traced in 15 cases, and in one other case the evidence was doubtful. Contagion, therefore, accounts for an incidence of 6 per cent. in the whole series. The first series of contacts is of sufficient interest to report in full:

#### The Infecting Case.

Mrs. M. O'C. came into labour with pyrexia already developed, with a pleural effusion and superficial thrombosis of arms and legs. There were three rigors. Labour was normal and no examination was made. This patient recovered.

#### The Infected Cases.

1. Normal labour, no streptococcus found in the blood—recovery.
2. Normal labour, one rigor, no streptococcus found in the blood—recovery.
3. Indirect contact with Mrs. M. O'C. for twenty-four hours. Normal labour. Haemolytic streptococcus, no rigors, general peritonitis—died seventh day.
4. Indirect contact. Caesarean section. Blood culture yielded haemolytic streptococcus. No rigors. Died on the eighty-fourth day.
5. Normal labour. Haemolytic streptococcus. No rigors, general peritonitis—died on the thirtieth day of puerperium.
6. Easy normal labour, simple laceration of perineum, blood negative, no rigors, general peritonitis—died eleventh day of puerperium.

The comment made by the obstetrician reporting this series is as follows:

"All the above developed close together, having been confined with Mrs. M. O'C., who had ante-partum pyrexia. Not strictly isolated, but no connexion between nurses examining the cases could be found, and no examination was at any time made on Mrs. M. O'C. But there was a certain amount of commo mixing during the actual labours of the six secondary cases, extending over periods of from twelve to twenty-four hours, after which these cases were removed to separate wards."

This series, with its enlightening commentary, serves to show how subtle may be the means of infection by contagion. The infecting woman was never examined vaginally, yet her mere presence within the radius of the ordinary traffic of the wards was sufficient to disseminate serious and fatal infection. [Details of the other series are omitted here.] In spite of the commonly accepted view that secondary cases are usually of fulminating severity, of the 15 cases of contact infection only 5 died, a mortality of 33 per cent., as compared with 36 per cent. for the whole series.

**Autogenous Infection.**—The important question of the frequency and danger of autogenous infection as a cause of puerperal sepsis cannot, unfortunately, be elucidated by this inquiry. Any opinions on the etiological possibilities of this form of infection must rest upon evidence specially collected *ad hoc*, and such evidence can only be obtained by detailed investigation of women before labour, coupled with observation of the puerperium afterwards. The data supplied to us in this series of cases give the occurrence of septic foci in the body as possible causes of puerperal sepsis in only 5 cases, in none of which was there any identification of the focal organism with the causative agent of the puerperal infection. It is possible, if not probable, that some of the cases recorded in this report as arising after prolonged and exhausting labour or haemorrhage may have developed puerperal fever by reason of the diminished resistance of the patient failing to hold in check organisms which had been long resident in her body. In spite of the absence of serious consideration of autogenous infection in this report, we wish, however, to suggest that some exact work to clear up this question is urgently needed, for until it is definitely known what proportion of cases can be ascribed to autogenous infection our ideas of the correct prophylaxis of puerperal sepsis cannot be complete. Of this series of 249 cases, 5 only were reported as being suspected of autogenous infection. They are as follows:—*Recovered*: Gonococci in the cervix and normal labour—3 cases; cervical discharge with precipitate labour, and no examination made—1 case. *Died*: Calculous pyelitis and induction—1 case. The urine of this patient contained a streptococcus which was later identified by sugar reactions with the organism recovered from the blood and uterine cavity.

**Haemorrhage in Labour.**—The generally accepted view that haemorrhage in labour plays a serious part in the etiology of puerperal sepsis directly by lowering resistance, and indirectly by involving the patient in manipulative treatment, is borne out by the results of this inquiry. Of the whole series, 20 patients are notified as having had haemorrhage, either before or after labour, to a pathological degree. [The analysis is omitted here.] Considering all cases of haemorrhage we find that of 20 cases 13 died, yielding a mortality of 65 per cent., while the incidence of haemorrhage as an etiological factor in the whole series stands at about 8 per cent.

**Albuminuria.**—The presence of albuminuria was noted in 14 cases, but in most of them there was no account of the amount of albumin or the coexistence of other signs of toxæmia, which, if recorded, might furnish evidence as to how far the albuminuria was a real factor in the etiology or merely an incident. It is perhaps worth while recalling that out of 80 fatal cases of eclampsia reported by the Committee on Obstetrics and Gynaecology of the Royal Society of Medicine, only one death was directly attributable to sepsis—namely, general peritonitis. [The analysis of the patients is omitted here.] It is clear on examining the fatal cases that 3 of the 5 were complicated by other factors (such as haemorrhage and trauma) which were in themselves not only liable to predispose to sepsis, but also

likely to lead to fatal issue. Of the patients who recovered, 6 out of 9 were notified as having albuminuria only—that is, without any other of the conditions which ordinarily predispose to sepsis. From the comparatively few cases at our disposal we may perhaps conclude, therefore, that albuminuria does not play a great part in the causation of puerperal sepsis by lowering resistance, and that where albuminuria is the only condition present the chances of recovery, other things being equal, are good.

**Exploration of the Uterus during the Puerperium, with or without Curetting.**—We had hoped that this investigation might give some definite information about the risk attached to exploration of the uterus in cases of puerperal pyrexia. Unfortunately, however, the notes are in most cases too meagre to be of much value from this point of view, as they do not state the nature of the exploration—that is, whether a retained portion of placenta was removed or not, and whether the uterus was curetted or not. Exploration of the uterus is recorded in 15 cases, of which 12 were fatal. [Details are omitted here.] These figures are small, but it is worthy of note that 80 per cent. of the cases in which the uterus was explored were fatal. The operation, so far from doing good, probably did harm in some of them. We were agreeably surprised to find that exploration had been carried out in such a small number, as we had learned to regard it as a very dangerous procedure. It is interesting to note that retention of a portion of placenta played such a small part in the etiology of the recorded cases.

**Induction of Labour.**—Among the 247 cases labour was induced in 9; 3 of the patients recovered and 6 died. The fatal cases were: (1) albuminuria, bongies, secondary post-partum haemorrhage; (2) albuminuria; (3) albuminuria, post-partum haemorrhage; (4) chorea; (5) Champetier de Ribes's bag, manual removal of the placenta; (6) auto-genous infection.

#### CLINICAL FEATURES.

The following table indicates the onset of pyrexia in 230 cases. It shows the day on which the pyrexia started in cases in which recovery took place and in which death occurred. (0=the day on which the labour finished.)

Day.	Recovered.	Died.	Day.	Recovered.	Died.
0	...	4	7th	...	5
1st	...	7	8th	...	5
2nd	...	25	9th	...	1
3rd	...	37	10th	...	7
4th	...	32	12th	...	3
5th	...	11	13th	...	1
6th	...	8	16th	...	0

It will be seen that in 25 per cent. the onset was on the third day; in 20 per cent. on the fourth day. In 83 per cent. the onset was in the first five days.

The next table shows the percentage of cases in which the onset occurred on each of the first seven days.

Day.	Recovered.	Died.	Day.	Recovered.	Died.
0	...	3	4th	...	22
1st	...	5	5th	...	8
2nd	...	17	6th	...	5
3rd	...	25			

It will be seen that, except on the day after delivery, there is very little difference between the percentages of non-fatal and fatal cases.

**Degree and Character of the Pyrexia.**—In 107 cases the pyrexia was said to be remittent; among these cases there were 73 recoveries and 34 deaths. In 61 cases the pyrexia was said to be persistent; among these cases there were 34 recoveries and 27 deaths. Reduced to percentages there were 68 per cent. of recoveries and 32 per cent. of deaths with remittent pyrexia; there were 56 per cent. of recoveries and 44 per cent. of deaths with persistent pyrexia. In 56 per cent. of the fatal cases there was a remittent type of pyrexia, and in 44 per cent. a persistent type. An analysis of the degree of pyrexia resulted in the finding that in cases in which recovery took place the average highest temperature was 103.3° F., and that in fatal cases 103.2° F. The degree of pyrexia is apparently of little

prognostic value. A study of charts would be much more likely to provide useful information than a mere record of the character of the pyrexia and of its highest point.

**Pulse Rate.**—With a pulse rate under 140 per minute the fatal cases were 29 out of 132, or 22 per cent. With a pulse rate of 140 or over the fatal cases were 52 out of 94, or 55 per cent.

With a pulse rate of 110 and under,	96% recovered,	4% died.
" " 120	79% "	21% "
" " 130	60% "	40% "
" " 140	58% "	42% "
" " 150	29% "	71% "
" " 160	17% "	83% "

The above figures are very striking, and suggest that the frequency of the pulse is of great importance from the point of view of prognosis.

**Rigors.**—In 205 cases there was a definite note as to presence or absence of rigors. In 118 of these cases (58 per cent.) the presence of rigors was noted; in 87 cases (42 per cent.) the absence of rigors was noted. Of the 118 cases with rigors 78, or 66 per cent., recovered, while 40, or 34 per cent., died. Of the 87 cases without rigors 52, or 60 per cent., recovered, while 35, or 40 per cent., died. The mortality in the cases with one rigor was 36 per cent.; in the cases with two rigors 13 per cent.; in the cases with frequent rigors 38 per cent.; in the cases with no rigors 40 per cent. Most, if not all, of the patients were being looked after by trained nurses. Where the patient or an inexperienced nurse might not consider that a rigor had occurred unless the bed had been shaken and the teeth had chattered, an experienced nurse would notice the altered appearance of the patient with a complaint of a feeling of chilliness, or of "cold water running down the spine," with perhaps only a slight degree of shivering, would take the temperature and find a temporary rise to 104° F., 105° F., or higher. We must take it that in the 87 cases in which "no rigors" was recorded rigors did not occur, though it is possible that in the records in which a dash was put in the column for rigors they may have occurred, but this element of doubt does not affect the fact that in 35 fatal cases there were no rigors. The presence or absence of rigors cannot be taken as an important prognostic sign. [Tables showing the day of puerperium and the day of pyrexial period on which the first rigor occurred are omitted here.] The first rigor occurred in 8 per cent. of the total cases on the first day after labour, in 17 per cent. on the second, in 27 per cent. on the third, and 9 per cent. on the fourth; in 8 per cent. of the non-fatal cases on the first day after labour, in 15 per cent. on the second, 13 per cent. on the third, and 9 per cent. on the fourth; in 7 per cent. of the fatal cases on the first day after labour, 23 per cent. on the second, 17 per cent. on the third, and 7 per cent. on the fourth. The only useful fact shown by the above is that in fatal cases the rigors tended to occur early in the puerperium. In 67 per cent. of the total cases the first rigor occurred on the first day of the pyrexial period; in 71 per cent. of the non-fatal cases the first rigor occurred on the first day of the pyrexial period; in 62 per cent. of the fatal cases the first rigor occurred on the first day of the pyrexial period.

**Sleep.**—Owing to a change in the headings we were not supplied with information as to the character of the patients' sleep after the first groups of forms had been returned, except that insomnia was noted. In 111 cases the character of the sleep is noted, good or fair in 72, bad, poor, or "insomnia" in 49. In cases in which the patient slept well the mortality was 19 per cent.; in cases in which the patient slept badly the mortality was 75 per cent. In 16 cases in which insomnia was noted the mortality was 81 per cent.

**Tongue.**—Dryness of the tongue, according to most of the reports, seems to be of grave prognostic significance, but in a few of the forms sent in most of the patients who recovered were said to have dry tongues. Probably the dryness of the tongue in these cases was noted only on admission, before the patients had come under the care of skilled nurses. Dry tongue was noted in 72 cases, of which 33, or 46 per cent., were fatal.

**Other Symptoms.**—Vomiting was noted in only 4 cases, all fatal. Diarrhoea was noted in 20 cases, in 17 of which, or 85 per cent., the patient died. Delirium was noted in 30 cases, in 26 of which, or 87 per cent., the patient died. General peritonitis was noted in 16 cases, 15 of which, or 94 per cent., were fatal. Pneumonia was noted in 11 cases, of which 8, or 73 per cent., were fatal. Mania was noted in 5 cases, of which 3 were fatal.

**Pyæmic Abscesses** were noted in 13 cases during life, 6 of which, or 46 per cent., were fatal. In 5 cases, all of which recovered, abscesses developed in the buttock, at the site of quinine injections. This bears out the teaching that the formation of a fixation abscess indicates a rising resistance, and is of good prognostic significance. In one hospital, where several hundred quinine injections have been given, no abscesses developed except in one case in which an injection of ergotin before admission was thought to be responsible.

#### RESULTS OF EXAMINATION OF THE BLOOD.

In 53 cases streptococci were found in the blood; in 4 *B. coli* was found in the blood; in 79 the blood was said to be sterile. It would probably be more correct, in some of these cases, to say that streptococci were not found than that the blood was sterile, since in some of the positive cases streptococci were not found on the first or second examination, but were found later. Of the 79 negative cases 16, or 20 per cent., died, and 63, or 80 per cent., recovered.

Of the 53 cases in which streptococci were found 35, or 66 per cent., died; 18, or 34 per cent., recovered. It will be seen that the mortality was more than three times as great when streptococci were found in the blood as when they were not found. [Detailed analyses of the 53 cases in which streptococci were found in the blood are omitted here.] Among these cases there were 20, or 38 per cent., in which there were no rigors. Sixteen of these cases were fatal and 4 non-fatal—that is, 80 per cent. of the "blood positive" cases without rigors were fatal and 20 per cent. non-fatal.

Of the 4 cases in which *B. coli* was found in the blood, 3 cases recovered, with one, two, and three rigors respectively; pulse 110, 140, 172. There was one spontaneous labour. In one case the vagina and lower uterine segment were packed to induce labour. In one case delivery was by forceps. One patient died—eight rigors, pulse 140, placenta prævia, bipolar version, manual removal of placenta, bronchopneumonia.

#### TREATMENT.

We had hoped to make some useful deductions on the subject of treatment, but have been unable to do so. There were over sixty different methods of treatment or combinations of different methods. In the first 31 cases analysed, in which the treatment consisted of "general medical treatment," there were 25 recoveries and 6 deaths, but it would be absurd to deduce from this that treatment of puerperal sepsis by general medical measures results in nearly 81 per cent. of cures!

In 33 cases treated by antistreptococcal serum and injections of quinine there were 28 recoveries and 5 deaths—a mortality of 15 per cent.—while 11 patients treated by intramuscular injections of quinine alone all recovered. Of 14 patients treated with antidiphtheritic serum only 1 died, while 3 patients treated by colloidal iodine and neosalvarsan all died. It should be stated that some of the cases mentioned above in which recovery took place were afterwards discarded as not being sufficiently severe to come into this report, but the labour which would be involved in getting out corrected figures did not seem to be worth while.

The various methods of treatment adopted, alone or usually in combination with one or more others, included general medical, postural, douching, antistreptococcal serum, vaccines (stock and autogenous), colloidal iodine, colloidal argentine, transfusion of blood, immunotransfusion, saline solution or sodium bicarbonate solution per rectum and intravenously, quinine intramuscularly and intra-

venously, phylacogen, antidiphtheritic serum, *B. coli* serum, eusol intravenously, irrigation of the uterine cavity with methyl violet and crystal green, and intravenous injections of mercuriol and mercury perchloride.

This long list suggests that the best method of treatment is still being sought. Would it be possible to parcel out various definite methods of treatment to selected hospitals so that results could be compared in a year's time, or are the conditions too diverse to be feasible?

#### DURATION OF LIFE IN FATAL CASES AFTER THE ONSET OF PYREXIA.

In 83 cases the average duration of life after the onset of pyrexia was eighteen days, but this average was unduly high by inclusion of a few cases which dragged on for weeks or months. The most fatal day was the eighth, on which 8 patients, or 10 per cent. of the total, died. On the fourth and fifth days together 14 patients, or 17 per cent., died.

Thirty-one patients, or 37 per cent., died in the first week. Seventeen patients, or 20 per cent., died in the second week—that is, 57 per cent. in the first two weeks.

Ten patients, or 12 per cent., died in the third week—that is, 69 per cent. in the first three weeks.

Ten patients, or 12 per cent., died in the fourth week—that is, 81 per cent. in the first four weeks.

Eight patients, or 10 per cent., died in the fifth week—that is, 91 per cent. in the first five weeks.

One patient died on the 48th day.

Three patients died between the 50th and 60th days.

One patient died between the 60th and 70th days.

One patient died between the 80th and 90th days.

One patient died on the 180th day.

(Some of these patients died of marasmus, the effect of adhesions due to intraperitoneal suppuration.)

Excluding these last seven cases, the average duration of life of the remaining 76 patients was fourteen days after the onset of pyrexia, and 63 per cent. of them died in the first two weeks.

#### POST-MORTEM FINDINGS.

The following is a summary of the *post-mortem* findings in 35 fatal cases, with the number of days of duration of life after onset of pyrexia.

General peritonitis, six cases, 4, 4, 7, 7, 9, and 17 days.  
Abdomen full of pus, no gross lesions of organs, 4 days.  
Free pus in abdomen, 35 days.  
Abdomen full of pus, 7 days.  
Multiple abscesses in kidney, 9 days.  
Double pyosalpinx, 56 days.  
Pneumonia, enlarged spleen with abscesses, 52 days.  
Nothing remarkable in pelvis, a little blood-stained free fluid, spleen enlarged and almost fluid, 11 days.  
Gangrene of vaginal wall and uterus, 10 days.  
Endometritis, septic spleen, general peritonitis, 2 days.  
Acute vegetative endocarditis, nil else, 66 days.  
Pericarditis, abscesses of kidney, endometritis, 14 days.  
Putrid endometritis, necrotic. Tubes infected. Peritoneum healthy, 3 days.  
Putrid endometritis, necrotic. Tubes infected. Peritoneum healthy, 3 days, no pyrexia.  
Abscesses in hand, shoulder, ankle, and eye, and multiple in uterus and parametrium, 25 days.  
Putrid endometrium, 2 days. Albumin.  
Nothing remarkable, 8 hours.  
Gangrene of uterus, necrotic pus in parametrium, double pyo-thorax, multiple abscesses in lung, 18 days.  
General peritonitis, infection from Fallopian tube, 4 days.  
Abdomen full of pus, right tube infected, right lung partly consolidated, 10 days.  
General peritonitis, no local lesion, 3 days.  
No peritonitis, uterus large and soft and pulpy, internal surface oozing pus, small tear anterior surface sealed by adhesions, internal version, impacted shoulder, 8 days.  
General peritonitis, cystitis, and parametritis, 4 days.  
Gas-forming organisms in uterus, liver, and large blood vessels.  
Purulent general peritonitis and parametritis, 4 days.  
Acute endocarditis, thrombosis of ovarian vein, 7 days.  
Uterus full of pus, multiple abscesses in uterine wall, septic embolism in lungs, 24 days.  
Anterior parametritis, uterus lined by septic granulation tissue, 27 days.  
Infected placental site, left veins, abscess left ovary, 7 days.  
Sloughing of genital tract and buttock, 7 days.

[The report concludes with a series of brief notes of some serious cases (nine in number) in which the patients recovered. These cases serve to illustrate (1) the old maxim, "never give up hope in a septic case," and (2) some of the diverse methods of treatment adopted.]

## SUMMARY OF PROGNOSIS.

To sum up, this analysis suggests that the following should be considered to be of grave significance:

1. Onset of pyrexia during labour or within twenty-four hours of its termination.
2. Extensive tissue damage in the labour, particularly tearing of vagina and cervix rather than of perineum only.
3. Presence of streptococci in the blood.
4. Persistently high pulse rate.
5. Insomnia.
6. Diarrhoea with or without general peritonitis.
7. General peritonitis, pneumonia, or delirium.

The following signs and symptoms are of good prognostic significance:

1. Absence of streptococci in the blood.
2. Moderately low pulse rate, about 120.
3. Freedom from insomnia and diarrhoea.

## NORTH OF ENGLAND COMMITTEE'S REPORT.

The report of a committee of the North of England Obstetrical and Gynaecological Society on puerperal blood infections was presented to the Congress on April 22nd. The Committee was appointed in January, 1924, and consisted of Professor W. Blair Bell (Chairman), Mr. John Chisholm, Dr. Daniel Dougal (Secretary), Mr. Carlton Oldfield, and Mr. Leyland Robinson.

## INTRODUCTION.

This report is based upon an analysis of 154 cases of puerperal septicaemia, selected in accordance with the qualifications laid down at the beginning of the investigation, and set forth on the special forms drawn up by the London Committee in conjunction with the Committee of the North of England Society. [The conditions are set out in the London Committee's report, at page 778.]

It will be apparent that only the most serious cases are taken into account, and in view of the high mortality rate in our series it is important that this should be fully understood at the outset.

The printed puerperal fever forms received from various sources have been carefully examined, and the information obtained has been analysed under the following headings: (1) Etiology; (2) Symptoms; (3) Pathology and Bacteriology—(a) pathological anatomy, (b) bacteriology; (4) Treatment—(a) intrauterine methods, (b) abdominal operations, (c) serological methods, (d) drugs, (e) other methods. The majority of the cases were treated in institutions, but a few came from private sources.

Nearly half of the cases—72 to be exact—were admitted to the Walton Institution of the West Derby Union, Liverpool, and the Committee wishes to record its appreciation of the work done by the medical officer, Dr. H. H. MacWilliam, in collecting so much valuable material and placing it at the disposal of the society.

## ETIOLOGY.

In considering the question of etiology, account must be taken of the patient's general health and surroundings, the efficiency of the antiseptic precautions employed by the doctor or midwife in attendance, the character of the labour, and the nature of any obstetric operation performed. It is impossible to express any opinion on the first two points, for the data available are too scanty, but in regard to the others a good deal of useful information has been obtained.

In over 46 per cent. of the cases labour was normal—there was no interference whatever, apart from vaginal examinations. The number of these examinations is not known, except in a few cases specially mentioned in the table. Forceps were used in 29.2 per cent. of the cases, and the placenta was removed manually in 15.6 per cent. The latter figure is important, and shows that the risk of septic infection following manual removal of the placenta has not been exaggerated. There is one instance of infection after packing of the vagina, but the case—one of placenta praevia—was further complicated by the fact that there was a gonorrhoeal vaginal discharge.

The source of infection has next to be considered, and

any conclusion which may be drawn is largely a matter of speculation. There are seven cases in which the patient had some infective condition prior to the onset of labour, and in these the infection may have been autogenous. In the majority of cases, however, it has to be assumed that the infection came from without, and was introduced during delivery. In five cases there is strong evidence to show that the nurse's hands were responsible—three were attended by the same nurse, one was attended by a nurse who had a bad reputation as regards asepsis and had two other deaths a short time previously, and in the remaining case the nurse was suffering from some feverish condition at the time she delivered the woman. Two cases were attended by a doctor suffering with a septic finger. The two cases in which the infection is supposed to have been conveyed from another patient are interesting. In one a patient in the next bed was found to be suffering with scarlatina; in the other, the woman's husband developed erysipelas of the face, and was transferred to a fever hospital. This misfortune so upset his wife that labour started prematurely, and the child was born before the arrival of either doctor or nurse. This patient developed septicaemia, in spite of the fact that everything was normal at the confinement and there was no vaginal examination.

One other point in connexion with etiology may be mentioned here, and that is the possibility of minor degrees of sepsis being converted into blood infections by intrauterine methods of treatment. If the first rigor be taken as an indication of the onset of blood infection, it is possible to examine 43 cases where sufficient data are available. In 13 cases the uterine treatment was carried out prior to the occurrence of the rigor, but in one of these the rigor which occurred was apparently due to the intrauterine method adopted for the administration of antistreptococcal serum. In four instances the rigor was definitely stated to have occurred immediately after the intrauterine treatment.

## ETIOLOGICAL FACTORS.

## Relation between Intrauterine Methods of Treatment for Sepsis and Onset of Septicaemia.

Serial No.	Day of Onset of Pyrexia.	Day of First Rigor.	Nature and Day of Intra-uterine Treatment.	Result.
1	5	5	Curetting, 12th day	Died.
5	7	7	Donche, 11th day	Died.
9	2	9	Exploration, 4th day	Died.
19	2	2	Donche, 5th day	Died.
12	2-3	6	Explored, 7th day	Died.
14	2	2	Nil	Died.
15	2	2	Donche, 2nd day	Died.
16	3	3	Explored, 10th day	Died.
23	5?	5	Washed out, 5th day	Died.
24	1	9	Washed out, 2nd day	Died.
25	9	9	Donche, 31st day	Died.
27	3	5	Explored, 6th day	Died.
28	1	1	Explored, 8th day	Recovered.
29	3	3	Explored, 4th day	Died.
30	3	(serum)	Donche, 3rd day	Died.
32	8?	8	Clots removed, 8th day	Died.
35	3	3	Nil	Died.
38	3	3	Explored, 6th day	Died.
41	4	4	Nil	Died.
42	3	3	Explored, 7th day	Died.
43	4	4	Explored, 6th day	Died.
44	1?	6	Explored, 4th day	Died.
46	4	7	Nil	Died.
47	10?	10	Donche, 18th day	Died.
48	2?	10	Nil	Died.
49	4	13	Donche, 9th day	Died.
50	8?	8	Donche, 12th day	Died.
52	4	4	Donche, 6th day	Died.
55	2-3	4	Curetting, 6th day	Recovered.
57	5?	5	Curetting, 10th day	Recovered.
59	3	3	Nil	Recovered.
60	3	3	Donche, 5th day, explored 6th day	Recovered.
64	4	14	Curetting, 4th day	Recovered.
65	8?	10	Curetting, 10th day	Died.
107	4	4	Donche, 7th day	Died.
117	18?	18	Curetting, 19th day	Died.
123	17	18	Removal of R.P.C., 17th day	Died.
130	9	13	Removal of R.P.C., 13th day	Died.
132	4	2	Glycerin injected into uterus, 9th day	Died.
138	1	1	Curetting and douching, 1st day	Died.
143	8	11	Removal of R.P.C., 9th day	Died.
150	3	5	Uterus douched, swabbed, and packed at delivery	Recovered.

NOTE.—An asterisk has been placed opposite those cases in which the first rigor occurred after intrauterine treatment.

Other etiological factors in this series of cases, which are tabulated in the Committee's report, are printed here in abstract.

Complications were reported in the following cases: Delayed head-first cases 43, transverse lies 3, haemorrhages—ante-partum (unclassified) 1, placenta praevia 7, post-partum 5, secondary post-partum 2.

Instrumental delivery took place in 45 cases, the placenta being removed manually in 6 of these. Version was performed in 8 cases, the placenta being removed manually in 3 of these.

Summary of obstetric operations in 154 cases of puerperal septicaemia: No obstetric operation 72 cases (46.7 per cent.), perineal suture only 14 cases (9 per cent.), forceps, etc., 45 cases (29.2 per cent.), version 8 cases (5.2 per cent.), manual removal of placenta only 15 cases (9.7 per cent.).

The only information as to vaginal examinations during delivery was as follows: Child born before arrival of doctor or nurse, no interference necessary, 1 case; child born before arrival of doctor or nurse, but perineum sutured, 1; no examinations before delivery, 3; one examination only, 2; one examination by doctor, 1.

Fœtal conditions: Twins 3 cases, premature 9, foetus putrid or macerated 5.

Source of infection: Doubtful 71 cases; possibly conveyed by doctor 2, possibly by nurse 5, possibly from putrid foetus 2; injuries during delivery—extensive lacerations, 12; difficult forceps extraction 16, version 5, manual removal of placenta 16, packing uterus for post-partum haemorrhage 1; retained portions of placenta 15; associated infections—influenza 1, alveolar abscess 1, syphilis 3, gonorrhoea 2; from another patient—scarlatina 1, erysipelas 1.

#### SYMPTOMS.

The information obtained under this heading is of little value. The temperature rose on the second, third, or fourth day in 73.5 per cent. of the 121 cases about which particulars are available. The character of the pyrexia was very variable, but was remittent in a large proportion of cases. The accuracy of much of the information on this point is, however, very doubtful.

#### Rigors and Pyrexia.

The interval between the first rise of temperature and the occurrence of the first rigor is of interest, as giving some indication as to the rapidity of onset of the actual blood infection. Particulars on this point are available in 75 cases as follows (the first figure in each instance shows the interval in days, the second the number of cases): 0, 38; 1, 7; 2, 4; 3, 6; 4, 2; 5, 4; 6, 2; 7, 1; 8, 1; 9, 2; 10 and over, 8. It will be seen that the rigor occurred on the day of onset of pyrexia in more than half of the cases. Rigors occurred in 107 cases (74 per cent.), there were no rigors in 37 cases, and no information as to rigors in 10 cases. In 18 of the patients who died and in 6 of those who recovered there was only one rigor; in 9 and 4 respectively there were two rigors; in 9 and 2 there were three; in 12 and 2 there were four; in 3 and 0 there were five; in 15 and 10 there were more than five; and in 16 and 5 the number was doubtful. In 7 of the patients who died and in 3 of those who recovered the first rigor was on the first day; in 10 and 3 it was on the second day; in 10 and 2 on the third; in 10 and 5 on the fourth; in 4 and 3 on the fifth; in 6 and 0 on the sixth; in 4 and 0 on the seventh; in 4 and 2 on the eighth; in 5 and 0 on the ninth; in 4 and 0 on the tenth; in 1 and 1 on the eleventh; in 1 and 0 on the twelfth; in 3 and 0 on the thirteenth; in 0 and 2 on the fourteenth; in 7 and 2 the first rigor was later than the fourteenth day.

In 13 of the patients who died and in 3 of those who recovered pyrexia began on the first day. In 20 and 5 respectively it began on the second day; in 29 and 12 on the third day; in 15 and 8 on the fourth day; in 10 and 1 between the fifth and ninth days. In 1 fatal case the onset of pyrexia was on the twelfth day; in 1 fatal case on the thirteenth or fourteenth day; and in 1 fatal case between the fourteenth and twenty-first days. The day of onset was doubtful in 33 cases.

Vomiting occurred in 8 of the patients who died and in 3 of those who recovered; insomnia in 4 and 6 respectively; diarrhoea in 19 and 6; delirium in 29 and 5.

#### PATHOLOGY AND BACTERIOLOGY.

Post-mortem examinations were made in 49 cases, and the results are summarized as follows: No localized lesions, 12 cases; abdominal or pelvic conditions—peritonitis, etc., 23; thrombosis only, 11; pulmonary lesions only, 3.

The lesions observed are enumerated as follows:

Uterus—metritis and endometritis	6 cases
Peritonium and pelvic cellular tissues—	
Free fluid in general peritoneal cavity (serous 21, blood-stained 3, turbid 3, purulent 8)	21
Pus in pouch of Douglas	4
Pus in broad ligament	3
Spleen—	
Diffusent	3
Infarcts	7
Circulatory System—	
Vegetations on mitral valve	3
Venous thrombosis:	
Ovarian	7
Ovarian and inferior vena cava	2
External iliac and femoral	3
Femoral and saphenous	1
Internal saphenous	1
Uterine wall	1
Broad ligament	1
Respiratory System—	
Pleurisy, with or without effusion	5
Empyema	2
Pulmonary congestion	3
Pulmonary consolidation (abscesses in 6 cases)	9
Miscellaneous—	
Pyæmic abscesses	6
Petechial haemorrhages in various organs	7
Staining of tissues with blood pigment	2
Rapid decomposition from gas-forming organism	1

#### Blood Cultures.

The blood was examined during life in 75 cases, and streptococci were grown in over 65 per cent. A great majority of these examinations were made in one institution, and the high percentage of positive results not only indicates a very efficient technique, but also demonstrates the serious character of the infections. The cultures were generally made soon after the patient's admission and, if negative, were repeated in the event of her progress proving unsatisfactory. The following table gives some details as to the date, number, and results of the blood examinations in twenty-two cases where the particulars are available. [The detailed bacteriological findings at post-mortem examination and during life are omitted here.]

Serial No.	Day of Onset of Pyrexia.	Day of First Rigor.	Day of Blood Culture, and Result.	If Fatal, Day of Death.
2	2nd	5th	8th, Positive	13th.
3	2nd	4th	4th, Positive	7th.
5	7th	7th	12th, Positive	17th.
8	?	Nil	28th, Positive	35th.
9	2nd or 3rd	9th	8th, Positive	17th.
11	?	12th	15th, Positive	34th.
12	2nd or 3rd	6th	7th, Negative	14th.
18	?	Nil	13th, Positive	34th.
19	4th	4th	8th, Negative	Recovered.
			12th, Negative	
25	9th	9th	24th, Positive	60th.
29	3rd	3rd	11th, Positive	8th.
34	3rd	3rd	4th, Positive	11th.
35	3rd	3rd	7th, Positive	26th.
			3rd, Negative	
59	3rd	3rd	24th, Positive	Recovered.
			11th, Negative	
102	2nd	2nd	14th, Negative	Recovered.
107	4th	4th	9th, Positive	35th.
114	4th	7th	17th, Positive	14th.
115	3rd	3rd	6th, Positive	25th.
116	3rd	Nil	14th, Positive	9th.
118	2nd	Nil	8th, Positive	13th.
119	2nd	Nil	12th, Positive	7th.
120	?	Nil	6th, Positive	7th or 8th.
			7th, Positive	

#### TREATMENT.

In investigating the results of treatment, the Committee has been faced with the difficulty that a variety of different methods have been employed in almost every case, and it feels that it is quite impossible to express a definite opinion as to the efficacy of any particular method.

Some attempt has been made to group the various lines of treatment and examine the results, but the mortality in all is uniformly high, and there seems to be very little to choose between them.

#### Methods Employed, with the Exception of Drugs.

Intrauterine treatment alone was employed in 18 cases; intrauterine treatment and abdominal operation in 5; intrauterine and serological treatment in 21; intrauterine treatment and drainage of abscesses in 5; intrauterine and serological treatment, and drainage of abscesses in 8; intrauterine treatment, abdominal operation, and drainage of abscesses in 7; intrauterine and serological treatment



with abdominal operation and drainage of abscesses in 2. Abdominal operation alone was employed in 4 cases, and combined with serological treatment in 10; serological treatment alone in 49, and combined with drainage of abscess in 5; drainage of abscesses alone in 4 cases.

#### Operative Procedures.

*Intrauterine methods* were employed in 42 per cent. of all cases. They consisted of curetting, with or without douching, in 3 fatal and in 2 non-fatal cases; curetting, with drainage, in 5 and 2 respectively; douching in 6 and 1; douching, with drainage, in 7 and 2; swabbing in 1 and 3; exploration, with or without douching or swabbing, in 17 and 2; exploration, with drainage, in 13 and 2.

*Vaginal operation* (drainage of the pelvis through posterior fornix) was employed in 14 fatal and in 6 non-fatal cases.

*Abdominal Operations.*—Of these, 21 were performed on fatal cases and 9 on non-fatal cases. The mortality after abdominal operations was 70 per cent. The operations were as follows: Drainage of abdomen in 8 fatal and 3 non-fatal cases, ligation of thrombosed veins in 9 and 2 respectively, ligation of thrombosed veins with removal of one or both appendages in 3 and 1, ligation of thrombosed veins with removal of uterus and appendages in 1 non-fatal case. The mortality after operations for pelvic thrombosis was 75 per cent. Appendage removed for salpingitis in 1 fatal case and 2 non-fatal cases.

#### Serological Treatment.

*Antistreptococcal serum* was administered in 101 cases. As regards dosage, 50 c.cm. or less was given in 13 fatal cases and in 1 non-fatal case; 50-100 c.cm. in 8 and 6 respectively; 100-150 c.cm. in 3 and 3; 150-200 c.cm. in 2 and 4; over 200 c.cm. in 20 and 3. In 37 cases the amount is not known. The largest dose was 1,050 c.cm., in a fatal case.

*Antigonococcal serum* was administered in 1 fatal case.

*Vaccines* were administered in 13 cases in all. Mixed streptococcal vaccine in 3 fatal and in 3 non-fatal cases; autogenous in 1 and 4 respectively; in 4 fatal cases and 1 non-fatal case the nature of the vaccine was not stated: streptococcal and staphylococcal vaccine was given in 1 non-fatal case, and *B. coli* vaccine in 1 fatal and 1 non-fatal case.

#### Drugs.

The principal drugs employed were quinine (administered in 15 fatal and 7 non-fatal cases), collosol manganese (in 3 and 3 respectively), and coagulen ciba (in 9 and 2). The following drugs were also used: collosol argemum, collargol, novarsenobillon, ergot, acriflavine, chloramine, calcium chloride, iron, strychnine, digitalis, ammonium carbonate, calomel, infundibulin, adrenaline, parathyroid.

Other methods of treatment, employed in a few cases, were fixation abscess, drainage of pleural cavity, opening of pyaemic abscesses, blood transfusion, and vaginal tampons and packs.

#### Summary of Results of Treatment.

1. Intrauterine methods with or without other operative procedures: Total cases, 66; mortality, 78.7 per cent. Intrauterine methods, no other operative procedure: Total cases, 41; mortality, 80 per cent.

2. Abdominal operations with or without other operative procedures: Total cases, 30; mortality, 70 per cent. Abdominal operations, no other operative procedure: Total cases, 14; mortality, 71.4 per cent.

3. Serological treatment with or without other operative procedures: Total cases, 104; mortality, 72 per cent. Serological treatment, no operations: Total cases, 47; mortality, 76.5 per cent.

#### PERIOD OF SURVIVAL.

The number of days patients lived after the onset of pyrexia (in 100 cases) is shown in a concluding table.

Two patients survived 3 days, one survived 4 days, seven survived 5 days, nine survived 6 days, and four survived 7 days; 23 per cent. died within a week of onset of pyrexia. Five patients survived 8 days, eight survived 9 days, six survived 10 days, five survived 11 days, three survived 12 days, four survived 13 days, and two survived 14 days; 33 per cent. died within a fortnight of the onset of pyrexia. Six patients survived 15 days, three survived 16 days, one survived 17 days, two survived 18 days, one survived 20 days, and 31 survived over three weeks.

It will be noticed that 23 per cent. of cases died within a week, and 31 per cent. survived three weeks or longer. Of cases in the latter group, about 50 per cent. had definite thrombo-phlebitis.

#### RESULTS.

The general mortality rate in the series of 154 cases is 76 per cent. This is a very high percentage, but it has to be remembered that the report deals only with cases of puerperal blood infection, and that fatal cases have been included, irrespective of *ante-mortem* symptoms.

## Reports of Societies.

### ENCEPHALITIS LETHARGICA.

At a meeting of the Manchester Medical Society on April 1st, the President, Professor G. R. MURRAY, in the chair, Dr. D. E. CORE opened a discussion on encephalitis lethargica.

Dr. CORE first described a typical case of average severity in a young man of 24, and then dealt with certain symptoms and sequelae in detail. As regards the diagnosis of encephalitis lethargica, it was important to remember that no particular symptoms were essential; often enough the condition escaped recognition as an illness by the patient and his friends, and might only be revealed as such in the light of the after-course. The view that it was possible to establish a diagnostic scheme based upon symptoms was, he believed, untenable, and the present tendency to do so was responsible for the many erroneous diagnoses. Apart, however, from objective signs of implication of the nervous system, he had been increasingly impressed by the interesting relation existing between the symptoms and the patient's consciousness. In normal life there was a reasonably close parallelism between objective behaviour and the personality of the individual; a man who was acting in an uncontrolled way usually showed signs of mental uncontrol, one who seemed to be profoundly unconscious was as a rule unconscious, and a delirious patient was generally not aware of his surroundings. In encephalitis lethargica, however, this association did not appear to obtain. The most restless and uncontrolled patient was quite often capable of giving a remarkably clear and logical account of his sensations without any evidence of psychical uncontrol. It was notorious that the patient somnolent to the point of coma was usually able to answer questions and to give information demanding considerable concentration; the same phenomenon was observable in delirious patients. Furthermore, the ability to memorize subsequently events occurring in their environment at such times was considerable. In other words, instead of the normal association between the psychical state and the somatic symptoms, there was a dissociation which was anatomical rather than psychical, and which, he thought, was the most characteristic feature of the disease. The same principle was at work in the frank emotional loss of control that was liable to affect children as an after-state, and in the somatic want of control in the young adult with symptomatic paralysis agitans. From the standpoint of diagnosis this dissociation was, in his opinion, of greater value than objective signs of cerebro-spinal implications.

Dr. W. ST. CLAIR McCURE said that encephalitis lethargica was an infectious disease spread by "carriers": the organism responsible was universally distributed, but, happily, the majority of people were immune to its attack. A chart had been prepared showing that all ages were liable to attack, but that the incidence was most heavy between the ages of 10 and 20 years. Males and females were about equally attacked, and there was no special preponderance of cases in any one particular occupation. Bad environment appeared to predispose to an attack. In a series of 244 patients in 1924, 20 per cent. died; after twelve months 20 per cent. had apparently recovered, and 60 per cent. had residua of some kind, two-thirds of which were of a Parkinsonian character. Similar figures for 50 cases which occurred in Manchester in 1920 and 1921 were: mortality rate 56 per cent., recovery rate (three years after onset) 14 per cent., and incapacity rate 30 per cent. Taking into consideration wrong diagnoses and non-recognized cases, 15 to 20 per cent. probably represented the recovery rate, though it differed in different epidemics. The prognosis in any individual case was guesswork, but it was comforting to know that complete recovery was possible even in cases which at first appeared hopeless, and it was notable that some who did not recover were not, however, totally incapacitated. In many the disease process came to a standstill, and a useful and more or less happy existence was possible. Hiccups might occur as one of the symptoms of encephalitis lethargica, and be the one and only sign of the disease.

Epidemics of hiccup and encephalitis, however, did not as a rule run concurrently: in Manchester, in 1924, a hiccup epidemic preceded the encephalitis epidemic. In December, 1923, and January, 1924, there was a generalized epidemic of hiccup in the city. The attacks consisted of persistent hiccup lasting three to ten days, unaccompanied in the majority of cases by other symptoms, though some few patients exhibited drowsiness. The sufferers invariably recovered without sequelae, and an inquiry twelve months later had not so far resulted in the discovery of any post-encephalitic signs amongst them. In the investigation of cases of encephalitis lethargica special inquiry was made amongst 1,200 contacts for a history of hiccup, but only two were discovered. The households attacked by encephalitis lethargica were not those attacked by hiccup. Amongst the encephalitis lethargica patients hiccup was one of the symptoms in about 3 per cent. There was no evidence here favouring the view that the two diseases were associated, though such a possibility was not excluded. During the first three months of 1924 influenza of a mild type was said to be prevalent. It was not, however, until the middle of March, when the epidemic of encephalitis had subsided, that influenza of a severe type became evident. Special inquiry amongst contacts showed that it was the exception for a case of influenza to have occurred amongst them (10 out of 1,207), nor did the patients themselves suffer from influenzal symptoms. Influenza, though said to be present, did not to any extent invade households attacked by encephalitis. Influenzal cases had not given rise to encephalitis lethargica, nor had cases of the latter disease given rise to influenza. A study of the epidemic waves of influenza and encephalitis in Manchester showed that there was no correlation in point of time between the two diseases and provided no evidence in support of the contention that they were associated in any way one with the other.

Professor J. H. DIBLE, speaking from the pathological side, was in full agreement with the previous speakers as to the difficulties in clinical diagnosis. The first three cases in which he performed autopsies turned out to be tuberculous meningitis. He wished to draw the attention of the society to the experimental pathology of the disease. At the onset of its epidemic phase analogy with poliomyelitis suggested that it might be transmitted to apes and investigated upon the line so successfully followed by Flexner and his associated workers in the latter disease. Early experiments, however, particularly of McIntosh and Turnbull in this country, had failed to infect these animals, and it was not until 1919 that Strauss, Hirschfeld, and Loewe reported successes from America. These workers then reported further successes with naso-pharyngeal washings and cerebro-spinal fluid as well as with brain material as the source of the infecting agent, and they claimed that the rabbit and not the monkey was the animal of choice for this work. Early in 1920 Levaditi and Harrier claimed to have transmitted the disease to rabbits, and about the same time McIntosh published an account of similar successful inoculation of monkeys in series, and from monkey to rabbit. The speaker himself had, since 1920, been attempting to convey the disease to the lower animals, and gave details of many attempts to transmit the infection to rabbits, using material derived from ten cases of the disease. These experiments invariably failed, whatever type of material was used as inoculum and by whatever route that inoculum was introduced. Attention was drawn to the existence of two schools—one claiming that production of the disease in animals was so possible as to be used as a diagnostic measure with the cerebro-spinal fluid, whilst the other school, of which Levaditi was the protagonist, claimed that the disease was definitely inoculable, but only with difficulty, and that success was rare. His own personal experience had been entirely negative. Recently Flexner, whose authority in this type of work was very great, had published the results of a very large series of attempts made in conjunction with Ames. All material from cases of encephalitis had failed to infect: a positive result was obtained in one instance, but this was with cerebro-spinal fluid from a case of cerebral syphilis and not of encephalitis. Such results called into question again the validity of all the published positive results. The matter was one of great difficulty and

was complicated in many ways, one of the most confusing questions being the relation of the encephalitis produced in animals by certain workers to that which the herpetic virus of Grütner was capable of setting up. Much more work was required before the matter could be regarded as settled, but, in the opinion of the speaker, the claim to have transmitted the disease to animals was as yet unsubstantiated.

Dr. C. J. C. FAIR agreed with the previous speakers as to the difficulty of diagnosis. Out of sixteen cases admitted as encephalitis lethargica under his care at Mansall Hospital, eleven were proved to be other conditions, including tuberculous meningitis, brain abscess, and brain tumour. Some of these cases could not be diagnosed on physical examination alone. He had seen the typical dissociation of which Dr. Core had spoken in a case of cerebral abscess situated in the region of the basal ganglia. One case admitted as mumps proved to be encephalitis with parotitis. In three out of five of the more acute cases admitted herpes labialis was present. In one of these cases the sister of the ward also developed herpes labialis, though without any nervous signs, and it was an interesting question whether she should be regarded as having suffered from the disease in a latent form or, on the other hand, having been immune to it. One of the acute cases had shown excitability to a marked degree. He mentioned one case of inversion of sleep rhythm in a child who was more intelligent and cunning during the night than in the daytime; he also wrote a much clearer hand at night.

#### TREATMENT BY ARTIFICIAL LIGHT.

At a meeting of the Section of Electro-Therapeutics of the Royal Society of Medicine on April 17th, Dr. STANLEY MELVILLE presiding, three communications on artificial light sources in treatment were made. One was by Sir Henry Gauvain, on the organization and work of the light department in the surgical tuberculosis hospital at Alton; the second by Dr. G. Murray Leveick, on the selection of apparatus for the production of "artificial sunlight" (a term which both he and Sir Henry Gauvain criticized on the ground that it was clumsy and misleading); and the third by Professor Sidney Russ and Dr. Peacock, a brief report on some experiments on ultra-violet radiation.

Sir HENRY GAUVAIN explained that by light treatment he meant treatment by light produced by artificial means in distinction from sunlight. Only since the end of the war had he been able to realize a cherished ambition to have a properly equipped light department at Alton. He had been long convinced of the value of sun treatment for surgical tuberculosis, and on the ground of that practical experience, rather than on the scientific principles of light therapy (which were not yet fully established), he found justification for a department in which artificial light sources were employed to supplement or take the place of sunlight. Light treatment was necessarily very expensive. The initial cost of the lamps was only the beginning of a considerable and constantly recurring expenditure. At Alton an admirable generating plant in charge of a highly skilled engineer was available, so that it was a comparatively simple matter to select a ward as near to the power house as possible in order to reduce the length of cable, and to dig a connecting trench in which two cables were laid. By the kindness of Dr. Axel Reyn, whose paper read at the British Medical Association meeting at Portsmouth, in 1923 (*JOURNAL*, September 22nd, 1923, p. 499) was very useful in this connexion, he was permitted to study the methods employed at the Finsen Institute at Copenhagen. Dr. Reyn and his co-workers pinned their faith to the open carbon arc, both for the general light bath and for local treatment. Sir Henry Gauvain said that at Alton he decided not to limit the choice so rigidly; nevertheless he made this source the principal one, and, determining that his own department should be based on the exact technique of the Finsen Institute in this respect, he succeeded in getting the services for six months at Alton of one of Dr. Reyn's trained sisters in order that the nurses in his light department might be instructed in the Finsen method. The installation consisted of two 75-ampere carbon arc lamps, each capable of treating simultaneously eight ambulant patients and three recumbent patients. With regard to

the other sources employed, during recent years a good deal of attention had been given to short-wave or ultra-violet radiation, and the value of such radiation—in rickets particularly—had been demonstrated. Therefore he made provision for mercury-vapour lamp treatment in his department, as well as for treatment by the tungsten arc, the iron arc, and other methods. The short-wave rays had proved somewhat disappointing. They had little penetrating power, although great superficial necrotic action, and he thought it was very necessary to exercise caution in using them. Until more was known about their mode of action his whole instinct was to proceed very carefully indeed. In the entire work of the department constant and responsible supervision was very necessary, and for that reason the department was so arranged that everything was under the immediate observation of the sister in charge. Treatment went on ordinarily from 8 in the morning until 7 in the evening, after which every lens and compressor was cleaned and the installation got in order for the next day. For general light baths a treatment lasting two and a half hours, and given on alternate days, was sufficient. While this treatment was being given the heads of the patients were protected by adjustable asbestos shields, they were given water to drink, and at the conclusion the ambulant cases went away for a douche and the recumbent cases were thoroughly washed. By the use of compressors, which exsanguinated the part, much deeper penetration of the light was possible. He found it of great value to intermit the light baths after a certain period of treatment. In the treatment of surgical tuberculosis he regarded the Finsen method as the principal, and the other light methods as accessory. The mercury-vapour lamp and the tungsten arc were not so valuable in the general treatment of this condition as the carbon arcs, though they might prove useful to prepare the way for the latter, and they were certainly advantageous for local uses, as in the treatment of sinuses and discharging glands. The long-wave infra-red rays were of some value in local treatment also, though he was doubtful about the claims sometimes made on their behalf. He had also a 110-volt Kromayer lamp, which he employed for local treatment. He exhibited photographs of his various apparatus, including a tunnel arrangement for subjecting a limb or the whole body to concentrated light, and mentioned that he was now experimenting on the production of portable lamps designed for patients who were too ill to be brought into the department. He added that at Alton the light department had the great advantage of the exclusive services of a laboratory research worker.

Dr. MURRAY LEVIER said that he had come to rather different conclusions from Sir Henry Gauvain as to the relative value of different light sources. So far as the treatment of surgical tuberculosis was concerned, he deferred entirely to Sir Henry Gauvain's opinion, but he thought that the difference between his own conclusions and those of Sir Henry was due to the rather different type of case dealt with. In his own work at St. Thomas's he had had to do with rather older patients than those who came under Sir Henry Gauvain's care, and they were suffering more or less from general illness and debility. His own preference was for mercury-vapour lamps as against the open arc. He was convinced that any disfavour into which mercury-vapour lamps had fallen was chiefly due to the erroneous idea that it was the ultra-violet rays alone in sunlight that produced therapeutic effect, and therefore that the lamp must be employed by itself. He had found the greatest advantage in combining mercury-vapour lamps with long-ray lamps, and with this combination he had obtained much better results than with the open arc. Debilitated patients who had been treated unavailingly by the open arc had subsequently responded favourably to the mercury-vapour combination. The results obtained with this combination among debilitated, rickety, and tuberculous children were superior to those obtained with the open arc. Even during exposure the difference between the two arrangements was manifest. The staff all said that they felt enervated and listless while the open arc was in action, whereas with the mercury-vapour lamp the effect was refreshing and exhilarating. With the open arc also it

was impossible to have the slightest draught in the room on account of the flickering. The mercury-vapour combination was valuable for its uniform intensity; and, moreover, was cheaper to use than the open arc. An efficient reflector was a very necessary adjunct to mercury-vapour work. It was true that the mercury-vapour combination required very skilful and experienced handling and exactness in administration, on account of the extreme intensity of exposure. He had just returned from a visit to the Finsen Institute, and while he was full of admiration for all he saw there he thought it a pity that the institute should confine itself entirely to the carbon arc method.

Dr. PRACECK, in the name of Professor Russ and himself, gave an account of some experiments on ultra-violet radiation which went to substantiate the view that the fluorescence of the skin surface in the ultra-violet beam was an immediate protective phenomenon, and that pigmentation which came later was a sign of the failure of fluorescence to protect the structures. If pigmentation was aimed at as the standard in treatment it was tantamount to producing an effective action against the very source of the treatment employed. It was noticed that smearing with vaseline enabled the skin to withstand a much greater intensity of radiation from the mercury-vapour lamp.

## Rebuelus.

### MUIR'S "PATHOLOGY."

Of excellent textbooks on physiology we have quite a number, and the high position of physiology in this country is probably more the result of, than the reason for, that fact. Recently a distinguished physiologist expressed the opinion that the pick of medical students who had originally set out with the idea of practising medicine were acted for physiology, though he was willing to allow that some of these who escaped the net might develop and become pathologists!

Pathology has not been so well served hitherto in the matter of textbooks. Treatises for the fully fledged, exhaustive monographs for the expert to consult, and soulless descriptive catalogues of morbid anatomy, there have been in plenty; but no "clear account writ fair and broad" to attract the student to a subject which, after all, is the basis of medicine and surgery. We therefore gladly welcome Professor ROBERT MUIR'S *Text-Book of Pathology*.<sup>1</sup> Our foremost British pathologist, he has exceptional qualifications for the task: a long and intimate acquaintance with the various aspects of pathology, many years of experience as a teacher, with the ability to present the subject simply, and, above all, the rare gift of going straight to the heart of a problem. "Ordered selection" used to be the principle that governed the Glasgow school of artists, and the same words could be used to describe briefly the method adopted in this product of the Glasgow school of pathology. The subject-matter is certainly compressed—not, indeed, at the expense of lucidity or interest, though the reader feels that here and there a more extensive consideration of such special problems as he may be specially engaged upon might have been given. It is a testimonial to the book that we realize that the author has much in reserve, much more that he could have imparted, but that he has deliberately sacrificed this in order to preserve due balance.

The reader is presented with a sound and attractive view of the subject by a master who appreciates the fact that those whose interest is aroused will seek to learn more, and the awakening of the desire to learn more is the test of good teaching. The student is introduced first to the changes that result from disturbances of nutrition, the various tissue degenerations, and the disturbances of the circulation; these learned, the phenomena of inflammation, the reparative processes, infection, and immunity are unfolded in easy sequence. The chapter on tumours which follows may be taken as a good example of the characteristics of the book; the varieties and characters of each tumour are succinctly and lucidly expounded, and the

<sup>1</sup> *Text-Book of Pathology*. By Robert Muir, M.A., M.D., Sc.D., F.R.S., Professor of Pathology, University of Glasgow. London: Edward Arnold and Co. 1924. (Med. 8vo, pp. vii + 774; 433 figures. 35s. net.)

etiological factors and experimental observations are discussed judiciously and with insight; nothing is omitted that is of prime consequence; the problems are stated calmly and speculations are entirely excluded.

It is difficult in this book to separate special from general pathology: the transition from the one to the other is gradual. The chapters on the circulatory system, the respiratory system, and the blood-forming system may be considered to partake of both characters. The abdominal organs, the nervous system, bones, muscles, reproductive organs, and endocrine glands are more definitely special pathology. Every chapter is well done, and the reading of each leaves us with the feeling that we have at least mastered the fundamentals, but we want to learn more.

Still, at the same time, we would not have this textbook enlarged. The student with the multiplicity of subjects for examinations before him, and generally with a modest purse, desires a reasonably priced book, readable, informative, and up to date, and the general practitioner and consultant seek an authoritative and well proportioned account of a subject which they have not always practical opportunities for investigating. To them Professor Muir's textbook will be welcome. As for the pathologist, teacher, or laboratory worker, the book will be a friendly companion. The illustrations are numerous and well chosen. Reading the publisher's prospectus a fear arose that photomicrographs would prove, as they generally do, disappointing in bringing out the salient features that are shown by good drawings, but the fears were groundless, for, with few exceptions, the illustrations are clear and demonstrative. Messrs. Arnold are to be congratulated on the excellent get-up of the book. There are a few unimportant typographical errors that may be corrected in the second edition, which is probably on the way, if it has not by this time actually arrived. It will be a matter for wonder if the *Text-Book of Pathology* does not run through as many editions as Muir and Ritchie's *Bacteriology*.

#### OPERATIVE SURGERY.

A NEW work, in two volumes, entitled *Modern Operative Surgery*,<sup>2</sup> by Mr. H. W. CARSON, has recently been published. The editor, who has himself written several excellent sections, has called to his aid a series of collaborators of such standing as must ensure a welcome for his book. The object, which was to provide a textbook well and truly describing the technique of modern operative surgery, appears to us to have been to a very considerable extent achieved. The work is uneven, as all such works must be, not necessarily because some of the labourers were not worthy of their hire, but because the things they had to do were not all equally exciting or fruitful. There are always sections which have to be covered—sections which no one particularly wants to do, because out of them it is difficult to strike fire. It is all very much like casting a play, one imagines; there are fat parts and thin parts. The editor has wisely ruled out multiple alternatives and obsolete methods, leaving us with a compact text.

The book opens with a section on anaesthetics by Dr. J. Blomfield, and this is followed by another on the conservative treatment of tuberculosis, by Sir Henry Gairdner, who describes the methods in use at Alton and Hayling Island.

General orthopaedics is dealt with by Mr. R. C. Elmslie, who also writes on tendon transplantation and on amputations. He has limited himself strictly to the operative side of the question, and these parts are very well done. Very clear accounts are given of a number of the more commonly used methods; the text is not burdened by a number of alternatives. Professor Hey Groves follows with an admirable exposition of the more mechanical methods of dealing with fractures, illustrated by figures from his well known book. The various nailing, plating, and grafting operations are made to look so easy that a good deal of disillusionment is in store for such readers as have hitherto had little experience.

Mr. A. J. Walton writes on spinal surgery, on abdominal

ptosis and adhesions, and on the thyroid gland. The section on the treatment of ptosis will be read with considerable interest by all. A very useful summary of the results of the division of membranes shows that such measures alone are seldom adequate to produce a cure, but that if followed by a course of physiotherapy the majority of patients are restored to perfect health. It is very necessary that the surgeon should be a firm believer in these measures, otherwise he is not likely to be able to control his patients subsequently. Which is to say that it seems very possible that an operation (quite regardless of what was done) is the essential, and acts as a form of major suggestion. Mr. Walton thinks it doubtful whether caecum and stomach fixations are as satisfactory as is generally believed. We doubt whether they are, in point of fact, at all generally believed to be satisfactory. Certainly the majority of surgeons in the great centres of England employ them rarely. Mr. Walton's views on the treatment of intestinal stasis, and on the plexus of that disease as an entity, are lucidly and even brilliantly expressed. We trust that his large experience may help to discourage others.

Operations upon the nerves are described by Mr. Harry Platt. He introduces a considerable amount of anatomical, pathological, and clinical matter of the greatest importance, and all of it is well put. The descriptions of operative technique could not be bettered; this is in every way an admirable section.

When we are told that Mr. Sampson Handley has written part of this book it will not be hard to guess what part it is. His views are well known, and will here be found to be again expressed with that urbanity, clarity, and persuasiveness which mark all his written work. On this occasion he goes into considerable detail on the treatment of melanotic sarcoma and of late rodent ulcer in addition to his usual account of breast surgery. Both of these additions should stimulate interest very considerably, particularly in the case of the melanotic tumours. Mr. Handley thinks that the virulence of this disease is overestimated. One of his own patients was alive fifteen years after operation. We fear that there is some ground for his contention that few surgeons, if any, have tackled these growths in a sufficiently scientific spirit.

Another section which makes this book most valuable is Mr. Grey Turner's article on the surgery of the liver and its excreting apparatus. We venture to think that no more original presentation of the subject has been seen for years. It will appeal especially to surgeons in what we may call their middle period—to those who have had a considerable experience of these cases but who have not become absolutely crystallized. A valuable feature of each section throughout the book is the addition of a short piece on the results of the various methods described.

Mr. Carson has himself taken over the greater part of abdominal surgery. His contributions are competent and well illustrated. Sir Berkeley Moynihan has sent him an account of the operation of pylorotomy as performed by himself, and Mr. Ernest Miles performs a like service on the technique of abdomino-perineal removal of the rectum. Apart from these, Mr. Carson's own parts are very well written, and a wise discretion has been used in the choice of procedures to be described.

It is impossible to do more than indicate the contents of the book; it is well produced, print and illustrations being very clear, and covers the whole field of surgery, including the eye, nose, and ear, and gynaecology; it is a valuable addition to the surgeon's library.

#### A TEXTBOOK OF PEDIATRICS.

In the third edition of his book, *The Practice of Pediatrics*,<sup>3</sup> Dr. KERLEY has received the assistance of Dr. GAYLORD W. GRAVES. The first edition appeared in 1914, and the book, if not yet of age, has at least passed the more dangerous years of childhood and has a reasonable expectation of growing up. The method of treatment is that commonly adopted in systematic textbooks of this subject; the early chapters deal with the special physiology and anatomy of

<sup>2</sup> *Modern Operative Surgery*. Edited by H. W. Carson, F.R.C.S. Eng. In two volumes. London and New York: Cassell and Co., Ltd. 1924. (Vol. I, pp. xiii + 784, 364 figures, 2 plates; Vol. II, pp. xi + 784, 376 figures, 4 plates. 43 s., net the two volumes.)

<sup>3</sup> *The Practice of Pediatrics*. By C. G. Kerley and G. W. Graves. Third edition, revised and reset. Philadelphia and London: W. B. Saunders Company. 1924. (Roy. 8vo, pp. 922; 4 coloured plates, 152 figures. 45s. net.)

infancy and childhood, with dietetics, and with general hygiene, and the remainder of the book gives an account of disease in childhood under the usual division of systems.

The authors in this methodical way take the reader over the entire territory of their subject, over ground that is well known, and into the regions of the rare diseases. They present a great mass of miscellaneous information, but perhaps their most interesting chapters are those where they rely mainly on their own experience and are sparing of references to authorities and "the literature." The difficult subject of infant feeding is handled in this more personal way, and is expounded with conviction and common sense; in it there is enough and not too much of that "lore of nicely calculated less and more." A clear account is given of the use of unsweetened condensed milk supplemented by starch and sugar, which is recommended for feeble and dyspeptic infants, until, after a few months, raw milk meals are gradually introduced. The chapter on diseases of the stomach and intestines—a group which in America yields perhaps more varieties and clinical types than in this country—is also of special merit; it contains an interesting account of visceroptosis, including falling of the stomach, with good x-ray illustrations.

In other sections personal experience does not blend so well with the general stock of knowledge, and the presentation of the facts fails a little in interest and coherence. The illustrations, too, are not of a high standard, and the citation of clinical records is often too brief to be really helpful. As a whole, however, the book can be recommended as a trustworthy guide to the subject, and one that is written by able and experienced physicians.

#### A GUIDE TO GENERAL PRACTICE.

*Consultations du Médecin-Praticien*,<sup>4</sup> by Dr. FRED. BLANCHOD, is an unusual book. It is intended to be a guide to the treatment of ailments met with daily in general practice, and is based on an experience of fifteen years as a country doctor. In his introduction the author quotes the epigram attributed to Dr. Franek of Vienna: "When I was a young doctor I had a hundred remedies for a single disease, but now that I am old I have only one remedy for a hundred diseases." The routine of many years in general practice does not appear to have simplified Dr. Blanchod's outlook in such a way, for he remains equipped with an armamentarium full of resources, but purged of many academic weapons. He begins with some good advice on common and avoidable errors, and distinguishes two varieties of mistakes of which the practitioner may be guilty: the first are errors which he calls academic, and the second are such as put the patient's life in danger, of which the commonest is that the doctor does not make a diagnosis because he has no time to think. To give an example, he observes, a constipated baby is most frequently a hungry baby, and it must be given nourishment instead of a purge.

The different ailments which a general practitioner is likely to meet with are arranged in alphabetical order and discussed from the practical point of view. In the treatment of everyday complaints, such as colds in the head and indigestion, French practice differs more from English than in that of the hospital type of disease, and judging from this book it appears also to be more versatile. No doubt, therefore, rural practitioners in this country would often find it useful to consult a book like this.

#### DYSPEPSIA.

DR. SOLTAN FENWICK's work on *Dyspepsia, its Varieties and Treatment*, makes a welcome reappearance after having been out of print for several years. The second edition<sup>5</sup> does not differ from the first in its scope and general arrangement, but a thorough revision has been carried out, and the chapter on displacements of the viscera has been rewritten. The book is broad-based on personal experience, and quotations from the literature are

used with discretion and appropriateness, giving the impression that, while the author is deeply read in all that pertains to the subject, his individuality is never in danger.

After a preliminary chapter on the varieties of dyspepsia and their differential diagnosis, the several kinds are considered separately, a chapter being devoted to each. Thus abnormalities of secretion, failure of muscular power, inflammations, disturbance of the nervous mechanism, displacements, foreign bodies, infancy and old age, and disease of other organs, constitute the headings under which the subject is considered, and they embrace all the varieties of indigestion that any practitioner is ever likely to meet, and some, it is almost certain, he never will. In the latter category are the cases due to the presence of living creatures in the gastro-intestinal tract. Dr. Fenwick has collected a formidable array of well authenticated cases in which lizards, frogs, tritons, slugs, caterpillars, worms, leeches, beetles, maggots, larvae, or chrysalides were responsible for intractable dyspepsia. Nevertheless, although more or less a clinical curiosity, such a cause of intestinal trouble cannot be wholly ignored. It is not, however, by its inclusion of the out of the way that the book claims attention, but by its wide everyday applicability; and it is a tribute to the author's acumen of observation and lucidity of expression to say that it is easy to recognize the types that he describes, and to translate the book into actual practice. Dr. Fenwick is above the influence of fashion in treatment. He utters a note of warning against the indiscriminate removal of teeth in dyspeptic cases, and points out that, though oral sepsis may give rise to gastritis, just as suppuration anywhere in the body may produce the disease, the effect is not generally due to the direct swallowing of pus from the gums. He emphasizes the importance of not allowing the condition of the teeth to deflect or defer a search for other causes for the dyspepsia.

There is a suggestive section on the chronic gastro-enteritis of infants. The inflammatory nature of the disease is demonstrated by sections showing round-celled infiltration between the glands of the mucous membrane of the stomach and intestine, which may subsequently organize and produce atrophy of the glands and cirrhosis of the mucous membrane, and attention is drawn to the far-reaching effect of this process. "It is not generally understood that the gastric disease contracted, and apparently cured, in infancy is capable of exerting a deleterious influence upon the functions of digestion in adult life." Ample evidence is produced to support this obviously important statement.

As a whole the book is exceedingly well written in a fluent style which engages the mind, and in this respect might well serve as a model; to read it is to find a source of pleasure and much profit.

#### THE ANALYSIS OF OILS.

THE fifth edition of *Allen's Commercial Organic Analysis*,<sup>6</sup> Vol. II, treating of fixed oils, fats, and the like, has made its appearance. This volume does not differ notably from the plan of its predecessor in the last edition. It contains descriptions of all the fatty materials, the rare as well as the more familiar, which are known to published literature. Descriptions of the rare materials are properly limited to recorded observations of characters and the result of analytical or test reactions; commoner articles receive more detailed notice according to their importance. Descriptions of the latter include information of the occurrence, geographical source, and mode of preparation; the chemical and physical data from which the behaviour of the material in various circumstances may be predicted or explained are supplied also. These matters have an important bearing on the methods to be followed in analytical procedure, analysis being the express subject of the book. Analytical directions appear usually in the form in which they were presented by the investigators who devised them. Methods for the analysis of fats are in general derived on an arbitrary plan; this is the inevitable consequence of the nature of fatty materials. No chemist dealing with fats

<sup>4</sup> *Consultations du Médecin-Praticien*. Par le Dr. Fred. Blanchod. Paris: J. B. Baillière et Fils, 1925. (Roy. 8vo, pp. 584. Fr. 35.)

<sup>5</sup> *Dyspepsia, its Varieties and Treatment*. By W. Soltan Fenwick, M.D., B.S. Lond. Second edition, revised. London and Philadelphia: W. B. Saunders Company, 1924. (Med. 8vo, pp. 515. 24s. net)

<sup>6</sup> *Allen's Commercial Organic Analysis*. Edited by Samuel S. Sadtler, S.B., Albert C. Lathrop, A.B., Ph.D., C. Ainsworth Mitchell, M.A., F.I.C. Vol. II. Fifth edition, revised and in part rewritten. London: J. and A. Churchill, 1924. (Med. 8vo, pp. ix + 807; 23 figures. 30s. net.)



may ignore the paths trodden by his predecessors in this wilderness of chemistry. Accordingly as much importance attaches to the records of experience in the use of methods as to the details of directions concerning them. In this respect the book is a particularly rich storehouse of information. Sections dealing with subjects of prominent interest are contributed by chemists of distinction in their special spheres. They are men well known as investigators and authors of commentaries on their respective subjects. It is a frequent cause of complaint that in technical books little heed is paid to the relation between technical processes and the chemical facts on which they are founded. In many cases, it is true, the latter are but imperfectly known, yet it is desirable, for the sake of a better understanding of the subject as well as for the higher development of chemistry, that nothing should be left obscure in the borderland between chemistry and its technical applications. It is satisfactory to note in the volume before us a continued improvement in this respect. We do not observe any section of the contents calling for special mention, and it will suffice to say that the book maintains its character as a leading work on the subject.

### NOTES ON BOOKS.

In the volume on *Toxicology* Dr. FRANK P. UNDERHILL has collected a great deal of useful information, and some parts of it are written clearly and effectively. It is sadly lacking, however, in some of the qualities most desired in a book of instruction. Some paragraphs exhibit signs of the sort of haste with which a candidate writes answers to questions set for examination; others resemble the jottings prepared from a lecture. On page 168 there is an idiomatic use of the word "will" which may have been handed down from Mercian English but is not now current. It reads, "One gram will undoubtedly cause death in an adult, although recovery has followed from the ingestion of more than three ounces." Evidently the author means "One gram may." But there are other and many instances of incautious expression: ergotism, for instance, seems to be confused with ergotism, and there are cases in which the treatment of the subject is ill considered. The author states as an example of how poisoning may not be induced that arsenic in large doses may act as an irritant to the stomach, causing vomiting, with prompt ejection of the poison, so that few or no toxic symptoms result. Our comment is that tartar emetic would have furnished a better example of the fragment of truth contained in the statement. Yet even with tartar emetic it would have been proper to point out that the danger increases with the magnitude of the dose, for with a larger dose a larger residue is likely to escape ejection. There is a contrast between the effects of zinc sulphate and those of zinc chloride, as well as between the effects of concentrated and dilute solutions of the latter, but these facts are not made clear by the author's description. So far as we have observed, the poisonous property of oxalates receives no other notice than that contained in the warning that alkalis are ineffective as antidotes to oxalic acid. The selections are capricious. Acetic acid is treated as a poison, but hydrofluoric acid is unnoticed. No objection need be raised against a description of toxic effects arising from the absorption of magnesium sulphate, but attention to effects so rare is inconsistent with the omission of reference to quinine as a poison; death has been reported from an overdose of quinine on a number of occasions; the symptoms were well known in the time of Jonathan Pereira, who described them minutely, and its chronic effects are of the greatest importance in malarial districts. Again, there is much disorder in the arrangement of subject-matter. We are at a loss to know the reason for such hasty production. If the author was racing against another writer it would have been sport to see his competitor's product. If he was not racing he ought to begin again and write it afresh. We are sure he could do better.

The authorities of the Washington University of St. Louis, Missouri, U.S.A., last year established in their medical school a lectureship in the history of medicine. Dr. M. G. Scelig, Professor of Surgery, who delivered the first course of lectures, has published them under the title of *Medicine: An Historical Outline*.<sup>6</sup> The subject is obviously too vast to be treated adequately in so small a volume as this, but the author probably succeeded in interesting his audience and in

<sup>6</sup> *Toxicology, or the Effects of Poisons*. By Frank P. Underhill, Ph.D. Philadelphia: P. Blakiston's Son and Co. 1924. (Post 8vo, pp. ix + 232. 1s. 2s. 6d.)

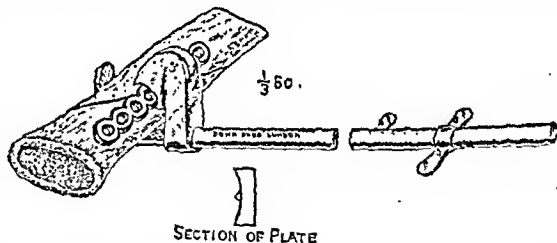
<sup>7</sup> *Medicine: An Historical Outline*. Dr M. G. Scelig, M.D. Baltimore: Williams and Wilkins Company; London: Baillière, Tindall and Cox. 12s. (Cr. 8vo, pp. xviii + 227; 43 plates. 11s. 6d. net.)

arousing intelligent curiosity, which may be satisfied by the study of larger works. The lectures were delivered in the winter semester of 1924, and this fact suggests that they were hastily prepared for the press; the supposition is strengthened by certain small errors and omissions. For instance, there is no mention of Bretonneau and his work on diphtheria, and although Glisson is referred to as an anatomist his claims to fame as a pathologist and first describer of rickets are ignored. No doubt in the next edition Sir Francis Bacon, Lord Verulam, will no longer appear as Lord Francis Bacon, Stromeyer will regain his Christian name of Louis instead of George, and Robert Knox the anatomist will no longer be in danger of confusion with the great Scottish reformer. We cannot think that "a medical nobleman" is a happy translation of "medicus nobilis" as applied to Sydenham. Did Harvey really write "omnis vivum ex ovo"? Dr. Fielding Garrison writes an interesting foreword in which he misquotes a Bab ballad, but even an imperfect acquaintance with the Gilbertian classics is to be welcomed. The interest of the book is enhanced by forty-eight plates and a frontispiece, mostly reproductions of well known portraits.

### MEDICAL AND SURGICAL APPLIANCES.

#### A Bone and Plate Clamp.

MR. MURICE SINCLAIR, C.M.G., M.B., Ch.B., Major R.A.M.C., Ret. (London), has devised the instrument shown in the illustration mainly for bone-plating operations. With it such operations, he says, are much shortened and greatly simplified, as the fragments can be securely held in their alignment while the fracture is bridged by means of a specially modified plate, which is firmly gripped by the clamp or clamps to the upper and lower fragments of bone. The bone can now be safely and readily drilled and the plate secured by means of screws without loss of alignment, without obstruction to vision, and without those obstructions which frequently arise during the fixation, especially of the initial screws. The bone and plate clamp may be used singly or in pairs, one for each main fragment of a fracture. After the fracture has been repositioned they clamp and hold the bone fragments and the metal plate



*in situ*, until no longer required, when they are easily removed. The clamp used for the bones of the upper limb is similar to that used for the lower, but is of lighter construction.

A clamp consists of a male stem and a female tube, and has an over-all measurement of 14 in. for the lower limb. The male stem is made of 5/16 in. round steel, is flattened and hooked at one end in order to aid the gripping of the bone, while the other end is threaded, and has a keyway, slotted along the underside, to prevent the hook from rotating when the instrument is being used. The female tube is 10 in. long and takes the male stem inside. At one end it has a jaw brazed to the outside, and at the other end it is fitted with a butterfly nut, which takes the threaded end of the male stem. The portion projecting beyond the nut is sheathed in a thimble of metal, in order to prevent undue destruction of rubber gloves. The bone plates are a modification of Lane's, and the surface of the plate which is applied to the bone is concave, with a "kick up" (as it is technically called) between each hole. These plates fit the convexity of the bone accurately, and the "kick ups" prevent slipping of the plate on the bone. When the plates are firmly gripped by means of the clamps greater security is obtained.

Mr. Sinclair considers such an instrument and plate essential to obtain the results detailed in the article in the *BRITISH MEDICAL JOURNAL* of November 17th, 1923. The clamp and plates have been made by Messrs. Down Bros., 21, St. Thomas's Street, S.E.1.



#### Carrying the Thermometer.

"A. J. V. B." tells us that for some years he has been carrying his thermometer tucked on to one of the sides of his binaural stethoscope. The thermometer is in an ordinary metal case, and is held in position by two rubber bands cut from a piece of drainage or irrigator tubing; the case is easily turned to one side for opening. He finds many advantages in thus carrying a thermometer; among others, that it makes one article less to gather up on starting out.

## British Medical Journal.

SATURDAY, APRIL 25TH, 1925.

### THE TREATMENT OF MENTAL DISORDER.

In the evidence given before the Royal Commission on Lunacy and Mental Disorder on behalf of the British Medical Association<sup>1</sup> emphasis was laid on the need for more flexibility in arrangements for dealing with mental cases. It was pointed out that if the best possible is to be done for mental patients the facilities for treatment and the types of accommodation must be sufficiently various to suit the particular form their illness assumes. It is quite understandable that the Legislature should be reluctant to relax laws intended to protect the persons and estate of those unable to care for themselves and their affairs, but fortunately the existing laws have been elastic enough to enable progressive movements to develop, so that experience has been obtained of the extent to which some relaxation of the law can safely be permitted. A particularly difficult question is that of the treatment of persons of unsound mind who need care and control in nursing homes, and it is of interest and importance to observe that this type of accommodation has been utilized on a large scale in homes connected with the Royal Hospital at Morningside.

Professor G. M. Robertson gave an account of this new development at Morningside in his annual report for 1924, a summary of which we published on March 7th (p. 475). When, seven years ago, further accommodation for private patients became necessary, the managers, recognizing that the public had become more and more averse to sending patients suffering from mild and curable attacks of mental disorder into mental hospitals, gave careful thought to the particular form which any new accommodation should take. They decided to establish, quite detached from the mental hospital, nursing homes in which patients in the early stages and with curable forms of mental disorder might be received. The expectation was that they might recover without being certified or entering a mental hospital; the report shows that this expectation has been fully justified. During the whole of last year four fully equipped nursing homes, accommodating about fifty patients, have been working in the suburbs of Edinburgh, and a country mansion for convalescent patients accommodated a dozen or more. The managers have now purchased another mansion with 250 acres of land, and in this large building the scheme will be further developed. In view of its bearing on possible legislation this new venture would seem to merit the closest study, and we venture to suggest that Professor Robertson would help still further the solution of the legislative problem if he gave details of the cases treated in these homes, classified from a social as well as from a psychiatric standpoint. In the evidence given on behalf of the British Medical Association it was suggested that a convenient social classification of mental disorders would divide its subjects into the "mentally unsound," for whom measures of detention and control are necessary, and

the "mentally ailing," for whom such measures are not required. It is for the former class in particular that some modification of the law in England is desirable. As things are at present many of them could not be treated away from home, except in mental hospitals or under single care, without a breach of the law, though their mental condition would warrant their being dealt with in suitable homes other than actual mental hospitals. Such cases are in general somewhat vaguely described by psychiatrists as mild, early, or curable, and it has not been made sufficiently clear to the lay mind what type of case would benefit by proposed changes in the law, nor for whom at present inadequate provision is made. No doubt the majority of the cases treated in the homes in connexion with Morningside would come under the category of the "mentally unsound" as above defined, and it is for this reason that a more detailed description of these cases would probably be found of considerable assistance in the endeavour to solve the problem of future legislation.

The fact that the family medical attendant continues to treat his own patients in these nursing homes, as he is accustomed to treat medical and surgical cases, is a particularly valuable and important feature in this new development. Not only is psychiatry in this way brought into the closest relationship with general medicine, but it gives confidence to both patients and relatives and does away with that sense of isolation from life which removal into a mental hospital is apt to engender. It can hardly be insisted too strongly that mental disease, which in its last analysis must be regarded as the objective expression of a disordered, biologically inferior, or unduly sensitive physical organism, presents arduous problems only to be solved by a closer union of psychiatry and medicine. For this reason we welcome a new development, which not only affords mental patients widened facilities for treatment, but also brings the psychiatrist and general physician into closer co-operation. The value of these homes must also be greatly increased by the fact that they are organically connected with Morningside Mental Hospital. Professor Robertson is of the opinion that such homes should be under disinterested management, and should be started only under the aegis of bodies which already have some experience of the provision needed; he points out also that such homes must be under the supervision of the department (the General Board of Control) which keeps under observation places for the treatment of patients in an analogous condition. Any homes or institutions in which patients of unsound mind are under treatment, whether they place themselves under control by their own wish as voluntary boarders or whether they are under certificate, should be supervised by a Government department, to prevent, as Professor Robertson says, scandals which might arise from the adoption of inefficient methods and from the possibility of injustice to certain patients.

The report goes on to show that voluntary admission has grown into such favour in Scotland and to such proportions as to amount to a revolution in practice with regard to mental diseases. At the present time, of all the private patients admitted to mental hospitals in Scotland 40 per cent. entered as voluntary patients; this percentage is increasing year by year. A similar state of affairs obtains in England; thus the Retreat at York and Bethlem Hospital have a large proportion of voluntary boarders, and the Maudsley Hospital only admits voluntary patients, many of whom are suffering from severe psychoses. From these facts it is obvious

<sup>1</sup> Printed in the SUPPLEMENT to the BRITISH MEDICAL JOURNAL of January 17th, 1925.

that many of the well-to-do subjects of mental disorder are able to obtain treatment on a voluntary basis which forms an ideal alternative to certification. The poorer classes are, however, much less favourably placed, especially in England, where the law does not admit of voluntary admissions to the rate-aided mental hospitals, except in the case of the City of London Mental Hospital. As a result of this many persons, not certifiable but sorely in need of treatment and willing to undergo it voluntarily, either drift into a severe psychosis or, in a number of instances, commit suicide. Faced with such cases the practitioner is almost helpless, as there is no place within the patient's means to which he can be sent. In this respect the law is obviously in serious need of amendment. Even in Scotland, where there is no legal bar to the voluntary admission of poor patients, the fact that the parish councils receive the lunacy grant (amounting to about 2s. 9d. weekly for each patient) only in the case of certified patients means that this method of reception is seldom adopted. In the annual report of the Aberdeen Royal Asylum Dr. R. Dods Brown says that one rate-aided voluntary patient is resident in the hospital; he refers also to the interesting fact, which has already been pointed out in this JOURNAL, that several parishes in Argyllshire have agreed to allow suitable cases to reside as voluntary boarders in the district mental hospital. A passage quoted from the last annual report of the Commissioners of the General Board of Control for Scotland reveals the Board's sympathetic attitude towards the tendency to allow patients to enter asylums voluntarily for skilled treatment in the earlier stages of mental illness when the prospects of recovery are great. If pauper patients also were permitted to enter asylums voluntarily by a rearrangement of the lunacy grant, "the certification of patients, which is not necessary for medical purposes, would fall from the present level of about 100 per cent. to 60 per cent. or even less of the patients admitted to asylums. Certification of the insane would then fall into its proper place of a social and legal necessity."

The Scottish Board of Control also remarks: "In the treatment of all such cases the Board have come to the conclusion that district boards, either individually or in combination, and the authorities of royal asylums, should be empowered to establish nursing homes, hospitals, outdoor and indoor clinics, particularly by arrangement with the managers of general hospitals throughout the country, where anyone desiring advice, care, and treatment may receive it as a voluntary patient. It is felt that such an arrangement would tend to dispel the natural fear that the person seeking advice, care, and treatment might at any time be certified as insane and detained against his own free will." This quotation admirably outlines the kind of developments which we hope to see in the near future. It indicates the varieties of accommodation necessary for the treatment of the various forms of mental illness. Such schemes will doubtless call for additional expenditure at the outset, but they will prevent many persons from becoming a permanent charge on the community, and must in the long run exert an appreciable effect upon the general mental health of the community.

Further information about the voluntary boarder system and the treatment of early cases in Scotland will be found in our report (at page 798) of the evidence given by Professor Robertson, Dr. Comrie, Dr. Carswell, and Dr. Marr before the Royal Commission on Lunacy and Mental Disorder.

## SCARLET FEVER.

LIKE all other advances in knowledge, those which we owe to Drs. George and Gladys Dick for their painstaking work on scarlet fever open up more territory even before the newly won ground has been completely surveyed. These two research workers have taught us that a particular variety of streptococcus originates scarlet fever, that the symptoms of the disease are caused by the toxin of this germ, that the tissue cells of a recovering patient provide a protective antitoxin, and that scarlet fever may be produced by experimental inoculation with haemolytic streptococci and cured with an antitoxin serum. If we accept all this—and there is strong experimental evidence in its favour, as we have often observed in our comments on this work as it has been published piece by piece—there remain two unsettled questions of outstanding urgency. One is, How are these specific streptococci to be distinguished from other streptococci? The other is, How can the antiserum be prepared and accurately standardized? Both these problems have been tackled by the Dicks, and they have written about these questions in two papers which appear in the *Journal of the American Medical Association* for March 14th, 1925.

First, with regard to methods of recognizing scarlet fever streptococci. The streptococci have always been a troublesome genus to the systematists, and in spite of their prodigious labours at classification we are not yet in possession of any quick and accurate means of distinguishing the different kinds of streptococci one from the other. The haemolytic streptococcus of scarlet fever resembles other haemolytic streptococci in its morphology; its appearance in tubes of culture media presents nothing sufficiently distinctive; and, in the hands of most workers, fermentation reactions and other refinements of bacteriological diagnosis have not separated the scarlet fever streptococcus from kindred cocci. Even agglutination reactions have disappointed their early promise, and the Dicks conclude from the studies of others that the agglutination test is not a reliable means of identifying scarlet fever streptococci. They find, however, that the haemolytic streptococci of scarlet fever can be recognized by the specific toxin they produce, and suggest the following ingenious method of carrying out the test. A blood broth culture is incubated for three or four days passed through a Berkefeld filter, and the sterile filtrate diluted 1 in 500 with normal saline. The essence of the test is to determine whether or not this diluted culture filtrate contains the scarlet fever toxin; if so, the suspected streptococcus was the genuine scarlet fever germ. The question is answered by mixing 1 c.cm. of the sterile filtrate with 1 c.cm. of serum from a convalescent scarlet fever patient; another 1 c.cm. of sterile filtrate is mixed with 1 c.cm. of salt solution to act as a control. Both mixtures are incubated one hour, and skin tests made on a person known to be susceptible to scarlet fever, using 0.1 c.cm. of each mixture. At the same time a control test is made with 0.1 c.cm. of the ordinary standardized skin test solution to determine susceptibility to scarlet fever, and this control, of course, should be positive. If the mixture of filtrate and salt solution also gives a positive reaction; while the filtrate convalescent serum mixture gives a negative result, it may be concluded that the particular streptococcus under examination was capable of producing a toxin that is neutralized by convalescent scarlet fever serum. It was therefore a scarlet fever streptococcus.

We admit the logic of this test and respect the

ingenuity with which it has been devised, but foresee many pitfalls. Neither the suspected toxin nor the serum of the convalescent patient can be standardized, and a test depending on the neutralization of two opposite substances, neither of which can be measured exactly, is likely often to mislead. Even if these difficulties were overcome the necessity of performing the test in a convalescent volunteer is likely to limit its wide application. But we acknowledge that the Dicks have established an important scientific fact, which in certain circumstances may be put to practical use.

The second paper—on the therapeutic results obtained with concentrated scarlet fever antitoxin—carries this research a step further into the fields of everyday medicine. More than a year ago Drs. George and Gladys Dick reported that they had produced a scarlet fever antitoxin by immunizing horses with scarlet fever toxin, and they now publish a preliminary report on the preparation, standardization, and dosage of concentrated antitoxin. This, in brief, is their method. A blood broth culture of scarlet fever streptococci is incubated six days, filtered, and the sterile toxin injected into horses subcutaneously in graduated doses, beginning with 20 c.cm. and increasing to a litre. After preliminary tests have shown that the horse serum has developed antitoxin the horse is bled and the serum concentrated. The antitoxin content is standardized against a stock toxin. The Dicks have found by experience that 1,000 skin test doses of toxin, if injected without previous immunization, produce a clinical condition resembling a mild attack of scarlet fever, and they chose the amount of antitoxin required to neutralize this dose of toxin as a basis for standardization. The concentrated antitoxin is standardized so that 1 c.cm. of concentrated serum neutralizes 1,000 skin test doses of toxin, the tests being carried out by incubating mixtures of toxin and antitoxin, and then examining for unneutralized toxin by performing skin tests on susceptible individuals. Here again, although the method is logical and ingenious, its applicability is limited by the fact that all standardizations have to be carried out on selected human volunteers.

There seems little doubt that this concentrated antitoxin is a useful agent in the treatment of scarlet fever. From the figures the Dicks give we note that there were far fewer complications and sequelae of scarlet fever in 29 cases treated with antitoxin than in 15 control cases which did not receive antitoxin; in fact, in 21 moderately severe cases complications and sequelae were limited to 2 cases of otitis media. The antitoxin was injected intramuscularly, and the best results followed when it was given early in the disease. The immediate benefit obtained from the serum treatment was evidenced by fading of the rash, improvement in the patient's general condition, and disappearance of fever.

A third paper in the same number of the *Journal of the American Medical Association*, by Dr. O. B. Nesbit, on the Dick test and immunization against scarlet fever, deserves a word or two of comment. Dr. Nesbit examined 2,162 school children with the Dick test, and found 40 per cent. positive. Many years must elapse before much can be learnt from the after-history of these children with respect to scarlet fever, but it seems that in the last six months two cases of scarlet fever have appeared among the Dick-positive group and none among the Dick-negative. We note that in one school the administration of toxin to 67 pupils did not result in any loss of time. In one

school 57 children were submitted to Schiek and Dick tests at the same time, and every child was present the following day for the reading of the Dick tests. Dr. Nesbit concludes that 65 per cent. of pupils susceptible to scarlet fever were rendered immune by injection with three doses of scarlet fever toxin.

#### CUSHING'S "OSLER."

*The Life of Sir William Osler*,<sup>1</sup> by Professor Harvey Cushing, has appeared; a review copy reached us on Monday. It is a rather big book in two volumes, making together 1,438 pages. A preliminary glance shows that it is a biography in which the subject is allowed to tell his own story as far as possible by letters and those informal notes and postcards which Osler showered about him, to the great joy of recipients. It is well illustrated, and one observation that springs to the eye is how little Osler changed in physical appearance from the time when he was a professor at McGill University, Montreal, in 1878, to the time when he was Regius Professor of Medicine at Oxford. We are given a photograph of him, taken there early in 1915, standing in characteristic attitude with his arm linked in his son's, that only son—"a son after my own heart"—whose death on active service some two years later cast so deep a shadow on the two years more William Osler himself was to live. The book is in three parts; the Canadian period (1849-1884) and the period of the United States (1884-1905) fill the first volume; the second is concerned entirely with the Oxford period (1905-1919). We intend to publish a review in an early issue.

#### THE ADRENALS AND SEXUAL DEVELOPMENT.

It is known that tumours of the adrenal gland are associated with precocious puberty in the male and precocious development of secondary male characteristics in the female. A few years ago Krabbe of Copenhagen, in a paper written in English and published in America,<sup>2</sup> advanced a theory to explain this strange fact. The sexual gland in the early stage of development lies close to the portion of the genital ridge where the adrenal cortex is developed. Laulanic, Jonesik, Nagel, and Coert came to the conclusion that the primitive ovary is hermaphroditic; this view was confirmed by A. Kohn as lately as 1920. While the testis develops nearly directly from the undifferentiated original mass, the ovaries pass through a stage in which the cortical part may be considered female, but the deeper or medullary part male or testicular. Krabbe reproduced the figures given by Kohn: in the male is shown pure testicular development; on the external surface is the germinal epithelium, from which has developed medullary cords which will become tubuli seminiferi; between these cords are the interstitial cells. In the development of the female sex gland the epithelium of the germinal ridge forms medullary cords as in the male, with interstitial cells centrally situated, but the cortical part of the primitive gland contains primordial follicles and follicles with a zona granulosa. Normally the male sexual gland tissue of the primitive ovary undergoes atrophy and disappears. Should some of the male germinal cells become included in the developing cortical cells of the adrenal gland, they may later in life develop a tumour consisting of interstitial cells. It might be argued that if this theory were correct they would be seen in the tumour, but it is very difficult to distinguish interstitial cells of the testis from cortical adrenal cells. While there is masculinization of females with adrenal tumours, there is no feminization of boys who have had adrenal tumours. According to Krabbe, this can be

<sup>1</sup> *Sir William Osler*. By Harvey Cushing. Two volumes. Oxford University Press. (Price 37s. 6d.; India paper edition, 1 vol., 50s.)

<sup>2</sup> *New York Medical Journal*, 114, 1921.

explained on the view that in male embryos there is a pure testicular stage, while in females there is an ovario-testicular stage. According to Krabbe, tumours of the adrenal cortex are developed from an abnormally placed adrenal gland. The male part of the primitive ovary has not remained rudimentary and disappeared, but has become a part of the cortex of the adrenal gland and developed as a part of it. On this hypothesis the tumour cells developed from the adrenal cortex are not developed from adrenal cortical cells, but from cells which represent the medullary male part of the ovary, so that the tumour cells secrete a hormone characteristic of the male; virilism in girls, it is suggested, is produced in this way. The presumption of a condition of hermaphroditism in the female sex gland in the early stages of development is therefore held to explain precocious puberty in males and virilism in females associated with tumour of the adrenal gland. Several recorded cases of ovario-testis support this view. That of Blair Bell is of particular interest. In it an ovario-testis without any abnormality in the adrenals was associated with masculinization. Removal of the gland led to disappearance of the male characters. Microscopical sections of the ovario-testis showed a central testicular portion with infantile seminal tubules surrounded by interstitial tissue with an outer capsule of ovarian tissue, containing Graafian follicles. Berblinger has recently described a very similar case. A girl at the age of 12 began to grow a beard, but menstruation set in at the age of 16. At the age of 21 a tumour the size of a walnut was removed from the right labium. Psychological development—which till then was indifferent—became now typically female. The tumour was an ovario-testis containing typical Graafian follicles externally, and internally rudimentary testicular tissue. It may be noted in this connexion that Steinach and Sand found that intersexuality in mammals could be caused by combining ovarian and testicular implantation in the same individual castrate. Recently Kemp,<sup>1</sup> in an article also written in English, has subjected these views of Krabbe to criticism. As to the morphological factors upon which is based the view that the primitive ovary is bisexual, he holds that the medullary cords of the ovary and seminiferous tubules of the testis may be considered as homologous. Similarly the cortex of the ovary and the superficial covering of epithelium of the testis may be regarded as homologous. The process of development in the primitive sexual gland is accentuated in both sexes, though in varying degree, more strongly in the ovary than in the testis; the sexual gland, as regards organic shape and structure, is similar to the other internal genital organs, and this dualism is maintained in a somewhat greater degree in the ovary than in the testis. A point of great importance is that as soon as it can be determined to which sex the primitive sexual cells in the medullary cords belong, they are female. The first decisive feature distinguishing the primitive ovum from the primitive sperm cells is the primitive follicle, the single-layered stratum granulosum that forms around the primitive ova—the oögonia—but not around the spermatogonia. The primitive follicles are to be seen in the medullary cords at a very early embryonic stage. In man they are to be found from the sixth foetal month, but are said to disappear shortly after birth. This statement is, however, not universally accepted. Kemp bases his view against Kohn's theory, upon which Krabbe relies, on the great difficulty of deciding whether the medullary cords bear any definite male or female characters until primitive follicles are developed. We cannot agree with Kemp in his assertion that "there is no probability, let alone proof, to warrant attributing the power of hormone production to the interstitial cells when the corresponding generative tissue is

not present." He concludes with the following statement: It is not merely absolutely unproved, but also highly improbable, that the medullary cords of the ovary or the connective tissue cells lying between them could become displaced into the adrenals, and, being further developed there, produce a testicular hormone. It is known, however, that the embryonic epithelial cells of the semiaiferous tubules, even at birth, are not of a characteristic form like the primitive ova. The subject is of very great interest from many points of view, and before it can be settled further evidence is required.

#### SCANDINAVIAN MEDICAL LITERATURE.

Those to whom English is the native tongue are greatly interested and not a little gratified by the growth of the study of the English language in the three great Scandinavian countries. Sympathy with them is traditional in England, where in some parts is a strong strain of Scandinavian blood, evidenced by place names and also by the construction of the common surnames. The extent of the movement in Scandinavia is indicated by the existence of flourishing societies. The Anglo-Danish Society has its headquarters in Copenhagen, the Anglo-Swedish in Stockholm, with branches in the university towns Upsala and Lund; the Anglo-Norse, established in Oslo (Christiania) has branches in Stavanger and Bergen. These societies are large and growing, and the *Times Literary Supplement*, from which we take this information, has stated recently that among their members there is "a quite extraordinarily high standard of English speech and culture." Evidence of the growth of a preference for English as a second language is afforded also by the fact that Scandinavian men of science show a growing disposition to publish the results of their researches in our language. We have mentioned this on two or three occasions within the last few months when giving an account of recent papers, and another instance is afforded by the papers of Krabbe and Kemp noticed in another paragraph this week. With one exception the articles to which we refer were published in the series of Scandinavian medical periodicals published under the general title *Acta*. The *Acta* dealing with surgery, gynaecology, medicine, laryngology, pediatrics, skin diseases and syphilis, and radiology, are edited in Stockholm. The place of publication of *Acta Pathologica*, in which Kemp's paper appeared, is Copenhagen. Further, it will have been observed that Professor Moelgaard of Copenhagen not only contributed to our columns a paper on the gold treatment he has devised for tuberculosis, but wrote his book on the subject in English. First-rate scientific work is being done in the Scandinavian countries, and we have also much to learn from them in matters of administration; Denmark, for instance, has solved its Poor Law problem with a completeness England may well envy. From the other point of view there is this to be remembered, that English is spoken by many more people who read than any other language, and that, owing to its directness and conciseness, when well written, and to the ease with which it assimilates Latin and Greek roots, it lends itself well to the expression of scientific facts and speculations. We may therefore look forward to a not distant time when the work done by the medical profession in Denmark, Norway, Sweden, and, we may add, Holland, will be better known than it is to-day, very much to the advantage of medical science throughout the world.

#### THE USE OF THE ELECTRO-CARDIOGRAPH.

WE have received two inquiries from a practitioner who has acquired an electro-cardiograph and who wishes to know what use he can make of it in estimating the suitability or otherwise of patients to undergo general anaesthesia, and in determining in insurance cases that a particular life

<sup>1</sup> *Acta Pathologica et Microbiologica Scandinavica*, vol. 1, fasc. 2, 1924.



is uninsurable or requires an additional premium. The electro-cardiograph, like Mckenzie's polygraph, has served a useful purpose in demonstrating the exact nature of many forms of cardiac irregularity and the site of their production in the conducting tissues of the heart. The practitioner who has studied and understood these graphic records has gained additional knowledge, and this knowledge will enable him to deal more intelligently with many problems in his clinical work. These graphic records, however, do not reveal more than certain disorders or disturbances in different areas of the heart, and they give no indication as to how far the functional efficiency of the heart has been affected by them. To take a familiar example—that of auricular fibrillation: we can get a very clear picture of the irregularity in an electro-cardiographic tracing, but we get no information as to whether the patient is suffering from cardiac distress or requires treatment. In former days some were content to determine the suitability of a patient for an anaesthetic by means of a stethoscope only, but that method has now fallen into disrepute. Similarly, in the present day some have decided the treatment of a cardiac patient by electro-cardiographic tracings only, and without seeing the patient, but such a method is not likely to establish itself as a common practice in English medicine. Reverting to the original questions, we should say that the electro-cardiograph cannot be utilized for deciding the suitability or otherwise of a patient for general anaesthesia. Whatever hidden disturbance the tracings may reveal the practitioner will have to decide by other methods of examination as to their effect and as to the strength and efficiency of the cardiac action. As regards life assurance the same standard applies, and the examiner should not be overmuch influenced by a cardiographic tracing. From the insurer's point of view the less said about it the better, for if a board of directors read that a r-wave is turned upside down or that the r-wave is split they will anticipate the worst and may reject the applicant at once.

#### MALARIA CONTROL IN PALESTINE.

THE Haifa Malaria Research Unit, maintained by the American Joint Distribution Committee in co-operation with the Government of Palestine, is under the control of Dr. I. J. Kligler, who was formerly associated with the Rockefeller Institute; it has recently issued its report for 1923. The unit is primarily concerned with the endeavour to establish malaria control on an extensive scale in Palestine at a low cost. Much valuable information has been obtained by it during the last few years about the geographical prevalence of malaria, the types of mosquitos concerned, and the nature of their breeding places; while, in addition, practical education of the public in malaria control has been undertaken. With a view to the permanent elimination of mosquito breeding places, the engineering division of the unit has made detailed surveys of swamps, and has stimulated co-operation between settlements and villages in drainage schemes. Experience gained during 1923 has shown that many of the more important swamps can be eliminated with relatively small expense, and that, with the aid of small financial grants, the settlements themselves will be able to eradicate permanently some of the chief sources of malaria. The laboratory of the unit, by its clinical investigations and special research work, has been able to render valuable service. The report deals in detail with these various activities, and is well illustrated by photographs, charts, and statistical tables. The chief breeding places of the malarial mosquito appear to be the coastal marshes, the overgrown wadis (rivulet beds), and the cemented cisterns for domestic water storage. These large coastal marshes require radical drainage, which will involve considerable expense. One such swamp has already

been drained as the result of a concession granted to the Athlit Salt Company, and another company has agreed to drain the largest of these areas—the Cabara swamp—on the basis of a land concession to be granted by the Government. The Hule marshes above Lake Meiron, which lies north of the Sea of Galilee, are the largest swamp areas in Palestine, and render the surrounding plain uninhabitable. Important drainage operations are also being undertaken by the Jewish National Fund and other Jewish agencies, active supervision being supplied by the Malaria Research Unit to prevent outbreaks of malaria or unnecessary delays in the work. During the year under review wide areas, hitherto infested with malaria, have thus been rendered habitable. Five drainage schemes were also independently completed by the unit, and surveys were made for several other schemes to be put into operation during 1924. All these undertakings deal with breeding places solely, or chiefly, responsible for the malaria of large groups of the population. They are all planned on most economical lines, and in every case part of the small cost is borne by the people to be benefited. Education of the native population by bringing about the closing of the cisterns, the proper use of spring water, and the treatment of accumulations of stagnant water, will effect a marked improvement. In each area as it was taken into consideration the programme was as follows. From January to March, when there was no mosquito breeding, a complete survey was made of possible breeding places and of the human parasite and spleen rates, followed by intensive treatment of carriers. A systematic house-to-house search for hibernating mosquitos was also organized. These preparatory steps aroused public interest and paved the way for the actual campaign, which started in April with the beginning of the anopheles breeding season and went on until the heavy rains, which, in 1923, did not occur until the end of December. The chief methods of control employed were drying by intermittent damming of streams, and cleaning pools and streams with or without larvicides, including a crude paraffin and castor-oil mixture, Paris green, and a watery solution of cresol. The statistical tables show that a marked decrease in the malaria incidence followed the application of these measures. Quinine prophylaxis was only employed temporarily when mosquito control had broken down. No evidence was obtained that the incidence of infected mosquitos was higher than in Macedonia or other malarial areas.

#### BOSTON PSYCHOPATHIC HOSPITAL.

THE report of the trustees of the Boston Psychopathic Hospital for the year ending November 30th, 1923, is of considerable interest. The trustees have reason to be proud of the achievements of their hospital. They are alive to the need for a better understanding of mental troubles of all sorts, and "particularly cherish the fact that, side by side with the treatment of symptoms and diseases, there is a steady attempt to get at fundamentals for understanding the disorders of mental life." The nature of the treatment employed and of the research which is being prosecuted is shown in the numerous reports submitted to the board of trustees, all of which together make up the present document. There is, first of all, the report of the director of the hospital, Dr. C. Macfie Campbell, giving a general presentation of the work of the institution. The detailed analysis of this work is found in the reports which follow of the chief medical officer, the out-patient department, the biochemical laboratory, the psychology department, the neuro-pathological laboratory, the department of therapeutic research, the chief executive officer, the social service department, and the department of occupational therapy. The manifold activities of the hospital reflected in this list show how varied are the attempts to grapple with the problems of mental disease, both from the stand-

point of ameliorating the patient's state and of arriving at a fuller understanding of the true nature of mental disorder. There are many difficulties in the way, and many prejudices to be overcome. Ignorance of what is being done to solve the problems of mental disease is surprisingly widespread, and Dr. Campbell has to admit that "the number who realize the scope of the work of the hospital and who grasp its relation to the general health problems of the community is not large." Dealing with existing prejudices, he expresses the opinion that "we have not altogether emancipated ourselves from the mediaeval attitude to mental disorder, and certainly not from the tyranny of words." His particular instance of the tyranny of words is that of "insanity." In a recent article on the treatment of mental disorders Dr. Edward Mapother warned his readers of "the power of words to stereotype thought"—the futility of being satisfied when a disease is given a name, and when a statistical prognosis is advanced based on that name. With us, in recent years, the word which has been most assailed because of its tyranny is "asylum"; and it was in the hope of removing the stigma associated with that name that the term "mental hospital" has come into use. It was not, of course, the change of name that mattered so much as the change of conditions which helped to give that name its reproach. As the British Medical Association has said in its recent Memorandum of Evidence to the Royal Commission on Lunacy: "More important, however, than the terms used, if the best possible is to be done for those who are mentally disordered, are the arrangements provided and the conditions governing them." An institution whose primary medical object is not treatment does not become a "mental hospital" by calling itself such. "The hospitalization of asylums"—a phrase associated with the strenuous advocacy of Professor G. M. Robertson—must steadily continue and progress. Patients in a mental hospital should be afforded the same medical facilities as would be due to them in a general hospital. Many patients admitted to mental hospitals suffer from bodily as well as mental illness, the latter often the outcome of the former, and such cases specially demand skilled medical treatment and skilled nursing. "So long as general hospitals have no special service for patients with mental disorders," says Dr. Macfie Campbell, "a transfer to a psychopathic hospital will be necessary; but when, in the course of time, physicians and nurses shall in their curriculum have had adequate psychiatric training, many patients will remain in the wards of a general hospital who are at the present time transferred to a psychopathic hospital." From what has been said in these columns on many occasions it may be judged that we endorse Dr. Macfie Campbell's views on this matter, and would wish to see, side by side with the hospitalization of asylums, a more widespread practice of treating many mental cases in general hospitals. This would prove beneficial to patients, physicians, students, and nurses alike.

#### THE TAUNGS SKULL.

Dr. R. Broom, F.R.S., whose contributions to anthropology and comparative anatomy have made his name well known, has sent to *Nature* (April 18th, p. 569) an account of an inspection of the Taungs skull which he made during a recent visit to Johannesburg. Professor Dart, who described the skull and applied the name *Australopithecus africanus*, gave him every facility. With regard to the geological age of the being, Dr. Broom says that it can safely be asserted that the skull is probably not older than Pleistocene times, and perhaps even as recent as the *Homo rhodesiensis* skull. Though, therefore, the skull is not likely to be older than what we regard as the human period,

the age of the specimen, Dr. Broom says, in no way interferes with its being a true "missing link" and the most important hitherto discovered. He would put it earlier than *Pithecanthropus* in the evolutionary stem, and much earlier, therefore, than *Coanthropus*, which "has a human brain with still the chimpanzee jaw. In *Australopithecus*," Dr. Broom continues, "we have a being also with a chimpanzee-like jaw, but with a subhuman brain. We seem justified in concluding that in this new form discovered by Professor Dart we have a connecting link between the higher apes and one of the lowest human types. . . . While nearer to the anthropoid apes than man, it seems to be the forerunner of such a type as *Coanthropus*, which may be regarded as the earliest human variety, the other probably branching off in different directions."

#### LISTER MEMORIAL LECTURE.

It was decided at a meeting held at the Mansion House, London, in October, 1912, that the public commemoration of Lord Lister's work should consist of three parts. One is the tablet, with medallion and inscription, placed in Westminster Abbey; another is the monument erected in Portland Place, London, and unveiled in March, 1924; the third is an International Lister Memorial Fund for the advancement of surgery. In order to carry out the scheme for the establishment of a memorial fund, it was resolved at a meeting held in July, 1920, to award a sum of £500, together with a bronze medal, every three years, in recognition of distinguished contributions to surgical science, the recipient being required to give a lecture in London. At that meeting the Royal College of Surgeons of England undertook to become the trustees and administrators of the fund, and with the approval of the general committee of the fund the trust was transferred to the College, subject to certain provisions. One of these is that the award is to be made by a committee consisting of representatives of the Royal Society, the Royal College of Surgeons of England, the Royal College of Surgeons in Ireland, the University of Edinburgh, and the University of Glasgow. We announced last July that the first award of the Lister Medal, with the honorarium, has been made to Sir W. Watson Cheyne, Bt., F.R.S., who was for many years intimately associated with Lister in his work. Sir Watson Cheyne's lecture will be given at the Royal College of Surgeons, Lincoln's Inn Fields, on Thursday, May 14th, at 5 p.m.

THE first Lady Jones Lecture before the University of Liverpool will be given by Sir Robert Jones, K.B.E., F.R.C.S., on Tuesday, May 12th. The lecture was founded by Mr. John Rankin in memory of Sir Robert Jones's wife, who died a few years ago—a lady regarded with affectionate esteem by a large number of members of the profession. The lecture is to be given every third year. The subject of the first is "Crippling due to fractures: its prevention and remedy."

WE regret to learn that Sir John MacAlister has been compelled by ill health to resign the office of Secretary to the Royal Society of Medicine, which he has held since its formation some twenty years ago. The Society finds it necessary to proceed at once to the appointment of a successor. An advertisement stating the conditions and terms will be found elsewhere in this issue.

WE regret to announce the deaths of Sir Arthur W. May, K.C.B., late Medical Director-General, Royal Navy, on April 20th; of Dr. Robert J. M. Buchanan, late professor of forensic medicine in the University of Liverpool, on April 19th; and of Dr. Reginald Dudfield, medical officer of health for Paddington, also on April 19th.

## TUBERCULIN TESTS IN CATTLE.

Born "certified" and "Grade A tuberculin-tested" milk must only be collected from cows previously tested with tuberculin and proved by this test to be "negative reactors," and therefore presumably free from tuberculosis. Relying on this guarantee the public has come to look upon these special milks as free from all danger of causing tuberculosis in the consumer, and has therefore regarded them as safe for children. That these cleaner milks are incomparably purer food than ordinary milk no one would deny who has seen the precautions with which such special milk is collected or has studied the stringent regulations which govern the production and distribution of these specially designated milks. There is no reason to doubt that the trust which the public has placed in "certified" and "Grade A tuberculin-tested" milk has been in any way unwarranted; and in view of what we are about to say concerning tuberculin tests it is well to recollect that the health of cattle used for collecting these milks is inquired into also by tests other than the injection of tuberculin. The cows are periodically examined by veterinary surgeons, the premises are regularly inspected, and a high standard of cleanliness is insisted on by the Government regulations. But the actual testing of the cattle with tuberculin, which has made the strongest appeal to the laity, has not always been regarded with the same confidence by farmers and veterinary surgeons.

Of the three methods of performing this test—the subcutaneous, the intradermal, and the ophthalmic—the first is the one which has been used most generally in this country hitherto, and it depends upon the fact that the temperature of a tuberculous cow rises to a higher level after the injection of tuberculin than does the temperature of a cow free from tuberculosis. All physicians will agree that the recording of the body temperature by means of a clinical thermometer is not such a simple feat as it sounds, and if experience is necessary in ascertaining the correct temperature of a willingly co-operating invalid, how much more skill must be requisite for determining the temperature curve of a cow at regular intervals after the subcutaneous injection of tuberculin in an ordinary cowshed?

### THE TUBERCULIN COMMITTEE'S REPORT.

Veterinary surgeons and farmers have been aware of these difficulties for a long time, and in 1921 representations were made to the Ministry of Health by Viscount Astor, Viscount Elveden, and Mr. Wilfred Buckley of the urgent need for further and better investigation of the value of the familiar tuberculin tests in cattle. The Medical Research Council had previously appointed a Tuberculin Committee in 1920 to direct investigations into the methods and results of the use of tuberculin for the diagnosis and treatment of human tuberculosis, and, recognizing that the difficulties of farmers and veterinary surgeons came within the Medical Research Council's province, because of their obvious relation to medical research in tuberculosis and to the general hygiene of the milk supply, the Medical Research Council took steps to enlarge the Tuberculin Committee so as to include members of the veterinary profession and others versed in agricultural problems. This enlarged Committee set itself to inquire into the following problems:

1. It is commonly accepted that a positive reaction in cattle to the subcutaneous test implies infection with tuberculosis. In certain instances, however, in undoubted cases of tuberculosis in cattle, the reaction is either negative or doubtful. Are these discrepancies so numerous as to vitiate the general application of the test for practical purposes?
2. What are the comparative values of the different tuberculin tests—subcutaneous, intradermal, and ophthalmic?
3. What varieties of tuberculin are most efficient in the tests?
4. Can the present methods of standardizing tuberculin be improved?

On these questions the Committee has now come to some important conclusions, which are published in the Medical Research Council Special Report No. 94.<sup>1</sup>

This valuable document will help to place the whole question of tuberculin tests on a more secure footing. A great deal of the information included in its 195 pages is of a technical character, of interest only to those whose business it is to conduct these tests or appraise their value. We propose to give a brief account of the scope of the report and draw attention to its main conclusions.

The first part of the investigation made by the Committee was occupied with a study of the three tuberculin tests on eight herds of cattle—herds believed to be practically free from tuberculosis as well as those heavily infected. These investigations are reported in great detail, with temperature charts and figures of measurement. The next section contains an account of modified intradermal and ophthalmic tests employed in later investigations. This is followed by a report on the examination of veterinary tuberculin by Dr. R. A. O'Brien, and this by an abstract of a paper by Professor Dreyer and Mr. R. L. Vollon on a precipitin method for the standardization of "old" tuberculin and the expression of results in standard units. The final section is devoted to pathological evidence, and contains a report on the double intradermal tuberculin test performed on 114 cattle, the clinical results being controlled by *post-mortem* examination and biological tests. The results of this extensive research are tabulated in detail, and, commenting on it, the Committee observes that "nowhere in the available literature can be found a similar account of so extensive a series of tests followed by *post-mortem* and microscopic examinations combined with animal inoculations."

Turning to the conclusions of the Committee, we find that it metes out but faint praise to the subcutaneous method of testing. It says the subcutaneous tuberculin test appears to be a perfectly satisfactory test for the presence of tuberculosis in cattle when carried out under the laboratory conditions of a scientific trial. Under ordinary farm conditions it is not a satisfactory test; the discrepancies then prevailing are often so numerous as to vitiate the general application of the test for practical purposes. But if it hesitates over the subcutaneous tests, the Committee has found grounds for complete confidence in the intradermal test. "Of the different tuberculin tests the intradermal, as described in this report, appears to be superior to the subcutaneous tests, while the ophthalmic test should only be regarded as a subsidiary test." The percentage of error with the intradermal test is very small, in support of which statement may be mentioned that, in the Committee's experience, animals diagnosed as tuberculous by the intradermal test, though they had not shown tuberculosis on naked-eye examination, were nevertheless proved at autopsy to have been tuberculous, betrayed by microscopic examination of sections and inoculation of suspected tissue into guinea-pigs. It is fortunate that the intradermal tests have come out best in this inquiry, for they have many advantages over the subcutaneous tuberculin tests. Thus no temperature observations are required; the animal need not be kept at rest before and during the conduct of the test; interference with the ordinary farm routine is not required; only three observations are necessary; and the technique, although at first slightly more difficult than that of subcutaneous injection, is easily acquired. The variety of tuberculin recommended for the intradermal tests is "old tuberculin." It appears to be immaterial whether a bovine or human strain of tubercle bacillus is used in its manufacture. The tuberculin used must be of proved high potency, and should be administered undiluted for both the intradermal and ophthalmic tests.

The authoritative statements of this report will be welcomed by farmers and veterinary surgeons, and we hope that the conclusions with regard to the most reliable tuberculin tests will be brought without delay before the notice of medical officers of health and all other officials whose duty it is to watch over the national milk supply.

<sup>1</sup> Medical Research Council. Special Report Series, No. 94: *Tuberculin Tests in Cattle, with Special Reference to the Intradermal Test*. London: H.M. Stationery Office. 1925. 3s. net.

## ROYAL COMMISSION ON LUNACY AND MENTAL DISORDER.

### RESUMPTION OF SITTINGS.

ON the resumption of the sittings of the Royal Commission on April 17th the Chairman (Right Hon. H. P. MACMILLAN, K.C.) alluded to the sudden death of a member of the Commission (Sir Thomas Hutchison), who was Lord Provost of Edinburgh in 1921-23. He said that Sir Thomas left behind him a record of conspicuous and varied public service.

### LUNACY LAW AND ADMINISTRATION IN SCOTLAND.

Evidence was tendered by Sir ARTHUR ROSE, chairman of the General Board of Control for Scotland, and Dr. H. C. MARR, one of the medical commissioners. The Chairman, in welcoming these witnesses, explained that the scope of the Commission's reference did not extend to Scotland, and this evidence was being received rather for the purposes of comparison with English practice than with any view to recommendations affecting Scotland.

Sir Arthur Rose stated that the Scottish Board consisted at present of five members—two whole-time medical commissioners, two members of the legal profession, who were unpaid, and himself, an honorary chairman. In addition, there were three medical deputy-commissioners, who were not members of the board, and one of these was a woman. The distinctive feature of the Scottish system was the division of the country into lunacy districts, not quite coterminous with counties, each with its local board. The law was administered under the statute of 1857; there had been various amending Acts, but no consolidating Act, as in England. The medical commissioners took it in turns to be in attendance at the offices of the board, and each of them also visited every establishment once a year, and saw every patient. Dr. Marr here remarked that these visits were not a formality; opportunity was given for making complaints, and although many of the complaints were frivolous some quite intelligent criticisms of asylum administration had been elicited from patients.

Sir Arthur Rose went on to say that the number of registered lunatics in Scotland in 1924 was 18,266 (9,112 male and 9,154 female); of these, 2,887 were private patients, and 15,379 were rate-aided. The public asylums proper consisted of the seven royal or chartered asylums, all of them philanthropic institutions, with endowments, and 21 district asylums provided by the district boards. In Scotland there was only one private asylum (at Polton, Midlothian), corresponding to what in England was called the licensed house; it contained 54 patients. There was also one parochial asylum (at Greenock), which was really a vestige of a previous system. There were lunatic wards in 14 poorhouses, with 883 patients, and there were 1,863 registered lunatics in private dwellings. With regard to the admission of patients, the sheriff's order had to be accompanied by two medical certificates for pauper and private cases alike, but the witnesses stated that even in Scotland there was a distinction between the two classes in this respect, that in the case of the private patient two medical certificates had to be given by medical men not connected with the institution, whereas in the case of the pauper patient a medical officer of the institution might give one of the certificates. Although there was no evidence that this had ever led to any abuse, it was an anomaly, and was one of the matters noted for amendment in a future amending Act.

After dealing with the procedure on discharge, the witnesses spoke of the boarding-out system in Scotland. This, Sir Arthur Rose said, was a provision for placing in suitable homes, such as small farms, a type of case which no longer required any close medical supervision, and in which country life would be beneficial. It was required in such cases that the patient should share in the family life of the people among whom he was placed, and the deputy medical commissioners were constantly in touch with these patients, even in the most remote districts of the North of Scotland.

### Observation Wards.

The witnesses were also examined on the observation wards for patients labouring under incipient forms of mental disease. Dr. Marr said, that such wards were instituted by the parish council of Glasgow in 1890. The success attending the experiment was so great that in 1904 the parish council opened, in connexion with their parochial hospital, special wards for this purpose, spacious, handsome, and admirably designed, containing 25 beds for each sex. The parish councils of Govan, Partick, and Dundee had followed the example of Glasgow. The Local Government Board (now the Scottish Board of Health) took measures for the prevention of any possible abuses or irregularities which might arise, by placing the two wards under clearly defined regulations, dealing with such questions as sufficiency of space, adequacy of medical and nursing staff, institution of registers, and duration of residence (now six

months). It was also arranged that the medical commissioner of the Board should inspect and report on these wards at regular intervals. In 1923 additional wards were arranged in the general hospital at Stobhill. Dr. Marr explained that the Stobhill Hospital, Glasgow, was a Poor Law general hospital, but in its medical administration, its staff of consultants, and its apparatus for treatment, it was on all fours with a large voluntary hospital, and in these advantages the patients in the wards allotted to mental cases shared.

### The Teaching of Psychiatry at Edinburgh.

The whole of the hearing on April 18th was occupied with the evidence of Dr. GEORGE M. ROBERTSON, professor of psychiatry in the University of Edinburgh and physician-superintendent of the Royal Edinburgh Infirmary, Morningside.

After giving an account of the Morningside institution, Professor Robertson mentioned that for forty-six years the institution had had the advantage of connexion with the University, and had founded the chair of psychiatry therein. The teaching of psychiatry at Edinburgh University consisted of thirty lectures a year, which all medical students for graduation had to attend, and the students were able to see the most important types of cases. In addition to the thirty compulsory lectures there was an optional course in medical psychology. He claimed that more tuition in this department was given at Edinburgh than at any other medical school in the world. Sir David Drummond remarked that he thought there were universities in England which gave a similar prominence to psychiatry. Professor Robertson said that the requirements in Sir George Newman's model course were less than the students at Edinburgh were receiving. With regard to facilities for post-graduate work, there was a diploma in psychiatry, and a certain number of graduates took it, but it entailed full-time work for six months, so that graduates tended to seek diplomas elsewhere, which were obtainable with more ease, but, of course, the Edinburgh diploma was correspondingly valuable.

The witness was next asked about certification in Scotland. He was of opinion that if it was made necessary for the second certificate to be given by a mental expert a good many patients would be saved from the asylum, granted, of course, that appropriate means were available for their treatment outside. Some argument ensued on the form of certificates, and the Chairman remarked that in the continuation certificate in Scotland no statement was made that the person was of unsound mind; the statement was merely that the person was likely to benefit from continued residence in an asylum. The Chairman also said that it was very desirable that certificates should be signed without any *arrière-pensée*, and should be such as the signatory could support in the witness-box if necessary. He had heard of formularies in religious matters being signed with reservations, but he did not like any reservations in medical certification.

### Insanity as a Notifiable Disease.

Professor Robertson went on to express his dissent from the procedure of judicial intervention—the sheriff's order—on the ground that he found so many patients and their friends distressed by the necessity of proceeding to the sheriff, who was associated in their minds with the apparatus of judgement upon offenders against the law. He wished all certification to be done away with, though he agreed that some substitute for the certificate must be introduced. He thought that insanity should be treated as a notifiable disease. The fact that patients, in furtherance of their medical treatment, had to be treated at a particular institution should be notified to the authorities, whose responsibility in the matter would thereby be invoked, and he believed that sufficient protection would be afforded by such notification of detention for treatment, and by the inspection of the places in which the persons were detained and the periodical visitation of the persons themselves. He agreed with Lord Russell that this would only be certification in another form, but it would be free from some of the distressing procedure at present necessary. The fact that everybody was out to evade the formalities if possible was an indication that the formalities were inappropriate.

### The Voluntary System in Scotland.

The Chairman next asked the witness for his views on the voluntary system, whereby certain patients, after a period of observation and treatment, were enabled to escape ultimate certification. Professor Robertson thought that the procedure in dealing with voluntary patients in Scotland had created something like a revolution in lunacy administration. The procedure was very simple. The patient wrote or signed a letter to the medical superintendent asking to be admitted as a voluntary patient. A letter was also sent to the Board of Control, who replied sanctioning the admission. The witness's view was that if a patient were sane enough to write such a letter he belonged properly to the category of voluntary patients. The Chairman pointed out the danger that an interested

relative might induce a patient to sign such a letter. In such a case it would be mere camouflage to describe the action as voluntary, for the patient had no power of volition. The witness said that he was aware of that danger, but the great majority of those who went in as voluntary patients appreciated their position as such, and others were quite indifferent to their surroundings so long as they were kindly treated. Forty per cent. of all private patients entered as voluntary patients. This voluntary principle was supported most decidedly by public opinion in Scotland. Indeed, there had been very little agitation in Scotland with regard to lunacy law, and there was general satisfaction with administration. Practically no cases of litigation concerning the detention of persons judged to be insane had occurred.

#### *Mental Nursing Homes.*

Professor Robertson spoke next of mental nursing homes. He had not been satisfied with the provision made for taking patients into private homes, and he took advantage of a proviso in the Scottish Act, that persons might be kept for six months in temporary residence on one medical certificate, to institute in association with Morningside and under the control of its board certain private houses for the reception of patients. The scheme had worked well; the majority of patients recovered within the six months period; in the case of those who had not recovered at the end of that time, sanction was obtained from the Board of Control for a continuation of the treatment. By some flaw in the Act there was no statutory requirement in such cases for notification to the Board of Control, although, of course, such notification was most desirable. He described these homes as part of the system of boarding out in Scotland, a description contested by Lord Russell, who pointed out that in boarded-out cases there was technically no power of detention. Mr. Micklem asked whether it was really the case that in Scotland any person might for gain take a lunatic, without a sheriff's order or the sanction of the Board of Control, and detain him for six months on one medical certificate. The witness said that that was the case, and was most anomalous, but the homes of which he was speaking, in association with Morningside, were not carried on for gain; any profits went into the funds of the institution. He would prefer all such homes to be under disinterested management.

#### *Female Nurses in Male Wards.*

The witness was next asked about the employment of female nurses in male wards. He said that in his experience such nurses had an extraordinary power of control over excited male patients, whom a male attendant might only serve to provoke. The presence of women had reduced the tendency to roughness, and had brought a new tone and atmosphere into the place. Male wards were not left entirely without male attendants, but one in each ward was generally enough. There were also certain categories of male patients for whom male attendants were advisable. But the employment of female nurses in male wards was all a part of the voluntary hospital idea which he and others in Scotland had tried to introduce into asylum administration. This was one of the ways in which the impression of an asylum as a place of detention would disappear. Another step in the same direction was the abolition of the "airing court," and, practically, of the padded room and the place of solitary confinement. Refractory patients seemed to be fewer in number in Scotland than elsewhere, and this he attributed to the enlightened ideas of treatment in vogue. For some reason there were also fewer epileptics in Scotland, the number increasing steadily as one came southward. In his own institution a certain number of wards had no locked doors at all, and no patient at Morningside was ever locked in solitary confinement. A member of the Commission asked what was done in the case of the violent patient knocking his head against the wall. Professor Robertson said that he had rarely seen the patient who gave way to continual violence; he had seen such manifestations, lasting perhaps only five minutes. On the general subject of restraint he said that a hundred years ago the large measure of restraint employed in asylum administration was mainly due to the fact that only one attendant was assigned to thirty or fifty patients. With the increase in the number of the staff the apparatus of restraint was largely abolished, with the result that the patients became more and more quiet. There was no doubt that the better treatment now given in acute manias as compared with the past was the chief reason why this disease appeared to be of a milder type than formerly. Excitement, noise, and violence among the inmates of an institution had greatly diminished. With regard to chemical restraint, he would not object to hyoscine, which was exceedingly valuable in an emergency, but should never be used continuously. He believed greatly in the effect of baths and rest in bed for patients who were inclined to be excited. The failure of doctors and nurses alike in the past was in regarding excitement in a patient as merely a symptom of the disease, to be treated by physical restraint or drugs or in any way that

offered. After observation he had come to the conclusion that a great many of these cases of excitement were due to some easily ascertainable form of irritation, and if trouble were taken to find out the cause and to remove it the patient's excitement would disappear. He recalled a case in a private house in which three or four nurses were holding down a struggling patient. His assistant found on inquiry that the patient had the idea that the gas taps were turned on and that an explosion was imminent. He told her that he would see to the matter; he examined the taps, and on his return reassured her, and she immediately became quiet, as she would never have done, short of exhaustion, along the lines which the nurses were pursuing. Insane persons, while their thinking often proceeded from false premises, were quite capable of logical reasoning, and their actions were those of a normal person on such reasoning. It was well to take trouble to discover their reasoning processes; otherwise treatment by restraint, without sympathetic study of insanity, might exasperate rather than cure.

#### *Early Mental Wards in a General Hospital.*

On April 20th the first witness was Dr. JOHN D. COMRIE, senior assistant physician, Royal Infirmary, Edinburgh, who described the early mental wards, of which he is in charge, at that institution. In part his evidence repeated the statements made in his article in the *BRITISH MEDICAL JOURNAL* of September 27th, 1924 (p. 551), reprints of which were distributed to the members of the Commission.

Dr. Comrie mentioned that as far back as 1738, shortly after the hospital received its charter, it was recorded in the minutes that "as there is no proper place in Scotland for entertaining lunatics the managers propose to prepare in this part of the house to be built five cells to entertain such lunatics whose expenses their friends will defray." The present mental wards, very different from the cells there suggested, were two in number, one of 16 beds for male patients, and the other of 8 beds for female patients, with the possibility of two additional beds in either case. Asked what extension he would make if he were given a free hand, he said that he thought that 50 beds would serve the needs of Edinburgh and district. More accommodation was desirable in order that cases might be classified and noisy patients segregated. He himself visited the wards every day and saw every patient. A resident medical officer was also in attendance, but the duty of this officer included supervision of another ward as well; there was, further, a non-resident doctor who acted as clinical assistant. The nursing staff included, in addition to the sister in charge, eight female nurses and three male attendants, who were called "porters," and whose status was below that of nurses. It was at all times possible to bring in special nurses from other wards of the hospital as required. Cases were sent to these mental wards by outside doctors, a certain number came through the out-patient department of the hospital, and cases which had been treated in other wards were transferred to the mental wards on mental derangement supervening on the physical ailment. No certified cases came in; the patients were all voluntary, at all events in the same sense as patients in a general hospital, and, theoretically, they could go out at any time. In practice restraint was exercised, if necessary, in the patient's interest, in the same way as, say, in a delirious fever case, and surgical restraint (bandages) was used in the case of a patient who was inclined, say, to remove the splints from an injured leg. The wards acted as a kind of clearing house, and large numbers of patients were saved from certification. An advantage of such wards being in a general hospital was the ease with which physical conditions—infective, exhaustive, or reflex—operating as partial causes for the mental condition could be discovered and dealt with in a large proportion of the cases of confusional mental states, melancholia, and psychoneuroses. The association of mental cases with patients who were normal mentally and the greater freedom of access by the public to a general hospital than to an asylum were also important factors in expediting the recovery of the patient and establishing public confidence. The wards, in fact, took, for rate-aided patients, the place of the voluntary nursing homes available for paying patients. Dr. Comrie furnished a number of figures giving results; it appeared that about 60 per cent. of these slighter and undiagnosed cases of mental disorder might be expected to recover sufficiently to return home within a period of six weeks. In 50 per cent. of the psychoneuroses and hysteria cases with very marked mental symptoms a definite physical cause was discovered. The manic-depressive cases did not respond so well to the treatment given as did others. In reply to questions about the diminution of cases due to alcohol, Dr. Comrie said that he attributed this to the lessened consumption of alcohol in Scotland; this in its turn was due to economic reasons (lack of employment). The cases of delirium tremens showed a marked reduction. In general, the severity of such alcoholic cases as came in was not nearly so great as formerly.



*Provision for Incipient Cases by Local Authorities.*

The second witness was Dr. JOHN CARSWELL, who had been certifying physician in lunacy for Glasgow from 1889 to 1914, and commissioner of the Board of Control for Scotland for a number of years.

Dr. Carswell gave an account of his pioneer work in Glasgow in connexion with the treatment of incipient cases of insanity. This work started in 1889, when he suggested to the local authority that arrangements should be made for the treatment of such cases. At that time there was no systematized knowledge or study of mental disorder until patients arrived as certified lunatics at the door of the asylum, and no provision then existed anywhere for meeting the needs of such patients in the early stages of their derangement. The result was the setting up of observation wards in the hospitals of the local authority, as already described in the evidence of Sir Arthur Rose and Dr. Marr. Here cases could be sorted out before certification. The work called for great responsibility in the physician, who must keep himself informed of the views of the lunacy authorities, and must be aware of the legal pitfalls; but of the many thousands of cases which passed through his hands while he held the office in Glasgow the parish council was not required to answer a single letter of complaint. Asked whether such a scheme would not prove very difficult for rural districts, Dr. Carswell said that he did not think the difficulty was as great as was commonly supposed. In Southern England, at all events, in comparison with the conditions in Scotland, the means of communication between outlying villages and small towns were very good, and the transfer of patients from rural places to centres in which hospitals were situated should not be difficult. He emphasized very strongly the need that every person alleged to be insane or mentally deranged should be visited in his own home, if at all possible, by a special medical officer. It was very important that the patient's home surroundings as well as his actual state of mind should be investigated. The arrangement in Glasgow when he was in charge there was that, on a medical man becoming aware of such an illness in an artisan family, he reported the case to the inspector of the poor, who was under obligation immediately to communicate with him (the witness), and he at once visited the patient. It was within his discretion to send the patient to the observation wards or to remove him direct to the asylum. Persons who were homeless and had perhaps attempted suicide or shown other signs of mental disorder were notified to him by the police, and he made an examination of them in the police office. In such cases there were no court proceedings, though "disorderly conduct" might be entered on the charge sheet. He found the hospital associations and atmosphere of the observation wards conducive to recovery. More than half the cases thus treated for mental disturbance escaped ultimate certification. Under this system the sorting out of cases was done twice—originally in the visit to the homes of the patients immediately on notification, and again after they had been a short period in the institution. In reply to Mrs. Mathews, who asked whether there were any means of avoiding the intervention of the inspector of the poor, the witness replied that his own view was that the proper authority for receiving such intimations was the health authority, and on the suggestion of Sir Humphry Rolleston he promised to submit to the Commission a memorandum elaborating his view that the health authority should take the place of the Poor Law authority in this respect.

The Commission adjourned until a date in May to be announced.

## Canada.

[FROM OUR OWN CORRESPONDENT.]

### PUBLIC SUPPORT FOR MEDICAL RESEARCH.

It is a welcome sign of the times that the laity is becoming alive to the benefits to be derived from concentrated study of the elusive problems of certain diseases. The medical research committee of the University of Manitoba, Winnipeg, has recently received a gift of two thousand dollars apiece from eight business men of that city. At the laboratories of the medical college investigations upon the chemistry of the blood will be supported by these funds, and at the general hospital certain blood diseases, especially pernicious anaemia and the leukaemias, will be studied. The research committee hopes to link this fund up with the Gordon Bell Memorial Fund which was established last October, when twenty thousand dollars were set aside.

### IODINE AS A PROPHYLACTIC OF GOITRE.

Goitre has for some time been very prevalent amongst animals and human beings in the Pemberton Meadows district of British Columbia. Dr. W. D. Keith, who undertook to investigate the subject, published a report on his investigations in the *Journal of the Canadian Medical Association* a year or so ago. The results of feeding iodine to cattle were very gratifying. Mr. John Ronayne of this district carried out the experiment and has shown that the total cost of the iodine required for one hundred head of cattle, twelve horses, two hundred chickens, and a number of other domestic animals was only two dollars a year.

### CONFERENCE ON MEDICAL SERVICES.

A conference on the medical services in Canada, arranged by the Canadian Medical Association, with the approval of the Hon. Henri Beland, Minister of Health for Canada, was held in the House of Commons, Ottawa, last December. A report of the papers read and of the discussions they provoked is published in the March issue of the *Journal of the Canadian Medical Association*. The chairman of the conference was Dr. Alexander Primrose, C.B., of Toronto University.

### Medical Licensing in Canada.

Among the subjects dealt with was that of "Medical licensure in Canada." This has been a very knotty problem for many years. In Canada the licensing of medical men is a function of each individual province, and time was when practically no reciprocity existed amongst the provinces. Through the determined effort of the late Sir Thomas Roddick, M.D., an Act was passed in the Dominion House creating a Medical Council of Canada in 1912; it was a step in advance, but still conditions are not entirely satisfactory. At the present time the young man who has obtained his medical degree in Canada has a choice of two methods of obtaining his licence. He may sit for the professional examinations of the province in which he wishes to practise, as the greater number of graduates still continue to do; or he may, upon presentation of an "enabling certificate" from the registrar of any province that he has fulfilled all the requirements of that province as to preliminary and medical education, sit for the examinations of the Medical Council of Canada. In the first case he can register only in the province in which he was examined; in the second he is nominally entitled to licence in any province. Actually, however, only eight of the nine Canadian provinces fully accept the examinations of the Dominion Council (as it is loosely called). Quebec, ever jealous of its rights and privileges, maintains that the Dominion examinations may properly be taken only after all provincial conditions for licensure have been fulfilled, and refuses to give an "enabling certificate" to the graduate of any medical school in the province of Quebec unless he has (1) fulfilled all of the provincial requirements as to preliminary education, (2) been on the provincial register as a medical student for five years, and (3) passed all of the provincial licensing examinations, which extend over a period of five years. Furthermore, graduates of these schools who belong to other provinces where they have registered and who wish to obtain a licence in Quebec by reciprocity, are allowed to do so only when they have passed the examinations of the Medical Council of Canada, after having previously passed the professional examinations of their own province. In contrast to Quebec, British Columbia has abolished its own provincial examinations, and grants licence only to those graduates who have passed the Dominion Council. Were all of the provinces to adopt this procedure the difficulties of Canadian licensure would pass away. There is still another way of obtaining a licence to practise in a province of Canada, for all the provinces, except British Columbia, have, since the war, entered into reciprocity with the General Medical Council of Great Britain. The prospective licentiate can enter into the promised land by a circuitous route. He can avoid the examination of the Dominion Medical Council by sending to Great Britain his certificate of provincial registration,

## New South Wales.

[FROM OUR OWN CORRESPONDENT.]

PROFESSOR JOHN IRVINE HUNTER.

THE members of the New South Wales Branch of the British Medical Association met at the British Medical Association Building, Elizabeth Street, Sydney, on December 18th, 1924, to pay homage to the memory of John Irvine Hunter. Dr. Andrew Davidson, President of the Branch, said: "We have met this evening so that we may place on record our deep sense of loss in the untimely death of Professor John Irvine Hunter. He was a great scientist. His industry was invincible. He was a great power to put anatomy on a sure foundation, and thus gave to the study of surgery and of pathology their true place. He loved his work, and in his incessant industry laboured as if life were too short (as it proved to be) for the work he had to do. His life was a sacrifice to science. 'Out of his work, out of his discoveries came, and will come, health and safety and length of days and delivery from pain.' His earnest aim and intense and beautiful character made him to all of us a guide, philosopher, and friend." Professor A. E. Mills (Dean of the Faculty of Medicine, University of Sydney), Professor F. P. Sanders (Professor of Surgery), and Dr. F. A. Maguire (acting Professor of Anatomy) all spoke, and a letter was read from Dr. J. W. Dunbar Hooper, the President of the Victorian Branch.

DR. SYDNEY JAMIESON.

Dr. Sydney Jamieson, who had been associated for many years with the work of the Sydney University and the Sydney Hospital, died on January 25th. A disorder of the heart had troubled him during the last six months, but he continued to attend his patients until two days before his death. Dr. Jamieson was born in London sixty years ago. With his people—his mother is still alive—his first home overseas was in Tasmania, but he received most of his early education in Sydney, where he received the Sydney Grammar School, the Hurlstone College, and graduated in arts at the University of Sydney. With a reputation as a footballer and cricketer, he went to Scotland in 1884, and four years later took the degrees of M.B., M.Ch. in Edinburgh. On his return to Sydney, in 1891, he was appointed assistant physician at the Sydney Hospital, and gradually advanced through various stages of the honorary staff until, when he retired about 1918, he had completed twenty-eight years' service. He established at the hospital the department of pathology, which has now become a most important adjunct. He had acted for a period as demonstrator of pathology under the late Professor Greenfield in Edinburgh.

WELFARE OF MOTHERS AND BABIES.

The success of the work of the Royal Society for the Welfare of Mothers and Babies has rendered the extension of the Mothercraft Centre at Petersham imperative, and additions have been made at a cost of £1,000. The new wing was opened by the Minister for Health on December 6th, 1924. In the last three years, since the inception of the work, the institution has treated 5,100 out-patients and babies and 700 in-patients. About 160 nurses have been trained for this class of work; among them are the matron of the King Edward Hospital, Perth, and the matron of the Adelaide Baby Clinic Health Centre. The Government of New South Wales has made it a condition that all nurses employed in the State baby health centres must have the additional qualification of a post-graduate training at the society's institution. The baby welfare centres at Woolloomooloo and at Surrey Hills are doing excellent work, and the free distribution of milk from these centres has had an excellent effect upon the children. The forty-eight health centres now in operation cost the Government £22,000 a year. The Country Women's Association and the Bush Nursing Association are co-operating in the movement, and at the request of the Bush Nursing Association Bush nurses will be trained free of cost.

together with a fee, and obtain British registration and then register in any province. There are, however, four exceptions: (1) British Columbia, as stated above; (2) Saskatchewan, where the Medical Act has been changed so that it grants medical registration only to those registered by passing the examinations of the General Medical Council of Great Britain—query, is there such an examination? (3) New Brunswick, which does not allow reciprocity with Great Britain unless proof be given of bona-fide residence in that country by those possessed of a certificate of British registration; and (4) Quebec, which will not grant reciprocity through Great Britain to the graduate of any medical school within its province. The question produced a lively and very interesting discussion at the conference.

Public Health and Medical Education.

Dr. John W. S. McCullough, Chief Officer of Health for Ontario, in his address, "The greatest public health need of Canada," pleaded for full-time local health officers; in this country, outside the large cities, there is no completely satisfactory organization for carrying on public health work in an efficient and economical way. The need was much felt last year in one district of Ontario during a small-pox outbreak. In British Columbia the provincial medical association has been investigating the question of health insurance, facts about illness amongst workmen have been collected, and statistics of accidents have been drawn up. Dr. J. H. MacDermot of Vancouver outlined in his paper what had been done, and stated: "We in British Columbia do not think that the medical profession should strive to inaugurate any scheme, but that we should educate ourselves thoroughly with regard to all its advantages and disadvantages and remain receptive, but ready to meet any situation that may arise." The physicians of British Columbia are educating themselves for any eventuality such as a proposal of the Provincial Government to draw up a plan for general health insurance. Perhaps the topic in which the greatest interest was shown at the conference was medical education. Never before, probably, was there so much talking about this subject as there has been in recent years in Canada and the United States, and it is still going on. Professor J. J. R. Macleod, of the University of Toronto, and Dr. C. F. Martin, Dean of the Faculty of Medicine, McGill University, read good papers on the subject. In Toronto certain optional courses may be taken by the medical student. It was the general feeling of the conference that a certain minimum amount of time must be allotted for each subject, yet the curricula of all the medical schools should not be exactly the same, and each medical school should be allowed scope to develop its own individuality. It was also felt that the student must not be "stuffed" during every hour of the day, but should be left some time to think.

If one who has seen something of medical education on both sides of the Atlantic be allowed to express an opinion, I should say that in Canada the medical student does not show that he has had as good a general education from his earliest years up as does the English student. Dr. J. C. Connell, Dean of the Medical Faculty, Queen's University, Kingston, felt that some of the medical schools of Canada had not been quite fairly dealt with by the Council on Medical Education of the American Medical Association in their classification of medical schools. Apparently, in one instance, on the issue of a second report a school was retained in "Class B" without a reinspection having been carried out.

TRAINING OF PUBLIC HEALTH NURSES.

The University of Montreal has instituted a post-graduate course for the training of public health nurses. The school is to receive financial aid from the province of Quebec and also from the city of Montreal. All nurses on the city's staff are to receive training free of charge. The civic authorities have placed two of the most populous parishes, St. Catherine's and St. James's, at the disposal of the school. Here the problems of infantile mortality, tuberculosis, children's diseases, and maternity, and of hygienic conditions generally, will be closely studied, and annual reports will be drawn up to demonstrate to these districts the value of properly guided public health nursing.

**NURSES' REGISTRATION ACT OF NEW SOUTH WALES.**

This Act, which recently received Royal assent, provides for the registration of general, mental, and obstetric nurses; it prescribes a period of training of not less than three years for the two former and of six months for the latter. The constitution of the Nurses' Registration Board is:

- The Director-General of Public Health.
- The Inspector-General of Mental Hospitals.
- The principal teacher of obstetrics in the University of Sydney.
- One legally qualified medical practitioner, who shall be nominated by the New South Wales Council of the Australasian Trained Nurses' Association.
- Three nurses, two of whom shall be nominated by the New South Wales Council of the Australasian Trained Nurses' Association.

**A ROYAL COMMISSION ON NATIONAL HEALTH.**

A Royal Commission on National Health has been appointed, consisting of Sir George Syme, K.B.E., M.S., F.R.C.S., Dr. Frank S. Hone, Dr. R. H. Todd, Dr. Jane Stocks Greig, and the Hon. S. R. Innes-Noad, M.L.C. It is instructed to inquire into the following matters:

- (a) The co-ordination of medical services of Commonwealth departments in regard to all matters affecting public health.
- (b) The co-operation of Commonwealth and State health authorities.
- (c) The prevention of the outbreak, development, or spread of disease in the Commonwealth.
- (d) The prevention of venereal disease and the exercise of control and the treatment of persons suffering from venereal disease.
- (e) Uniform legislation with regard to purity of food and drugs.
- (f) Maternity hygiene and child welfare.
- (g) Industrial hygiene.
- (h) The encouragement and development of research work.
- (i) The relationship which should exist between public health authorities and other public authorities rendering medical services.
- (j) The relationship which should exist between public health authorities and medical practitioners in regard to the prevention of disease.
- (k) The publication of information relating to matters concerning public health.

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**India.**

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**GRANT MEDICAL COLLEGE, BOMBAY.**

On March 16th the Governor of Bombay unveiled at the Grant Medical College a portrait of Sir Temulji Nariman, one of the oldest medical practitioners in Bombay, who has taken a very keen interest in the growth and extension of the College, with which he has for many years been closely associated. He was educated at the College and at Edinburgh, obtaining the diplomas L.R.C.P., L.R.C.S. Edin., L.R.F.P.S. Glas., and L.M. in 1895. In 1899 he was vice-president of the Bombay Medical Congress, and received the Kaiser-i-Hind gold medal. In 1922 he obtained the honorary diploma of M.R.C.P. Edin., and was President of the College of Physicians and Surgeons at Bombay in 1923. He is honorary physician to the Parsee Lying-in Hospital, and examiner in midwifery and diseases of women in Bombay University, and a justice of the peace for Bombay. He received the honour of knighthood in 1914. The Governor paid a tribute to the Bombay municipality for the assistance rendered to the College in enlarging the scope of training in midwifery. He expressed surprise that up to the present no dental hospital or centre for teaching dentistry had been founded as part of the College.

**KASHMIR MEDICAL MISSION.**

During 1924 the pressure of work at the Church Missionary Society's Hospital in Srinagar, Kashmir, continued undiminished; there were 18,762 new out-patients and 1,994 in-patients, and 5,501 operations were performed. The new x-ray outfit, towards the cost of which the Countess of Reading contributed generously, has been of particular value. The financial position is less satisfactory than in previous years, partly owing to the loss of income due to the new Kashmir State arrangement, by which a directorship of medical services has been created and a whole-time residency surgeon appointed to Srinagar. It was necessary to withdraw money from invested funds in order to balance expenditure. The hospital serves a population of some three

and a half millions, and, since Kashmir is on the main line of communications to Central Asia and Tibet, representatives of many frontier tribes are frequently passing through. The Leper Hospital in connexion with the mission was built in 1891, on a peninsula jutting into the Dal Lake, and during the last year received 215 in-patients, 147 surgical operations were performed, and 187 injections of ethyl esters given; the more serious surgical operations were performed in the Mission Hospital. A new children's home is being erected, a grant of Rs. 25,000 having been sanctioned; it will consist of a central house for the nursing superintendent, and two wings, one for boys and one for girls.

**MEDICAL TREATMENT IN BOMBAY VILLAGES.**

The Bombay Government is endeavouring to provide some form of medical relief for the people in the smaller villages in the Presidency, comprising a population of six millions. In the smaller villages, where it would be financially impossible for a medical practitioner to settle, the Government intends to train village schoolmasters in the rudiments of medicine and surgery. Experimental schools have been opened already in Poona and Bijapur, five schoolmasters receiving elementary instruction in each place. The training is to last for two and a half months, and the schoolmasters will then be paid 10 rupees monthly for the whole of the village health. A second scheme is contemplated which will induce medical practitioners to settle in the smaller towns and larger villages, by offering a bonus for the initial settlement and also a monthly allowance.

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**Scotland.**

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**EDINBURGH CAMPAIGN AGAINST DIPHTHERIA.**

In a lecture on the prevention of diphtheria given by Dr. M. T. Benson, assistant medical officer of health, Edinburgh, under the auspices of the Leith Parents' Association, he described the preventive work carried out among Edinburgh school children during the course of the last year. Twenty-six schools were visited, and the public health authority had given to the parents of over 11,000 school children under 10 years of age the opportunity of having their children examined by the Schick test, and, if found necessary, subsequently immunized against diphtheria. The percentage of parents consenting had ranged from 11 to 85 at different schools. In the aggregate the Schick test was applied to some 4,500 children; almost 3,000 were found to be susceptible to diphtheria, or roughly 65 out of every 100 school children between 5 and 10 years of age. Of children between 1 and 5 years of age who were tested, 80 per cent. on an average were found to be susceptible to the disease, and in certain groups of children under 5 years of age as many as 95 per cent. This early age was the time at which the great majority of children were apt to contract diphtheria if brought in contact with it, and this also was the age at which diphtheria, if it was contracted, was most dangerous; more than 60 per cent. of the total deaths from diphtheria in Edinburgh occurred in children under 5. In performing the test three injections of a special toxin-antitoxin mixture were given under the skin of the arm at intervals of a week. Though three injections were necessary, they did not upset young children, and Dr. Benson had not seen an instance of a protective injection followed by any unduly severe or permanent ill effects, after personal experience of over 10,000 injections in Edinburgh. In one school 430 children between 1 and 11 years of age had been treated from January to May, 1924, and in the subsequent period of fourteen months one case of diphtheria had occurred in a highly susceptible child, who, it was noted, did not develop protection after the ordinary course of three toxin-antitoxin injections, and an extra protective injection had been given. The attack was extremely mild, and he thought this good result could be reasonably credited to the protective treatment the child had undergone. In some 120 children under 11 years of age at the same school who had not been treated, no fewer than

ive cases of diphtheria, of which three had been very severe, occurred during the same period of fourteen months. According to this proportion eighteen cases might have been expected among the 430 treated children, instead of the one very mild case which had actually developed. He suggested, therefore, that children should be protected as soon as possible after they were 9 months old. Dr. William Robertson, M.O.H. for Edinburgh, said that the Public Health Department of the city of Edinburgh might take credit for having pioneered the system of protection against diphtheria in this country, and he desired to thank the Leith Parents' Association for the enlightened and intelligent support given to the movement. He was satisfied that diphtheria could be prevented if children were treated with doses of toxin-antitoxin, and for that reason he asked for the further co-operation of the public.

#### STUDENTS' HELP FOR SCOTTISH HOSPITALS.

The students of St. Andrews University on April 11th made a special effort to help the funds of Dundee Royal Infirmary by organizing a fancy dress parade in the university town. As the result they were able to hand over to the hospital about £400. On the same day Glasgow students held a students' day at Ayr on behalf of the Ayr County Hospital. Earlier in the week a concert had been held in the Town Hall and a magazine had been sold in the streets; £500 was realized on behalf of the hospital, of which £200 was collected in coppers. On the same day also a students' day was held at Kilmarnock on behalf of Kilmarnock Infirmary, the methods adopted being very much the same as those adopted at St. Andrews and Ayr, with a fancy dress carnival held in the evening in the Agricultural Hall, attended by over 1,000 persons. The total amount realized at Kilmarnock was over £630.

#### LETTERS OF MARY QUEEN OF SCOTS.

In the JOURNAL of November 22nd, 1924, it was mentioned that a sum of £2,250 was necessary to secure for the Scottish National Library an important series of thirty letters and papers connected with Mary Queen of Scots, and that a fund had been opened under the patronage of the Duchess of York for their purchase. A sum of only £120 is now required to complete the purchase price. The letters will form a valuable addition to the many important documents already in the possession of the Scottish National Library dealing with this subject. Subscriptions may be sent to Dr. C. Stewart Black, 93, High Street, Paisley.

## Ireland.

#### IRISH MEDICAL COMMITTEE.

A MEETING of the Irish Medical Committee, held in the Royal College of Surgeons, Dublin, under the chairmanship of Dr. Joseph Power, was attended by Drs. J. M. Day, M. R. J. Hayes, J. T. Elliott, J. C. King, W. W. Murphy, H. G. Roche-Kelly, J. O'Meara, E. T. King, C. Eccles, D. Morrissey, D. H. Donovan, Mary S. P. C. J. Shanley, J. H. Counihan, R. J. Quire, T. J. Farrell, A. D. Courtney, Secretary), and C. H. Gick (Secretary).

Apologies were received from Senator W. O'Sullivan, M.D., Drs. T. B. Costello, H. T. Warnock, and H. Raftery. **Medical Registration.**—A letter was read from the secretary of the Ministry of Local Government inviting the Irish Medical Committee to nominate three delegates who, with representatives of the medical licensing bodies, were requested to meet the Minister in a conference with regard to arrangements for the future control of the medical profession in the Free State. Drs. Power, Rowlette, and Hennessy were selected to represent the Irish Medical Committee, and were instructed to urge the continuance of the existing arrangements for medical registration. In the absence of Dr. Power, Dr. M. R. J. Hayes was appointed substitute. Resolutions were read from the

Undergraduates' Association in the University Colleges of Cork and Galway requesting that the Committee should oppose any change in the existing system of medical registration in the Free State.

**Motor Car Taxation.**—It was proposed that the tax should be on petrol, subject to 50 per cent. reduction for medical practitioners. An amendment that the tax be upon horse-power, subject to 50 per cent. reduction for medical practitioners, was lost by 6 to 8, and the original proposition carried by 8 to 6.

**Registration of Births, Deaths, and Marriages.**—Arising out of a discussion with regard to the new quarterly Form S in connexion with births, deaths, and marriages, it was unanimously resolved:

That we consider the new quarterly Form S, issued by the Registrar-General, as entailing a great deal of additional work, and, in view of the already inadequate remuneration, we request the Registrar-General to take the necessary legislative steps to have the fees for the registration of births, deaths, and marriages increased to three shillings for each entry.

**Scales of Medical Salaries.**—The refusal of the County Mayo Board of Health to accede to the request of the Minister of Local Government and Public Health to fix a scale of salaries for its medical officials was discussed at length, and it was resolved:

That the Minister of Local Government and Public Health be requested to exercise his powers to fix a scale of salaries for the County Mayo medical officers at the same rate as exists in the County Galway.

**Temporary Duty.**—Owing to the frequent disputes arising in connexion with remuneration for holiday duty, resulting in medical officers being deprived, in many instances, of their annual holidays, the Committee requested that the Minister of Local Government and Public Health should fix the remuneration as follows:

(a) For dispensaries £7 7s. a week, (b) for district and county hospitals a minimum of £5 5s. a week, and, in all cases, not at a less weekly rate than the yearly salary.

**County Hospitals.**—With regard to county hospitals, the following resolutions were passed: (a) That the minimal salary for a county hospital surgeon be £1,000 per annum; (b) that the county surgeon should be permitted to engage in consultative practice only; (c) that in both county and district hospitals patients only for whom the State is statutorily responsible should be admitted for treatment; (d) that if private patients are admitted they should be treated in a hospital apart from those entitled to treatment by the State, and that their private medical attendants should have the right to attend such patients with the county surgeon.

**Salaries of Whole-time Medical Officers.**—The Committee resolved that the salaries of county medical officers of health, tuberculosis medical officers, and medical inspectors of schools should be on the scales adopted by the British Medical Association for Great Britain, and that where lower salaries are offered the medical journals be requested not to advertise the posts.

**Committee on Reform of Medical Services.**—The Committee expressed its disappointment at the delay in publishing the interim report of the Committee of Inquiry into the reform of medical services, especially in view of the unsatisfactory condition of the medical services in the Free State and the temporary arrangements made for the medical certification of sickness benefits under the Insurance Act.

**Amalgamation of Dispensary Districts.**—The Committee expressed a strong opinion that the population of the dispensary districts in Cork City are already too big for efficient medical attendance on the sick poor, and, in the circumstances, condemned the proposals for their further increase by amalgamation.

**Medical Members of Dail and Northern Parliament.**—The Committee resolved unanimously as follows:

That Dr. R. J. Johnstone (Chairman, Irish Medical Committee) and Dr. Hugh Morrison be congratulated on their election to the Northern Parliament, and Dr. T. Hennessy (Irish Medical Secretary) on his election to the Dail.

## England and Wales.

### BEDFORD COUNTY HOSPITAL.

At the annual meeting of the Bedford County Hospital Guild on April 7th the possibility of providing a maternity department in the hospital was discussed; such a department would include a pre-natal clinic, observation, isolation, and lying-in wards, and an operating theatre. An address was given by Dame Janet Campbell, M.D., senior medical officer at the Ministry of Health for maternity and child welfare work, who dwelt on the need of better hospital facilities for maternity cases. Local authorities had already established about 120 maternity homes, chiefly in adapted buildings, but it would not be satisfactory for a new welfare service to develop out of connexion with the ordinary established hospitals. The Ministry always preferred to work in conjunction with such hospitals, and financial grants were obtainable. In the course of the meeting it was announced that the Bedford County Hospital Guild had already raised a sum approaching £2,000 in aid of the hospital. It had given active support to the work of providing a convalescent home and paying wards, and was at present concerned in helping to furnish the new nurses' home. The balance sheet showed that the house-to-house collection in Bedford during the past year had resulted in a sum of £618 being raised—£14 more than in the previous year.

### RICKETS AND TEETH DEFECTS IN SHEFFIELD.

A lecture was given on March 26th in the University of Sheffield, on the invitation of the Sheffield Local Medical and Panel Committees, by Professor E. Mellanby, F.R.S., on "Can rickets and defective teeth be eliminated from Sheffield?" At the outset the lecturer pointed out his pleasure in giving some account of the work, and result of the work, carried out at the university field laboratory, for whose establishment the panel doctors of the district were partially responsible. He then described by means of lantern slides the experimental work on animals whereby the antirachitic and the rickets-producing effects respectively of different foodstuffs had been determined. It was shown that the antirachitic foodstuffs were rich in vitamin A, and that in fact this action depended largely on the presence of an antirachitic vitamin, which had many properties and a distribution very similar to vitamin A. Cod-liver and fish oils, milk, suet, butter, eggs, and cheese were antirachitic, especially the first of these. The antirachitic effect of butter was enhanced by the presence of calcium salts. He referred also to Huldshinsky's work, and showed that the ultra-violet light need not necessarily be applied to the skin, but that its direct application to some foodstuffs increased their antirachitic effect. Thus, the antirachitic action of milk was increased by exposure to a mercury-vapour lamp.<sup>1</sup> The rickets-producing effect of cereals, most potently seen in the case of oatmeal, could be antagonized either by antirachitic vitamin in the diet or to a less extent by exposure of the animal or the oatmeal to the ultra-violet rays. Much of the lecture was occupied in giving an account of Mrs. Mellanby's work on the dietetic and other conditions which control the formation of perfect and imperfect teeth. Her work showing the relation between the formation of children's teeth and their susceptibility to caries was also described; also the investigations, undertaken with the co-operation of C. Lee Patterson and W. Proud, in which it was shown that the incidence and rate of development of caries in children could be controlled by altering their diet, were described. Professor Mellanby urged the medical men present to make use of the facts experimentally demonstrated in the feeding of children, and endeavour thereby to eliminate the appalling condition of dental and bone defect, so extensively found in this country. At the close of the lecture there was an interesting discussion, in which Drs. Mackinnon, A. E. Naish, Turner, A. E. Barnes, R. Hallam,

and others took part. Professor Mellanby, in his reply, stated the superiority of a good 50 per cent. emulsion of cod-liver oil over oil and malt, which usually contains about 10 per cent. oil. Oatmeal when taken with abundant milk or with fat fish could give excellent results, but oatmeal without such substances was detrimental. Dr. Forbes in a happy speech proposed a vote of thanks to the lecturer, and this was seconded by Dr. Lucy Naish.

### BIRMINGHAM EXHIBITS AT WEMBLEY.

Three scale models at the Wembley Exhibition this year will illustrate the latest developments of the treatment of tuberculosis in Birmingham. One model represents the artificial light treatment block at Yardley Road Sanatorium; a second, one of the open-air wards in the same institution; and the third, one of the open-air classrooms at Uffculme. The first model, which measures 5 ft. by 4 ft., shows two treatment and subsidiary rooms, including a power house with a working model of a dynamo; each room in the model is electrically illuminated. The models have been constructed by Mr. Raymond T. Cooke, the manager of the public health departments works, to the scale of one inch to the foot, and are complete in detail.

## Correspondence.

### WHAT IS AN EYE SPECIALIST?

SIR,—I am much obliged to you for the very friendly notice of my pamphlet entitled *What is an Eye Specialist? or the General Medical Council and Ophthalmology*, which appeared in your issue for March 28th (p. 618). Perhaps you will allow me just to make one or two observations. I admit at once that your article is a very fair one except on one point, and that is as to the responsibility of the General Medical Council. It seems to be assumed in your article that the General Medical Council is in no way responsible and that the responsibility rests on the Government. Are we to understand from that that if the General Medical Council finds something wrong, it feels precluded from approaching the politicians with the view of giving them advice? Was the General Medical Council too supine, or did it refrain simply because it was afraid that the statesmen and politicians would pay no attention to it? Are we also to understand that when statesmen contemplate new legislation about medical matters they think so little of the General Medical Council that they do not ask its opinion? Did the statesmen, of their own accord, insist upon diplomas in public health and special diplomas in dentistry, or were they approached to do so by the General Medical Council or other medical authority?

Now as regards the very favourable view of school testing taken in the article. I regret extremely that I cannot just see eye to eye. Are the eyes of all the children in the schools examined by the ophthalmometer and under a mydriatic? Without such precautions the examination of the eyes of young children is of very little value. I have known children pass a so-called eye examination at school with hypermetropia ranging from 4 to 6 dioptres. My own case, quoted in the pamphlet, would have passed as all right, for I had 6/6 vision, and yet I have 2 dioptres of hypermetropia and nearly the same amount of astigmatism. Up to the age of 24 I had still 6/6 without glasses, but only read with very great trouble. The rough testing of the children in some schools with which I am acquainted is done by the teachers at the rate of 150 children to the hour. Only those who come down in this perfunctory examination are referred to special practitioners.

As an example of what may happen: a patient at a well known eye hospital got a prescription, spherical +0.75 for each eye. The real reading was, in one eye spherical +2 cylinder +2.5 axis horizontal; in the other eye it was spherical +2, cylinder +1.5 axis horizontal, and the prescription of +0.75 for a case like that was initiated by a full surgeon to that hospital, and a gentleman who is generally looked upon as an authority on school eye testing. I have no wish to repeat the argument of my pamphlet.

<sup>1</sup> See S. J. Cowell: Irradiation of Milk and the Healing of Rickets. *British Medical Journal*, March 28th, 1925 (p. 594). See also Cereals as a Factor in Rickets, *British Medical Journal*, April 11th, 1925 (p. 724).



It is now on the market and copies can easily be obtained, but I think my contention is not wrong that if public money is going to be spent in large amount on eye testing, then every precaution should be taken that the persons who receive this money give value for it, and that in optical work they have the same thorough training that opticians have. That a certain number of persons practising as eye specialists practise without such a training is entirely the fault of the General Medical Council. I have no desire to hinder anybody practising ophthalmology if they wish, but when they are going to be paid by the State then ample means should be taken to see that they are value for the money spent upon them.

Again thanking you for the courtesy of your article.—I am, etc.,

Glasgow, April 14th.

ANDREW FREELAND FERGUS.

### TREATMENT OF DIABETES BY RAW FRESH GLAND (PANCREAS).

SIR,—Recent observations have suggested that insulin contains two fractions, one of which is concerned with the utilization of sugar by the tissues, and the other with glycogen deposition. This, it seems to me, very possibly provides the explanation of the divergent results of the treatment of diabetes with raw fresh pancreas, reported in your columns recently, and also experienced by previous experimenters since Cowles described his original success with the method in 1911 (*Boston Med. and Surg. Journ.*, 1911). Experiments upon which Mr. Howard and I have been engaged for over a year past have shown that the glycogetic fraction is less readily inactivated by the digestive ferments than the sugar-utilizing portion, so that when insulin is given by the mouth this fraction may, under suitable conditions, exert its effect on carbohydrate metabolism, although the sugar content of the blood does not fall as it does when insulin is given subcutaneously. If, therefore, fresh pancreas, or a preparation containing insulin, is administered orally in a case of diabetes where the hyperglycemia and glycosuria are entirely, or almost entirely, dependent upon defective storage, it may have a beneficial effect, but when there is defective sugar utilization such a method of treatment will be of little or no use. My clinical experience with various preparations of pancreas has tended to confirm these conclusions, and demonstrated that in suitably selected cases oral administration has a distinct place in the treatment of diabetes, but the type of case, the age of the patient, and the functional activity of the digestive apparatus, among other factors, influence the result, and indiscriminate reliance upon either fresh pancreas or preparations of the gland is, I believe, likely to lead to disappointment, and maybe to disaster, in many instances.—I am, etc.,

London, W.1, April 18th.

P. J. CAMIDGE.

### CHRONIC CYSTIC MASTITIS.\*

SIR,—Sir G. Lenthal Cheatle has discussed the most interesting problem among the many concerning diseases of the breast (*BRITISH MEDICAL JOURNAL*, January 3rd, 1925, p. 5). Striking features of the so-called chronic (cystic) mastitis, which Cheatle would call epithelial hyperplasia, are the numerous names which have been employed for it and the different opinions as to its relation to cancer. My studies of this breast lesion during a period of thirty years, and among almost 5,000 cases, lead me to conclude that chronic cystic mastitis (hyperplasia or abnormal involution) is a reaction of both the epithelial and connective tissue cells of the breast to some type of local or general irritant, the tendency of which is to a spontaneous return to normal. Cysts, single or multiple, are the most common end-results of the lesion, but even the cysts, which produce one or more palpable lumps, usually disappear. The disappearing tumour of the breast is a well recognized clinical fact. The older pathologists and surgeons never observed any of the types of chronic cystic mastitis except resultant simple or multiple cysts of long duration. Convincing evidence that chronic cystic mastitis usually disappears spontaneously is

\* Abridged.

afforded by the records and specimens in the surgical laboratory of the Johns Hopkins Hospital.

During my first ten years of association with Professor Halsted (down to 1900) the average duration of the lump in the breast was more than one year, and 80 per cent. of the tumours were cancer and 20 per cent. benign. Among these benign there were a few examples of cystic breast, single or multiple, and one or two of the non-cystic type of chronic mastitis. With each decade since 1900 the average duration of the lump in the breast has grown less, and the proportion of all types of chronic cystic mastitis increased rapidly. Since 1920 chronic cystic mastitis among patients who seek advice within one month after feeling the lump has become almost the most frequent lesion, and we are learning to recognize it clinically and not subject all the patients to operation.

The diagnostic problems in conditions of the breast have changed. When women wait until the lump has been present more than nine months, diagnosis is less difficult. Many of the benign lesions have disappeared, leaving cancer or the definite benign encapsulated adenoma or the rare benign cyst. During my first ten years' experience, on only a few occasions have we a record of a woman in whom a definite lump could not be palpated. Since our educational campaign in America women no longer delay. In my own clinic, since 1920, more than 50 per cent. of the women examined because of some breast complaint were not operated upon. We have found "lumpy breasts" of different types—those in which the multiple lumps are indefinite, and others with multiple definite lumps. When these cases have been submitted to operation in the past, as a rule some form of chronic cystic mastitis has been revealed.

The first important fact for the general practitioner is that there is a lesion of the breast which may produce pain, single or multiple lumps, with or without pain or tenderness, and discharge from the nipple, symptoms which as a rule did not influence the uninformed woman to seek the advice of a doctor; and in the majority of these cases all the symptoms disappeared. Now that women are becoming well informed, the majority (of the informed) seek medical advice for pain, discharge from the nipple, tenderness, and for indefinite single or multiple lumps, as well as for a definite single lump.

In my own clinic the number of breast cases in which it has been concluded that operation was not indicated has gradually increased. In 1921 the percentage of this group was 50, in 1924 almost 60. These women, because of the educational campaign, have come for examination at once. The "lumpy" breast, the "shotty" breast, and the dilated ducts beneath the nipple, form the larger proportion of this group, and as I have examples of all these types of breast in the laboratory, I know that the multiple indefinite lumps are due to chronic cystic mastitis or Cheatle's epithelial hyperplasia.

The recent report of Dr. Janet E. Lane-Clayton of a study of the results of 20,000 operations for cancer of the breast shows that the permanent cure depends upon two factors—the duration of the lump and the completeness of the operation. For early lumps, without gland involvement, the percentage of five-year cures varies from 70 to 80; in later cases with glands involved it falls to 15 to 20, and lower.

To-day the surgery of cancer of the breast is established, and most surgeons perform a faultless complete resection, but in most communities women still delay for the lump to disappear. Only among informed women do we see chronic mastitis as a very common lesion, and cancer in a very early curable stage. It is important for all members of the medical profession to become familiar with these clinical conditions of the breast which are brought to notice in very large numbers by any continuous educational effort. When palpation finds a definite single lump the problem at once becomes surgical and pathological. If the patient is over 20 years of age she should be sent to a hospital at once and the involved breast prepared as for the complete operation.

The majority of surgeons—surgical pathologist and pathologist—find little difficulty in recognizing, from gross and

frozen section, the encapsulated adenoma, the simple (blue-domed) cyst, and carcinoma, but when the area is not encapsulated, and not typical of cancer, confusion creeps in. In this group of non-encapsulated area without the definite gross and microscopic picture of cancer, some form of chronic cystic mastitis predominates.

I have now submitted over a hundred such cases to many surgical pathologists and pathologists in America, and always find a difference of opinion as to malignancy or suspicion of malignancy. The precancerous lesion of the breast is yet to be discovered or recognized.

There must be a practical working rule. First, when palpation of the breast finds a definite tumour, mass, or lump, or if there is any doubt as to such a finding, operation is indicated. Secondly, when the tumour is explored, all doubtful areas should be treated as cancer and the complete operation performed.

When the examiner learns to recognize the types of chronic cystic mastitis which produce lumpy and shotty breasts and the dilated ducts beneath the nipple, unnecessary operations will grow fewer. When the surgeon and pathologist learn to detect non-encapsulated areas of chronic cystic mastitis from cancer, the number of complete operations for benign conditions of the breast will also be reduced.

My conclusions are: (1) If cancer of the breast is to be cured by operation in 70 or more per cent., all women must be influenced to come for examination the moment a lump is felt. (2) When women do seek advice early, in at least 50 per cent. of cases careful examination will exclude any indication for operation. (3) When the definite early lump is explored, the chances are that in 50 per cent. it is not malignant and it will be necessary only to remove a zone of breast. (4) Removal of the breast, with few exceptions, is an illogical operation; it is too much for a benign and not sufficient for the malignant. (5) If the pathologist requires all the breast for microscopic examination there can be no conservative surgery of the breast. (6) A woman who presents the clinical picture of chronic cystic mastitis, or in whose breast at the exploratory operation gross and microscopic evidence of this lesion are found, runs no more risk of cancer than any other woman. Removal of the breast is not indicated for chronic cystic mastitis alone. (7) As suggested in your editorial (January 3rd, p. 32), an exploratory operation is always indicated, not only for a definite single lump, but for a doubtful one. At this exploratory operation the patient must be prepared for the complete operation, but the area should be cut into or excised, its gross appearance and the results of palpation considered, immediate frozen section made, and decision as to the extent of the operation made then and there. When there is doubt it is safer to perform the complete operation for cancer.

These conclusions are based on a continuous study for more than twenty-five years. Conservative methods have been forced upon us. In my own clinic 50 to 60 per cent. of the women who come for examination are not operated on, and in more than 50 per cent. of the early cases explored cancer is not found, and the breast is saved with no risk to the patient.—I am, etc.,

Baltimore, U.S.A.

JOSEPH C. BLOODGOOD.

### INTERNAL DERANGEMENTS OF THE KNEE.

SIR,—With regard to Mr. Wilson Stuart's article (JOURNAL, February 7th, p. 264), I would like to comment on each of the cases described.

Case 1 is obviously a case of repeated derangement of the knee-joint which will have to be operated upon eventually. The so-called "reduction" of the ruptured semilunar cartilage seldom leads to its "healing." The success of the manipulation seems to depend upon the torn portion of the cartilage being displaced towards the interior of the joint—probably in the neighbourhood of the crucial ligaments.

The history of Case 11 is one of repeated derangements, with locking at the time of consultation. In such a case I am accustomed to get the patient's consent to immediate exploration of the joint, should my manipulation be unsuccessful. This saves the patient much anxiety and a second anaesthetic, and the joint increased trauma.

In short, explore forthwith any knee-joint in which a second derangement has taken place.—I am, etc.,

B. WHITCUREN HOWELL, F.R.C.S.

London, W.1, Feb. 9th.

### SEVERE DERMATITIS FOLLOWING ULTRA-VIOLET LIGHT.

SIR,—In your issue of April 11th (p. 693) Drs. MacCormac and Moreland McCrea describe a case of severe dermatitis following ultra-violet irradiation. There is, I think, a very definite physical reason for what has happened, to which I venture to call attention. The kind of apparatus used is not mentioned, but the facts stated point to the mercury vapour quartz lamp.

Ultra-violet radiation differs from ordinary visible light only in wave-length. Whereas visible light ranges from a wave-length of 7,000 Angström units (1 A.U. =  $10^{-8}$  cm.) at the red end of the spectrum to 4,000 A.U. at the violet end; the ultra-violet comprises wave-lengths from 4,000 A.U. down to about 2,000 A.U. Sunlight has a spectrum ending at 3,000, and of this the range from 4,000 to 3,000 is ultra-violet. Professor Russ and others have shown that at the point 3,000 A.U. a marked change occurs in the effect of ultra-violet on living tissues and beings. Radiation of wave-length longer than 3,000 can penetrate to some slight depth. Radiation shorter than 3,000 is, however, very heavily absorbed even by the smallest thickness of skin, and is bactericidal.

Sunlight contains little radiation of wave-length shorter than 3,000, and the human skin and body have, by the process of natural selection, become suited to this form of radiation. The mercury vapour quartz lamp has a spectrum in which there is considerable intensity in the region from 3,000 to 2,000 A.U., and its use therefore exposes the body to a radiation to which it is not accustomed under natural conditions.

Of all artificial sources that most similar to sunlight in its spectrum composition is the carbon arc lamp.

There can be little doubt that, where general irradiation is desired for that stimulation of the body the mechanism of which is still but slightly understood, the carbon arc lamp should be employed. The tungsten arc and the mercury vapour quartz lamp should be reserved for those cases which can be described as "surgical," in which definite destruction of localized areas is desired; and these two lamps must be used with great care—as the case quoted by Drs. MacCormac and Moreland McCrea shows.—I am, etc.,

London, W.1, April 15th.

W. E. SCHALL, B.Sc.

### INDIVIDUAL MEDICAL DEFENCE.

SIR,—Paragraphs 50-58 of the Annual Report of the Council of the British Medical Association to the Representative Meeting next July, on the subject of individual medical defence, require the most careful attention of all members. By "individual medical defence" the Council means the work now done by the Medical Defence Union and the London and Counties Medical Protection Society (and by a sister society in Scotland). When these societies came into existence many years ago, there was, I gather, no desire on the part of the British Medical Association to undertake "individual medical defence": a short-sighted attitude, to my mind, but ancient history now. For several years resolutions in favour of the Association changing its policy in this matter have been debated at the Representative Meetings, but have always been defeated; the last occasion was in 1924.

Now for the first time the Council is giving support to the principle, chiefly on the ground that individual defence is that aspect of professional organization which most appeals to the newly registered, and that the British Medical Association is handicapped in its efforts to enrol the entire profession by its inability to offer the kind of help which new entrants most require, or believe they require; there have been other arguments, of lesser validity, some of which you allowed me space to comment upon last year (BRITISH MEDICAL JOURNAL, June 14th, 1924, p. 1072). But the Council finds an insuperable obstacle in the Memorandum of Association, which (as it

tells us) will not allow the British Medical Association to take up individual defence. To circumvent this difficulty, as the Memorandum probably cannot be altered in this respect, it is suggested that a "separate organization" should be "initiated" to give such members as desire it and are willing to pay a separate subscription for it, full medical defence as given by the existing societies. The Council asks for authority to prepare a draft scheme and to circularize the profession to find out whether 6,500 will join in it. It states that the organization would have to be a separate company, on the governing body of which the Association could arraign for unofficial majority representation. It does not, however, state who is to pay the expenses of preparing and circulating the draft scheme and of floating the company: presumably the company, if, as may quite possibly be the case, it is *ultra vires* for the Association to do so.

That is, in outline, what members of the British Medical Association have to consider.

Although the British Medical Association cannot back the scheme financially, or associate itself officially with the company, the Council apparently hopes to control it unofficially. But once the company has been started, the subscribing members of it will have complete control, because at their annual meetings they will be able to elect their own officers and to modify the constitution of the company. The Council of the British Medical Association may benevolently draft the first Memorandum of Association and provide the first set of office-bearers, but cannot possibly, even unofficially, impose the faintest shadow of authority over the new company when once it is floated. The company, if a majority of the members wish, can go entirely counter to the policy of the Association; not a very likely supposition, doubtless, but not an impossible one. The British Medical Association, in other words, will not be able to approach new members of the profession saying, "Join us, and you can join an individual defence society which is part of us and under our control"; such a statement would be untrue. It follows that the argument as to strengthening the position of the British Medical Association in respect of the newly registered falls to the ground: the Association will be in no stronger position than before.

Further, no part of the Association's funds can be at the back of the new company, which must start without any reserve fund. The British Medical Association must disclose this fact in approaching the newly registered; nay, must even emphasize it, because few of the recently qualified are likely to think of investigating that matter for themselves. The Association must say, "Join us, and we will collect, if you wish, your subscription to an individual defence company which has been started under our auspices, but over which we exercise no control whatever and are in no way responsible for; and please note that this company has no reserve fund, whereas the older and larger societies have funds running into many thousands of pounds." A large reserve fund is not absolutely indispensable to the work of a defence society; both the existing societies started without any, as everyone knows. But reserves are so advantageous that the society which has them is by that fact alone able to offer better defence, better value for his subscription to the individual than the society which has not. Nor is this a fanciful objection, or a purely theoretical one. In a single *cause célèbre* of 1924, the London and Counties Medical Protection Society is rumoured to be seriously out of pocket, although victorious.

As to the management next. By years of trial and elimination the existing societies have obtained councils of managers highly experienced in the work of individual defence. It would be foolish to say that the councils of the Defence Union and the Protection Society are invariably right; but there is extraordinarily little dissatisfaction among their twenty odd thousand members, by whom directly and indirectly the entire councils are elected.

Dr. Morton Mackenzie told the Council of the British Medical Association that the existing societies have been given every opportunity of entering into co-operation, and have refused. The explanation should be added that what Dr. Mackenzie alludes to is a suggestion made at a joint

conference that the defence societies should grant some special concessions to members of the British Medical Association—for example, waiving entrance fee, or reduced subscription. To call this "every opportunity of entering into co-operation" is not fair to Dr. Mackenzie's own organizing and administrative abilities.

The scheme can be summed up fairly simply. It is that a new "individual defence" society shall be formed, confined to members of the British Medical Association, if 6,500 are prepared to join as members. The new body is to do the same work as the existing societies, at the same rates of subscription. It is not to be part of the British Medical Association, nor is it bound to remain even unofficially under the control of the British Medical Association for more than its first year. It will not enable the British Medical Association to offer to the newly registered any advantages whatsoever that are not at present offered. It will start handicapped by lack of reserve funds, by lack of experienced management, by a membership smaller (that is, by overhead charges greater per member) than those of the existing societies. It means that three offices, three paid secretaries, three office staffs, three firms of solicitors, three auditors, three advertisement accounts are to be paid for out of the pockets of the medical profession to do necessary work now done, and well done, by two. Forty-five years ago the scheme would have been a benefit to the profession. To-day it seems to me wasteful and unnecessary. I am ready to vote for it and to join it if I am convinced that it is for the benefit of the profession; but at present I am not so convinced.—I am, etc.,

London, S.W., April 20th.

HENRY ROBINSON, M.D.

## CONFERENCE OF MENTAL HOSPITAL AUTHORITIES.

### THE ASYLUM NURSING SERVICE.

A NATIONAL conference of mental hospital authorities (medical superintendents and representatives of visiting committees) was held on April 21st and 22nd, under the chairmanship of Sir FREDERICK WILLIS, chairman of the Board of Control. On the first day the nursing service in mental hospitals was discussed, and on the second day the provision of further mental hospital accommodation.

Mr. Neville Chamberlain, the Minister of Health, in opening the conference, expressed the hope that some practical result would emerge from the report of the departmental committee on mental nursing. The nursing service for the insane, he said, should be at least equal in efficiency and status to any other branch of nursing. A very great distance had been traversed from the old-time "keeper" to the modern asylum nurse, and the courses of training and examinations organized by the Medico-Psychological Association during the last thirty years had been a great factor in progress; more than 17,000 nursing certificates had been granted by the association. With regard to the second subject before the conference, the question of further accommodation was becoming increasingly urgent, not because the number of insane was growing at a greater rate than the population, but because the incidence was decreasing so slightly that with the growth of population the number of persons in need of such accommodation also increased. When he formerly held his present office he was responsible for the Mental Treatment Bill, which passed the House of Lords, but went no further owing to the general election of 1923. It was not possible to reintroduce the bill while the Royal Commission was sitting, but he thought there was general agreement as to the need for legislation to enable early treatment to be obtained without certification by persons in the incipient stages of the disorder, and he hoped it would be his good fortune before he relinquished office to add a measure of this kind to the Statute Book.

Sir Frederick Willis said that as the outcome of the conference of mental hospital authorities in 1922 three departmental committees were set up. One of these dealt with dietaries, and many of its recommendations had already been adopted. A second dealt with records, and this had framed new rules, which had been approved by the Lord Chancellor; the speaker regretted that it was not possible still further to simplify the keeping of records. The remaining committee, which was presided over by Dr. C. Hubert Bond, had to do with nursing, and its report was available for discussion that day. He announced his intention not to accept any resolutions.

P. King, W. M. F. Det,

## Obituary.

SIR RICKMAN JOHN GODLEE, Bt., K.C.V.O., M.S.,

Consulting Surgeon to University College Hospital;  
Formerly President of the Royal College of  
Surgeons of England.

We regret to have to record the death, on April 20th, after a few hours' illness, of Sir Rickman Godlee, at his house at Whitechurch, near Pangbourne, where he had gone to live after retiring from practice in 1920.

Rickman John Godlee was the son of Rickman Godlee, barrister, who married Mary, the daughter of Joseph Jackson Lister; Godlee was therefore the nephew of Lord Lister, who exercised a great influence on his character and career. The Godlees, like the Listers, were Quakers, and this was a second great influence on Godlee's character.

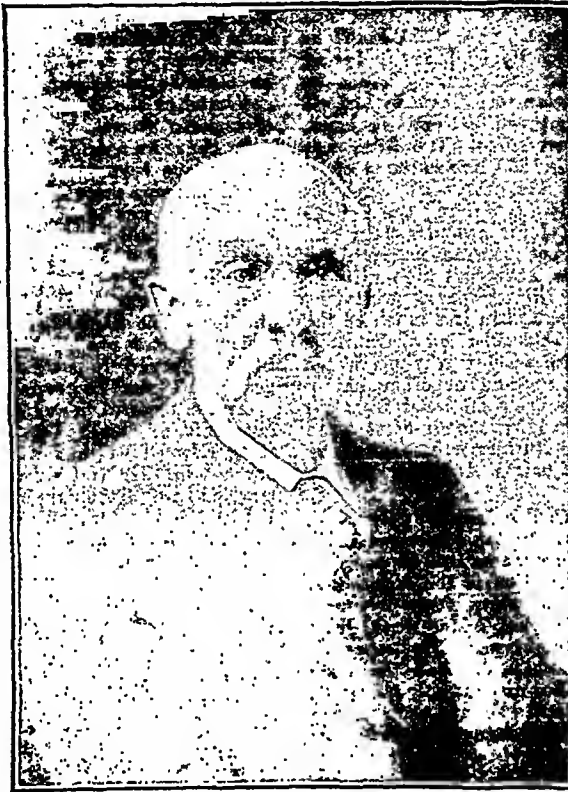
A third influence arose out of his skill as a dissector and his remarkable ability as a draughtsman, which caused his services as an illustrator to be eagerly sought while he was still quite a young man. This is, however, to put the fact rather low, for Godlee himself was an artist of some ability and a fine judge of etchings and mezzotints.

Rickman Godlee was born on February 15th, 1849, at Upton, Essex, where also Lister's father lived and there was a considerable colony of Quakers, the Listers being among the chief members of it. He was educated first at a school in Tottenham, and then at University College, London. He took the degree of B.A. Lond. in 1867, and then entered University College Hospital Medical School. His chief friends there were Marcus Beck, Vivian Poore, and John Tweedy. These three were early appointed to the staff of the hospital. Godlee, who, after holding the usual resident appointments, had become surgical registrar, was passed over, to the surprise of his contemporaries and to the chagrin of the students. He became assistant surgeon to Charing Cross Hospital. Within a few years, however, an opportunity occurred of repairing the mistake, and Godlee became assistant surgeon to University College Hospital, in due course surgeon, and eventually consulting surgeon. He was also professor of clinical surgery in University College, and when he retired was made emeritus professor.

The position of the medical school of University College Hospital was at the time of Godlee's appointment to the staff rather unusual; the number of students was large and the standard among them high. The staff, at least the younger members of it, were not exactly popular with staffs of other schools; they were accused of looking out for novelties and talking too much about physiology, pathology, and bacteriology, thereby disturbing the comfortable old ways. Marcus Beck, assistant surgeon, was the leading spirit. He was a cousin of Lord Lister, had lived with him while studying at Glasgow, and was one of his most faithful disciples. Beck was the first surgeon in London to carry out the antiseptic system of surgery with understanding; he had a powerful ally in the late Mr. (after-

wards Sir Henry) Howse of Guy's Hospital, and a welcome recruit in Godlee. Their efforts, persistent and enthusiastic as they were, only slowly produced an effect upon the ordinary practice of the London hospitals; gradually they were winning over the younger men when Lister was appointed professor of clinical surgery at King's College in 1877. Thereafter, with the master on the spot, progress was a little less slow, but even then not rapid. The eventual triumph is a commonplace of surgical history and may be read more at length in Godlee's *Life of Lister*. As Godlee said in the preface to his first edition, "During my studentship I was able to compare the old system of surgery, then in full swing at University College Hospital, with Lister's practice in Edinburgh. Few are left who had so good an opportunity of making this comparison, or of watching the whole course of the modern revolution in surgery, or of noting the heresies and schisms as they crept in."

Godlee graduated M.B., B.S. Lond. in 1872, and M.S. in 1873. His long connexion with the Royal College of Surgeons of England began in 1872, when he took the diploma of M.R.C.S. He became F.R.C.S. in 1876 and was elected a member of council in 1897, at the same time as Sir Watson Cheyne and the late Mr. Edmund Owen. In 1911 he succeeded Sir Henry Butlin (who died in office) as president, and served for the two following years (1912, 1913). In his last year as president he delivered the Hunterian Oration entitled "Hunter and Lister"; it was mainly concerned with the history of the museum of the Royal College of Surgeons of England and with the orator's aspirations for its future. As Godlee said in that lecture, he had had the privilege of passing the best years of his life in the closest intimacy with Lister; and both on that account and because of his command of a good English style he was marked out to be the biographer of his uncle. The book was very well done and was an immediate success. It not only gave an authoritative and well documented



Photograph by]

J. Russell and Sons, London.

SIR RICKMAN JOHN GODLEE, Bt.

account of Lister's work as a surgeon and man of science, but it contained also a picture of the simple, homely, but full life of the Society of Friends, a picture which will remain a permanent contribution to the social history of English society. The first edition appeared at the end of 1917, and a second edition was called for within a few months. A third edition appeared, with some additions, at the end of last year; it was reviewed in our issue of December 27th (p. 1205).

Sir Rickman Godlee rendered many services to the Royal College of Surgeons of England besides those done when he was its president. On completing his *Lord Lister* he, as acting executor, presented to the College all his uncle's scientific and surgical possessions. In this way the College became the owner of Lister's surgical instruments and appliances, the apparatus used in his more important experiments, as well as all his original manuscripts and records of his investigations. It was a fortunate circumstance that the description and cataloguing of this collection—the outfit of the greatest surgeon of modern times—should have been entrusted to that rare and ripe



scholar, Mr. Alban Doran. In writing the description of the Lister collection Mr. Doran had the advantage of Sir Rickman's counsel and knowledge. Many were the conferences they had, all of which usually ended by the participants comparing how time was dealing with their respective healths, for they were born within a day or two of each other. Mr. Doran never wearied in pointing out that the three young medical men of his time who had given their attention to pathology in their younger days had all become baronets. These young men were Sir James Goodhart, Sir Henry Butlin, and Sir Rickman J. Godlee. As a matter of fact, in his younger days Godlee was both anatomist and pathologist, but of the two he would have preferred to be regarded as anatomist. Anatomy at that time was a recognized path to a surgical career. On taking his Fellowship in 1876 he began the preparation of an *Atlas of Human Anatomy*. On the title-page he informs the reader that it "illustrates most of the ordinary dissections and many not usually practised by the student." The *Atlas* was accompanied by an explanatory text. Over 100 dissections were made for its preparation, mostly by himself, during the years from 1876 to 1880—the years during which he waited for patients. Each dissection was drawn by himself in pencil, vessels and nerves being given distinctive colours. His drawings were reproduced on stone. The *Atlas* was brought out by Messrs. Churchill in 1880, and never received the recognition at the hands of the profession which its merits should have secured for it. On giving the College the Lister collection Godlee added his own drawings and records to the gift. He included the drawings prepared for his *Atlas*, and they show him to have had high gifts as draughtsman and artist. The lithographer, while he retained the clarity of the originals, has lost much of the softness of Godlee's artistry. In this collection of drawings are included delicate and beautiful wood engravings of the microscopical structure of tumours and of other pathological conditions. These Godlee drew on wood from his own preparations. They were cut by the greatest wood engraver of the time—the elder Butterworth. The wood engravings were published in Quain's *Anatomy* and in *Erichsen's Surgery*.

There can be no doubt whence Godlee drew his gifts as an artist—from his mother's family. In the Lister collection are drawings done by the great surgeon in 1862-64 when he was planning his operation for resection of the carpus and wrist-joint. Some are in black and white, some in water-colour, some in oils, but all show that Lister would have made a name as an artist and draughtsman. Godlee's style resembles that of his uncle; perhaps he had the more delicate and accurate pencil. Godlee was not only an artist, but he loved the highest forms of art. He was the possessor of a valuable collection of etchings, many of which were fine examples of Rembrandt's best.

Amongst the drawings which Sir Rickman Godlee presented to the College are some of historical importance. On May 20th, 1874, he opened an abscess connected with an acute necrosis of the tibia and immediately mounted some of the pus and examined it under the microscope. He made accurate drawings, by aid of a camera lucida, of certain curious minute bodies detected by him in the pus. They were arranged in rows or chains. This drawing he presented to the College with others. On it he has written, "This was, so far as I know, the first time that organisms were seen in the pus of an abscess immediately it was opened." Another drawing, made February 1st, 1875, represents the same organism arranged in chains. The drawings are done in Godlee's most finished style. Having made his drawings, he did nothing more; he did not name or describe the characters of the organism he had observed. They were streptococci. The classical paper by Sir Alexander Ogston, in which streptococci and staphylococci were described and named for the first time, appeared in 1881. Nevertheless, Godlee had seen and drawn streptococci in the pus of a newly opened abscess in 1874, when he was 25 years of age.

When in the early stage of the great war Belgium was overrun by the German armies many members of the medical and pharmaceutical professions were reduced to great straits, and some of them sought refuge in this country; an appeal was made to the doctors and

pharmacists in this country to come to their aid. At the first meeting of a committee formed for the purpose Sir Rickman Godlee was in the chair, and he retained that position during the war and until, happily, the need for the continuance of the fund ceased. He gave a great deal of time to the work of organizing the collecting and distribution of the money. His services were recognized by the grant of the Médaille du Roi Albert in September, 1919.

Godlee was long a member of the British Medical Association. He was secretary of the Section of Surgery at the Annual Meeting in Dublin in 1877, and vice-president at that in Newcastle in 1893. He did not take any very active part in the public affairs of the profession, except when president of the Royal College of Surgeons; nor did he write much, but what he wrote was of a very high order of merit. His best known book was prepared in association with Sir James Fowler, and was entitled *Diseases of the Lungs* (1898). It was largely the result of experience gained at the Hospital for Consumption, Brompton. It was a very solid contribution to the subject and had a very great effect on the surgery of the thorax at the time. Early in 1890 he contributed to our columns a course of three lectures delivered at the Brompton Hospital on the surgical aspects of hepatic abscess. They commenced with the sentence, very characteristic in its dry humour, "It is needless to tell anyone connected with this institution that the chest contains many more organs than the student of anatomy is disposed to put into it." The conclusions with which he ended his third lecture still, we believe, stand as a sound expression of the main principles of hepatic surgery.

Godlee's growing cataract may have impaired his eyesight in his later years; it certainly did not dim the vision of his intellect. He kept throughout his life the freshness of vision so often confined to youth. When he retired to his farm he opened up new interests—botanical, zoological, and geological. And he never tired in well-doing.

Godlee received many honours; he was surgeon to the household of Queen Victoria, and surgeon-in-ordinary to King Edward VII and King George V. He was created a baronet in 1912 and received the K.C.V.O. in 1914. He married in 1891 the daughter of Frederick Seebohm, LL.D., D.Litt., of Hitchin. He is survived by Lady Godlee, with whom much sympathy will be felt in her bereavement. They had no children.

The Very Rev. LANCELOT PARKER BOOTH, M.D., D.D., died at Seapoint, Cape Town, on March 28th, aged 74. He was the son of Mr. L. P. Booth of Bishop Auckland, and took the LL.B. and S.E.D. in 1876, after which he entered the service of the colony of Natal, in the Indian Immigration Department. Determining to enter the Church, he was ordained in 1883 by the Bishop of Maritzburg as assistant to the bishop for Indian missions, subsequently becoming diocesan superintendent of Indian missions and Canon of Maritzburg. In 1887 he obtained the degrees of M.D. and C.M. from Toronto University, which later on, in 1902, conferred upon him its degree of D.D. also, and in 1896 he graduated as M.D. of Durham. In 1900 he was appointed dean of St. John's, Kaffraria, and rector of Umata, and at the same time resumed the medical profession, to serve in the South African war as medical officer of the Natal Indian ambulance, and received the Queen's medal with two clasps. In 1912 he removed to Cape Town, where he was for a short time vicar and subdean of St. George's Cathedral, and in 1913 was appointed rector of St. Barnabas, Cape Town. During the recent great war he served in France as a temporary captain in the R.A.M.C., his commission as such being dated November 14th, 1916, doing duty with the South African native labour corps. His only son, Lieutenant Ainslie Booth, R.A.M.C.(T.C.), was killed in action in France on April 30th, 1916.

Dr. VICTOR JACQUES, a well known Belgian anthropologist and honorary professor in the Brussels Faculty of Medicine, has died at the age of 71.

The death is announced of Dr. MORIX, president of the Swiss Antituberculosis Association.

## The Services.

### THE NAVAL MEDICAL COMPASSIONATE FUND.

At the quarterly meeting of the directors of the Naval Medical Compassionate Fund, held on April 17th, when Surgeon Vice-Admiral Joseph Chambers, C.B., C.M.G., Medical Director-General of the Navy, was in the chair, the sum of £125 was distributed among the several applicants.

### INDIAN MEDICAL SERVICE.

The annual dinner of the Indian Medical Service in London will be held at the Trocadero Restaurant on Wednesday, June 17th, at 7.15 p.m.

## Medical News.

THE Malaria Commission of the League of Nations Health Organization, which consists of representatives of Great Britain (Colonel S. P. James, of the Ministry of Health), France, Germany, Italy, Poland, Rumania, and Holland, has arranged a scheme of inquiry into the malarial conditions, first in Egypt, Palestine, and Syria, and then in Turkey, Asia Minor, Sicily, Corsica, and Spain. It is to begin in May and to be continued until the end of September. The Commission has in hand a report on malaria in Albania, and is considering the appointment of additional corresponding members from British India, the United States, and France. It is also considering from the economic point of view the use of cinchona alkaloids as well as of quinine.

DURING the annual meeting of the Canadian Medical Association at Regina, from June 22nd to 26th, an address will be given by Mr. H. W. Carson, F.R.C.S., president of the Hunterian Society of London. Mr. Carson has been specially invited, through the British Medical Association, as the guest of the Canadian Medical Association.

DR. DOUGLAS E. FINLAY, the Representative of the Gloucestershire Branch in the Representative Body of the British Medical Association, has been elected a member of the Gloucester City Council without a contest.

DR. E. F. BINDLOSS of Farnborough secured first place on the poll in the recent election of district councillors, and his wife headed the poll in the election to the local board of guardians.

THE next social evening at the Royal Society of Medicine will be held on Monday, May 4th, at 8.30, when Fellows and guests will be received by the President, Sir St. Clair Thomson. At 9.30 Dr. Robert Hutchison will give a short address on "Dr. Samuel Johnson and Medicine" (illustrated with eighteenth century portraits).

DR. ANDREW BALFOUR, director of the London School of Hygiene and Tropical Medicine, will read a paper on the trend of modern hygiene before the Royal Society of Arts (John Street, Adelphi, W.C.2) on Wednesday, April 29th, at 8 p.m. The chair will be taken by Sir George Newman, Chief Medical Officer, Ministry of Health.

THE annual meeting of the Ontario Health Officers' Association will be held on May 4th, 5th, and 6th in the Mining Building of the University of Toronto, under the presidency of Dr. C. N. Laurie of Port Arthur. The proceedings will open with an address by Dr. J. W. S. McCullough, chief medical officer of health for the province.

THE Fellowship of Medicine announces that on May 11th a three weeks' course in diseases of the nose, throat, and ear, including an operative surgery class, commences at the Central London Throat, Nose, and Ear Hospital. At the Maudsley Hospital a month's course in psychological medicine will be held from May 4th to 28th. A two weeks' course in diseases of infants at the Infants Hospital from May 18th to 30th includes clinical demonstrations, "round table" consultations, lectures, and four visits to centres away from the hospital. An afternoon course in dermatology will take place at the Hospital for Diseases of the Skin (Baker's Hospital) from May 18th to 30th. For those in general practice it is proposed to hold a two weeks' course at the London Temperance Hospital from May 18th to 29th, Saturday excepted. At 4.30 p.m. each day a clinical demonstration (with cases) will be given, followed by a short lecture at 5.30. Further details of these courses may be obtained from the secretary of the Fellowship, No. 1, Wimpole Street, W.1.

A course of lectures on pathological research in its relation to medicine will be given in the lecture room of the bacteriological department of the Institute of Pathology and Research, St. Mary's Hospital, Paddington, W.2, on Thursdays at 5 p.m., commencing on April 30th, when Sir Almoth E. Wright, M.D., F.R.S., Principal of the Institute, will speak on chemotherapeutic agents. On May 7th Professor W. E. Dixon,

M.D., F.R.S. (Cambridge), will discuss the cerebro-spinal fluid, with special reference to pituitary secretion. The last lecture, on June 18th, will be given by Mr. R. Robison, D.Sc., on the chemistry of the calcification of bone. The lectures are open free to members of the profession and to students in medical schools.

A SERIES of six clinical demonstrations on types of mental disease will be given at the Maudsley Hospital, Denmark Hill, S.E.5, by the medical superintendent, Dr. E. Mapother, on Wednesdays at 2.30 p.m., commencing on May 6th, when he will deal with congenital and early types. On May 13th psychoses associated with epilepsy and with syphilis will be discussed. The last demonstration is fixed for June 10th, when states of exaltation and depression will be dealt with. The fee for the six demonstrations, which will be illustrated by numerous cases, will be one guinea.

At the annual medical mission meeting of the Society for the Propagation of the Gospel in Foreign Parts, on April 22nd, under the chairmanship of the Bishop of Exeter, Rev. P. S. Drewe, M.R.C.S., L.R.C.P., Pondoland, Cape Province, gave an lantern slides, and Dr. H. H. Weir, secretary of the medical missions department, also spoke. The report of the medical missions department shows that the general medical fund for 1924 amounted to £14,538, an increase over any previous year. Very few male practitioners, it is said, are volunteering for service as medical missionaries.

DR. J. WRIGHT MASON, who, as recorded in our issue of April 18th (p. 763), was recently presented with a silver salver by the head officials of the Corporation of Hull, has been entertained to a complimentary dinner by members of the medical profession in Hull. Dr. Mason has lately retired from the post of medical officer of health for Hull after forty-four years' service.

THE conference held at Hoddesdon in September, 1924, on special libraries and information bureaux has resulted in financial support being obtained from the Carnegie United Kingdom Trustees for a period of two years in order to give the new movement an opportunity of becoming self-supporting. Mr. G. W. Keeling has been appointed organizing secretary to the committee. A second week-end conference will be held at the end of September and a directory of special libraries and information bureaux for the United Kingdom is in contemplation.

THE thirty-eighth congress of the French Society of Ophthalmology will be held at Brussels on May 11th, when the following papers will be read: "Belgium, the classical land of ophthalmology," by Professor De Lapersonne; "The etiology of trachoma," by Dr. Morax; and "Was the artificial eye known to the ancients?" by Professor M. van Duyse of Ghent. An exhibition of optical instruments and pharmaceutical products will be held at the same time as the congress.

THE well known Belgian surgeon, Professor A. Depage, has been nominated Grand Officer of the Legion of Honour.

MESSRS. CONSTABLE AND CO., LTD., have published the agreement, protocol, and final act of the first opium conference (9d. net) and the convention, protocol, and final act of the second opium conference (2s. 6d. net). The first document was signed at Geneva on February 11th and the second on February 19th. The effect of the decisions of the conferences was discussed in a leading article on the international control of drugs of addiction published in the BRITISH MEDICAL JOURNAL of March 28th (p. 618).

THE nineteenth Voyage d'études médicales to the health resorts of France (organized solely for the purpose) will take place during the first part of the scientific direction of Professors Carnot and Rannery, and will be devoted to the resorts of the North and East. The party will assemble at Berek-sur-Mer and will first visit Paris-Plage, Lille, and Saint-Amand, and will then go to Belgium to visit Brussels, Spa, Luxembourg, and Mondorf. Returning to France via Niederbronn and Morsbronn, the party will visit Strasbourg, Schirmeek, le Hohwald, Sainte-Odile, Chateaufort, and Ribeauvillé, Colmar, Sultzmatz, Sultzbach, Munster, les Trois Epis, le Linge, le Col de la Schlucht, and Gérardmer. Crossing the Vosges again it will then follow the road of the Cretes and visit Bussang, Luxeuil, Plombières, Bains-les-Bains, Bourbonne, Martigny, Contrexéville, and Vitte. First-class accommodation is arranged throughout the journey and at the hotels. For further particulars apply to Madame Juppé-Blaise, delegate of the French Spas, Office Français du Tourisme, 56, Haymarket, S.W.1.

THE Société française d'orthopédie dento-faciale will hold a congress at Brussels from May 21st to 23rd, when the following papers, among others, will be read: "Historical review of the different methods of transverse maxillary expansion," by M. Izard; "Physiotherapy of maxillo-dental malformations," by M. Watry; and "Terminology of orthodontia," by M. Izard.

## Letters, Notes, and Answers.

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the BRITISH MEDICAL JOURNAL alone unless the contrary be stated. Authors desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Financial Secretary and Business Manager, 423, Strand, W.C.2, on receipt of proof.

ALL communications with reference to advertisements as well as orders for copies of the JOURNAL should be addressed to the Financial Secretary and Business Manager, 423, Strand, London, W.C.2. Attention to this request will avoid delay. Communications with reference to editorial business should be addressed to the Editor, BRITISH MEDICAL JOURNAL, 423, Strand, W.C.2.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—not necessarily for publication.

Communications intended for the current issue should be posted so as to arrive by the first post on Monday or at latest be received not later than Tuesday morning.

THE telephone number of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is Gerrard 2630 (Internal Exchange). The telegraphic addresses are:

EDITOR OF THE BRITISH MEDICAL JOURNAL, Aitiology Westrand, London.

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), Articulate Westrand, London.

MEDICAL SECRETARY, Medusera Westrand, London.

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: Baedins, Dublin; telephone: 4737 Dublin), and of the Scottish Office, 6, Rutland Square, Edinburgh (telegrams: Associate, Edinburgh; telephone: 4361 Central).

### QUERIES AND ANSWERS.

#### INCOME TAX.

Succession: Partnership Introduction.

A. C. D. took over a practice as from January 1st, 1924, after a "partnership introduction" of three months from October 1st, 1923, on a basis of half-share of profits and expenses. Book debts were not taken over.

For the financial year ended April 5th, 1924, the average profits for assessment are presumably those of the three years to December 31st, 1923, and no difficulty will arise in respect of the book debts, as those profits can conveniently be made to include all debts received up to that date. If the assessment—that is, average profits less average expenses of both partners while working the practice as proprietors of the whole or part—be £x, "A. C. D.'s" share will be  $(\frac{1}{2} \text{ of } \frac{1}{4} \text{ plus } \frac{1}{4} =) \frac{3}{8}$ , and he will be liable to account for tax on that proportion, less any personal allowances to which he may be entitled. For the financial year ended April 5th, 1925, he will be liable on the average gross earnings over the three previous years, less the expenses incurred in working the practice in those years. His predecessor can no doubt supply the appropriate figures for 1922 and 1923, and for 1924 he should take the value of his bookings for his gross receipts and compute the amount of his expenses on the usual lines, excluding the expenses of acquiring the practice. If he can subsequently—that is, by April 5th, 1926—show that the assessment so calculated exceeds his earnings for 1925 (on the basis of the value of his bookings less expenses for that year), and that the reduction is due to some specific cause since or by reason of his succession to the practice, he can claim an adjustment of his assessment by repayment of tax or by any other convenient method.

### LETTERS, NOTES, ETC.

#### A NEW MOSQUITO BREEDING PLACE.

UNDER this heading in our issue of March 7th (p. 488) we drew attention to an observation recorded by Dr. W. E. Haworth in the *Transactions of the Royal Society of Tropical Medicine and Hygiene* to the effect that mosquitoes breed in the crowns of coco-nut palms. In our issue of March 21st (p. 586) was published a note from Dr. J. C. Ryan to the effect that in a book, *Health Preservation in West Africa*, published by him in 1914, reference was made to this source of danger. We have since received a letter from Dr. Haworth enclosing the following quotation from Dr. Ryan's book:

"A universal custom amongst West African natives in felling trees, irrespective of the size, is to leave the stumps standing 2 ft. or 3 ft. high. These are frequently hollow in the centre; the stumps of palm trees are always so. During rain these cavities become filled with water, in which mosquitoes readily lay eggs. Soon they become alive with larvae; so numerous, indeed, that ants stationed on the edge of the holes can easily prey on them, and have been seen doing so by the writer."

Dr. Haworth observes that Dr. Ryan's reference is to breeding in the hollows formed in the stumps of palms which have been cut down; his (Dr. Haworth's) was, as has been said, to the breeding of mosquitoes in the crown of leaves of living palms.

Dr. Haworth tells us that he can find no reference in Dr. Ryan's book to this. Dr. Haworth offers to send Dr. Ryan a copy of his paper on mosquitoes and coco-nut palms.

#### EASY WRITING AND HARD READING.

In a note published last week (p. 753) the phrase "Easy writing's d—d hard reading" was attributed to Byron. Dr. C. O. HAWTHORNE writes to recall Sheridan's lines:

"You write with ease to show your breeding,  
But easy writing's curst hard reading."

(Clio's Protest: Moore's *Life of Sheridan*, vol. i, p. 155)

Sir STCLAIR THOMSON has sent a note on the same subject. He writes: In the JOURNAL of April 18th it is remarked, in an annotation on the revision of manuscripts, that Amaleto Franco "would have agreed with Byron's epigram had he known it—Easy writing's d—d hard reading." Is this quotation from Byron authentic? If so, I presume it means hard "proof reading," for Byron was no hard reader, nor does the writing of poetry necessarily entail reading, d—d or otherwise. I have always heard the bon mot in association with public speaking and Sheridan, who, when complimented on his facile speech, replied, with his pleasant Irish accent, "Easy speaking, me boy, means d—d hard thinking." If not *vero*, I think the story is much more *ben trovato* in this association than in connexion with poetry writing and hard reading.

It may be that, quoting from memory, we attributed to Byron an epigram that belonged to Sheridan, although we are under the impression that Byron used the phrase. However this may be, we suggest that Sir Stclair Thomson has not taken the point; which is that easy writing for the author makes hard reading for the reader.

#### TRANSFUSION IN CARBON MONOXIDE AND COAL GAS POISONING.

DR. JAMES HOLMES (Bury) writes: The recent tragic death of a medical friend (who had been exposed to motor car fumes), after unavailing efforts at resuscitation by several medical colleagues for nearly twelve hours, has caused much regret and worry to me, especially as we are at present almost, if not quite, helpless in these cases. I therefore venture to suggest a possible method of treatment which has not, as far as I know, been tried. Though the method may be somewhat heroic, it is founded on well known facts. As those who have studied these cases know, the gas combines with the red blood corpuscles and prevents them carrying oxygen to the tissues, and we know no method of separating it from them. The result is that attempts at artificial respiration, with or without tracheotomy, are bound to fail. In these circumstances I venture to suggest that transfusion, with, in suitable cases, tracheotomy, is a successful treatment. The corpuscles, free from the gas, able to carry oxygen, while penetration would, in plethoric cases, not only prevent the risks of high blood pressure, but also get rid of useless corpuscles.

#### LEMON CHEESE.

MR. G. D. ELSDON, B.Sc., F.I.C., has recently reported to the Society of Public Analysts the result of an investigation of "lemon cheese." He has come to the conclusion that it should consist substantially of butter, eggs, sugar, and lemons. An examination of commercial recipes and samples showed that the article manufactured on the large scale is frequently of inferior quality, and that preparations are on the market containing no eggs, no butter, and little fat of any description; and having from 50 to 50 per cent. of added water, the presence of which is masked by the addition of "British gum" and possibly gum tragacanth. He suggests that this and similar preparations should be amenable to control, and that it is undesirable that articles of variegated composition should be presented to the public under the same description.

#### ASTHMA.

DR. R. D. MILLER (Hull) writes: In view of recent discussion on the cure of asthma the following case may be of a certain amount of interest. I have lately been attending Mrs. W., aged 62, for asthma and bronchitis of a peculiarly stubborn kind, and of about twenty years' duration. Her nose and nasopharynx have been examined on more than one occasion. Two months ago she developed an exceedingly severe attack of measles with a temperature of 104°, her whole body becoming one continuous mass of bright scarlet. Apart from any other consideration, I was extremely anxious about her chest, expecting her to develop some form of pulmonary complication severer than is common after a juvenile attack of measles. To my surprise her chest began to clear up, and before the rash had faded her asthma had entirely left her, and her lungs sound healthy. That her rash was due to measles there is no doubt, it having been seen by my chief independently from me. She had also had measles in childhood. I have seen her on several occasions lately and she is able to go about during inclement weather with no inconvenience at all.

#### VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 39, 40, 41, 44, and 45 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 42 and 43. A short summary of vacant posts notified in the advertisement columns appears in the Supplement at page 187.

## An Address

ON

## THE SPECIFIC ACTION OF DRUGS IN TUBERCULOSIS.\*

BY

W. E. DIXON, M.D., F.R.S.,

READER IN PHARMACOLOGY, UNIVERSITY OF CAMBRIDGE.

It is now well recognized that a patient suffering from tuberculosis who is placed under the charge of a doctor will, for a time at least, improve in health no matter what drugs, vaccines, or specialty of treatment may be employed. The beneficial result is due in this, as in other diseases, to efficient nursing, to the regulation of food, exercise, and sleep, and to light and fresh air. If only this effect were clearly recognized the number of "treatments" in vogue for this common disease might be diminished. The enthusiastic physician sometimes begins the new treatment so soon as the patient enters his wards, and he is apt to put down the wonderful effects which may follow to the new drug, a view which unfortunately he neglects to rectify when the patient dies. General hygienic measures are of primary importance in treatment, and it is not until all the beneficial effects, which we know will ensue from these alone, have been exhausted that we have any right to ascribe an effect, beneficent or otherwise, to a special treatment.

Drugs are employed in tuberculosis either with the object of attacking and preventing the growth of the tubercle bacillus or other organisms with which the disease may be associated, or of neutralizing poisonous toxins, or of removing or relieving symptoms. It is to the first group that I am directing your attention to-day.

The ideal for which we search is an internal antiseptic, something which will prevent the growth of the tubercle bacillus without injuring the host, and this principle of internal antiseptics has now come to be termed "chemotherapy."

## COAL-TAR DERIVATIVES.

The ordinary common antiseptics like phenol and the coal-tar derivatives (creosol, guaiacol)—mercury perchloride and formalin, for example—act in the same way on almost all micro-organisms; their antiseptic action is greatly diminished by admixture with serum, and when injected into the animal body they destroy the animal before they destroy the parasites. Innumerable attempts have been made to synthesize more active antiseptics, and two recent products of the laboratory I will mention. By brominating cresol a tetrabromocresol is obtained, which is 250 times more active than phenol and only half as toxic; by brominating naphthol tribromonaphthol is formed, which prevents the growth of staphylococci in dilutions of 1 in 250,000. Nevertheless, as internal antiseptics they are useless: they affect body tissues before parasites, and much of their antiseptic action is destroyed by tissue proteins.

If these coal-tar derivatives (cinamic acid, creosote, guaiacol, and the rest) exert a beneficial action on tuberculous patients, the explanation is not that they influence directly the tubercle bacillus. The same is, of course, true of formic aldehyde, at one time much in vogue as a vapour for inhalation by phthisical patients. Occasionally also it was injected intravenously, and not infrequently produced albuminuria, haematuria, and even coma. Formic aldehyde, of course, in the body at once combines with proteins and loses all antiseptic action.

\* The address was given to a meeting of the Tuberculosis Society at Cambridge on April 2nd.

## ESSENTIAL OILS.

Essential oils have been the basis of many systems of "cure"; thus the oil of cinnamon and oil of garlic treatments have each had its day; it were idle to describe them in detail, as it is universally recognized that, like other specifics, they fail in the hands of the sceptical physician. Fischer made numerous experiments on animals and showed, for example, that menthol eucalyptol injections into tuberculous rabbits in no way altered the course of the disease. *In vitro* such antiseptics as thymol and the cresols inhibit the growth of virulent human tubercle bacilli in strengths of 1 in 10,000, and these are the most active members of the group. Guaiacol and creosote only inhibit in strengths of 1 in 1,000, so that as bactericidal agents they are valueless.

## CALCIUM.

I will mention here two or three other substances which have been alleged to exert specific effects in tuberculosis, although not by direct destruction of the tubercle bacillus. Many have written on the beneficial action of calcium: thus Maendl treated 250 patients with intravenous injections of 5 c.cm. 10 per cent. calcium chloride every day or second day. The injections were given in alternate weeks, and each patient received twenty injections. All the symptoms were influenced favourably. Calcium deficiency is a well known condition of many diseases, including tuberculosis, and calcium injections may influence favourably the condition by limiting inflammatory exudation, but they do not influence the cause of the condition.

## SILICA.

Silica is another of these specifics of recent date. Maver and Wells, in a review of the literature on silica therapy, come to the conclusion that the beneficial effects described are not established. They made some experiments with silica casein metaphosphate on tuberculous guinea-pigs, but found no increase in the duration of life or alteration in the tuberculous process.

## ARSENIC AND MERCURY.

The employment of compounds of arsenic and mercury is particularly instructive because each new introduction has been described as being curative by one group of physicians and worthless by another. De Witt described certain mercury compounds which cause fibrosis and healing of tubercles in different organs in slowly progressing chronic tuberculosis of experimental origin. These effects were not seen in the control animals, however long they lived. Mercuri-bis-p-nitrophenol, and mono-ethyl-p-nitraniline mercury acetate were the compounds he used. The injections produced no nephritis in any animal. Inhalation of arsenic has been described as effecting cures by Chavant. On the other hand, careful experiments made with the likely organic arsenic derivatives such as arsphenamine and its silver compounds show that they have no action on the pathogenicity of the tubercle bacillus and no favourable influence on the disease.

## QUININE DERIVATIVES.

Chemotherapeutic agents have a specific selective action on certain tissues and bacteria, probably physical rather than chemical, and, unlike the group we have considered up to now, their disinfectant action is not retarded by admixture with serum, but, on the contrary, is increased. How selective these substances can be may be seen from one example. Atoxyl is a cure for syphilis like salvarsan, yet atoxyl is no longer used because it dissolves in the tissues of the eye and causes optic neuritis and atrophy, an effect which is not produced by either salvarsan or inorganic arsenic. After administering atoxyl to animals, arsenic is found in the humours of the eye, but no arsenic is present after administration of the other two substances.

Two groups of organic compounds are especially remarkable for their chemotherapeutic action on bacteria. Quinine is the methyl ether of cupreine, and it can be reduced by nascent hydrogen to form hydrocupreine. The following

table shows the effect of two derivatives of hydrocupreine in arresting the growth of certain micro-organisms.

	Ethyl Hydrocupreine (Optoquin).	Iso-octyl Hydrocupreine (Vuzin).
Diphtheria ...	1 in 100,000	1 in 750,000
Pneumococcus ..	1 in 400,000	Negligible
Staphylococcus .	1 in 500	1 in 16,000
Streptococcus ...	1 in 1,000	1 in 80,000

The action of optoquin on the pneumococcus and of vuzin on *B. diphtheriae* is absolutely specific; the higher and lower homologues do not exhibit this effect. Further, these drugs act in the animal body as well as in the test tube, and enough can be given by medicinal doses to animals and men to clear the blood from these micro-organisms.

#### ACRIDINE DERIVATIVES.

The second group of drugs which exert a marked action on bacteria are certain derivatives of acridine. Trypaflavine was used during the war for infected wounds; it acts better in the presence of protein, but is not sufficiently selective or specific on micro-organisms in the presence of body tissues to be of any real value; it is easily absorbed and causes oedema. Rivanol is a more recent derivative of acridine. Morgenroth cured streptococic infections in mice by injections of rivanol under the skin. The injections, to be efficient, must be made soon after infection and in the neighbourhood of the inoculated zone; rivanol will not cure a blood infection. Still its discovery is a great advance over any substance previously available, and we can look forward with some confidence in the near future to the introduction of new derivatives which will destroy acute infective agents.

The chemotherapeutical substances which are known to act on bacteria are without value in tuberculosis. Thus flavine and its silver salts do not influence the tuberculous process in living animals, and the same is true of the quinine derivatives which have been prepared so far. The destruction of the tubercle bacillus presents two special difficulties: (1) in the fatty and protective envelope surrounding the bacillus, and (2) in the small blood supply to the tuberculous lesions.

#### CERIUM.

Success, however, has been claimed for several metallic compounds, and I shall confine my remarks to three of these. The first is with cerium salts. Frouin experimented with fifty rabbits and thirty guinea-pigs; they were inoculated with bovine tuberculosis and treated by injections of cerium sulphate. All the animals died, treated as well as controls, but the treated animals survived from two to five months longer than the controls, and in *post-mortem* examinations showed considerable growth of fibrous tissue in the tuberculous lesions. Grenet and Drouin tried the effects of cerium earths in chronic tuberculous affections in patients. They state that two facts have been established—that these metals reduce the fats of the tubercle bacillus in cultures, and that they produce a mononuclear leucocytosis. Their procedure is to inject intravenously 2 to 5 c.cm. of a 2 per cent. solution for twenty days; this is succeeded by a period of rest for fifteen or twenty days, followed by a second and third series of injections. The patients improved in every way. The bacilli disappeared from the sputum, or if present were modified. Thus three of four guinea-pigs were inoculated with the infected sputum of treated patients; the guinea-pigs became sick and lost weight for two weeks, but at the end of two months they were normal again. These observers think the treatment of value only in afebrile cases. Renon and Esnault and Brou have confirmed these results, and also agree that in febrile cases the treatment is unsatisfactory. If cerium salts, including its allies, exert any action on tuberculosis it cannot be by direct action on the bacilli, since these salts and their compounds have little more direct action in killing the tubercle bacillus than potash salts. According

to the figures given, the inhibitory action is about 1 to 5 parts in 1,000 to prevent growth. On the basis of this slight inhibitory effect in cultures—and, what is perhaps more important, the production of leucocytosis—a small number of cases of human tuberculosis have been treated with cerium salts by repeated intravenous injections, and the patients have improved; but there is no mention of control patients given the same general care, without the salts. The evidence so far presented, however, is of little real significance. The fact that cerium has still its devotees in France is perhaps of some importance.

#### COPPER.

Copper salts have had a great boom in the past, though they have, at least for the time, lapsed into oblivion. Luton, in 1894, in a monograph, first drew attention to copper as a specific in tuberculosis. Grafm v. Linden and her colleagues in Germany produced a complex copper lecithin compound of secret composition; it was alleged to produce wonderful results in the treatment of patients. It is now more than twelve years since the introduction of this compound, and yet there is an alarming spread of tuberculosis in Germany, and since the war we hear little of the cure. Koga, in Japan, soon after v. Linden, produced cyanocuprol as a cure, but Koga's discovery has not settled the tuberculosis problem in Japan. The Japanese are very active in tuberculosis remedies; they have made many new compounds, sometimes of copper, sometimes gold, and sometimes other substances; but their tuberculosis does not diminish.

When the copper treatment commenced nearly all the reports were favourable to its use (Meissen, Strauss, etc.), but more extended investigations on animals made with the sulphate, oleate, albuminates, cyanocuprol and others have established the fact that so far as these salts are concerned the treatment, at all events on animals, is valueless. Schroeder, in particular, is definite that the copper treatment serves no useful purpose. Nevertheless, experiments with the putrefactive bacilli *Proteus vulgaris* and *Clostridium fetidum* show that copper salts are very strongly antiseptic; even when present to the extent of 1 in 2,000,000 a perceptible action is observed. Copper salts might be useful remedies in diseases characterized by increase of the number of putrefactive bacilli in the gastro-intestinal canal, particularly as they are not absorbed. They are also very active against the tubercle bacillus *in vitro*. Eggers showed that the influence of copper upon tuberculous tissues is strictly limited to a local effect; a deep and distant action is not obtained. On account of the increased susceptibility of the vascular nervous system around tuberculous tissues the action of the copper is greater in these than in normal tissues. He could not confirm von Linden. He states that true affinity of the copper for tubercle bacilli does not exist, nor could he find an affinity for tuberculous tissues; finally, the copper treatment of tuberculosis is not considered to be a specific therapy.

#### GOLD.

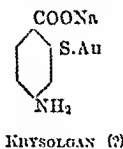
The last drug about which I propose to speak is the gold treatment. Koch showed that  $KAuCl_4$  (1 in 1,000,000) prevented the growth of tubercle in cultures; the presence of blood serum interfered with the action and reduced the efficiency to 1 in 25,000. Gold chloride inhibits when in dilution of 1 in 2,000,000; and yet, in the careful studies of De Witt, as in the earlier observations of Koch, it exerts no favourable influence on tuberculosis in animals.

Without reviewing the various papers dealing with this subject, I will sum them up by saying that the results of administering gold salts in tuberculosis were not better than those given by copper, whether on cultures of the tubercle bacillus, on tuberculous animals, or on patients.

Aurocyanan was next introduced; it is a cantharidin-ethylene diamino-aurocyanide, and was soon found to be too toxic for use. It was succeeded by a compound with a very promising composition, "krysolgan," introduced by Feldt. This compound prevents the growth of the tubercle



bacillus in cultures in 1 part in a million. Nevertheless, animal experiments with this substance are not very promising, though clinical results, as published in Feldt's monograph in 1923, are certainly both hopeful and inspiring.



The last of the gold cures is that recently introduced by Moellgaard.\* It is a double thiosulphate of gold and sodium,  $\text{Au}(\text{S}_2\text{O}_3)_2\text{Na}_2$ , which, although a well recognized substance, he calls sanoerysin. Like its predecessors it retards growth of the tubercle bacillus in glycerinated bouillon in such strengths as 1 part in a million, but how serum added to the cultures affects its action I did not discover. Nevertheless, this is a very important point, since such chemotherapeutic substances as exert an undoubted action on bacterin invariably act better in the presence of the tissue fluids. Moellgaard assumes that his gold injections destroy the tubercle bacillus *in vivo*, and states that doses which are not poisonous in themselves kill the tuberculous animal by producing a tuberculin shock. This shock begins with albuminuria and sometimes haematuria; it is followed by toxic myocarditis and pulmonary oedema. Non-tuberculous animals do not exhibit this shock.

The evidence to prove this important point is nowhere clearly set out—that is, that the shock in tuberculous animals after an injection of sanoerysin is due to the destruction of tubercle bacillus and the setting free of endotoxins, which act as tuberculin acts on tuberculous animals. To combat this shock Moellgaard recommends a previous injection of antitoxic serum, after which his gold cure may be injected with impunity. It would be interesting to know whether other metallic poisons cause a like shock.

Moellgaard made many experiments on calves, rabbits, and other animals to test his sanoerysin, and the treated calves certainly did better than the controls, and some of them recovered. His procedure was as follows: He injected a number of animals on the same occasion; after some days the animal which seemed least affected was chosen as a control. Dr. A. S. Griffith thinks that this was wrong, since the calves may have been infected before they were used for experiment. The injection of the tubercle bacillus would cause those which had acquired some increase of resisting power as the result of a spontaneous infection to react violently for perhaps a week, while the really susceptible animals would remain unaffected; one of the latter would be selected as the control. It is true Moellgaard made tuberculin tests when the animals were three weeks old, but their weights show that they were much older when injected. The experiments of Dr. L. Cobbett at Stansed under the Royal Commission showed that, in spite of ideal conditions and constant care, it was impossible to exclude spontaneous infection.

Another feature of importance in these experiments is that the cultures used were attenuated. The doses necessary to kill were enormous and many control animals failed to die or contract severe disease. The attenuation of the bacilli makes recovery much easier and the large size of the dose intensifies the severity of the reaction to injection in an animal already infected.

So far as I am able to judge of the value of the recorded experiments, they are suggestive, but certainly not conclusive. Some of the krysolgan and copper experiments on animals have been equally suggestive, and with regard to the patients it is early to draw conclusions; it is the opinion of those best able to judge that clinical records of treated patients must be kept for years before the true value of a remedy for tuberculosis can be gauged.

Sanoerysin, then, is still on its trial.

\* A paper by Professor Moellgaard on the theoretical basis of the sanoerysin treatment of tuberculosis was published in this JOURNAL on April 4th (p. 643).—Editor, BRITISH MEDICAL JOURNAL.

## Lancian Lectures

ON

## SOME FORMS OF VOMITING IN INFANCY.

DELIVERED BEFORE THE ROYAL COLLEGE OF PHYSICIANS OF LONDON, MARCH-APRIL, 1925,

BY

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### LECTURE II.—VOMITING DUE TO OBSTRUCTION FROM NEUROMUSCULAR INCO-ORDINATION.

#### *Etiology.*

I COME now to consider the etiology of the second form of obstruction, that which depends primarily upon neuromuscular inco-ordination. The beautiful experiments of Bayliss and Starling have made clear the method by which a bolus of food is moved along the intestinal lumen. Excitation by the bolus produces a twofold reaction in the muscular tube—contraction in the segment above accompanied by relaxation in the segment below. The bolus, urged forward by the contracting muscles into the area of relaxation, thus evokes a succession of peristaltic waves which hurry it along the bowel. These peristaltic movements persist in an isolated loop of gut separated from its central nervous connexions. Nevertheless, the intestine is possessed of a double nerve supply which has the power of augmenting or of inhibiting intestinal tone and movement. The inhibiting fibres pass in the splanchnic nerves and peripheral stimulation produces cessation of movement and relaxation of tone. Stimulation of the vagus is less uniform in its effect, but most often after a short period of inhibition there follows a long phase of unusual activity of movement, and at times the gut may be so contracted as to obliterate its lumen.

Little is known of the localization of the cerebro-spinal centres of these two antagonistic sets of fibres. The centre for the inhibitory fibres is generally thought to lie in the spinal cord, in the upper dorsal and lower cervical regions. Yet Ott obtained inhibition by stimulating the optic thalami and cerebral peduncles. Budge and Valentin showed that intestinal movements could be excited and amplified by electrical stimulation of the corpora quadrigemina and corpora striata. Bochefontaine in Vulpian's laboratory obtained movements of the intestines of dogs by stimulating certain parts of the motor cerebral cortex. Our knowledge of the paths by which the higher centres influence the intestinal movements remains, however, doubtful, fragmentary, and contradictory. That emotional states are habitually accompanied by changes in the amplitude and frequency of intestinal movements is everyday experience. Cannon found that motor activity in the stomach and intestines of his cats lessened when the animals became excited or angry. Barclay, in studying the gastric tone and movement in normal individuals, describes the striking alterations produced by an unexpected stimulus such as a loud sound.

In considering the etiology of this group of disorders in infancy, characterized by a temporary failure of the inhibitory apparatus of the bowel, I put forward the hypothesis that in development the inhibitory apparatus is apt to lag behind the motor and augmentary apparatus. That at this early age we have to deal with an organism in which the inhibitory activities of the splanchnic nerves are functionally weak is suggested by a variety of considerations. It is perhaps to be expected that the supreme function of inhibition shall be that which is last acquired. In the case of the skeletal musculature a similar functional retardation of inhibition is the rule. The newborn infant, before the myelination of the pyramidal tracts, is rigid and spastic in all its movements. Until the cortex awakens and assumes control the infant is in a state of what might be called physiological diplegia. Only gradually does the power develop to relax antagonistic groups of muscles and to permit precise and effective voluntary movement.

It is interesting in this connexion that many observers have noted that hypertonus of the skeletal musculature is commonly more than usually marked in infants with congenital pyloric stenosis. Putzig has called attention to opisthotonos as an occasional symptom in hypertrophic pyloric stenosis. Feer has emphasized the characteristic set look of the facial muscles, showing especially in the wrinkling of the forehead. Certainly, in my experience, infants with hypertrophic pyloric stenosis, at least in the earlier stages, are more than usually tense, alert, and eager, with rigid limbs, exaggerated tendon reflexes, and clenched fists.

In certain degenerative disorders of the cerebrum we again meet with an increase of tonus in the skeletal muscles, with rigid limbs and stiff postures, and in such cases spastic states of the bowel musculature seem also unusually common. Here, as in many other conditions, there is a certain similarity between the results of functional weakness in the immature nervous system and disturbances directly due to degeneration and disease. In ascent and in descent, in development and in degeneration, the same country is traversed.

Thus I have at the present time a boy under my care in Guy's Hospital, 2 years of age. He belongs to a family more than one member of which has died of some obscure nervous disease in early childhood. In at least one of these it is known that optic atrophy was present. He is suffering from an unusual form of diffuse cerebral sclerosis, probably familial. Ophthalmoscopic examination shows the presence of optic atrophy, but no cherry-red spot such as is characteristic of amaurotic family idiocy. There is extreme rigidity of the limbs with pronounced opisthotonos. Through the rigid abdominal walls great waves of intestinal peristalsis are visible. There is extreme constipation. No motion is passed spontaneously, but by washing out the rectum hard scybala masses are removed from time to time. The colon is hypertrophied and can easily be felt through the abdominal wall. I show its outline as seen after an opaque meal, and after an opaque enema.

In this case it is clear that in an older child with cerebral degeneration hypertonus of the skeletal muscles and hypertonus of the intestinal muscles have developed together. In both the power of inhibition has been lost. I suggest that in the newborn infant, while a large part of the cerebrum is as yet functionless, there may at times be added to the lack of inhibition of skeletal musculature a similar weakness of the power to inhibit the splanchnic musculature. In the newly born, no doubt, the functional disturbance is often trivial, shading off by all gradations into the normal, and transient. In the similar conditions of later life the disturbance is often both severe and persistent. Of infantile achalasia at the cardia and pylorus it may be said that the time limits of the obstruction appear definite. In the case of the pylorus, certainly, if the infant does not succumb to intercurrent infection, recovery may be confidently predicted in the fourth or at latest the fifth month. The high mortality of this disease in the past has been due, not to the severity of the obstruction as such, but to the peculiar inability of the infant to withstand inanition and to the great fall in immunity which the inanition causes. Once the functional weakness at the pylorus has been overcome recovery never occurs. This certainty and this permanency of recovery are in keeping with the view that the symptoms are due to a retardation of functional development.

The failure of inhibition is, as might be expected, most evident at the site of the various sphincters, at the cardia, notably at the pylorus, at the ileo-caecal valve, and at the

ano-rectal sphincter. We owe to our President, I think, in the case of the cardia, the first enunciation of the conception that in a failure of relaxation of the ring muscle of the sphincter we have the primary cause of the obstruction. In 1896 Rolleston showed at a meeting of the Pathological Society a number of specimens of oesophageal obstruction, and put forward this hypothesis. More recently the radiographic studies of Hurst have afforded the proof of the correctness of the supposition, and he has coined the word "achalasia" to describe the condition. Under the x rays the failure of the cardia to relax is clearly evident, while *post-mortem* examination in these cases shows that, although there is hypertrophy of the walls of the dilated oesophagus above the obstruction, the ring muscle itself shows no trace of hypertrophy.

#### A. PYLORIC OBSTRUCTION.

The explanation

of the remarkable condition found in hypertrophic pyloric stenosis has been the subject of endless controversy. Armstrong in 1777 was probably the first to describe a case. In 1888 Hirschsprung of Copenhagen called the attention of the profession to the condition, describing the clinical symptoms with great accuracy, but erroneously regarding the cases as examples occurring in infancy of that congenital pyloric stenosis of Landereer and Maier described in the last lecture. The view that the obstruction at the pylorus is due to pressure from the bulk of muscle, the subject of a congenital hypertrophy, seems to me to have little to recommend it. Indeed, no true stenosis of the pyloric canal is present. Within the grip of the rigid musculature of the pyloric cylinder there lies a normal pyloric canal, its lumen in no way narrowed, but, as it presents itself at autopsy, so folded up that its outline is star-shaped or rosette-shaped upon transverse section. During life it is clear that the obstruction is not



FIG. 1.—Radiograph of adult stomach showing the shadow of the duodenal cap, a gap representing the pyloric ring sphincter, and the shadow of the lumen of the pyloric cylinder.

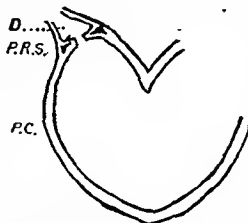


FIG. 2.—Diagrammatic representation of Fig. 1. D., Duodenal cap. P.R.S., Pyloric ring sphincter. P.C., Pyloric cylinder.

constant but intermittent. Hess and others have experienced little difficulty in passing a duodenal catheter even in the most severe case. During an operation, after the stomach has been opened, bougies of relatively large calibre can be readily passed from stomach to duodenum. There are several instances recorded (Stranch and others) in which foreign bodies of considerable size, accidentally swallowed during life, have been passed per rectum without difficulty.

We owe to Thomson the first enunciation of the more reasonable hypothesis of neuromuscular inco-ordination, against which the chief objection urged by Finkelstein, Marfan, and others is that it is difficult to understand why spasm and overaction of a sphincter should give rise to hypertrophy, upon so great a scale. In the light of our knowledge of the corresponding neuromuscular obstruction at the cardia, which we owe chiefly to Hurst, it would seem tempting to consider the hypothesis that we have here to deal with what he has named an achalasia—that is to say, with a primary failure of the pyloric sphincter to relax. In spite of Hurst's refusal in a recently published paper to accept this view, I venture to think that no other hypothesis fits so well with the facts as we know them.

If we examine a radiogram (Figs. 1 and 2) of the stomach and duodenum—and, since unfortunately in infancy the duodenal cap is never apparent as a distinct shadow, it becomes necessary to use a radiogram from an adult—we find the component parts well marked. The cardiac part of the stomach functions as a reservoir; the pyloric portion forms the so-called contractile cylinder. The pyloric portion of the stomach is described as consisting of a first part, the pyloric vestibule, which is

in general relaxed with a widely patent lumen, and the pyloric antrum (His) or the pyloric cylinder (Cunningham), the lumen of which in adults is also often widely patent, but which in the foetus and young infant after death is always obliterated by the rigid contraction of its thick muscular walls. The lumen of this pyloric cylinder is the pyloric canal. Radiographically between the duodenal cap and the shadow of the stomach adjoining is a gap less than  $1/4$  in. in length, traversed from time to time or continuously by a thread-like shadow. This gap represents the true pylorus occupied by the pyloric ring sphincter.

Now when we speak of a condition of congenital hypertrophic pyloric stenosis it seems to me that we employ a term which perpetuates at least three misunderstandings. In the first place, as has been said, there is no true stenosis present, only an infolding of the lumen when the hypertrophied walls of the pyloric cylinder are in a state of rigid contraction. In the second place, it seems to me that the hypertrophy certainly involves a great deal more than the true pylorus—that is, the pyloric ring sphincter. Indeed, I hope to produce histological evidence which goes to show that the ring muscle itself takes no part in the hypertrophy, but remains unchanged in its dimensions. The great hypertrophy is disposed along the whole length of the pyloric cylinder (Fig. 3), and extends to, and involves, the vestibule as well, gradually diminishing as the cardiac reservoir is approached. The tumour formed by the hypertrophied walls of the pyloric cylinder in the infant measures on an average about  $1\frac{1}{2}$  in. in length. If we are to assign all this length of hypertrophied muscle to the retaining mechanism of the stomach rather than to the expelling mechanism—



FIG. 3.—Outline of specimen of the left, and the thick-walled contractile cylinder between.

by the hypertrophied mass hardens and softens under the examining finger as each wave of peristalsis reaches it and fades away. This seems to me strange behaviour on the part of a sphincter, though readily understandable if the hypertrophy involves the walls of the contractile cylinder of the stomach and if the hypertrophied muscles are in intermittent contraction, endeavouring to force the contents of the stomach past an obstruction caused by the failure of the pyloric ring muscle to dilate.

Cunningham in his classical paper has made clear the disposition of the muscular coats of duodenum, pylorus, and stomach in the normal infant at birth. The sphincter is a well developed mass of muscle much thicker than the muscle of the wall of the rest of the pyloric cylinder. Into it passes the greater part of the longitudinal muscle fibres of the stomach coats spreading out within it as a fan-shaped fasciculus. It is this turning in of the longitudinal fibres which will enable us to identify the pyloric ring muscle proper in sections through the immensely hypertrophied muscles in so-called hypertrophic pyloric stenosis.

Cunningham, further, has a drawing of the muscular arrangement in the cat in which the sphincter proper is considerably more developed. This is of interest in view of Cannon's radiographical studies, which were carried out almost entirely on cats and which constantly show a widely dilated pyloric canal right up to the actual pylorus. Lastly, in a section which he shows through the muscle in a case of hypertrophic pyloric stenosis, it will be seen that the ring muscle is considerably less thick than the muscle of the pyloric cylinder behind it.

To compare with these illustrations from Cunningham's paper I show first a section through the pyloric region

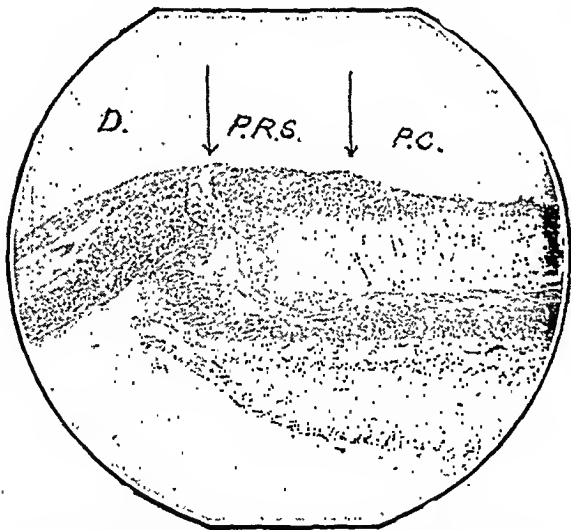


FIG. 4.—Section through the pyloric region of a normal infant, aged 4 weeks. D, Duodenum. P.R.S., Pyloric ring sphincter. P.C., Pyloric cylinder.

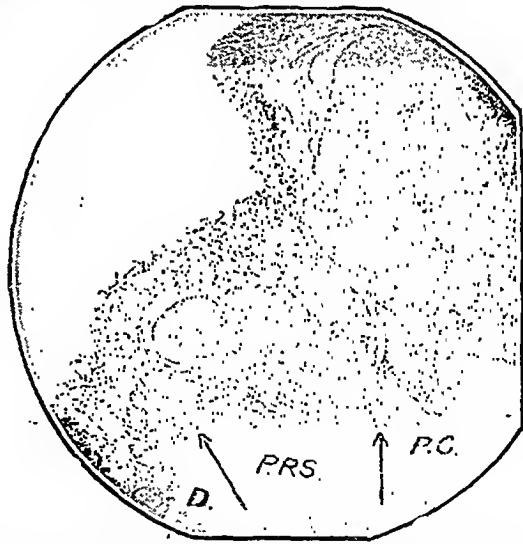


FIG. 5.—A similar section through the pyloric region in an infant with hypertrophic pyloric stenosis. D, Duodenum. P.R.S., Pyloric ring sphincter of unchanged dimensions. P.C., Pyloric cylinder with greatly thickened musculature.

that is to say, if we are to regard it as a greatly hypertrophied sphincteric area of unusual length—the gap between stomach and duodenum would be radiographically represented by an hiatus, not  $1/4$  in., but  $1\frac{1}{2}$  in., in length. It is unfortunate that the absence of the duodenal cap in infants prevents this gap from being appreciable or measurable. It seems to me that a study of the *post-mortem* appearances shows clearly enough that the hypertrophy involves the whole contractile cylinder, which alone has peristaltic activity and the property of projecting the food forcibly through the narrow pylorus into the duodenum. Only the cardiac portion, which functions as a reservoir and which shows no peristalsis but peristole, escapes or almost escapes hypertrophy. In life nothing is more remarkable than the way in which the tumour formed

of a normal infant, aged 4 weeks (Fig. 4). Again the ring muscle is much the thickest part and can be clearly identified by the turning inwards of the longitudinal fibres. In the next slide (Fig. 5) we see the condition in hypertrophic pyloric stenosis under the same magnification. The sphincter, identified as before by the passing inward of the dilator longitudinal fibres, which are here very considerably hypertrophied, is now very much thinner on cross-section than the immensely thick wall of the pyloric cylinder which lies immediately to the stomach side of it. The last section, also from a case of hypertrophic pyloric stenosis, shows the same appearance, although in this case the sphincter muscle is overlapped by and appears almost imbedded in the hypertrophied muscle of the wall of the pyloric cylinder.

I think it may be said that the histological evidence is not opposed to the view that in hypertrophic pyloric stenosis we have to deal with an achalasia of the pyloric ring muscle and that the hypertrophy involves, not the sphincter, but the contractile cylinder—that it is a hypertrophy of muscle devoted, not to the retaining apparatus of the stomach, but to the expelling apparatus. If so, the histological evidence is in agreement with the macroscopic appearances and with the clear clinical evidence of peristaltic activity in the palpable muscle mass.

The third mistake which is perpetuated in the commonly accepted name is involved in the description "congenital." If it is clear that there is no stenosis and no hypertrophy of the pylorus, it is equally clear that the condition is not congenital. Only one observer, Dent, has reported this condition in a foetus. I think it possible that he

stomach of the normal size. I believe that in this photograph, which has caught the contractile cylinder in a phase of relaxation, we have outlined the enormous lumen which after death is completely obliterated, just as an autopsy may disclose a thick-walled bladder, tightly contracted, and without any considerable lumen, which during life was subject at times to enormous distension.

In discussing the etiology of hypertrophic stenosis it is necessary to consider at the same time a group of cases in which obstruction at the pylorus is present in equal degree yet without hypertrophy of the contractile cylinder. The pyloric part of the stomach, instead of forming a cylindrical tumour of hard whitish muscle, is absolutely flaccid and shows no evidence of gross hypertrophy of its walls. Such cases are described as suffering, not from pyloric hypertrophy, but from pyloric spasm. Clinicians who have submitted to operation a large number of cases of pyloric obstruction in infancy almost without exception record the same experience. In a very small percentage of the cases the laparotomy discloses, not the expected hypertrophy, but its unexpected absence. Finkelstein, a most careful and acute observer, for long contended that a condition of persistent and almost complete closure of the pylorus without hypertrophy did not exist. Lately, as a result of an experience such as I have described, he has more than once expressed his altered view. He now regards the mistake as inevitable in a small proportion of cases. It

is true that in very many, though not in all, cases with hypertrophy the pyloric tumour is readily palpable, but the separation of the two groups cannot be made upon the strength of this one point alone. Not only are there cases with hypertrophy in which the tumour is persistently impalpable—at times it is situated high under cover of the liver margin—but there is often little difficulty in feeling a normal pyloric cylinder in systole, provided that the abdominal wall of the infant is sufficiently lax.

Persistent and severe pyloric obstruction, with visible gastric peristalsis upon a great scale, with inanition stools and collapsed and empty intestines, yet without hypertrophy, is rarely encountered. Very many of the cases described in the literature as examples of pyloric spasm are in reality instances of other types of habitual vomiting, which I shall consider in the next lecture. In my own experience, among 32 cases of pyloric obstruction submitted to laparotomy, the hypertrophy was unmistakable in 30. Twice only was its absence disclosed. The first of these cases occurred in 1912, the second quite recently.

J. S., aged 7 weeks, was admitted to Guy's Hospital in November, 1924—a thin, eager, alert infant, with a striking degree of muscular rigidity. His weight at birth was not known; on admission it was 6 lb. 12 oz. The mother thought he had lost a great deal of weight. Throughout he had been breast-fed. During the first eleven days of life he had made satisfactory progress. On the eleventh day vomiting began, and had occurred without exception after every meal. The most careful questioning of the mother failed to shake her evidence on this point. The vomiting was violent and explosive in character. It never occurred during nursing, but always within half an hour, usually within a few minutes, after its completion. The infant was very restless, constantly crying, and ravenously hungry. For many weeks a little dark-green pigmented material had been removed every few days. In the void gastric peristalsis was clearly visible, two right waves being present simultaneously, passing from left to right across the epigastrium. The pylorus could not be felt. The state of the child was such that I asked Mr. Hughes to operate at once, expecting to find the usual hypertrophy of the pyloric cylinder on which a Ramstedt operation might be performed.

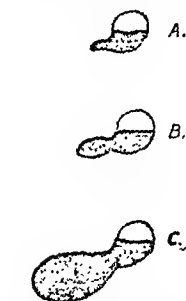


FIG. 6.—A, The normal stomach. B, In hypertrophic pyloric stenosis—an early case with slight enlargement of the contractile cylinder. C, In hypertrophic pyloric stenosis—a late case with great enlargement of the contractile cylinder.

may have mistaken the pyloric cylinder normal condition with which he was familiar. If the disorder were truly congenital, its frequency is so considerable that it is inconceivable that examples should not be forthcoming from among infants submitted to autopsy within the first weeks of life. In general the appearance of symptoms is delayed for some weeks after birth—usually from two to four weeks. Even when vomiting has begun and is persisting with all its characteristic violence, the evidence of hypertrophy is not immediately available. It appears only after an interval and steadily increases so long as the obstruction persists unchanged. The contractile phases are variable. Periods of exaggerated activity and increased peristalsis in the hypertrophied contractile cylinder are succeeded by periods of exhaustion and calm. Visible peristalsis, a stomach which is easily palpable and which may stand out prominently under the abdominal wall, a pyloric cylinder which can be felt as a veritable tumour, hardening and relaxing under the finger, are symptoms encountered only after some weeks of more or less persistent obstruction. The typical x-ray appearances, as shown diagrammatically in Fig. 6, also develop slowly. Fig. 7 shows the appearance on the fourth day after the first act of vomiting and on the fifteenth day of life. Clinically, no pyloric tumour was then palpable, and the evidence of visible peristalsis was slight. Radiographically the contraction cylinder is slightly enlarged with active peristalsis. Operation on the same day showed a moderate degree of hypertrophy of the muscular wall. Yet for four days preceding operation vomiting had been very violent, the weight had fallen rapidly, and the stools had become dark-coloured and slimy. In contrast with this early case, Fig. 8 shows the stomach, at the end of the fourth month of life, from an infant in which severe symptoms had been continuously present since the third week. In this case I had no operation performed, because it appeared likely, as indeed soon proved to be the case, that spontaneous recovery was imminent. The contraction cylinder shadow is enormously enlarged; the rest of the



FIG. 7.—Radiograph showing slight enlargement of the contractile cylinder. From an early case.



FIG. 8.—"Enormous" enlargement of the contractile cylinder. From a late case.

The stomach was large and distended, the pyloric end quite flaccid and free from any hypertrophy. The small and large intestines were nilko collapsed, empty, and of strikingly small calibre.

Because of the clear evidence that a state of pyloric obstruction had long existed, I asked Mr. Hughes to cut through the pyloric ring musculature down to the mucous membrane but without prolonging the incision backwards on to the pyloric antrum, as in a Ramstedt operation. The true pyloric valve muscle and that only was severed. From the moment of section of the pyloric ring the child was never sick again. Feeding was begun at once, and the amounts given were rapidly increased. On the fifth day after the operation the child had three breast feeds in no way limited, and four feeds of a milk, water, and sugar mixture. The stools within twenty-four hours of the operation became normal in colour and consistency.

I do not wish to deduce too much from a single case, but the observations made upon this infant do very strikingly support the hypothesis that the symptoms were due to an achalasia of the pyloric valve, and that the distinction between pyloric hypertrophy and pyloric spasm is not fundamental, as, indeed, was always maintained by Holt in America. In both, achalasia of the pyloric ring muscle is the primary cause of the spasm and increased tonus of the gastric musculature. In all but a minority of the cases hypertrophy of the walls of the contractile cylinder of the stomach is gradually added as a secondary feature. It may be that the reason for the absence of hypertrophy in a few instances is to be found in the case with which in these particular cases the food escapes through the cardiac orifice. In the case which I have just quoted the regularity and severity of the vomiting was quite unusual, and might have served to awaken the doubt as to whether hypertrophy was present. It is possible that hypertrophy is only produced when, as is more usual, the escape by the cardia is only achieved with difficulty, when the stomach retains its contents for many hours, and sometimes even for days, and when phases of violent and exaggerated peristaltic activity in the effort to overcome the obstruction are prolonged. After spontaneous recovery from all symptoms the pyloric tumour for long remains palpable, and the peristalsis may remain visible for months, or even years. Numerous autopsies upon children who had formerly suffered from pyloric stenosis have disclosed the persistent hypertrophy of the pyloric cylinder. Since hypertrophy often persists long after the cessation of all symptoms, and since symptoms of great severity and typical in character may occur without hypertrophy, it would appear necessary to presume the presence of a primary achalasia in all cases.

It remains to consider one further point. Will simple section of the pyloric ring muscle at once relieve the symptoms in a case with typical hypertrophy, or must the incision be prolonged backwards over the pyloric canal to sever the whole hypertrophied circular coat of the contractile cylinder?

I have hesitated to put this matter to the test in an individual case because it is clear that the vomiting is not due only to the failure of the pyloric ring muscle to open. The explosive character of the vomiting is determined, not by the pyloric obstruction alone, but also by the gastric hypertrophy and spasm. In purely organic stenosis the vomiting is never so violent, nor is there produced the picture of the spastic stomach with its outline clearly visible beneath the abdominal wall. Sometimes, indeed, the spasm extends to the pharyngeal muscles, so that during the height of the exaggerated gastric activity the infant may be unable to swallow. It is highly significant that there are a few autopsies upon record which have disclosed hypertrophy of the lower end of the oesophagus as well as of the contractile cylinder, presumably a combination of cardiac and pyloric achalasia. Thus, for example, Pritchard, in 1920, at the Royal Society of Medicine exhibited a specimen with hypertrophy of the lower end of the oesophagus, and hypertrophy of the "ileo-caecal sphincter" combined with hypertrophic pyloric stenosis. In this disorder of the innervation of the gastric musculature neither the failure of the pyloric ring muscle to open nor the spasm of the hypertrophied contractile cylinder above it is of itself sufficient to account for the symptoms. Both must be present at the same time. Both are parts of the same disturbance in the production of the syn-

chronous contraction above and relaxation below which together make up the peristaltic wave. The presence of a sphincter in any situation in the bowel does not alter this primary relationship between contraction and relaxation, although functionally it may throw a greater emphasis upon the movement of relaxation. In this disorder of peristalsis it seems a mistake to lay emphasis solely on the excessive contraction or solely on the failure of relaxation. Both phases are involved. Only if we can imagine a peripheral stimulus going out from the ring muscle itself can we conclude that it would be sufficient to divide that alone in order to do away with the spastic contracture at the higher level. If this were to prove the case, then the Ramstedt operation, simple and successful as it is in the great majority of cases, would be still further simplified, because complete incision of the mass of hypertrophied muscle would no longer be needed and the risk of haemorrhage would be reduced to a minimum.

If it is tempting to hypothesize a uniform cause for all these infantile disorders marked by inco-ordination of the gastro-intestinal musculature and to regard all as accompanied by achalasia of the several sphincters, we must not at the same time lose sight of the difference between the local conditions prevailing at each site. Behind the pyloric sphincter, but not behind the cardiac, is a segment of the gut which has a highly evolved propulsive mechanism. Above the cardia, in achalasia of that sphincter, the hypertrophy is slight, perhaps even at times inappreciable, because the pressure within the oesophagus is low and the cardia opens in response to a minimal stimulus. In the oesophagus, as in the auricle of the heart after death, dilatation rather than hypertrophy is a prominent feature; in the thick-walled contractile cylinder of the stomach, as in the main propulsive chamber of the heart, the ventricle, it is the hypertrophy which is most obvious. It is possible that simple section of the ring muscle may suffice at the cardia, yet fail at the pylorus.

The view that the primary cause of the spastic obstruction of the pylorus is due to a primary hyperaesthesia of the mucous membrane with an accompanying excessive secretion of gastric juice seems disproved by the immediate success of the muscle-splitting operation. The secretory changes would appear to be secondary to the disorder of innervation.

#### B. OBSTRUCTION AT THE ILEO-CAECAL VALVE.

At the ileo-caecal valve it appears likely that in early infancy a similar failure to inhibit the ring musculature is occasionally met with. In the following case an achalasia of the ileo-caecal valve was apparently combined with some degree of anal achalasia.

K. McD. was seen by me in Guy's Hospital on the ninth day of life. For the first three days after birth nothing abnormal had been noticed, although less meconium than usual had been passed. Vomiting began on the fourth day, and from the fifth day onwards had been continuous. The vomited matter was stained with bile. On that day, the fifth of life, he was admitted to hospital. An x-ray examination after a barium meal showed only a trivial delay of the barium in the duodenum. Within ten minutes it was seen in the jejunum. In the ward, between the fifth and the ninth days, when I first saw him, vomiting of bile-stained fluid had taken place on several occasions, but the most striking symptom was the obstinate refusal of the bowels to act, in spite of the prescription of various purgatives, such as hydr. cum cret., castor oil, and finally pituitary extract hypodermically. Enemata of soap and water had likewise failed of effect, until on the ninth day an olive-oil enema had produced the passage of a very small amount of yellow faecal material. Since the early passage of meconium in the first days of life nothing had been passed in the interval. On this, the ninth, day I saw the child. The abdomen was moderately distended, and there were visible peristaltic waves, apparently of the small intestine. On the twelfth day a second x-ray examination was made to ascertain what had become of the barium taken on the fifth day. I show the radiogram. The colon is considerably distended, although perhaps the distension is most apparent in that part which is empty of barium and distended only with gas. The dilated coils of small intestine distended with gas and containing a little barium are also apparent. Rectal examination showed nothing abnormal, but on exposing the abdomen the visible peristalsis in the small intestine was now very striking, the whole contour being broken into a series of ridges and furrows. The bowels were slightly open during this examination, and flatus was passed freely.

Confronted by this situation it was difficult to know how to act. Since the visible peristalsis appeared to be due to the small and



not to the large intestine, the diagnosis of Hirschsprung's disease appeared to be unlikely. On the other hand, the presence of the barium, so long stationary in the colon, appeared to exclude any obstruction in the ileum.

Since the general condition of the child had steadily deteriorated and much weight had been lost, at my request Mr. Steward performed a laparotomy. At once very greatly thickened and hypertrophied coils of small intestine presented in the wound. Much of small intestine had to be allowed to escape from the abdomen before it was possible to trace this hypertrophied gut to the neighbourhood of the ileo-caecal valve, where, at a point about one inch above the caecum, the calibre suddenly narrowed and the congestion marked above gave place to a paler colour. The caecum and first part of the ascending colon appeared considerably distended. There was no sign of obstruction by a band or by a diverticulum. With considerable difficulty the intestines were replaced and the abdominal wall sutured. The child at first seemed little the worse for the operation. Hypodermic injections of atropine sulphate gr. 1/500, at four-hourly intervals, were given without appreciable benefit. The bowels were open once after the operation, but the distension steadily increased, and the child died four days after the operation. No *post-mortem* examination was permitted.

The case can, I think, only be explained on the assumption of an achalasia of the ileo-caecal valve with secondary spasm and hypertrophy of the bowel above, combined with a similar, though less marked, achalasia of the anal sphincter. In the literature few similar cases have been described, at least in early infancy. I can refer only to the paper by Wilms on persistent intestinal spasm, and to an exhibit before the Anatomical Society of Paris by Gaikler and Nau of three foetuses, each with multiple spastic strictures of the intestine. I have notes of one other similar case seen with Mr. Hughes, in which the thickened small intestine was both visible and palpable. The baby was sent to me from the West Norwood Maternity Home on the fourth day of life, with bilious vomiting, abdominal distension, and extreme constipation. From the tenth day onwards recovery gradually took place.

#### C. OBSTRUCTION AT THE ANUS AND IN THE RECTUM.

The etiology of Hirschsprung's disease, like that of hypertrophic stenosis, has been greatly discussed. Hale-White, Fenwick, and Hawkins in this country have upheld the view that neuromuscular inco-ordination in some particular segment of the bowel is responsible. Two groups of cases are described. In that which is most characteristic, and to which the name "Hirschsprung's disease" should perhaps be confined, the symptoms of absolute constipation and abdominal distension date from birth. There may be difficulty even in the passage of meconium. In a well marked case the symptoms are developed in a quite characteristic way before the child is more than a few days old. I show a photograph taken in the *post-mortem* room of an infant at one time under my care, who died on the tenth day of life in Guy's Hospital; also the photograph of an older child, aged 3 years. The great distension of the abdomen, through the wall of which the peristalsis of the hypertrophied colon was clearly visible, is well shown. Of the first case I was not able to get a satisfactory x-ray plate, but of the second case I show the shadow of the huge colon in its lower part outlined by means of a bi-monthly enema. The dilatation passes downwards to the anal sphincter itself. With such a shadow there can be no question of the dilatation and hypertrophy being a secondary result of obstruction by organic stenosis of the bowel or by kinks, acute angles, or spurs. In three other cases, which I have had the opportunity of examining in early childhood, the same picture—the extension to the anus itself—has been seen. It is clear that the cause must be found in a failure of relaxation in the anal sphincter. In other cases the achalasia may affect the other sphincters described by Keith in the rectum and sigmoid. Behring and Klercker have recently reviewed the literature and brought forward additional proof of the origin of Hirschsprung's disease in localized *Kontraktionsringen* with resulting secondary changes. In a second group of cases, which show the syndrome of Hirschsprung's disease, the origin is probably different. As a rule, the onset of symptoms is delayed until later life. Many show acute angular kinks of the colon, with adhesions between adjoining loops of the bowel or with the lumen, large as it is, partially

occluded by infolded spurs or valves. These doubtless are secondary effects resulting from many causes and perpetuating the obstruction. It is possible that some cases which in early infancy were examples of anal or rectal achalasia with secondary hypertrophy, distension, and elongation of the colon, may pass gradually into the second category, and that the symptoms may be perpetuated by secondary organic obstruction due to acute kinking of the bowel with spur formation long after the infantile lack of co-ordination has been overcome. In other adult cases achalasia may be the result, not of developmental delay as in infancy, but of degenerative changes in the central nervous system involving the higher central connexions of the inhibitory paths. In the recorded cases a disproportionately large number appear to have been encountered in idiots.

#### D. OBSTRUCTION AT THE CARDIA.

Beck and Göppert have both described carefully observed cases of temporary dysphagia in infants due to so-called "cardiospasm."

In Beck's case the infant was a male, aged 3 months. The regurgitation of milk in an unchanged condition, and quite unmixt with stomach contents, was the main symptom. Milk introduced directly into the stomach was never vomited. The act of swallowing was clearly involved, and there was much gurgling and choking. A sound encountered an easily overborne obstruction 15 cm. from the gums. At the height of the disturbance there was a loss of weight of 400 grams. The disturbance lasted for two months, when complete and permanent recovery took place. In a second case, also reported by Beck, the duration was shorter—four weeks.

Göppert had a similar experience. In the first of his cases, however, complete recovery did not take place until the ninth month of life. Hess, in passing his duodenal catheter in newly born or very young infants, noted that there is not infrequently some slight obstruction, easily overborne, encountered at the cardiac orifice.

It is probable that in the infant whose diet is wholly fluid obstruction at the cardiac sphincter is too intermittent and too easily overcome commonly to give rise to persistent symptoms such as Beck and Göppert have described in exceptional cases. Persistent cardiac achalasia of adult type is not infrequently found in young children, but not, I think, in infancy.

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# THE EFFECT OF ANTISYPHILITIC TREATMENT, AS GAUGED BY THE SIGMA REACTION.

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APART from their diagnostic value, the Wassermann reaction and the more recent flocculation reactions have assumed a position of importance as guides in the treatment of syphilis. It is well known that the blood and cerebro-spinal fluid may give a positive reaction long after the clinical signs of active syphilis have disappeared, and although Hess Thaysen<sup>1</sup> believes that in certain cases a positive reaction does not indicate active syphilis, it is very generally held that a positive reaction in the blood or cerebro-spinal fluid is a sign of active syphilis and therefore an indication for treatment (Boas,<sup>2</sup> Fordyce,<sup>3</sup> Osler and McCrae<sup>4</sup>).

In view, then, of the prevailing opinion that the ultimate goal of antisiphilitic treatment is a permanent negative reaction, it was proposed to investigate how far the present methods of treatment are effective in attaining this end, or at any rate in reducing the amount of reacting substance in the blood during a certain period of observation. In order to carry out this investigation, it was clear that the blood of each patient would have to be examined at fairly frequent intervals, and that the results of the examinations would have to be quantitative and comparable with one another. In the opinion of the authors (Dreyer and Ward<sup>5</sup>) the Sigma reaction gives more strictly comparable results than the quantitative Wassermann reaction. Madsen,<sup>6</sup> Renaux,<sup>7</sup> Wyler,<sup>8</sup> and Houston<sup>9</sup> found the Sigma reaction quantitatively accurate. Madsen gives the result of titrating four syphilitic serums by means of the Wassermann reaction. Each serum was titrated fifty times, 200 titrations in all being carried out:

85 titrations gave	0 per cent. deviation from average.
85 " " " $\pm 33$ " " "	
20 " " " $\pm 60$ " " "	
10 " " " $\pm 78$ " " "	

In other words, the Wassermann reaction gave an average deviation of  $\pm 24$  per cent.

At the same time 109 titrations were made on ten serums by means of the Sigma reaction, and the greatest deviation observed did not exceed  $\pm 6$  per cent.

Hirzfeld,<sup>7</sup> however, found that the Sigma reaction does not give a sharp end-point, and he found it difficult to calculate the real strength of the serum. In the present investigation incomplete flocculation, of the kind observed by him, has not been a source of difficulty, the end-point of the titration being always well defined.

With regard to its sensitiveness and specificity Dreyer and Ward<sup>5</sup> stated in their original communication that the Sigma reaction had in their hands yielded results that compared more than favourably with the Wassermann reaction. The support given to this claim by subsequent investigators may be judged from the following comparative tests carried out by the International Health Organization of the League of Nations.\*

\*At the time of writing the above the results of the last League of Nations conference at Copenhagen at the end of 1923 were not available. At this conference 536 serums were tested simultaneously by the different methods for the diagnosis of syphilis. The Wassermann reaction yielded a greater number of positive reactions than the Sigma reaction. This result was in striking contrast to the results previously obtained by the same workers, and was investigated by Dr. Mörk. He found that the Sigma reaction had been rendered less sensitive by three details in the technique: (1) the heart extract supplied had been given too low a factor of sensitiveness; (2) the serums had been inactivated in hermetically sealed tubes (that is, under pressure) instead of in tubes with a cotton-wool stopper; (3) the tests had been incubated in a semiclosed water-bath instead of an open one. In some cases this reduced the number of units by some 500 per cent. When these details had been corrected it was still found that the cases of dementia paralytica which had been treated with malaria were more active in the complement fixation than in the flocculation system. This phenomenon is being further investigated.

TABLE I.—Diagnostic Results.

Name.	Cases of Syphilis.			Controls.		
	No.	Wassermann Reaction Positive.	Sigma Reaction Positive.	No.	Wassermann Reaction Positive.	Sigma Reaction Positive.
Dreyer <i>et al.</i> <sup>5</sup>	519	Per cent. 62.0	Per cent. 69.4	203	No. 5	No. 7
Madsen <sup>7</sup>	627	59.3	77.7	885	0	6†
Harrison <sup>7</sup>	498	51.0*	57.8	244	14	20‡
Hirzfeld <sup>7</sup>	358	51.0	50.3	61	0	0
Müller <sup>7</sup>	1357	68.5	60.5	340	0	0
Renaux <sup>7</sup>	189	55.5	74.6	100	0	2
Sachs <sup>7</sup>	404	54.5*	51.5	576	3	3

\* Including doubtful Wassermann reactions.

† Three of these cases later diagnosed as syphilis.

‡ Eleven of these cases later diagnosed as syphilis.

The Sigma reaction, then, seemed to lend itself very well to the kind of investigation that was contemplated—namely, the study of the quantitative changes that took place in the blood of syphilitic patients over an extended period of time.

## PREVIOUS INVESTIGATION OF THE EFFECT OF TREATMENT. AS GAUGED BY FLOCCULATION REACTIONS.

Vernes<sup>10</sup> has devised two somewhat complicated methods for determining the flocculating power of the serum in cases of syphilis, the results being expressed quantitatively. He has further formulated certain rules for diagnosis and cure.<sup>11</sup> Lortat Jacob and P. Legrain<sup>12</sup> found Vernes's second method less sensitive than the Wassermann reaction, and the results of a comparative test by Vernes himself<sup>10</sup> indicate that his second method is less sensitive though more specific than the Wassermann reaction. The scale used by Vernes in expressing his results is so different from that used in the Sigma reaction that it would be difficult, if not impossible, to compare his results with those obtained by workers using the Sigma reaction. Houston and others<sup>9</sup> employed the Sigma reaction to study the effect of treatment in 170 cases of syphilis. They found: (1) that in general the Sigma units fell during treatment with arsenical preparations, when effective doses were used, and that a study of the results of the reaction gave considerable help in determining the effective dose and the effective interval between doses; (2) that the rate of fall in units in tertiary cases of syphilis was much slower than in primary and secondary cases; (3) that there was a certain amount of evidence that mercury, intramine, and potassium iodide have less effect than the arsenical preparations in lowering the Sigma units; (4) that a negative Sigma reaction does not necessarily mean that the case has been cured.

Stokes and Wigham<sup>13</sup> observed the effect of treatment on about fifty cases of syphilis, also by means of the Sigma reaction. They found that the primary and secondary cases, when treated at regular intervals with arsenic, showed a fairly steady and continuous fall in Sigma units; but among tertiary cases they did not see one react satisfactorily during the period of observation, the curve of Sigma units in the blood showing only ups and downs.

## THE PRESENT INVESTIGATION.

In the present investigation the effect of treatment upon the Sigma units in the blood of 138 cases of syphilis was observed both during courses of treatment and during varying periods following these courses. The cases were in three clinics, and while in most of the cases the ordinary routine of treatment in the clinic was not interfered with, in certain special cases, through the kindness of the directors of the clinic, changes were made.

The majority of the patients received intravenous injections of novarsenobillon (N.A.B.) at weekly intervals, and the patients were also given mercury pills (Hutchinson's pill) with instructions to take two daily. A course of injections of N.A.B. was followed in some instances by a course of intramuscular injections of mercury (1 c.cm. of

grey oil). In a few cases sulfarsenol and sodium silver novarsenobillon were used, as Harrison<sup>13</sup> has stated that these preparations gave encouraging results in cases with myocardial and nervous lesions.

In certain cases in which the arsenical preparations seemed to have little or no effect on the serological reaction, injections of mercury perchloride were given intravenously. The technique of Conrad and McCann<sup>14</sup> was followed, 1.2 to 4 c.cm. of a 1/2 per cent. solution of mercury perchloride in saline being injected. In order to prevent thrombosis of the vein, the patient's blood and the solution are mixed in the syringe before injection. They found that after from six to twenty-two injections, 64 per cent. of a series of sixty-two "Wassermann-fast" cases gave a negative Wassermann reaction. In the present series of cases it was only possible to give one injection a week, instead of twice a week as advocated by Conrad and McCann.

#### TECHNIQUE AND EXPERIMENTAL VARIATIONS OF THE SIGMA REACTION.

The technique described by Dreyer and Ward<sup>5</sup> and supplemented<sup>6</sup> was followed throughout, the results being read after an incubation period of twenty hours.

The amount of experimental variation was investigated by testing portions of the same specimen of serum many times. The flocculation readings varied from day to day, but repeated themselves frequently, the mean deviation being 6.7 per cent., while the standard deviation was 9.5 per cent.

The cause of these variations was chiefly the fluctuations in temperature of the water-baths in which the inactivation of the serum and the incubation of the tests were carried out. An additional cause was the reading error of the different degrees of flocculation, and this was found to be greater in strong serums than in weak, small irregularities in the flocculation tending to occur in the high dilutions of the serum, probably owing to the small amount of protective serum-protein present.

In addition to the above, another cause of variation was noted. Two alcoholic heart extracts which had been used for a period of five months showed a sudden deterioration in the sensitiveness of their suspensions. The amount of this was determined, and the errors due to it were corrected. The sudden deterioration was probably due to the fact that these particular heart extracts had been prepared by making a more concentrated extract of the heart muscle than that described.<sup>6</sup> The other heart extracts used showed no change in sensitiveness, and the stability of the heart extract which was used during the greater part of the investigation was established by an extensive series of tests. Chart 5 shows a case which was followed over a period of fifty weeks. During this period the number of Sigma units found only varied between 5.0 and 4.1. This and similar cases confirm the belief that, despite experimental variations, the unit values obtained in testing a serum from time to time are really comparable. It remains to determine the limit of the experimental variation.

It was stated above that the standard deviation found was 9.5 per cent. In a series of determinations the probable error of a single determination is about two-thirds of the standard deviation—that is, 6.3 per cent.—and the probable limit of experimental variation would be approximately 20 per cent.<sup>15</sup> Accordingly, unless there was a 20 per cent. change in the unit value of a patient's serum, it was not considered to be a real change in the serum of that patient.

The number of Sigma units varied widely in different patients—from one unit to over two thousand units; and in order to correlate the results in different patients the changes in the Sigma units of a given patient were expressed in percentage.

#### EFFECT OF ARSENICAL INJECTIONS.

##### I. Upon Patients whose Blood gave a Negative Sigma Reaction before Treatment commenced.

In this connexion, three questions arise:

1. Can the injection of arsenical preparations in definitely non-syphilitic cases induce a positive reaction in the blood? Strickler and others<sup>16</sup> administered one or more injections of neo-arsphenamin (neosalvarsan) to twenty-four

patients in whom there was no sign of syphilis and who all had negative Wassermann reactions prior to the injections. Fourteen of these twenty-four patients—that is, 58 per cent.—gave two or more positive Wassermann reactions after the injections. Boas and Kissmeyer,<sup>17</sup> however, found that the injection of salvarsan or its derivatives into fifty non-syphilitic cases did not induce a single positive reaction. In the present investigation only one definitely non-syphilitic case received injections of arsenic, and the Sigma reaction remained negative.

2. Can the arsenical preparations light up a case of latent syphilis and change the reaction from negative to positive? There is a fairly widespread belief that in certain cases of suspected or latent syphilis with a negative Wassermann reaction the injection of a so-called "provocative" dose of arsenic will light up the syphilitic inflammation, and the blood of the patient will subsequently give a positive Wassermann reaction, confirming in this way the tentative diagnosis. In the light of the experience of Strickler and others,<sup>16</sup> this "provocative" Wassermann reaction must be treated with reserve. In the present study, three cases with a history of syphilis or a history of a positive Wassermann reaction in the past, but who had a negative Sigma reaction at the time the injections began, were given several doses of N.A.B. All three cases remained negative.

3. What is the prognosis of cases of primary syphilis which give a negative Sigma reaction at the commencement of treatment and remain negative during the course of treatment? Two such cases were observed, and they remained negative subsequent to the course of treatment. So far as this limited evidence goes the prognosis is favourable, thus confirming the evidence afforded in similar cases by the Wassermann reaction. In this connexion one case (Chart 1) is of interest. The case was one of suspected primary syphilis; spirochaetes were not demonstrated, but one week after treatment commenced 1.4 Sigma units were found in the blood. This figure, though not quite high enough to warrant a definite diagnosis of syphilis, aroused further suspicion, and the treatment was continued; the number of units fell to normal and remained there. The diagnosis must remain doubtful if (according to the scale laid down by the authors of the reaction)<sup>6</sup> an unknown case must have at least 1.5 Sigma units in the blood to establish the diagnosis. But, of course, in such a case it is much better from the patient's point of view to be on the safe side, and treat the case as one of syphilis, rather than suspend treatment and wait to see if the reaction becomes definitely positive.

##### II. Upon Sigma-positive Primary Cases and Secondary Cases.

In the course of the investigation twenty-two such cases were observed. These cases respond more uniformly to treatment than cases in the later stages of the disease, and the following points were noted:

1. In about one-third of the cases a rise in units was found just after treatment commenced. The units then fell. This preliminary rise must be regarded as the expression of the normal evolution of the disease, which has only been partially checked by the first injections of arsenic. Chart 2 shows the curve of a case of this kind.

2. The main response in these cases was a continuous fall in the number of Sigma units during the serial injections, the fall becoming slower as the number of units approached 1 (a non-syphilitic case may show as much as 0.9 Sigma unit in the blood). Chart 3 shows a typical response to regular treatment in this stage of the disease, in this case without any well marked preliminary rise in units. The rate of fall in the number of units is of interest. In nine primary and early secondary cases, one week after each injection, the number of units had fallen on the average to half the number of units present before the injection; on the other hand, in eight late secondary cases, one week after each injection, the number of units had only fallen on the average to two-thirds the number of units present before the injection. In other words, the rate of fall is definitely slower in the late cases in this group.

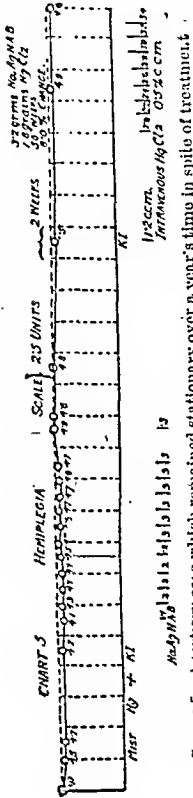


CHART 1.—Case of suspected primary syphilis, showing what are probably early serological changes and the response to treatment.

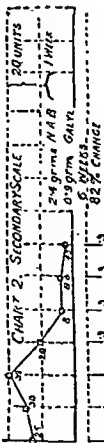


CHART 2.—Case of secondary syphilis, showing the abortive rise noted in about one-third of the early cases.

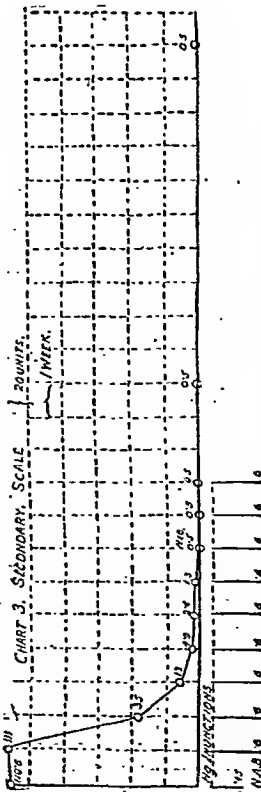


CHART 3.—Case of secondary syphilis. This case became negative in the shortest time of any early cases. Treatment was regular.

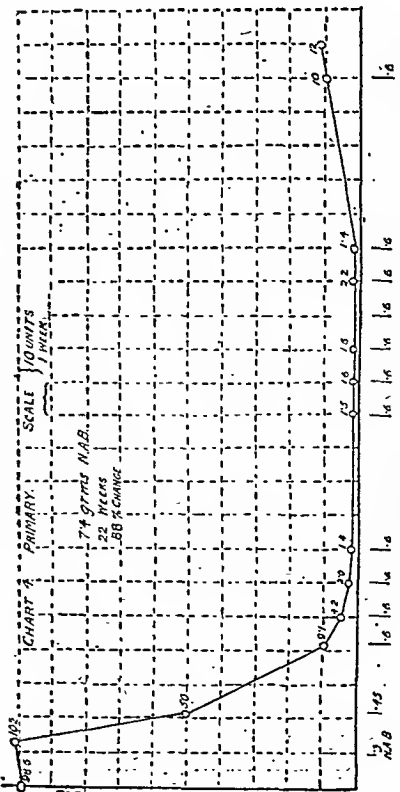


CHART 4.—Case of primary syphilis showing first a rapid fall with treatment, then stationary after a lapse and a rise after a second lapse.

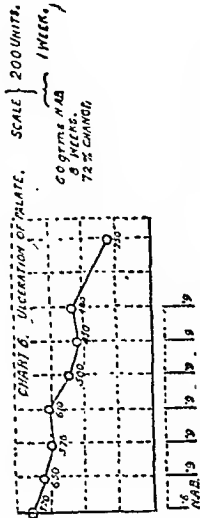


CHART 5.—A tertiary case which showed throughout the observation a continuous fall in units.

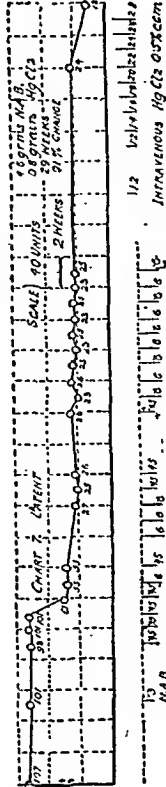


CHART 6.—A latent case which was stationary before treatment; showed a fall during the first course N.A.B., none during the second, and then showed a fall during the course of intravenous HgCl<sub>2</sub>.

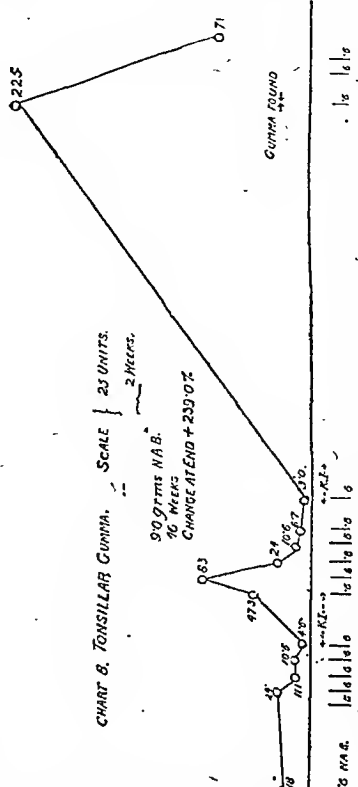


CHART 7.—A tertiary case which improved three times during treatment, and relapsed three times during non-attendance. The formation of a gummata occurred six months after a reading of only 3 units.

3. The evidence concerning the relation of the amount of N.A.B. received and the response by the patient is suggestive but not very definite, other factors coming in to obscure the picture. Eight cases became negative after receiving an average of 6.9 grams of N.A.B. (seven of these cases remained negative up to the end of the period of observation), while fourteen cases did not become negative after receiving an average of 4.4 grams of N.A.B. However, among the cases which did not become negative, there were three which received as much N.A.B. as the cases which did become negative. In these resistant cases, however, other factors, such as irregularity of attendance, incomplete treatment, came in.

4. It had been previously noted by Stokes and Wigham that a break in the course of treatment might have a definitely prejudicial effect when treatment was resumed, the cases becoming resistant to arsenic, although previous to the break in treatment their units had been falling. In this series of cases there were four in which the Sigma units were falling steadily under treatment with N.A.B., and then there was a period of four weeks during which they received no arsenic. In two of these cases a further fall in units occurred when treatment was resumed, and one case eventually became negative. In the other two cases subsequent treatment seemed to have little effect, and indeed the units commenced to rise again after the cessation of the second series of injections with arsenic. Chart 4 shows the Sigma curve of one of these cases, and brings out very clearly the danger of breaking off the arsenical treatment of early cases before the blood gives a negative Sigma reaction. In this connexion Chart 4, showing the result of irregular and incomplete treatment, should be compared with Chart 3, where the course of treatment was regular and complete. If patients in the early stages of syphilis could be shown such charts as these it would encourage them to attend the clinic regularly for treatment. Patients in this stage of the disease are sometimes apt to regard themselves as cured when their active signs—sore, rash, etc.—have disappeared, and they attend irregularly in consequence. But if their intelligent interest in what is being done for them is aroused by charts such as these, they would be more likely to become regular attendants. The case represented by Chart 3 was shown his Sigma curve, and became keenly interested in the progress of his cure.

5. In seven cases, one injection of metallic mercury was given at the end of a course of arsenic injections, and a fall in units occurred after the mercury injection in all these cases. In four out of the seven cases the reaction became negative without further treatment. However, since in five out of the seven cases the mercury injection was given one week after the last injection of N.A.B., the fall in units cannot be ascribed entirely to the effect of the mercury. One case in the series became intolerant to arsenic when he still had 1.1 Sigma units in his blood. Six intravenous injections of mercury perchloride were given, and three weeks after the last injection his units had risen to 67. The evidence, then, as far as it goes, is in favour of the use of metallic mercury, but against the use of mercuric chloride in this stage.

### III. Upon Tertiary Cases.

In the 106 tertiary cases which were investigated, the response to treatment was much slower and much less uniform than in the early cases. The following points were noted.

1. Out of the 106 cases three only became negative while under observation. The details of these cases are:

CASE I.—A case of latent syphilis which had previously received 16.2 grams of N.A.B. and nine injections of grey oil over a period of 156 weeks. At the beginning of the present treatment there were 1.7 Sigma units in the blood, and the reaction became negative after two weeks' treatment with 1.2 grams of N.A.B. Subsequent history unknown.

CASE II.—A case of angina which had previously received 16.2 grams of N.A.B. over a period of 130 weeks. At the beginning of the present treatment there were 3 Sigma units in the blood, and the reaction became negative after twenty weeks' treatment with 4.8 grams of N.A.B. Subsequently, injections of mercury perchloride were given, and the reaction was still negative at the end of a further period of nineteen weeks.

CASE III.—A case of glossitis which had previously received 6 grams of N.A.B. and six injections of grey oil over a period of

forty-three weeks. At the beginning of the present treatment there were 1.8 Sigma units in the blood, and the reaction became negative after six weeks' treatment with 5.1 grams of N.A.B. Subsequent history unknown.

It will be noticed that these three cases had all received a good deal of treatment previous to the present investigation, and they all had a low Sigma unitage at the commencement of the present treatment.

2. In three cases there was a definite rise in units during the period of observation. In two of these cases there was definite clinical evidence of increased activity of the disease. Chart 8 shows one of these cases. In the remaining case there were no symptoms or clinical signs at all during any period of the observation. The evidence thus suggests that a rise in units is associated with an increased activity of the disease.

3. The remaining cases in this group apparently responded to treatment in three ways: (1) The number of units fell steadily during the period of observation. Chart 6 is an example of this type, which may be called the "falling" type of response. (2) The number of units remained practically unchanged during the period of observation. Chart 5 is an example of this type, which may be called the "stationary" type of response. (3) The number of units fell for a variable period and then remained stationary. Chart 7 is an example of this type of response, which may be called the "plateau" type.

These differences in response to treatment are probably more apparent than real. It must be remembered that the tertiary stage of syphilis is a very long one, and that these cases came under observation at different periods, after different treatment, and were only under observation for a time (at most two years), which was short compared to the length of the tertiary stage. It is probable from the evidence obtained in this investigation that, unless there are exacerbations in the disease, the amount of reacting substance in the blood in the tertiary stage remains practically unchanged over a long period. Sometimes the amount of this substance cannot be influenced by treatment—there were a certain number of cases which remained stationary although they had had no previous treatment. In the majority of cases, however, it can be reduced, but eventually takes up a new level which is uninfluenced by further treatment. In a small proportion of cases the reaction may become negative, but the conditions under which this occurs are obscure. Probably if a continuous fall to a stable negative is to be produced with any certainty it can only be accomplished by an extensive and prolonged effort, using methods more effective than those of the present investigation.

The point at which the amount of reacting substance in the blood becomes relatively stationary varies widely, although it is rarely above 50 Sigma units, and in the majority of cases below 15 Sigma units. There appear to be several factors which influence the level at which the units tend to become stationary, and these will now be reviewed.

(i) *Novarsenobillon* (N.A.B.).—This was used in the majority of cases. Three cases showed a rise in unitage, but of the remaining 90 cases approximately two out of every three cases showed some degree of fall in unitage. It may be remarked that the 58 cases whose units fell during treatment came under observation with a higher average unitage (131 Sigma units) than the average unitage (44 Sigma units) of the 32 cases which remained stationary under treatment.

*Sodium Silver Novarsenobillon* ( $\text{NaAgN.A.B.}$ ).—This was used in 6 cases with nervous lesions and one other case whose chart is shown—Chart 5. Here there was no change in units, although 3.2 grams were injected in all. Of the 6 cases with nervous lesions, the units were reduced in 4 cases, but 1 case remained stationary, and 1 case showed a rise in units. This result, however, may be considered more satisfactory than the result of treating cases with nervous lesions with N.A.B., where, of 9 cases, 3 only showed a fall in units and 6 remained stationary.

*Sulfarsenol* was given in 5 cases only, and although the units fell in 4 cases out of 5 the reduction was not very striking.



**Mercuric Perchloride.**—Intravenous injections were given to 24 cases, in all of which the number of units had been stationary for some time before this method of treatment was begun. Each patient received approximately 0.1 gram of  $\text{HgCl}_2$  in all, spread over about ten injections. In 13 cases, the number of units remained unchanged, and in 11 there was an average fall of 25 per cent. in the unitage. This result is apparently not so good as that claimed by Conrad and McCann,<sup>14</sup> who, however, gave their injections twice instead of once a week and gave more injections than were given in this investigation.

**Other Drugs.**—No attempt has been made here to distinguish the effect of the mercury pills which were given at the same time as the arsenical preparations, and often between courses of arsenic. During intervals between courses of arsenic, 29 cases were given potassium iodide in 10-grain doses for an average period of six weeks; in 5 cases the number of units had risen at the end of this period, and in 24 cases the unitage remained unchanged.

(ii) **The Effect of Rest.**—In the majority of the tertiary cases observed there was a period of rest during which no treatment was given. In about 90 per cent. of the cases no change in the units was found; in the remainder there was a rise in 5 per cent. and a fall in units in 5 per cent.

(iii) **The Size of the Injection Dose of N.A.B.**—The effect of this can be studied in the following table:

TABLE II.

Dose.	Stationary Cases.			Falling Cases.		
	No. of Cases.	Percentage of Total Cases.	Average Amount of N.A.B.	No. of Cases.	Percentage of Total Cases.	Average Amount of N.A.B.
0.3 gram	2	2.2	Grams. 2.7	—	—	—
0.45 "	10	11.4	3.8	10	11.4	9.4
0.6 "	9	10.2	6.8	27	30.6	6.3
0.9 "	11	12.5	4.0	19	21.6	4.7

It would appear from this table that 0.9 gram is the most effective dose of N.A.B., because of the relatively large proportion receiving this dose who showed a fall in units, despite the fact that they received on the average much less N.A.B.

(iv) **Interval between Doses.**—Fourteen cases received one injection at a time at irregular intervals, varying from three weeks to six months. These injections had no effect on the number of units. Subsequently 8 cases out of the 14 received a course of weekly injections, and 5 out of these 8 cases showed a substantial fall in units. However, in 2 cases where this fall was observed, the condition was not stable, and the units rose to the previous level after a period of rest.

(v) **Previous Treatment.**—Fifty-five out of the 106 cases had received at least one course of injections before coming under observation, and these were for the most part less responsive to treatment than those who had received no previous treatment.

4. The "provocative" effect of an injection of N.A.B. in tertiary syphilis. In a certain number of cases there had been no arsenical injection given within two months of the beginning of the observation, and in these the number of Sigma units was noted before and one week after the first injection of N.A.B. No "provocative" rise in units was observed.

#### RELATION BETWEEN THE NUMBER OF SIGMA UNITS AND THE ACTIVITY OF THE DISEASE.

This is a very difficult question, because it is impossible to determine clinically the exact extent of the disease—for example, the clinician cannot ascertain during life syphilitic changes going on in the aorta, although extensive disease is frequently seen *post mortem*.

However, in this connexion, certain cases with lesions of

the mouth and skin were studied. In these the exact extent of at least one lesion could be determined. It was found that although there was a tendency for cases with more extensive lesions to have a higher number of units in the blood, the number of units increased out of proportion to the visible evidences of the disease. For instance, three cases with ulcers of the mouth averaged 6.6 Sigma units, and three cases, with ulcers of the mouth probably twice as extensive, averaged 300 Sigma units. As the units seemed to increase out of proportion to the visible lesions, one must suppose that either the cases with higher units had undisclosed lesions, or that an additional and unknown factor was operative.

In this study the findings of one case with inflammation of the mouth and fauces is of particular interest. This patient (Chart 8) had three courses of treatment, during which he improved clinically and his Sigma units fell steadily. He did not attend the clinic between the courses of treatment, and when he did return his condition was definitely worse clinically and his units had risen. The third eyele was marked by the formation of a gumma during a six months' absence from the clinic. His units had risen then from 3 to 225. When treatment was recommenced and the gumma broke down into an open ulceration, the units dropped to 71.

#### THE RELATION OF CLINICAL IMPROVEMENT TO SEROLOGICAL IMPROVEMENT.

Although a detailed study of this kind was beyond the scope of this investigation, certain general observations were made. Table III summarizes 75 cases. It does not include either the latent or the early cases.

TABLE III.—Relation of Clinical and Serological Improvement.

Sigma Units.	Definite Improvement.		Doubtful Improvement.		Stationary.		Worse.	
	No. of Cases.	Percentage of Total Cases.	No. of Cases.	Percentage of Total Cases.	No. of Cases.	Percentage of Total Cases.	No. of Cases.	Percentage of Total Cases.
Falling ..	33	43.0	9	11.8	3	4.0	0	0
Stationary	12	15.8	7	9.2	8	10.5	1	1.3
Rising ...	0	0	0	0	0	0	2	2.7

This table shows that clinical improvement was far more frequent in cases which showed a fall in units than in cases which did not. Also, in cases which became worse clinically, the units either rose or remained stationary.

#### SUMMARY AND CONCLUSIONS.

In summarizing the results of this investigation it may be said that—

##### 1. As regards technique:

By means of the Sigma reaction it was possible to estimate with a high degree of accuracy the amount of reacting substance in the serum of cases of syphilis, the probable error of any single determination being about 6 per cent. The evidence for this is based on the result of many tests on the same specimen of serum on different occasions, and many tests on the serum of certain patients at different times.

Evidence of the same type confirms the claim that properly prepared heart extracts are stable in regard to sensitiveness.

##### 2. As regards the effect of treatment on the number of Sigma units in the blood in the early stages:

In the early cases of syphilis which gave a positive reaction at the beginning of the observation, one-third showed an abortive rise at the commencement of treatment. In these cases after the rise was over, and in the remaining two-thirds of the cases each arsenical injection produced an average fall of 42 per cent. in the number of units present before that injection.

Cases which attended regularly and had a full course of treatment showed in general a steady fall in units to a stable negative reaction, but cases which attended regularly and had an incomplete course of treatment were liable to become resistant to arsenic, the number of units often remaining stationary when treatment was resumed.

3. As regards the effect of treatment in the tertiary stage:

Only 3 out of 106 cases became negative; at the beginning of observation these cases had a low number of units, and had received much previous treatment. Of the remaining cases the units fell in about one-fifth of the cases, fell and then remained unchanged in one-third of the cases, and remained unchanged throughout in one-third.

In 3 cases a rise of units was observed, and in 2 of these cases the rise was associated with a visible increased activity of the disease.

It is probable that in the majority of tertiary cases the Sigma units fall to a certain level as a result of treatment and that it is difficult to cause a further fall in units. This level is usually between 2 and 15 Sigma units.

The most effective dose of N.A.B. was 0.9 gram. No substantial effect was observed in the number of units, if the injections of N.A.B. were given at intervals of three weeks or longer.

Intravenous injections of mercuric perchloride were given to 24 stationary cases, and produced a fall in units in about 50 per cent. of these, but no case became negative.

About 90 per cent. of cases showed no change in their unitage during rest or during oral treatment following courses of N.A.B. The remaining 10 per cent. showed a rise and fall of units in equal proportions.

The number of units in the blood corresponds to a certain degree with the visible extent of the activity of the disease. In 43 per cent. of cases a fall of units was associated with clinical improvement, but in 15.6 per cent. the units remained unchanged, although there was improvement clinically.

I desire to express my grateful acknowledgement for the kindly assistance that has made possible this work, and my great appreciation to Professor Georges Dreyer and Dr. H. K. Ward of the Department of Pathology, University of Oxford, for much assistance and advice.

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## CARCINOMA OF THE RECTUM COMPLICATED BY PREGNANCY.

## TWO CASES TREATED BY EXCISION.\*

BY

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DURING the past three years I have had the uncommon experience of operating upon two patients for the removal of carcinoma of the rectum during the period of gestation.

## CASE I.

Mrs. B., aged 27, was admitted to Mercer's Hospital on January 4th, 1922. She had one child, aged 12 months, and stated that during the past five months she had had pain when the bowels moved; the pain had been much worse recently and sometimes she lost a quantity of blood; her weight had declined considerably.

A ring-like stricture of the rectum was found about the level of the cervix uteri; it was extremely painful, but with care the index finger could be passed through its lumen. The sensation given to the examining finger was that of a malignant growth. Upon bimanual examination of the pelvis the growth appeared to be freely movable, but the disconcerting fact was discovered that the uterus corresponded, in size and consistency, to a pregnancy of between three and four months' duration. No proctoscopic examination was made, as the parts were extremely tender and the diagnosis was obvious. The facts were fully explained to the patient and to her husband, and radical operation was decided upon.

Owing to the difficulty of clearing the bowels it was decided to perform a preliminary colostomy. On January 10th an incision, about four and a half inches long, was made through the left rectus muscle, at the junction of the middle and outer thirds, the pelvis and abdominal cavity were manually explored to exclude secondary growths, and a permanent colostomy opening was made, taking care to leave plenty of colon below the point of fixation. The protruding knuckle of gut was opened and trimmed before the patient left the operation table. Three weeks later, when she felt and looked much stronger, the cecum and last segment of the sacrum were removed and the entire rectum and anus, together with the sphincters and the greater part of the levatores ani, were excised in one piece. The cut end of the pelvic colon was then closed by suture, invaginated, and fixed extraperitoneally. The wound was closed in two layers; a drainage tube being inserted rather posterior to the site of the original anal opening. There was very little loss of blood and no shock. The drainage tube was removed on the third day, sutures were removed on the eighth day, and the patient was allowed up on the twentieth day after operation. The pathologist's report was: "Columnar-celled carcinoma of the rectum."

The pregnancy progressed along normal lines, and in the following June the patient entered the Rotunda Hospital. I am much indebted to Dr. J. Quinn, one of the assistants to the Master of the Rotunda, for the following particulars:

"Mrs. B., aged 27, was delivered, on June 28th, 1922, of a healthy male child, 18 in. long and 6½ lb. in weight. Labour lasted sixteen hours, placental stage thirty-four minutes. No instruments were used. There was a very slight laceration of the perineum, which was repaired immediately. The chief feature of the case was the absolutely normal manner in which labour progressed and terminated."

Shortly afterwards Mrs. B. and her family went to live in England, and I have lost sight of her.

The second case was diagnosed accurately and sent to me by Dr. B. H. Farrell of Castleconier on January 14th, 1924.

## CASE II.

Mrs. K., aged 38, had had nine living children, and on the date mentioned thought that she was three months pregnant. For the past seven months she had been very constipated, and an increasing amount of mucus and blood had come from the bowel, until the discharge was almost continuous. She had very little pain, and did not think that she had lost much weight, but was very depressed. On examination a friable fungating mass was felt surrounding the lumen of the rectum just above the level of the cervix uteri. Bimanual examination revealed a three months' pregnancy and almost certain involvement of the cervix, as the growth and cervix appeared to move together. At first I refused radical operation, and a colostomy did not appear necessary; but the absolutely miserable and hopeless condition of the patient made me alter my opinion, and I told her that I would, if necessary, remove the rectum and uterus.

I wrote a very full account of the risks and of the almost hopeless prognosis to Dr. Farrell, so that he might explain matters to the patient's husband, who gave me a free hand to do anything which might relieve her wretched condition.

On January 22nd, assisted by the house-surgeon, Dr. Mervyn Abrahamson, I opened the abdomen in the middle line below the umbilicus, examined the liver and iliac glands, etc.; then, having tilted the table into the full Trendelenburg position, I drew the uterus out of the pelvis and found, to my great relief, that it

\* Paper read before the Royal Academy of Medicine in Ireland, November 14th, 1924.

## HAEMOLYTIC STREPTOCOCCAL INFECTION.

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was not involved in the growth, but was adherent to the rectum and could be separated from it by sponging with a gauze pad. The iliac colon was then divided, the proximal end brought out through an incision in the left rectus, and a Paul's tube tied in. The pelvic colon and rectum were then separated from the pelvis, along with all glands and areolar tissue, packed from the pelvis, removed, along with the anus and muscles, by the perineal route. The only points in which this operation differed from that described by many surgeons is that, owing to the encroachment of the pregnant uterus, I could not divide the middle haemorrhoidal arteries and lateral ligaments of the rectum by the abdominal route, and had to leave them to be dealt with during the perineal portion of the operation. During the perineal dissection I removed a portion of the tumour. The loss of blood was small and shock so slight that it did not need any special treatment. Convalescence was uneventful, and the patient was allowed up on the sixteenth day after operation, as she was still very depressed, and lying in bed seemed to make her worse. The pathologist's report was: "Columnar-celled carcinoma of the rectum."

On November 8th Dr. Farrell very kindly sent me the following note:

"Mrs. K. returned home about a month after operation. She had gradually got back strength and every day improved in health. On June 30th she slipped and fell in her kitchen. About half an hour after the fall signs of labour set in and lasted for twelve hours without result, when she was given an injection of pituitary extract which, almost immediately, resulted in the birth of a small living male child. There was no trouble with the placenta. This is her tenth baby and he is still alive. Mrs. K. is now doing well, says she never felt better in her life, is increasing in weight, and has a good appetite. The artificial anus is doing splendidly. She thinks that she is pregnant again."

The anaesthetic used in both these cases was ether, administered from a wide-bore Clover's inhaler.

As is well known to most surgeons, there are two "schools" of rectal surgery. One advocates the perineal route for excision, the other despises anything except the combined abdominal and perineal operation.

In the first case I made use of the perineal route, with preliminary exploration and colostomy, because I had no reason to suspect involvement of the uterus, etc., and I considered that the two-stage operation would be less severe on the patient.

In the second case I made use of the combined method, because I meant to remove the uterus and appendages, it necessary, and also because, owing to the depressed state of the patient's mind, I did not think she would consent to a two-stage operation. One cannot expect to operate upon a sufficient number of such cases to enable one to draw up statistics, but the lesson which I have learnt from these two cases is that the two-stage operation is much easier, and I think it should be the method chosen in cases where pregnancy is a complication, unless there is some special reason for the one-stage operation.

Before passing on to more problematical subjects, I would like to state my personal opinion that the incision through the left rectus is the best for colostomy, either with or without a median incision for the exploration. There is no need to defer opening and trimming the knuckle of gut, as there is no fear of infecting the wound or wounds if a covering of bismuth and iodoform paste is applied under a separate dressing. In the one-stage operation it is obvious that a Paul's tube can be tied in.

With regard to the treatment of carcinoma of the rectum in general, I sometimes use the combined method, and more often the perineal, with removal of the coecum and the last segment of the sacrum, a thorough exploration and a colostomy opening having been made some days previously.

I am convinced that the mortality of the combined method is very much greater than that of the two-stage operation, and I am not convinced that the percentage of "cures" is much more by one method than by the other, provided a preliminary exploration is insisted upon in every case. To put the matter shortly, in order to elicit dissection, I may state the teaching which I give to students. When the growth is in the portion of the bowel which has no mesentery, remove it by the two-stage method, unless there are glands high up which one has to remove. When the growth is situated higher up it is better to remove it by the combined method. I will not describe the steps of the operation performed, but for combined operation will refer to the beautifully illustrated description by the late Edward H. Taylor in his *Operative Surgery* (1914), and for the perineal method I cannot improve upon the

technique described by Mr. J. P. Lockhart-Mummery in the *Medical Annual* for 1924. In the latter method I find that working from the anal region upwards is much easier than the older method of freeing the rectum above before excising the anus.

The question—whether it is ever advisable to preserve the anal sphincters—remains. I have been much struck by the following paragraph in E. H. Taylor's book already mentioned, which shows the opinion he held before 1914. "The radical measures which are employed in the treatment of rectal cancer have as their object the complete removal of the disease and the re-establishment of normal sphincteric control." In 1924 the majority of surgeons appear to favour a permanent colostomy and sacrifice the sphincters in every case. Whether this is right or wrong I have not yet had sufficient experience to decide, but I feel that to eradicate the disease is the main thing, and that striving after sphincteric control may lead to inefficient operations.

## HAEMOLYTIC STREPTOCOCCAL INFECTION: RECOVERY.

BY  
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In view of the fact that in both medical and lay circles conversation often ranges upon the utter failure or tremendous success of dental extractions in certain systemic infections, this case, carefully followed by a number of observers, should be of interest. As a problem in diagnosis it exercised many, and its happy termination does not prevent one from thinking over the possibility of better methods of treatment, and, above all, earlier diagnosis in similar cases of pyrexia of unknown origin.

On November 6th, 1921, Michael R., aged 19, a student of medicine at Cambridge, complained of malaise and anorexia and fever, followed twelve days later by jaundice and gradual recovery. On November 28th he had a rigor, with violent headache, a temperature of 105°, and profuse sweating simulating malaria. He resumed his studies, and nine days later had his third attack. He a further rigor, high temperature, etc., and pains in the hepatic region. Blood examination excluded malaria, and showed a leucocytosis of 15,000 per c.mm.—polymorphs 84 per cent., lymphocytes 12 per cent., hyalines 4 per cent. After two further attacks of a similar type, showing almost identical differential leucocytosis, he was seen by Sir Humphry Rolleston. Cholecystitis was diagnosed, and hexamine and salicylates prescribed, with dieting. A fortnight later the seventh attack showed an increased leucocytosis and the polymorphs rose to 87 per cent. of the total.

Specimens of urine and faeces were examined by Dr. P. J. Cammidge on February 1st, 1922, and found fairly normal, though the latter contained coliforms and streptococci; he diagnosed catarrh of upper intestine, with secondary cholangitis and hepatitis. The next attack was accompanied by more marked hepatic pain and an easily palpable spleen, and Sir Humphry Rolleston again saw the case; he found a submucosal haematoma, half an inch in diameter, on the pharyngeal wall. During the apyrexial interval following the blood was again examined: Total leucocytes 6,000 per c.mm.—polymorphs 46 per cent., lymphocytes 50 per cent., hyalines 4 per cent. A catheter specimen of urine was sterile.

The patient was seen again on March 5th. He had been looking seedy for some days, and on this day the right side of the face was slightly swollen, but there was not the slightest pain in face or teeth. It was suggested that there might be a septic focus in face or neck to be in perfect repair, and had been recently overhauled by the dentist. Shortly after midday the ninth attack commenced, with hepatic pain, high temperature, and rigor; the spleen was still palpable and tender. A blood film showed nothing abnormal; leucocyte count 11,400; differential not done. Blood cultures were taken during this attack; both plates and broth remained sterile.

On March 16th an x-ray examination by Dr. Charles A. Clark showed both antra quite clear, but the second right upper premolar was a dead tooth with much swollen periodontal membrane and bone destruction at apex, indicating a chronic abscess. Twelve days later the tenth rigor occurred with hepatic pain and sweating; there was slight fullness of the right side of the face, but no pain in the teeth. It was decided to remove the suspected upper premolar as a likely focus of sepsis.

On March 30th the tooth was very carefully removed under nitrous oxide and from the injected root cultures were taken on agar and blood serum. The former remained sterile; the latter gave "almost pure culture of haemolytic streptococci." On April 10th and 14th an autologous vaccine (streptococcal) was given in 2 and

4 minim  
about 4.2  
followed  
splenic  
swollen.  
A leucocyte count showed 26,000 per c.mm.—polymorphs 81.5 per cent., lymphocytes 10 per cent., transitionals 8.5 per cent. On the question whether the above attack was similar to previous attacks the patient was emphatic that it was quite different; on the question as to whether the vaccine treatment was the cause, the long delay in onset (thirty-one hours) after the last injection was considered by Sir Almroth Wright to be somewhat against this theory, even if the doses had been too close together. About this time Dr. A. L. Punch of Brompton Hospital tested the blood by the complement fixation method for tuberculosis and found it negative.

On May 22nd he developed measles at Cambridge, twenty-eight days after leaving home. Subsequently he was operated on by Mr. Sidney Scott, F.R.C.S., for acute otitis media, and the lateral sinus had to be explored.

On July 8th diplopia developed. Mr. Holmes Spicer, F.R.C.S., reported homonymous hemianopia and convergent strabismus about 20 degrees, mainly left eye. There was no apparent diminution of movements in either eye. There was severe optic neuritis of the right eye and many retinal haemorrhages: the retinal veins were very full and tortuous. In the left eye the disc was highly coloured, the veins were full, and there was one haemorrhage on the nasal side of the optic disc. The right optic neuritis was still present on July 17th, but subsiding.

On October 2nd the right optic disc was still seen with plus four lens; the haemorrhages had all gone—a few dots remained outside the optic disc. Dr. Henry Cotton of University College Hospital made a thorough examination of the heart: he found it was slightly enlarged but within normal limits; there was no evidence of any valvular disease, past or present. He considered the prognosis good. Further radiographic examination was made by Dr. W. C. Long of Tunbridge Wells, with special reference to lungs, liver, and face. Nothing abnormal was discovered.

When seen in March, 1925, the patient seemed in perfect health and was engaged in medical study. He had put on a stone in weight, and was keen on athletic exercise. It is now three and a half years since his severe illness commenced, and during the last two and a half years he has been in normal health.

So far as one can see, the patient has overcome the very severe infection by a haemolytic streptococcus, twice isolated in almost pure culture—first from the dental root abscess, then from the mastoid discharge; the presence of streptococci in faeces may also have been connected with the marked hepatic and other symptoms which led to the opinion that there was an inflammation of the upper intestinal tract. Apparently no permanent organic change has taken place, though there is still a slight enlargement of both heart and spleen. It seems reasonable to consider the turning point to have been the extraction of an infected tooth which had given no trouble, and which the dentist had considered healthy a short time previously. Although blood culture during one of the acute attacks was negative, it is probable that streptococci were in the circulation at some period, and the extension to the meninges evidenced by the optic neuritis and strabismus makes the complete recovery of the patient all the more noteworthy, and should be an encouragement to those treating similar cases.

What, then, was the factor or factors which led to the triumph of the body defences? Most will allow that the removal of a septic focus was necessary; but how difficult to find in some cases, and how easy it is to be wise after the event! Drugs probably had very little influence. Secondly, a factor in recovery was the natural vaccine therapy of the body; this was either continuously in operation, or at those crises when rigors and high temperatures occurred—ten during four and a half months. Whether the few injections of autogenous vaccine helped or hindered is a question; in the matter of dosage and intervals between doses upon which Sir Almroth Wright has taught and is teaching, one realizes that Nature may be hindered instead of helped. The method of immunotransfusion, in which the blood of a suitable and healthy individual treated by vaccines is then transferred to the circulation of the patient, would seem to be ideal for such acute and anxious cases as this.

Finally, it is possible that clinical observations are correct in suggesting that one disease may oust another. Incompatibilities may exist between diseases; the onset of measles in this case may have been the decisive factor in determining recovery from a streptococcal infection so often fatal. Compare the effect of artificially produced tertian malaria upon the progress of general paralysis of the insane, and the effect of induced abscess formation upon kala-azar in the pre-antimony tartrate injection period.

Note by Sir W. H. Wilcox, K.C.I.E., M.D.

The case described is of very great interest. The symptoms pointed clearly to a septicaemic infection of focal origin. The recurring attacks of rigors and high temperatures were undoubtedly due to recurring invasions of the blood stream with pathogenic organisms. The jaundice occurring early in the attack was no doubt due to a hepatitis resulting from the septic invasion. It seems clear that in this case the primary focus was an apical dental infection of the second right upper premolar, which was disclosed by x-ray examination of the teeth. A point of great interest is the relative increase in the lymphocyte count (50 per cent.) on February 19th, 1922, associated with a total leucocyte count of 6,000 per c.mm. (a slight leucopenia). I have often observed this phenomenon in cases of chronic septicaemia of dental origin. The organism seems to have been a haemolytic streptococcus associated with the apical dental infection, and the severe reaction after the autogenous vaccine confirms this view. The eradication of the primary focus of sepsis marked an important improvement in the patient's condition and the recurring rigors ceased—in other words, the big septicaemic invasions were stopped.

In cases of this type the removal of the primary focus of infection, if it is of long standing as in this case, is not necessarily followed by complete cure, because secondary smaller foci have probably become established in the bowel or elsewhere. In this case it is probable that this secondary infection was the result of the otitis media following the attack of measles. The inoculations probably played only a small part in the recovery of the patient, his immunity being no doubt mainly the result of the streptococcal invasions after the primary focus of sepsis had been removed. Had the primary focus remained it is very unlikely that immunity would have been established.

The case is similar to other acute cases which have been under my observation, and illustrates the supreme importance of the most careful search for foci of sepsis—in the teeth, tonsils, antra, bowel, kidney, bladder, etc.—in cases of obscure septicaemia. It also illustrates the great importance of the removal, if possible, of the primary focus of sepsis, without which continued improvement is impossible.

## A FATAL INJURY OF THE VAGINA.

BY

R. BLAIR, M.B., Ch.B.,

RECENTLY R.M.O. IN DUNDEE ROYAL INFIRMARY.

IN 1899 F. Neugebauer, under the title "*Venus cruenta violans interdum occidens*," reported on over 150 cases of coital injury gathered from publications; but individual cases still have interest, which, in the case here reported, is heightened by the unusual sequel. Of Neugebauer's list twelve cases were younger than 16 years and six older than 40—namely, 45, 47, 48, 50, 58, 59. (R. C. B.)

A woman, aged 55, was admitted under Dr. R. C. Buist's care on January 1st. She had had three pregnancies—twice twins. The menopause occurred at 40. She had become a widow, but remarried four months previously, and a week before admission felt pain during coitus. Bleeding followed, and continued a few days. On vaginal examination or by douching. Three days later severe attacks began and had continued; she was admitted to hospital. She was thin, anorectic, and complained of headache. The temperature was 98, and the respiration 24; the skin was dry, the tongue dry and furred. No abnormal signs were found in the chest or abdomen. Pelvic examination showed: senile vagina, uterus small and anterior, os closed; appendages normal. Inspection with speculum showed a tear 3 in. long running down the right side from the fornix, tapering off toward the vaginal entrance and sealed with clot. The leucocyte count gave 10,000, with 77 per cent. polymorphs. The very dark urine contained bile pigment; Fouchet's test was definitely positive. Glucose-saline solution was given by rectum, at first continuously and then every four hours, and subcutaneous saline injections were given also. Fixation abscess was sought to be obtained on two occasions, but only induration resulted. Nuclein was given hypodermically and then by mouth. Blood culture was negative on two occasions.

On January 4th jaundice had deepened; the left parotid was swollen, but it subsided without suppuration. On January 5th the

leucocyte count was 13,000; blood urea-nitrogen 43 mg. in 100 c.cm. Each day one or more rigors occurred and mental confusion developed. The temperature ranged from 97° to 103°, and apart from a short rally on January 8th exhaustion increased till death on January 12th, nineteen days after the injury.

#### Necropsy.

A necropsy, conducted by Dr. F. M. Milne, showed a closed tear along the right wall of the vagina, with softening, but no pus in the paravaginal tissue; a dark thrombosed vein crossed the bark of the uterus to the left side, where it passed upwards to the brim of the pelvis; the left ilio-psoas muscle was purple-red in colour, in marked contrast to that on the right, and on section showed an appearance suggestive of gas formation to a slight degree. The liver was congested, but there was no abscess, no obstruction to flow of bile, and no gall stones; the spleen was enlarged; the lungs showed hypostatic congestion; kidneys were congested. The organs were otherwise normal.

Professor W. J. Tulloch examined the spleen and left psoas muscle bacteriologically, and reported in the muscle *B. welchii* and streptococci, both of which developed well in anaerobic culture; in the spleen were streptococci and Gram-negative bacilli; the latter were believed to be contaminants, but the former were "undoubtedly evidence of ante-mortem infection." With regard to the finding of *B. welchii* in the psoas muscle, it was thought that this might have been merely a post-mortem contamination, but "having regard to the condition of that area of muscle, it is quite possible that infection with that organism played a part in the pathology of the case."

My thanks are due to Dr. R. C. Buist for advice and for permission to publish the case, and to Dr. F. M. Milne and Professor W. J. Tulloch for their assistance.

## Memoranda:

### MEDICAL, SURGICAL, OBSTETRICAL.

#### BULLET EMBEDDED IN TONGUE.

The following case, which we believe to be unique, seems worthy of record. We shall be glad to learn from readers whether similar cases have been recorded before.

A soldier came into the hospital one day complaining of a lump in his tongue, which on examination proved to be firm and hard. The tumour was oblong in shape, with its longitudinal diameter in line with the right lingual artery. A little nearer the tip of the dorsum there was a small fistula from which pus oozed when the tumour was palpated. He gave a history of having been wounded in the recent fighting between the Chilli and Fengtien forces, and a scar mark on his right upper lip bore testimony to our suspicion that the tumour may have been caused by a foreign body, which had become embedded and caused the sinus formation. He was operated upon, when a bullet was extracted. Had the latter penetrated a little further the lingual artery would have been injured.

London Mission Hospital, Tientsin.

P. K. LIANG,  
C. H. LEE,  
P. T. LIANG.

#### CYSTIC HYGROMA OF CHEST.

The following case of cystic hygroma is reported on account of the unusual situation of the tumour and of its general interest.

A female baby, aged 6 weeks, was brought to the out-patient department of the Ingham Infirmary, South Shields, on March 23rd, with a large lump on the right side of the chest. The mother stated that it was present at birth, being then about as large as a hen's egg, and that it had got gradually bigger up to 5 weeks, and then commenced to increase rapidly in size. The tumour, the size of a Tangerine orange, was situated above and to the right of the right nipple. It was rounded, and not lobulated, and felt like a large cyst. There was no fluid thrill. It could be freely moved in the direction of the muscle fibres, but only slightly across them; it appeared, however, to be quite free in the sub-cutaneous tissue. The overlying skin was not adherent and was almost normal; there was no dimpling and only a suggestion of glazing. On the postero-lateral aspect of the right arm just above the elbow was a diffuse lobulated lipoma-like swelling, which the mother stated was also present at birth, but had not increased in size.

When I saw the child again, a few days later, the tumour had increased to the size of an ordinary orange. The overlying skin was now definitely glazed, and bluish in colour, but the tumour retained its former characteristics. It was thought to be some

type of degeneration cyst into which there had been haemorrhage, and removal was advised.

The child was admitted to the infirmary, and on March 27th Dr. Hamilton operated. The overlying skin was removed with the tumour, which was dissected out entire with some difficulty, as it was adherent to both the fascia and to the pectoralis major muscle, a small portion of which had to be removed. A small drain was introduced and the wound closed. Serum continued to escape for a day or two. The mass on the arm was not removed. The tumour consisted of a large central cyst with thick walls, and several small surrounding cysts. It was sent complete to the Clinical Research Association for examination. The following is the report:

"The section shows an extensive cystic hygroma, with evidence of continuous addition and haemorrhage. The walls are of granulation tissue, and the small cysts contain serum and lymph. Probably there was some abnormality of the blood vessels as well as of the lymphatic channels. There is no evidence of new growth."

The child was discharged on April 8th quite healed and in good condition.

I am indebted to Dr. Hamilton for permission to publish this case.

H. VERNON INGRAM, M.B., B.S.Durh.,  
M.R.C.S., L.R.C.P.,  
House-Surgeon, Ingham Infirmary,  
South Shields.

#### POST-MORTEM CAESAREAN SECTION: A LIVING CHILD.

On February 21st Mrs. S., a Khasi patient, was admitted at about 11 a.m. in an unconscious state. She was immediately placed upon an out-patient examining couch and I was summoned without delay. I found her in her first and final eclamptic fit. There was marked oedema of the legs, for which she had not sought any treatment as, according to her husband, a similar swelling had not caused her any trouble either prior to, or at the time of, her three previous confinements. Before any treatment could be undertaken she collapsed quite suddenly and died about three minutes after admission. Examination showed that she was at about term, and that the child was still alive. Death was so rapid and unexpected that two minutes or more were spent in making quite certain that it was actual and not apparent. It must have been about seven minutes after death before a very hasty Caesarean section was performed. An apparently lifeless full-time male child was delivered. Artificial respiration was undertaken with great energy and efficiency by the two European sisters attached to the hospital, and they were well assisted by the Indian nurses under training. Before the operation wound had been hastily approximated the child was crying. He had a number of slight fits during the first twenty-four hours, but has since done very well, and as I write—sixteen days later—is making excellent progress.

H. GORDON ROBERTS, M.D.,  
Khasi Hills Welsh Mission Hospital,  
Shillong, Assam. Ch.B.Liverp.

#### TREATMENT OF SYPHILIS THROUGHOUT PREGNANCY.

MANY syphilologists believe that once a woman has been infected with syphilis she should be treated throughout every subsequent pregnancy; but contrary views are held by some medical practitioners, who are supported in their opinion by the publication of cases in which one course of antisyphilitic treatment of an infected mother has been followed by a series of healthy children. The following case seems worth recording as it demonstrates the fact that even extensive past treatment will not necessarily prevent congenital infection.

A woman, aged 18, reported at a clinic in May, 1922, with lip chancre and papular syphilide: the Wassermann test of the blood was positive. She received, in addition to heavy dosage of mercury and iodides by the mouth, thirty-three intravenous injections of "914," totalling 17.5 grams, between May, 1922, and March, 1924. During that period the blood had been alternately negative and positive. It was considered to be a case of arsenic-fast spirochaetosis, likely to have benefited by the administration of bismuth. Menstruation ceased in February, 1924, and she consulted her medical attendant, who advised her to cease treatment during pregnancy. An apparently healthy child was born at term, but a month later snuffles and then anal condylomata appeared. The mother, on examination two months after confinement, was found to have large papular lesions on one labium majus from which *Syphiloma pallidum* was obtained.

Glasgow.

ROBERT FORGAN.



# Congress of Obstetrics and Gynaecology.

## DISCUSSION ON PUERPERAL SEPSIS.

As reported in the last issue, the fifth British Congress of Obstetrics and Gynaecology was held at the house of the Royal Society of Medicine from April 22nd to 24th, under the presidency of Dr. H. RUSSELL ANDREWS.

The first two sessions of the Congress were devoted to the subject of puerperal sepsis, and the three later sessions to miscellaneous papers. We published in the last issue (pp. 779, 783) the reports of the two committees—that of the Section of Obstetrics and Gynaecology of the Royal Society of Medicine, and that of the North of England Obstetrical and Gynaecological Society—on the prognosis and treatment of puerperal sepsis, also the communications by Sir Ewen J. Maclean on puerperal sepsis in Wales (p. 770), and by Dr. Gibbon FitzGibbon and Dr. J. W. Bigger on a clinical and pathological investigation of puerperal fever (p. 773). Other papers read at the same session were by Dr. L. P. Lockhart, on bacteriological examinations during pregnancy, and a statistical paper by Dr. T. H. C. Stevenson, of the General Register Office.

Dr. STEVENSON emphasized the distinctly seasonal character of the mortality from puerperal sepsis, and showed a series of illustrative graphs. He said that this mortality had a winter maximum in the fourth and first quarters of the year and a very definite and regular summer minimum in the third quarter. That rule applied almost without exception over the years 1911 to 1922. Not only was there a seasonal variation in the maternal mortality from cases returned as septic, but also a similar variation, rather less marked at both extremes, but still quite distinct, in cases of maternal mortality from other than septic causes—namely, phlegmasia alba dolens, and the miscellaneous complications of difficult labours. No doubt septic causes entered into these cases also, but he could only speak on the basis of the returns. Dr. Stevenson also dealt with maternal mortality in the period following demobilization (1919-20), and showed that the peak of the curve representing demobilization was repeated with remarkably complete coincidence, after an approximate interval of nine months, in the peak of the curve representing puerperal mortality. This particular excess related to a period of about five months' duration, and formed the only exception to the regular rhythm of seasonal change over the period of eleven years.

### GENERAL DISCUSSION.

In the afternoon a discussion took place on the more general aspects of the same subject. Dr. J. E. GEMMELL (Liverpool) was in the chair, and so much interest was taken in the debate that only by limiting speakers severely as to time was it possible to include within the scheduled two and a half hours all who desired to participate.

Dr. J. WHITRIDGE WILLIAMS (professor at Johns Hopkins University and obstetrician-in-chief at Johns Hopkins Hospital, Baltimore) opened the discussion. Referring to the reports of the two committees submitted to the Congress, he noted that the one included 247 cases with a mortality of 35.8 per cent., and the other 154 cases with a mortality of 76 per cent. This meant merely that more serious cases were included in the one than in the other, for it was inconceivable that results of treatment should differ so widely. Altogether there were 401 cases with a mortality of 48 per cent., which was good or bad according to circumstances—that is, the seriousness or otherwise of the cases. The reports showed that women who had been subjected to much manipulation were more likely to develop infection than those who had been left alone. It would be a mis-

fortune if the point of view which regarded puerperal infection as in great part contact infection were abandoned. It appeared that there was one type of case which would get well if left alone, and another type which would die no matter what one did. The reports agreed as to the heavy mortality—some 80 per cent.—among women who were subjected to intrauterine manipulation. For years in America he had been teaching that the worst thing that could be done was to interfere with the interior of the infected uterus. The reports differed markedly in the results following the use of antistreptococcal serum—the London committee brought forward 33 cases so treated, with a mortality of 18 per cent., the North of England committee 104 cases, and 72 per cent. mortality. This simply meant that a milder type of case was treated in London. All the information went to show that they were practically helpless in the treatment of severe cases of infection. When women had general streptococcal peritonitis they were likely to die whatever one did; with pyaemia, if left alone, two-thirds of them died, and if operated on probably half. On the other hand, cases which did not show these acute general conditions might recover if left alone, prognosis depending on the resistance of the patient and the virulence of the organisms. What was wanted was research, not purely obstetrical, but proceeding on general lines of bacterial investigation. The average case of infection, if left alone, took care of itself, but if the organism was virulent and the woman's resistance low death was the almost universal outcome no matter what one did. Drs. FitzGibbon and Bigger had reported that, roughly, streptococci were found in the vagina of the pregnant woman in two cases out of three—fortunately, they said, not of the haemolytic type. He believed, however, that any technique which employed the speculum for obtaining the vaginal secretion was not above suspicion. He had found that with the speculum contamination was carried up from the vagina. He thought it a misfortune to talk about endogenous infection as these authors did, except with the gonococcus and possibly certain saprophytic organisms. In 3,000 consecutive admissions to his clinic up to the end of 1924 there were 436 cases of raised temperature in which the possibility of intrauterine infection had to be considered—that is, a temperature of 100.4° or over on more than one occasion, the temperature being taken every four hours. In 226 of these cases cultures were taken, and *Streptococcus haemolyticus* was found in 32, the non-haemolytic variety in 34. In the whole series of cases there were three deaths. Two of the women who died had been brought in infected during or after labour; the other woman who died developed the infection in the clinic; she had the haemolytic streptococcus, and had not been examined vaginally. Therefore, out of nearly seventy women in whom the streptococcus was found the only woman for whose death the service could be said to be in any way responsible had not been subjected to any of the manipulations which ordinarily antedated puerperal infection. It was found that, of the entire number of women with bacteria in the uterus and presenting a febrile puerperium, 24 per cent. had had a spontaneous labour, had not had a torn perineum or any such catastrophe, and had not been examined vaginally or subjected to any manipulation. Of the group showing *S. haemolyticus* 31 per cent. offered no ordinary possibility of external infection. In some of these cases the woman had evidently conveyed infection to herself with her own hands, and in the majority of apparently causeless cases he thought there was, not an autogenous infection, but some form of external infection escaping recognition. The fact remained that out of 3,000 admissions there was only one death for which the hospital service could be said to be responsible, and even in that case the woman was infected, not by anything done in the service, but in some other way.

Professor W. BLAIR BELL (Liverpool) said that cases in which there was a sudden onset of septicæmia and no local resistance whatever would practically all die. In cases in which there was local resistance there was a chance, chiefly by surgery, of saving the patient's life. It must not be thought that a case with streptococic peritonitis was inevitably fatal. He had had one case, with no fixed lesion in the pelvis, but with general streptococic peritonitis, the streptococci being of the haemolytic variety; this case also had bronchopneumonia, and the haemolytic streptococcus was isolated from the sputum. By draining the fluid from the abdominal cavity and treating the patient in the open air she recovered. If, therefore, one did get an apparently hopeless case it was always worth while doing one's best in the attempt to save it. He proceeded to give some figures relating to cases in which the flora of the vagina had been examined. One point brought out was that coitus shortly before labour was a very likely means of conveying the streptococic infection. In 20 cases there had been a history of coitus within seven days of labour, and 4 of these were infected with the haemolytic streptococcus. A classification was also made of the cases according to clinical interference. It appeared that in 23 cases there was no interference (on the part of midwife or doctor) before admission, and among these the number of cases showing the haemolytic streptococcus was 1 and the non-haemolytic 4. In 24 cases in which there had been interference including digital examination before admission the number showing the haemolytic streptococcus was 3 and the non-haemolytic 6. In 15 cases there was interference before and after admission to hospital, and of these 3 had the haemolytic streptococcus and 3 the non-haemolytic. In 14 interference was only after admission and 2 cases showed the haemolytic and 2 the non-haemolytic streptococcus. The speaker also pointed out that puerperal sepsis was always worse during the first three months of the year.

Mr. VICTOR BONNEY (Middlesex Hospital) recalled a paper which he had read before a similar gathering some years ago in which he had advanced the conclusion that puerperal sepsis was principally autogenetic. He had pointed to the precautions which had been taken for many years against what might be called extrinsic sepsis, and to the fact that in spite of all such precautions the morbidity was very little altered. No one would deny the possibility of conveying germs from without into the uterus, but his contention had been, and still remained, that that only occurred in a small proportion of the cases. All the measures inculcated by the teachers had for their object the prevention of extrinsic sepsis, and yet the figures advanced that day seemed to him to prove very conclusively that sepsis was increasing. He noticed that in one of the reports the origin of the sepsis in very many of the cases was not stated. He wished the compilers of those statistics had been a little bolder, and had described these as cases of intrinsic sepsis. If the bulk of puerperal sepsis had been extrinsic then the measures which had been taken for many years, and recently with increasing rigour, would have occasioned a marked fall in the incidence, whereas any decline had been no greater than one might have expected if only a small proportion of the cases were of extrinsic origin. As a parallel instance, he mentioned that at the Chelsea Hospital for Women in 1900 the mortality rate for major abdominal operations was 5 to 6 per cent., and by 1906 it had fallen to 1.6 per cent., at about which figure it had remained. During the period 1900-06 gloves had been introduced, and had protected the patient against extrinsic sepsis, but were of no value against intrinsic sepsis, which continued in spite of these measures. It was making too much of the bacteriological evidence to believe that only haemolytic streptococci could give rise to sepsis. It had been argued that bowel organisms were innocent, but in fact they could be very harmful, and they were only kept in check on a very narrow line.

Professor HENRY BRIGGS (Liverpool) hoped that the committees which were reporting on the subject would allow the term "puerperal fever" to remain, because there was a great deal to be said for it. The reports

spoke of a pyrexial period without stating exactly what was meant by that term, and what temperature constituted its onset.

Professor BECKWITH WHITEHOUSE (Birmingham) said that puerperal sepsis depended largely on two factors: the amount of damage done to the tissues, and the amount of hæmorrhage which had occurred beforehand. He had taken 500 consecutive cases and had caused his students to follow them out. Out of 50 of these cases examined bacteriologically, 5 showed hæmolytic streptococci; these 5 went through a perfectly normal labour and puerperium. This group of cases included a certain number of forceps deliveries. Low forceps was employed 17 times and high forceps 5 times, and among these last 5 cases were 3 cases of morbidity. He thought that in the interest of the nation every woman, at least during the eighth month of pregnancy, should have the advantage, not only of the attention of a midwife, but of a doctor. A midwife could not be expected always to recognize a minor case of contracted pelvis. If all cases were seen by the medical profession it would be possible to group them according to expectation, as to whether they could be left with the midwife or whether minor or major difficulties were likely to be encountered. He agreed with Professor Blair Bell as to the likelihood of infection being conveyed by recent coitus.

Dr. F. J. McCANN thought that "puerperal general infection" would be a better term than "puerperal sepsis." It was well to retain the word "infection" because it brought home to all concerned the fact that puerperal infection was comparable with wound infection in general surgery. The hope in treatment was ante-natal care, and the question was closely associated with housing. Much could be done by instruction in cleanliness, and also by the provision of cheap obstetric outfits for the poor. If the mortality only were considered a wrong conception of the extent of this disease would be obtained. One had to consider the countless number of women who suffered from the effects of puerperal sepsis—chronic metritis, cervical catarrh, cicatricial scars, badly healed perineal tears, and so on. These women were to be numbered by the thousand. Provision ought to be made for the admission of sufferers to general hospitals. It was a blot on the scientific intelligence of the profession that to-day these women should be admitted to fever hospitals; they should go into ordinary hospitals, where their condition could be studied, and where they could have the advantage of all the equipment commanded by the modern hospital. He believed that a bad infective case should never be given up. One very successful method of treatment was starvation. In a case of peritonitis if one went on feeding the patient intense toxæmia was likely to develop from which the patient would ultimately die. But he could recall at least one case in which, after starvation, the pus became localized and he was able to drain. Another line of treatment was the old-fashioned "cold pack." He wondered how many members of the Congress were accustomed to employ it; it was one of the best things in what was known as the "typhoid state," and he had seen patients rescued from the grave by the "cold pack."

Dr. B. DAWSON, who represented the Australian Government at the Congress, said that Australia at present had a higher mortality than Great Britain in cases arising from parturition. The figures for Australia in 1922 were 4.7 per 1,000, for England 3.81. The death rate from septic conditions alone was practically the same in both countries, and there was the same curious difference between rural and urban areas. In urban areas, whilst the death rate from septic causes was high, the death rate from other causes was low, and the reverse was true of the rural districts. Although women in the urban districts had the benefit of greater skill and attention, and thereby some catastrophes of labour were avoided, the increased amount of interference which they received might perhaps account for the higher septic rate. There was nothing in Australia corresponding to the Central Midwives Board, and

the country was in a similar condition to that obtaining in England twenty years ago, when a large number of entirely unsuitable and dangerous women were practising as monthly nurses. Women in the rural districts of Australia lived frequently under very bad housing conditions and had to do exhausting work; on the other hand, they had abundant sunshine, fresh air, and good food. He pleaded for an imperial, possibly an international, system of recording cases, so that the amount of dependable statistical material would be increased; also that bacterial technique should be standardized as far as possible, and that in certain well defined clinical conditions treatment also might be more or less uniform.

Dr. REMINGTON HOBBS (medical superintendent, Kensington Infirmary) said that exploration of the cavity was certainly contraindicated in a uterus in a state of sepsis. The only cases in which such exploration should be done were those of severe haemorrhage. If success in treatment was to be attained the uterine tissues must drain efficiently. There was often a mechanical block in the cervical canal. With regard to treatment, he thought that more reliance might be placed on glycerin, which produced an osmosis of the tissues and drained the cavity as well as the cervical canal. The reason for some failures was that doctors did not realize that the uteri required many treatments—many glycerin treatments, for example. When inflammation had spread to the Fallopian tubes attention should be directed first to the uterus, which was painful and tender, and if the uterus were drained there would not be a necessity for removing so many of the Fallopian tubes. He felt that but for some failure in the technique of treatment there would be a larger number of permanent cures.

Colonel L. W. HARRISON (Special Medical Officer for Venereal Diseases, Ministry of Health) referred to the statistics on puerperal mortality and demobilization which Dr. Stevenson had brought before the Congress. He thought that they might be explained by a considerable increase in the rate of gonococcal infection of wives by men on demobilization. On this hypothesis the gonococcal infections which took place at the time of conception were succeeded by infections with mixtures of organisms, including that, or those, responsible for puerperal fever. Mixed infections were, of course, a very common sequel of gonorrhoea in women as in men, and he was sure that in many cases of so-called chronic gonorrhoea in women the endocervicitis was due, not to the gonococcus, which had long since been thrown out, but to streptococci, staphylococci, diphtheroids, and other organisms, which would not have gained a footing in the mucosa if the ground had not been prepared for them by the gonococcus. Very large numbers of men must have left the army on demobilization suffering from gonorrhoea. The incidence of venereal diseases among the troops immediately after the armistice was, he believed, four or five times what it had been during the war. He thought it would be interesting to see if the period of most active demobilization was followed by a marked rise in the incidence of ophthalmia neonatorum, and this had proved to be the case. The notified cases of ophthalmia neonatorum per 100,000 births since 1915 had been as follows:

1915 ..	835	1918 ..	986	1921 ..	979
1916 ..	969	1919 ..	1,249	1922 ..	911
1917 ..	1,004	1920 ..	1,076	1923 ..	870

The peak of notified ophthalmia preceded that of puerperal mortality by about three months, and it might be, as Dr. Stevenson had suggested to him, that gonococcal infection contracted some months after conception was more likely to be followed by ophthalmia neonatorum than was gonococcal infection at the time of conception. The rates of notified puerperal fever and ophthalmia neonatorum for the county of London from 1915 to 1923 showed a steady decline in ophthalmia since the first quarter of 1921, but the rate of notified puerperal fever was as high at the end of 1923 as at the end of 1919. If there was a connexion between gonococcal infection and puerperal fever he would suggest that when a woman was infected with gonorrhoea the risk of ophthalmia neonatorum might be chiefly at the

next birth, but the risk of puerperal fever persisted, since the mixed infection was not so quickly thrown off as the gonococcal. All this did not prove that gonococcal infection prepared the ground for the germs of puerperal fever, but he thought that the figures were suggestive, and that more ante-partum attention to infections of the vagina and cervix would considerably reduce the incidence of puerperal fever.

Dr. F. W. GORDON (New Zealand) said that his country had the lowest infantile mortality in the world, but one of the highest maternal mortalities. He wondered, however, whether the statistics of maternal mortality published in the British and Continental journals were a reliable guide to the incidence of puerperal sepsis. In New Zealand it was now necessary to notify the puerperal morbidity. In every public and private hospital, if a patient had a temperature of over 100° F. for more than two days the case had to be notified to a Government inspector.

Dr. H. J. PHILLIPS brought forward some figures from the Monsall Fever Hospital, Manchester, where a block was set aside for puerperal sepsis cases. The figures related to the whole of the cases treated in that block from January, 1924, to March, 1925. During the first eight months of that period he continued treatment on ordinary lines, from non-interference up to ennetting, and of the 55 cases so treated 13 died, and the average stay in hospital of the recovered cases was thirty-nine days. Afterwards he treated the cases by lymph drainage (glycerin in the uterus) combined with immunotransfusion in a few septicæmic cases, and the results had exceeded his expectations: Of the 45 cases so treated only 6 had died, and the average stay in hospital of the recovered cases was 25.9 days. Of the 42 recovered cases which were treated on ordinary lines complications occurred in 23: general peritonitis 1, pelvic peritonitis 2, lobar pneumonia 2, salpingitis 3, pelvic cellulitis 1, pelvic abscess 2, parametritis 3, phlegmasia dolens 2, single abscess 5, multiple abscesses 2. Of the 39 cases treated by lymph drainage complications occurred in 3: pelvic abscess 1, parametritis 1, single abscess 1. The number of major operations performed in the first set of cases was 5, and in the second set 1.

Dr. JAMES HENDRY (Glasgow) gave an account of certain groups of cases—a rough total of 63 out of 745 confinements in the institution with which he was connected—which showed a rise of temperature, and analysed the causes so far as these were ascertainable. A certain number were due to general diseases or ante-natal infective conditions—such as tonsillitis, for instance. On 14 cases, dealt with domestically outside, the forceps had been used, and the patients afterwards admitted to the institution; of this number 5 cases showed pyrexia, four of them of the most severe type. Of the severe cases clinically there were only 6 in the whole series; of these, 4 were fatal, 3 of the 4 being cases of "failed forceps" in which there had been extensive bruising and laceration of the tissues.

Dr. C. E. DOUGLAS (Cupar, Fife) stated the case from the general practitioner's point of view with regard to the etiology. He based his remarks on the statement often made at consultations that easy cases often developed sepsis, and that difficult labours seldom went wrong. One of the reports stated, "Our figures do not at all bear out the latter part of this view, but show that in 25 per cent. of cases there is no obvious etiological factor present." He welcomed the latter statement, and thought that much would be made of it; the former statement was also true in a sense, but the figures were not available—that is to say, it was not known from what number of normal labours these others were extracted. Dr. Douglas proceeded to give the figures for his own practice, dating back to 1880. During that period he had had 2,200 maternity cases. He had done 393 forceps operations, and had had only one septic death, some thirty years ago. He had also done 164 other operations—versions, removal of placenta, etc.—without a death, making in all 557 operations with one death. On the other hand, in the remaining 1,663 cases he had had 5 septic

deaths, or 1 in 333, showing that the risk in normal cases was at least as great as in operations carefully conducted. In his last 1,670 cases taken consecutively he had had 2 septic deaths (1.7 per 1,000), and in both cases there had been the minimum of manipulation. Taking the statistics presented to the Congress, did not even the best of them point to an irreducible minimum of something under 2 per 1,000? Why was this? Why was such extreme care necessary? Was it not that some factor was present which had not received sufficient attention? He thought the forgotten factor was the woman herself. Might it not be that the parous woman, *ipso facto*, was apt to die? With heart disease, tuberculosis, and other conditions, a woman might go on for years, but if she became pregnant, while Nature sustained her to fulfil her duty to the race, she died after labour. There seemed therefore, *a priori*, some reason to suspect that the parous woman differed from her non-parous sister. The clinicians apparently had no more to say, but the physiologists and the biochemists had thrown some light on the subject. Percy Herring had recently shown that in albino rats there were very definite changes in pregnancy. The liver was increased 27.5 per cent. in size, the adrenals 10 per cent., while the thyroid was decreased 10 per cent. and the pituitary 24 per cent. The biochemist showed that the nitrogen exchange was affected to an important extent, much nitrogen being stored up in the later months, far more than could be needed for foetal and placental tissues, while the renal threshold for sugar was lowered, and a condition of hydraemia existed, a minor degree of the dropsy which was sometimes met with. How, in the face of these facts, could the view be maintained that a pregnant woman was just a healthy person who was going to have a baby? The inference was obvious. She must be studied from quite a different standpoint. More must be learnt about the woman herself, not what micro-organisms were infecting her. Her opsonic index, her power of active immunity against sepsis, and so forth, should be studied. From the clinical point of view the extremists on both sides should be brought to task, both those who roughly handled her and those who, fearful of doing harm, would leave her till she was exhausted before giving her help. The parous woman was a delicate creature, defenceless against infection, and should be dealt with—always, however, with the utmost gentleness.

Lady BARRETT (Royal Free Hospital) described the results of a series of investigations of cases of morbidity. These investigations, she said, had been undertaken from the point of view of discovering the best way to end the sepsis in each case. It was found that old gonorrhoeal cases might be followed by streptococcal infections in the vagina. There were two separate outbreaks of infection occurring in this series which had, apparently, quite different causes. In one of these the infection appeared to be due to the accoucheur, who was suffering from oral sepsis, and who was responsible for four cases of severe streptococcal infection. In another outbreak of infection it was difficult to find anything in common so far as the handling of the cases was concerned, because they had been delivered and nursed by different people, but on going into the history it was found that every one of them had been placed at one time in a particular ward. No further admissions to that ward were allowed until it had been fumigated and disinfected, and no other case of infection arose. It was also evident that in certain cases a sloughing vagina might be the starting-point of sepsis which appeared to ascend into the uterus at a somewhat late date. One was more impressed, said Lady Barrett, by the women who were not infected than by the women who were. The women not infected greatly outnumbered those who had any sign of morbidity whatever, and one was driven to feel that, however useful the investigation of sepsis itself might be, the kind of research which was urgently needed was a research into the causes of resistance of women during pregnancy and the puerperium. Possibly research into the bactericidal powers of the blood in women during pregnancy and again in the early days after delivery might lead to some method of reinforcing the resistance, and hence perhaps offer a means of diminishing the incidence of puerperal infection.

Mr. ALECK W. BOURNE (St. Mary's Hospital) said that in the London report presented to the Congress the cases might be divided, from the point of view of treatment and prevention, into two groups: one group, consisting of 25 per cent. of the cases, had no apparent etiological factor, and here the problem of prevention required more extended bacteriological and serological work; the other 75 per cent. of cases directly concerned obstetricians from the point of view of prevention, and what they had to do did not differ at all from what the general practitioner was called upon to do. He emphasized the enormous importance of ante-natal examination and treatment and the minimum of ante-natal interference. Much of the teaching of students of the present day was devoted to points which were abstruse and of small practical value. When students were sent out more thoroughly equipped for the exercise of ante-natal care a great step would have been taken towards the stamping out of puerperal fever. A large number of women, especially in the rural districts, had no ante-natal care. He was convinced that in course of years, by attention to this and other points, puerperal sepsis would be brought down to an irreducible minimum. One speaker (Dr. McCann) had mentioned the housing factor, but, according to the Registrar-General's report, Shoreditch, where the housing conditions were in many cases squalid, had the lowest maternal mortality of any metropolitan borough, while in Hampstead, where the housing was good, the maternal mortality was relatively high.

Dr. T. WATTS EDEN (Consulting Obstetric Physician, Charing Cross Hospital) said that the systematic study of puerperal cases had hardly begun. The question of whether the bulk of sepsis was extrinsic or intrinsic had not even been settled. It was not known what was the real significance of streptococci in the vagina. Not as much was known about the pathological anatomy of puerperal sepsis as was desired. Many gynaecologists learnt what little they knew about puerperal sepsis from cases seen in consultation, and they did not see these cases as a rule until they were in their last stages. It seemed to him impossible to undertake anything approaching a systematic study of puerperal sepsis unless hospital facilities were available for studying the condition from beginning to end. The cases must be studied in an institution where it was possible for bacteriological work and modern methods of investigation to be carried out. Government assistance was necessary to this end; hospitals could do little or nothing unaided. He suggested that the Congress should send to the Ministry of Health an expression of its opinion on the necessity of such provision of hospital accommodation.

It was agreed that such a resolution should be drafted, and at a later stage of the Congress the following resolution was submitted from the chair and carried unanimously:

In the opinion of the British Congress of Obstetrics and Gynaecology the most urgent requirement in connexion with the problem of puerperal sepsis is the provision of adequate accommodation for the reception and treatment of these cases in hospitals, supervised wherever possible by obstetric surgeons.

Dr. RUSSELL ANDREWS (President of the Congress) replied to one or two critics of the report of the London committee. The compilers of that report could not insert matters which they had not got in the returns submitted to them. Mr. Victor Bounce had said that a bolder course ought to have been taken, and that in the cases in which the origin of the sepsis was not stated it ought to have been put down as intrinsic. But the committee had no right to do that; it could merely state that there was no obvious cause of infection. Professor Briggs, again, appeared to think that the committee had not behaved quite as it should with regard to pyrexia, but the committee was bound to go by its records. Several speakers had said—and he fully agreed—that in ante-natal supervision lay the chief hope of prevention. He had been interested in Professor Whitridge Williams's view about treatment in severe cases. It was a gloomy view, but it recalled to him what the late Dr. Herbert Williamson had said three or four years ago. Dr. Williamson had asked him what he thought was the treatment in such cases, and he had replied, "To

my mind, nursing, and look out for pus," to which Dr. Williamson replied, "Well, it is a gloomy view, but I absolutely agree with you." It appeared that many of the treatments suggested were not necessarily of any great avail. He added that as one responsible for the arrangement of the discussion his principal regret was that the time limit should have prevented Dr. C. E. Douglas from developing fully his admirable survey of the subject as a general practitioner.

The CHAIRMAN (Dr. Gemmell), in closing the discussion, said that he thought obstetricians ought to be extremely careful about the views they advanced on the question of autogenous or non-autogenous infection. The lay mind, especially the legal mind, was always on the look-out for some reason for saying, "There you are; it is your fault." To say that puerperal sepsis was autogenous was to a certain extent dangerous, and to proclaim the opposite view might be also dangerous, so that until the question was further elucidated it was well to exercise some reserve in the expression of opinion.

The three remaining sessions of the Congress were devoted to communications and discussion thereon.

#### *Prolapsus Uteri.*

Professor W. W. CHAPMAN (Montreal) read a paper on prolapsus uteri, which he described as a sacro-pubic hernia through the fibrous diaphragm of the true pelvic floor. In common with all hernias, it had a canal of descent, a sac, a sac-content, and sac-coverings or wall. It was the inclusion of the important organs—namely, the uterus, the bladder, and the anterior wall of the rectum—in this sac-covering or wall that had formerly misdirected the attention. This sacro-pubic hernia was a sliding hernia, a *hernie par glissement*. The essential part of the pelvic floor was the fibro-fascial hammock, while above was the accessory support of the peritoneal ligaments, and below the accessory support of the sphincteric layer. The speaker illustrated the support of the uterus by the analogy of a girl seated in a swing, the seat the fibro-fascial hammock. She was steadied in this seat by her arms grasping the ropes above—these arms were the peritoneal folds or ligaments. There was a foot-rest below which, in the analogy, was the sphincteric muscular layer of the pelvic outlet. He then showed in lantern slides the operation which was employed in Montreal. It consisted in the exposure of the fascial cleft, the replacement of the viscera, and the radical cure of the hernia. It was a simple operation, he believed it was anatomically sound, and during the past ten years it had given satisfactory results. He made no claim to special originality. What he brought forward was rather a surgical synthesis, gathered here a little and there a little, and combined into a definite procedure.

#### *Backward Displacement.*

Dr. BETHEL SOLOMONS (Dublin) communicated the results of a questionnaire sent to patients on whom he had performed the subperitoneal Gilliam operation during the last six years. He referred to the divergent views held with regard to the treatment of backward displacement, and to the many symptoms dependent on this displacement. His object in making an inquiry as to the after-results of this operation was to find out if these symptoms had been relieved, to obtain knowledge as to pregnancy after the operation, and especially as to whether there had been difficulty in labour; also to find if the uterus remained in the suspended position, and if there were any untoward symptoms following the operation. Letters were sent to 235 patients upon whom an operation had been done more than a year previously, and answers were received from 176. Of this number, 107 had complained, previous to operation, of some form of backache, and 101 of these now reported relief of this symptom. In the series of unmarried women there were 6 whose cervixes had been dilated without relief of symptoms, and these had been cured since the Gilliam operation was done. Of the 176 women who replied, 67 had had full-term children since the operation without trouble in labour; 3 had had both children and miscarriages, and 3 had had miscarriages

alone. In no case had displacement of the uterus occurred, and in one case only was slight discomfort reported, probably due to a pull on the ligament. He insisted strongly on the use of silk as suture material; if catgut were used there would be a recurrence of the displacement.

In a brief discussion the advisability of performing an abdominal operation as a matter of course for retroversion came in for criticism. Professor B. P. WATSON referred to the difficulty of diagnosing the real cause of the backache or other symptoms in such cases. One of the commonest causes was cervical laceration, with catarrh, in parous women. He believed that in most cases of retroversion which gave rise to symptoms, the backache was not due so much to the retroversion as to the associated prolapse, and a great many of these cases could be relieved by an operation such as Dr. Solomons had described. Mr. LEYLAND ROBINSON said that three or four years ago Dr. Gemmell and he published the results of 220 cases in which the operation of ventrofixation had been performed—an operation which, he gathered, Dr. Solomons regarded with disfavour. Of these patients 179 described themselves as cured, and although 41 others complained of symptoms a closer analysis showed that only six or seven were possible failures; moreover, 68 of the patients had had 108 children without the slightest obstetric difficulty. Professor C. G. LOWRY mentioned the frequency of dyspareunia among women who had chronic backward displacement. Dr. SOLOMONS, in reply, said that he did not perform an operation in every case of backward displacement, and he agreed that it was wrong to operate in the absence of clear indications. In ceasing to perform the ventral suspension operation he had followed the teaching of Howard Kelly; this operation could be done successfully by individual operators, but students watching its performance never seemed to get the correct technique, and disasters followed.

#### *Premature Separation of Placenta.*

Professor J. WHITRIDGE WILLIAMS (Baltimore) showed lantern slides of a specimen of placenta prematurely separated and gave an account of the case. The patient was aged 33, pregnant for the third time. She was seen in the out-patient department eighteen days before the accident, when she was in normal condition. On admission to the hospital later she had a pulse of 140, a temperature of 101°, low blood pressure, and haemoglobin content of 32. A diagnosis of premature separation of the placenta, with concealed haemorrhage, was made. Hysterectomy was performed and the unopened uterus removed, but the woman died of shock, with all the appearances of intra-uterine haemorrhage. The autopsy showed that haemorrhage could hardly be the cause, and he was inclined to believe that as a factor in producing shock the dissociation of the muscle fibres of the uterus played a very important part. He added that out of 9,000 admissions to his hospital there had been 57 cases of premature separation of the placenta and 64 cases of placenta praevia. Premature separation of the placenta was, therefore, a fairly common condition. His analysis related only to 40 of these cases, among which there had been 3 maternal and 29 foetal deaths. In these 40 cases in no instance was there an unusually short cord, and there was no sign of torsion; a microscopical examination was made in every instance, and there was no sign of decidual endometritis. Syphilis played no part in this condition; a Wassermann test was carried out on 37 of the women, and was negative in all but 3 cases. It was said that albuminuria played a part in causation, but only 15 of these women showed any signs of albuminuria before or after the accident. Of the three women who died, two came to autopsy, and in neither case was there any sign of toxæmia; the liver and kidneys were normal.

Professor P. B. WATSON thought that the separation of the placenta was not the initial process, but that haemorrhage into the wall came first, and the separation was the mechanical result. The lesion was really of the nature of an infarction. Some years ago he had a case of spontaneous rupture of the uterus, and there the histological picture of the uterine wall was exactly the same as that



found in cases of accidental separation of the placenta, and it was a question whether the two conditions were not analogous. If the infarction of the uterine wall occurred in sufficient degree at an area other than the placental site rupture might take place, and if at the placental site there might be premature separation. Dr. R. H. PARMORE suggested that just as coitus in late pregnancy might be the cause of puerperal sepsis, so it might be the cause of premature separation.

#### *Endometrioma.*

Professor A. DONALD (Manchester) brought forward a clinical study of endometrioma. He surveyed 108 cases, distributed among six gynaecologists, in all of which cases operation had taken place during the last four years. Of these patients, 16 were under 30 years of age, 46 were aged between 30 and 40, and 46 were over 40. Of the 93 who were married women, 37 were nulliparæ, 22 had one child, and the others more than one. The date of the termination of the last pregnancy in 35 cases was over seven years previously. By far the most important symptom of the condition was dysmenorrhœa, which was present in 70 per cent. of the cases; menorrhagia was present in 57 per cent., leucorrhœa in 38 per cent., and backache in 28 per cent. There was dyspareunia in 32 per cent. The most important physical sign was the thickening of the appendages, which was present in 74 per cent. The conditions found at operation included fibroids in 26 per cent. of the cases, tarry cysts in 77 per cent., adenomyoma in the recto-vaginal space in 63 per cent., and adherent rectum in 76 per cent. The operation which was done in 50 cases was partial hysterectomy with removal of both appendages, and in 38 cases supravaginal hysterectomy, also with removal of both appendages. The remaining cases were treated by dissection of growth from abdomen or per vaginam, removal of one or both ovaries, or myomectomy. Of the 108 cases only one died.

Dr. K. V. BAILEY followed with an epidiascope demonstration of the pathology of the condition. He concluded that in these cases there was a primary disposition on the surface of the pelvic organs of endometrial epithelium, the result of regurgitant menstruation from the uterine cavity. In his belief this phenomenon of regurgitant menstruation was of much greater frequency than was at present supposed. It was one of the causes of dysmenorrhœa and a possible causal factor in ectopic pregnancy. The secretion prepared the surface of the pelvic organs for invasion, but the various tissues reacted in very different ways to these elements.

#### *Treatment of Cervical Carcinoma by Radium.*

Dr. MALCOLM DONALDSON (St. Bartholomew's) described the treatment of inoperable carcinoma of the cervix by radium. He distributed to members of the Congress an analysis of every one of 85 cases treated from May, 1921, to February, 1925. Of this number, 74 were hopelessly inoperable, 5 were on the borderline, and 6 were operable but for various reasons were not operated upon. Of these 85 cases, 31 were now living and 54 had died. Taking only the 58 inoperable cases which had been treated for a year or longer, 8 were living, one of whom had lived for forty-seven, one for forty-one, and one for thirty-nine months. In the vast majority of cases—85 per cent.—haemorrhage disappeared entirely within a few weeks of the radium applications, and if it returned at all did so a short time before death. In 63 per cent. of the cases ulceration cleared up entirely, either temporarily or permanently. Of those cases in which cauliflower-like growth was present, in 70 per cent. it disappeared entirely. The general condition of the patients in the majority of cases was very much improved, and in numerous instances they were able to do their work in comfort for many months, and the duration of life was prolonged in a certain number.

Dr. GILBERT I. STRACHAN (Cardiff) also described the treatment by radium of 40 cases of carcinoma of the cervix. The dose usually employed in these cases was 150 mg., inserted for twenty-four hours. The haemorrhage was the symptom most completely controlled. Considerable im-

provement, amounting to clinical cure, had been obtained in 17 cases. He believed that for inoperable carcinoma of the cervix radium presented the most potent therapeutic agent available.

[The papers by Dr. Donaldson and Dr. Strachan will appear in an early issue of the JOURNAL.]

Dr. T. WATTS EDEN said that these two communications showed that the use of radium at any rate relieved the sufferings of these women, and perhaps prolonged their lives. The action of radium was extremely localized, and Dr. Donaldson deserved congratulation on the plucky way in which he had tried to get his radium into actual contact with the glands. There was no doubt that with radium it was possible to destroy almost completely the local growth, but no effect might be produced on the distant parts or upon the involved glands. It almost looked as if surgery had said its last word about cancer of the cervix. The extended operation had been carried to a point from which, he imagined, no further advance was possible. It would be necessary to look to radium alone in cases in which an operation could not be done. At Charing Cross Hospital he had used radium in a few cases of cancer of the cervix on which it was intended to operate. He used it in the old-fashioned way—now generally abandoned in favour of a better envelopment by tubes in different positions—of simply putting the tube in the cervical canal, but the local improvement that took place struck him as very unusual. Not only did the ulcerated condition clear up, but the mobility of the uterus was very greatly increased. He believed that the future treatment of cancer of the cervix lay in the combination of radiology and operation. It might be found that if cases were irradiated before operation more satisfactory results would follow from the surgical procedure. Possibly deep x-ray therapy might prove more efficient than radium in dealing with the deep-lying glands.

Professor CARLTON OLDFIELD said that after some experience he was not inclined to try again the treatment of an operable case by x rays, but he thought it worth while to treat by this method cases not operable. One or two speakers mentioned that pain followed radium application, but Dr. DONALDSON, in his reply, said that this was only a fleeting manifestation.

#### *Albuminurias of Pregnancy.*

It was unfortunate that the only two papers read by women at the Congress had to be crowded into the last half-hour of the second day's session, with no opportunity for adequate presentation or discussion. Dr. AGNES BENNETT (Wellington, N.Z.) spoke on the albuminurias of pregnancy as studied in the State maternity hospitals of New Zealand. She said that in 1923 the New Zealand Branch of the British Medical Association arranged with the health authorities that eclampsia should be notifiable; like infectious diseases. She had had access to forty-nine of the notification forms returned by forty-one different practitioners, and the survey showed the extraordinary variety of the treatment followed, the small amount of experience of the condition on the part of the individual practitioner, and the high mortality of Caesarean section. In these State maternity hospitals eclampsia and albuminuria were the causes of the largest number of deaths, both maternal and foetal. In 1920-24 24 per cent. of all puerperal deaths registered were due to puerperal albuminuria and convulsions. Dr. Bennett described the ante-natal treatment, whereby some albuminuric cases had been resolved by careful dieting and had come to natural labours. One of the principal things which had come before her in this work had been what she termed "invisible oedema," and she found on a recent visit to the Mayo Clinic that there also they were getting out most interesting pre-natal charts in which, in practically every case, albuminuria had been predicted by an undue rise in the weight chart.

#### *Toxaemias.*

Professor A. LOUISE McILROY, with Dr. E. PILLMAN WILLIAMS, discussed the toxæmias of pregnancy from their clinical and chemical aspects. Professor McIlroy, under the compulsion of the Chairman's time-signal, had to condense

her voluminous paper so drastically that it is doubtful whether those who listened to the shorn presentation appreciated the great amount of work it involved. She said that of the principal disposing causes of toxæmia a chronic intestinal condition was found in the majority of cases. Dysmenorrhœa had been noticed in the history of a number of these cases. In a few cases disturbance of vision, even to blindness, had been found. She discussed first toxæmias without albuminuria (vomiting, headaches, etc.), and then the albuminurias, including nephritis, cystitis, and pyelitis, and others, after which she spoke of the clinical significance of the symptoms and signs of toxæmia, the chemical significance of the examination of the blood and urine, and, finally, the results of toxæmia upon the ovum and foetus. One special point was the question of the induction of abortion as a result of the chemical findings. Abortion was a confession of failure in treatment. The indications for the induction of abortion were a persistent high blood pressure (180-200 Hg), blood urea exceeding 40 mg., bad ratio in urea concentration, also increase of albumin in quantity and diminution of urine. Out of 172 cases covered by her survey, in only three had abortion to be resorted to—one for novarsenobenzol poisoning, one for pyelitis (the other kidney having been removed for calculus), and one for placenta prævia.

#### *Menstrual Changes.*

Dr. WILFRED SHAW read a paper on the relationship between ovulation, corpus luteum formation, and menstruation. He described some work in which the endometrium and ovaries of women who were menstruating regularly were examined. The date of occurrence of the earliest premenstrual changes was found. The ovaries were examined for early corpora lutea, and the date when ovulation occurred was deduced from this investigation. The structure of the corpus luteum was examined, and the changes taking place during menstruation and pregnancy were followed. It was shown that a relationship existed between the maturity of the corpus luteum and the development of the premenstrual changes. Degeneration of the corpus luteum was found to occur during menstruation. Ovulation took place at or about fourteen days from the menstruation and the corpus luteum was formed. If pregnancy occurred the corpus luteum persisted, the period was missed, and the premenstrual endometrium became the decidua. If pregnancy did not occur the corpus luteum degenerated, and the degeneration of the premenstrual endometrium followed, to be manifested by the phenomenon of menstruation.

#### *Implantation of the Ovum.*

The final event of the Congress was a lecture by Professor J. H. TEACHER (Glasgow) on the implantation of the human ovum. He gave a masterly description, illustrated by the epidiascope, of the comparative embryology, and drew particular attention to the nature of the closing mechanism of the decidua capsularis, the relations between the maternal blood vessels and the ovum in the earliest known stages, and certain theoretical considerations relating to the nutrition of the ovum prior to implantation and to the process of implantation. Professor Teacher remarked that the human ovum showed an immense amount of individuality. It differed from any type known to comparative study, and in fact the process of embedding and union with the maternal organism varied greatly even in members of the same group. There were an infinite variety of ways in which union between the ovum and the mother was obtained. It was shown many years ago that fertilization and implantation did not correspond to any part of the cycle in particular, but might occur at various points. There was fair agreement now that insemination in the higher mammals was generally followed within a very short time—an hour or two—by fertilization. Probably the rupture of the follicle only coincided with insemination, and the fertilization occurred very rapidly after that. Another very interesting point was that a good many of the ova must be embedded after the end of the interval. It was evident that it was not the implantation of the ovum which stopped menstruation. His own theory was that what stopped menstruation was fertilization. From certain observations which he

had been fortunate enough to have opportunity to carry out it appeared that implantation must have occurred from the third to the sixth day after the due date of the menstrual breaking down, and he thought it followed necessarily that fertilization must be the cause of the arrest of the cycle. It seemed unthinkable that so momentous an occurrence as fertilization should not in some way be communicated to the body as a whole. He had no doubt that it influenced the development of the endometrium; it must also influence the development of the corpus luteum. It seemed probable that when the spermatozoa entered the ovum there was a tremendous activity on the part of the ovum, which threw out some stimulating secretion upon being fertilized.

Visitors attending the Congress were received at various maternity hospitals and other institutions in London, and another feature of the Congress was a pathological exhibit arranged at the house of the Royal Society of Medicine.

## Reports of Societies.

### IMMUNIZATION AGAINST SCARLET FEVER.

At a meeting of the Section of Epidemiology of the Royal Society of Medicine on April 23rd, with Dr. JOHN C. McVAIL in the chair, the subject of immunization against scarlet fever was brought forward by Dr. MONCKTON COPEMAN of the Ministry of Health, who recapitulated the recent work on this subject by Drs. George and Gladys Dick, which was discussed in a leading article in the *JOURNAL* of last week (p. 792).

Dr. Copeman said that in this country scarlet fever, fortunately, was nowadays a much less serious disease, *qua* mortality, than was the case in his own earlier experience, but in America it still ranked high as a fatal malady among children under 9 years of age. During a recent official visit to New York he was afforded an opportunity of seeing the work on immunization at the Willard-Parker Hospital under the direction of Dr. Zingher, assistant director of the Public Health Department, based on the test given by Drs. Dick of Chicago. The test exhibited many analogies to the Schick test in diphtheria. In a series of papers the Dicks had set out the results of their study of the bacteriology of scarlet fever, showing, apparently, that a hæmolytic streptococcus, long recognized in the naso-pharyngeal passages of patients with scarlet fever, was probably the agent of the disease. Experimental work on animals had not proved successful, and the tests had to be made on human volunteers. Incidentally it was remarkable that in America relays of such volunteers were forthcoming without any difficulty. A number of volunteers were obtained who had lived under country conditions all their lives and had had no history of scarlet fever; the process of testing them was described in detail in the last issue. They were inoculated with a culture after it had passed through the Berkefeld filter, and all remained well; after an interval they were inoculated with the unfiltered culture, and one of them developed scarlet fever. The results appeared more rapidly than in the Schick test, and pseudo-reactions were more frequent, so that control on the opposite arm was of great importance. The lecturer showed coloured slides illustrating the typical Dick reactions. It was found that when a patient who had been inoculated contracted scarlet fever subsequently the area occupied by the previous positive reaction was marked by a paler area surrounded by a ring of intense rash. With regard to the reaction likely to be obtained, in the earliest stage of life a child apparently acquired a transient placental immunity from the mother, so that up to 3 months of age the Dick test was likely to afford a negative result. In the case of many hundreds of children from the congested slum areas Dr. Zingher found positive Dick tests in 32 per cent., whereas in better-class areas or country districts the proportion of positive reactions might be as high as 88 per cent. In a small proportion of inoculated persons constitutional symptoms, including a scarlatiniform rash, had been observed. In the case of 274 children recently retested at three institutions in New York 167, or 61 per cent., were

found to have become immune. No inoculated child admitted to hospital had so far contracted scarlet fever even though taken into the scarlet fever wards.

Speaking of the work already done on this subject in England, Dr. Copeman said that some research had been arranged at the South-Western Hospital, London, and elsewhere. The haemolytic streptococcus was found to be almost always present in the throat in cases of scarlet fever. Toxins had been prepared, and patients in the initial stages of scarlet fever were found to be positive; towards the end of the second week the majority of them became negative reactors, indicating immunity to the toxin. The medical officers' committee on scarlet fever, appointed by the Ministry of Health, came to the conclusion that it was desirable that further study should be undertaken under the co-ordinated direction of a team of expert clinicians and pathologists, and it was hoped that in time the resources of the Metropolitan Asylums Board would be available. Pending this, however, the committee decided to adopt a scheme, outlines of which were submitted by some of those working in the Ministry's pathological laboratory, and certain preliminary work was decided on. Meetings were held at Liverpool and Manchester, in each case with the medical officer of health and others concerned in the epidemiological service, and a meeting of all the research workers had been held at the Ministry's laboratory to ensure that the work carried out in the different laboratories should be on comparable lines. It was also resolved to apply the Dick test to patients admitted for scarlet fever to the Fazakerley Hospital, Liverpool, and the Monsall Hospital, Manchester. In response to a request specimen strains of the haemolytic streptococci of scarlet fever origin were sent from New York, but it was impossible for any agglutinating serum to be sent because it was being used in New York as fast as it was being produced. Reports of the work in hand were now being received, and at a later period a full official account of the work would be published. It would be premature to express any opinion as to the ultimate outcome, in view of the difficulties of such an investigation: the problems were much more complex than in the parallel work on diphtheria. Difficulties with regard to the specific identification of the micro-organism did not arise in diphtheria, but in scarlet fever, although a considerable body of evidence had accumulated to show that haemolytic streptococci were the responsible agents, the variety of the strains isolated had rendered it difficult as yet to determine whether one particular strain or any of several varying strains was specially responsible.

In conclusion, Dr. Copeman directed attention to the nature of the population which it was sought to immunize. Experience had clearly indicated in the course of work on diphtheria that where a certain general basis of immunity already existed it was comparatively easy to increase the extent of that immunity to a sufficiently high level. On the other hand, in certain institutions which for years had been free from this disease, because the children came in chiefly from rural areas, the immunity was found to be practically non-existent, and the building up of immunity was difficult and required a long time. It remained to be seen, from the work now proceeding at various centres in this country, whether the response to immunization work in scarlet fever would run on similar lines. He added that he had been greatly impressed by what he had learnt in New York of the practical working of the Dick test, and his opinion had not been altered to any appreciable extent by the use of the test in this country so far. But the attainment of anything like complete immunity appeared to be decidedly more difficult of accomplishment in scarlet fever than in diphtheria, and there seemed to be some reason for believing that any immunity thus produced was by no means permanent.

Dr. F. GRIFFITH supported Dr. Copeman's remarks by showing some lantern slides and specimens.

Sir WILLIAM WILLECOX said it was important that information should be afforded as to what was being done in New York, and also that research should go forward in hospitals in this country. He was on the staff of the

London Fever Hospital, which accounted for his interest in this matter, but, up to the present, no experimental work had been performed there on the Dick test. He was sure from what they had heard that it was a most valuable test in determining whether immunity was present or not, and it was a test of some value for diagnosis. With regard to the production of immunity, Dr. Copeman had made some interesting statements, but he had hinted that the length of time during which immunity was conferred was probably not very great. One point must be borne in mind when considering the production of immunity to these various diseases. If it was intended to immunize the child against scarlet fever by the method suggested the result would be to render the child anaphylactic to horse serum, and should the child later on develop diphtheria and require diphtheria antitoxin a rather difficult situation might arise. He thought the profession might go a little too far in using serums for immunization against all these various diseases. This applied particularly to scarlet fever, which in this country of recent years had had an extremely low mortality.

Dr. J. A. NIXON said that in Bristol the Schick test had given such ample satisfaction that all concerned were desirous of learning about the possibility of detecting susceptible and non-susceptible cases of scarlet fever also, and of immunizing the susceptibles. He was not in the least deterred by the dangers of anaphylaxis which Sir William Willecox had pointed out. During the war repeated doses of antitetanic serum were given to wounded men, with no untoward results. He was disappointed that the Schultze-Charlton reaction would not apparently be available for immediate diagnosis; he had hoped that this might afford help in difficult cases, but evidently the profession would still have to rely mainly on clinical signs.

Dr. E. W. GOODALL (North-Eastern Hospital) said that the scheme which the Ministry of Health proposed, and which would eventually bring in all the leading fever hospitals of the country, was the right one; hitherto similar work had been limited, to its disadvantage, to one or two institutions. He also made some interesting statements on anaphylaxis, and pointed out (as also did Dr. Copeman) that Sir William Willecox had been under a misapprehension. As Dr. Copeman stated, the material used should have no horse serum in it, and practically no protein, so that anaphylaxis was unlikely to occur.

Dr. BLAKE (North-Eastern Hospital) said that some work had been done at his institution, but so far the type of scarlet fever available had not been severe enough to furnish ground for a true test. Dr. F. THOMSON (North-Eastern Hospital) also said that he had been favourably impressed by the work so far as it had gone. Dr. W. MAIN suggested that scarlet fever arising in an epidemic form was something more than a streptococcal condition. The solid fact that emerged from this American work was that the rash was a streptococcal rash, and that the streptococcal element in scarlet fever was much more important than had been supposed. Sir WILLIAM HAMER said that he was rather in the position of the man in the New Testament: "I believe; help thou mine unbelief." He recalled that, forty years ago, Klein isolated from patients suffering from scarlet fever a streptococcus which he called the *S. scarlatinae*. It seemed as though there were periodical epidemics of belief that the organism of scarlet fever had at last been discovered.

Dr. COPEMAN, in reply, said that he was glad this work had brought into prominence again the work of Klein. He could remember the time when it was scoffed at, but it had a very sound basis. It was true that scarlet fever was not now a serious disease in this country, though it was quite possible that at some time in the future a wave of more virulent infection might arrive. But even as matters stood this American work was likely to be useful when the possible complications of scarlet fever were considered. It was well known that some of the most severe complications of a disease were not unlikely to follow an exceedingly mild manifestation of the disease itself, and in the case of scarlet fever such complications as otorrhoea, rhinitis, and nephritis were the bugbear of the epidemiologist.

## BACTERIAL URINARY INFECTIONS.

A MEETING of the Section of Urology of the Royal Society of Medicine was held on April 23rd, with the President, Mr. CYRIL A. R. NITCH, in the chair.

Professor LEONARD DUDGEON opened a discussion on bacterial infections of the urinary tract. He considered first a group of bacilli which resembled *B. paratyphosus* in appearance, but differing from that organism in being haemolytic. This infection clinically resembled paratyphoid and was often diagnosed as such. The causal organism could often be recovered from the intestine and proved by serological tests to be identical with that in the urine. The disease, though relapses did occur, was not so intractable as the chronic form of *B. coli* urinary infection. Vaccine treatment was generally contraindicated as the sufferers exhibited a remarkable hypersensitiveness. Charts were shown to illustrate the type of fever in untreated cases, and the effect of vaccines. The next organism to be considered was the *B. coli*, of which there were two varieties: A, haemolytic, and B, non-haemolytic. It was remarkable that 70 per cent. of coli urinary infections in the male were of the haemolytic variety, whereas in the female the proportion was reversed. He had no doubt that the origin of the infection was from the intestinal tract, and had frequently isolated an identical organism from the faeces and from the urine. Experimentally it was difficult to produce a urinary *B. coli* infection by intravenous inoculation, so long as there was no obstruction in the urinary tract. Vaccines were useful only in the haemolytic variety, and hypersensitiveness to vaccines occurred in many cases. Often after the acute symptoms had subsided, the organism was still present in the urine, and when relapses occurred it was almost always the same organism. From this he maintained that so-called re-infections were in reality relapses. *B. proteus* infections might be very severe. The bacilli could be recovered from the blood stream and the intestinal tract in addition to the urine, the latter becoming characteristically alkaline and containing large quantities of mucus, pus, and triple phosphates. Vaccines might be tried after the acute stage of *B. proteus* infection had passed off. The *Staphylococcus albus*, occurring in conjunction with pus in the urine, was an almost certain indication of the presence of a calculus.

Dr. E. LEPPER described a number of experiments in the production of lesions in the kidney by intravenous injection of *B. coli*. It was found that lesions could easily be produced if the ureter were obstructed for even a short time (experimentally this was done by means of an elastic band which produced no permanent effect upon the ureter), whereas no effect was produced by the injection of large doses of *B. coli* in the absence of obstruction. She concluded that compression of the ureter led to dilatation of the pelvis with engorgement and stasis, and minute haemorrhages from the veins. In these circumstances the organisms gained access to the renal tissue. Sections of the lesions produced in rabbits were exhibited on the epidiascope, some of which showed embolism of small arteries by solid masses of bacilli.

Sir JOHN THOMSON-WALKER, who discussed the diagnosis and treatment, referred first to the prodromal symptoms. For four or five days before a bacterial infection of the urine became manifest there was malaise, hypersensitiveness to heat and cold, irregularity of the bowels, and increased frequency of micturition. When the disease became established the frequency became great, and finally passed into the stage of strangury. There was a rigor, the temperature shot up to a high level, the urine became cloudy and not infrequently contained blood. The bowel was distended, there was obstinate constipation, and often acute abdominal pain. The kidney often enlarged so much as to give rise to a suspicion of pyonephrosis, which was especially to be suspected if the urine was clear. Localizing symptoms—such as pain in the loin, enlargement of the kidney or prostate—were present in the majority of cases, but occasionally were totally absent. The course of the disease was very variable, and relapses were common. Puzzling cases were: (1) those in which there was high

fever, often accompanied by severe nervous symptoms and no signs other than bacilluria; (2) those in which there was pain only—it was to be remarked that actual renal colic might occur in this disease without any calculus; (3) those in which haematuria was the main symptom; and (4) those in which the urine was sterile. Clinically three types of the disease were recognizable: (1) recurrent pyelo-cystitis, (2) cystitis, (3) bacilluria. The second was comparatively rare, since the real source of the trouble was often found in the renal pelvis. In 100 consecutive cases diagnosed as cystitis the urine from both kidneys was sterile in only 42; in 30 cases one kidney was infected, and in 28 cases both kidneys. The clinical type known as bacilluria was the variety which gave rise to chronic toxæmia, with fibrositis and various joint troubles: these cases were often regarded as being neurasthenics. The infection having its origin so frequently from the bowel, prophylaxis should start there. Drastic purgation, which removed the normal protective coat of mucus and possibly damaged the epithelium, was to be avoided. He had seen bacilluria follow drastic purgation, Plombières treatment, and occasionally the removal of a normal appendix. Urinary infections were apt to follow operations on the bowel and female pelvic organs. In such cases he advocated a preliminary course of urinary antiseptics as a prophylactic measure. The treatment of these conditions was governed by the reaction of the urine. Urotropine acted only in an acid medium, and in acute conditions there was little time for it to give off formalin as the bladder would not tolerate an acid urine. He had no experience of the new compound hexamethyl resorcinol. In alkaline urines methylene blue and certain other dyes, among them mercurochrome, exerted an antiseptic action, but were not nearly so powerfully antiseptic as urotropine in acid urines. He advocated washing out the renal pelvis only in cases in which there was no infection in the lower urinary tract, and no urinary obstruction, an exception to the latter being made in the pyelitis of pregnancy.

## METABOLISM AND THE SYMPATHETIC SYSTEM.

In the Section of Medicine of the Royal Society of Medicine on April 28th two communications were made—one by Dr. ERICH LESHKE, professor of medicine, University of Berlin, on metabolism and the sympathetic system, and the other by Dr. O. LEXTON, on a condition to which he gave the name of "hypoglycypresis." Dr. ROBERT HUTCHINSON presided.

Professor LESHKE began by saying that the whole interest of clinicians, pathologists, and physiologists of recent years had been absorbed in the study of the well marked and fundamental influence of the endocrine glands upon metabolism. At the time when he began his own experimental and clinical work on the hypothalamic centres of the autonomic nervous system and their influence on metabolism it seemed heresy to suggest that many troubles, like diabetes insipidus, dystrophia adiposo-genitalis, and some forms of glycosuria, might be of nervous rather than glandular origin. His line of research had, however, now been justified, and evidence had been brought together showing the importance of the role of the sympathetic centres in the diencephalon in the regulation of metabolism.

He spoke first of his search for clinical evidence as to the causation of diabetes insipidus. His work had led him to abandon the pituitary theory and to look for some other pathogenic factor. In clinical pathology the alterations which led to diabetes insipidus were chiefly those involving the infundibular region and the tuber cinereum. In one well known case of diabetes insipidus occurring after a gunshot wound, the bullet was found not in the sella but in this region. A few cases had been reported where diabetes insipidus arose after an attack of epidemic encephalitis; he had also seen the disappearance of diabetes insipidus after encephalitis, and it was known that epidemic encephalitis was a cerebral disease, not a glandular one. The frequent occurrence of diabetes insipidus after injuries to the skull was explained by the fact that the infundibular region was one of the most exposed parts of the brain to injury. He instanced the case of an officer who, after

a shell explosion, wounding his forehead, immediately developed bitemporal hemianopsia and persisting diabetes insipidus. In many of these cases diabetes insipidus persisted for life, and the presence of nervous troubles, with the absence of real pituitary symptoms, was in favour of the theory he had advanced—that is, the diencephalic as against the pituitary theory. He had dwelt perhaps somewhat too long on diabetes insipidus, but it seemed to him to afford an interesting example of the regulating influence of the autonomic nervous system on metabolism. Disturbance of this regulation led to polyuria, or, in slighter cases, only to diminution of urine concentration. It was of the greatest importance to make a thorough histological examination in cases of diabetes insipidus coming to autopsy. He had seen one case from his own clinic with normal hypophysis and exclusive degeneration of the supra-optic. Similar cases had been published in Paris. Histological examination in these cases would make for a better localization of the sympathetic "centres" (if it was allowable to use this inexact term) in the diencephalon or interbrain, and to establish their relation to the pituitary body.

Professor Leschke came next to a discussion of dystrophia adiposo-genitalis. There was hardly any part of the hypophysis or its neighbourhood which had not been thought of as furnishing the cause of this interesting anomaly. With regard to the posterior lobe, he had an impression, from animal experiments and from a case of isolated posterior-lobe destruction by an epithelioma, that it had not much influence either on growth or on metabolism. Destruction or atrophy of the anterior lobe nearly always gave rise to genital atrophy. Obesity following hypophysectomy had been observed by Cushing and others, but lesions of the infundibular region could not be excluded, the more so as Victor Horsley in his experiments did not obtain obesity. On the other hand, all the classical phenomena of Fröhlich's syndrome could experimentally be reproduced by mere lesion of the diencephalon between the tuber cinereum and the corpora mamillaria. The *post-mortem* findings in more than ninety cases clearly demonstrated how unsatisfactory the pituitary hypothesis was. In some cases the lesions had been found in the anterior lobe, in others in the posterior, in a third group in the pars intermedia and ductus infundibularis, and in more than twenty of the cases the pituitary gland had been found to be quite normal, or so slightly affected that it could not be regarded as impaired functionally. The pituitary theory, which formerly held the field, had now, he thought, weakened. His own view was that the diencephalic centres always played the foremost part in the development of dystrophia adiposo-genitalis, but he did not deny that the pituitary body had a great influence upon the function of these centres and that its internal secretion was indispensable, not only for normal growth and sexual development, but also for normal metabolism. It was more than probable that the sympathetic centres regulating metabolism and sexual development were not identical, though closely related. He mentioned one variation of dystrophia adiposo-genitalis which he had met with in four cases; this included a most characteristic skin pigmentation, hundreds of small naevi, like those of Recklinghausen's disease, from which the condition was distinguished by the absence of neurofibromata and the presence of signs of certain endocrine and sympathetic disturbances. This syndrome, which he was convinced was not uncommon, he proposed to call "dystrophia pigmentosa."

Finally Professor Leschke mentioned diabetes mellitus. It might seem wrong to associate the diencephalon with diabetes, now that the pancreatic origin of diabetes had been definitely proved by the success of insulin therapy, but pancreatic activity, like any other glandular function, was under the regulating influence of the sympathetic nervous system. He was convinced that disturbance of sugar tolerance and blood-sugar level was due to involvement of the interbrain rather than to the derangement of pituitary function. Among 180 cases of acromegaly he had found glycosuria or hyperglycaemia in 82. He had also found a true combination of diabetes mellitus and insipidus. The impairment of urine concentration was

hidden by the presence of sugar, which gave apparently normal figures of specific gravity. Both diabetes and obesity had been observed to develop after tumours and inflammations of the diencephalon and its base. There seemed no doubt that disturbances of the regulative function of the interbrain between the tuber cinereum and corpora mamillaria gave rise to lowering of carbohydrate metabolism and obesity, those of the corpus striatum to hyperglycaemia and glycosuria. His general conclusion was that a close relation existed between endocrine glandular activity and sympathetic nervous regulation. He pleaded for a more synthetical point of view, like that of the Hippocratic school in olden times, which had been neglected in the past century in favour of the analysis of symptoms. He was quite aware of the hypothetical character of many of the views he had expressed, but he thought it was well if at the base of scientific progress there was some imagination—and even some phantasy.

Dr. F. PARKES WEBER said that he had recently had the opportunity of examining a few cases allied to the rather rare types referred to by Professor Leschke. Since January, 1923, he had occasionally seen a man (Hebrew), then aged 39 years, with retinitis pigmentosa, obesity, and sexual impotence—an isolated (non-familial) case, and not a typical case of dystrophia adiposo-genitalis. His attention had been specially drawn to the subject by Solis-Cohen and Weiss of Philadelphia, who had published their family group of similar cases in the current number of the *American Journal of the Medical Sciences*. At a recent meeting of the Neurological Section of that society Dr. Douglas McAlpine had demonstrated an isolated case of retinitis pigmentosa with hypopituitarism and polydactylism in a boy, aged 15 years. Recently Dr. Adolphe Abraham had shown him a man, aged about 40, whose whole body was covered with small blackish pigment naevi (lentiginos), and who had a peculiar excess of the soft parts of his fingers and toes, with ulnar deviation and overextensibility of the fingers, but not the typical dystrophia adiposo-genitalis mentioned by Professor Leschke. He (the speaker) regarded this case as allied to Recklinghausen's disease and tuberous sclerosis of the brain, the patient having likewise a gradually progressive hemiplegia of the right side which might be explained in that way. The pigment naevi might be regarded as taking the place of the facial naevi of the adenoma sebaceum kind which had been noted in a good percentage of cases of tuberous sclerosis. With regard to the peculiarity of the patient's fingers and toes, he could not help thinking of the rare cases of clubbed fingers of congenital or early developmental origin, which might be familial; these he had recorded in the *BRITISH MEDICAL JOURNAL* in 1919 (ii, p. 379). With regard to the consideration of the two rare combination types just referred to, he drew attention to the following points: the retinitis pigmentosa might be represented by an atypical pigmentary degeneration of the retina; the dystrophia adiposo-genitalis might be incomplete and atypical; the symptoms of Recklinghausen's disease might also be incomplete and atypical; the other occasionally associated developmental abnormalities, such as polydactylism or congenital malformation of the heart, might be various in kind or degree. He believed that the association of polydactylism with definite or incomplete dystrophia adiposo-genitalis and retinitis pigmentosa was to be regarded as analogous to the occasional association of congenital cardiac abnormalities with mongolism.

Dr. W. LANGDON BROWN was inclined to general agreement with Professor Leschke's view as to the part played by the hypothalamus—all the observations of recent years tended in that direction—but it was quite possible that the pituitary was the mechanism through which the hypothalamus acted. It was well known that pituitrin was a powerful antidiuretic. Injected into the blood stream it would hold up the excessive output of urine for a considerable time. Was it probable that this glandular structure would have been placed in such close relation with the hypothalamus if there was no functional connexion also? The pituitary was quite capable of acting without the nervous system, but he would suggest that it was put into action through that system, and that some of the difficulties



encountered in interpreting results were capable of being resolved along the lines of that hypothesis. One of the great difficulties in all these pituitary cases was the very partial grouping of the symptoms. It was well known how extraordinarily varied the grouping of symptoms might be in what appeared to be pituitary lesions, and he thought that Professor Leschke's suggestion that a great deal of the regulation of the water metabolism was governed by the balance between the tissues and the blood was in harmony with the general trend of physiology. He recently had a case which came for treatment for diabetes insipidus. No pituitary lesions were found. Some months afterwards the patient came up again for cerebral symptoms, obviously tumour, probably pituitary, and at that time she had only a very moderate polyuria. This patient ultimately died, and was found to have a tuberculoma of the pituitary body. It was an interesting fact that the first suggestion as to the nature of the lesion came from the diabetes insipidus. That case, of course, did not prove or disprove the theory, but it showed that as the lesion advanced in the pituitary the diabetes insipidus became a less marked feature. He was quite prepared to believe that a great many of these effects came about through the sympathetic nerves, like the association of the pineal gland and sexual precocity, which was not an endocrine association at all, but probably came about through nervous structures. He felt that there had been rather too much made of the pancreatic theory. He would have preferred to put it, so far as the pancreas was concerned, in this way, that not all cases of diabetes were pancreatic in origin, but that they would become pancreatic if the hyperglycaemia was allowed to persist. He was interested to find that Professor Leschke had evidence pointing in this direction. As to the association between diabetes mellitus and diabetes insipidus, it had been a common observation for the last two years that insulin very often, while stopping the glycosuria and checking the hyperglycaemia, did not check the polyuria. That was a further fact pointing to the pituitary origin of some cases of diabetes mellitus.

#### "HYPOGLYCOPYRESIS."

Dr. O. LEYTON, in explanation of his title, said that in the past diseases had been named either after the men who had described them or after their most prominent symptom or symptoms. He instanced the diseases to which the names of Basedow and of Graves had been attached. The disadvantages of calling a disease after a man were that it added to the burden of the memory and also that it led to confusion in different countries, where different names were adopted. Certain disadvantages also attached to the naming of a disease after the most prominent symptom, because at the beginning of the disease the symptom might not be present. Diabetes mellitus owed its name to the two signs—polyuria and glycosuria. The onset of diabetes might be insidious or acute. At present there was no proof that those cases which appeared to be acute were not really insidious, and had been aggravated by some toxæmia. When the onset was insidious there was a stage when there was no polyuria or glycosuria, but only a slight diminution in the efficiency of the carbohydrate metabolism. Such cases, he suggested, might be called by the term "hypoglycopyresis," meaning a diminution in the burning of sugar. He admitted that it was a cacophonous term, but he was open to hear suggestions for a better. An early "hypoglycopyresis" had neither polyuria nor glycosuria unless the patient underwent some pancreatic "orgy." The question naturally arose, How was the condition recognized if there was no polyuria and no glycosuria? One hoped that in the future it might be possible to recognize "hypoglycopyresis" in the descendants of diabetics, especially in obese descendants; the recognition of the condition would permit of advice being given whereby the disease might be arrested. The method adopted for recognizing this deficiency in the carbohydrate metabolism was to give injections of glucose. Dr. Leyton described his plan of injecting a measured amount of dextrose intravenously, and said that, although cumbersome, it was to be preferred to administration by the mouth, because oral administration led to many fallacies, and in addition the other method was better from the point of

view of the time factor, which was important. But he must warn those who gave intravenous injections of dextrose to be careful to obtain pure dextrose and to be punctilious in technique. He gave in detail observations on two cases, which he illustrated by curves. The second and perhaps more interesting of these cases came his way because the patient had a low renal threshold. Sugar had been found in his urine six months before he came under his observation, but he had no thirst to speak of and he never had polyuria. The examination for the blood sugar showed that it was not a case of diabetes mellitus, but his blood sugar rose to a certain extent after a sweet meal. It was found that his carbohydrate efficiency was 75 per cent.; in other words, he suffered from "hypoglycopyresis," not sufficiently to cause thirst or polyuria, but sufficiently to cause hyperglycaemia after the absorption of sugar in large quantities. This patient had a duodenal ulcer, and was operated upon, and on the sugar in his blood being tested some three months after operation he was found to have developed something approaching to diabetes, probably owing to the anaesthetic given him at the operation—for it was found as a rule that an anaesthetic permanently depressed the carbohydrate metabolism in mild diabetes. Dr. Leyton concluded by saying that this case and the other seemed to him to prove that there was a condition of depressed carbohydrate metabolism long before there was any true diabetes mellitus. The question was, What should it be called?

Dr. PARKES WENGER asked whether there was any relation between these cases and cases of renal diabetes—whether the two had ever occurred together. Dr. LEYTON replied that he did not think the one protected against the other. The reason one investigated these cases was because the threshold was low, but one could come across cases of so-called renal glycosuria with normal sugar-burning.

#### DIAGNOSIS OF THE DYSPESIAS.

At a meeting of the Bristol Medico-Chirurgical Society on April 8th, the President, Dr. J. O. SYMES, in the chair, Mr. A. RENDLE SHORT read a paper on the diagnosis of the dyspepsias.

Mr. Rendle Short's observations were based on a series of 100 cases of non-malignant dyspepsia, all studied on a definite plan, verified by operation, and mostly followed up subsequently. Increased accuracy in the diagnosis of dyspepsia was due to better knowledge of physiology, disregard of haematemesis as a diagnostic point, watching the movements of the bowel by means of an x-ray screen, and better classification. It was now known that both the hypersthenic and the hypotonic types of stomach might exist in perfectly normal persons. In the former type the viscus emptied quickly; the patients were apt to have an excess of acid, and were "hungry folk." On the other hand, achlorhydria was not necessarily a sign of disease any more than was visceroprosis. It was now known that a nervous reflex mechanism controlled the sphincters of the alimentary canal, so that delay in any one part might cause general disturbance, producing symptoms referred to a region distant from the actual site of the disease. The minute lymph nodules, found especially along the lesser curvature of the stomach, might ulcerate and bleed. Haematemesis might be the only symptom of disease; or there might be dyspepsia due to causes outside the stomach and duodenum, and accompanied by a dangerous bleeding; or, finally, there might be bleeding from a chronic ulcer. In the series 1 in 3 of the gastric and duodenal ulcers were accompanied by bleeding, and 1 in 6 of the cases of appendicular dyspepsia. Mr. Rendle Short classified dyspepsias as functional, organic, or reflex. The functional type was not hysterical, but implied a disturbance of function, as with the acute and chronic gastritis of alcoholism, dyspepsia of phthisis, anaemia, and anorexia nervosa; all these were the province of the physician and were curable by medical means. The reflex dyspepsias were: (1) Gall-bladder dyspepsia, flatulence and vomiting being prominent, the vomiting coming especially after certain foods. Treatment with alkalis was unavailing, and there was often some gastric delay. (2) Appendix dyspepsia; pain was usually not very severe,

but continuous and worse after food, the patients often vomiting without relief of pain. (3) Undiagnosable reflex dyspepsia—pain and vomiting were not related to each other or to food. Organic disease of the stomach or duodenum might give rise to several types of dyspepsia: (1) Gastric ulcer. A definite sequence was usual, thus: food, relief, pain, vomiting, relief. The relief following a meal tended to be rather over half an hour. The pain was severe and vomiting the rule. A test meal was useless in diagnosis, but x rays might give great help. If, later, pain became continuous and was felt in the back, pancreatic involvement might be suspected. (2) Duodenal ulcer. Vomiting was less common, only half the cases showing it. Relief obtained by food was usually over an hour. The pain was severe, the test meal of little service, though hyperchlorhydria was the rule, and deformation of the skiagraphic duodenal cap was characteristic when present. The stomach usually emptied quickly unless stricturing had ensued, but this was a cause rather than a consequence of the ulcer. (3) Duodenal ileus might occur by itself or be a symptom of other disease: flatulence and nausea were marked, vomiting common, pain not severe, and the relation to food was obscure. The skiagram might be definite, showing great delay and distension in the second and third parts of the duodenum; duodeno-jejunostomy cured the condition. (4) Periduodenal adhesions might give rise to severe pain, even after taking water; vomiting was usual, bleeding absent, and the x rays showed gastric delay. (5) Gastric cancer was accompanied by great loss of appetite, and pain might be continuous. A test meal might show nothing, but x rays might reveal a typical deformity. (6) Pyloric stenosis, hour-glass stomach, or leather-bottle stomach might account for dyspepsia. Mr. Rendle Short showed a number of skiagrams illustrating his paper.

#### *Diagnosis of Nasal Sinus Disease.*

Dr. P. WATSON-WILLIAMS read a note on some points in the diagnosis of nasal sinus disease, showing how it was possible to differentiate between cells, using the suction-syringe method of sinus exploration. Especially might this become important when one sphenoidal sinus was very large and the other small. The large sinus might be entered from the opposite side of the nose, in mistake for the sinus of that side, and the latter thus overlooked. In certain cases, notably those with involvement of vision, this might lead to serious errors in diagnosis. The point was illustrated by a collection of lantern slides.

### ROYAL ACADEMY OF MEDICINE IN IRELAND.

A MEETING of the Section of Surgery of the Royal Academy of Medicine in Ireland was held on April 3rd, with the President, Mr. R. C. B. MAUNSELL, in the chair.

#### *Jejunostomy in Acute General Peritonitis.*

Mr. SETON PRINGLE read a paper on jejunostomy in acute general peritonitis, and referred to a previous communication in which he had advocated this operation; he stated that his recent experience had confirmed his opinion of its usefulness. He disagreed with Sampson Handley, who had recently stated that jejunostomy was inadvisable because it entailed a loss by the patient of great quantities of fluid, and required a second operation for its closure should the patient survive. From his own experience Mr. Pringle confidently asserted that neither of these objectionable results would follow a jejunostomy performed after the manner advocated by C. H. Mayo.

Mr. H. STOKES said that the procedure described by Mr. Pringle had been adopted in the Mayo Clinic about five years ago, and unquestionably in a great many cases it had been very efficacious. He had found some difficulty in getting the tube to drain. At present he had a patient on whom he had operated for septic peritonitis from perforation, using the method described. The patient was going on splendidly, and had never vomited since the operation.

Mr. A. K. HENRY asked whether the operation should be limited to cases in which there was a localized peritonitis,

or where pelvic peritonitis was more definite than abdominal peritonitis.

Mr. C. J. MACAULEY said that jejunostomy had been advocated by Victor Bonney and Sampson Handley for some time. The intestine should be followed up until a heavy coil was found; if this was done there should be no difficulty in getting the tube to drain. He drew attention to the remarkable effect this method had in stopping vomiting. The opening must be made in such a way as to encourage spontaneous closure after removal of the tube. In some cases of pelvic peritonitis the obstruction did not cease with the subsidence of the peritonitis. The success of jejunostomy in these cases depended on the absorption of pelvic exudate and the power of the intestines to empty themselves. It was useless to relieve the mechanical obstruction in bad cases unless jejunostomy was performed at the same time.

#### *Dislocation of the Semilunar Bone.*

Mr. R. A. STONEY read a note on a case of dislocation of the semilunar bone, and showed a specimen.

The patient was a man, aged 40, who dislocated the semilunar bone as a result of the backfire of a motor car. The case was not seen until five months after the accident. Distinct antero-posterior thickening of the wrist was present without relative change in the position of the styloid processes of the radius and ulna. There was considerable disability, and teno-synovial creaking was obtained on the front of the wrist when the patient flexed the index finger. The bone was removed by an anterior incision; passive and active movements were commenced on the second day after the operation.

Anterior dislocation of the semilunar had been mentioned by Eriksen in 1872, and by Taffe of Brighton. Since that time several cases had been described, many of them associated with fracture of the scaphoid. The semilunar bone alone among the carpal bones had a larger palmar than dorsal non-articular surface, and consequently the bone was wedge-shaped, with the base anteriorly. In forced hyperextension of the wrist the bone was liable to be shot out between the lower end of the radius and the second row of the carpal bones. The diagnosis might be made by detecting antero-posterior thickening of the wrist, partial flexion of the fingers, and possibly tingling in the distribution of the median nerve in the hand; it was confirmed by a lateral x-ray examination of the wrist. If recognized early it might be possible to reduce the dislocation under an anaesthetic. If the diagnosis was not made until late it would probably be necessary to remove the bone in order to relieve the disability.

Mr. C. J. MACAULEY thought that sometimes considerable disability in the wrist arose because the diagnosis of dislocation of the semilunar bone was not made. All cases of this sort should be carefully x-rayed, because a good deal of trouble might be avoided if the patient was made to realize at the beginning that he had something more than a sprained wrist which would be healed in a few days. He thought there was no question that excision was the right treatment if the dislocation did not yield to manipulation.

#### *Surgical Exposure of the Radius.*

Mr. A. K. HENRY described (1) a complete exposure of the radius, (2) an exposure of the second stage of the vertebral artery, illustrating his account with anatomical preparations. In the complete exposure of the radius the skin and deep fascia were divided by an incision extending from the distal end of the biceps to the radial styloid. The biceps tendon was exposed, and a finger passed along its radial border met the loop of the recurrent radial vessels; this was divided. The three long muscles which flanked the radius could then be retracted outwards, exposing the lower part of the shaft. The upper third was exposed by peeling the supinator brevis from the bone. Division with the knife of the bicipital bursa just external to the biceps insertion gave sure access to the edge of this muscle, which skirted the bursa, but was obscured by fat and areolar tissue. The posterior interosseous nerve lay between two layers of the supinator brevis, and was raised with it by the rugine.

Mr. R. A. STONEY thought the first demonstration would be of more frequent use to surgeons than the second. The

second was extremely interesting, but he did not think it likely that many of them would often be required to perform this operation, whereas exposure of the radius was an operation which might be necessary at any time. It was very helpful to have a simple method by which injury to the posterior interosseous and radial nerves could be avoided with certainty. This was a point of very considerable surgical importance.

Mr. A. CHANCE said that, Mr. Henry's previously described methods of exposure of the humerus and femur having proved excellent in practice, he was particularly interested in Mr. Henry's suggestion regarding exposure of the radius, since he had under his care a case of new growth of the radius for which he contemplated local excision. Removal of a portion of the radius was most frequently required for fractures of the head of the radius, and he had been in the habit of adopting a posterior incision.

Mr. HENRY, replying, did not think the method he had described would be a good one for exposing the head of the radius; it was intended as a method of exposing the entire shaft.

### LEGAL RESPONSIBILITY OF THE SURGEON.

LORD JUSTICE ATKIN presided at a meeting of the Medical-Legal Society, held in London on April 25th, when Lord RIDDELL read a paper entitled "The legal responsibility of the surgeon."

Lord Riddell said his object was to offer a few observations regarding certain problems of surgical responsibility in the light of modern ideas. By the wording of the Draft Criminal Code of 1880, everyone, whether a licensed practitioner or not, was protected from criminal liability for performing with reasonable care and skill any lawful surgical operation on any person with his consent, and for his benefit, providing that the operation was reasonable, having regard to the patient's state at the time, and to all the circumstances of the case. Consent might be given by the patient's guardians or relatives, if the patient was incapable of himself consenting. The extent of the consent must not be exceeded. In cases of emergency, however, the person about to perform the operation might act on his own responsibility. This exception applied when in the course of the operation the surgeon found it necessary in the patient's interest to go beyond the consent given. The rules were the same in civil proceedings for negligence, but the interpretation of reasonable care and skill was more stringent, and the consent of the patient might absolve the person performing the operation from civil liability. *Prima facie*, the rule as stated seemed fairly plain, but the application of general principles was often an elusive task. For instance, an abortion was an illegal operation unless the life of the mother would be endangered by allowing her to go her full time. Mortality with regard to a certain operation might be, say, 97 per cent.: was the surgeon justified in operating after explaining the danger to the patient? And would such operation on a dying man be justified, and yet improper in the case of one whose condition was not so grave? If the surgeon was satisfied that the operation would not save a dying patient's life, was he justified in performing it to please the patient? It was obviously impossible to lay down general rules for these cases.

During recent years the public and the medical profession had been faced with new problems arising partly out of the study of eugenics, partly out of new obstetrical and surgical discoveries and methods, and partly out of the aims and aspirations of modern men and women. These might be propounded by the question, "In what circumstances was it legally and technically justifiable to sterilize a man or woman?" Needless to say, no surgeon was bound to perform such an operation. There was a widely prevalent idea that, apart from illegal abortion, a surgeon and patient were entitled to agree upon any operation, and that if death resulted the consent of the patient relieved the surgeon from responsibility. That was erroneous. The validity of the consent depended upon the nature of the operation. A man might not maim himself or arrange with another person to maim him. To-day interest centred

around vasectomy, which was, he was told, not uncommon in certain circles when married couples did not wish for offspring owing to the state of health of husband or wife, or for economic reasons, or because of the husband's family history—for instance, a strain of lunacy. In law such operation amounted to "maiming." The sterilization of women was a much more frequent operation, and the questions involved were of wide and growing importance. The law regarding operations on women was not so clear as that relating to men. He thought such an operation was illegal if performed upon a healthy woman, consent or no consent. The continuation of the race was a matter of public policy, and the sterilization of women to gratify a mere caprice would appear to be contrary to the public welfare and therefore illegal. The surgeon was faced with the difficult problem as to whether the operation was justifiable as a prophylactic measure to avoid a pregnancy or series of pregnancies, certain to be difficult or dangerous. It must be remembered that other methods of avoiding conception were available, including, of course, self-restraint.

Furthermore, what degree of threatened danger, or discomfort, justified the operation, and was it justifiable when the pathological condition was one that might not be permanent—for instance, a weak heart? What was the surgeon to do when appealed to by a workman's wife, who stated, in effect, that she had only three alternatives: (1) repeated pregnancies of a trying and dangerous character; (2) a sterilizing operation; (3) the loss of her husband? Most people would agree that there was nothing contrary to public policy in performing the operation in these circumstances. Then there was the still more difficult case of the woman who had had, say, five children in five years. The strain on her health had been severe, and the husband's financial position made it undesirable, in the interest of herself and her family, that she should have more children. She was anxious to be sterilized. Was the surgeon justified in performing the operation? Was the patient's general state of health and the prospect that it would become worse if she again became pregnant a pathological condition justifying sterilization? It would be interesting to know what medical evidence of justification, or otherwise, would be forthcoming in the event of a prosecution for manslaughter owing to a sterilizing operation. It was just as well that the subject should be ventilated. The public was entitled to know what was happening and what opinion the medical profession held. An interesting question arose as to whether the husband's consent was necessary if the wife herself consented. Supposing he would not consent, or, for some reason, his consent was not obtainable, what course was to be taken? A husband might well have a cause of action against his wife and the surgeon for depriving him of the possibility of offspring. It seemed clear that the husband would have no claim in respect of such an operation when rendered necessary by definite pathological conditions.

Then the sterilization of the mental defective was a favourite plan of eugenicists. It was certainly alarming to learn that there were some 13,000 mental defectives in the United Kingdom, and that in twelve workhouses in one part of England twenty-three mentally defective women had had between them at least fifty-one children. Was sterilization legal in such cases? He considered the reply must be in the negative, unless the operation was for the benefit and welfare of the patient. The patient's consent would not justify the operation, even if he or she had sufficient mental capacity to give a valid consent. It was also clear, he thought, that the parent, or guardian, had no power to consent in such cases.

Lastly, the speaker touched on the legality of some of the so-called cosmetic, or beauty parlour, operations. The law seemed to be that such operations were not illegal, as they were not "maiming" operations. But here again the question of consent came in. Was a wife entitled to disfigure herself as she thought fit? If the beautifying operation turned out badly, could the husband sue his wife and the surgeon for damages? Was the wife's consent a bar? In short, could she do what she liked with her own face? There was this consolation for the surgeon—that if death resulted the action must be brought under the Fatal

Accidents Act, usually called Lord Campbell's Act, which provided that the representatives of the deceased had only the same right of action that the deceased had possessed. Thus, modern surgical methods and modern desires had raised new problems demanding the thoughtful attention of lawyers and surgeons, although happily in practice they rarely demanded solution.

### DIAGNOSIS OF PULMONARY TUBERCULOSIS.

At a recent meeting of the Royal Medico-Chirurgical Society of Glasgow, the President, Professor ARCHIBALD YOUNG, in the chair, Dr. IAN STRUTHERS STEWART of Nordrach-on-Dee spoke on "Some points in the diagnosis and prognosis of pulmonary tuberculosis."

Dr. Stewart referred briefly to the pathology in relation to the infection and subsequent spread of the disease. The infection at first attacks the lymphatic system; in the less acute cases the route may be through the tonsil to the cervical, mediastinal, bronchial glands, and thence by way of the peribronchial lymphatics of the larger bronchi to the lung, the subpleural lymphatics, and the visceral pleura. The inflammatory changes which take place in the bronchial wall as a result of the infection of the peribronchial lymphatics may be followed by caseation, ulceration into the lumen of the bronchus, and infection of the lung, or by blocking of the lumen with subsequent collapse of the lung area supplied—a condition which favours the further spread of the disease. Referring to the comparative frequency of the early signs and symptoms, Dr. Stewart gave the following percentages of frequency in 200 consecutive cases: cough 60 per cent., lassitude 48 per cent., pyrexia 42 per cent., hæmoptysis 27.5 per cent., pleurisy 24.5 per cent., loss of weight 12 per cent., loss of voice 8 per cent., night sweating 7 per cent., dyspepsia 3.5 per cent., neurasthenia 1 per cent. Dividing these into toxæmic and localizing symptoms emphasized the fact that the toxæmic symptoms—namely, lassitude, pyrexia, loss of weight, night sweating, indigestion, and neurasthenia—might appear before any physical signs could be detected. The importance of accurate observation of the temperature was urged, and several illustrative charts were shown. The speaker went on to correlate the signs and symptoms with the pathological changes. When the infection was spreading through the lung it might be that the only signs present were loss of expansion—more obvious above the nipple or in the axilla—with some faintness of breath sounds on one side. Narrowing of Krönig's area of resonance over one or both apices might be found, or diminished tidal expansion at one or other base. Dullness was not usually demonstrable at this stage, but a few fine crepitations, audible only after coughing, under or above the clavicle or external to the nipple, or in the interseapular region, ought to be viewed with suspicion. As the swelling of the bronchial wall increased the breath sounds became harsh, and this harshness was more easily detected in inspiration. With the bronchopneumonia dullness appeared, often detected more easily high up in the axilla. Broncho-vesicular breathing now appeared, becoming more bronchial as the consolidation increased. To detect the earliest evidence of pulmonary tubercle both percussion and auscultation must be used in conjunction with systematic inspection and palpation.

THE annual general meeting of the International Society of Medical Hydrology took place in Paris on April 20th and 21st, and was attended by the representatives of eight countries. Dr. Gustave Monod (France) was elected president for the year, in succession to Dr. Fortescue Fox (England). On the motion of Dr. VAN BREEMEN (Holland) a committee was appointed to report upon the incidence of chronic rheumatic diseases in Northern Europe and upon their treatment by physical methods. The following subjects were discussed in Professor Carnot's laboratory at the Faculté de Médecine: (1) Insulin treatment in relation to medicinal waters, introduced by Drs. CHABANIER (France), POULTON (England), and ERSTEIN (New York); (2) the spa treatment of rheumatism of traumatic origin, introduced by Drs. SCHMIDT (Czechoslovakia) and VINCENT COATES (England). Demonstrations and lectures were given by Dr. LÉPAGE and Professor DESGREZ.

## Reviews.

### SIR WILLIAM OSLER'S LIFE.

THE eagerly expected *Life of Sir William Osler*,<sup>1</sup> by his distinguished pupil, Professor Harvey Cushing, now of the Peter Bent Brigham Hospital, Boston, Massachusetts, has appeared within four and a half years of the beloved physician's death, and has obviously been a labour of love carried out with affectionate care. The story of one whose admitted motto was "Write me down as one who loves his fellow men" has been written in fragments by many hands, and his "Counsels and Ideals" have been collected by Dr. C. N. B. Carnae, but here it is sympathetically told as a well balanced whole. Early in 1920 there was a widespread wish for such an account of the manifold activities of the late Regius Professor of Medicine at Oxford, and by Lady Osler's wish this task was undertaken by Professor Harvey Cushing, who has cheerfully and unsparingly devoted the intervening years to this pious trust. Helped by letters to and from many sources and by Sir William's private pocket-books, for he was an inveterate note-taker, the *Life* is skilfully allowed to tell itself, and the recorder stands modestly back in the shade, as it were, allowing very little light to fall on his association, close as it was; thus the reader is left to speculate about the identity of the "someone" who, when "the Chief" finally left Baltimore in May, 1905, "unscrewed and took away the unpretensions Dr. Osler doorplate." It is rather a striking coincidence that perhaps the most successful medical biography, that of Lord Lister by Sir Rickman Godlee, who has just passed beyond these voices, and now the life of a physician and scholar, are both the products of surgeons' skilled pens.

The book, which is pleasantly written, contains an immense amount of new information, especially about Osler's early days, when he was an athlete and a prefect at school, a keen scientific naturalist, and withal a very human boy; much of it will not only interest but surprise many who, like the reviewer, fancied that they knew a good deal about his doings. A striking feature is the number of unexpected changes and chances of his career that are brought out. He was born in 1849, the eighth of a family of nine, and was to have been named Walter Farquhar, but as his birthday was on July 12th the assembled Orangemen, when shown the new arrival in the arms of the Rev. F. L. Osler, of far-off Bond Head in Upper Canada, insisted that he should be dubbed "William the young Prince of Orange." Later William gave up the idea of caring for souls for the cure of bodies, and in 1872 was anxious to join the Indian Medical Service; soon afterwards he was inspired by Sir William Bowman's example to be an ophthalmic surgeon, hoping to be able to devote his spare time to science. But on Bowman's advice he first spent seventeen months in physiological work at University College under Burdon-Sanderson, whom by a curious turn of fortune's wheel he succeeded thirty-four years later in the Regius Chair of Medicine in Oxford, a possibility which, had it ever entered the heads of a professor of physiology and his pupil with ophthalmological ambitions, would have seemed highly improbable. While thus in London his kindly teacher, Dr. Palmer Howard, Dean of the Medical Faculty at McGill and now widely remembered from the dedication in Osler's textbook, wrote to him explaining the conditions which as the pupil said, "blighted his prospects" as an eye specialist in Montreal. A little later he was offered, perhaps as a consolation prize, a lectureship on botany, but this he had the strength of mind to refuse, and eventually he adopted Palmer Howard's earlier advice "to cultivate the whole field of medicine and surgery, paying special attention to physiology," by, as is well known, accepting the lectureship in Montreal upon "the Institutes of Medicine," as physiology was termed after the Edinburgh fashion. Another feature, not so unfamiliar as some of these incidents to his later-day friends—his

<sup>1</sup> *Life of Sir William Osler*. By Harvey Cushing. In two volumes. Oxford: The Clarendon Press. 1925. (Med. Rev. Vol. I, pp. xiii + 685, 23 plates; Vol. II, pp. x + 768, 21 plates. 37s. 6d. net the 2 volumes.)

irrepressible fun, not to say practical joking—is described: for example, in his creation of Egerton Yorrick Davis, M.D., late U.S. Army Surgeon, of Fort Desolation in the Great Slave Lake District, and afterwards of Caughnawaga, a small hamlet on the St. Lawrence opposite Montreal, on whom he fathered fantastic stories, to whom he attributed even published letters, whose name he took when wishing to be unknown, and who indeed was to him as M<sup>c</sup>Conachie is to Sir James Barrie.

These two volumes are divided on a chronological and geographical basis into three periods, dealing respectively with his life in Canada (1849-1884), in the United States, first at Philadelphia as professor of clinical medicine in the University of Pennsylvania (1884-1889), then as physician-in-chief to the Johns Hopkins Hospital, Baltimore (1889-1905), and lastly at Oxford (1905-1919). The Johns Hopkins appointment was practically in the gift of J. S. Billings, who, an illuminating footnote allows the reader to guess, was converted, by the opinion of Professor W. H. Welch, from a leaning towards the late "Sir Lauder Brunton or a German professor who had been at the German Hospital in London," and is probably not named as he is alive. More than half of the first volume is devoted to the stirring sixteen years at the Johns Hopkins Hospital, where, to mention a later personal trait, he was beginning to be thoroughly steeped in medical history and "his infection with bibliomania was becoming chronic." The Osler most intimately known to his Johns Hopkins pupils was met at informal meetings on Saturday nights, when he would discuss the week's work and then give an appreciative talk, illustrated by early editions, on one or two of his favourite authors, perhaps Sydenham one week, Fuller or Milton the next, a practice he continued at Oxford. His unusual talent as an inspirer of youth was now for the first time appreciated to the full, and his success was far less due to his thorough familiarity with the subject-matter than to his knowledge of young men. What with teaching, practice, and his textbook, which first appeared in 1892 and was frequently revised with a remorseless hand, the days were very full and "he knew no idleness." But he had in a remarkable degree the power of economizing time; "no one could speak to Osler consecutively against his will," for he escaped by magic, but so graciously that those left could not feel any irritation. Though working at high pressure he wisely took holidays, often in England, and from 1894 was a frequent attendant at the Annual Meetings of the British Medical Association, and continued the custom after making his permanent home in this country; he became a member of the Central Council in July, 1905, and took a considerable part in the special clinical meeting in April, 1919, in London "under the Presidency of his brother Regius of Cambridge, for which reason Osler would have attended if for no other." He was also, as would be natural, chairman of the Oxford Division of the Association, and President of the Oxford and Reading Branch from 1919 until his death, but these are only two out of the numerous responsibilities he discharged. To the Baltimore period belongs the interesting photograph of Professors Howard A. Kelly, Osler, and W. S. Halsted, under one copy of which Osler characteristically wrote the appropriate legend: "The Fates: Howard A. Clotho, Wm. Lachesis, W. S. Atropos; the obstetrician holds the distaff; the physician spins the thread; the surgeon cuts it off."

The second volume is rather the larger of the two and has as its frontispiece an attractive and now sadly reminiscent photograph of "father and son," taken in June, 1905, by Dr. A. C. Klebs, an ardent bibliophile after Osler's heart. It deals with the years from 1905 until his untimely death on December 29th, 1919; the heading "The Oxford Period" is no doubt geographically correct, but "in England" or "in Great Britain" would in some respects be better, for, as the text amply shows, his influence and elsewhere whenever there was any work being done or a good cause to be helped. That Professor Cushing-period proves the indefatigable nature of his piety, but it is undoubtedly difficult always to sound the right note, and there is a subject on which, after some hesitation on

account of unavoidable personal bias, I feel a few words should be said. There is some very frank and superior criticism of the Royal College of Physicians of London, the expediency of which, as it is Professor Cushing's opinion, it would be wasting words to discuss, but the following extract deserves consideration, for it concerns some matters of fact:

"It has been seen that Osler was made a Fellow in his Montreal days and subsequently gave the Goulstonian Lectures; and if the College did not receive him twenty years later with open arms doubtless it was because enthusiasm over a newcomer would forfeit its dignity. Moreover, no practising physician or surgeon can be transplanted to another community without provoking some misgivings on the part of those who dislike new ideas or a picture him as a possible rival. But Osler never heeded prickles. He had lived for five years in Philadelphia with Peck and kept on the friendliest terms, and would not have recognized jealousy had he met her, green eyes and all."

Now Osler arrived in Oxford in May, 1905, and was Harveian Orator, which Professor Harvey Cushing describes as "the blue-ribbon event of British Medicine," in 1906, Lancelian Lecturer in 1910, and in 1915 declined an invitation to deliver the FitzPatrick Lectures; there real does not appear to be any evidence of a cold reception of this; but the unpleasant touch in the quoted paragraph the suggestion of jealousy and possible rivalry. This never suspected or saw any evidence of, but, being uncertain of the personnel of the "old brigade" to whom reference is made, I have inquired from others, and the almost identical reply has been, in some surprise, "No one could be jealous of Osler." Surely Osler and many of his friends would have preferred silence on such a matter.

Optimistic in his wisdom, Osler often curbed the fancy and exaggeration of new ideas: thus he published a paper with the paradoxical title, "On the advantages of a trace of albumin and a few tube casts in the urine of certain men above 50 years of age" (1901), and again in 1912 wrote "On high blood pressure: its associations, advantages, and disadvantages." His *Aquinitas*, containing the charming lay sermon on "Unity, Peace, and Concord," his farewell to the medical profession of America should be added to the list of books for a medical student's bedside library, for we are, or should be, students all our days. The account of the Oxford period is no doubt long but so full of incident that the interest is well maintained and is a tribute to the skill with which the *Life* has been carried through. Though the professional work of Sir William is well recorded it is never obtruded, and the well drawn picture presents the man and his personal charm rather more prominently than the great physician and pioneer in medical education in its broadest aspects; and this is as his friends—and they are many—would have it.

Osler's activity in promoting public health measures is regarded by Professor Cushing as the greatest of his professional services; thus from his early days in Montreal he was much engaged in a crusade against enteric fever, combining this with campaigns against malaria and tuberculosis in Baltimore and in England with a whole-hearted energy in the fight against venereal disease. The diminution in the incidence of enteric fever in this country did not allow him to forget its importance in war, and in the autumn of 1914 he addressed the officers and men in the camps at Churn (BRITISH MEDICAL JOURNAL, 1914, ii, 569) on "Bacilli and bullets," as an educational warning that in previous wars infection had always been a greater destroyer of life than the enemy, and later in the war he pleaded in most moving words for the adoption of means to prevent venereal infection of young men on leave from the front. But it might appear to some that Osler was pre-eminent as an educator of medical men, that, in fact, he so raised the standard of teaching and practice that the striking change in the character of medicine in America during the last forty years was largely due to his influence and inspiration at the Johns Hopkins Hospital; for such a stimulus acts on the medical profession with ever-widening effect and, like a rolling snowball, increases progressively. His innumerable activities and their ever-changing facets in the Oxford period are described with arresting skill, and form a suitable memorial, admirably illustrated by successful photographs, of a wonderful personality, the like of whom we shall not look upon again.

HUMPHRY ROLLESTON.



NOTES ON BOOKS.

THE MEDICAL ASPECTS OF CHEMICAL WARFARE.

Is the future medical officers in every branch of the fighting services will need to be specially trained in the treatment of the effects of poisonous chemicals, and to meet this need in the American Army Lieut.-Colonel E. B. Vedder has written a textbook. *The Medical Aspects of Chemical Warfare*.<sup>2</sup> The use of chemical poisons in modern warfare has created many problems in the solution of which the medical services are particularly interested. The making of these poisons will be left to the fertile minds of chemists, and for protection against their danger we hope we may rely also on the ingenuity of chemists; but medical officers will have to know how the different injuries inflicted by suffocating gases, corroding liquids, and venomous solids can best be treated, and it will be necessary always to obtain the opinion of the medical service whenever any protective appliance adds yet further burden to the back of the already heavily loaded infantryman. Apart from these immediate questions, the outlook which chemical warfare has opened up may call for a reconsideration of the organization of the medical services in time of war in order to cope with the heavy casualties which chemical poisons, especially new ones, are likely to cause.

Dr. Vedder has treated this important question in a thorough manner. The seventeen chapters of his book can be divided into three sections, dealing successively first with questions of physics, chemistry, and meteorology which govern the use of chemicals in warfare; secondly, with the different agents which may be employed, such as pulmonary irritants, vesicants, lacrymators, irritant smokes, and miscellaneous gases; thirdly, with individual and collective protection against chemical poisons and the treatment of the injuries. A chapter on the naval medical aspects of chemical warfare has been contributed by Lieutenant-Commander WATSON.

The book is based on the experience gained by armies in the late war, and the author acknowledges his indebtedness to Volume II of the *Official History of the War* (London, 1923), which includes a section on the medical aspects of gas warfare; from this British record he often quotes. French and German writings have been consulted also, but these are not quoted so frequently. The American Chemical Warfare School at Edgewood Arsenal became equipped as an important experimental station during the last year or so of the war, and the account of the book, especially there adds greatly to the usefulness of the book, such as because Dr. Vedder describes some new poisons, such as lewisite, which were tested there in 1918, but never actually used in warfare.

It would be reassuring to civilians and soldiers alike to believe that the catalogue of poisons this book describes so carefully included all the noxious vapours, gases, solids, and liquids with which we are likely to be threatened, but, unfortunately, reading the book does not set at rest that uneasy feeling that even worse are to come. At the close of the war rumour was insistent that both sides were about to launch new poisons against which no protection had been discovered. The secret of these is not revealed in this book, but even if they did not exist in 1918 it is quite likely that in the future our chemists, or those of the other side, will invent some such deadly agents. In the meantime, however, Dr. Vedder's book is sufficiently up to date and will provide the military or naval medical officer with plenty to think about.

The three hundred excellent illustrations add greatly to the value of this book.

THE MEDICAL ANNUAL, 1925.

The *Medical Annual* for 1925<sup>3</sup> is the forty-third consecutive yearly issue of this popular book. It takes the same form as its immediate predecessors, and aims, like them, at giving a general review of the year's work in the treatment of disease. Some thirty contributors, British and American, have written for this volume, each on subjects which they have made their own.

No very dramatic advance in medical knowledge marked the period covered by the present review: it was a time of consolidation and minor excursions. Yet, although we have no obvious argument for claiming greater knowledge than dwellers in 1923, we look upon many questions from a slightly different point of view, than before. So the cards are shuffled, and every year a different hand is dealt to the readers of the *Annual*, whose 500 pages represent the opinions of the day. We do not mean to suggest by this that there is little fresh in the new volume—that it is Sunday's dinner warmed up again for Monday; on the contrary, an amazing quantity of new scientific information is presented. We might have wished that elements of this had been sifted more critically, or at any rate accompanied by some comment, and we wonder how often, if a new edition were demanded in 1935, the editor's blue pencil would erase sentences which stand facing us now unchallenged.

The introduction of each subject in the body of the book, the fuller exposition of each subject in the provinces where doctors are changing are well guided to what is new and trines are changing are well guided to what is new and promising. Other readers, aiming direct at some special question, will have no difficulty in finding their way to what they want, because the book is excellently indexed, the more important articles being in heavy type. The forty-three plates, and more modest line illustrations (149 of them) serve a useful purpose in explaining the text. For the benefit of any who may not be acquainted with the general construction of this hardy annual we may add that purchasers are presented with a lot of other information in this book beyond that contained in the dictionary of practical medicine. Thus we are told about hydropathic establishments, principal British spas, and many other things. The *Medical Annual* for 1925 is an excellent investment, and the only regret which purchasers will experience will be that they did not order it before April 7th, when they might have had it for three shillings less.

NOTES ON BOOKS.

THE first edition of Dr. PERCY HALL'S book *Ultra-Violet Rays in the Treatment and Cure of Disease* (reviewed in this JOURNAL, February 28th, 1925, p. 413) has been quickly followed by a second.<sup>4</sup> Apart from a few minor alterations and the addition of a chapter on smokeless fuel, very little change has been made in the book, which remains a clear exposition of the manner of employment of natural and artificial light in the treatment of disease. If the medical profession needs more guidance in the use of these greater popular remedies, the general public stands in even greater need of more accurate knowledge concerning heliotherapy and ultra-violet ray treatment. As Dr. Hall points out in the preface to his second edition, the "violet ray" apparatus which hairdressers and others are pressing upon a miniature of their customers is likely to bring ultra-violet ray therapy into discredit. The "violet ray" apparatus is a miniature high-frequency machine and cannot be looked upon as a suitable appliance for the treatment of conditions of ill health and disease amenable only to ultra-violet radiation. A danger threatens the whole science of light therapy because of its rapid rise to the notice of the public. This new method of treatment should only be administered by those who have had a proper course of instruction in its application. There are signs that unqualified persons are making ready to exploit for their profit this promising line of treatment, which, as has been abundantly proved, can only be of value when accurately employed by skilled workers.

A work which has gone through ten editions since the beginning of the present century has evidently found a public. Dr. RAKHAL DAS GHOSH, a Calcutta physician, produced a *Treatise on Materia Medica and Therapeutics*, but died while the first edition was passing through the press. The second volume of the first edition and the next two editions were

<sup>2</sup> *The Medical Aspects of Chemical Warfare*. By E. B. Vedder. With a chapter on the Naval Aspects of Chemical Warfare by D. C. Walton. Baltimore: Williams and Wilkins Company; London: Baillière, Tindall and Cox, 1925. (Demy 8vo, pp. xvi + 327; 34 plates. 32s. 6d. net.)  
<sup>3</sup> *The Medical Annual*. Fortieth year. Bristol: J. Wright and Sons, Ltd.; London: Simpkin, Marshall, Hamilton, Kent and Co., Ltd. 1925. (Demy 8vo, pp. xvi + 608; 149 figures, 43 plates. 20s.)  
<sup>4</sup> *Ultra-Violet Rays in the Treatment and Cure of Disease*. By Percy Hall, M.R.C.S. Eng., L.R.C.P. Lond. Introduction by Sir Henry Gauvain, M.A., M.D., M.C.C. Camb., and Leonard E. Hill, M.B. Lond., F.R.S. Second edition. London: W. Heinemann (Medical Books), Ltd. 1925. (Demy 8vo, pp. xx + 114; 9 plates. 7s. 6d. net.)

edited by Lieut.-Colonel C. P. Lukis, the fourth by Lieut.-Colonel J. T. Calvert, the fifth by Lieut.-Colonel B. H. Deare. These three officers successively held the appointment of Principal and Professor of Medicine in the Calcutta Medical College. The next four issues were edited conjointly by Deare and Dr. B. N. Ghosh, the son of the author. The new edition<sup>5</sup> is due to Dr. B. N. GHOSH alone. The whole text has been revised and the most recent works on pharmacology have been drawn on for the latest views on now drugs. Several drugs of minor importance, now little used, have been omitted; insulin appears for the first time and a couple of pages on vitamins have been added. The work is well adapted for a student's manual, as well as for handy reference by men in practice.

Volume xlv of the *Transactions of the Edinburgh Obstetrical Society*<sup>6</sup> for the session 1923-24 has been issued. Amongst the communications relating to obstetrics, which forms the first part of the volume, are papers by Dr. S. J. Cameron and Dr. Farquhar Murray on Caesarean section; observations on seventy years of country midwifery practice, by Dr. C. E. Douglas; and a paper on the induction of labour by quinine and pituitrin, by Dr. F. J. Browne, who contributes also an article on stillbirth and neo-natal death, in continuation of his previous publications. The communications relating to gynaecology contain contributions from Drs. Haig Ferguson, R. W. Johnstone, and James Young. The eloquent valedictory address by Dr. Lamond Laekie on recent advances in obstetrics and gynaecology occupies the first twenty-five pages of the volume.

We have recently received the third edition of the second volume of Dr. R. C. CABOT's work on *Differential Diagnosis*<sup>7</sup>; the first edition of it was noticed some ten years ago (*JOURNAL*, July 24th, 1915, p. 141). The volume consists of nineteen chapters devoted respectively to the consideration of the following heterogeneous subjects: abdominal and other tumours, vertigo, diarrhoea, dyspepsia, haematemesis, glands, melaena, swelling of the face, haemoptysis, oedema of the legs, frequent micturition and polyuria, fainting, hoarseness, pallor, swelling of the arm, delirium, palpitation and arrhythmia, tremor, and ascites and abdominal enlargement. Each chapter commences with general considerations, which are followed by a detailed description of individual cases, of which the volume contains 317. As was pointed out in our notice of the first edition, some doubt may be felt as to the utility of such a method, as in comparatively few cases was the opportunity of a necropsy or satisfactory biopsy afforded, so that the diagnosis of the great majority was open to question.

<sup>5</sup> *A Treatise on Materia Medica and Therapeutics, including Pharmacy, Dispensing, Pharmacology, and Administration of Drugs.* By the late Rakhil Das Ghosh. Tenth edition, by Barendra Nath Ghosh, F.R.F.P. and S.Glasg. Calcutta: Hilton and Co.; London: H. K. Lewis and Co., Ltd. 1925. (Cr. 8vo, pp. xii + 718. 10s. 6d. net.)

<sup>6</sup> *Transactions of the Edinburgh Obstetrical Society. Session 1923-24.* Vol. xlv. Edinburgh: Oliver and Boyd. 1924. (Med. 8vo, pp. xix + 231; illustrated.)

<sup>7</sup> *Differential Diagnosis.* Vol. II. By R. C. Cabot, M.D. Third edition. Philadelphia and London: W. B. Saunders Company. 1924. (Roy. 8vo, pp. 703; 254 figures. 42s. net.)

## ROYAL SOCIETY OF MEDICINE.

### THE RETIREMENT OF SIR JOHN MACALISTER.

EVERY Fellow of the Royal Society of Medicine will have learnt with keen regret from the announcement we made last week that ill health has compelled Sir John MacAlister to resign the office of secretary, which he has so long, so honourably, and so devotedly filled. At the meeting of the Council of the Society last week the following resolutions were proposed from the chair:

1. That the Council of the Royal Society of Medicine desires to express its profound regret that ill health has compelled Sir John MacAlister to resign his office of secretary, which he has held since the year 1887. In accepting his resignation the members fully realize that the Society as at present constituted owes its creation to his organizing powers; that its growth and success are chiefly due to his zealous devotion to his duties; and that its welfare and reputation have been his life's work.
2. That the Council unanimously offers its most sincere thanks to Sir John MacAlister for his thirty-eight years of ungrudging and loyal service to the Society.
3. That the Council sends its affectionate good wishes for Sir John MacAlister's restoration to health and vigour.

4. That the Council has great pleasure in inviting the Society to elect Sir John MacAlister as an Honorary Fellow of the Society.

In submitting these the President, Sir STCLAIR THOMSON, reminded the Council that their permanent secretary had been overcome with illness and absent from the Society's house since December 16th. On January 20th he had been granted three months' leave of absence, and during his absence a great deal of the administrative work had been willingly and admirably carried on by Mr. W. Girling Ball, one of the honorary secretaries. The President said he felt sure that the letter of resignation must have caused the writer a sorrowful pang, for Sir John had devoted his life to the Society, and all his work, his joy, and his satisfaction of life had concentrated in its service. The profession had been fortunate in finding in MacAlister the one man able to effect an amalgamation which, though often attempted, had baffled others for a hundred years. He recalled the three great and successful achievements of Sir John's life-work. The first was the move of the old Medico-Chirurgical Society from Berners Street to a building in Hanover Square, large enough to house it, to lodge its increasing library, and to supply meeting rooms to many kindred societies. The second was the federation of these eighteen societies into the Royal Society of Medicine, the largest society of its kind in the kingdom and with the most complete medical library in the empire. The third great feat was the erection of the Society's handsome house in Wimpole Street, the move there, and the consolidation of its success in numbers, meetings, published Proceedings, wealth, and general prosperity. He felt sure that no formal resolution could be too generous in making public acknowledgement of the indebtedness and affection the Society felt towards Sir John MacAlister and the deep regret all experienced on realizing that his health prevented him from continuing his duties.

Two previous Presidents of the Society, Sir HUMPHRY ROLLESTON and Sir WILLIAM HALE-WHITE, took occasion, in supporting the resolutions, to refer to MacAlister's devoted work during their years of office. Sir Humphry recalled the small beginnings he remembered in Berners Street, and the constant, loyal, and single-hearted service of their secretary. Sir William referred to the personal touch, the friendliness, the accessibility of MacAlister, and his eagerness to help anyone—whether a Fellow of the Society or not—and in any way, even if unconnected with the Society's work.

The resolutions and the terms in which they were commended by the President of the Royal Society of Medicine and two of his predecessors will be warmly and heartily approved by all who have come into contact with Sir John MacAlister, whether officially or socially, and by none with more conviction than those who remember his achievement in bringing about the amalgamation in 1907 of the eighteen societies which then existed in London. His was not the first attempt to achieve the desired result; the fact that other attempts had failed, including one under very favourable auspices only a few years before, is a proof of the difficulty of the task and of the high qualities MacAlister brought to bear on its final solution. MacAlister was devoted to the interests of the Society which he had done so much to bring into existence, to consolidate, and to render one of the great medical organizations in this country. He was also ever ready to assist in any enterprise which he believed was for the good of the profession, and we may especially mention his large share in establishing the Fellowship of Medicine and organizing at Christmas, 1918, the post-graduate courses in London, which, during the first half of the following year, met the needs of a large number of medical officers then being demobilized, including those of the Australian, New Zealand, and Canadian armies. It is only consistent with his high sense of duty that he should have resigned his office solely on the ground that he felt that he has not now the vigour necessary for the adequate performance of its many duties. His resignation does not take effect until the end of June. We hope that until then, and long afterwards, he will continue to come among his many friends in the profession on every social occasion.

## British Medical Journal.

SATURDAY, MAY 2ND, 1925.

## CHEMICAL WARFARE.

THE use of poisonous gases and other chemicals in warfare, though denounced by the Washington conference on the limitation of armaments, remains a controversial issue and a disquieting theme for speculation. Many powerful nations were not represented at that conference, and have not signified their intention with regard to poisonous chemicals; but even if all were to join in the chorus of disapproval it would be wise to remember that gentlemanly rules for warfare are quickly set aside in a life-and-death struggle. At the present moment probably every well armed "civilized" nation is asking its chemists—or watching its neighbours—to find a poisonous gas or liquid which would put enemy forces quickly out of action, and no doubt also scientists are being asked by their respective Governments how soldiers and civilians can best be protected against deadly or crippling chemicals to which they may suddenly be exposed. In times of peace the civilian population, of this country at least, is not much interested in the technicalities of warfare, and leaves such questions to experts; but many people who would leave the choice of their shrapnel to soldiers or their warships to sailors feel that they would like to be made acquainted with what is being done about poisonous gases—partly, perhaps, because they know that in time of war everyone, civilian and soldier alike, will have a personal interest in the question. It is a good thing, therefore, that the subject of chemical warfare should be studied in a scientific way and expounded in a reliable textbook which anybody may read—such a book, for instance, as that by Lieut.-Colonel Vedder, reviewed at page 845.

To form a sound judgement on the question of the use of gas in warfare we must realize that it is certain to be employed. It is probably on this account—because it is believed that there are nations which will not hesitate to use poisonous gases and the like against civilian populations, including their children and women—that opinion has revolted against the method. There are those who think that wars may in this way be brought to an end, and we can only hope that they may be right. However this may be, it will not be wise to denounce chemical warfare as a nasty modern innovation into the respectable and time-honoured custom of killing our fellow men with bayonet and shot. This opinion, its nakedness decently cloaked, is sometimes upheld by the professional soldier, but it has to be admitted that all new weapons, including gunpowder, shrapnel, and machine guns, when first introduced were denounced as infringements of the rules of the game, yet their employment is now considered to be perfectly compatible with "sportsman-ship." There remains, however, one objection to chemical warfare which is deep-rooted in the minds of many people, and about which medical men ought to give some guidance—namely, that chemical warfare is more barbarous, more cruel, more merciless than other weapons of warfare. What truth is there in this?

Mr. J. B. S. Haldane, reader in biochemistry at Cambridge University, vigorously defends chemical warfare in an entertaining little essay called *Callinicus*;

it forms one of a series, the first of which—*Dædalus*, by the same author—was an amusing forecast of the future of science, which probably many of our readers have enjoyed. The title of the present essay commemorates the exploit of a Syrian architect, Callinicus, who in the seventh century fled from Heliopolis to Constantinople with the secret of the "Greek fire," a chemical substance which, when thrown out from siphons, set the ships of the Saracens on fire and assured their defeat. The title of this essay, as also the historical chapter in Dr. Vedder's book on chemical warfare, serves to remind us that the use of noxious chemicals in war has at least the sanction of a precedent that dates from before April 22nd, 1915.

Mr. Haldane states that the twenty-five poisonous chemical weapons employed in the late war can be divided into four classes according to their effect on men. First come gases and vapours which are poisonous when inhaled but have no effect on the skin, and affect the eyes or nose only when present in concentrations which are poisonous to the lungs. This group, which includes chlorine and phosgene, can all be kept out by respirators; they are of military value only against unprotected troops, and, he believes, "almost as obsolete as muzzle-loading cannon." The members of the second group only irritate the eyes, and there is no evidence that anyone was killed or permanently blinded by these substances. They cause men to weep profusely, but can be kept out by respirators or even goggles. A third group of poisonous smokes, mostly arsenic compounds, were very little developed during the war, but would probably have been used on an extensive scale in 1919. The fourth group, of blistering liquids, includes the very powerful irritant "mustard gas," which produced more casualties to the British than all other chemical weapons put together. Mustard gas caused 150,000 casualties in the British Army alone; under 4,000 (or 1 in 40) died, while about 700 (or 1 in every 200) were rendered permanently unfit. The signatory powers of the Washington conference have agreed not to use this substance against one another, but in the heat of war they may forget. It is therefore some consolation to be told that it would appear to be one of the least lethal of available methods of putting an enemy out of action.

Mr. Haldane's defence of chemical warfare, and also Dr. Vedder's more substantial book, both support the view that in the late war poisonous chemicals were less cruel weapons of warfare than bombs, shells, and bullets; but it is at least conceivable that in a future war chemists may provide us (or our enemies) with some much more powerful poison. Such a compound is most likely to be found among the poisonous smokes; in fact, there is a substance called lewisite—so named after Professor Lewis, who first isolated and described it in 1918—which, because of its highly irritating and poisonous properties, would certainly have been used by the British and Americans had the war gone on a little longer. In small amount these smokes make a man sneeze; in larger quantities they cause agonizing headache and uncontrollable distress. Mr. Haldane says: "Some soldiers poisoned by these substances had to be prevented from committing suicide; others temporarily went raving mad and tried to burrow into the ground to escape from imaginary pursuers." Yet in spite of this acute misery the large majority had recovered within forty-eight hours, and practically none became permanent invalids. Used in the form of smoke, these substances will penetrate any of the respirators used in the late war, though the British box respirator offers a considerable degree of protection.

There is a good description of lewisite, and also of some other chemical poisons which the Allies were preparing, in Dr. Vedder's volume, which is intended to serve as a textbook for medical officers in the services; but *Callinicus*, which can be read from cover to cover in about fifty minutes, is of universal interest.

### OYSTERS AND MAYORAL BANQUETS.

In the year 1902 a mayoral banquet at Winchester resulted in serious illness among those who took part in it. Out of 134 guests 62 were subsequently taken ill; 9 of these developed typhoid fever, and 4 died. The cause of the illnesses was, on investigation, found to be the consumption of oysters. In the same year Southampton had a similar unfortunate experience. There also a mayoral banquet took place, and of 132 guests 55 fell ill, 11 of them with typhoid fever. One of the 11 died. Oysters were again found to be the vehicle of infection.

These facts are recalled by Dr. Mearns Fraser in a report of an outbreak of similar illness among the guests at a mayoral banquet in Portsmouth. The total number of persons partaking of the meal was 135, and 83 of them suffered some illness within a few days. The symptoms were those of acute gastro-enteritis, and three of the patients developed definite paratyphoid fever of severe type, though no death occurred. Once more, as shown in Dr. Mearns Fraser's clear and concise report, oysters were proved, by a process of exclusion, to have been responsible for the outbreak. Adopting the method of investigation used by the late Dr. Timbrell Bulstrode of the Local Government Board, as recorded in his classical reports on the subject of oyster contamination, Dr. Fraser communicated with all those who had partaken of the viands provided, and obtained from each a statement showing every item he had consumed of the seventeen contained in the menu. Of the 83 who became ill 82 had had oysters and 81 had had soup; these were the only articles under real suspicion, pheasant and salad, coffee, and lamb cutlets, which came next in order of frequency, being practically out of the question. It may be assumed that the salad was exculpated, though "greencstuff" is not unknown as subject to contamination. Inquiry regarding the soup showed that the stock had been repeatedly boiled, and that the soup itself had been brought to the boiling point shortly before the dinner was served.

The facts regarding the three persons who developed paratyphoid fever are interesting. The date of the banquet was November 10th; two days later one of the three had an attack of vomiting, and continued to feel somewhat indisposed until November 27th (seventeen days after the dinner). When he was medically examined he had a temperature of 104° F., and was found to be suffering from paratyphoid B. Another of the three felt no ill effects until November 28th, when his temperature was found to be 105° F., and a blood test later showed paratyphoid B bacilli. The illness of the third began four days after the dinner and continued until November 26th, when he took to bed and was found to be suffering from paratyphoid B. All three thus developed the definite symptoms of specific infection about the same time, sixteen to eighteen days after the dinner. Questions suggest themselves as to the relation between the general bacterial contamination of the oysters and the pathogenic bacillus, but these cannot be entered on here.

Dr. Fraser ascertained that 412 oysters had been

supplied for the occasion. Incidentally, excessive indulgence in them could not be held responsible, for the number served to each guest was only three; and this was the case at each of the two banquets in 1902. Indeed, at Winchester a guest who swallowed only one oyster died from typhoid. The oysters for the Portsmouth dinner had been dredged from beds at two places in the Solent—one near the Warner lightship, and the other the Boyne Bank, about half a mile off Southsea Castle. None of those actually provided for the occasion were, of course, available for examination, but Dr. Fraser had dredgings made at both places, and at his request the Fishmongers' Company had the oysters so obtained examined by Professor Eyre of Guy's Hospital, bacteriologist to the Company. Of ten oysters from the Warner Bank, one contained the *Bacillus coli*, the other nine were clean; of the same number from the Boyne Bank no fewer than six showed the *Bacillus coli*, and one the *Bacillus enteritidis sporogenes*. Such oysters are, according to present standards, to be regarded as unfit for consumption, and would not be allowed on the London markets, but the one-in-ten contamination from the Warner Bank dredging would not exclude them from sale in London.

Dr. Mearns Fraser points out that under the law as it stands at present there is no obstacle to the sale in Portsmouth of oysters dredged in its neighbourhood, with the single exception of those from Langston Harbour, from which, under regulations made in 1918, oysters must not be sold unless they have been relaid at certain other layings; the enforcement of this regulation must manifestly be difficult. He holds that protection, indeed, lies with the individual, the only safety of the public being to see that they obtain oysters from firms guaranteeing that their layings are under inspection and approved by a competent authority. It appears that for retail shops perfectly safe sources are available under action taken by the Fishmongers' Company, which keeps most of the principal layings in the country under constant observation, so that they are maintained in a state of purity. As Dr. Fraser urges, oyster beds cannot be defended merely because they may for long periods be used without any proof of having caused disease. Sewage will vary from time to time in concentration and in bacterial content. Tidal influences also are at work. The greatly diminished prevalence of typhoid fever throughout the country manifestly lessens risks of infection of oysters by specifically polluted sewage, but the Portsmouth banquet demonstrates that the possibility remains, and from the preventive side the position should be once more reviewed. It may be safely assumed that the Ministry of Health will give due attention to Dr. Fraser's report, and to the question which it raises as to the value of the regulations commented on therein. The situation is at present frankly unsatisfactory.

### THE BUDGET.

If the framing of the Budget had fallen this year to the lot of a Minister with a reputation for caution to maintain, it would probably have evoked less interest than is usually the case. By this time the average taxpayer entertains little hope of receiving substantial relief through reparation payments or by the repayment of loans made to other countries. He realizes that there is no easy or immediate escape from the

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# THE BUDGET.

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burden of high taxation, and that its deadening weight will only be reduced gradually, and, in the main, by his own efforts. Nevertheless, Mr. Churchill's well founded reputation for energy and freshness of mind created a general expectation, or at least a hope, that he might achieve some ingenious and drastic handling of the problem which would provide real and immediate relief without offence to the canons of sound finance. It does not often happen that widely read organs of the daily press are found to be discussing the possibilities of a shilling reduction in the rate of income tax while more sober weekly journals—such as the *Economist*—are pointing out that, on the known facts of the case, a reduction of sixpence would hardly seem feasible without increased taxation in some other direction. An examination of Mr. Churchill's speech suggests that once again the wish has been father to the thought.

A striking feature of the figures for the past fiscal year is the narrow margin between income and expenditure. The day of swollen surpluses has passed, and there is good ground for regarding their passing without regret. It is true that past surpluses have played a large part in the unprecedented reduction of the National Debt, but to a large extent these surpluses were obtained in years during which assets of various kinds, which had been acquired with borrowed money for war purposes, were being realized and the proceeds dealt with as public revenue. Now that the source of such receipts has dried up taxpayers have a large ground of complaint if, after providing for a large repayment of debt—the amount will be £50,000,000 in the present year—they found that the taxation they had been called upon to bear had provided for a sum substantially greater than, after due consideration, was considered appropriate. Especially is this the case in view of the fact that the annual charge in respect of war pensions shows, and presumably will continue to show, a steady decrease.

In commenting on the accuracy of his predecessor's forecast of a surplus of £4,000,000 for the past year, Mr. Churchill paid him a handsome compliment on his financial administration, with the qualification that the figures for individual items showed that "Mr. Snowden had been fortunate as well as far-sighted." Even allowing for the steady effect of the three years' average system of the income-tax assessments, the Exchequer receipts are affected by comparatively small variations to an extent that is realized by most important people. Consequently one of the most important duties of a Chancellor is his preliminary survey to ascertain the trend of trade generally, and at the present time, when signs of recovery from depression are eagerly sought for, Mr. Churchill's pronouncement on this question was plainly given, and is not particularly encouraging. "I do not feel justified," he said, "in budgeting for any substantial expansion of trade." Nothing is gained by a refusal to face facts, and though this sober statement may damp the ardour of those who wish to "talk up" a trade revival, its modified optimism should prove helpful.

With no trade boom on the horizon to increase the receipts, with departmental estimates of expenditure still increasing, and an additional five millions to provide for debt redemption—an increase necessary to carry out the programme outlined by the present Prime Minister when Chancellor—any drastic reduction in taxation becomes impossible without recourse to some scheme, such as the funding of war pensions, which would postpone expenditure to future years. On the contrary, Mr. Churchill is taking care to maintain the

income of the Exchequer by new or increased taxation in various directions. The death duty rates are to be increased on estates of £12,500 and upwards, and other duties are imposed which seem to have a twofold basis—they affect luxuries and are aimed at stimulating home industries. Into this category fall the duties on silk, on hops, and the group of duties—on motor cars, musical instruments, watches, etc.—commonly known as the McKenna duties. Beyond this, the receipt of £9,500,000 is anticipated from reparations, but the Budget does not take into account the prospect of any repayment by France of money lent to her. New taxation does not fructify quickly, and the receipts anticipated from these changes are, in round figures, ten millions in the present year and twenty millions next year. Taking into account Mr. Churchill's statement that a fresh attempt will be made by the Treasury to cut down expenditure, it is clear that he is looking to the future for that substantial reduction in taxation which, in some quarters, was hoped for this year. His proposals, however, enable him to show a surplus—on the basis that the present taxation remains and is augmented by the suggested changes—of £37,000,000, and on that basis he has material on which to draw for some relief to the hard-pressed taxpayer. Of this amount the additional receipts from estate duties are returned to the same class of the community in the form of a reduction in the rates of supertax applicable more especially to total incomes in the lower categories liable to that tax. This transfer of taxation from income to capital, and from the less wealthy to the very wealthy, has already aroused some criticism, but the basic idea seems sound—that is, to avoid excessive pressure on the brain worker, whose income ceases after his ability to perform difficult tasks has been lost.

The income-tax proposals are particularly interesting. The increase in the allowance for earned incomes will afford substantial relief to taxpayers with earned incomes below the supertax limit, and particularly to those under £1,000. By this alteration the Chancellor reverts to the larger relief for earned incomes which was reduced when the method of computing it was changed by the Finance Act of 1920. A small but welcome addition is made to put the income from savings of old people with total incomes not exceeding £500 per annum in a similar position, even though no portion of their income is then being earned. Lastly, the anticipated reduction of sixpence in the standard rate is made, so that income from investments may benefit, though not so substantially as earned income.

Budget statements, though never devoid of interest, are usually confined to purely fiscal questions—estimates of future or statements of past receipt and expenditure. This year the Chancellor discussed two other related topics—the question of the "gold standard" and the launching of a comprehensive scheme of contributory insurance. Of the former it must suffice here to say that the prohibition of the export of gold will be withdrawn subject to supervision by the Bank of England, that precautionary measures have been taken to prevent difficulties being met with in the repayments of loan to the United States, and that a link will be maintained between the price of gold and the purchasing power of the currency notes, though the issue of gold coinage is not proposed. It would be premature to enter into a discussion of the new insurance scheme; comment thereon must await an examination of the details of the proposal. On the face of it the scheme seems to constitute a long step forward on lines likely to commend themselves to the



country generally. Assuming that all the political parties address themselves to the task of developing the ideas put forward into a practical and businesslike scheme, this Budget may prove a landmark in the progress toward the emancipation of the poorer classes of the community from the anxieties at present attendant upon inability to provide for their own support in old age, or that of their dependants in the case of premature death.

Mr. Churchill has justified his reputation for ability to handle large problems with imagination and sound knowledge. He is providing for a great extension of one of our most important social schemes, and has, we believe, applied a not inconsiderable instalment of income-tax relief to the class of taxpayer most deserving of sympathy—the man who, without resources in the form of invested capital, is struggling to earn an income sufficient to provide for his dependants and himself, and at the same time to make adequate provision for their support after his retirement or death. Certainly most of our readers appear to have cause to thank him for his efforts.

#### THE SURGEON'S RESPONSIBILITY.

Discussions such as that evoked by Lord Riddell's paper upon "The legal responsibility of the surgeon" before the Medico-Legal Society (of which an account appears at page 842) serve an important educative purpose to the medical profession. If only to protect themselves from such pitfalls beset the path of the medical man in pursuing his life work, members of the medical profession would do well to instruct themselves fully as to their legal responsibilities, both civil and criminal. For it may be that in their very real anxiety to keep within the law they may refuse to relieve a case which it would be both humane and lawful for them to relieve. Professor Louiso McIlroy cited such a case in the course of the discussion. It was one of a working woman with an ovarian tumour which caused her great pain, but her husband, in consequence of a quarrel they had had, would not consent to the removal of the tumour, and so the woman left the hospital unrelieved. Professor McIlroy did not think the problem whether such an operation should be performed in such circumstances would ever be cleared up; but Lord Riddell, in his paper, had already expressed the legal view that, while the husband might well have a cause of action against his wife and the surgeon for depriving him of the possibility of offspring, it seemed clear that the husband would have no claim in respect of such an operation when rendered necessary by definite pathological conditions. In these days, added Lord Riddell, a wife could not be condemned to submit to illness, and perhaps to risk of life, because her husband declined to consent to a surgical operation. Lord Justice Atkin, the learned president of the society, said that he knew of no rule of law which compelled the surgeon who was called in by a wife to obtain the consent of the husband to the treatment which he should adopt. True, if the surgeon was looking to the husband to pay his fee he should have the consent of the husband, being the person who had promised to pay such fee; but apart from that, and any question of wrong or tort (by which Sir Richard Atkin meant provided the doctor acted *bona fide* and with due skill and care), he imagined that the consent of the woman was sufficient to justify the surgeon in exercising his care and skill upon her. Upon the high authority of Lord Justice Atkin, therefore, a case such as that quoted by Professor McIlroy ought to have been relieved if the wife were a consenting party—as it appears she was—for it obviously was not a case where the husband was being looked to for payment of fees.

#### THE SIGNIFICANCE OF PAPILOEDEMA.

In September, 1924, a symposium on papilloedema was held at the meeting in Montreal of the American Academy of Ophthalmology and Oto-Laryngology. The March issue of the *Archives of Ophthalmology* contains three of the papers then read, setting forth the present views on the significance of this condition held by an ophthalmologist, an oto-laryngologist, and a neurologist. J. Bordley, jun., points out that in the large majority of cases papilloedema is not a local ocular infective lesion, but a mechanical effect of the increased intracranial pressure, and therefore the ophthalmologist should obtain expert advice from specialists in other fields. No time should be lost in doing this, because the longer the morbid process continues the greater in extent will be the final loss of vision. Bordley believes that there is considerable danger of overestimating the frequency of sinus disease as the cause of papilloedema, and that the result is disastrous to the patient's vision. Foci of infection remote from the brain and optic nerve are rarely found to be the cause of choked disc. G. Horrax remarks that statistics indicate that in 80 to 90 per cent. of cases of papilloedema the increased pressure is due to cerebral tumour. He describes five cases in which delay in suspecting a cerebral lesion led to permanent loss of vision in spite of operative treatment that was otherwise successful. L. E. White, speaking from the oto-laryngological standpoint, insists that a very careful study of the neurological side of the case should precede any intranasal operation for the possible presence of accessory sinus disease. He draws attention in particular to unilateral inflammation of the optic nerve directly traceable to an infected nasal sinus. This condition of papillitis is clinically distinguishable from true papilloedema in that it is unilateral, and vision is lost from the first, in contradistinction to papilloedema, where the vision is affected late and the swelling of the disc does not usually become so extreme. Although vision in papilloedema is often not affected until some time after the onset, it is not desirable to allow the disease to continue, since secondary atrophy of the nerve may result from pathological changes which increase proportionately to the length of time and severity of the papilloedema. White concludes that the rhinologist should restrict his surgical treatment to these acute unilateral cases, and so avoid the risk of opening an accessory sinus unnecessarily. These sinuses, he is convinced, should be left alone unless they present evidence of infection.

#### FISH AND MOSQUITO CONTROL.

MALARIA is one of the most widespread and serious diseases in the world, and for that reason has been selected by the International Health Board of the Rockefeller Foundation for concerted action. There are several main lines of attack, and among them one of the most important is an attack on the mosquito. This has been attempted on a large scale by the use of oil and poisons in the breeding sites, by drainage, and so on. Another method, which has frequently been recommended as a supplementary measure, is the use of larviferous fish. So far it has not been attended by much success, but the International Health Board has recently published a report on it.<sup>1</sup> The principle of biological control, as this method may be called, has been used frequently, and often successfully, in agriculture. Any interference with the balance of nature, however, has to be attempted cautiously and only by experts—rabbits in Australia and sparrows in the United States are two examples of man's ill advised handiwork. There is evidence, however, that the use of fish, if carefully supervised, is effective in mosquito eradication. In the report, which is copiously illustrated, it is pointed out that the problem is complex. The species of fish to be chosen depends on the

<sup>1</sup> *The Use of Fish for Mosquito Control*. Pp. 120. 1924

locality and the habits of the particular larva to be attacked. Thus, for example, the larvae of the malaria mosquito are "top-feeders," and so top-feeding fish are necessary. On the other hand, the larvae of the yellow fever mosquito are mainly "bottom-feeders," and so minnows of different feeding habits must be used. The type of breeding place and many other factors vary, and must be separately considered. The report is in the main concerned with a consideration of the fish used in the various parts of the world. It appears that, where fish have been scientifically used, the malarial index has been reduced, that they have been a complete success against yellow fever, and that "within limits, perhaps not so narrow, as may be supposed, this method is ready to take its place as a recognized ancillary means of both yellow fever and malaria mosquito control." The usefulness of the report is greatly increased by a comprehensive bibliography.

#### PLAGUE IN SOUTH AFRICA.

For some years past the existence of plague in South Africa has been a cause of anxiety there. The report for the year ended June 30th, 1924, by Dr. J. A. Mitchell, Secretary for Public Health and Chief Health Officer of the Union of South Africa, shows that the anxiety is well founded. During the year there were 167 outbreaks in the Union, causing 372 cases, with 235 deaths. The great majority—321 cases and 208 deaths—were in the coloured and native population; the number of whites attacked was 51, with 27 deaths. About 85 per cent. of the cases were bubonic, 12 per cent. pneumonic, and the remainder septicæmic. Kissing is believed to have been the mode of infection of most of the pneumonic cases. Notwithstanding much publicity, all cases were not promptly reported. This applied to Europeans as well as natives; consequently there was delay in diagnosis and precautionary measures. The main cause for anxiety, however, is the prevalence of the disease among rodents. Plague was introduced to Cape-town and Port Elizabeth in 1901 by infected rats from ships bringing forage from South American ports, where the disease existed at the time. It was introduced to Durban in 1902, and extended to Johannesburg in 1904. Epizootics occurred amongst domestic rodents and concurrent epidemics in man, fleas being, as usual, the intermediary. Wild rodents were found infected in the outskirts of several towns. Since 1912 many outbreaks have been discovered, and in 1923 a survey of wild rodents in the Orange Free State and Cape Midlands revealed plague infection over a wide area. Last winter the epizootic spread extensively in the territory surrounding Bloemfontein, and the area of the Union now known to have enzootic plague infection is about 50,000 square miles. Dr. Mitchell states that in the Kroonstad district and adjoining parts, owing to the recent epizootic, it is estimated that 80 to 90 per cent. of the total veld rodents, and from 30 to 40 per cent. of the associated small carnivora (mongoose and suricates), died of plague. Plague bacilli have not often been found in the carnivores, but they eat enormous numbers of rodents, and may have died from poisoning by toxins; also they may be carriers of fleas from the dead rodents. In some localities in the height of the epizootic dead rodents could be collected by the barrowful. The difficulties under such conditions in the way of controlling the disease are enormous. The South African Biological Society has made strong representations to the four provinces of the Union that the natural enemies of rodents, such as owls and hawks and wild cats, should be protected. The balance of nature has been seriously disturbed by their destruction in many localities, where rodents are a pest apart from plague. Some farmers, indeed, by preserving bush, planting trees, and stopping of veld burning and shooting, have greatly reduced the evil.

One enterprising farmer turned loose a consignment of domestic cats, and by limiting their regular diet of milk led them to hunt for most of their food, and has largely cleared his farm of rodents. Inquiries made early in the epizootic revealed the infestation by rodents dying of plague of a large number of grain stacks on farms and at railway stations, intended for transport or export. Regulations were issued prohibiting such conveyance, and measures were taken to make the regulations effective, with such success that no instance of failure is known, notwithstanding the inconvenience and loss involved in the prohibition. An active campaign was instituted of search for and destruction of rodents, both in railway trucks and in localities. But Dr. Mitchell goes on to say that the problem has hitherto been found almost insoluble in the large tracts of country in South Africa. The gassing of veld rodents in their burrows and in stacks of grain by carbon disulphide is costly and tedious, though hydrocyanic acid is more promising. The dynamiting of rodent burrows is also proving useful. Poisoned baits have been devised with some success. Strips of country are being selected for special effort in the formation of "plague fire belts" designed to limit epizootic extension. But further investigations—zoological, entomological, and bacteriological—are urgently necessary, and proposals to that effect have been submitted to the Government. In a valuable appendix Dr. Mitchell submits a detailed scheme of investigation under each of these three headings, and his proposals, it may surely be assumed, will receive the earnest and sympathetic attention of the South African Government.

#### BILLROTH.

In the last third of the nineteenth century probably no surgeon was held in higher esteem than Billroth. His famous book written in Vienna became known by means of translations all over the English-speaking countries. Senior students were advised to read it, and most young surgeons made themselves familiar with his doctrines. Before going to Vienna Billroth was seven years in Zürich. We now have from the pen of Dr. Arnold Huber a book on his work there.<sup>1</sup> It is written partly to place on record the debt that the Zürich school owes to Billroth, without any attempt to trace his scientific development as one of the pioneers of surgery; but it is mainly designed to show what manner of man he was. The sentiment running through the whole book is disclosed in Dr. Huber's opening sentence: "Billroth was a man to work with whom was to form a friendship which rapidly mellowed into reverence." Of unusual power, both physically and mentally, he yet possessed a striking gentleness of disposition which rendered him singularly attractive in all his personal relations. Billroth is an excellent example of the true genius, as Dr. Johnson has defined it—"a mind of large general powers, accidentally determined to some particular direction." It is probable that he would have been distinguished in any sphere of activity, but in his earliest years his mind exhibited a distinct trend which left no doubt as to his inclinations. Music was his favourite subject, and to it, so far as his mother's incessant protests would allow, he devoted the whole of his energies, to the exclusion of his regular school studies. He lived, however, in a medical atmosphere, which proved sufficiently powerful to determine the direction of his future career. Professor Seifert, his uncle, had great influence with him, as also had Professor Baum, an intimate friend of the family. Moreover, his private tutors, of whom he appears to have had much need in his school studies, happened always to be medical men. On leaving school and matriculating at the University of Greifswald—the nearest university to his native

<sup>1</sup> *Theodor Billroth in Zürich, 1860-1867. Von Dr. Arnold Huber. Zürcher Medizinisch-historische Abhandlungen. Erster Band. Herausgegeben von G. A. Wehrli und H. G. Sigerist. Zürich: Seldwyla. 1924. (Med. 8vo, pp. xiv + 192; 6 plates. Brosch.; Schw. Fr. 8; geb.: Schw. Fr. 10.)*

island of Rügen—he entered as a medical student, but gave up the whole of his first term to the study of music. Professor Baum, however, took him with him to Göttingen, and his medical career was thus definitely fixed. Billroth possessed an extraordinary vitality, and was obsessed with an craving for work. His day's labours began at 5 a.m. with an hour's practice on the violin; from 7 to 8 he held his operative surgery class, from 8 to 9 studied surgical pathology (at this period he was preparing his great textbook, the first edition of which appeared in 1862), at 9 he visited the wards, from 11 to 12 he gave a clinical demonstration; he operated from 12 to 2, at 3 he returned to surgical pathology and microscopical research, occasionally taking minor operations in the course of the afternoon, and at 6 he again met his class. In the evening a break was always made in the day's work—a visit to a friend's house or some festivity at home, for he was a companionable man, and, moreover, a lover of home life. Music, naturally, figured largely in these festivities, and, indeed, seems to run like a thread through his whole life. There is ample evidence, from expert sources, that he was no mere amateur, but an admirable executant and critic. He instituted and himself took part in a string quartette at his own house, and was to some extent a composer. Dr. Huber reproduces an amusing example of Billroth's musical capacity in the shape of a medical prescription set to music in excellent twelve-part counterpoint for instruments. The day's work, however, did not end here. "He worked mostly at night," writes Dr. Meyers, "for then new ideas come most readily for operations and literary work; and he could generally be seen at night at his open window, working far into the night, sometimes till dawn, thinking and smoking his cigar, which could never be too strong." He was a giant in strength, and probably one of the happiest of men, though he liked to represent life as a symphony of major and minor harmonies interwoven. He had his share of life's troubles: the permanent invalidism of his only son was a constant grief, and the death of two of his three young daughters within a few months wellnigh unhinged his mind for a time. "I tell you in secret," he writes to a friend, "I have wept for nights on end, so you may know the depth of my sorrow." When Billroth left Berlin, where he had acted as Langenbeck's first assistant, and took up his post at Zürich, the main concern that occupied his mind was the management of wounds. This subject was, in a sense, forced upon him, for nearly 50 per cent. of his cases were injuries, mostly of a severe kind; septicaemia and pyaemia were rampant, often necessitating closure of the wards, and, as he himself has stated, "our progress here is over heaps of corpses." He held at this period that the healing of wounds is normally an afebrile process, and the occurrence of inflammation in them an accidental complication, due to contamination by minute particulate substances of unknown nature, which adhered to dressings, bedding, the whitewashed walls, the clothes and hands of nurses and surgeons; moreover, he considered it possible that infection was at times conveyed from patient to patient and from wound to wound. In the light of these opinions he very soon detected many glaring defects in the hospital; and reforms in such matters as water supply, drainage, ventilation, the separation of the dead-house from the hospital, the exclusion of the post-mortem porter from the wards, and the frequent cleansing and repainting of the wards were carried out under his supervision. These matters absorbed much of his time and energies, and furnished material for reflection and study in relation to wound infection. His fundamental principle was that the accidental contaminations of wounds were to be combated by absolute cleanliness. In 1864 Billroth had a call to Heidelberg. There was, however, still much to be done at Zürich, and, moreover, there were both the means

and a readiness on the part of the faculty to assist him in his reforms. These were lacking at Heidelberg, and he expresses regret, as a German, that the Swiss university should be able to serve as an example to the Heidelbergers in this respect. Without a free hand for his reforming activities the appointment lacked attractiveness; he declined the offer. By 1867, however, his work at Zürich appears to have gone as far as he could carry it, and the absence of any forward movement there made him think of other spheres of activity. On the death of Professor Sehniß his thoughts turned towards Vienna, and he put himself in communication with the authorities there. "They received my Vienna fancy in a very friendly way," he writes. "I do not think, however, that anyone in Austria has the least notion of reform in any branch; but if I were offered the appointment, of which I see no chance at present, I would accept it, provided they gave me a free hand for reforms." Much to his delight, he obtained the appointment that same year; he was then in his thirty-seventh year, and evidently looked forward with pleasure to a life of renewed activity, for, writing from his new post to an old friend in Zürich, he says, "None of my colleagues here are under 55, and most are over 60. I am the only baby among them, and I take full advantage of this quaint role; I am beginning to be a veritable *enfant terrible* for them. I boast of Zürich, and tell them what a wretched place this is in comparison." Thus he found himself again in congenial surroundings, and, moreover, in the metropolis of the musical world. At this point Dr. Huber closes his narrative.

#### THE LONDON FIRE BRIGADE.

WITH the intention of familiarizing the great mass of Londoners with its beneficent activities, the London County Council is publishing a number of booklets at low prices. The latest of these sets forth in an attractive manner the history, and describes the work, of the London Fire Brigade.<sup>1</sup> The brigade was created by the Metropolitan Fire Brigade Act of 1865 out of the fire establishment previously maintained by the insurance companies, the organization supported by the Society for the Protection of Life from Fire, and the ancient parochial arrangements—such as they were. There are, we believe, much burdened, but no doubt misguided, ratepayers who think that some of the Council's activities are misdirected and its expenditure lavish and unremunerative; but we cannot conceive of one of those persons evilwilling at the maintenance of the Fire Brigade or grudging one penny of the money spent upon it. Its record is a brilliant one, for its officers and men have for sixty years offered splendid examples of efficiency and gallant devotion to duty. During the war we necessarily heard little of the work of the brigade. All that we knew was that, despite twenty-five air raids, in which 922 bombs were dropped upon London, no fire was allowed to reach unmanageable proportions. We note that all men of the brigade go through a training in first aid, and that provision is made for the treatment of various casualties likely to be met with at fires, but we do not find any mention of any medical officer as in charge of such training and treatment. This booklet contains a most interesting account of notable recent events up to November last, including the Silvertown explosion and the air raids during the war. It seems to us admirably fitted to serve the purpose for which it has been published. It is fully illustrated, and contains a key map and hints on fire protection. We note that a booklet on public health is in active preparation, which should be of even greater medical interest than this one.

<sup>1</sup> The London County Council and what it does for London. *The London Fire Brigade*. With a foreword by Sir James Bird, Clerk of the Council. London: Hodder and Stoughton, 1925. (Demy 8vo, pp. 52; illustrated. 6d. net.)

## Oba et Vetera.

### AN EIGHTEENTH CENTURY PRACTITIONER:

DR. ALBAN THOMAS.

Few physicians nowadays would risk their reputations by giving diagnoses or prognoses of cases merely on a written or viva voce history and without seeing the patient; but for very many years, when travelling was tedious, difficult, and even dangerous, such methods of consultation were much in vogue. Certain taverns and coffee-houses were the resort of medical and surgical consultants, where on fixed days and at regular hours they could be found by apothecaries and surgeons who desired their advice. One of the best known of these places in the eighteenth century was Batson's in Cornhill, frequented by Mead, Blackmore, and others, and later by Sir William Blizard, surgeon to the London Hospital, who died aged 92 in 1835, and is said to have been the last to hold such consultations.

In the Sloane MSS. (4077) there are two letters from Dr. Alban Thomas of Cardigan to Sir Hans Sloane, giving the history of two cases and asking for advice as to treatment. For copies of these we are indebted to Dr. Alban Evans of Swansea.

One of the letters, dated "Wennalt, Novr. 30th, 1738," gives an account of the troubles of Thomas Knolles of that place, in the county of Pembroke, who suffered from obesity (weight 20 stone) and hydrocele, which latter was treated by free incision and was cured in "five or six weeks' time without any mortification which but too frequently happens in such cases." A worse malady for which Thomas sought the advice of Sir Hans was stone in the bladder, from which Knolles had evidently suffered for some years. Sir Hans sent a prescription, but no one seems to have entertained the idea of operation, which alone could have offered a prospect of relief.

The second letter runs as follows:

Most Honble Sir,

I have presumed upon the foot of former Acquaintance with your honr to recommend the Case of this Revd & worthy Gentleman to your perusal, well knowing you to have had more experience than any one of the Faculty now living not only in Cases of this inveterate nature but all others which Humane Bodies are lyable to. Be pleased therefore to know that this gentleman is of a pretty gross habit of Body but free as yet from any hydropical Symptoms, of a moist phlegmatick Constitution no way Subject hitherto to any other Inflammatory feavers but the Small pox which he hath given an Acel of in his Letter to Mr Gell the Bearer hereof: He is Scorbutick in the highest degree but whether it approaches towards the Lepra Græcorum must be determined by your riper Judgement as also whether some preparation from the Viper may not be of use to him together with due Evacuations and a long Continuance of proper Antiscorbutick Alteratives, & your wonted Candour and Humanity will give me leave to acquaint you that I have used the unguentum Citrium upon such Eruptions with good success in ordinary Constitutions but never without putting them under a Course of Physick for at least Six weeks together first. I heartly joyce that you Still, in Spight of Age honourably triumph at the head of the Profession: may you long continue so for the publiek good: and I desire you would recollect me to be Your old Sincere friend and most obliged humble Servt

New Castle in Emlyn  
Novr 13 1738

ALBAN THOMAS.

Sir Hans Sloane's directions for the treatment of this case, written in Latin in a crabbed hand and much contracted, are preserved with the letter. Dr. F. William Cock has been good enough to elucidate them for the benefit of our readers. The original runs as follows:

Veneseet. fol anthem. pulv. viper. bezoardici pts h. s. sine theriaca mane cum apozem: sudorifico. Elect. lenitiv. pro re nata merc. precipitat. et aq. muer. purge.

This, written out in extended form as a prescription, reads:

(Fiat) venesectio. (Recipe) anthemidis foliarum, pulveris viperæ bezoardici (pulveris) partes (æquales) horâ somni (sumendas) et cum apozemo sudorifico sine theriaca, mane. (Recipe) Electuarium lenitivum pro re nata. Purgé mercuriale precipitate et aqua minerali.

Rendered freely into English the prescription would read:

Bleed the patient. At bedtime let him have a powder made of equal parts of camomile leaves, powder of vipers, and bezoar stone. In the early morning let him have a sweating draught without landaunum. As a laxative, let him take the compound electuary of senna as required. To purge, give mercurial precipitate and mineral water.

Dr. Alban Thomas's letters are addressed: "To The Honble. Sir Hans Sloan Barrt. Presid<sup>t</sup> of the Royall Society &c. at his House in Great Russell Street Bloomsbury Square London." This address is curious, as Sir Hans lived on the south side of Bloomsbury, then known as Southampton Square, at the corner of the street of the same name, until in 1742 he retired to Chelsea.

The writer of these letters was a person of some note in his day, as we learn from a memoir written by Dr. Alban Evans and published in 1917 in the *Transactions* of the Historical Society of West Wales. Alban Thomas was an Oxford man, and, like many of his countrymen, of Jesus College. In 1708 he was librarian of the Ashmolean Museum, and in 1713 he was appointed assistant secretary and clerk to the Royal Society, of which at that time Sir Isaac Newton was president and Hans Sloane secretary. In 1718 he published a pamphlet entitled *A List of the Royal Society of London*, with the intention of popularizing the objects of the Society, and of making the scientific acquirements of the Fellows useful to the community. He does not seem to have taken his medical degree at Oxford, for in 1719 he received the diploma of M.D. from University and King's College, Aberdeen. In Meyrick's *History of Cardigan*, 1808, there is an account of the love affair which culminated in his first marriage. Like Viola in *Twelfth Night*, Thomas was employed by a friend to negotiate a marriage with a lady in London, who, like the Countess Olivia, intimated to the young physician that were he to woo her for himself he would not be unsuccessful. The rejected but chivalric friend insisted on the doctor's addressing the lady on his own account. He offered and was accepted, and the course of true love was only troubled by his supposed lack of gentility. This lack, his father, a grave divine and poet, quickly supplied by sending him his emblazoned genealogical tree, tracing his family in direct line to the Lords of Towyn. A happy married life followed, only too soon to end with the lady's death in childbirth.

Alban Thomas got into political trouble in 1723, when he was suspected of taking part in a Jacobite plot, and when the storm had passed over he retired to Wales, where he married a second time. He died in 1771. Of his library is extant a copy of the *Mikrokosmographia* of Helkiah Crooke, a tall folio dated 1615, but published in 1616, which he has annotated. This was a compilation, a "Description of the Body of Man," based upon the works of Bauhin and Laurentius, as Sir Norman Moore states in the *Dictionary of National Biography*, but ignoring, even in the second edition, the discoveries made by Harvey, although the latter's lectures on the circulation were delivered early in the year 1616. A finely bound copy is in the library of the Royal College of Physicians of London.

### MEMORIAL GATES FOR THE NEW BUILDING.

In the JOURNAL of January 10th an account was given of the progress made in completing and equipping the new headquarters of the British Medical Association in Bloomsbury, under the direction of the architect, Sir Edwin Lutyens, R.A. This included a brief note of the fact that ornamental wrought-iron railings and gates, to complete the main quadrangle and to serve as a memorial to members of the Association who lost their lives in the war, were being made by the Birmingham Guild, in consultation with the architect.

The work of fashioning the gates was begun in September last and is now almost completed; it is expected that they will be placed in position at the front of the courtyard in the course of the next few weeks. The design, for which Sir Edwin Lutyens is responsible, is generally based on the eighteenth century tradition of smith's craft in this country, with leaf-work and scrolls as the main feature. The decoration over the central gateway will

bear a bronze dedicatory tablet with the inscriptions "Memory and praise" and "Faithful hath been your warfare." The total width of the gates, with their screens, is 60 feet; the height, at the centre, is 24 feet. Arrangements for the official opening of the new house of the Association are proceeding, and it is expected that the opening ceremony, including the dedication of the memorial gates, will be in the early part of the week beginning July 13th.

The following note on the making of wrought-iron gates, by Mr. C. A. Llewelyn Roberts, managing director of the Birmingham Guild, Ltd., will no doubt be read with interest by many members of the Association.

#### *The Making of a Wrought-iron Gate.*

The traditional craft of wrought-iron work, practised in this country in the eighteenth century—largely influenced by Tijou's work, as seen, for instance, in the examples at Hampton Court—is now almost a lost craft. It naturally suffered from the change in style of architecture of later periods. During the Classic revival the craft still to some extent continued in the work of the Adam brothers, but it was gradually losing ground.

At the present day, therefore, in making a wrought-iron gate in this tradition a special effort has to be made to obtain the skilled craftsmanship which still does exist, and to direct its enthusiasm in the old methods. As far as these methods go, there is no great difficulty, because in the making, in the forging, and in the fitting of a gate the practice is the same as in the past; but, unfortunately, the artistic skill and the feeling given to the work of that period are not now so easy to obtain.

The actual gate starts with the design—of course, drawn to scale—and then full-size drawings are made of its form, in conjunction with the smith who is responsible for carrying out the work, so that the forms are such as may be really appropriate to the craft. On this matter the intimate technical knowledge of the smith is essential. These drawings being ready, the work can proceed. In the first instance, rolled iron bars of various sizes are obtained, and it may be mentioned in this respect that the rolled iron of the present day is largely inferior from the point of view of malleability and nature to similar material used in the past, which adds to the difficulty of the modern smith in getting the same results. The material being obtained, it is then, with regard to the plain bars of the gate, cut to the necessary lengths, and the upright members are fitted to the horizontal members by passing one bar right through a hole in another, or by being tenoned—that is, by forging the bar down to a peg at the bottom, fitting this into a hole in the other bar, and riveting over it; or, the bars may be "halved" together, a notch being cut out of each bar so that when together the bars are in the same plane; a rivet is then put through this joint. As regards this part of the work, representing the general framing of the gate, it is probably done better than it was in the past because more accurate mechanical appliances are available for the making of such joints.

When, however, it comes to the forging of the scrolls and leaves it is here that skilled craftsmanship must be united with artistic instinct to obtain results equal to those of the best masters of the past. The scrolls, of course, are forged and welded together—a process that any ordinary smith knowing his job can do. But the result depends upon the feeling of the smith for beautiful lines and forms, such as the good tapering of the work down from one end of the scroll to another, which gives character to the work and the form and outline of the scroll itself. There is no quick way about this: the success of such work depends entirely upon the knowledge and ability of the craftsman.

The leaves themselves are made out of thick rolled sheet-iron beaten up to the form required. It is often necessary to make the leaf red-hot during this process in order to obtain the relief required. When the leaf is made it is riveted through to the bar of the scroll work, and also welded to it, thus ensuring a perfectly strong fixing.

In the arrangements of the scrolls and leaves, although, of course, this depends primarily upon the design and the full size lay-out, nevertheless much is left to the smith doing the work. If he is unresponsive to the beauty of

what he is doing, even a slight disarrangement of the form may destroy the harmony of the result. But if, on the other hand, he appreciates the beauty of the arrangement of the forms and line, then he is more likely to enhance the success of the result.

The amount of labour in making up such a gate is far greater than one would imagine from the finished work, for there is not a part which has not received careful attention by the craftsman, the whole of it being done by hand throughout, except the purely mechanical fitting of straight bars.

## CONFERENCE OF MENTAL HOSPITAL AUTHORITIES.

(Continued from page 808.)

### PROVISION OF MENTAL HOSPITAL ACCOMMODATION.

THE second day's proceedings at the National Conference of Mental Hospital Authorities on April 22nd were devoted to the consideration of further mental hospital accommodation.

Sir FREDERICK WILLIS, Chairman of the Board of Control, who presided, said that the Board desired to direct the attention of local authorities and visiting committees to the serious need for the provision of additional mental hospital accommodation. At the beginning of 1924 there was vacant bed space in all county and borough mental hospitals for 4,754 patients; the average yearly net increase of patients for the four years 1920-23 was 3,565. The position as regards accommodation had somewhat improved by the beginning of this year. The net increase of patients during 1924 was only 1,508. But it was clear that the needs of the country as a whole rendered it essential that the provision of further accommodation in the near future should be considered. It might be practicable to make a fuller use of the provisions of Section 25 of the Lunacy Act, under which patients could be sent from mental hospitals to Poor Law institutions; of Section 26, which authorized contracts with boards of guardians for the reception of patients in those institutions; and of Sections 55 and 57, which allowed absence on trial and boarding out; and it was also suggested that more extended use might be made of the provisions of Section 79, under which suitable patients might be discharged to the care of relatives and friends. In some cases nurses might be lodged in hostels outside the institution, thereby liberating a certain amount of institutional accommodation. Some patients at present in asylums might properly be transferred to institutions for mental defectives. Notwithstanding every effort, however, it seemed necessary to face the question of providing new accommodation. In some instances it might be practicable to extend the accommodation in existing institutions by the provision of admission hospitals, the erection of separate villas, and such additions as might be determined by local requirements.

Dr. G. F. BARNHAM (Claybury) dealt with this last point. He supported the view that there should be admission hospitals, with villas for convalescents. A very large number of early cases required to be dealt with annually, far beyond the scope of the clinics. The large mental hospitals could afford greater scope for occupation treatment than any form of clinic could provide, and there was the highly important consideration that mental hospitals, deprived of a fully equipped admission unit capable of treating all varieties of mental disorder, must inevitably suffer in efficiency. Surely it would be possible to provide admission hospitals effectively dissociated from chronic insane patients and linked up with outside medical organization. To be effective the admission unit must be organized on the villa system, out of the sight and hearing of the main hospital, and must furnish means for the classification of cases, in addition to sex separation, together with sufficient provision of treatment rooms to meet the growing complexity of therapeutic measures. It was held in some quarters that hospitals of 2,000-beds were too large, but, on the other hand, the wealth of material, the facilities for research, and the education both of the medical and nursing staff increased with the size of the institution. He was of opinion that asylum authorities should not be afraid to enlarge their institutions, for additional accommodation could only add to the efficiency of the whole organization, besides being more economical.

A brisk discussion ensued, in which many chairmen of visiting committees and of asylum boards participated, and the possibilities of extended use of Poor Law accommodation, the sending out of cases on trial, boarding out, and discharge to relatives, the provision of admission hospitals, of nurses' homes, and general enlargement of the institution, were explored. Mr. C. L. FORESTIER-WALKER, M.P., suggested a series of regional conferences to discuss the problems and difficulties in the various areas, and it is probable that these will be arranged.



## PUBLIC HEALTH IN ITALY.

BY

PROFESSOR DR. ARTURO CASTIGLIONI,

MEMBER OF THE CHIEF COMMITTEE OF THE ITALIAN BOARD OF HEALTH;  
PROFESSOR IN THE UNIVERSITY OF PADOVA.

AFTER the war medical and university circles turned their attention to the study of the great problems of social hygiene and of preventive measures, strongly supported by the Government. Italian legislation has lately adopted many important hygienic measures, and both in Parliament and in medical associations hygienic questions are the order of the day. A most admirable institute was founded immediately after the war by Professor Ettore Levi, under the presidency of Luigi Luzzatti, the great statesman, repeatedly Minister of Finance and President of the Council of Ministers. This "Institute for Hygiene, Preventive Measures, and Social Assistance" collects all publications relating to the study of social hygiene, including propaganda work. Representatives of Ministries, large industries, chambers of commerce, banks, and of the working classes are collaborating in this work, which is outside politics, and operates from a social and economic point of view. The fight against infective and venereal diseases, and the welfare of infants, mothers, and of the working classes, are sustained by a most active propaganda through the means of books, lectures, courses of instruction, and schools—a propaganda which is conducted on parallel lines with those of other countries. The international relations of the institute secure the supply of much material for medical research, and doctors can study the statistics of all countries, the legislative measures applied by each, and their propaganda methods. For these reasons the Italian institute, which should be visited by foreign doctors coming to Rome, is just as important from a scientific as from a social point of view.

One of the problems which have most interested Italian scientists is the high mortality through tuberculosis during the great war and after. Immediately before the war—namely, during the period 1910-14—deaths through consumption were steadily decreasing, and had reached the minimum of 1,500 deaths per annum. In 1915 there was a sudden rise to 1,576, and during the three subsequent years the following figures were noted: 1,674, 1,749, and 2,090. The last figure is that of 1918, when there was a great epidemic of Spanish influenza in Italy. From that period onwards the figures gradually fell to a minimum of 1,423. It should be noted that during the first years of Italian statistics deaths through consumption stood at 2,128. All the above figures relate to one million inhabitants. Most important conclusions can be gathered from the above statistics, collected and published by Professor Niceforo of Naples University. First of all, they indicate that the war was indeed the cause of a sudden increase in tuberculosis, but that nevertheless the mortality curve did not reach the high point of 1887-89. It is interesting to observe a similar occurrence also in other important movements, not only relating to illnesses and to mortality, but also economic and social. Secondly, it must be noted that the decrease in deaths after the war brought down the curve of tuberculosis mortality to the pre-war point; this decrease, however, is not what it would have been had there been no war and had the same decreasing pace been kept up for tuberculosis.

*Preventive Medicine.*

In the Italian Congress of Social Eugenics, which took place in Milan a few months ago, several attending the Congress devoted deep study to the problem of precautions to be taken through legislation for the protection of future society from the perils of delinquency, drunkenness, and mental and nervous diseases generally, especially from the hereditary point of view. No practical result seems to have followed the adoption in some North American States of the "Act to prevent procreation," the object of which is to prevent criminals—and in some cases also idiots, mental defectives, and those afflicted with congenital insanity—from having children. The legislation for compulsory sterilization, proposed by the Laboratory of Experimental

Eugenics of Long Island, is still only a suggestion. Although at the Italian Congress it was recognized that the State has the duty of protecting, not only the individual, but also society and the race, the conclusion was nevertheless reached that it would be very difficult in practice to introduce similar measures in Italy. Efforts must therefore be made to prevent the reproduction of "undesirables" by instituting sanitary centres and matrimonial control. The first measure would serve the purpose of collecting all information relating to the various subjects, and of keeping an eye on their physical and mental development, from the strictly hygienic, the social, and the medical points of view. Matrimonial control should be established by requiring a medical certification of sound constitution and eugenic capacity before marriage. Professor Medea, who upheld these projects before the Congress, also pointed out how necessary it was to provide propaganda literature for the education of the people and for the development of an enlightened public opinion. In Milan, meanwhile, a psychiatric dispensary of the League of Mental Hygiene has been formed, not only for study and research, but also as a centre for active propaganda. Psychiatric social workers must attend to the unsound, and at the same time circulate useful knowledge.

In the fight against cancer and tuberculosis, especially as regards measures in early infancy, Italy has made a fine start this last year or so, and, thanks to Government support, new nursing homes, dispensaries, and open-air schools are constantly being opened. A great stimulus to the foundation of new institutions has been the King's suggestion that any act of homage Italians may like to render him on the twenty-fifth anniversary of his reign should take the form of public welfare work, preferably related to hygiene. Milan has set an example by founding an institute for cancer research. The Lord Mayor of Milan, Professor Mangiagalli, a senator of the kingdom and a famous clinician, has taken the initiative in this excellent work by collecting in a few weeks considerable sums of money, which will ensure the success of the enterprise. Many other towns have decided to found institutions for the fight against consumption, and throughout Italy there is a movement for organized activity which promises well, especially in the field of preventive measures. Italy, with her wonderful shores and the mild climate of her southern provinces, can construct a really practical programme in this sphere of work, especially in connexion with the welfare of infants. All the associations engaged in this fight against consumption will meet in a congress to be held at Naples from May 25th to 28th. This congress, keenly awaited in medical circles, will discuss such particularly important questions as treatment in mountain nursing homes, on the sea coast, and in nursing homes on plains. The problem of preventive vaccination will also be fully discussed.

An exhibition will take place at the same time, at which the leading nursing homes and health institutions will be represented, and where apparatus and preparations for the cure and diagnosis of consumption, and literature on antituberculosis associations and legislation, will be on view. Naples is a peculiarly suitable place for this congress, since it was the first city in the world where the Government—at the instigation of the famous doctor Domenico Cottugno—issued an order in 1782 that doctors should notify all cases of consumption, and founded a special hospital for consumptive persons.

During the recent discussions in the Italian Parliament on the budget for the interior, doctors repeatedly urged the Government to take greater interest in hygienic problems. The Hon. Professor Messedaglia recommended the adoption of stronger measures for the definite conquest of malaria, and, supported by medical deputies, a bill was advanced limiting the number of establishments for the sale and consumption of alcoholic drinks to one establishment per 1,000 inhabitants, instead of one per 50, as fixed by law in 1913. At the same time the sale of wine, beer, and other alcoholic drinks is to be forbidden after 11 p.m. and before 10 a.m. The Italian Association for Hygiene, presided over by Professor Achille Sclavo, rector of Siena University, has performed splendid work in the fight against alcoholism;

it has also asked that special homes for inebriates should be opened, and that the Government should consider the possibility of modifying the article in the Penal Code which enacts that drunkenness lessens the crime instead of increasing it. The general decrease in cases of drunkenness which has been observed in Italy after the war, decrease being also noticeable in the consumption of alcoholic drinks, is due to a great extent to the Government's restrictive measures, and it can therefore be expected that the propaganda of hygienic institutions, especially in schools, will result in a gradual but marked decrease in delinquency.

#### New Universities.

Two new universities were opened in Italy this year, regardless of the opinions of most learned men, who think that the existing universities are already excessive in number. However, the Government has introduced English methods into its new university law by declaring that new universities may only be opened, and minor universities be maintained, if the borough or province is willing to bear the bulk of the expenses relating thereto, assisted by a small Government contribution. Milan has quickly collected funds and opened a first-class institute, specially designed for medical studies. The clinics, already in existence as schools for graduation (noteworthy amongst them the clinic founded and run by Professor Devoto, a leader of the Italian medical faculty), have all passed under the control of the new university, which has also opened a number of new institutes, appointing some of the best known Italian scientists to run them. In view of the progressive development of the city of Milan, the centre of Northern Italy's industries and commerce, and thanks to the energy with which Senator Mangiagalli, who is also the rector of the university, has undertaken his task, it can confidently be asserted that the University of Milan will soon hold a leading place in Italian scientific circles. Another university with a medical faculty has been opened in Bari (South Italy), which hitherto only had the University of Naples. The Bari University also has some fine medical institutions; its rector is Professor Pende, whose name is well known for his studies in endocrinology and pathology.

## Scotland.

#### THE EFFECTS OF HOUSING ON EPIDEMICS.

At a meeting of the Public Health Subcommittee of Edinburgh Town Council on April 21st, Dr. William Robertson, M.O.H., submitted a report on the effect of housing on the spread of infectious disease. Since the long and serious epidemic of measles and whooping-cough began, 3,315 cases of the former and 1,764 cases of the latter had been notified, 548 cases of measles and 259 cases of whooping-cough had been treated in hospital, and the number of visits paid by nurses was 2,996. Much difficulty had often been experienced in caring for children in houses that were on the border-line of being overcrowded. Subletting was a regrettable feature of the housing shortage, and instances had been met in which two families were attempting to live in two- and three-roomed houses. Under such conditions, when measles or whooping-cough broke out the spread of infection became unavoidable, and the proper nursing of infected children in such circumstances was almost impossible. The congestion caused by the tenement system, where too many families lived in too close contact with one another, and where the children were compelled to rub shoulders in the long passages and lobbies of three- and four-storied buildings, was another great factor in infection. Experience had shown that large numbers of the cases occurred in houses entered by common stairs.

#### PURE MILK COMPETITION.

On the suggestion of the Board of Agriculture for Scotland, a competition was recently organized by the Public Health Committee of Edinburgh Town Council for dairymen within the city boundaries. Councillor Harvey, Convener of the Public Health Committee, who presided at the prize distribution on April 16th, said that the success attained had

fully justified the enterprise; the competition had shown that any dairy byre in the city might produce milk of Grade A standard. Investigations made by the veterinary department of the city some time before the competition had shown that 37 per cent. of the retail milk sellers in the city were selling milk which conformed to the Grade A standard, which was essentially clean milk, with a very low general bacterial content, and practically no coliform organisms. The earlier regulations had been principally directed towards the cow and the cowshed, but under the new regulations more attention was paid directly to the milk, and its source of supply was considered immaterial so long as the product itself was satisfactory. The Public Health Committee was satisfied that the supply of milk from within the city boundaries would be more easily and efficiently supervised than a supply from outside. Under existing legislation the powers of local authorities to give practical assistance to the milk industry were limited, but local co-operation and harmonious co-ordination between the authority and the trade was possible. Sir Robert Greig, Chairman of the Board of Agriculture for Scotland, congratulated the Public Health Committee and the competitors upon the fact that the competition was the first of its kind in this country. Few countries produced a better or larger supply of clean milk than the United States of America and Canada, and yet in those countries milk was often produced in buildings which our local authorities in this country would not allow for that purpose. There was an almost unlimited field for the production and consumption of milk, but consumers had not yet been educated up to the fact that milk was one of the cheapest and most valuable of foods. In America people consumed about three times as much milk a head as we did. In Chicago cars might be seen going around with bottles of milk which workmen bought in the street and drank, but they had a long way to go in Scotland before they would find the average workman stopping to drink a bottle of milk. Medals and certificates of merit were then presented to the dairy workers.

#### CHANGES IN FOOD SUPPLIES.

At a meeting of the Council of the Scottish Federation of Grocers' and Provision Merchants' Associations, held in Edinburgh on April 15th, it was intimated that a letter had been received from the Scottish Board of Agriculture referring to the declining consumption of oatmeal in Scotland, and asking six questions. The Federation replied that the decline in the consumption of oatmeal which had become apparent before the war was to be attributed to a change in the national diet; practically every household had ham and eggs or fish for breakfast, and the average housewife would not cook two courses, so that porridge was left out. The decline in consumption was over 50 per cent., judging by the sales of oatmeal twenty-five years ago. The consumption of flaked oats and similar preparations was increasing and might in part account for the smaller use of oatmeal, although people as a rule preferred home oatmeal to foreign oatmeal. The Federation thought that enterprise in advertising and educating the public would soon stimulate the demand. The Federation had sent a deputation to the Board of Health to represent that serious disturbance would be occasioned if the use of preservatives in foods was entirely prohibited, as proposed in the draft regulations recently issued. The deputation had suggested also that labels on articles containing permitted preservatives, upon which was stated the amount of preservative present, would serve no useful purpose, but would alarm consumers; it would be sufficient if the label stated that the article "contained preservatives conforming with the Board of Health regulations." The opinion was advanced that cold storage could never take the place of preservative because facilities throughout the country were quite inadequate.

#### CARE OF THE BLIND.

At a social meeting of the directors in the industrial section of the Royal Blind Asylum and School, Edinburgh, Mr. Ewan F. McPherson, Chairman of the Scottish Board of Health, said that any help given to remove the handicap from which the blind suffered was, until lately, voluntary. Edinburgh had given a lead to the country in this respect

for the asylum had now been established for 132 years and at the present time 350 blind persons were being helped. By the Act of 1920 the duty of doing something to promote the welfare of the blind was placed upon town councils and county councils. It had taken some time to get the Act into operation, but the town and county councils, education authorities, and voluntary institutions were co-operating, and before very long every blind person who was suited in any way for any occupation would get such training as would fit him or her for that occupation.

#### DUNDEE MENTAL HOSPITAL.

At the quarterly meeting of the directors of the Dundee Royal Mental Private Hospital, Dr. A. B. Dalgetty, medical superintendent, reported that during the quarter 75 persons had been treated, of whom 5 had been voluntary patients. Voluntary patients recovered as a rule more quickly than the others. Some voluntary patients had remained in the hospital for six months, twelve months, and more.

#### CARE OF THE CHILD IN SCOTLAND.

The annual general meeting of the Royal Scottish Society for Prevention of Cruelty to Children was held in Glasgow on April 22nd. Lord Provost Montgomery, who presided, in moving the adoption of the report, said that last year the society had dealt with 7,583 cases, representing 22,156 children, who were visited throughout Scotland. Sir John M. Macleod, Bt., in seconding the report, said that one of the striking features of the changes in progress to-day was the desire on the part of one section of the community that all activities should be centralized, including the activities of benevolent and charitable institutions.

#### Ireland.

##### THE LATE PROFESSOR A. C. O'SULLIVAN.

SHORTLY after the death, last year, of A. C. O'Sullivan, M.D., S.F., professor of pathology in the University of Dublin, a committee was formed to collect funds in order to perpetuate the memory of his connexion with Trinity College, and especially with the School of Pathology, of which he was for nearly thirty years the head. Over £1,000 has been collected, and with this sum a scholarship has been founded in the School of Physic. The O'Sullivan Scholarship, valued at about £48 a year, is to be awarded, on the nomination of the School of Physic Committee, without examination, to the most deserving candidate, consideration being given to his record in the medical school, in the University generally, and also to his financial circumstances. Besides the foundation of the scholarship a bronze tablet has been erected in the School of Pathology, which bears the following inscription:

ALEXANDRO CAROLO O'SULLIVAN  
HUIUS COLLEGI SOCIO  
PRIMUM OBSTITUIT  
LUGENS UNIVERSITAS  
HOE MONUMENTUM POSUIT  
MEMXXIV

The tablet was unveiled by the Provost of Trinity on April 21st. After a statement by the honorary secretary, Mr. E. J. Gwynn, relative to the collection of the fund and its application, Dr. W. G. Smith, on behalf of the subscribers, presented the scholarship and tablet to the school. In the course of his speech, he said that they were assembled to pay the last possible mark of respect to the memory of a man of "infinite variety" and one endowed with remarkable intellectual gifts, who had been prematurely taken away. His versatile and nimble brain was equally at home in the favourite subject of mathematics, or in languages, or in the practical work of the laboratory, or in the deft use of his hands as an expert craftsman. He had cultivated with such success his special subject of pathology that he was acknowledged as an authority. The Provost, accepting on behalf of the college the scholarship and memorial, thanked Dr. Smith, the senior Fellow of the

Royal College of Physicians, for what he had said. No one in recent years had so well carried on the old Trinity College tradition of general culture as distinct from merely professional knowledge as Dr. O'Sullivan. He had an austere sense of the meaning of exact knowledge, and very patient of anything like humbug or pretence, and very scornful of half-knowledge. The only other adjective used of him in the felicitously worded inscription was "magnanimus"—great-hearted, great-souled—and that explained why he had so many friends. The Provost spoke feelingly of his long friendship with Dr. O'Sullivan, extending from the days when they were undergraduates together. He was glad that a permanent memorial to Professor O'Sullivan would rest in the School of Pathology, to which he devoted himself more and more as the years passed by, and that so his name would be kept before the generations to come. The Provost then unveiled the memorial, to which many friends and former pupils of Professor O'Sullivan, scattered over the world, will be glad to know that now a permanent memorial has been erected in Trinity College, which he served so faithfully all through life and which he loved so well.

#### England and Wales.

##### HEALTH PROPAGANDA.

THE Minister of Health, the Rt. Hon. Neville Chamberlain, M.P., received on April 23rd a deputation from the Society of Medical Officers of Health, introduced by Dr. J. Wheatley. The deputation represented that they, in their capacity of men of scientific training in constant touch with the general public, had found that there was an urgent need for further propaganda directed to the general improvement of health rather than to the combating of special diseases. They thought that statutory provision should be made for local authorities to carry on health propaganda. As a next stage a central body should be set up to advise local authorities, who sought their help on the way in which propaganda should be carried out locally, and to assist them by the provision of lecturers, literature, and other means of propaganda which could best be organized by some special central authority. The society thought that in its position it would be able to give valuable help to such a central body, and that medical officers of health should themselves be included in its membership. The Minister, in reply, said that he fully agreed with the deputation as to the necessity for propaganda on health questions, and he gave his assurance that he proposed to take steps to have the necessary powers conferred on local authorities forthwith. He hoped it might be possible to do so this year, or, at any rate, next year. He also agreed that some sort of central body could give valuable assistance; and when the necessary legislation had been passed he would give careful consideration to the question of the proper constitution of such a body and the functions which should be assigned to it.

##### CARE OF MENTAL DEFECTIVES.

DURING the last ten years the Leeds Voluntary Committee for the Care of the Mentally Defective has undertaken the supervision of those mental defectives who are not resident in institutions; altogether 738 have been dealt with, and at present 436 are under supervision. The home conditions in the case of 135 of these defectives were considered unsatisfactory, and the annual report of the committee draws attention to the evils arising from intensive overcrowding of these defectives. Systematic visiting of the homes has produced good results, but as there is no statutory obligation on the parent or guardian to co-operate with the local authority in promoting the safety and well-being of the defective, a certain number of the mentally deficient become a menace to the community. It is suggested in the report that since such supervision is an established method of dealing with the mentally defective classes the obligations and responsibility of parents and guardians ought to be specifically defined. The Leeds committee was the first in the country to provide an employment centre for feeble-minded youths and men, the industries being boot-making

and repairing, rug and mat making, and wood chopping and bundling; fifty-one persons were employed at the centre during the year. The average sales amounted to £12 a week, as compared with £10 in the previous year. Small allowances were made to those under training, and, in addition, many had their boots repaired and their clothing supplied without cost. The centre has already resulted in a financial saving to the local authority, since but for its existence at least ten of the defectives now accommodated there would have had to be maintained in certified institutions, where each would have cost not less than £60 a year.

#### KING EDWARD VII SANATORIUM, MIDHURST.

The eighteenth annual report of the King Edward VII Sanatorium, Midhurst, shows that 294 patients were admitted to the sanatorium during the twelve months ending June 30th, 1924. They included 20 readmissions and 19 who remained in residence too short a time to be considered in the record; during the same period 234 patients were discharged. The demand for beds has remained steady, the average number of applicants on the weekly waiting lists being: for men 6.3, for women 6.7. Treatment by graduated rest and exercise remains an important part of the sanatorium routine. Results are given of the treatment of eight patients by the induction of artificial pneumothorax. The report also includes an account of the work of the statistical department, relating to approximately 4,000 cases discharged from the sanatorium.

## Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

### The Budget.

THE Chancellor of the Exchequer introduced the Budget on Tuesday last. The reductions in income tax and supertax are of particular interest to many individuals, but the most important part of the financial scheme Mr. Churchill unfolded is the extension of State insurance. It includes pensions for widows and orphans, beginning next January, and a reduction of the qualifying age for old age pensions from 70 to 65, to begin in January, 1928.

Mr. Churchill said that the consuming power of the people was maintained, and thrift continued, despite unemployment and trade depression. Floating debt had been reduced during the past year by £32,500,000 and external debt by £4,000,000. Larger funding operations would be undertaken in the lifetime of the present Parliament. This year £50,000,000 would be devoted to the Sinking Fund. The country had been paying off war pensions on a considerable scale. In 1919 the total capital liability for pensions had been £1,000,000,000, and the yearly expenditure £100,000,000. That capital liability was now reduced to £760,000,000, and the annual charge £67,000,000. A strict perseverance in paying off pensions would relieve the taxpayer by a further £2,000,000 or £3,000,000 each year. The Government had decided to allow the restrictive legislation against the export of gold to lapse on December 31st and to issue, till then a general licence for the export of gold and bullion. To reintroduce gold coinage at present would be an unwarrantable use of notes must be paid for. The public interest had been made for the year, and further credits were available in America. The estimated expenditure of 1925-26 was £799,436,000; this was disappointing. He trusted that a period of settled government would permit the overhauling and reduction of expenditure. After this year reduction of taxation could only be achieved by reduction of expenditure. Improvement in trade would only be gradual, but he was not providing for any war abroad or for industrial convulsions at home. He was not budgeting for any repayments from European Allies, but they should not relax their efforts to obtain such repayments. He estimated that in 1925-26 the total receipts from taxes would be £711,000,000, against £689,702,000 last year. The income tax was estimated to yield £289,000,000. Customs and Excise £235,000,000, and motor vehicle duty £17,500,000. Receipts from non-tax revenue he estimated at £114,500,000, making the total estimated revenue for 1925-26 £826,000,000.

### Death Duties.

The Budget surplus was £26,500,000, a sum satisfactory in itself, but not adequate to achieve the two great purposes of public policy—security for the home of the wage-earner and relief for the hard-pressed on industry. It was imperative that he should fortify the revenue, and his scheme for doing so must be judged as a whole. Death duties on estates over £12,500, but not on the greatest estates, would be increased to yield £1,500,000 this year

and £10,000,000 in a full year. Between £12,500 and £18,000 the death duty would be increased by 1 per cent; on £40,000 by 3 per cent., on £175,000 by 6 per cent. Thereafter the percentage increase would diminish, and an estate of £1,000,000 would be taxed as now.

### Luxury Taxes.

He proposed that the House should impose luxury taxes which no one would need to pay. One of these would be a new revenue duty, calculated by weight, on silk, natural or artificial, raw or semi-manufactured. A certain advantage would be given to the home producer. The revenue would be £4,000,000 this year, and £7,000,000 in a full year. In place of the hop control which was about to lapse, a duty on imported hops was to be levied, for four years, to produce £250,000 in a full year. The "McKenzie duties" on motor cars and other goods would be reimposed, with the silk duties, from July 1st. The total yield of all these "luxury taxes" would be £5,300,000 in the first year and £10,000,000 in a full year.

### State Insurance and Old Age Pensions.

Mr. Churchill announced that legislation would be proposed improving the income tax machinery and amending the success duty law. He then turned to his proposals for improving State insurance, which, he said, though imperfect, was pre-eminent among the insurance systems of the world. The first object was to provide old age pensions before 70. The scheme, to be of use, must be contributory and compulsory, and must cover the whole wage-earning population of 15,000,000 who now came under the National Health Insurance Acts. It had been decided that in addition to the insurance payments now made 4d. could be paid by every man and 2d. by every woman in employment, and that the employers could also pay an additional 4d. per man and 2d. per woman. If all workers contributed from the age of 16, 10s. a week could be paid to widows and 10s. to the old worker at 65. A sum of 1d. for each insured person would be transferred from health insurance and unemployment insurance to the new scheme, which by the aid of a State contribution could be brought into operation by stages from January 4th, 1926. The present capital value of the additional liability to the State was computed at £750,000,000.

Mr. Churchill warned the House that, apart from the new pensions scheme, the Government's actuaries predicted a great growth in old age pensioners under the existing scheme because the span of human life was being prolonged and the survivors of the large increments to population in Victorian times were reaching pensionable age. The census of 1891 showed 5,200,000 persons between 40 and 50; that of 1921 showed 9,700,000 between those ages. The present annual cost of the existing old age pensions was £27,000,000. In ten years it would be £36,000,000; in twenty, £40,000,000; and in fifty, £60,000,000. This island in thirty years would have more than double its present old and feeble people and would have to support them with little more than its existing active population. To meet this, the contributions of employers and employed to the new pensions scheme were to be raised by 1d. per man and 4d. per woman each decade. By the tenth year the annual cost of the new scheme to the State would be £15,000,000, and by the twentieth £24,000,000. Thereafter it would decline. After 1926 the contributions to the new scheme would cover the existing old age pensions as well. The new scheme would cost nothing in the first year to the State. It was only from the third full year that the charge began to operate. The charges would be averaged over ten annual instalments approximating to £5,750,000 each year from 1926. A bill dealing with the scheme would shortly be introduced by the Minister of Health.

Widows of all men insured in the national health insurance scheme who became insured in the new scheme would get 10s. a week from January 4th next, with 5s. for the first child and 4s. for other children. All existing widows of men who were insured, if those widows were now mothers, would receive the same benefit as a gift till six months after the youngest child reached 14. The scheme affected 230,000 widows, and its capital value to each was £600. There would also be grants for motherless orphans. The progressive fall in war pensions would more than offset the cost of the new scheme.

Mr. Churchill further announced that from January 6th, 1928, all workers who had contributed for five years to national health insurance and for two years to the new scheme would receive 10s. a week at 65 without any means test. The same benefit would be paid to their wives at 65. All restrictions and means tests on old age pensions after 70 were to be swept away from July 1st, 1926, and about 100,000 would benefit.

### Income Tax and Supertax.

Turnip to remission of taxation, Mr. Churchill announced preferential remission of duty on Empire dried fruits, tobacco, wines, and sugar. The supertax was to be reduced to correspond with the increase in the death duties, thus encouraging the creation of new wealth. The rates of supertax would be halved up to £3,000, with lesser remissions thereafter. In income tax further advantage would be given to earned income. At present the allowance for earned income was one-tenth up to a maximum of £250. That would be increased to one-sixth, up to a maximum of £250. This deduction could be made in full on incomes up to £1,500. Persons over 65 with incomes of less than £500 would be granted this earned income relief, which would cost £3,000,000 this year and £7,500,000 in a full year.

Mr. Churchill concluded by announcing that in addition 6d. was to be taken off the standard rate of income tax, making it 4s. in the £. This would cost £24,000,000 in the first year and £32,000,000 in a full year.

The criticism of the Budget which was offered by Mr. Snowden and Mr. Lloyd George was very cautious and not hostile.

## Correspondence.

### THE MORTALITY OF APPENDICITIS.

SIR,—The excellent and thoughtful papers of Mr. Joseph E. Adams and of Mr. James Sherren (*JOURNAL*, April 18th, pp. 723 and 727) once more direct attention to this subject. Their information is so complete and their arguments so moderately stated that I should hesitate to intervene were it not to join in the note of warning which you so promptly, and I think wisely, sound in your leader in the same issue.

All surgeons must know that many cases of appendicitis spontaneously recover, even when complicated by peritonitis or abscess, but that many only do so after running the gauntlet of a long and dangerous illness. Even when under observation and control in hospitals disappointments occur, and they frequently happen when attempts are made to treat patients on conservative lines in their own homes.

I have watched the progress of the surgery of appendicitis in this district for over a quarter of a century, and during this time I have experienced the results of the recurring advocacy of the delayed operation. Every time this plan has been written about in the medical press and generally discussed, it has almost at once been followed by an increased mortality. The conduct of the case on conservative lines is not reserved for the operating surgeon who ought to be responsible, but is undertaken by another section of the profession, and in the hope of avoiding operation is eagerly accepted by a not inconsiderable section of the public. This delay is lightly countenanced; some cases are allowed to develop general peritonitis; many abscesses occur, many fortunately localize or remain so, but too frequently complications and a lengthier stay in hospital follow, and in the long run the mortality always rises.

The following is a record of my personal operations up to the end of 1924.

#### Mortality of Appendicitis: Personal Experience.

	Cases.	Deaths.	Percentage.
Group 1.—Acute appendicitis without peritonitis	102	0	—
Group 2.—Acute appendicitis with localized peritonitis	366	4	1.09
Group 3.—Acute appendicitis with flank or pelvic peritonitis or both	187	15	8.02
Group 4.—Acute appendicitis with diffuse peritonitis	89	26	29.21
Group 5.—Appendicitis with residual abscess	62	5	8.06
Group 6.—Appendicitis with primary localized abscess	373	10	2.64
Group 7.—Appendicitis—interval removals	725	3	0.4
Group 8.—Appendicitis with primary complications	19	8	42.1
	1,938	71	3.65

All the cases for which I have been responsible are included. Group 8 comprises complications like intestinal obstruction associated with acute appendicitis, pyelophlebitis, and so forth, so that the percentage mortality must needs be high, but these cases are included for the sake of completeness.

I believe that, however the figures are used, they show that the mortality rises with the march of pathological processes. The latter do not attend on the clock, and a recognition of this fact long ago made me give up a classification of cases based merely on lapse of time. One patient may show an unlimited and severe peritonitis in less than twenty-four hours, whereas in another the inflammation may always remain localized.

Recognizing my responsibility as a teacher, I would strongly urge that every case of appendicitis should be operated upon while the disease is active. Only in a few fulminating cases the surgeon must know "no night, no day," but there should be no undue delay, though the surgeon of experience may recognize that the case may safely await his convenience from, say, late at night to the next morning, or from one day to another, and so forth. There are also cases in which some delay may be an

advantage—to combat toxæmia, to allow the effect of drugs to pass off, to move the patient to better surroundings, etc.; but these considerations do not affect the general rule that an attack of appendicitis should be cut short by operation. The scope of the operation is a very different matter, and that must vary with the pathological conditions present and with the experience of the surgeon. A timely incision under a local anaesthetic, or the puncture of a pelvic abscess, may each save the life of a patient, so that the appendix may be removed later to prevent so serious a risk recurring. As a matter of fact, in over 95 per cent. of my own cases the appendix has been removed at the one and only operation.

But appendicitis must surely always have a mortality—and mainly the mortality of the occasional difficulty in diagnosis. Last year I had 85 cases without a death. So far this year there have been two deaths—one because some bronchial trouble associated with one of the exanthemata in a child led us to adopt the policy of the delayed operation; and one because the patient himself delayed too long before seeking the advice of his doctor. And even interval operations have some mortality.—I am, etc.,

Newcastle-upon-Tyne, April 23rd.

G. GREY TURNER.

### RECENT ADVANCES IN THE STUDY OF CARDIO VASCULAR DISEASE.

SIR,—Dr. Harrington Sainsbury, in his letter (*BRITISH MEDICAL JOURNAL*, March 28th, p. 633), questions whether the modern instrumental methods have led to a real advance in the study of cardio-vascular disease or if they have merely led to changes in our points of view. I am afraid this must remain a matter of opinion.

In his comments upon my reference to the effect of Sir James Mackenzie's work upon clinical cardiology, Dr. Sainsbury discusses some defects of the polygraph and restates his views regarding the uncertainty of the physiological interpretation of the venous pulse tracing as recorded by this instrument. That physiologists do not consider the present interpretation of the various waves upon a phlebogram as settled is evidenced by Professor Barry's recent work, in which he records this pulsation by an optical method.

In consideration of the significance of venous pulse records due attention must be given to the experimental evidence brought forward by those who are engaged in the investigation, by modern methods, of the true time relationship of the various events in these records. Dr. Sainsbury appeals to those teaching to look into this matter with an open mind, and I feel certain his views will receive full consideration.—I am, etc.,

Belfast, April 20th.

J. E. MACILWAINE.

### TREATMENT OF DIABETES BY RAW FRESH GLAND (PANCREAS).

SIR,—In a recent communication to the *BRITISH MEDICAL JOURNAL* (March 14th, p. 503) Dr. T. J. Hollins stated that when a patient with diabetes mellitus was given raw pancreas by mouth the sugar disappeared from the urine, and, further, that this line of treatment did not cause any symptoms of overdosage. Dr. W. Dunn (April 4th, p. 680) stated that he had had good results on one patient, but Dr. G. A. Harrison (April 18th, p. 760) failed to confirm these observations on two patients, who had been under treatment for some time. This subject is of importance, since a patient would much rather take a medicine by mouth than have it injected every day. An attempt was therefore made to confirm Dr. Hollins's work.

The patient, a girl aged 14, had been under treatment for the past two years, but her sugar tolerance had decreased, chiefly owing to the unsatisfactory conditions in the home. The dose of insulin was increased rapidly from 5 units to 12 units in the morning and another 8 units at night. After three weeks the blood sugar at 10 a.m., before the insulin injection, was normal, and the dose of insulin was reduced to 8 units in the morning and 6 units at night, owing to some slight symptoms of hypoglycaemia. The blood sugar for three days before the experiment varied from 0.12 to 0.14 per cent. The diet was kept constant at sugar



16 grams, protein 82 grams, fat 134 grams, caloric value 1,600. Weight of patient, 68 lb. The pancreas was supplied by the British Drug Houses, Ltd., and I wish to thank them for their courtesy in sending it. It was kept in an ice-chest, since insulin is not destroyed under these conditions. One ounce was eaten at 10 a.m. each day with salad, and the girl did not object to it.

		Blood Sugar.	
		10 a.m.	4 p.m.
April 2nd	...	0.125 per cent.	0.14 per cent.
" 3rd	...	0.15 "	0.21 "
" 4th	...	0.215 "	0.225 "

Sugar appeared in the urine on the afternoon of the second day and was present in every specimen passed on the third day. The experiment was then stopped and insulin given for the next two days. Since the frozen raw pancreas had failed to maintain the blood sugar within normal limits, it was conceivable that some change had taken place as the result of the freezing. The pancreas was therefore sent direct from the slaughterhouse (packed in a little ice) and was given to the patient as soon as it arrived. This was a little inconvenient as the time of arrival varied from 1 p.m. to 4 p.m.

On the first two days 2 oz. were given and 4 oz. on the third day.

		Blood Sugar.	
		10 a.m.	4 p.m.
April 6th	...	0.14 per cent.	0.13 per cent.
" 7th	...	0.175 "	0.19 "
" 8th	...	0.18 "	0.215 "

Sugar appeared in the urine on the afternoon of April 7th, but was absent on the morning of the third day, although in the whole twenty-four hours 12 grams of sugar were excreted. In order to complete the experiment insulin was given for the next few days, and in the following three days neither insulin nor raw pancreas was given, so as to demonstrate the effect of the pancreas.

		Blood Sugar.	
		10 a.m.	4 p.m.
April 14th	...	0.115 per cent.	0.12 per cent.
" 15th	...	0.145 "	0.145 "
" 16th	...	0.14 "	0.15 "
" 17th	...	0.16 "	0.15 "

Insulin started.

April 18th ... 0.115 per cent.

The experiments on this patient, together with those reported by Dr. Harrison, seem to show quite clearly that raw pancreas, when eaten, does not have any effect in lowering the blood sugar of the patient who requires insulin to maintain it at the normal level. In this case, the amount of insulin required was only 14 units, but in both experiments the blood sugar began to rise about twenty-four hours after the insulin had been stopped. When neither pancreas nor insulin was given, the blood sugar did not rise as high as when the pancreas was given, but this may be due to the extra food, which was eaten in the form of pancreas, since no reduction was made in the other constituents of the diet.

These experiments do not hold out any hope that raw pancreas can be of any assistance to the patient with true diabetes mellitus who needs insulin.—I am, etc.,

London, W.1, April 25th.

GEORGE GRAHAM.

Sir,—Dr. G. A. Harrison in his letter (April 18th, p. 760) twice mentions that "the dose of insulin remained constant." Dr. Hollins (March 14th, p. 503), Dr. Young (March 28th, p. 632), and also Dr. Dunn (April 4th, p. 680), all three explicitly state that no insulin was being used. What becomes of Dr. Harrison's argument?—I am, etc.,

EDWARD B. FENNELL, M.D.

Hayle, Cornwall, April 24th.

#### INFLUENZAL MYOCARDITIS.

Sir,—During the recent influenzal outbreak I was struck by the fact that in almost every case, although the attack itself was often very mild, the convalescence was prolonged, and characterized by symptoms and signs which pointed to invasion of the myocardium by the toxin and the production of incapacity for work for an average period of four to six weeks in many cases.

The typical history given by patients was that the attack was so slight that they did not think it necessary to consult a doctor, but, following the attack, they were seized with

giddiness, faintness, breathlessness, and exhaustion. An examination of the heart revealed a somewhat rapid pulse, 80 to 90, of low tension, and irregular, and in the majority of cases there was a definite displacement of the apex beat 1/2 in. to 1 in. outwards, showing slight dilatation. Auscultation generally revealed a tic-tac rhythm, and occasionally a systolic murmur developed at the apex, but disappeared when the apex travelled in again, and the symptoms of cardiac insufficiency disappeared. Some cases were characterized by bouts of simple tachycardia and trembling of the limbs, the patient comparing his sensations to the staggering gait of a drunken person. The complexion in the majority of cases was sallow and the eyes sunken, and the cardiac symptoms were accompanied by a loss of flesh and anorexia. The symptoms generally took two months to disappear completely, and in cases of pre-existing heart trouble a longer period was required.

I find that the administration of salicin in 20-grain doses every two hours for the first twelve hours and then every three hours for the next twelve hours, as advised by E. B. Turner, has a valuable effect in protecting the heart, and should be given with the regularity of salicylates in acute rheumatism.—I am, etc.,

Stafford, April 25th.

C. JOYNER, M.A., M.B., Ch.B.

#### SLOW HEART.

Sir,—The Observer for April 26th, in a long article by a special correspondent on Nurmi, "the world's greatest athlete," mentions that "Nurmi's heart, even under stress, beats only 44 to 49 times to the minute." The article also recalls that at Stockholm, on August 23rd, 1923, Nurmi set up a new world's record for the mile of 4 min. 10½ sec., and that at the Paris Olympiad, last year, he won the 1,500 metres, 5,000 metres, 3,000 metres team race, and the 10,000 metres cross-country race. As many of your readers will know, Nurmi is still astonishing the athletic world. But it is the mention of his heart rate (44 to 49) which prompts this letter, particularly as a week ago I saw a lady, aged 30 years, whose pulse was 27 and next day 28 to the minute. She was not complaining of her health, and I had only felt her pulse because, when I said the pulse of her son, whom I was attending, was slow (50) she said it might be a family complaint.

In a long experience I can remember only one case of such very slow pulse unassociated with complaint of ill health, and that was one of a gentleman who died in his 80th year. His pulse, when he considered himself feeling well, used to be 28 a minute. He had the slow pulse during the last fourteen years of his life—I did not know him before—although during the greater part of that time he was active and took considerable walking exercise. Six months before he died he developed marked Cheyne-Stokes respiration, which he had for a week or more, but recovered, and was up again for several months.

I think that some of your readers may be interested in these details. I should be glad to hear the opinions of others on this subject, as I regret I am unable fully to explain the condition myself.—I am, etc.,

London, W.14, April 26th.

RICKARD W. LLOYD.

#### THE TREATMENT OF INFANTILE PARALYSIS.

Sir,—I have read with much interest the various letters that have recently appeared in the JOURNAL on re-education treatment for infantile paralysis. I must, however, point out that Mr. P. B. Roth is not quite right in his letter (April 4th, p. 681) when he states that priority of the methods is to be given to his grandfather, Dr. M. Roth, who published a book on the treatment of paralysis in infancy during 1869. While in no way wishing to detract from the good work done by Dr. M. Roth, in justice it must be stated that his methods were essentially those of the Ling school, who had been treating various forms of paralysis, including infantile paralysis, for many years previously. A case of the disease in question treated by re-education can be found described in the *Archiv für pathologische Anatomie*, 1859, xvi, pp. 177-191, by Dr. M. Eulenburg.—I am, etc.,

London, W.1, April 26th.

EDGAR F. CHALK.

## INDIVIDUAL MEDICAL DEFENCE.

SIR.—In your issue of April 25th (p. 806) Dr. Henry Robinson writes at some length criticizing the suggestions for individual medical defence made by the Council of the Association in its Annual Report (paras. 50-58) and summarized in its recommendation to the Representative Body.

Those who are in doubt as to whether the Association should undertake this work should study Dr. Robinson's letter, for they will find therein many arguments which will readily convince them of the Council's wisdom. He says: "Forty-five years ago the scheme would have been a benefit to the profession." That would have been in 1880—many years before any of the defence societies had started on their successful and prosperous careers leading to the accumulation of large reserve funds. In spite of the existence of three defence societies with large reserve funds, I cannot see how he can assert that what would have been right in 1880 is wrong in 1925, seeing there are a very large number of practitioners still without medical defence. If the existence of three defence societies in 1925 makes all the difference, the addition of a fourth would still be in the right direction, especially as he predicts that the fourth will be eventually outside the control of the Association. One cannot have too much of a good thing. For then there would be four offices (I include the Scottish Defence Society), four councils, four paid secretaries, four auditors, four advertisement accounts, and all to be paid for by the struggling practitioner, who would be privileged by the protection afforded by "managers highly experienced in the work of individual defence."

Dr. Henry Robinson is one of these managers: he is a member of the council of the Medical Defence Union. As such one would have thought that he would have been more conversant with the history of individual defence than to assert, "When these societies came into existence many years ago, there was, I gather, no desire on the part of the British Medical Association to undertake individual medical defence." As a matter of history (too long to detail here) it was the desire of the members of the Association to start individual defence, but they were always hampered in their efforts by the legal constitution of the Association. I have no doubt (although I have no evidence at hand to prove this) that it was those very members of the Association who desired it to undertake individual defence who founded the present-day defence societies. In a sense these are but sports of the parent body, not a new or distinct species of organization.

Dr. Robinson's criticism of the Council's recommendation to the Representative Body is full of possibilities that are not likely to happen. The suggested separate organization in close relation to the Association, to carry on individual defence, seems to be quite feasible, and I have no doubt that the legal experts in company law can make the separate organization in such close relation to the Association as to be virtually under its control. When well established it may be possible to alter the Memorandum of Association so as to make the new society part and parcel of the Association. In any case, whether or no, this is the day of associated companies and amalgamations.

As regards finance, it is quite true, as Dr. Robinson states, that the Association funds cannot be used to support the "company"; but he admits that the present companies for defence started from zero, and are now wealthy companies with large reserve funds. Why cannot the proposed "company" have equal success, especially as it will commence its career equipped with a self-starter in the shape of the British Medical Association, which will help it to get off from the zero mark with great celerity?

Dr. Robinson makes a great point that the British Medical Association must disclose to the newly qualified innocents that the new company has no reserve funds, while the older companies "have funds running into thousands of pounds." I quite agree with him, and I think the Association should go further, and tell the newly-qualified how profitable the business is, and the number of thousands these companies have in reserve. Probably these amount to about £60,000 to £70,000, and their combined annual income cannot be less than £20,000. The Association should

also inform the newly qualified that, taking the Medical Defence Union as an example, it paid to the Yorkshire Insurance Company in 1922 £1,280 3s. 9d. to insure its 9,375 members. This works out at 2s. 9d. a head.

If the new "company" is started and is well supported from the first (though I believe it will take some time to get 6,500 members), there is no reason why funds should not accumulate as they have done in the older societies. When the funds reach the maximum needed for safe cover, then either the premium can be reduced or the surplus money can be used for the benevolent purposes of the Association, or otherwise as the proper authority may direct.

The new "company" will have a great advantage over the older companies in that it will be able to have office accommodation in the Association's new house in Tavistock Square. This, no doubt, would be let free or at a nominal rental. By this convenience, and by close relationship with the Association and its staff, overhead and establishment charges could be kept low.

Dr. Robinson states that there is extraordinarily little dissatisfaction among 20,000 odd members of the defence societies, by whom, directly or indirectly, the entire councils are elected. This only goes to show that there is very little happening in connexion with the defence societies. As a matter of experience I find that men pay their annual premium and very soon forget the name of the company they are insured with. This indifference will be changed to active interest when they insure with the British Medical Association company.

One real difficulty about the defence question Dr. Robinson does not touch upon. That difficulty concerns breaches of professional conduct and practice such as might be brought before the General Medical Council. I should like to ask Dr. Robinson, as an experienced manager and member of council of the Medical Defence Union, whether his company would prosecute a member of his company before the General Medical Council for advertising, touting, or other grave professional offence affecting the honour of the profession. The question of the self-discipline of the profession must be considered in its relation to individual defence against charges made by the laity. Personally, I think this duty will be discharged better by a strong British Medical Association society than by a number of other societies all competing for members.—I am, etc.,

Warrington, April 26th.

J. S. MANSON.

## THE ROYAL ARMY MEDICAL CORPS.

SIR,—In the SUPPLEMENT to the JOURNAL, January 3rd, 1925 (p. 10), is a note of the proceedings of the Naval and Military Committee of the British Medical Association. Sir Richard Luce said that the position of the R.A.M.C. was becoming worse owing to the shortage of candidates. Seniors were doing the work of juniors. There was a block in promotion. A higher rate of commencing pay should be offered. Sir William Macpherson thought that the Association should use its influence with medical schools to encourage entrance to the R.A.M.C.

In the JOURNAL of April 11th (p. 709) your article upon the pensions of R.A.M.C. officers makes very clear the financial position. It is well worth study by those who contemplate joining the corps. It is well that candidates should realize what has always been understood—namely, that no contract made by the War Office with officers will hold good for a single day if the War Office thinks fit to repudiate it.

During the years 1878 and 1879 there was similar difficulty in obtaining candidates. I am a Bart's man, and I well remember the surprise and regret of the late Sir Norman Moore, then our dean, when I expressed my intention of joining the Army Medical Service. The Royal Warrant of 1879 was seemingly very attractive. It gave newly joined officers £1 per diem, plus allowances that came to about £90 yearly, say in all some £450 per annum. But within a year the majority of those who sat for examination in 1879 (including Sir Alfred Keogh, myself, and some eighty others) were sent to India, where we found our pay and allowances included came to a total of only £317 per

annum. No young officer—or candidate—reads a Warrant with much understanding. We had not noticed a simple sentence that this Warrant did not apply to India, or considered exactly what it meant. However, we knew later. The position had been camouflaged, and we were caught in the toils of the hunter.

Sir William Macpherson's idea is beautiful and simple. The War Office is short by, I believe, some sixty officers, and not only the twenty asked for, and these sixty officers' work is thrust upon others. Surely the medical schools might well come forward and allay the discontent! I am reminded of a similar suggestion made a few years ago, when the I.M.S. were being broken on the wheel. This was that the R.A.M.C. should amalgamate with them. One can imagine the Adjutant-General, now the real chief of the Army Medical Service, smiling to himself ironically, and devising fresh forms of birdlime.

The R.A.M.C. rests upon too slender a basis at present. The corps has three pressing needs:

1. The D.G. should be upon the Army Council, where he can plainly and personally express the disabilities of his service and also set forth the needs of the army itself, in a way that no Adjutant-General is, or ever will be, capable of doing.

2. The financial contract should be regarded as inviolable, with this addendum that when a new Royal Warrant is promulgated all serving officers should have the option of transfer to the new terms if they prefer them.

3. Directors-General should be chosen from those senior and experienced officers who have borne the heat and toil of long service, whose right and claim it is to occupy the position, and who know the army from top to bottom. But possibly the War Office does not desire that the D.G. should know too much. A hard man with wide experience is a difficult nut to crack.

My experience and observation—extended now to forty-five years—is that the army has been splendidly served by my old corps, and by the medical profession, during the late war; and it is not too much to say that without the highly trained officers of the present day the British Army would fall to pieces. I will not argue this point, but those who know the multifarious duties of the Royal Army Medical Corps are well aware that it is so. And those who understand the constitution and the lines of thought in the army also know that the three points I have specially dealt with are essential in order that the corps may perform its external duties efficiently, while internally the officers of all ranks are satisfied and contented. It is not enough to flatter and make much of the corps in the strenuous days of war and to ignore obvious needs in times of peace.

I fear I cannot entirely agree with Sir Richard Luce and his committee that a high rate of pay upon joining should be offered. This makes it too easy for the subaltern to marry, and he is thus dissociated from regimental life and discipline, which is so different from that of the medical student. In my opinion the newcomer, if married, rarely becomes as efficient an officer of the army as does one who has served some six to ten years intimately appreciating the ideas current in a regiment, and incidentally learning something of his own character. Far better is it for an officer to know that his future prospects and financial position are guarded and guaranteed when eventually he takes the step against which *Punch* warned all men long ago.

I have touched upon salient points in the merest outline. All are capable of expansion in argument. But I should like to add that just as it always was, and always will be, the duty of every senior officer on the active list to uphold and support his juniors, as does every regimental colonel, so also when an officer retires he should endeavour to act upon the same principle and should press the adoption of measures that will consolidate the position of the corps. And I urge that this is also a national duty, perhaps the only one that such an officer is able to assist in.

Sir Richard Luce's committee has thus carried out loyal and valuable service in addressing the War Office. It would be interesting to see the full memorandum in print, and the reply.—I am, etc.,

Junior United Service Club,  
April 22nd.

T. M. CORKER,  
Major-General.

## MEDICAL MEMENTOOS.

SIR,—With this I send you a pamphlet describing the contents of a unique cabinet of medical mementoes of five persons of supreme influence on medicine: Benjamin Rush, Edward Jenner, Joseph Lister, Louis Pasteur, and Marie Curie, two of them, Pasteur and Mme Curie, not being doctors.

This cabinet of memorabilia was a gift from Dr. Robert Abbe of New York to the College of Physicians of Philadelphia, which was founded in 1787, and is the oldest medical body in America. Our new building is fireproof, and our library is only excelled in America by that of the Surgeon-General of the United States Army in Washington.

Dr. Abbe appointed Dr. S. Weir Mitchell the first custodian; he passed it on to Dr. Simon Flexner of New York, he to Dr. William H. Welch of Baltimore, and he, in 1924, to myself. I have filed with the College of Physicians the name of my successor, in a sealed envelope.

The contents of the cabinet are the shoe buckles and watch of Rush; the inkstand used by Jenner, and a lock of his hair; a case of instruments used by Lister, and the test tubes of sterilized milk, now evaporated to dryness, but which, though exposed to the air, never underwent putrefaction in many years; the pasteboard model of a crystal of tartaric acid, made, labelled, and used in his lectures by Pasteur—the gift of Dr. Calmette of the Pasteur Institute; and finally, the instrument used by Professor Pierre Curie and Mme Curie, in their earliest investigations of radium, just after her discovery of radium, and presented by Mme Curie herself. This will give a good idea of the character of the contents of this unique cabinet.

There are three pre-eminent names not yet represented in this collection, and I am in diligent search of some object touched or used by them—if any such objects can be found: William Harvey in England, and Vesalius and Ambroise Paré on the Continent. If by any possibility any of your readers, British or Continental, can give me any information leading to obtaining such objects, I shall be infinitely obliged.—I am, etc.,

W. W. KEEN, M.D.,  
Hon. F.R.C.S. (Eng., Edin., and Ire.)

1520, Spruce Street,  
Philadelphia, April 15th.

\*\* The well printed pamphlet forwarded by Dr. Keen, with its beautiful illustrations, is in itself a medical memento of considerable interest. We wish him good fortune in his pious quest.

## Obituary.

SIR ARTHUR WILLIAM MAY, K.C.B., F.R.C.S.,  
Surgeon Vice-Admiral, R.N.(ret.); late Medical Director-General,  
Medical Department of the Navy; Honorary  
Physician to the King.

We announced briefly in our last issue the death, on April 20th, of Surgeon Vice-Admiral Sir Arthur May at his Cornish home, where he had lived since retiring from the post of Medical Director-General R.N.

Arthur William May was born on June 18th, 1854; his father was the Rev. H. T. May, Fellow of New College Oxford. From Sherborne School he went to King's College Hospital, London, and obtained the diplomas of M.R.C.S. in 1876 and L.R.C.P. in 1877. In 1914 he was elected Fellow of the Royal College of Surgeons of England.

He entered the Royal Naval Medical Service in 1878, he served during the Egyptian war of 1882 in H.M.S. *Achilles*, receiving the medal and the Khedive's bronze star. Two years later he took part in the Suakin expedition and the Nile expedition for the relief of General Gordon at Khartoum, and was mentioned in dispatches for his attention to wounded under fire. He was promoted staff surgeon in 1890, and fleet surgeon in 1898. From 1901 to 1904 he was principal medical officer in H.M.S. *Britannia*, and from 1905 to 1909 he served as deputy director-general of the medical department of the navy. After serving as medical officer in charge of the Royal Naval Hospital, Chatham, he

was appointed in May, 1913, to succeed Sir James Porter at the Admiralty as medical director-general, with the rank of surgeon vice-admiral. Thus he was head of the Royal Naval Medical Service at the outbreak of war, and remained in charge of the department until his retirement in June, 1917. He received the C.B. in 1911 and was promoted K.C.B. in 1914.

For the following appreciation we are indebted to Sir Humphry Rolleston, Bt., K.C.B., P.R.C.P., consulting physician to the Royal Navy:

Surgeon Vice-Admiral Sir Arthur William May, K.C.B., K.H.P., had a distinguished war service, and in 1913, after being deputy director-general of the medical department of the Admiralty, and then medical officer in charge of the Royal Naval Hospital, Chatham, he succeeded Sir James Porter as director-general, and so was responsible for the Naval Medical Service during the war until June, 1917. His term of office then came to an end, and, though not to continue his unsparring labours until the armistice must have been a disappointment, no outward sign of this was allowed to appear. His services were great, and have hardly received their due recognition, partly, no doubt, because of the relatively small personnel of the navy as compared with that of the army. The good bill of health of the navy owes much to his constant supervision: he was, of course, responsible for the very prompt and considerable expansion of the Naval Medical Service by the enrolment of temporary surgeons R.N. and the calling up of surgeons R.N.V.R., as well as for the commissioning of hospital ships and other emergency measures. A far-seeing man, he was anxious to do all he could for the good of his service by taking outside advice, and gave most loyal support to the civilian consultants. When cerebro-spinal fever broke out early in 1915 he took great trouble in formulating measures to obviate its spread, and continued to supervise the Admiralty orders, and, as new knowledge was obtained, modified them accordingly. Most conscientious, hard-working, and rather highly strung, he suffered in health from inability to save himself labour by delegating work and in other legitimate ways. With such a high standard he naturally expected much from his subordinates, and thus had the reputation of being rather a stern master. When I was his subordinate he was always most considerate and kind. After his retirement he lived at Tremecr, St. Tudy, Cornwall, and was extremely energetic in organizing Red Cross and other activities, as well as being deputy lieutenant and justice of the peace for the county. An athlete in his younger days, and always a keen sportsman, it must have been a sad trial to be laid aside by a hemiplegic attack a year ago.

Sir JAMES PORTER, K.C.B., K.C.M.G., Sir Arthur May's predecessor in the office of Medical Director-General R.N., sends us the following tribute:

I have been asked to write a brief personal appreciation of Sir Arthur May. I knew him well. In our days of active service our personal experiences of each other were well-nigh unique. When I was M.D.G. he served under me as D.M.D.G. When the great war came and I was recalled to service I served for over three years under him. Although in many ways we were men with a different outlook on life, yet we were always at one when vital service interests were at stake, in spite of the possible points of contact being numerous and not infrequently cropping up. During these long years of intimate official relations no angry word ever passed between us. I endorse all that Sir Humphry Rolleston has so well expressed. Sir Arthur outworked his strength, and so eventually by his own act and deed he compassed his end. His ardent nature and deep sense of duty led him to follow too far the specious maxim, "If you want a thing well done you should do it yourself, you should not leave it to others." Devoted to his profession, his knowledge of it was profound, extensive, and always kept abreast of the times. On entry to the Navy he obtained first place in his batch, and from that moment he never looked back. As M.D.G. his delight was to enter and encourage young surgeons of the best stamp, only the best being good enough for our invaluable seamen. For the "dry rot"

which has so disastrously attacked the medical service since May left in 1917 he can be held in no way responsible. Never a seeker of popularity, it is true he did not "suffer fools gladly." Towards the end of his active service, ill health increased the difficulties of a position which, if properly maintained, cannot be free from troubles. Sir Arthur May was an upright man, straight in all his dealings. His King and country never had a more faithful or devoted servant. Official honours are notoriously not exactly showered upon naval medical officers. Hence, presumably, it happened that neither May's gallant conduct in the *Sofa* before Khartoum in January, 1885, nor his hard administrative labours during the first three years of the great war received any recognition. No matter—"The prize he sought and won was the crown for duty done."

#### ROBERT J. M. BUCHANAN, M.D., F.R.C.P.,

Consulting Physician, Royal Infirmary, Liverpool; late Professor of Forensic Medicine, University of Liverpool.

THE death of Dr. R. J. M. Buchanan, which we announced in our last issue, came as a great shock to his numerous friends and patients in the city of Liverpool, and regret was universally felt at the sad loss the profession has sustained. He was taken suddenly ill with pneumonia, and passed away, within a week, on April 19th.

Dr. Buchanan's life is a striking example of consistent diligence and perseverance in surmounting difficulties and finally attaining an honoured position in his profession. As a medical student he had a distinguished record. He obtained the M.R.C.S., L.R.C.P. diplomas, and the M.B., Ch.B. degrees in 1888 with honours in systematic and clinical medicine at the Victoria University of Manchester, to which the University College of Liverpool at that time was affiliated. The following year he became M.D. and received the gold medal for his thesis. In 1897 he became M.R.C.P. Lond., and in 1908 was elected a Fellow. A strenuous worker and painstaking clinician, Dr. Buchanan, early in his career, was appointed physician to the Stanley Hospital. He also held the post of honorary physician to the Hospital for Consumption and Diseases of the Chest. Pathology was a great source of inspiration in his clinical work, and he held the post of assistant pathologist in the University, where his demonstrations were much sought after by the students, who appreciated the untiring efforts of their teacher. It was a natural consequence that Dr. Buchanan should pass on to the staff of the Royal Infirmary, where he became first assistant physician and then full physician. His retirement only last December was due to the age limit, and he was elected as honorary consulting physician.

Dr. Buchanan was an able and methodic teacher; many medical students now practitioners will call to mind affectionate memories of the man and his manner. In the University he occupied the chair of forensic medicine, which he only recently relinquished. His lectures were lucid and practical, and these were made interesting, and even entertaining, by his innate ability in word-painting. His textbook of forensic medicine and toxicology was essentially practical, and furnished without over-elaboration the information in medico-legal subjects the general practitioner should possess. As a member of the Liverpool Medical Institution he held various offices, and was a vice-president in 1914. As a speaker he was brief and to the point, and in discussions he was wont to emphasize some view that might not have occurred to others. His papers on rabies and hydrophobia, on blood in health and disease, revealed much careful research, and set forth his views in no uncertain language. He was ever ready to avail himself of the most recent advances in pathology, and especially its bearing on therapeutics. Toxaemic conditions loomed largely in his outlook on disease, and he may at times have been induced to lay too much stress on these in the application of therapeutic measures.

In the great war Dr. Buchanan served as captain, R.A.M.C., and was on the staff of the 1st General Western Hospital at Fazakerley. He took great interest in the production of gas in chemical warfare and was in

frequent communication with the authorities on this subject. Some five years ago he lost his elder son after a long, lingering illness. The young man had been through the war, and was a medical student when he died. This was a great blow to his father; indeed, Dr. Buchanan was not the same man, and there is no doubt that his health suffered in consequence of his great grief.

Dr. Buchanan was a man of many parts. He was an artist of no mean order, and chiefly excelled in landscape painting. Many of his pictures have been hung in the local exhibitions. A good teller of stories, his company was ever welcome, and laughter was a frequent accompaniment that he was present and that he was the cause of it. He was fond of angling and enjoyed the solitude this recreation brings with it. He loved music and was fond of translating his auditory impressions into visual ones; he would describe a Wagnerian masterpiece in tones of colour. He was a lovable man; his artistic temperament readily responded to his surroundings; to strangers he might appear to be somewhat gauche, but once this impression passed the intellectual ability of the man stood out distinctly, and his fellow practitioners recognized his professional worth.

A memorial service was held in the Lady Chapel of Liverpool Cathedral on April 23rd, when many of his professional brethren and friends attended to pay their last respects to a man whom they will ever hold in affectionate remembrance. Dr. Buchanan leaves a widow and a younger son, with whom sincere sympathy is felt in the loss of one who had earned the affectionate regard of so many with whom he came into contact.

#### JAMES DON, M.D., C.M.ABERD.

Senior Surgeon, Newcastle-on-Tyne Throat and Ear Hospital.

On April 23rd the medical profession in Newcastle and the North of England learnt with deep regret and sorrow of the death of their colleague Dr. James Don, at the age of 61. It appears that he was infected by a patient who coughed in his face during a consultation; he developed phlegmonous pharyngitis, from which he died.

James Don was a native of Aberdeenshire, and studied medicine at the University of Aberdeen, graduating M.B. and C.M. in 1888, and proceeding M.D. with honours in 1890. He went to Newcastle-on-Tyne in 1892, and remained in general practice there until four years ago, when he devoted himself entirely to throat and ear work. He was surgeon to the Newcastle Throat and Ear Hospital for thirty years, and senior surgeon at the time of his death. He was also aural surgeon to the War Pensions Hospital, Castle Leazes, near Newcastle.

Dr. Don was for many years a whole-hearted worker for the British Medical Association in the interests of his brother practitioners. He became a member of the Newcastle Division soon after beginning practice there, and was chairman of the Division in 1912 and 1924, deputy representative from 1913 to 1916, and representative from 1917 to 1921; for the past thirteen years he had been a member of the North of England Branch Council; he was honorary secretary of the Branch from 1915 to 1924, and at the time of his death was president-elect. He had been a member of the Central Council of the Association since 1920, and of the Central Ethical Committee since 1921. The Annual Meeting at Aberdeen, in the week before the outbreak of war, was a great pleasure to him, for he delighted in conducting fellow representatives round his Alma Mater. He was a member of the Arrangements Committee for the successful Annual Meeting at Newcastle in 1921, and served as vice-president of the Section of Oto-Rhino-Laryngology. This brief outline of the offices held by Dr. Don in the British Medical Association does not, however, complete the record of his services to the profession. He had worked hard as chairman of the local Division during the critical time when the National Insurance Bill was before Parliament; when the provisional local Panel Committee was formed he was elected its chairman; and in later years he continued to serve on the Newcastle-on-Tyne Panel Committee. Throughout the war he performed the duties of secretary of the Local Medical

War Committee without friction, and served as surgeon to the Pendower V.A.D. Hospital. At the time of his death he was vice-chairman of the Newcastle Medical Institute and an active member of the Newcastle and Northern Counties Medical Society.

A colleague and friend, to whom we are indebted for the particulars given above, writes:

"James Don spoke ill of no one and had a charitable outlook on life. He was very cautious, and sometimes it took a good deal of trouble to convince him, but once convinced of the rightness of a course he was an ardent and loyal supporter. I have seldom known a death cause such consternation and universal regret. He was a fine man, and he will be sadly missed."

The funeral was a most striking testimony to the regard in which Dr. Don was held; it was attended by many influential people of all classes and very largely by representatives of the profession all round Newcastle. The Council of the British Medical Association was represented by its Chairman, Dr. R. A. Bolam.

#### REGINALD DUDFIELD, O.B.E., M.A.CANTAB., M.B., D.P.H.,

Medical Officer of Health, Paddington.

We greatly regret to have to record the death, in London on April 19th, of Dr. Reginald Dudfield, medical officer of health for the metropolitan borough of Paddington. He had occupied that position for over thirty years, partly indeed in the days of the vestry before the borough was created. Dr. Dudfield was an outstanding figure in the ranks of those whose life is devoted to the promotion of public health and the prevention of disease. He was a thoroughly competent business man who carried out efficiently every responsibility he undertook. His father before him, Dr. Orme Dudfield, occupied a similar position for the borough of Kensington, and was a man of the same high standing. Dr. Reginald Dudfield, after a successful university career and a period of office as medical officer of health for Eastbourne, was appointed to Paddington, but his energies were by no means confined to the direct service of his local authority. He was a vice-president and honorary foreign secretary of the Royal Statistical Society and at the time of his death had been for some years honorary secretary to the Section of Epidemiology of the Royal Society of Medicine. He had also been president of the Harveian Society. His work included valuable service during the war, in connexion with which his name was mentioned in dispatches. His literary labours included a period of editorship of *Public Health*, and he was the author of a history of the Society of Medical Officers of Health. He gave much attention to the value of statistical data, and he contributed to the *Journal of the Royal Statistical Society* an important article on the methods of recording and publishing statistics. During the existence of the Vaccination League, which was established under the secretaryship of the late Mrs. Garrett Anderson, he took a prominent part in the efforts then made to have primary vaccination and revaccination placed on the same legal basis, as being equally important in the protection of the public against small-pox. At the time of his death he was 64 years of age, and had been looking forward to retirement from office to afford him a period of leisure during which he could work up some of the material, especially statistical, which pressure of official duty had prevented him from completing. It is a melancholy coincidence that just a year ago Dr. Richard Reece died suddenly at about the same time of life, and so was cut off also from the realization of a leisured retirement. The two were colleagues in the same Section of the Royal Society of Medicine—the latter as president, the other as secretary. Dr. Dudfield's death occurred some days after an operation for appendicitis.

A funeral service took place on April 21st at St. Mary's Church, Paddington Green, close to the Town Hall in which Dr. Dudfield had for so many years done his daily work. The attendance, both in numbers and composition, indicated the high esteem in which he had been held by his council and colleagues. After the service cremation



was carried out at Golders Green. The greatest sympathy is felt for his widow and family by all who had any knowledge of the part Dr. Dudfield took, not only in the administration of Paddington, but in the general advancement of public health.

#### ARTHUR JOSEPH EAGLETON, M.D., M.R.C.P.

THE many friends of Dr. Arthur Joseph Eagleton will regret to hear of his death recently at Newark, U.S.A., at the early age of 34.

Dr. Eagleton went from Rugby to Guy's Hospital. He became pathological assistant to the surgical registrar in 1913, and was awarded the Golding-Bird gold medal for bacteriology. While holding a house appointment he volunteered on the first day of the war, and received a commission a few days later, when he went to France. He became bacteriologist to the 3rd General Hospital (B.E.F.), and was also in the 15th Field Ambulance. Later he became a cerebro-spinal fever specialist in one area of England, and published an article on the occurrence of meningococci in the air of army huts. After the war he took charge of the bacteriological department of the Wellcome Physiological Research Laboratories, where he remained until 1923, when, finding it necessary to avoid the winter in England, he went as bacteriologist to the Eye and Ear Hospital at Newark, U.S.A. Prior to his departure he had been secretary to the Pathological Section of the Royal Society of Medicine. He published several papers giving the results of his careful investigations into methods of standardization of tuberculin, on the Schick test and active immunization against diphtheria, and into the virulence of diphtheria bacilli. A colleague writes: "His work, particularly in connexion with the standardization of tuberculin and the virulence of diphtheria bacilli, had already placed him amongst the most promising of the younger group of pathologists. In America he had commenced a lengthy series of well planned observations and experiments on the diagnosis and treatment of ophthalmic tuberculous conditions and on protein sensitization, and had carried the investigation far, despite the handicap of ill health. His premature death deprives pathology of a keen worker of careful judgement, who promised to make further contributions of great value to bacteriology. His unselfish kindness, sincerity, and his high personal ideals gained him the affectionate regard of his colleagues and of those who worked under him. He will be missed by a large circle of friends."

#### THE LATE SIR RICKMAN GODLEE.

THE funeral of Sir Rickman Godlee at Whitechurch, Oxon, was attended by Sir John Bland-Sutton, President of the Royal College of Surgeons; Sir John Rose Bradford, Professor W. F. Oliver, Professor R. W. Chambers, and Professor G. Elliot Smith, representing the University of London and University College; Sir George Blacker, representing University College Hospital and Medical School; Sir George Newman (Ministry of Health), and Mr. F. G. Hallett, representing the Conjoint Board of the Royal Colleges of Physicians and Surgeons. Lady Godlee has received a message of condolence from the King, recalling the fact that Sir Rickman Godlee had been a member of the King's Household in this and previous reigns, and expressing His Majesty's sympathy with Lady Godlee in her loss. Sir Rickman Godlee was a member of the Central Medical War Committee. He joined it in August, 1915, when it was known as the War Emergency Committee, and continued to serve until it was dissolved. He was assiduous in his attendance, and did much good work in keeping the committee in touch with the staffs of hospitals and medical schools. He also acted as chairman of one of the sections hearing appeals.

We are indebted to Mr. G. GREY TURNER of Newcastle-on-Tyne for the following note:

"The writer of your interesting obituary notice of Sir Rickman Godlee has omitted to mention his association with the American College of Surgeons. While president of our own College he crossed the Atlantic to attend the first Con-

vocation of the new American College, which was held in the Congress Hotel in Chicago on November 12th, 1913, under the presidency of Dr. J. M. T. Finney of Baltimore. On that occasion Sir Rickman conveyed a message of greeting from our Royal College, and also delivered the first Fellowship Address. In the latter he sketched the history of surgery in England up to the formation of the College of Surgeons in 1800, and followed its destinies to the time of its incorporation as a Royal College in 1843. He also dealt with its various activities, and especially as an examining body and as the custodian of the Hunterian Museum. The tone of helpful friendship which he adopted made a great impression, and altogether his visit did much to arouse those feelings of mutual good fellowship which were before long to be cemented on the battlefields of Europe, and which were consummated, so to speak, by the gift of the 'Great Mace' to the American College from the consulting surgeons of the British armies. At this Convocation he was invested with the Honorary Fellowship of the American College, which was conferred upon him in company with Halsted of Baltimore, Keen of Philadelphia, Collins Warren of Boston, and Weir of New York, who together formed the first batch of Honorary Fellows. At the same Convocation ordinary Fellowships were granted to no fewer than 1,059 candidates. His visit will not soon be forgotten on the other side, and there are many surgeons in America who will mourn, not only the loss of a great figure, but that of a firm friend."

By the death of Dr. EVAN PRICHARD Banbury and the neighbourhood loses an able practitioner and his patients a good friend. He received his medical education at Edinburgh University, and graduated M.B., Ch.B. in 1902, proceeding M.D. in 1906. His first appointments were assistant resident medical officer to the Edinburgh City Poor Hospital, and house-surgeon to the Gloucester General Infirmary and Eye Institute. Prichard was one of those men to whom a patient's illness and troubles were his own anxiety throughout, and if a patient wanted him he could not rest until he had been to see him. His patients gratefully recognized this, for when, a little more than a year ago, he had a serious attack of streptococcal septicaemia, the bulletins on the door of his house were watched anxiously by all classes of his patients. He engaged in all branches of practice, and where he felt himself deficient he did not hesitate to say so and to seek further help. But it was as a surgeon that he did his best work; at the Horton Infirmary, Banbury, he was prepared to do, and did well, all the ordinary major operations. Nor was he deficient in that essential quality of a good surgeon, the ability to do the right thing in an emergency. In his dealings with his fellow practitioners his most lovable characteristic was his boyishness, his open heart, his cheerful and direct speech. It is with feelings of great regret that his colleagues in the Oxford Division of the British Medical Association look upon his untimely death, when much of his life's work lay in front of him. A fund has been opened to provide a memorial at the Horton Infirmary, with which Prichard had been associated since he went to Banbury in 1907. He is survived by his widow, three sons, and one daughter.

#### The Services.

##### DEATHS IN THE SERVICES.

Major-General Sir Richard William Ford, K.C.M.G., C.B., D.S.O., Army Medical Staff (retired), died at Mentone on March 31st, aged 67. He was the son of Richard William Ford, clerk of the peace, Portsmouth, and was educated at Sherborne School. After taking the M.R.C.S. in 1879, and the L.R.C.P.Ed. in 1880, he entered the army as surgeon in 1881, became colonel in 1909, and, after thirteen months on half-pay, from January 26th, 1913, to March 6th, 1914, was promoted to surgeon-general on June 1st, 1914. He had seen much active service, beginning with the Egyptian war of 1882, when he received the medal and the Khedive's bronze star. In the South African war he served from 1899 to 1901, taking part in operations in the Orange River Colony, including the ten days' operations at Paardeberg, and the actions at Poplar Grove, Driefontein, Vet River, and Zand River, also in operations in the Transvaal, and took part in the relief of Kimberley; was mentioned in dispatches in the *London Gazette* of April 16th, 1901, and received the Queen's medal with four clasps, and the D.S.O. After the war he was seconded for five years for service as deputy surgeon of the Royal Hospital, Chelsea. On promotion to major-general he became D.M.S. of the Northern Command. After the war began he was appointed D.M.S. in Egypt, holding that appointment from 1914 to 1916, when he became D.M.S. in Ireland (1916-18). He was again mentioned in dispatches in the *London Gazette* of



MR. BASIL GRAVES, who in 1922 was appointed a British Medical Association research scholar to investigate methods of illumination of the eye for clinical examination and of microscopy of the living eye by the Gullstrand slit lamp and the eye microscope, as well as the examination of the fundus by the Gullstrand ophthalmoscope, has continued his inquiries, and was invited to open a discussion on the microscopy of the living eye at the Annual Meeting at Bradford last year (BRITISH MEDICAL JOURNAL, October 25th, p. 756). Since the beginning of this year he has been giving courses on ocular illumination and illumination in the department of the Graduate School of Medicine of the University of Pennsylvania, Philadelphia. He has given six such courses, each limited to six persons. A course consisted of a lecture of one hour and practice for one hour and a half daily for five days a week for two weeks. The demand was so considerable that many more courses than were originally arranged had to be given. Mr. Graves has also delivered the Rush Lecture before the College of Physicians of Philadelphia, and introduced a discussion on the slit lamp for ophthalmic surgical practice at the meeting of the Pennsylvania Section of the American College of Surgeons last March.

At the Bedfordshire Quarter Sessions, on April 8th, the new magistrates who took the oath included Dr. A. E. Street (Cranfield) and Dr. P. T. H. Steadman (Leighton Buzzard).

DR. LLOYD W. HUGHES of Bottwog, Pwllheli, has been returned unopposed to the Carnarvonshire County Council.

DR. A. G. TOLPITT has been elected chairman of the Kettering Urban District Council.

THE first centenary of the foundation of the Oporto faculty of medicine will be celebrated from June 22nd to 27th.

THE next meetings of the Royal Commission on Lunacy and Mental Disorder will be held at 5, Old Palace Yard, Westminster, on Monday and Tuesday, May 4th and 5th, beginning at 10.30 a.m. each day.

A LIST of maternity and child welfare centres in England has been published by the Ministry of Health, and may be obtained from H.M. Stationery Office (price 1s. 6d.). The list includes all municipal and voluntary maternity and child welfare centres known to the Ministry of Health in March, 1925, the centres being grouped in three sections: (1) London, (2) county boroughs, (3) counties, in this last case the centres being classified according to sanitary districts.

DR. CABANES, the well known medical historian and editor of the *Chronique médicale*, has recently received the Cross of the Legion of Honour.

THE issue of *Paris médical* for April 4th contains an illustrated review of the fifth Salon des médecins organized by Dr. Paul Rahier, whose genial personality is reproduced in a sketch by M. Tahindjis. Other exhibits of medical interest are a portrait of the late Professor Paul Séguin by Mme Fournau-Séguin, a medallion of Claude Bernard by Professor Hagen, and a bust of Professor Léon Bernard by Mme Bécéc Vautier.

DR. AUGUSTE PETIT of the Institut Pasteur, who is well known for his work on spirochaetosis, icterohaemorrhagica, has been elected a member of the Académie de Médecine in place of the late Dr. Jean Camus.

THE first Latin-American Congress of Medicine will be held in Paris in June, 1926, under the presidency of Professor Roger, dean of the faculty of medicine.

THE Queen of the Belgians has been presented with the gold medal of hygiene by the French Republic.

ON May 16th and 17th the first Polish Antituberculosis Congress, and on May 18th and 19th the fourth Congress of Polish Physicians and Sanitary Town Officials, will be held in Cracow. The principal subjects to be dealt with in the Antituberculosis Congress are: (a) clinical classification; (b) specific and surgical treatment; (c) treatment by artificial pneumothorax; (d) climatological and sanatorium treatment; (e) the importance of dispensaries; (f) organization in Poland of the antituberculosis campaign. The principal subjects to be considered at the Sanitary Congress are: (a) school hygiene; (b) the protection of mothers and children from the standpoint of sanitation; (c) the campaign against child mortality.

THE late Mr. Thomas Hamer of Tyldesley has bequeathed £1,000 to the Manchester Royal Infirmary, £500 each to the Manchester Royal Eye Hospital, the Southport Convalescent Home, the Leigh Infirmary, the Wigan Infirmary, the Bolton Infirmary, and the Devonshire Hospital, Buxton, and £250 to the Royal Manchester Children's Hospital, Pendlebury.

A NEW medical society has been founded at Amsterdam under the name of Het Amsterdamsche Geneeskundig Genootschap.

HUXLEY was born on May 4th, 1825. The issue of *Nature* for May 9th will include a special supplement, to which a number of leading authorities on biological evolution will contribute; among them are Sir E. Ray Lankester, Sir Arthur Keith, Professor MacBride, Sir W. T. Thiselton-Dyer, Sir Arthur Smith Woodward, and Professor Arthur Thomson.

THE Belgian Society of Stomatology will celebrate its twenty-fifth anniversary in July.

THE report of the First International Congress of Open-Air Schools, held in Paris, in June, 1922, which has now been published, contains an account of the various discussions and resolutions adopted, with especial relation to technical details and the general benefits of this form of education, which is rapidly gaining favour in France. The delay in publication is ascribed to the necessity for obtaining a report accurate in every detail. It is published by Messrs. Maloine of Paris at the price of 10 francs.

THE late Sir T. Clifford Allbutt, P.C., K.C.B., F.R.S., Regius Professor of Physic in the University of Cambridge, and President of the British Medical Association 1915-21, who died in February last aged 88, has left estate of the gross value of £56,963, with net personalty £50,137. He bequeathed to the Fitzwilliam Museum, Cambridge, his portrait by Sir William Orpen, R.A., and on the death of his wife a quantity of antique furniture and drawings and paintings by noted artists, including Rembrandt, Landseer, Rossetti, Watts, and Turner. To Gonville and Caius College, Cambridge (of which he was a Fellow), he gave three silver and gilt drinking horns or cups, requesting that his name as donor should be engraved thereon. Subject to the fulfilment of personal bequests and life interests, and the failure of issue, the ultimate residue of his property is bequeathed to Gonville and Caius College for Clifford Allbutt Fellowships for medical research, or otherwise for the benefit of the college, provided that no part thereof be used for building.

## Letters, Notes, and Answers.

ALL communications in regard to editorial business should be addressed to **THE EDITOR, British Medical Journal, 429, Strand, W.C.2.**

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the **BRITISH MEDICAL JOURNAL** alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Matter intended for the current issue should be posted so as to arrive by the first post on Monday, though in special circumstances urgent communications can usually be received on Tuesday morning.

Authors desiring REPRINTS of their articles published in the **BRITISH MEDICAL JOURNAL** must communicate with the Financial Secretary and Business Manager, 429, Strand, W.C.2, on receipt of proof.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the **JOURNAL**, should be addressed to the Financial Secretary and Business Manager, 429, Strand, W.C.2. Attention to this request will avoid delay.

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## QUERIES AND ANSWERS.

### ANOSMIA.

"A patient, aged 60, with treatment of a man, aged 60, with anosmia of the nose and throat, who has completely lost his sense of smell for two months, following an ordinary 'influenzal cold.'"

### INCOME TAX.

#### Motor Car Transaction.

"W. M." bought a new car in 1912 for £550, and a second-hand car in 1924 for £450, selling the former car in January, 1925, for £50.

The sale early in 1925 shows that the 1924 transaction was in the nature of a replacement rather than an addition, and, in our opinion, should be treated as if it had taken place in 1924. On that basis the expense deductible from the gross earnings for 1924 is £450 - £50 = £400.

## LETTERS, NOTES, ETC.

## TRAUMATIC INTUSSUSCEPTION.

DR. J. W. HILLIARD (Blackpool) writes: The following case may be of interest in conjunction with that reported in the *BRITISH MEDICAL JOURNAL* for April 18th (p. 734) by Dr. Mitchell. In 1901, while I was house-surgeon in the Royal City of Dublin Hospital, a boy, aged about 16, was admitted, who about eight or nine days previously had been kicked in the abdomen by another boy. Immediately afterwards he experienced abdominal pain, which continued until death, shortly after his admission to hospital. In view of the definite traumatic history the coroner ordered an autopsy, which showed that the boy had died as the result of a simple intussusception. The boy's assailant was subsequently arrested and charged with manslaughter. On being summoned to give evidence I consulted the honorary hospital staff and looked up the literature on the subject, but could find no evidence to justify the opinion that intussusception could be traumatic in origin. I explained the matter in court, and the magistrate discharged the boy.

## THE ADVANTAGES OF DRAFTS.

SINCE the note under this heading was published a fortnight ago (p. 752) we have come across expert testimony from an unexpected quarter to the importance of frequent revision if an article is to be effective. Anatole France, upon whose opinions and practice the note was based, made sure with his seven or eight drafts that what he had in mind was conveyed to his readers in the best and fewest words, in the best order; an authority (after our recent experience we will not venture to give his name) once said that was a definition of good prose. France knew that in no other way could he at once give pleasure to his reader, arrest his attention, and impress his memory. It may be said that he was thinking of the aesthetics of writing, of the essential of a good style. But our new authority is Mr. Joseph Pulitzer, the proprietor of the *New York World*, who raised that newspaper from a position of inferiority to one of commanding influence in the United States. He was a Hungarian by birth, and when he got to the United States at the age of 17 knew not a word of English. He may be supposed, therefore, not greatly to have troubled about a good English style, but in writing to a newly appointed editor he wrote: "one leader strong, a while people will, and therefore the man who writes it should touch no other thing the same day. Indeed, I will give him forty-eight hours, and make him rewrite it sixteen times." This is not a word of English. He may be supposed, therefore, not greatly to have troubled about a good English style, but in writing to a newly appointed editor he wrote: "one leader strong, a while people will, and therefore the man who writes it should touch no other thing the same day. Indeed, I will give him forty-eight hours, and make him rewrite it sixteen times." This is not a word of English. He may be supposed, therefore, not greatly to have troubled about a good English style, but in writing to a newly appointed editor he wrote: "one leader strong, a while people will, and therefore the man who writes it should touch no other thing the same day. Indeed, I will give him forty-eight hours, and make him rewrite it sixteen times." This is not a word of English.

## DERMATITIS FOLLOWING ULTRA-VIOLET LIGHT.

DR. J. GRAHAM CAMPBELL writes: I wish to express the hope that the paper by Dr. J. H. McCrea (April 11th, p. 693) will not be the last word on the subject. Further development of treatment by ultra-violet rays. To obviate untoward results it is, Dr. Campbell considers, only necessary to employ a type of lamp which cannot be used in the manner detailed. He finds that the tungsten arc lamp (Clark's pattern) fulfils all demands and gives gratifying results in affections so widely apart pathologically as tuberculous sinuses and favus, chronic ulcers and neuritis.

## HEART STRAIN.

DR. HARRINGTON SAINSBURY (London, W.) writes: Dr. Samways having reopened (*BRITISH MEDICAL JOURNAL*, April 18th, p. 761) the subject of the pressure transmitted back to the ventricle from the aorta during ventricular diastole, in the case of aortic leakage, will you allow me to point out that, inasmuch as the ventricle has more or less emptied itself during systole, it will present a potential cavity enclosed by slack walls, at the moment when, on cessation of its systole, aortic regurgitation sets in? This being so, the whole force of the aortic recoil will spend itself in the rate of flow of the backward current and none of it will be transformed into pressure within the ventricle, for the simple reason that the relaxed walls, opposing no resistance to the inflow (save the inertia of their own walls, a negligible quantity), yield passively to the influx. Only when the potential cavity has been abolished—that is, the ventricle filled—will the walls oppose by their stretch the distension of the ventricle, and only then will the aortic reflux begin to generate intra-ventricular pressure; even then, in its first beginnings, the resistance to stretch will be relatively slight, and long before it has assumed appreciable quantity the cardiac cycle will have brought back ventricular systole and saved the situation. The laws of the Bramah press are the laws of forces in balance—that is, in stasis—and rigidity of the containing walls is an essential condition. They come into consideration during ventricular systole, in that stage which precedes the forcing of the auricular valve.

## ARRESTED DEVELOPMENT.

DR. JOHN WOOD (Sheffield) writes: The following case appears to be of sufficient interest to justify its being recorded. A young lady, aged 27, private secretary in an office, consulted me in October, 1924, for very intractable constipation. As the usual remedies gave no relief, I arranged to examine her at her home, when she informed me that she had never menstruated. While exploring the bowel I discovered that she had atresia vaginae, and, on further examination, I could feel nothing corresponding to the uterus. In the left pelvis I found a distinct swelling,

which I thought might be a kidney; two surgeons subsequently confirmed this diagnosis. Arrangements were being made for an x-ray examination when the patient became very depressed, and in the following January committed suicide. I obtained permission from the coroner to open the abdomen, but was only allowed about twenty minutes for the examination. I found the uterus by connective tissue; there was no trace of the ovaries, and the ovaries were present in a rudimentary state, traced the Fallopian tubes to where they ended, just behind the symphysis. There was one kidney, weighing 6 oz., in the left side of the pelvis, with a single ureter; no suprarenal body was attached to it. There appeared to be an abnormal number of large vessels and bands of fibrous tissue passing in front of the descending colon, which, I think, accounted for the constipation and the peculiar ribbon-shaped stools. The patient had told me that she was fond of male companionship. Her mother had just died from malignant disease of the bowel, and the girl's mind became obsessed with the idea that she was similarly afflicted, which, no doubt, drove her to commit suicide.

## TREATMENT OF PUERPERAL INFECTION.

DR. F. S. TAYLOR THOMAS (Perth, Western Australia) writes to call attention to a line of treatment he has used for a number of years; since adopting it he has not lost a single case from puerperal sepsis. It is, he says, the placing in utero (after blunt curettage and gentle douching of the septic uterus to remove grosser particles of debris) of a rubber tube slightly larger than douche tubing, in which windows (six or eight) have been cut throughout the entire length of the intrauterine portion. This is kept in situ by a careful packing of the vagina with iodoform gauze. One limb is attached to an irrigator and the other limb to a piece of tubing which passes to a pail at the side of the bed. Continuous encol or weak iodine irrigation is then maintained until the temperature falls to normal (twenty-four to forty-eight hours) and the uterus begins to expel the tube by its contraction, as evidenced by the leakage under the patient, who should be placed on a Kelly's douching cushion. I am well aware, Dr. Taylor Thomas adds, that this treatment is opposed to the views of many authorities whose views one is bound to respect; but, nevertheless, all the theories of all the experts in the universe cannot get over results. I had the honour of introducing this method of treatment to the medical profession at a meeting of the Perth Branch of the British Medical Association in April, 1924, and the paper was published in the *Medical Journal of Australia* of July 5th, 1924.

## TETANUS CAUSED BY EAR LOBE PUNCTURE.

CAPTAIN S. K. CHAUDHURI, M.B.E., late I.M.S., chief medical officer Benares State, writes: In less than six weeks I have seen five cases of tetanus all due to the use of the same being pierced for earrings with dirty and the use of dirty

The incubation period ranged from four to twelve days.

Case 1.—A Mohammedan girl, aged 6, was found in an advanced condition of tetanus after an incubation period of one week. Trismus was complete, the neck muscles were stiff, and there were frequent contractions of the muscles of the limbs and back. Chloral and bromide were given internally, and 3,000 units of antitetanic serum was injected into the flank. She died on the twelfth day of the disease.

Case 2.—A Hindu girl, developed tetanus, and serum being injected.

Case 3.—A married Moh lockjaw on the fourth day. lockjaw was complete. An was given next day, followed by subcutaneous injections of 2 per cent. carbolic lotion, beginning with 5 minims once a day, and rising to 8 minims, five later on, chloroform patient frequent at making an uninterrupted recovery.

Case 4.—A Hindu girl, aged 7, showed a mild chronic condition of tetanus, the length of the inc was partial, the muscles of th of the lower limbs had lost whea attempts at walking wer lotion were given, starting with 2 minims and rising to 5 minims on alternate days, six doses in all being given. Chloral and bromide were administered internally, and complete recovery resulted.

Case 5.—A Mohammedan girl, aged 18 months, was only seen when dying, after an incubation period of six days. Carbolic lotion was injected once, but no more was heard of the patient, who presumably died.

Tetanus arising in this way is frequent, but its incubation period in the tropics is shorter than that given in the textbooks. The cost of antitetanic serum appeared prohibitive; the majority of the patients, being the children of poor people, could not be treated by the usual methods. The necessity of cleanliness, even in so simple a matter as ear piercing, is emphasized.

I am indebted to Dr. T. N. Sinha for his advice to use Baccelli's method of carbolic lotion injection, which had been very successful in his hands, though previously a failure in mine.

## VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 37, 38, 39, 42, and 43 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 40 and 41. A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 195.



## An Address ON SLEEP AND SLEEPLESSNESS.

DELIVERED BEFORE THE OXFORD MEDICAL SOCIETY

BY

C. P. SYMONDS, M.D., F.R.C.P.,

ASSISTANT PHYSICIAN FOR NERVOUS DISEASES, GUY'S HOSPITAL.

(Abridged.)

If sleep has more often provided a theme for the poet than for the physiologist the reason is not far to seek, for it contains enough mystery yet to give play to roaming fancy. For most of us there is something so inevitably right in the nightly respite from mental activity that we do not pause to consider its meaning until perhaps one night its lulling charities fail us. Then we are brought face to face with problems still, many of them, awaiting solution. What do we know of sleep in terms of physiology? How far can that knowledge help us in the treatment of insomnia?

### PHYSIOLOGY.

Actually the physiologists have not been idle; the fact that their conclusions on the whole have been of negative value is a fair measure of the difficulty and complexity of the problem. The essence of sleep is in the central nervous system, and consists of a complete cessation of conscious activity together with a greatly diminished capacity to react to environmental stimuli. With this are associated certain phenomena in the other bodily systems, and these, because they are more readily available for study, have chiefly engaged the physiologists' attention. The result has been a tendency to lose sight of the central fact, and to attempt to explain this in terms of the associated phenomena.

A theory of sleep which has obtained some credence is based upon the observation that in the sleeping state there is a fall of blood pressure and a diminution of the pulse rate. The suggestion is that at the end of the day the vaso-constrictor centre becomes fatigued. The systemic arterioles dilate, the blood pressure falls, the supply of arterial blood to the brain drops below the point necessary to maintain the activity of the cortical nerve cells, and sleep therefore supervenes. In support of this theory it has been adduced that in animals and in man pallor of the cerebral cortex may be observed at the onset of sleep, but there is so much conflicting evidence upon this point that it cannot be taken as a basis for argument.

Against the theory stand observations which show that in man the nocturnal fall of blood pressure and pulse rate occur independently of the sleeping state. Thus a man lying awake at night has a lower blood pressure than one asleep during the day.

There are, however, more serious objections to all theories of sleep based upon the idea of cerebral anaemia. It is true that cerebral anaemia, as from a severe haemorrhage, may lead to stupor, but is this directly comparable with sleep? I think not. A fundamental feature of true sleep is its restorative effect upon the higher mental faculties, an effect which is completely lacking in clinical experience of such anaemias; as, indeed, might be expected, seeing that the cerebral cortex is the most highly specialized of all tissues, and would naturally, therefore, require during the restorative sleep period a maximal rather than a minimal share of the cleansing stream.

The body temperature shows a diurnal rhythm similar to that of the blood pressure. In a person accustomed to nocturnal sleep it reaches its minimum at about 3 a.m., and this nocturnal fall persists even if the subject of investigation is awake and active. If he changes his habit and sleeps regularly by day instead of night, gradually the temperature curve is reversed, and at the end of about six weeks the reversal is complete, so that the fall is diurnal. If now the subject returns again to the habit of

nocturnal sleep, the temperature rhythm is gradually readjusted, taking about six weeks to regain the normal swing.

It appears, then, that the habit of going to sleep for a particular period of the twenty-four hours, if persisted in long enough, will initiate a corresponding periodicity or rhythm in certain bodily systems, and that this rhythm once established tends to persist on its own account independently of the sleeping state.

The diverse functions involved, and the tendency to persistence of the rhythm once established, make it extremely probable that these associated phenomena depend upon reflex centres established at a comparatively low level in the central nervous system. The effective stimulus to these centres is a combination of many conditions, of which sleep is the most important, the others being of the order of light, temperature, noise, and so on. Even in the absence of sleep, at first the other conditions are adequate to set the reflex in motion—just as, even in the absence of food, the ringing of the bell will cause a secretion of saliva in a dog accustomed by previous experience to bell and food in combination. The physiological changes which result doubtless have an effect in facilitating the regular onset of sleep for a fixed period of the twenty-four hours. The man who is transferred from day to night duty is at first still inclined to be wakeful by day and sleepy at his former bedtime.

The condition of sleep closely resembles those pathological conditions known to us as stupor or coma (according to their depth) caused by the cerebral anaemia resulting from compression of the brain, or by the action of various poisons upon the nerve cells (for example, uraemic and diabetic coma). There are, however, certain features which serve to distinguish natural sleep from pathological stupor:

1. The effect of sleep is restorative, in contrast with that of pathological stupor, from which the patient emerges in a dazed condition, with mental faculties dulled.
2. The onset of sleep is relatively rapid.
3. The awakening from sleep also is a rapid process as compared with the recovery from stupor.

4. There exists in the healthy person a remarkable ability to select by experience certain stimuli for which the threshold is relatively lowered so that they rapidly result in waking, whilst for other stimuli of equal or greater volume and intensity the threshold may be relatively raised. The most striking example in my own experience has been that of learning to sleep soundly in a shallow dug-out behind which an 18-pounder field gun was firing at frequent but irregular intervals, whilst, on the other hand, the shriek of an approaching shell at dangerous proximity would bring me in an instant to the full possession of my faculties.

Of the commoner and more homely examples one may take the ability gradually acquired by the child to respond to the stimulus of a full bladder, or that of the mother waking on the instant to her infant's cry. Such habits of conditioned awakening may be gained or lost after quite brief experience. Thus it is easy enough for some persons, and in some circumstances, to make the sound of the alarm clock a condition for a hasty leap out of bed; while for others, or in other circumstances, the same stimulus after a moment's waking may act as a profound soporific.

Less striking, but very important, as I shall hope to show in dealing with insomnia, are the conditioned stimuli which may be used to induce the sleeping state.

### THE NATURE OF SLEEP.

From these observations I believe we may draw some conclusions as to the nature of sleep. The rapid onset and rapid awakening, and especially the capacity to graft conditioned stimuli upon the acts of sleeping and waking, suggest a reflex mechanism. The notion of a reflex centre presiding over sleep has been long entertained by physiologists.

A reflex centre implies an afferent and an efferent pathway with a receptor mechanism at the one end and effector at the other. The effector mechanism in this case must be one of inhibition. Inhibition of what? Certainly inhibition of the function of conscious mental activity, and therefore of cortical activity. It appears likely that this inhibition



is achieved by a blocking of the pathways along which afferent impulses are normally streaming to excite the cortical cells. Such inhibition of afferent impulses at a stage lower than consciousness is, of course, well known. The simplest instance, perhaps, is that of the child with congenital strabismus who has learned to use either eye alternately but is incapable of binocular fusion. Given an apparatus by which the image of a bird is thrown upon one retina and that of a cage upon the other in such a way that the normal person sees the bird in the cage, the alternator sees either bird or cage—never both together; the reception of one image reflexly inhibits that of the other. In some such way we may suppose that the sleep centre, under adequate stimulation, cuts off afferent impulses from the cortical cells until they, from lack of stimuli, become inactive—inactive, that is, so far as the anabolic phase is concerned; during sleep, we have good reason to suppose, the phase of anabolism leads to restoration of their functions.

Such a conception of sleep as due to a cutting off of the cortical cells from stimuli is not only in accord with the rapidity of onset and awakening and the restorative effect of the sleeping state, but provides an explanation for the difference between sleep and stupor.

The resemblance between these two conditions is due to the cessation in both of cortical (conscious) activity. In stupor this is due to a direct effect upon the cortical cells, whose function is impaired owing to lack of oxygen or the action of poisons. There is, therefore, not only loss of consciousness but loss of potential consciousness. In sleep, on the other hand, the cortical cells are only inactive because they are protected from stimulation; consciousness is lost but potential consciousness is unimpaired. This difference has an important bearing upon the use of narcotics.

So far we have been considering only the efferent side of the postulated reflex arc. On the afferent side the adequate stimulus is probably a fatigued state of the cortical cells themselves, which is usually associated with a sense of weariness and the desire for sleep. This leads normally to a series of voluntary actions directed to the elimination of external or internal stimuli. Of these actions the most important is the assumption of the resting posture in which the muscles are relaxed and proprioceptive stimuli from them and from the joints are reduced to a minimum. Other measures, such as withdrawal from light and noise, are of secondary importance, but may acquire an additional value as conditioned stimuli. In fact, a great variety of conditioned stimuli may be developed which in proper sequence and combination facilitate the sleeping reflex. On the other hand, the association with the pre-sleep period of unwanted stimuli may serve to prevent the development of the reflex.

As to the localization of this hypothetical sleep centre, it has been suggested that it lies either in the walls or floor of the third ventricle or lower down in relation to the Sylvian aqueduct. The evidence adduced is the frequent association of pathological drowsiness with lesions in this neighbourhood.

#### A CLASSIFICATION OF INSOMNIA.

As a provisional classification of the insomnias I would suggest the following:

A. *Insomnia due to Disease directly involving the Sleep Centre:* The classical example is in certain cases of encephalitis lethargica.

B. *Insomnia due to Overexcitability of the Cortical Nerve Cells as the Result of Intoxication or Anaemia.*—This is seen in the course of many infections, in the preliminary stages of uraemia, lead poisoning, etc., and in minor degrees of cerebral compression, as from cerebral oedema after a head injury.

C. *Insomnia resulting from the Presence of Unwanted Stimuli which Inhibit the Sleep Reflex.*—This is the largest and most important group. There is a variety of stimuli which are able to withstand the reflex inhibition upon which sleep depends, to break through this barrier to the cortical cells, and to excite these to activity. Their power to achieve this the sleep reflex has been rendered prepotent, either by cortical fatigue or the strengthening effect of conditioned stimuli. The most familiar causes of this group are:

1. *Muscular Posture and Tension.*—It is impossible to sleep and remain sleeping in the standing posture. Even at the end of 115 hours' continuous insomnia, when the desire for sleep was imperative, Kleitman and his co-workers found that the onset of sleep could be prevented by moving about.

2. *Pain* (including discomfort, as, for instance, from irritation of the skin or extremes of temperature).

3. *Emotional Excitement.*—At this point it becomes extremely difficult to pursue my argument in physiological terms. We must recognize, however, that an emotion, whatever its physiological origin, is a potent stimulus to conscious activity, and chief among the emotions in this respect is fear.

#### THE TREATMENT OF INSOMNIA.

##### Drugs.

The essential feature of the sleeping state is inactivity of the cortical cells concerned with conscious activity. This is also the essential feature of toxic stupor. According to our theory, however, the distinction between the two states is that in sleep the cortical cells are inactive because they are shut off from afferent stimuli: in stupor their activity is abolished by the direct action upon them by a toxin. This bears an important relation to the use of narcotic drugs, whose action is also directly upon the cortical cells, and is, of course, toxic. It is possible with the aid of narcotics to induce stupor by paralysis of the cortex without endangering life, because the vital reflex centres are relatively immune to their action. It is possible thus to induce the semblance of sleep even against heavy odds in the shape of discomfort and anxiety.

But this is not the real thing: the restorative effect is lacking; and the patient therefore does not wake properly refreshed. You will remember in this connexion Othello's sleepless night after the seeds of suspicion had been planted in his mind, and Iago's greeting:

"Not poppy, nor mandragora,  
Nor all the drowsy syrups of the world,  
Shall ever medicine thee to that sweet sleep  
Which thou ow'dst yesterday."—*Othello*, Act iii, Sc. 3.

No one, however, would deny that narcotics are of the greatest value in the treatment of insomnia. And this for two reasons: First, the toxic effect of insomnia upon the cortical nerve cells may be more severe than that produced by the drug. It is a well known fact that insomnia may lead to depression of the higher mental faculties, and eventually to coma and death. In the second place, small doses of narcotics often facilitate the onset of true sleep. I do not propose to go into detail of drugs and their doses. Bromide alone, or in combination with chloral; paraldehyde for a quick action; sulphonal for delayed effect; medinal as a useful all-round narcotic; the coal-tar analgesics and opium for pain or discomfort, comprise the therapeutic stock-in-trade.

##### Habit Formation.

Of the value of conditioned stimuli in facilitating sleep I have already spoken. Most of us have acquired a ritual of some kind—perhaps unconsciously—which stands us in good stead when sleep is threatened; it includes the whole business of undressing and getting into bed; the habit of reading in bed is often a part of it. For this reason I think that an invalid, whenever it is practicable, should sit up in a chair just before bedtime while his bed is made, so that he may not altogether miss the experience of going to bed.

Unfortunately, when sleeplessness has persisted for any length of time the old rituals lose their value, and may even facilitate insomnia. Then is the time to initiate new rites, beginning by moving the patient, if not into another house, at any rate into a fresh bedroom. The ritual may consist of some such sequence as the following: a warm bath, into bed, a cup of warm milk or an equivalent, then a solemn plugging of the ears with cotton-wool, perhaps five minutes' reading by the bedside lamp, and then lights out. The sleeping draught, if any is prescribed, may be taken before or with the warm drink. As a finishing touch, I recommend the repetition by heart of some soporific verse. Keats's *Ode to Sleep*, in my experience, is insurpassable in this respect. Such a ritual must be persevered in if it is to be efficacious.

*Muscular Relaxation.*

Sleep, as we have already observed, is incompatible with any great degree of muscular tension, and there are some individuals who are kept awake largely by their inability to relax their muscles. The tendency for the sleepless person being to toss and turn, it is important that he should learn that this in itself is fatal to sleep, and that the wisest plan is to lie perfectly still. Even though this may demand a certain amount of effort and self-control, it will often induce sleep.

The efficacy of this principle in treatment has been shown to no most clearly in certain cases of encephalitis lethargica in children, where motor restlessness has been the most prominent symptom of the insomnia. After the preliminary rites of warm bath, sleeping draught, and ear plugging, the child is tightly rolled in a long sheet which is fastened with safety-pins, the arms being included so that he is immobilized. The results in some cases have been striking—for instance, a sleep of nine hours with the pack, as compared with a maximum of four and a half hours when the other measures alone were employed.

Beyond this, there is an art in muscular relaxation, as anyone may prove by attempting to allow one of his limbs to be absolutely passive in the hands of another person. It is an art which patients can be taught to acquire limb by limb until they can themselves practise complete bodily relaxation. The soporific effect of this exercise is sometimes of great value; it may be taught by an instructed masseuse, and may be usefully included among the final stages of the bedtime ritual.

*Details of Treatment.*

The insomnia due to disease of the sleep centre, such as I believe occurs in encephalitis lethargica, is, in my experience, the most difficult of all to treat. In many cases, as the normal sleep time comes round, the cortex appears to pass into a condition of great overexcitement, and this occurs night after night for many weeks with the greatest regularity. It is tempting to believe that in these cases reflex inhibition has been converted by the disease into reflex excitation, and that the cortical cells are thus being abnormally bombarded with afferent stimuli. A combination of drugs and ritual, if persisted in for a long time, sometimes appears to be effective, and immobilization, as already described, is valuable in patients with great motor restlessness. But these cases are, on the whole, disappointing.

The toxic and infective group of insomnias should be treated on the same lines. Here the direct effect of the toxins upon the cortex is, as a rule, reinforced by sources of pain and discomfort. Opium therefore is the most useful drug, and, in cases which are likely to be of short duration, may be used freely. In the chronic cases small doses of medinal combined with aspirin are useful. It is in dealing with this group of cases, however, that it is most important to remember the poisonous nature of the narcotic drugs. The ritual therefore should be made use of as far as possible, and the dose of drugs kept low.

The third group of insomnias—that in which sleep is prevented by unwonted stimuli—offers most scope for treatment. Pain and discomfort must be treated by local measures, and, if necessary, with drugs—*aspirin* or *opium*. The treatment of muscular tension as a factor in insomnia has already been discussed.

We have finally to deal with emotional disturbances. The emotions which have most power to disturb sleep are naturally those which are painful. Paramount are fear and anxiety. We may further distinguish between the open and hidden emotion.

A. An emotion which is present to the waking mind—a declared worry with all its associated memories binds the onset of sleep.

B. An emotion which has in the waking state been prevented from exciting conscious activity (that is, in the psychological sense, a repressed emotion) may cause insomnia in either or both of the following ways:

(1) Either the subject finds himself thinking furiously upon some indifferent subject in order to prevent the repressed worry from reaching consciousness, and so is unable to go to sleep; or

(2) He may go to sleep, but is awakened by the repressed emotion forcing its way into consciousness, often in the shape of a dream or nightmare.

The distinction between these two forms of worry—the superficial and the deep—seems to have been present in the mind of Keats when he wrote in his *Ode to Sleep*:

"Then save me, or the passed day will shine

Upon my pillow, breeding many woes;

Save me from curious conscience, that still lords

Its strength, for darkness burrowing like a mole."

In the latter type of case, in which insomnia is due to repressed anxiety, much can be done by means of judicious analysis and psychotherapy. Free ventilation and frank discussion of the underlying emotional conflicts is the essence of successful treatment.

The open worry, as a rule, is short-lived and resolves itself. Being of an occasional nature it may be justifiably treated with drugs. A whisky and soda at bedtime is often sufficient. It is most important, however, that sleeplessness of emotional origin should be taken in hand early, for the habit of insomnia is readily acquired, and we are then apt to encounter as a perpetuating cause of sleeplessness the anxiety about sleep. The patient goes to bed with the fear that he will not sleep, and this fear, gathering around it thoughts of the morrow's duties, successfully inhibits the sleep reflex and excites cortical activity. This fear must be treated from the start with absolute reassurance. As a cause of unpleasant symptoms the importance of insomnia must be minimized in the patient's sight. Finally, in a case in which this particular anxiety appears to be mainly responsible for the trouble, the patient may be given an effective draught—a drachm and a half of paraldehyde or  $7\frac{1}{2}$  grains of medinal, with the assurance that he will have a good night's sleep. If this follows, the same draught or cachet should be placed by his bedside on subsequent nights, with instructions that he should take it, *without hesitation*, if he is unable to sleep. If the case has been judged correctly this line of treatment succeeds. The presence of the drug by the bedside in itself allays the anxiety, and the patient sleeps soundly without taking it. After a few nights of this kind he ceases to bother about the drug, and as far as his insomnia is concerned may be considered cured.

In the treatment of the emotional insomnias bedtime ritual and muscular relaxation are both of value; the former may also be made a vehicle for reassurance; the latter is most useful in those individuals whose anxiety reflects itself in muscular tension. But the narcotic drugs are also essential in the majority of cases. That they should be at the same time more beneficial and more permissible in this than in other types of insomnia is intelligible in the light of our theory. Here we have the sleep reflex prevented by stimuli arising within the nervous system at a high level of cerebral integration. The cells in which these stimuli arise are therefore themselves susceptible to narcotic drugs in much the same degree as those cells which we have supposed to be concerned with consciousness.

Drugs may therefore be given regularly, at first in sufficient doses to ensure sleep, while at the same time the other therapeutic measures of psychotherapy, habit formation, and relaxation are employed with the object of re-establishing the natural rhythm. After the patient has had a succession of four or five good nights the dose is gradually reduced; the other measures, of course, being continued. In employing this method of treatment we are liable to encounter one of two difficulties—the patient is liable, on the one hand, to develop anxiety lest he become a drug habitué, or, on the other hand, when he finds that his dose is diminished, he may be kept awake by the renewed fear that to-night he will not sleep. This difficulty may be met by explaining to the patient from the first the rationale of the treatment and telling him that the dose will be reduced without his knowledge. This is easily done if the medinal is given in cachets. The size of the cachet and the amount of its contents are kept constant by replacing the medinal subtracted by sodium bicarbonate. The patient may thus be allowed to go on taking the cachets until he can be told he has now been sleeping soundly on nothing but sodium bicarbonate for several days. Or the cachet may be incorporated as a part of the bedtime ritual for some time longer before the disillusionment is completed.

## Lancian Lectures

ON

SOME FORMS OF VOMITING IN  
INFANCY.DELIVERED BEFORE THE ROYAL COLLEGE OF PHYSICIANS  
OF LONDON, MARCH-APRIL, 1925,

BY

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GUY'S HOSPITAL.LECTURE III.—SOME FORMS OF "HABITUAL  
VOMITING" IN INFANCY.

IN my first lecture I dealt with vomiting due to high obstruction from developmental defect; in my second with vomiting due to the imperfect working of the sphincters of the stomach and intestines. There remain a number of other conditions, marked by persistent and severe vomiting of more obscure etiology, but more frequent occurrence, which are best grouped together under the name "habitual vomiting of infancy."

## VOMITING AND AEROPHAGY.

In the first place it will be well to consider the part played by aerophagy in the causation of habitual vomiting in early infancy. Every infant normally swallows considerable quantities of air mixed with the milk. Upon the breast this admixture is generally greater than when the infant is carefully fed from the bottle. The difficulties of breast-feeding are seldom due, as they commonly are in the unnatural feeding with artificial substitutes, to abnormalities in the chemical reactions within the stomach. The infant is the suction apparatus, upon the efficiency of which both the quantity and quality of the milk in great measure depends, and the difficulties of successful breast-feeding are largely concerned with the problem of securing effective adaptation of the suction apparatus to the nipple. With the bottle, on the other hand, the flow of milk is so easy that it calls for comparatively little effort on the part of the child. If a young infant is taken from the breast and given a bottle instead, it is a common experience to find that excessive aerophagy is at once diminished, together with its attendant troubles of pain, hunger, restlessness, and vomiting. A mother who has had this experience is likely to conclude that the quality of her milk had been at fault and to confuse what resulted from a want of adroitness in the infant's suction with a true dyspepsia. Her mistake will be tragical if, as often happens, a true fermentative dyspepsia is established by the unnatural diet and the infant exchanges for its former discomfort a dangerous and perhaps even fatal disorder.

Examination by means of the x rays of infants after breast-feeding shows clearly the extent of the normal aerophagy. At this early age in order to study the distension of the stomach with gas an opaque meal is unnecessary. While the meal is being taken the stomach of the nursing allows itself to be passively distended with the swallowed milk and with the swallowed air. By the end of the meal it is usual to find that the intake of air within the stomach has reached very considerable dimensions. For some time after the ingestion of the milk there may be no movement on the part of the stomach to contract down upon its contents—that is to say, the so-called peristolic function of the stomach is delayed. At length, after an interval—it may be perhaps after five or ten minutes—it is usual to note a somewhat brisk contraction of the stomach which expels a considerable part of the swallowed air with an eructation which is clearly audible. The practice common among nurses of holding the infant upright to assist in the expulsion of the wind is justified by what is apparent under the x rays. In that position the air ball lies most directly under the oesophageal opening, so that eructation without escape of fluid or with only a minimal escape of fluid is facilitated. If, on the other hand, the child is laid down upon its back the air ball may be prevented

from escape by the intervention of fluid. Eructation then requires a very violent contraction of the stomach, and is apt to be accompanied by regurgitation of much of the stomach contents.

Aerophagy, a normal process and one which is always found in some degree to accompany the swallowing of milk, may be so excessive as to become pathological. Thus severe nasal obstruction, as might be expected, in a young infant interferes greatly with effective suction. The hold upon the nipple must be constantly broken, in order that a hurried breath may be caught. A nasal catarrh in a young infant is a serious misfortune, not only because it involves a considerable risk of direct extension to the bronchial tubes and to the middle ear, not only because it commonly gives rise to profound gastro-intestinal disturbance, but because the diminished power of suction which accompanies it endangers the whole process of lactation. The suction of the infant, hurried and intermittent because of the dyspnoea, fails completely to empty the breast; the yield declines; the flow becomes increasingly scanty, and the inordinate efforts of the infant result only in the distension of the stomach with swallowed air (Fig. 1).

But a still more frequent cause of excessive aerophagy is to be found in what may be called the vicious circle of nervous unrest. The reflex act of suction in the young infant only proceeds powerfully and effectively when the child is quiet and at rest. When, on the other hand, the child is too eager and too excited, as it is apt to be after much hungry crying and persistent sleeplessness, a voluntary effort at suction seems to be attempted and takes the place of the more instinctive reflex act. Like all other voluntary movements at this early age, such suction, though violent and eager, is inordinate and ill controlled. The infant greedily grasps at the nipple, sucking, swallowing, choking, and even crying, all at the same moment. Such a procedure rapidly leads to a distension of the stomach with air. Suddenly the violent efforts at suction cease, and the restlessness and crying break out afresh. Ineffective suction of this sort causes a rapid deterioration in the quantity and quality of the milk. Hunger grows apace. The persistent sleeplessness and restlessness of the child, because of the immensely increased expenditure of energy, raise the needs for food far above the normal at a time when the natural powers of suction are inhibited by the emotional disturbance, and when the mother's milk is diminishing in amount.

Such is the vicious circle which accounts for by far the greater part of the failures in the early weeks of lactation to establish and continue breast-feeding. It involves, it is true, a failure on the part of the distracted mother, but a failure, I think, not primarily of her mammary secretion, but of her power to quieten and control the restless nervous system of her infant. It has always seemed to me that the emotional instability of the human infant, to which in the animal kingdom we find nothing at all comparable, accounts for the comparative frequency of its failure to win sustenance from its mother's breast.

The most striking instances of distension of the stomach with air which I have encountered have all been in infants suffering in this way from sleeplessness, hunger, nervous unrest, and inordinate suction (Fig. 2). In states of primary inanition, where the initial fault is a failure of the mammary secretion and not a failure of nervous control in the infant, I do not think aerophagy is common.

If suction is powerful and effective, as it is in a strong and placid infant, aerophagy is at a minimum while the yield of milk is at a maximum. In these circumstances, when, some time after the conclusion of the meal, the stomach contracts in the so-called peristole, there is apt to be a gentle regurgitation into the mouth of a little milk, mixed with the swallowed saliva and gastric juice. This is the so-called possetting. In every country, as might be expected, we find a proverb to the effect that possetting is the mark of the thriving, well nourished, and contented child. On the other hand, with a greater admixture of the stomach contents with air, the repeated eructation of air may be necessary before comfort is assured. In some cases the eructation is accompanied by the forcible regurgitation

of a considerable part of the stomach contents. The peristaltic contraction of the stomach is exaggerated and violent and the resultant vomiting forcible and explosive. The sound of the escaping air is usually audible. Habitual vomiting due to aerophagy is apt to be mistaken for that due to pyloric spasm or even far that due to hypertrophic pyloric stenosis. Visible peristalsis, pyloric tumour, and the characteristic inanition stools are, however, here wanting.

Different authorities have estimated very differently the importance and frequency of aerophagy as a cause of habitual vomiting. Marfan, who has recently dealt very fully with the whole question, regards the aerophagy, not as a primary, essential, and constant factor, but as something secondary, contingent, and variable. According to his view the essential cause is to be found in a hyperaesthesia of the gastric mucous membrane, a hyperaesthesia which may favour the purposive swallowing of air and the secretion of excess of saliva, while the distension of the stomach with the swallowed air may favour the vomiting. On the other hand, Lesage, Guinon, and others in France, Rosenstern and Usener in Germany, have argued convincingly for the importance of air-swallowing as in itself a cause of habitual vomiting. Certainly the results of treatment directed to control and prevent aerophagy, but in no way calculated to allay gastric hyperaesthesia, are sufficiently constant to suggest that the air-swallowing is of primary importance in causing this variety of habitual vomiting.

#### *The Treatment of Habitual Vomiting due to Aerophagy.*

1. Thus it is by no means unusual to find that the infant, invariably sick after a breast-feed, will retain the feed without difficulty if it is given carefully from a bottle, even when the contents of the bottle are composed of the same breast milk which is vomited when sucked directly from the breast.

2. If the infant in whom the aerophagy is due to inco-ordinate suction as a result of nervous unrest is fed, not when hungry and excited from long crying, but when drowsy and quiet, there may then be no aerophagy and no subsequent vomiting. In the out-patient department at Guy's Hospital I have very often demonstrated this point. In an infant 1 or 2 grains of chloral hydrate given a few minutes before the meal is usually sufficient to secure a quiet and drowsy state. If then the mother's nipple is gently inserted into the mouth of the slumbering child, without awakening it and without provoking the restless emotional state, the breast may be drained steadily and well, there may be no subsequent vomiting, and the infant may continue to sleep soundly after the meal.

3. Recently Rogatz and others have studied under the x rays the effect of giving a small amount of a thickened food before the usual feed of breast milk. The characteristic x-ray appearance of the stomach of the infant is determined, not by anatomical peculiarity, but only by the circumstance that the diet is always and invariably fluid. Under ordinary conditions the stomach of the infant shows no tendency to contract down upon the entering milk, while the fundus remains distended with a huge ball of air. The contraction of the stomach, the peristaltic contraction, can be stimulated by giving comparatively small amounts of a semi-solid substance—one or two tablespoonfuls, for example, of a very thick gruel. A paste of farina, in the proportion of 10 grams of farina with 100 c.cm. of skim-milk and 100 c.cm.

of water, boiled for an hour until sufficiently thick to adhere to an inverted spoon, may be given in doses of 30 c.cm. before the breast-feed. A semi-solid mixture of this sort is capable of producing a brisk contraction of the stomach, so that its distension by air during the subsequent suction at the breast is prevented. On several occasions I have found this device completely successful in allaying habitual vomiting of long duration and great severity. In one case the infant was sent to me at the age of 9 weeks with the suggestion that it was suffering from congenital hypertrophic stenosis. The mother reported to me some weeks later that on one occasion had the baby ever been sick when the gruel had first been given, although vomiting still almost always followed breast-nursing if this preliminary was omitted.

The success of treatment upon one or other of these lines is in keeping with the assumption that aerophagy by itself may be the essential cause of some cases of habitual and violent vomiting.

#### VOMITING AND NERVOUSNESS.

It requires small experience of infantile disorders to convince oneself that the infant who suffers from hyperemesis is almost always tense, nervous, emotional, and more than usually unstable. Such infants, indeed, seem to suffer from a generalized hyperaesthesia. A loud sound, a bright light, or a sudden movement in their neighbourhood produces a maximum response. From the first, too, the heightened sensibility of the nervous system is apt to show itself in an extreme sensitiveness in the matter of taste. The slightest alteration in flavour—the prescription, for example, of dextrimaltose instead of the lactose to which it has become accustomed—may cause resistance or refusal or vomiting. Sleep is almost always scanty and superficial.

In response to the slightest stimulus, instantly the child is wide awake, the anxious strained expression flows back into the face, and the inevitable crying begins again. In these neuropathic infants the muscles generally show a certain degree of hypertonus. The abdominal wall tends to be rigidly contracted, with the outline of the recti abdominales clearly visible. Opisthotonos is common, while the hands are nearly always held tightly clenched. Such infants may appear to suffer from a veritable gastric hyperaesthesia. The presence of food in the stomach may evoke every appearance of extreme pain and discomfort and may be followed regularly by vomiting, whether the infant was fed upon the breast or the bottle. Habitual vomiting of this sort may occur in such children even when there can be no question but that the food is suitable in amount and in composition. Sometimes in later years other troubles arise which give the clue to the constitutional weakness which first

manifested itself in this infantile gastric disorder. In inquiring into the past history of children with such functional nervous disturbances as enuresis, asthma, stammering, habit spasm, and so forth, a considerable proportion will be found to have suffered in this way in early infancy. Again, the appearance of eczema in later infancy has been noted by Finkelstein and others.

#### *The Treatment of Vomiting due to Nervous Unrest.*

The treatment of this nervous vomiting may be a matter of great difficulty. One thing makes itself very clear—that it is always an unwise and unsuccessful manoeuvre to attempt to allay the vomiting by prescribing a hunger



FIG. 1.—Showing extreme distension of the stomach with swallowed air after a breast feed, in an infant with nasal obstruction and mouth breathing.



FIG. 2.—Showing extreme distension of the stomach with swallowed air, in a breast-fed infant with inco-ordinate excited suction and nervous unrest.

period or by diluting the food or curtailing the total amount given. Such devices, essential in treating the ordinary form of infantile dyspepsia, only serve to make this habitual vomiting of the nervously unstable child very much worse. Indeed, it is remarkable that in many cases the weight curve will continue to ascend and the nutrition will remain unimpaired in spite of violent and persistent vomiting. In practice it is common to find that serious malnutrition is caused not so much by the vomiting as by unwise efforts to control it by the prescription of an inadequate diet or a diet modified to such an extent as to be deficient in certain essentials. It is, however, usual to find that the stomach is especially intolerant of a diet with a high proportion of fat. It is apparently the volatile fatty acids which especially possess for these infants an emetic action. One such infant under my care was almost invariably sick after the breast, and after the fifth month of life, when weaning took place, after a meal of cow's milk, even in considerable dilution. Upon a diet of milk from which fat was removed until the percentage was never higher than 1.5, and which was then soured with a lactic acid bacillus, vomiting was only occasional, and a satisfactory growth of weight was achieved. In all, three attempts were made to return to a diet with a higher fat percentage, but always with renewal of the vomiting. With these restless, hypersensitive infants it is above all necessary to avoid the stimulus of excessive hunger, and to see to it that the needs for food are amply covered. In this we are reminded of what is found to be the rule by Hurst, Fairbairn, and others in the treatment of hyperemesis gravidarum and certain other forms of nervous vomiting in adults. Treatment, if it is to be successful, must aim, not so much at controlling the vomiting as at allaying the nervous unrest. Such vomiting often ceases as if by magic when the infant is admitted to a hospital or when the confident handling of an experienced nurse succeeds to the too timid and anxious control of an inexperienced mother. Rest, quiet, and the absence of all stimulation are essential. Prolonged immersion in a hot bath, or a hot pack, may secure sleep and start the habit. Enveloping in a tight and restraining shawl—the primitive wisdom of all peoples has taught them the value of swaddling clothes, the infantile strait-waistcoat, in securing rest—is often helpful. The habitual vomiting of nervous unrest ceases only when deep sleep is secured and the restlessness sensibly diminishes.

Other forms of persistent vomiting due to nervous causes are occasionally encountered. Thus, in older infants, we sometimes meet with vomiting which might be described as due to a conditioned reflex. Thus one particular meal, although its composition differs in no way from that of the others, given at one particular time of the day, alone may be consistently rejected. Or it may be that a meal given by a particular person, or in a particular room, alone is vomited. Again, by the end of the first year it is quite common to meet with a purposive rejection of food as part of the anorexia nervosa of nervous children. With unwise management the dominating, restless child is apt to show to perfection the symptom which has been called "negativism." Whenever the maternal traction in one direction is exercised too obviously and insistently the child seems forced into a posture of resistance. As might be expected, the struggle waged between the child and its elders is apt to involve the question of the intake of food. The more the child is urged and entreated to take the food, the more resolute is the opposition. Many mothers have told me that in such circumstances the only way in which they have succeeded is by feeding the baby when it is asleep. They have crept to the side of the cot and aroused the child just sufficiently to admit the teat of the bottle into its mouth and to provoke the act of suction. But if they have accidentally wakened the child too thoroughly so that complete consciousness of its surroundings has returned, the first waking thought has been of the habitual refusal, and the bottle has been pushed away with every sign of determined rejection and resistance. It is characteristic of this negativistic attitude to food that when the unwise urgings of the anxious mother cease food may be taken with avidity. Thus older children,

having refused all food at the table, will descend upon the floor and greedily scavenge for crumbs. Two mothers told me recently that the best meal their children made in the day was when, with a parcel of unappetizing crusts for the ducks in the park, they took their walks abroad. Most of the crusts were then consumed by the children, and one of the mothers had even got into the way of including certain nutritious pieces of brown bread-and-butter in the parcel in the sure hope of its consumption by the child. If, in dealing with such a trying case, force is attempted and a strong-minded woman with uplifted spoon attempts to feed the child against its will, vomiting almost certainly results, and I have met with more than one case in which vomiting, clearly originating in this way, has persisted as an inveterate neurosis for many years. In some cases the sight or sound of the preparation of food has sufficed always to produce vomiting. It is clear that the more attention that is paid to vomiting of this sort, the more it is discussed and deplored in the child's presence, the more inveterate does it become. Such disturbances are not, however, difficult to control if their nature is clearly understood and the faults of management to which they owe their origin are corrected.

#### HABITUAL VOMITING AND IDIOSYNCRASY AGAINST COW'S MILK.

Something must be said of the views, expressed in an extensive modern literature, that the explanation of a large part of the difficulties which are encountered in attempting to feed the infant upon a diet of cow's milk is to be found in a frequent intolerance for the protein of the foreign milk whereby certain anaphylactic reactions are determined. Certainly from time to time we do meet with infants who exhibit the most extreme intolerance for even minimal amounts of cow's milk. Kleinschmidt, Finkelstein, Park, and many others have studied and recorded cases of this nature. The characteristic symptoms are sudden extreme pallor, drowsiness, a rapid almost imperceptible pulse, pyrexia, vomiting, and diarrhoea, often with the passage of blood-stained stools. Less usually scarlatiniform or morbilliform rashes are added to the picture, or transient oedema. Glycosuria may occur. This violent and characteristic shock may be provoked by minimal amounts of cow's milk. Thus in Park's case a considerable reaction was produced by the ingestion of four drops of milk. An appreciable reaction has even been produced by a single drop. The symptoms may begin immediately after the intake of the milk, or rather unaccountably they may be delayed for several hours. They may occur the first time cow's milk is given to the infant instead of the breast, on which it has so far thrived, or the trouble may develop at any time subsequently throughout infancy. Recovery is rapid when milk is withdrawn. Goat's milk may be perfectly well tolerated when cow's milk produces dangerous symptoms. Schloss, who has devoted great attention to these cases, finds that many infants, who show profound disturbance when given raw cow's milk, can tolerate boiled or dried cow's milk without difficulty. In the majority of these cases, although not in all, a positive cutaneous test has been found. Schloss is of opinion that the lactalbumin rather than the casein is the protein usually responsible. Many infants recover spontaneously, but success is claimed both for desensitization by the subcutaneous injection of graduated amounts of sterilized milk, and for desensitization by ingestion of graduated amounts by the mouth. Such severe cases of intolerance for cow's milk, although they undoubtedly occur, are admittedly of extreme rarity. They fall into line with cases which show a similar intolerance for the protein of eggs and for certain vegetable proteins.

Recently, however, Weill and others in France have gone much further and have found the explanation of many cases of habitual vomiting in infancy, as well as of many cases of urticaria, eczema, atrophy, and malnutrition, in a similar but mild form of anaphylaxis against cow's milk, and even against the milk of the mother. According to Weill, subcutaneous injections of milk may give rise to the most remarkable and unmistakable improvement. The first symptoms to improve are those of the nervous system.



Within twenty-four or forty-eight hours the agitation and insomnia are greatly lessened. The vomiting is more slow to disappear, but improvement is likely to appear within a week or ten days. For a cure some three or four injections are usually necessary.

Professor Marfan has not been able to substantiate such precise claims. My own experience of treatment in this way is altogether too slight to enable me to speak either in its favour or otherwise. I feel that the whole subject is in need of careful investigation, in view of the work and claims coming from many quarters.

#### HABITUAL VOMITING AND RUMINATION.

The phenomenon of rumination in the adult and in the older child has been dealt with with great fullness in an interesting paper by Brockbank in 1907. In most of the recorded cases the peculiarity is familial, acquired involuntarily in later childhood, and persistent throughout life or at least for a great part of life. The act of regurgitation is partially under the control of the will. With an effort it can be prevented, and the ruminator whose aesthetic sense is offended by his infirmity may for long escape detection. Brockbank does not discuss the relationship between his cases of rumination in adults and the much more common rumination of infancy. Probably they are not closely connected. In no case of rumination in infancy have I found a family history of rumination, and the after-histories of infants who show this symptom do not disclose, unless it be in exceptional and so far as I know in unrecorded cases, persistence of the habit into later life. In general it is characteristic of infantile rumination that it ceases when solid food replaces the fluid diet. Adult rumination, on the other hand, appears to begin after the milk period, and to occur only with solid food. But the most striking difference would appear to lie in the attitude of mind of the sufferer. The adult ruminator suffers no discomfort; Brockbank even records cases in which the act was pleasurable. But, in general, in adults the regurgitation is not the culmination of a series of movements, voluntarily undertaken and steadily pursued until success is achieved. The adult does not seem impelled to evoke the act in order to achieve a sense of present satisfaction, nor does he evince signs of nervous irritation if thwarted in his purpose. In the infant, on the other hand, it is very evident that achievement of his purpose produces a sense of beatitude, while failure results in nervous unrest and irritation.

#### Pathogenesis.

In early infancy, when sensation is awakening, certain stereotyped movements, calculated to evoke certain sensations, are apt to become fixed by repetition until they grow habitual. Since the mouth and tongue are most richly endowed with sensory nerve endings, as might be expected, the most common action of this sort is thumb-sucking or lip- or tongue-sucking. Head-banging, thigh-rubbing—that is, infantile masturbation—and rumination have precisely the same significance. No doubt in these latter instances there may have been originally some transitory local irritation which led to the first movements being practised—in thigh-rubbing vulvar irritation, in head-banging irritation from slight otitis media, in rumination some trivial gastric discomfort. But long after the local irritation has subsided the act may persist with ever-increasing frequency. In sucking thumb or lips it is not necessary to suppose the existence of any preliminary irritation which has attracted the child's attention to the part. The act of suction alone is instinctive, and needs nothing to provoke it except the presence of something to suck.

These lowly forms of gratification from sensory stimulation are normally found only in infancy. As the mind awakens and the level of intellectual enjoyment arises, as the child's thoughts become filled with recollections of yesterday's happenings and anticipation of to-morrow's, these habits and these joys are forgotten. They are perpetuated only when unwise forbiddings and expostulations or the injudicious use of mechanical restraint, the object of which is appreciated by the child, have served to awaken ungratified longing, to focus attention on the fault, and to

impress it deeply upon the memory. Finally, if the grown-up people around the child show distress or anxiety, the child very readily catches the general restlessness and apprehension. No one of these stereotyped acts shows better these general characteristics than does rumination.

Ylppö and others have maintained that aerophagy plays an important part in the production of rumination, but the consensus of opinion is against this view. Gastric disorders of all varieties may serve as predisposing causes, but no connexion between rumination and any particular gastric disorder can be clearly established. Gött appears to me right in arguing that all the features of rumination show its relationship to the stereotypias, not to the dyspepsias. *Post-mortem* observations have disclosed only a stomach in extreme systole.

#### Symptomatology.

The onset is perhaps never before the fourth month of life. It is seldom well developed or typical before the sixth month. I have had the opportunity of studying carefully five well marked cases, besides a number of slighter and less developed examples, in infants who, for all their efforts, never perfected themselves in the practice. All my cases have been in artificially fed infants. After taking the meal quite in the ordinary way the baby, as a rule, lies quiet for a time. Then begin certain purposive movements, by which the abdominal muscles are thrown into a series of violent contractions—the head is held back, the mouth is opened, while the tongue projects a little and is curved from side to side so as to form a spoon-shaped concavity on its dorsal surface. After a varying time of persistent effort, sometimes punctuated by grunting or whimpering sounds, expressive of irritation at the failure to achieve the expected result, with each contraction of the abdominal muscles milk appears momentarily in the pharynx at the back of the mouth, as the column of fluid is pressed upwards through the stretched oesophagus. In this way the head of the column of milk may be momentarily visible many times as it attains its highest point, only to fall back again out of sight when the pressure is relaxed. Finally a successful contraction ejects a great quantity of milk forwards into the mouth. The infant lies with an expression of supreme satisfaction upon its face, sensing the regurgitated milk and subjecting it to innumerable sucking and chewing movements. Some of the milk may escape from the mouth and in that sense be vomited. In a well marked instance much the greater part is caught and retained.

The power to ruminate successfully is not suddenly acquired. In the earliest stages, before dexterity has been achieved, the act differs relatively little from that of vomiting. Similarly the number of masticatory movements as a rule progressively increases. At first there may be ten or twelve, later several hundred such movements may follow the regurgitation. In its earlier development, therefore, rumination is very apt to be mistaken for habitual vomiting due to other causes, and it may require careful observation to make the distinction evident. Nor are such babies easy to observe. It is characteristic of the ruminating child that it sins its sin only in secret. To watch it openly is to put a stop to the whole procedure. Hence the great difficulty of securing a satisfactory radiographic examination. On every occasion on which I have tried to secure a radiograph the infant has shown no disposition whatever to indulge. I had hopes of being able to enliven this lecture by a cinematograph display of a well marked case, but my failure was again complete for the same reason. Only when the child is alone and in a drowsy, vacant state, while nothing distracts attention or excites curiosity, does the act take place. Ruminating infants are almost always alert, excitable little creatures, their faces lit with an unusual variety of expressions. As a rule, rumination can only be observed by stealth, by peering through peep holes, between screens, and so forth.

The nutrition commonly suffers to some extent, and the infants tend to be considerably under weight. This is especially marked in the early stages, when regurgitation is accompanied by the escape of a great part of the food. Under the impression that the disorder is a true vomiting

indicative of some form of dyspepsia, many of the cases have undergone severe restriction in their diet, or the food may have been modified, with unfortunate results. The condition may persist for many months. In the most severe, death from hunger or from intercurrent infection may occur.

#### Treatment.

For a time to distract the infant's attention seldom fails, but always to carry the infant around after meals or to arouse its interest by means of rattles or musical boxes is apt ultimately to exhaust both nurse and child. Strauch achieved success by the simple method of plugging the nostrils, since the resulting mouth-breathing renders it difficult to express the column of fluid into the pharynx. This succeeded perfectly in one of my cases, in the others it failed. It is further recommended that the infant should always be placed upon the abdomen after a meal. Others have endeavoured to prevent rumination by forcible closure of the mouth. A cap and a chin-piece are connected by two side-pieces of webbing, each bearing a buckle, and after the feed the mouth is held securely shut by tightening the side-pieces. This again has proved a successful device in some, but not in all the cases in which I have tried it. Probably the most uniform success has been achieved by thickening the child's food to the consistency of a thick gruel. I have used successfully farina boiled with milk until it was thick enough to adhere to an inverted spoon. In infants after the seventh or eighth month it is often sufficient to anticipate by a month or two the change to a mixed diet and to feed them as the normal child would be fed at the beginning of the second year. Rumination of this sort is prevented, or at any rate made much more difficult, when solid replaces fluid diet.

Finally, it is well to emphasize that in rumination, as indeed in almost all the conditions of habitual vomiting considered in this lecture, the personal factor of the nurse is of supreme importance. Rumination, like aerophagy, like the vomiting due to idiosyncrasy for cow's milk, and like the vomiting of nervous unrest, is found most commonly among infants of psychopathic inheritance and in a psychopathic environment. Isolation, handling by a competent self-confident nurse, the reduction of emotional disturbance to a minimum, are all of the greatest importance if recovery is to follow. The nervous disturbances of infants, like the infective disorders of infants, are apt to display themselves for the most part by symptoms referred to the sensitive gastro-intestinal tract. The infant has indeed but one function highly organized and therefore capable of showing complex disturbance—the function of digestion. It is in disorder of that function that throughout infancy nervous instability, inherited or acquired, especially shows itself.

I have to thank Dr. G. W. Nicholson, Professor Adrian Stokes, Mr. Redding, Dr. Lindsay Locke, and Dr. Vertue for their great kindness in providing me with the microscopic sections, microphotographs, and radiographs with which these lectures were illustrated, some of which have been here reproduced.

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## TREATMENT OF INOPERABLE CARCINOMA OF THE CERVIX UTERI WITH RADIUM:

### DESCRIPTION OF THE MORE RECENT METHODS EMPLOYED.\*

BY

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THE purpose of this paper is to demonstrate that the results of radium treatment in inoperable carcinoma of the cervix uteri are so promising that it is imperative that as many of us as possible should join in combined and organized research on these lines.

Medical opinion in this country is extremely sceptical of the value of radiotherapy, and I cannot help thinking that this is because so little systematic work has been done on the subject. I would ask the profession to keep an open mind, as much harm is done by the expression of very optimistic or very pessimistic views on a method which is, comparatively speaking, so new. Many people think of radium as a drug, of which there is only one dose and one method of administration, and that if this does not prolong the patient's life the treatment is of no value. Many years will elapse before we reach any final judgement on the value of radiotherapy, and meanwhile, in order to make progress, we must compare the value of the different techniques, not only as judged by complete cure of the patient, but also by lesser standards. These standards are: (1) histological; (2) rate of disappearance of symptoms, such as haemorrhage; (3) rate of disappearance of the local growth and healing of the malignant ulcers; (4) duration of the patient's life after treatment.

Next I would appeal to those working at this subject to make their reports on uniform lines, and, when mentioning the dose, to give the fullest details as to whether radium element is used or radium emanation, and, if the former, whether the number of milligrams relates to the salt or the element; the exact material and thickness of the filters; the form of the applicators; the exact number of hours during which the radium is applied; and as far as possible the distribution of the radium in relation to the growth. If emanation gas is used, additional notes should be quoted—namely, the number of millieuries at the commencement of the treatment and the number of hours. It is of little or no value to talk about milligram hours or even millieuries of emanation destroyed.

[The work here described has been carried out with radium kindly lent by the Medical Research Council.]

#### DESCRIPTION OF TECHNIQUES.

Speaking generally, there are two schools of technique—one which believes in external application only, the other which believes in burying the radium close to or within the growth. The arguments for the different opinions may be summarized as follows.

Those who advocate external application consider—

1. That any incision, even the introduction of needles, may disseminate the growth.
2. That the injured normal tissues may be affected by the radium to an undue extent, as it is well known that radium affects cells which are about to go into mitosis.
3. That the tissue extracts produced by injury to the normal cells may stimulate the growth of the tumour.
4. That the burying of needles may produce sepsis under conditions very suitable for the growth of organisms.

Those authorities who advocate the burying of needles do not consider that these objections are in any way comparable to the advantages of the greater intensity obtained by placing the needles near the growth, and, further, that if the radium is used from outside, the doses have to be so large that there is a considerable likelihood of damaging the skin and other intervening tissues. The Radium Institute of Paris is, on the whole, inclined to believe in external application. The Radium Institute of Brussels believes in buried radium. Most of the American institutes

\* A paper read before the fifth British Congress of Obstetrics and Gynaecology, London, April, 1923.

believe in buried radium, and some of them use unscreened glass tubes by means of which the beta rays are brought into action. The Radium Institute, Stockholm, believes in external application. Opinion in this country is divided.

**Vaginal Treatment by Surface Application.**—The usual routine is as follows: The vagina is prepared by means of douches, but the growth is not cauterized or in any way interfered with. One or more tubes are placed in the cervical canal, containing in all approximately 50 mg. of radium element, with a filter of 0.5 mm. of platinum. In the vagina there are more tubes, heavily filtered with 0.5 or 1 mm. of platinum, and sometimes these have additional filters of cork or aluminium and rubber, to stop the secondary rays coming from the platinum filters and to act as distancers. The amount of radium contained in these vaginal tubes is 25 to 30 mg. of radium element, making 75 to 80 mg. in all. The exact details of the filters vary in different clinics. The duration of application also is a matter of opinion, some authorities advocating twenty-four hours, others as much as a week or even more. On the whole the tendency seems to be to lengthen the duration of exposure.

**Extra-abdominal Application of Radium.**—In addition to vaginal application large quantities of radium are sometimes used on the surface of the abdomen, placed at a distance from the skin. This method has been widely employed in America, where as much as a gram of radium is used at a distance of 10 cm. As an example of burying technique by the vagina, I will describe my own method of treatment.

**Method.**—The patient is douched for two or three days before the operation with weak lysol. At the time of operation she is placed under an anaesthetic in the lithotomy position, and the vulva and vagina cleaned with pierie acid 3 per cent. in spirit. A microscopic section of the growth is then taken in every case in which the radium is applied for the first time. The needles are placed in and around the growth, keeping as far as possible about half a centimetre of tissue between each needle. The longer needles are pushed outwards as well as upwards into the base of the broad ligaments. The whole vagina is then packed with gauze soaked in flavine. The amount of radium I generally use is as follows: 8 large needles approximately 6 cm. long, each containing 3 mg. of radium element, filter 0.5 mm. of platinum; 12 or 13 smaller needles, each containing 2 mg. of radium element, filter 0.5 mm. of platinum; total number of mg. 48 or 50. These remain in place for 144 hours.

In my present series of cases the patient has a second vaginal application after an interval of four weeks.

**Technique for Intra-abdominal Radium.**—The great difficulty is to affect the deeper parts of the growth. With this in mind I carried out in one series the technique suggested by Daels of Ghent. This consists in putting the radium alongside the iliac glands, but extraperitoneal, and is carried out in the following manner:

The patient is put under an anaesthetic in the lithotomy position. An incision is made in the ischio-rectal fossa and blunt dissection carried out with the finger as far as the spine of the ischium. Another incision is made just to the inner side of the anterior superior iliac spine, and a blunt dissection carried out, the finger passing over the psoas muscle and external iliac vessels. A tube is then passed from the lower incision right through the pelvis to the upper incision, and through this tube a chain is guided, the tube being then removed and leaving the chain in place. One radium tube is attached to this chain, which is pulled on, and the desired depth can be obtained by counting the number of links of the chain remaining outside. The radium is moved each day, and entirely removed at the end of the third day.

This operation I carried out in 14 cases. Although some of these cases have done well I do not care for the technique, as it involves too much blunt dissection, and the radium is concentrated into one mass, and therefore does not conform with my ideal of uniform distribution throughout the growth.

The next method that I tried was that employed at the Radium Institute of Brussels—namely, the intraperitoneal method.

The patient is put in the Trendelenburg position and the abdomen opened. Needles are then placed in the back of the uterus and in the broad ligaments, and the rubber-covered wires holding them are brought out through the lower part of the abdominal wound. The whole pelvis is then packed with gauze (it generally requires about 8 yards of 6-inch gauze), and the end of the gauze brought out with the above-mentioned wires through the lower part of the abdominal wound. At the end of a week the gauze and wires are pulled out, the patient being given gas anaesthesia. I have performed this operation in ten cases.

Although some have done quite well I am not satisfied with the technique, and am at the present moment working out a new method, using a rubber plug to fill the pelvis.

**Combined Radium and X Rays.**—Until recently facilities at St. Bartholomew's Hospital for this method of treatment have been rather restricted, and my own experience of combining radium and x rays has been limited to a few patients treated in private by Dr. Finzi, two of whom have been very satisfactory indeed. Now that we have installed a deep x-ray plant purely for research we hope to undertake a large series of such cases.

**Conclusion regarding Technique.**—My own opinion is that any technique should aim at getting a comparatively small intensity evenly distributed throughout the growth, and applied for a comparatively long time.

#### DOSAGE.

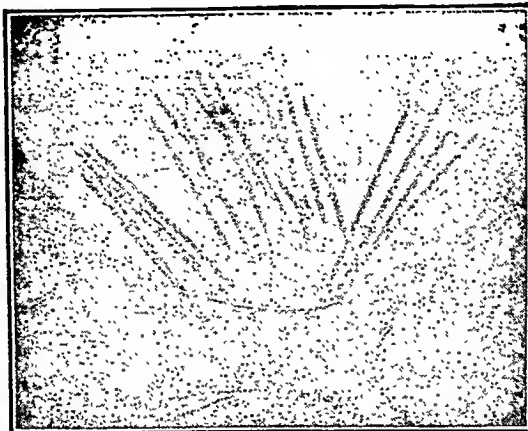
The question of the best dosage is still *sub judice*. It is from the solution of this difficult problem that the final technique will be evolved.

Although it is impossible here to discuss in detail the physics of radium, yet there are one or two points to be remembered. The first of these is the fact that the intensity of radium obeys the inverse square law in the same way that light does. As an illustration it may be noted that the dose received by the fingers holding a tube of radium with a filter of 0.5 mm.

of platinum for half a minute is the same as if those fingers were exposed at a distance of one yard from the radium for a period of three and a half years; or, to put it in a more practical form, the tissues of the pelvis 2 inches away from the tube receive 10,000 times less irradiation than the tissues immediately surrounding it. In these circumstances, is it a matter for surprise that those people who only put one tube into the middle of the cervical canal do not prolong the lives of their inoperable cases? Another point to remember is the filter, which makes a considerable difference to the type of rays and intensity.

**Units of Dose.**—In order to understand the description of various techniques we must be quite clear about the expressions used to indicate units of dose. In using radium element in the form of a salt we should speak of  $x$  number of milligrams of radium element used for  $y$  number of hours, and then add the full description of the distribution and number of needles or tubes. When, however, emanation gas is employed the unit used is spoken of as a millicurie.<sup>1</sup> When emanation gas without its parent salt is used it breaks down rapidly, so that its activity declines by one-sixth every twenty-four hours. There are two ways of describing the dosage when emanation is used. We can say that the dose was  $x$  number of millicuries applied for  $y$  number of hours, and then work out by reference to a table the mean number of millicuries for the length of time of application. Or we can describe the number of

<sup>1</sup> When a milligram of radium is sealed up for a time the amount of emanation gas becomes constant, and this equilibrium amount is spoken of as one millicurie, and can be measured by its effect upon an electroscope.



Skigram of needles placed in position per vaginam. The shorter needles grouped in the centre are encircling the cervix. The longer needles on either side are in the base of the broad ligaments.

millicuries of emanation gas which have been destroyed during that time. For instance, if we put in 100 mc. and take them out after twenty-four hours, we shall have used approximately 16 mc. This latter method has the advantage that it can also be used for calculating the dose when radium element is employed. Whichever method is used it is still necessary to give details of the number of tubes, distribution, filters, etc.

*Dosage in Relation to Biological Effect.*—A great deal of work is being done in various laboratories to find out the exact action of radium on the normal tissues, and until the laws governing such action are known we clinicians can only grope about in the dark, trying by empirical means to find the most efficient dose. The first, and perhaps the most important, point to be decided is whether the biological results are proportional to the irradiation received; in other words, are the same biological results obtained by using 100 mg. of radium element for twelve hours as 50 mg. for twenty-four hours? That is, is it better to use a small dose for a long time or a large dose for a short time, or is it exactly the same thing? There is a certain amount of laboratory evidence that it is not the same thing, and in my opinion the clinical evidence is very much in favour of a medium dose, well distributed, applied for a very long time; in my last series of cases I have been using 50 mg. of radium element in twenty needles for 144 hours at a time, with distinct improvement in immediate results compared with my former series.

#### RESULTS.

The general public, and for that matter the majority of practitioners, will only judge results by the number of years the patient lives after the treatment, and although we all hope that eventually radiotherapy will be able to stand such a test in the case of inoperable carcinoma of the cervix, yet it is obvious that at first we must judge by the local and histological effects, for, as already mentioned, the more inaccessible parts of the growth go on living and continue to kill the patient as heretofore. That does not mean that radium has no effect on malignant disease; it merely means that we have not yet learnt how to apply it to the whole growth. My disinclination to judge the results of radium treatment by the years that a patient lives does not arise from a wish to vindicate radiotherapy. We at St. Bartholomew's took the matter up four years ago with absolutely open minds, and we judged the improvement or otherwise following the use of different techniques by:

1. The histological evidence from the uteri removed by hysterectomy following radium.
2. The rate of disappearance of symptoms.
3. The rate of disappearance of the growth and the healing of the malignant ulcers.
4. The duration of the patient's life after treatment.

#### Histological Evidence.

This histological work was all carried out by my colleague Dr. R. G. Canti. During the first two years of our research we paid particular attention to the histological findings after irradiation, and in two series comprising over 50 cases the amount of radium used and the technique were approximately the same, and we only changed the number of hours, the first series being for eight hours, the second for twenty-four. The conclusions that Dr. Canti came to were as follows:

- (a) That the introduction of approximately 170 mg. of radium element into and around the cervical tissue for twenty-four hours is capable of causing a complete disappearance of the growth in the cervix within a few weeks, whereas the same application for eight hours produces little or no effect in the quantity or appearance of the growth.
- (b) That definite series of changes in the carcinoma cells can be demonstrated after irradiation, leading up to complete destruction of the cell.
- (c) That little or no effect has been produced in affected iliac glands when the cervix is irradiated.
- (d) That as changes in the malignant cells take place before the formation of fibrous tissue, the latter is not the causal agent in the disappearance of the growth.
- (e) That the carcinoma cells are more vulnerable than the uterine musculature, but in the latter local atrophy and fibrosis take place at a later date.

In one case, in which hysterectomy was performed as early as four weeks after the first application of radium, no growth was found in spite of a number of sections being cut and examined, and in the other hysterectomies (some of them performed at the end of a week, others after several weeks), if growth was found at all it was so affected as to make it impossible to believe that the cells would have been viable.

#### Disappearance of Symptoms and Signs.

In order to get the most reliable symptoms and signs by which to judge the effect of irradiation, we have chosen the three following: (a) haemorrhage; (b) ulceration; by this we mean malignant growth of an ulcerative type, in contradistinction to (c) the proliferating cauliflower type of growth.

An analysis of these symptoms and signs shows the following: Of 85 cases treated, all were quite inoperable except 11. Of these 11, 5 were borderline cases upon whom some people would undoubtedly have attempted operation, 6 were cases upon whom I myself would have operated had it not been for the general condition, or the fact that the patients themselves refused operation.

(a) *Haemorrhage.*—Of the 85 cases, in 5 no note was made of the symptom of haemorrhage after treatment. Of the remaining 80, in 68—that is, in 85 per cent.—haemorrhage ceased, either permanently or for a considerable time, which in itself is of benefit to the patient.

(b) *Ulceration.*—Of 68 cases in which ulceration was noted before treatment started, and in which a note was made concerning this condition after treatment, it was found that ulceration had disappeared entirely, either temporarily or permanently, in 45 cases—that is, in 63 per cent. In 23 cases ulceration did not disappear. In these 23 cases, as a matter of fact, it diminished for a time in some, but as the question of the size of an ulcer is always a matter of opinion this is not taken as any index.

(c) *Growth.*—In 37 cases in which growth (by this is meant the raised cauliflower type of growth, in contradistinction to malignant ulceration) was noted before treatment, this entirely cleared up in 26—that is, in 70 per cent. In 11 cases it did not disappear entirely, although in some it was diminished.

It was noted that both these last signs—malignant ulceration and malignant overgrowth—disappeared more quickly in those cases which had had applications of radium for long duration.

#### Duration of Life.

The figures relating to the cases treated at St. Bartholomew's Hospital are as follows:

Of 85 cases treated between May, 1921, and April, 1925, 74 were hopelessly inoperable, 5 were borderline, 6 operable but for various reasons were not operated upon, as already mentioned. Of these 85 cases, 31 are living and 54 have died. As, however, some of these living cases have only been treated for a few months, the real facts are better expressed by taking those cases which were treated between May, 1921, and May, 1924.

Of 58 inoperable cases, 10 are living after one year or more—making 18.9 per cent. Of these 10, 1 has lived for 48, 1 for 43, 1 for 40, 1 for 21, 1 for 19, 1 for 17, 1 for 14, and 3 for 12 months.

Of 4 borderline cases treated, 1 has lived for 16 months. Of 2 operable cases treated within the same period, 1 has been living for 12 months. Taking these three classes comprising 64 patients, there are 12 living for 1 year or more—making 18.7 per cent.

Of the 54 cases who have died, 14 lived for one year or more, 1 lived for 36 months, 1 for 31 months, 1 for 26 months. All the 14 were very materially benefited for a considerable time, and there is very little doubt that their lives were prolonged. Of the remainder 27 were benefited and made more comfortable. Of time, but there is no evidence that their lives were prolonged. Of the rest, to 8 the treatment seemed to do no good whatever, and in the case of 5 it is quite possible that it actually did harm. Of the 64 patients, therefore, all but 13 received some benefit—making 80.9 per cent.

Of the 21 patients living less than a year, 4 are doing badly and going downhill; the rest appear well.

It is impossible to quote all the statistics available, but the following figures give some idea of the prolongation of life in some of the well known centres.

Last year the Radium Institute of Paris published the following figures. Of those cases treated in 1919, 1920, and 1921, 226 cases of carcinoma of the cervix were treated solely by radiological methods. Of these—

Of 21 cases of recurrences following operation, 2 are free from recurrences (one was treated with x rays as well), 3 are living but have recurrences, 16 are dead. Professor Régnaud dogmatically states that a preliminary hysterectomy causes radium therapy to lose all the anatomical conditions for its efficacy, and moreover is liable to scatter malignant cells, and is therefore a great mistake.

Of 114 inoperable cases, 15 appear to be without any recurrences, the longest being three and a half years and the shortest one year. This equals 13.2 per cent.; 12.4 per cent. were greatly benefited.\*

Of 67 borderline cases, 24 are still living, the time since the beginning of treatment varying from one year to three and a half years—making 35.8 per cent.; 35.8 per cent. were greatly benefited.

Of 24 operable cases, 11 (45.8 per cent.) are still living without any sign of recurrences, for times varying from one to three and a half years. In another 25 per cent. the disease disappeared locally.

The statistics published by the Radium Institute of Brussels are roughly as follows:

**Operable Cases.**—Of 14 operable cases treated by radiotherapeutic methods, 75 per cent. were living and free from signs of growth at the end of one year or more.

**Borderline Cases.**—Of 24 doubtful cases, 12 were free from any signs of growth after one year or more—making 50 per cent.

**Inoperable Cases.**—Of 24 inoperable cases, 8 per cent. were living and free from any sign of growth after one year or more.

The figures from the Radiumhemmet, Stockholm, are:

Of the 181 inoperable cases treated, 16.6 per cent. were well after five years.

Of the 36 operable and borderline cases, 40.5 per cent. were well at the end of five years.

The following list shows the number of cases treated in various years at the Memorial Hospital, New York, and the number living in May, 1921.

Inoperable Cases:				Alive May, 1921.
Of 15 cases treated in 1915	...	...	...	None
" 24 " " 1916	...	...	...	1
" 41 " " 1917	...	...	...	None
" 41 " " 1918	...	...	...	7
" 69 " " 1919	...	...	...	23
" 92 " " 1920	...	...	...	53
Borderline Cases:				
Of 3 cases treated in 1916	...	...	...	2
" 3 " " 1917	...	...	...	2
" 17 " " 1918	...	...	...	5
" 10 " " 1919	...	...	...	7
" 12 " " 1920	...	...	...	8
Operable Cases:				
Of 1 case treated in 1915	...	...	...	1
" 3 cases treated in 1916	...	...	...	None
" 3 " " 1917	...	...	...	2
" 4 " " 1918	...	...	...	2
" 9 " " 1919	...	...	...	7
" 14 " " 1920	...	...	...	6

## RADIUM TREATMENT OF INOPERABLE CARCINOMA OF THE CERVIX†

BY

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THIS communication is founded on a study of 40 cases of carcinoma of the cervix treated by the application of radium. The radium is supplied to the Cardiff Royal Infirmary by the Medical Research Council for research purposes, and inoperable cases of this disease have been treated in this manner since May, 1922.

### Technique of Application.

The dose usually employed is 150 mg. of radium bromide, and it is inserted for twenty-four hours. Two tubes of 50 mg. each, sheathed in 2 mm. of platinum, are inserted into the cervical canal, and the others are distributed at the periphery of the growth according to the anatomical conditions. In some cases six tubes of 10 mg. each are inserted in a circle, but in other cases, when the condition is of irregular shape, the smaller tubes are inserted where they would appear to be most effective.

Difficulties may be met with during application. In a number of cases the cervix had ceased to exist as a protrusion into the vaginal vault, and was represented by a foul, bleeding, friable ulcer, and in these it was often very difficult to get a satisfactory grip of the friable material with a volsellum. In some cases the cervical canal was difficult to find, especially where the growth was hard and excavated. It is essential, however, to find and explore the canal with a sound to exclude the presence of an unsuspected pyometra. This condition was present in 12 cases, in none of which was there any pyrexia or marked uterine enlargement. If pyometra be found the cervix should be dilated and the uterine cavity drained before radium is applied. In the cauliflower type of growth and in some others showing exuberant fungation the cervix is scraped prior to the insertion of radium. In such cases the radium should be inserted immediately after scraping, so as to prevent dissemination of the carcinoma cells.

After removal of the radium a vaginal douche should be given, and repeated night and morning for three weeks. This is recommended by Hayward Pinch, and is a practical necessity in the prevention of adhesive vaginitis, which developed in certain cases where douching was omitted and rendered future applications and investigation very difficult.

At the first and each subsequent insertion a specimen of the growth is obtained for microscopic examination. As the condition improves it becomes progressively more difficult to fix the cervix, to get a proper view, and to remove a piece for examination, as, in the process of "healing," the carcinomatous cervix becomes more and more retracted up into the vaginal vault until only a little cicatrized area is present there, with the vaginal walls often slack below it.

**Contraindications.**—The main contraindications to the use of radium may be classified under these headings:

1. The presence of pyometra. This is discussed above; drainage is required before radium is introduced.
2. The presence of inflamed appendages. Radium is apt to set up an acute exacerbation in such cases.
3. Vesico-vaginal fistula. If this is present when the case is first seen radium is inadmissible, as an acute cystitis may be set up. If fistula develops in the course of treatment no further application should be given.

### Histological Changes.

The histological changes in the carcinoma cells were at first puzzling and difficult to interpret; but after familiarity with the appearances had been acquired the changes were found to be of a more or less uniformly degenerative character in a large number of sections examined at different periods after treatment.

The first change observed was enlargement of the cells and of the nuclei. It was found in a number of cases as early as the third day, and usually by the end of the first week. In the majority of cases the cell cytoplasm and nucleus did not take up the stain as deeply as before. Here and there atypical karyokinetic activity was seen, shown by splitting of the chromosomes, often in an irregular manner. Oedematous infiltration was seen in the stroma; the changes in both situations were attributed to oedematous swelling due to a vascular reaction to the damage caused by the radium. True degeneration was usually well marked by the end of the second week. The nucleus was affected first; karyokinetic changes were no longer seen, the definite nuclear structure was lost and it stained darkly, showing little or no structure, and having an indefinite margin. The cytoplasm of the cell also underwent granular degeneration, and vacuolation occurred, while the cell walls stained faintly. By the fourth week degeneration was well advanced and the nuclei had either disappeared or were represented by dark structureless masses in the interior of the cells. Degeneration of the cytoplasm had also advanced; it stained irregularly, and vacuolation was well marked. In some cases what was left of the nucleus was seen to be pressed against the cell wall by a vacuole which occupied the rest of the cell. The cell walls were very faint or indistinguishable, so that areas were seen here and there occupied by an irregularly stained mixture of degenerated cytoplasm and nuclei with vacuolation—almost the appearance of degenerated syncytium. At about this period the stroma began to show reaction. Around the epitheliomatous columns lymphocytic infiltration was marked, together with an increase of vascularity and a return of oedema.

These changes progressed until about the sixth week, after which little more effect on the carcinoma cell was to be expected as a result of a single application. The reaction of the stroma now became the main feature, and in time a condition of fibrosis was brought about; it did not occur until the cellular degeneration was advanced, and is to be regarded as a process of repair bringing about what amounted to scar formation. In some

\* In 1919 and 1920 every single case that could reach the institute was treated. Since then the inoperables have been selected slightly, as it was found that when very far advanced the treatment did more harm than good. The authors consider that x-ray treatment only is better for these cases than radium.

† A paper read before the Fifth British Congress of Obstetrics and Gynaecology, London, April, 1923.



sections this fibrosis was universal and no remains of carcinoma cells were to be found, but in the great majority of sections taken as long as one year after infiltration lighter staining areas were seen occupied by the debris of cells and representing the degenerated remains of columns of carcinoma.

The stroma remained infiltrated with lymphocytes in the areas surrounding such masses of debris usually for several months. While these degenerative changes were well marked and easily observed, it was remarkable how fragments or debris of the carcinoma cells persisted even in cases showing clinical cure.

#### *Clinical Changes.*

The clinical changes were usually well marked, and consisted of all degrees of improvement of the three main symptoms—haemorrhage, pain, and discharge.

*Haemorrhage* was the symptom most completely controlled. Usually it ceased within the first ten days, and, in a case reacting satisfactorily, either did not recur or only an occasional slight loss occurred. This often happened even when subsequent physical examination showed some persistence of ulceration which might bleed on manipulation.

*Cessation of discharge* occurred in 18 cases, but in 6 others it was considerably diminished. It was usual for a patient to state that the bleeding had ceased and that she now had only a little discharge.

*Pain* was affected variously. In about one-third of the cases it was entirely relieved, in another third partially relieved, and in the remaining third either unaffected or aggravated. It is probable that such aggravation is due to pelvic fibrosis compressing the nerves, in spite of the fact that the majority of such cases showed clinical improvement and increased mobility of the uterus.

On *local examination* marked changes were found. Usually by the end of the first month the ulcerated surface had cleared up considerably, and in another month the improvement was such that ulceration had disappeared and the cervix was represented by a cicatrized dimple at the vaginal vault. By this time also the periuterine infiltration had usually cleared up, and a uterus which, at the first examination, was found to be firmly fixed was now more or less mobile with the thickening dispersed from the fornices. This would show that at least a certain amount of such pelvic infiltration is inflammatory.

#### *Results of Treatment.*

The following is a summary of the results of treatment in this series.

Of the 40 cases, 26 had one application of radium, and of these 3 are known to have died within a year, 4 failed to report again, and 2 developed vesico-vaginal fistula. Of the remaining 17 cases the clinical improvement in symptoms and on examination was so marked as to constitute clinical cure in 10; while in the remaining 7 discharge and pain have persisted in 5, with haemorrhage in 2, and the local condition shows unsatisfactory healing and some persistence of infiltration.

Ten cases had two applications of radium, and of these 2 died and 6 failed to report. The other 2 both showed marked local, general, and symptomatic improvement, being free of symptoms with the local condition cleared up beyond recognition and with increase of weight.

In 3 cases three applications were given, and one of these failed to report. The other 2, when last seen, were free of symptoms and the local condition was represented by a cicatrix in the vaginal vault.

In one case, in which carcinoma of the cervix developed subsequent to previous subtotal hysterectomy for a uterine fibroid, four applications of radium have been given; symptoms have ceased and the local condition has cleared up.

Of the 40 cases, then, 5 are known to have died and 11 have failed to report; vesico-vaginal fistula has developed in 2, and in 7 the clinical condition is unsatisfactory. Considerable improvement, amounting to clinical cure, has been obtained in 17 cases. It appears reasonable to estimate that of the 11 cases who failed to report 6 have died; on this estimate the total number of deaths would be 11, while if the whole 11 are to be counted as dead the total deaths would be 16.

The number of cases actually treated by radium is in excess of the 40 quoted, but none are included whose treatment commenced less than a year ago.

#### *Conclusions.*

The conclusion arrived at is that in inoperable carcinoma of the cervix we have in radium the most potent therapeutic agent yet to hand; that in practically all cases greater or less alleviation of the haemorrhage and discharge can be obtained; and that in slightly under 50 per cent. a condition of clinical cure is brought about. The action of radium is locally destructive to the carcinoma cells and produces such degenerative changes that further activity would appear to be out of the question. The line of further investigation is therefore by improved technique and, if necessary, by increased dosage to expose all parts

of the parent tumour, together with any extensions, to the fullest effect of the radium rays so that cell activity may cease.

It is to be emphasized that this paper represents essentially a personal experience which happens to be in general accord with the experience of others who have used radium as a palliative in carcinoma of the cervix.

The cases considered were all inoperable according to the usual clinical criteria, and such controversial aspects of the matter as radium as an alternative to operation in any given case, preliminary radiation in the so-called borderline cases, or post-radiation hysterectomy in cases showing such local improvement and disappearance of infiltration as may tempt the surgeon to operate, have been avoided. Again, all the cases recorded were treated locally, and no attempt was made to treat extensions in the pelvis, as by the Dachs and Schwartz operations. The recorded results of these procedures have not tempted me to resort to them.

It is important to estimate the exact position that radium should occupy in the treatment of carcinoma of the cervix, and it is as a contribution in that direction that this paper is presented.

I am indebted to Professor Sir Ewen Maclean for putting beds at my disposal for this investigation.

## THE APPLICATION OF ULTRA-VIOLET LIGHT IN GENERAL PRACTICE.

BY

T. CLYDE MCKENZIE, M.B., Ch.B.,  
SMITHWICK, BIRMINGHAM.

At the present time much is being written on the specialized application of ultra-violet light, but to my knowledge nothing has been recorded of its use in general practice.

As a result of six months' experimental work on friends and myself with various types of lamps, I selected a quartz mercury vapour lamp\* of the atmospheric type. Such a lamp has the advantage of portability, and combines economy of current with powerful ultra-violet radiation. The expense of producing the light is not prohibitive, for the electricity used does not cost more than the average bottle of medicine.

The actual source of the ultra-violet light is the gaseous particles of mercury raised to a point of incandescence by the passage of an electric current. This constitutes the mercury arc. Until recently the only type of mercury vapour lamp was the vacuum lamp, but the atmospheric pattern I have used is much stronger in ultra-violet radiation and has a longer effective life. It is important to add that it is necessary at all times to guard the eyes by glass goggles, since the ultra-violet light causes severe conjunctivitis unless such protection is used. Once installed, the lamp appears to be indestructible, except by mechanical breakage. I have had one in use for over 2,000 hours and it is apparently as good as new.

Various tests have been devised for measuring the intensity of ultra-violet radiation. Amongst others, the bleaching of methylene blue (L. Hill) and the toxic property of ultra-violet light on bacteria introduced into the blood stream (Eidinow). The methylene-blue test, however, is of use only for indicating comparative strengths of ultra-violet light and does not determine the reaction of the individual. The blood test, useful in measuring the effect on the patient, is somewhat difficult to perform in general practice. A simple preliminary test can be made by exposing a small area of the palmar surface of the patient's forearm to the light for one minute at a distance of 6 inches. The resulting erythema is noted after twenty-four hours.

I would emphasize the fact that in 90 per cent. of the following cases I had previously tried ordinary therapeutical measures which were either ineffective or progress was extremely slow. Details given below are of my early cases when I used a 110-volt lamp. Lamps can now be obtained

\* Such a lamp is manufactured by Messrs. Kelvin, Bottomley and Baird, in their works at Hither Green, S.E.13. A suitable stand was designed for me, and has proved very satisfactory for applying local and general irradiation.

up to 440 volts. The room temperature was maintained at 70° to 75° F.

**Ulcers.**—All cases treated have responded after varying periods; one worthy of note was a blacksmith's striker, who did not lose a day's work while undergoing treatment. The following is a typical case: Indolent ulcer of six months' standing in a girl aged 17. After nine weekly irradiations, beginning with three minutes at a distance of 10 inches and increasing to fifteen minutes at 6 inches, the ulcer was completely healed.

**Eczema.**—Exposure to the lamp produces very rapid reaction; at first the itching and discharge is increased, but this quickly gives way to new skin formation and complete relief from pain and irritation. A typical case was that of a cabinian with severe eczema of the right leg who had been treated medicinally for some weeks with no good result. His leg was irradiated weekly, beginning with five minutes at 10 inches. After seven treatments, finishing with ten minutes at 6 inches, the leg was healed.

**Alopecia Areata.**—Cases of this disease have been successfully treated after medicinal measures had failed; hair 1 inch in length may be seen six months after treatment. Healthy hair grows about 4 inches a year. Prolonged treatment is not always required. Fine hair often appeared on bare patches after the third treatment. In a typical case, in a woman on whom a patch of alopecia areata had existed on the back of the head for six months, I began with fifteen minutes at 12 inches. Four irradiations at intervals of 1 fortnight at a distance of 6 inches for fifteen minutes were sufficient to start the hair growing.

**Sycosis.**—In this disease both successes and failures must be recorded. A chronic case healed, but three weeks later broke down: this may have been due to the fact, which I discovered later, that he was using his old shaving-brush. On the other hand, a case of sycosis of the upper lip responded rapidly and healed after four treatments. A case which may be quoted as typical is that of a man, aged 52, whose upper lip had been infected for several weeks. The lip was irradiated on four occasions at a distance of 2 inches, commencing with three minutes and increasing to six minutes. Two sun-baths of the body were also given.

**Lupus.**—Three instances of lupus have come under my notice in the past twelve months. All made excellent progress under the treatment. One has healed, the others are approaching that condition. These patients have had weekly irradiations.

**Burns** heal very quickly as compared with ordinary medical treatment, often showing healthy epidermis in half the time usually required.

**Psoriasis.**—I feel diffident about mentioning this disease, but results would appear to show that ultra-violet radiation is very valuable in the treatment of this disorder. Local patches are rapidly removed, but where the disease is general a long course of treatment is essential.

**Sciatica.**—Six to twelve treatments would appear to give complete relief; even long-standing and acute cases respond; one patient who had been fourteen weeks in bed returned to work after six irradiations. One case only was unrelieved—a man, aged 63, who had been ill for six months. He, however, had only three treatments. A typical case is that of a man, aged 37, who had had sciatica of the left leg for fourteen weeks. At the first exposure he was given three minutes at a distance of 5 inches; the pain was relieved. Six other irradiations were given at weekly intervals, the time being increased to fifteen minutes at the same distance.

**Local Tuberculous Conditions.**—Tuberculous knees, glands, and hip, and an anal abscess have all responded to treatment. A patient with a tuberculous hip who has been a cripple for eight years is already, after six irradiations, walking and able to go out alone, which she had not attempted to do for three years.

**Chorea.**—I have found the ultra-violet radiation very useful in the treatment of chorea. A patient had had the disease for five consecutive years, often being confined to bed for as long as three months. She had weekly sun-baths, and was kept up and about last year, although pregnant. At first she was given small doses all over the body; and later the dose was increased until she could stand as much as an hour at a time. Whenever the chorea appeared to be starting extra baths were given. She bore a strong healthy child, although she had miscarried twice previously.

**Rickets.**—Children with rickets always respond well to ultra-violet radiation. One child who, on an average, was having fits twice a week, due to the disease, has not had a return since its first sun-bath. In another case—a male child aged 5 months—I began with five minutes' radiation over the body at a distance of 18 inches. The bath was repeated twice a week, the time being gradually increased to fifteen minutes. He was treated for three months.

**Rheumatism.**—The chronic rheumatic patient appears to derive considerable benefit from ultra-violet light; it certainly seems to relieve rheumatic patients of pain and stops the progress of rheumatoid arthritis.

From the above cases it may be concluded that ultra-violet light is not only useful to the tuberculosis and child welfare medical officers, but also to the general practitioner in his daily work. The form of apparatus I have used can be fitted comparatively easily in any surgery, and, provided the doctor gives his personal attention and exercises considerable patience, he will soon obtain good results.

Ultra-violet light is by no means a panacea for all ailments, and in some of the diseases I have treated it simply replaces a more painful and cumbersome method by a pleasant and easily applied remedy. I think also that it often acts quicker than some of the older methods, allowing

patients to go on with their work or return earlier to work than otherwise. Especially do I recommend it to the practitioner in an industrial area where the worker, hidden between walls or under glass all day, is hardly ever subjected to the ultra-violet rays of the sun, and is therefore more susceptible to ultra-violet action.

There is little doubt that a general sun-bath stimulates the average person if it be given wisely. In my opinion, on no account should a patient be allowed to treat himself, as I have seen some very bad effects from overexposure. The artificial sunlight bath appears to act on the general metabolism of the body—the appetite improves and the mental outlook brightens. This is particularly the case, of course, in large towns and industrial districts such as that in which my own practice lies. During the winter months I find it a most valuable asset.

## ACCENTUATION OF A "MITRAL MURMUR" BY A TEMPORARY TOXAEMIC CONDITION (ACCOMPANIED BY TEMPORARY NYSTAGMUS).

BY

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CONSULTING CARDIOLOGIST, KING EDWARD VII WELSH NATIONAL  
MEMORIAL ASSOCIATION.

THE patient in this case was a boy, aged 14 years and 10 months, an indoor pupil of the Royal Cambrian Institution for the Deaf and Dumb. His deafness is congenital, and it may be of interest to state again that nearly all cases of congenital deafness have hearts with normal sounds, whereas the majority of acquired cases have some adventitious cardiac sounds. My experience is that the acquired cases are generally associated in their origin with some specific feverish condition, when either through some inflammatory condition of the heart the circulation of the blood in the region of the middle ear becomes enfeebled, or through some coinciding inflammation of both heart and ear the local tissues are irretrievably damaged.

For such a reason it may be of interest to mention that when this boy, in March, 1918, at the age of 8, was first medically examined by me his heart sounds were normal, but when I re-examined him in March, 1919, he had what is usually called a systolic mitral murmur. Between these two examinations (namely, in November, 1918) he had a very bad attack of influenza. The mitral murmur at each periodical examination did not become more marked, but rather seemed to be, if anything, less noticeable. Slight distinctions in quality and quantity of heart sounds are, however, very difficult to estimate. At any rate, he did not suffer at all from an impediment to the circulation of his blood, and his activities were quite unimpaired.

On December 19th, 1924, there was a Christmas tree at the institution, when this boy indulged unduly in the good things on the table. About an hour after the feast was over he fell down, and was thought to have hit his head. He became pale, pulseless, and collapsed, and the stomach was emptied of all its contents. Before I arrived he had been given a small quantity of brandy, but neither this nor any water could be retained. When I examined him there was no evidence of any cut or bruise on the head, nor did there appear to be any soreness on the following days. He was quite unconscious, the pupils were considerably dilated, and he had marked lateral nystagmus. The temperature was 100° F., and the pulse (120) was very soft and feeble. I found a very diffused impulse beat, a slight increase of the cardiac dullness, and a marked mitral murmur over the whole cardiac area. As he was quite quiet and in no pain, with only a very slightly raised temperature, I ordered him to be kept warm with hot-water bottles, and watched during the night.

The next morning some amount of consciousness had returned, the nystagmus was less marked, the pulse slightly stronger, but he was still very pale and the tongue flabby. The heart's impulse was still considerably diffused and the murmur very marked. He was ordered 3 grains of calomel (which had the desired effect), and subsequently was given three drops of Condy's fluid in water every four hours. In two days the nystagmus had disappeared, the pulse tone was restored, the tongue and appetite were good, whilst the impulse was nearly normal. The next day he was allowed to be taken home for the holidays, with a note as to the condition of things to the medical officer of the education authority.

After his return from the holiday (when the treatment consisted entirely of rest) I found the heart conditions normal, save for a slight mitral systolic murmur, and the reserve power of the heart good, whilst there was no evidence of any nystagmus.

The presence of this temporary nystagmus is of considerable interest and importance, for in my opinion it helps to emphasize the toxæmic nature of the whole attack—the nystagmus, like a vertigo, arising from some gastric poison. The collapsed and pulseless condition can be considered due to a toxæmia, whilst the stomach disturbance, together with the beneficial result obtained by means of calomel, seems to confirm a gastric origin. Gastritis of such a nature is usually associated with signs and symptoms classified under the head of urticaria—an irritable condition of the skin resulting in rapid exudation of serum or lymph; an acute labyrinthitis causing vertigo; an acute injection of the bronchial mucous membrane causing asthma.

In this case there was a markedly diffused impulse and an extensive accentuation of the mitral systolic murmur. This marked diffusion of impulse is explainable by a rapid exudation of fluid into the pericardial cavity, which accounts also for the increase in the area of cardiac dullness. That this pericardial fluid is subject to variations needs no proof, but to prove definitely when and to what extent those variations occur we have to fall back on symptoms. Any disturbance of the intrapericardial conditions is necessarily associated with very alarming symptoms, and of such a nature as was found in this patient.

Normally one finds 4 to 8 c.cm. of pericardial fluid present post mortem, generally lying in the most dependent part of the opened sac, but that is no evidence of the position or conditions of the fluid during life. In 1915 I drew attention to the fact that during life the intrapericardial pressure is negative to the extent of 6 to 8 cm. of water, and the result of this negative pressure is by suction action to keep the pericardial fluid at an equal thickness all over the surface of the heart.

For an organ like the heart, in, as it were, perpetual motion, a great essential is proper lubrication, which is supplied by the pericardial fluid, right both in quality and quantity; but should a toxæmic condition occur suddenly, with a rapid exudation into the pericardial cavity, the lubrication is disturbed and the motion of the heart interfered with to a serious extent. Evidence of such an exudation into the pericardial cavity is supplied in the case here recorded by the markedly diffused cardiac impulse.

Heart disease has been recognized as an entity for barely one hundred years, so that whatever tradition exists cannot be above criticism, especially of a constructive nature. In my opinion a great wrong has been done to the science of cardiology by depicting on cardiograms the "exact" position of a sound or murmur, implying a scientific exactitude for what is really a matter of individual judgement.

Let us for the moment cease to consider the cause of the heart sounds, and concentrate on the conditions necessary for their conduction to our auditory apparatus. The heart sounds have to pass through the pericardial fluid (normally a thin layer) as well as the chest wall. With a rapid exudation of fluid into the pericardial cavity there must be a considerable modification of the conducting conditions, to prove which one need only refer to the fact that in a case of marked pericardial effusion the heart sounds are not heard. Since fluid is a good conductor of sound we should expect the heart sounds to be readily transmitted, but the reverse is proved to be the case. The "energy" transmitted from the chestpiece of a stethoscope to the ears is the same as that transmitted from the chestpiece of a cardiograph to the tambour and "pen" for the production of the heart curves or waves on the moving roll of paper. The "heart curves or waves" therefore represent on paper what is heard by the ear—that is, the "heart waves" represent the heart sounds.

In pericardial effusion the "heart waves" are reduced to a minimum, and so also are the heart sounds; in other words, there is so little movement of the pericardial fluid that no movement is recorded on the cardiogram.

Is the diminution of this fluid motion associated with the disappearance of the heart sounds? Were the sounds produced in the heart they would be conducted all the more readily with such a large quantity of fluid: in other words, are the heart sounds produced normally by the fluid in the pericardial cavity?

Watson, to whom belongs the credit of being a pioneer in the realm of cardiology, dogmatically asserts that the first sound of the heart is due to the contraction of the heart muscle—"because, gentlemen, you all know," he tells us in his lectures, "that a muscle when it contracts produces a sound." But a muscle when it contracts produces no sound, so that the heart sounds cannot be due to the contraction of the heart muscles. The vibration of the valves has been asserted to be responsible for many heart sounds, but is it possible to believe that a thin membrane, of which the valves are composed, can be strung so taut as to cause such a loud-sounding vibration as evidenced by the heart sounds? Truly, when the valves are affected the sounds are affected, but the more diseased the valves the less they are capable of vibration, although coincident with a marked increase in volume of sound. When, however, the valves are affected the intrapericardial conditions are also considerably modified, and I have drawn attention to the fact that in heart failure the intrapericardial pressure has become atmospheric with a consequent loss of suction action whereby the lubrication of the heart is greatly disturbed.

It is now generally agreed that the end comes in heart disease, not by valve leakage, but through failure of the myocardium, which to act satisfactorily must be properly lubricated with pericardial fluid of the right quality and quantity under proper conditions; but, as I have proved by means of the manometer, those pericardial conditions are not normal in death due to heart disease.

## Memoranda:

### MEDICAL, SURGICAL, OBSTETRICAL.

#### GALL STONES IN A GIRL AGED THIRTEEN:

##### CHOLECYSTOTOMY, REMOVAL OF FOUR STONES: RECOVERY.

The memorandum by Dr. R. S. Woods (*BRITISH MEDICAL JOURNAL*, March 21st, p. 552), describing cholecystectomy in a male aged 18, has stimulated me to record this case:

I have not attempted to search the literature, but Walton (*Annals of Surgery*, July and August, 1911) gives the following table showing the age at time of operation in the 409 cases upon which his paper is based, and the ages at which symptoms first appeared.

Age at Time of Operation.		Age at which Symptoms Appeared.	
Age.	Number.	Age.	Number.
1-10	0	1-10	3
11-20	0	11-20	27
21-30	26	21-30	57
31-40	68	31-40	122
41-50	117	41-50	101
51-60	123	51-60	67
61-70	63	61-70	27
71-80	11	71-80	5
81-90	1	81-90	0

He quotes a paper by Still in which records of twenty-three cases in young children (ten of them stillborn and young infants) are collected. Nevertheless, the operative removal of gall stones at the age of 13 must be sufficiently rare to be of interest.

I was asked to see a girl, aged 13, in consultation. Her doctor informed me that some months previously she had had cystitis accompanied by *B. coli*. For about eighteen months she had had frequent attacks of severe abdominal pain and vomiting. These attacks usually came on at night. She had had an unusually severe attack starting at 2 a.m. on March 21st, 1920. When I saw her on the afternoon of March 23rd, the pain, now much less severe than it had been, had settled in the right hypochondrium and right iliac fossa. The abdomen was normal except that the right lower rectus was somewhat rigid.

I diagnosed recurrent appendicitis. As the present attack had subsided I arranged to operate, and on March 27th, 1920, opened the abdomen, using Battle's incision, and removed the appendix. It contained a concretion and two threadworms, and showed a stricture near the tip. As, however, it was hanging down in the pelvis I was not satisfied that it accounted for the pain in the hypochondrium. I therefore explored further and found to my surprise a large gall bladder containing stones. I enlarged the incision, opened the gall bladder, and removed four large stones.

No stones were felt in the ducts. The gall bladder was drained and the abdomen closed. The stones were roughly round, but showed from one to three well marked facets on each. The diameter of the smallest was one-third of an inch, of the largest half an inch. They were of the laminated bile pigment and calcium type.

The patient made an uneventful recovery and left the nursing home quite well.

PLYMOUTH.

C. M. KENNEDY, F.R.C.S. Eng.

### ULTRA-VIOLET THERAPY.

THERE are still so many gaps in our knowledge both of the theory of ultra-violet therapy and of the physiology of the suprarenal glands that, at the risk of calling attention to a phase of their relationship which may have already been recorded, I venture to send the following note:

M. H., male, aged 12½, has suffered for nine years from attacks of bronchial asthma of moderate severity, induced apparently by errors of diet, cold, erupting teeth, fatigue, and excitement. Many forms of drug treatment have been tried without success, until quite recently, when adrenaline was tried and found to act as a specific. He had his first dose of light (two minutes' exposure to K.B.B. air-cooled lamp at 14 in.) at 7 p.m., and developed an attack of asthma early next morning. At 9 a.m. he was given a dose of adrenaline and it was noticed that the erythema was much less developed in him than in his younger brother, who had received the same dose of light at the same hour. Within half an hour the asthma had passed off, and at 12.30 he remarked that his skin was itching a good deal; the erythema was found to be that of a mild second degree, little if anything less than his brother's.

It appears to be a reasonable deduction that the skin's reaction to light makes a demand upon the suprarenals, which in this case temporarily exhausted them and thereby induced an attack of asthma; and that the small dose of adrenaline relieved the latter and enabled the reaction to be completed. Incautious exposure to sunlight of patients with active tuberculosis is well known to induce exhaustion and rise of temperature, but these effects have generally been attributed to the heat rays. This case strongly suggests that a truer rationale of the reaction would attribute the effects to suprarenal exhaustion, and affords a reasonable prospect that adrenaline, given at the time of an exposure to light, would safeguard these patients from such untoward results, just as it does in the case of M. H. At the same time it explains the good results claimed for the ultra-violet therapy of high blood pressure.

London, N.6.

F. TALBOT, M.R.C.S., L.R.C.P.

### JEJUNAL ULCER.

IN view of the recent correspondence as to the advisability of performing gastro-enterostomy at the same time as closure of a perforated duodenal ulcer, the following case would seem to be of some interest.

G. V., an iron-worker, aged 41, had been suffering from abdominal pain for eight months, when he underwent an operation for perforation of a duodenal ulcer in May, 1923. The surgeon who operated, besides suturing the perforation, performed posterior gastro-enterostomy. Recovery was uneventful.

For three months the patient did well, but after that time he began to complain of severe pain, and to lose weight. He was first seen by me in August, 1924. X-ray investigation showed both the pylorus and the gastro-enterostomy orifice to be functioning. He was seen in consultation by Dr. A. E. Barnes of Sheffield, who diagnosed jejunal ulcer. I operated in March, 1925, and found a large indurated jejunal ulcer, the crater of which was as large as a halfpenny, the base being formed chiefly by the transverse colon. The ulcer perforated as soon as the manipulation was begun. The ulcer was excised with the first eight inches of the jejunum, the opening in the stomach closed after excising the indurated parts, and the divided jejunum joined end-to-end with the duodeno-jejunal flexure. The pylorus was found to be quite patent, and there was no sign of the former duodenal ulcer. Recovery has, so far, been satisfactory.

It would appear to be a fair assumption that if suture of the perforation had alone been carried out at the first operation in this case the patient would have been saved the necessity of further interference.

W. STANLEY WILDMAN, F.R.C.S. Eng.,  
Honorary Surgeon, Rotherham Hospital.

## British Medical Association.

### CLINICAL AND SCIENTIFIC PROCEEDINGS.

#### BRIGHTON DIVISION.

A CLINICAL meeting of the Brighton Division of the British Medical Association was held at the Royal Alexandra Hospital for Children on April 23rd, when Mr. G. MORGAN, consulting surgeon to the hospital, was in the chair.

#### INTUSSUSCEPTION.

Mr. J. R. GRIFFITH read a short paper on intussusception. The majority of cases of this disease occurred in children under 2; the patient was usually a boy, and was healthy and robust. As a rule the diagnosis was unmistakable. The attack came on suddenly, often after an attack of diarrhoea; it began with agonizing colic, the bowels emptied themselves and the patient vomited, the legs were drawn up, and the breath came in little gasping cries. The spasm passed off and was repeated. Blood-stained mucus began to drain from the rectum, and the spasms became more and more frequent until the pain became continuous. On examination a sausage-shaped swelling was detected, lying across the abdomen above the umbilicus; sometimes the apex could be felt on rectal examination. All cases, however, did not conform to this type, and sometimes it was by no means easy to make a diagnosis. It was not uncommon to find the child sleeping peacefully, with nothing but the history to suggest that there was anything wrong. The lump might appear to be absent at one time, although it was clearly evident both before and after. Occasionally no history could be obtained of the passage of blood and mucus; in these cases there was no congestion, and the intussusception was easily reduced. Operation directed towards the complete reduction of the intussusception was the only rational form of treatment, and it must be performed at the earliest possible moment, before congestion was followed by loss of vitality. Therefore, where any question of intussusception arose the child was always examined under an anaesthetic on the operating table. An abdominal and a rectal examination made it easy to decide whether the abdomen should be opened or not. With regard to the operation, a right paramedian incision was used; the intussusception was reduced as far as possible inside the abdomen, the last part being always delivered in order to make sure that it was completely reduced. This was sometimes difficult owing to thickening and oedema of the apex, but unless reduction was complete the condition would almost inevitably recur. In the case of gangrene of the bowel resection appeared to be hardly ever successful.

In the discussion which followed Mr. G. MORGAN called attention to the rise of temperature which usually followed these operations; this was due, in his opinion, to the absorption of toxins liberated from the congested bowel on the relief of the obstruction. Mr. L. A. PARRY then described a case in which pain was completely absent throughout the attack. After much doubt and discussion the abdomen was opened, the intussusception was found and reduced, and the child recovered. Mr. M. FIRZMAURICE-KELLY described two unusual cases under his care during the past year; in both the apex was formed by an inverted Meckel's diverticulum.

#### MISCELLANEOUS CASES.

Mr. M. FIRZMAURICE-KELLY showed three cases:

1. A case of old tuberculous disease of both hip-joints and the left knee in a girl aged 13. The case had been shown at a previous meeting; the left hip and knee were then fixed in good position, the right hip dislocated, and the limb flexed and adducted 50 degrees. An arthroplasty of the right hip by Jones's method was performed, and the limb was now straight, with some 30 degrees of movement in the direction of flexion. It was hoped shortly to start the child walking in a caliper splint.

2. A case of incisional hernia of the right semilunar line, 4 in. by 1 in., closed by Gallie and Le Mesurier's method, two strips of fascia lata a foot long and 1/4 in. wide being used to close the opening. The resulting scar was firm.

3. A case of obstetrical paralysis in an infant, treated on a platform splint.

Dr. W. BROADBENT showed two cases:

1. A . . . . . gangrene of the arm and leg in a child, . . . . . of both limbs.
2. A . . . . . which was cured by the administration of pancreatic extract.

Dr. FLORENCE M. EDMONDS showed a case of Schlatter's disease, cured with no special treatment beyond the avoidance of excessive exercise.

### ASSAM BRANCH.

#### TREATMENT OF LEPROSY BY METALLIC SALTS.

At the annual meeting at Jorhaut of the Assam Branch of the British Medical Association on March 2nd Colonel F. J. PALMER delivered an address on the treatment of leprosy by metallic salts.

Colonel Palmer began by stating that in Ceylon and South Africa the value of echaumogria oil and its derivatives had been somewhat discounted, whilst in Muir's most recent statement of the question there was not cited, he believed, one single case of the cure of advanced leprosy. The interpretation of the results of treatment in leprosy was more difficult than in any other condition, except the ferment treatment of cancer. Some eighteen months previously Colonel Palmer had given copper sulphate for some weeks in daily half-grain doses, by the mouth, to a patient with leprosy of the hand and a very swollen finger. The patient then disappeared for some months; he was subsequently found to have improved very much. In another case of a leprosy ulcer over the patella, with the bone exposed, the patient improved rapidly under the oral administration of copper sulphate in daily half-grain doses, and eventually returned to work, the ulcer having completely healed. The treatment was continued in periods of three weeks at a time with intermissions of a week or fortnight, and focal reactions were observed to follow the doses. Other salts of copper were then tried and other routes of administration. For intravenous use a combination of copper sulphate with sodium citrate was found most useful, and copper citrate was also found the most suitable salt for intramuscular injection. In addition to reactions in leprosy sores, after-treatment reactions might occur in places which were not apparently the site of leprosy infections. Colonel Palmer thought these might be due to (1) reactions occurring in lesions so small as to have eluded observation; (2) the toxin being liberated from dead and degenerated bacilli and acting on nerve fibres running to certain skin areas; (3) reactions appearing in elusive areas of infiltration in the tissues along the course of nerves supplying the affected areas. He preferred the first and third explanations, and considered that such reactions illustrated the widespread invasion of the body tissues by leprosy. This disease seemed to be one of low infectivity and extreme chronicity, many patients showing a high degree of resistance to it. Scars of former ulcerations sometimes reacted to treatment, suggesting that the bacilli remained alive but dormant in the cicatricial tissue. The action of copper citrate had been studied by him for nine months, and that of bismuth tartrate for three months. The former was given intravenously in fortnightly doses of  $1\frac{1}{2}$  grains; the latter, also intravenously, in 2-grain doses fortnightly. No such loss of effect was noted after repeated doses, as in the case of antimony salts. No untoward incident had resulted from these injections, no evidence of optic atrophy being obtained, though two cases of transient jaundice had occurred. No albuminuria had followed the copper treatment, but there had appeared a temporary trace of albumin in the urine of one patient under bismuth, and this metal had also produced soreness of the mouth and teeth. A slight febrile reaction seemed to follow most injections and might persist for some days.

Focal reactions were most readily produced in the following order: (1) areas already tending to break down; (2) surface infiltrations of the skin; (3) old infiltrated areas, or those below a nerve lesion; (4) deeper infiltrations of the skin; (5) an old firm white scar in a well vascularized region. In such areas the scanty dormant bacilli had been walled in by a natural protective reaction, and the cicatricial barrier probably offered great resistance to the action of substances in the blood. Early nodular cases were the

most amenable to treatment, and cases with extensive infiltration of the feet and legs the least so. No attempt had been made to reinforce the action of these drugs by diet or by dressing the sores. Colonel Palmer then referred to an article by Professor Philippo Rho in the *Journal of Tropical Medicine and Hygiene* for December 1st, 1924, on the effect of cyanide compounds of copper, which tended to confirm his own observations. He also gave clinical details of the treatment of eight patients, and his final conclusions were as follows: (1) that copper and bismuth salts were two of the most powerful agents yet introduced for the treatment of leprosy; (2) that these salts were very inexpensive at present; (3) that they both produced focal reactions in leprotic tissues, earlier or later, according to frequency and dosage; (4) that such reactions appeared to be curative, and that even advanced cases had improved so as to justify the hope that final cure was not far off; (5) that with increasing knowledge speeding up might be possible; (6) that cure could only occur through a series of reactions, which might be severe in advanced cases and make the patient appear to be worse temporarily; (7) that the potentialities of the oral administration of copper, and to a less degree of those of intramuscular bismuth, were worthy of trial.

## Reports of Societies.

### MODIFICATION OF COW'S MILK IN INFANT FEEDING.

At a meeting of the Section for the Study of Disease in Children of the Royal Society of Medicine on April 24th, the President, Dr. H. C. CAMERON, in the chair, Dr. LEONARD FINDLAY opened a discussion of the question whether modification of cow's milk was necessary in infant feeding.

Dr. Findlay, referring to the generality of infants, had no hesitation in answering the question with a negative, unless boiling was considered as a modification. He thought that raw milk ran so many risks of contamination that this danger should not be inflicted on children under 5 years, and pointed out that the ideal—a perfectly clean milk—was economically impossible of attainment. In America, recently, five cases of bovine tuberculosis had occurred in infants fed entirely on grade A milk from a most reputable dairy. Boiled milk had the advantage of being more digestible than raw milk, and only lacked the antiscorbutic vitamin, which could easily be added. In pathological states, such as fat intolerance, some modification of cow's milk was necessary, but for the average infant Dr. Findlay maintained that whole cow's milk was the best substitute for breast milk. The difference in composition between human and cow's milk would seem at the first glance to warrant modification, and the chief discrepancy was that between the two protein figures. Protein was always dependent for its action upon its constituent amino-acids. The intramolecular composition of the amino-acids of different proteins varied so greatly that an effective modification was impossible in the present state of our knowledge. Secondly, there was proof available that children were well able to digest whole milk; experiments on their metabolic balance had demonstrated this satisfactorily. There was, moreover, no evidence that a marasmic infant was less able to thrive on whole cow's milk than a normally nourished infant. Dr. Findlay had fed infants on diluted milk, peptonized milk, and citrated milk, but had always returned to the use of unmodified cow's milk. The vast majority of infants thrive on a diet of whole cow's milk. He therefore felt that the modification of cow's milk was uncalled for, except in certain pathological states, and possibly occasionally for infants under 3 weeks old.

Dr. ERIC PRITCHARD maintained that the modification of cow's milk was an absolute physiological necessity. Breast milk was the most perfect assemblage of the elements of nutrition, but in cow's milk these elements were in different proportions. The milk of various mammals differed



in metabolic properties, and the substitution of one by another was, therefore, a matter of some moment. Recent research in biochemistry had shown that there was an optimum requirement of each element; breast milk contained thirty such elements. Although the infant's stomach had great powers of adaptation and a very high degree of tolerance, yet the closer the composition of a food attained to the optimum the better would be the results obtained. The problem was difficult, and could not be met by administering undiluted cow's milk. Of the methods of modification in use at present the calorific basis of calculation did not entirely meet the case, because the biochemical reactions, hormones, and other imponderable molecular units were not considered. The percentage method of modification was open to the objection that only three of the thirty elements in breast milk were considered, the remaining twenty-seven being entirely ignored. These elements were present in cow's milk, but not in quantities representing the optimum. The calf grew at three times the rate of the infant, whilst the ratio of protein in cow's milk to that in human milk was two to three times as great. The carbohydrate in the calf's diet was supplemented by the grass it ate—a fact frequently overlooked. The protein ration necessary for adults was a matter of controversy, but it was possible to find an optimum ratio for infants. That cow's milk was less digestible than human was surely an argument for substitution, not for the feeding of the indigestible protein in excess, as was the case when whole milk was given. In apparent support of Dr. Findlay's argument was the fact that in diluting the protein the other important elements were diluted also, such as iodine, ionic calcium, iron, lecithin, cholesterol, and water-soluble vitamins, but Dr. Pritchard believed that this was an argument in favour of more scientific modification of milk. Children fed on whole milk survived because of their great power of adaptability, but there was no doubt a considerable hypertrophy of the stomach in such cases. It had recently been found that the pH for optimum gastric digestion should be 5; whole cow's milk required five times as much gastric juice to produce this figure as did breast milk. This fact explained the resultant hypertrophy of the stomach found in infants fed on whole milk. Dr. Pritchard had modified cow's milk by acidifying it with hydrochloric or lactic acid with successful results. It had been admitted even by Dr. Findlay that for some ailing babies some modification was necessary. It was Dr. Pritchard's contention that research in biochemistry should not be ignored, and that those who habitually modified milk for normal children would have greater facility and resources in dealing with ailing children.

Dr. HUGH THURSFIELD said that the doctor was expected to know the answer to the question—What, failing breast milk, was the optimum food for infants? It had been found from repeated analyses of breast milk that the average differed notably from the extremes, not only in different women, but in the same woman from day to day, and even from hour to hour. Could breast milk then be taken as a standard in modifying other milks? Clinical experience had also shown that the so-called humanized milk had not been so successful as had been expected. In order to have some idea as to what food healthy infants did thrive upon, Dr. Thurfieid had made inquiries about the children in the surgical ward in the Hospital for Sick Children who looked healthy; he was informed that the children were fed upon the same diet as they had had before admission. Their fitness for operation had been achieved by adherence to their previous diet, however far this might have departed from theoretical dietetic standards. It was certainly worthy of note that, provided an infant was healthy, it did not seem to matter very much what diet it was given. The power of adaptation was great, and the body had the ability of getting rid of unnecessary substances. He had found that children deprived of breast milk took unmodified boiled cow's milk, protected by an antiscorbutic, with enjoyment, and digested it well. The advice of London consultants was most frequently asked for children already ailing from some cause, or other; apart from infections, this want of health was most generally caused by disproportions in the feeding. It

thus became a necessary part of the treatment to modify the food with regard to the particular constituent at fault in the previous diet. It was generally believed by the laity that there was some optimum food for infants which should be defined by the doctors. In his opinion there was doubtless such an optimum for each individual infant, but the average best at present attainable was represented by boiled cow's milk for the generality of healthy infants.

Dr. R. C. JEWESBURY believed that it was absolutely essential to modify cow's milk, taking the average constitution of breast milk as the standard. He considered that there was very little variation in the composition of breast milk if the breasts were completely emptied on each occasion. The method of percentage feeding on this basis, started by Sir Frederick Truby King in New Zealand, and used by himself and others in this country, had given every success. Dr. Jewesbury showed charts of the weight curves of infants who were much below normal until they were fed on a percentage modification of cow's milk, when they immediately began to gain and rapidly reached the normal curve.

THE PRESIDENT remarked that it was in the nature of infants to grow and wax strong, and therefore great care should be exercised before accepting growth as a direct result of any particular diet. There might be said to be two schools of thought—those who started out with a foodstuff, and those who started with the infant's reaction to a foodstuff. Any modification could be regarded as a starting point from which to obtain information as to the reaction of the infant. To fix the best starting point should be the aim of clinicians. A certain number of infants would react badly to any modification. Advance could only be made by all investigators giving clear clinical pictures of the results. In his opinion infants fed on whole boiled milk were more stable than those fed on modified milks, though the latter might show more rapid growth. There were so many factors to be considered that they must recognize that no diet would ever confer health on all ailing babies.

THE sixth meeting of the Chelsea Clinical Society, held at St. George's Hospital on April 22nd, with Dr. Gordon LANE (President) in the chair, was devoted to the discussion of certain cases exhibited. Mr. B. WHITCHURCH HOWELL showed a case of malunited tibia and the excellent results obtained by simple subperiosteal resection. Mr. LAWRENCE ABEL showed a case of familial exostosis of the upper dorsal vertebrae. He also gave the history of a case of bilateral osteomyelitis of both tibiae, in which antilysin A had done much good. Dr. A. C. D. FIRTH exhibited a case of splenic enlargement associated with an increase in size of the liver; two cases of hypothyroidism, in one of which good results had been obtained with small doses of thyroid extract administered over a long period of time. He also showed a case of aortic disease with a Flint's murmur. The PRESIDENT demonstrated a case of acromegaly. Mr. ABEL showed, for Mr. P. P. COLE, a case of bony tumour of the breast, a recurrent lipoma, and a case of lipoma followed by a sarcoma. Dr. J. D. ROLLESTON concluded a most interesting evening with an exhibition of photographs of the rash of smallpox in various stages.

At a meeting of the Devon and Exeter Medico-Chirurgical Society held on April 23rd, the President, Dr. E. J. TOYE, in the chair, Dr. W. GORDON showed two cases of diabetes. (1) In a married woman, aged 37, insulin treatment had been beneficial, but when Dr. Gordon later substituted raw pancreas for the insulin he had obtained equally good results. During intervals when the insulin or raw pancreas had been omitted the glycosuria and acetonuria returned. (2) In a boy, aged 11, glycosuria and acetonuria had disappeared after dieting alone; at no time had it been necessary to give insulin. Mr. R. WAYLAND SMITH read notes on and showed a case of fracture of the femur in a middle-aged man in whom there had been considerable overlapping of fragments and replacement had been very difficult. He had plated the fragments and made use of an anterior root by splitting the crurae. The operation had proved most successful, and in addition to the extension splint a self-exercising apparatus had been arranged so that the man, by means of pulleys, could constantly flex and extend the knee-joint. Mr. Wayland Smith also showed a case of tuberculosis of the caecum; the caecum and eight inches of ileum had been removed, and after a temporary "light up" in the chest the man was now progressing favourably as a

balcony patient. Mr. NORMAN LOCK showed a boy with a deep ulcer over the tibia, eight inches in length. The Carrel-Dakin method and treatment with nitric acid and vaccines had proved of no avail, but he was at last improving under ultra-violet ray treatment. *B. pyocyaneus* had been isolated from the ulcer. Dr. F. A. ROPER showed a case of tabes dorsalis with Charcot knee-joints; the left knee-joint had enlarged rapidly, and now presented an enormous deformity. The treatment was discussed, but apart from antisyphilitic therapy—already tried over a long period—the only suggestion offered was ionization. Mr. NORMAN LOCK, with Dr. MILLER MUIR, showed a girl, aged 6, who had had an inoperable spindle-celled sarcoma in the left side of the neck. After treatment with x rays the tumour had completely disappeared, leaving only a scar over the sterno-mastoid. The treatment commenced fifteen months ago, and Dr. Miller Muir had first tried radium without success; steady and slow doses of x rays had been of more value than the intensive treatment. Dr. R. SOLLY read notes on a case of bilharziasis, apparently contracted in Mesopotamia. He described the life-history of the parasite and showed slides prepared from the urine of the patient illustrating the ova and the release of the embryo.

## Reviews.

### COMPARATIVE PHYSIOLOGY.

Is the thoughtful and interesting book to which they have given the title *An Introduction to Recent Advances in Comparative Physiology*? Dr. HOGREN and Mr. WINTER have dealt in a clear and pleasing style with a diversity of subjects, such as the fertilization of the egg, the development of the individual, the sources of vital energy, co-ordination, behaviour in animals, hereditary transmission, the material basis of inheritance, and the determination of sex. Other subjects of no less interest might be added to this list, such as the blood and circulatory and respiratory functions, the biological action of light and pigment, the production of light by living organisms, the swim bladder and its relation to audition and sense of position and equilibrium. A second volume might deal with such, and would be welcome.

While the attempt by Loeb and others to produce parthenogenesis or virgin birth by experimental means has been crowned with success, we are, say the authors, only on the threshold of a solution of the problem. One factor is proved to be the withdrawal of water from the egg. In dealing with the natural process of fertilization they point out that the sperm, when shed, becomes active in the presence of a certain degree of alkalinity and that there is a specific attraction emanating from the egg. This attraction is 100 per cent. less in the case of the sperm and eggs of hermaphrodites, and thus self-fertilization is very rare. The influence of egg extracts on the sperm is specific but not entirely so; it is destroyed by heating above 95° C.

In discussing development of the individual the authors produce evidence that bodily organization may be profoundly altered by external agencies; thus, the vestigial eyes of the blind cave salamander develop to normal size when the young are reared in red light, and monsters can be produced by acting on embryos with certain concentrations of various salts, by ultra-violet rays, etc. Strange varieties of goldfish are produced thus. Of paramount importance in the production of monsters are initial quantitative differences in cell activity. Susceptibility to external influences varies directly as the rate of metabolism in the parts of an embryo; larvae of a marine worm can be made small-headed by the early action of a cyanide salt and big-headed by the late action. The modern standpoint regards individuation, not as the outcome of a differential distribution of the hereditary determinants through cell division to different regions, but as a result of the reaction to external or internal environment. Thus in the development of the eye the retina is formed from the optic cup, an outgrowth of the brain, and the lens from the skin; if the optic cup is removed in a tadpole no lens develops, while if the optic cup is there any part of the skin grafted over it will form a lens.

The authors point to the fundamental fact that a considerable part in determining the condition of the individual is played by the presence or absence of stimuli which induce functional activity; for example, if fluid be introduced at considerable pressure into a dog's bladder the walls become thicker, simulate in microscopical structure the heart, and pulsate rhythmically at a rate of two hundred a minute.

The well known function of the thyroid in controlling the metamorphosis of tadpoles is of great interest in connexion with cretinism. Tadpoles fed on thyroid or given iodine metamorphose quickly into frogs which are the size of flies, while those deprived of their rudimentary thyroid or fed on any iodine-free diet lack the power to undergo metamorphosis. In tadpoles the rudiment of the pituitary gland is very accessible just above the mouth and can easily be destroyed. When this is done development of the thyroid is arrested and there is failure to metamorphose. Pituitary grafting, on the other hand, accelerates growth and metamorphosis in tadpoles. Thus is the uncertain evidence derived from very difficult experiments on mammals elucidated by comparative physiology. Another interesting example of this enlightenment is the discovery that while the banana fly can live and multiply on a suitable solution of salts, sugar, ammonium tartrate, and citric acid, it is necessary that its gut should teem with yeast. The yeast grows on the solution and the fly larvae obtain vitamins from the yeast and their nitrogen supply from the nucleoproteins of the yeast. Again, both larvae of blow-flies and a pulp made therefrom have, like the liver of mammals, power to split peptone into amino-acids, deaminate them with evolution of ammonia, and then with evolution of carbon dioxide produce higher fatty acids by synthesis of the deaminized acids.

Very interesting also are the authors' researches, which show that a minute dose of extract of the posterior lobe of the pituitary on injection darkens the skin of frogs by expanding the melanophores. Removal of the pituitary from the frog or salamander prevents darkening in response to light surroundings.

Enough has been said to show the nature of the discoveries which this book brings together.

### THE BACTERIOLOGY OF FOOD.

THE origin and development of bacteriology is one of the wonders of modern science, and a remarkably comprehensive sketch of it forms the introduction to a book by Dr. CUTHBERT DUKES on *The Bacteriology of Food*.<sup>2</sup> He shows how, beginning with Pasteur's discoveries, scientists started to study the microbes responsible for various industrial fermentations; how the enunciation of the germ theory of disease impelled research in a new direction; how pathogenic microbes began to be identified, and new methods of disease prevention and treatment devised; how, apart from medicine, the value became appreciated of knowledge of the microscopic world in many human activities, including agriculture and dairying; and how the biologist has made methodical survey of this new province of life. But the study of bacteriology has been so absorbing and intensive in each of its several departments that the worker in one field has scarcely found time to look over the hedge to see what was being done in the next. Medical and agricultural bacteriologists, for example, are insufficiently acquainted with each other's work. A common meeting ground may be found in the domain of hygiene and public health, which includes not merely the examination of water and milk, but all that relates to food supply, food preservation, and food decomposition. Dr. Dukes puts before the reader information from the writings of workers approaching the subject from the various points of view—medicine, hygiene, agriculture, and industry in general.

In successive chapters he deals with the bacteriology of food preservation, water, milk, butter, cheese, canned foods, alcoholic beverages, and fermented foods. The last chapter is devoted to bacterial food poisoning, which is treated under two main headings—the Gaertner group and botulism. In introducing this subject Dr. Dukes comments on the

<sup>1</sup> *An Introduction to Recent Advances in Comparative Physiology*, By Lancelot Hogren, M.A.Cantab., D.Sc.Lond., F.R.S.Edin., and Frank R. Winter, M.A.Cantab. London: W. Collins and Co., Ltd. 1925. (Med. Rev., pp. vii + 212; 29 figures. 25s. net.)

<sup>2</sup> *The Bacteriology of Food*, By Cuthbert Dukes, M.D., M.Sc., D.P.H. London: H. K. Lewis and Co., Ltd. 1925. (Demy 8vo, pp. x + 160; 25 figures. 7s. 6d. net.)

misconceptions which have arisen and still persist in the popular mind regarding the part played by ptomaines. These chemical substances are often present in putrefying meat and are highly poisonous when injected into animals, but seldom or never are they formed save when putrefaction is far advanced and the food altogether repulsive. Even if putrefying food is swallowed there is very little evidence that the ptomaines are then poisonous, for, like other organic toxic substances, such as snake venom and tetanus toxin, the poison is not absorbed by the digestive system. The ptomaino tradition, Dr. Duker complains, hampers the progress of knowledge of food poisoning, for in almost every outbreak "the magistrate, coroner, and press rest satisfied with the familiar doctrine of ptomaines, whilst valuable time is lost and the living menace remains undetected." He insists, moreover, that the bacteria which cause food poisoning are a special group altogether separate from those that form ptomaines, and from the common agents of putrefaction. Following these preliminary observations, the author proceeds to discuss the Gaertner type of bacilli, and the *Bacillus botulinus*. He places the former in a group to which many other pathogenic bacteria belong, including the *Bacillus paratyphosus* A, B, and C, whilst in addition to the Gaertner group itself there is also a para-Gaertner group.

We trust we have sufficiently indicated the contents of Dr. Duker's volume to inform our readers of its scope and assure them of its value. It is written forcibly and concisely, and in brief space gives important information and sets forth clear views with which every health officer ought to be acquainted.

#### MOTHCRAFT.

THE fifth edition of the popular manual *Mothercraft*,<sup>3</sup> which is published by the National League for Health, Maternity, and Child Welfare, has been revised and enlarged. It consists of a selection of papers from various courses of lectures on infant care given under the auspices of the National Association for the Prevention of Infant Mortality by authorities on the subjects. Dr. Still introduces the volume with a quotation from Plato that "of all animals the most difficult to manage is a child," and reviews the history of the interest shown by civilized mankind in the welfare of children. The slowly dawning realization that mother instinct must be supplemented by mothercraft is developing into a conscious demand for knowledge in the minds of many thousands of mothers. Some special attention was given in the earlier half of the seventeenth century to the study of the child in sickness, but it has taken three centuries to bring home the truth that through a fuller knowledge of disease means of prevention are to be sought and found.

It is not possible to give the names of all the distinguished persons who have contributed papers. It must suffice to say that briefly, but very helpfully, the story of the care of the child is given in counsels of attainable perfection. Beginning with ante-natal care, which in reality dates back to the adolescent, the respective articles deal with pregnancy and childbirth, reference being made to syphilis in connexion with these periods. Other articles discuss the care of the newborn infant, breast-feeding, artificial feeding, and weaning. Then the care of the developing child is dealt with, including its food and clothing, with reference in special articles to the backward and nervous child. Separate articles are given to simple ailments, dental defects, skin troubles, care of nose, throat, ear, and eyes. Respiratory diseases and, more particularly, tuberculosis in mother and infant, are described. A final article on the law relating to maternity and child welfare is helpful and instructive.

The whole gives an illuminating exhibition of the state of preventive knowledge to-day. There are many gaps in this knowledge and much ignorance remains to be dispelled, but prevention is the watchword of the child welfare movement. The exceptional value of this little manual lies in this—that it contains the collective advice of many, distinguished in the profession, instead of the views of only one author.

<sup>3</sup> *Mothercraft*. Fifth edition, revised and enlarged. London: The National League for Health, Maternity, and Child Welfare. 1925. (Cr. 8vo, pp. xvi + 400; 5 figures. 4s. 6d., post free.)

#### EAR, NOSE, AND THROAT.

IN a volume recently published in Paris, Dr. G. DE PARREL<sup>4</sup> has collected a series of articles designed to bring certain recent advances in otology and laryngology to the notice of the general practitioner. No attempt is made at a complete exposition of these special subjects such as might be found in a textbook. Certain topics on the borderland are discussed in a helpful manner, and an attempt made to bring them into touch with general medicine. One of the most interesting and informative chapters is that dealing with congenital syphilis as it affects the head and neck.

As the author has only touched on certain topics apparently selected at random, the book cannot be used for reference; moreover, much that it contains is debatable and probably ephemeral, but many fresh ideas and novel suggestions are advanced, so that it may be read with profit by the practitioner and the laryngologist. The merit of the book lies in a certain breadth of vision, but much that is commonplace might have been omitted. The author certainly helps to avoid "myopic clinique," against which he warns the specialists.

The first edition of the *Manual of Diseases of the Nose, Throat, and Ear*, by Dr. GLEASON, appeared in 1907; the edition before us is the fifth,<sup>5</sup> and the book has been many times reprinted in the intervals between the various editions, so that its popularity is evident. It presents an account of laryngology, rhinology, and otology within the compass of a single volume of moderate size. The conditions commonly met are fully discussed, the appropriate treatment set out, and the lesser operations described. The attempt to bring the book up to date, however, is not entirely successful; this is a difficulty which becomes more pronounced with each successive edition of any textbook, unless, indeed, it be entirely rewritten. Nevertheless, this book remains a safe and useful guide to the student and practitioner in the recognition and simple treatment of ordinary diseases, but it does not now meet the requirements of the specialist in any of the three branches.

The third edition of GRÜNWARD's textbook of diseases of the larynx<sup>6</sup> is one of the series of Lehmann's medical atlases. The first part of the text, which is in German, describes methods of examining the larynx, and the second part the pathology and treatment of its diseases. The great feature of the work is the coloured plates, which include histology and morbid anatomy as well as laryngoscopy.

#### AN OUTLINE OF ENDOCRINOLOGY.

BIG books on endocrinology have been fairly common recently, but smaller less numerous. Dr. W. M. CROFTON's *Outline of Endocrinology*<sup>7</sup> belongs to the latter class. In 120 pages he deals, chapter by chapter, with the functions of the pineal, pituitary, suprarenal, thyroid, parathyroid, and thymus glands, the hormones of the gastro-intestinal tract, and the pancreas. His general scheme is to pass from the histology to the development, physiology, pathology, and therapeutics of each gland. In the fields of endocrinology there is plenty of room for difference of opinion, and we do not wish to dispute the stand which Dr. Crofton takes on many controversial questions, but merely remark that time may or may not justify his dogmatism. Since he wrote primarily for medical students he had naturally to be brief; but we think that the book would have been more useful if the author had added references to larger books and original articles, in order to direct the reader to places where he could consult other opinions or find a more exhaustive presentation of those Dr. Crofton proclaims.

<sup>4</sup> G. R. L.: *Oto-Rhino-Laryngologie: Documents pour les Praticiens*. Par G. de Parrel. Paris: A. Maloine et Fils. 1925. (Cr. 8vo, pp. 425; 85 figures. Fr. 20.)

<sup>5</sup> *A Manual of Diseases of the Nose, Throat, and Ear*. By E. B. Gleason, M.D., LL.D. Fifth edition, thoroughly revised. Philadelphia and London: W. B. Saunders Company. 1924. (Extra post 8vo, pp. 650; 212 figures. 20s. net.)

<sup>6</sup> *Lehrbuch der Kehlkopfkrankheiten und All*. Dr. L. Grünward. Dritte Auflage. Lehmann's Band XIV. München: J. F. Lehmann. 1925. 112 coloured illustrations in 47 plates, and 35 figures. G.M. 10.)

<sup>7</sup> *An Outline of Endocrinology*. By W. M. Crofton, B.A., M.D. Edinburgh: E. and S. Livingstone. 1924. (Cr. 8vo, pp. vii + 125; 49 figures. 6s. net.)

## A TEXTBOOK OF HISTOLOGY.

ONE of the chief merits of Professor Jordan's *Text-book of Histology*<sup>1</sup> is that it is written by one who is actively engaged in teaching that subject. As a teacher, he knows that if an interest in the subject be aroused, the student will assimilate even the dry facts of a science much more rapidly and perfectly than if his interest had not been thus awakened. Professor Jordan, therefore, gives throughout the book short accounts of the functions or physiological meaning of the tissues under discussion. Hence we find the physico-chemical theory of muscular contraction, the myogenic view of the heart beat, the mechanism of the expulsion of the ovum, and so on. After all, when the tissues are being studied is the time to be told what they do. Doubtless, to achieve the same end—interest in the meaning of structural differentiation—we are given certain most useful classifications, as, for instance, of end-organs according to Sir Charles Sherrington's terminology.

Almost all the figures, as should be the case in a manual of histology, are exceedingly clear. Only one (on page 617) teaches nothing. Some of the illustrations are of sections not found in every textbook, such as the lacrymal glands, the ceruminous glands, the glands of Bartholin, the vagina, the gall bladder, the regenerating hair, the external auditory meatus, and the pericardium.

The liver is dealt with very successfully; we do not remember to have seen such illuminating diagrams as those given here; the same is true of the treatment of neuroglia. The valuable new mounting medium, euparal, is described; sections can pass direct from 95 per cent. alcohol into it. This saves time and money, and is less trying to the undergraduate patience than the full dehydration and clarification processes for Canada balsam; further, euparal displays cytological details better than balsam. We miss a vertical section of the placenta to show the relations of the chorion to the maternal sinuses. A transverse section of the chorionic villi is given (Fig. 470); but unless the student sees also a vertical section of the placenta he will get no correct picture of this difficult organ. The manner in which the histology of the thrombocytes is dealt with is inadequate. In describing the Berlin blue injection mass, it would have been well to point out that its colour is apt to fade in the smaller vessels owing to the still living tissues acting on the pigment like a reducing agent in an alkaline medium; hence there must be a trace of acid in the mass. The omission of the names of Banting and Macleod from the allusion to insulin is quite inexplicable. The expression "heart of beef" (p. 102) is incorrect when ox or cow is meant, as "beef" means only the flesh of these animals prepared for the table.

## NOTES ON BOOKS.

THE new volume of *The Westminster Hospital Reports*<sup>2</sup> is edited by Mr. ROCK CARLING and Dr. HILDRED CARLILL. The last volume of the series was issued ten years ago; publication has been resumed at a propitious moment, for it coincides with the reopening of the hospital after extensive alterations and improvements. Nearly half the volume is given to Mr. W. G. Spencer's interesting history of the hospital, which was noticed in a previous issue of the columns on December 6th last (p. 877).

The reports of the medical and surgical registrars are given to the reports of the medical and surgical registrars and to short notes by Dr. J. A. Braxton Hicks (pathologist) on the work of that department during the years 1913-22, and an analysis of cases treated in the department for venereal disease since the beginning of the Ministry of Health scheme in 1917. For the intervening pages an ambitious scheme had been framed; the editors hoped to secure the co-operation of all the members of the staff in a systematic study of the cases. Their hopes were not fulfilled, but the contributions of this nature were with diseases of the month

and tongue, gastric and duodenal ulcer, lung complications after surgical anaesthesia, with cases coming under the jurisdiction of H.M. coroners, etc., with toxæmias of pregnancy, and with pulmonary embolism, the last being by one of the editors, Mr. Rock Carling; the other editor, Dr. Hildred Carlill, contributes a paper on tabes dorsalis, which includes a note on treatment.

*International Clinics*<sup>3</sup> is a quarterly volume of clinical lectures and original articles on different branches of medicine written by "leading members of the medical profession throughout the world." Of the twenty-six contributors to Volume IV, twenty-four are from the New World; the Old is only represented by one writer from Scotland and one from France. The contents are divided into six sections, dealing successively with the diagnosis and treatment of certain diseases, such as pellagra and Vincent's angina; the diagnosis and treatment of less clearly defined maladies, such as eczema and intestinal obstruction; general medicine; pediatrics; surgery; and industrial medicine. Certain of these articles, such as that by Dr. F. G. Banting on insulin, have already been read before some scientific society. We may call attention in particular to the lavishly illustrated article by Dr. Eliason and Dr. Hinton on internal fixation in fractures.

The new (third) volume of *The Lives of the Bakers*<sup>4</sup> is concerned chiefly with Colonel Charteris (1660-1732). Mr. BERESFORD CHANCELLOR says that no regular attempt has hitherto been made to write his life, and he was such an utter blackguard that it is just a question whether it was worth doing at all, or, if it was to be done, whether it ought not to have been included in a series of lives of notorious criminals; he was a bully, a swindler, a card-sharp, was twice cashiered from the army, and twice sentenced to death for rape. The second time he spent £15,000 (equal to £60,000 to-day) in fees and bribes, and was only reprieved because George II, in the then state of political opinion in Scotland, was afraid to allow a man connected with several influential families in that country to hang. The man leaning on the doorstep of the inn in the first plate of Hogarth's *Harlot's Progress* is a portrait of Charteris. It is bad luck for Philip Duke of Wharton (1698-1731) to be bound up with such a scoundrel. Wharton was freed too young from the discipline, injudicious though it was, of his distinguished father, and went off forthwith to commit every sort of folly; he had dissipated a large fortune before he was five and twenty, and died, killed by wine and women, at the age of thirty-three. But he was mad, or scatter-brained, rather than bad; he was a boy prodigy in classics, he was an effective public speaker, wrote a good English style, and made for himself friends among the greatest writers of the age. Just when he seemed to be settling down and his wife had given him a son and heir, she, contrary to his express instructions, took the boy to London, where an epidemic of small-pox prevailed; the infant contracted the disease and died. Wharton left his wife, abandoned general politics, intrigued with the Jacobites, and eventually went abroad and became an open rebel.

A *Clinical Index of Radium Therapy*, to which we referred at some length on April 4th (p. 670), has now been issued by the committee of the Radium Institute, London, in a bound volume, copies of which can, we understand, be obtained post free by members of the medical profession on application to the secretary, Mr. Thomas A. Garner, F.C.I.S., Radium Institute, 16, Riding House Street, London, W.1.

<sup>1</sup> *Text-book of Histology*. By H. E. Jordan, A.M., Ph.D. London and New York: D. Appleton and Co. 1924. (Med. 8vo, pp. xxviii + 657; 573 figures, 4 plates. 25s. net.)

<sup>2</sup> *The Westminster Hospital Reports*. Vol. 19. Edited by E. Rock Carling and Hildred Carlill. London: Henry J. Glasher. 1924. (Med. 8vo, pp. xvi + 229; illustrated. 7s. 6d. net.)

<sup>3</sup> *International Clinics*. Vol. IV. Edited by Henry W. Cattell, A.M., M.D. Philadelphia. Thirty-fourth series, 1924. London: J. B. Lippincott Company. 1924. (Med. 8vo, pp. xi + 308; illustrated. 42s. net per four volumes, issued quarterly.)

<sup>4</sup> *The Lives of the Bakers*. Vol. III. Charteris and Wharton. By E. Beresford Chancellor. London: P. Allan and Co. 1925. (Med. 8vo, pp. viii + 243; 6 plates. 10s. 6d. net.)

## PREPARATIONS AND APPLIANCES.

## An Alkaline Mineral Water.

BILINA is the name of a natural mineral water obtained at a spring in Czechoslovakia, not very far from Carlsbad. The analysis submitted shows that this water very closely resembles that of the well known Source de l'Hôpital at Vichy. It contains slightly less sodium bicarbonate, but has a small quantity of lithium bicarbonate. It has also rather more sparkle (2.3 of free carbonic acid in place of 1.0). The water is supplied in bottles in this country by the International Development Company, 4, Trafalgar Square, London, W.C.2. The water is palatable, and, as was to be expected, very closely resembles the Vichy water mentioned in taste. It is stated that great care is taken to ensure that the water is bottled at the springs at Bilina under the best hygienic conditions.

## EVIDENCE OF THE MEDICO-PSYCHOLOGICAL ASSOCIATION.

At the meeting on May 4th of the Royal Commission on Lunacy and Mental Disorder, with Mr. H. P. MACMILLAN, K.C., in the chair, evidence was tendered on behalf of the Medico-Psychological Association of Great Britain and Ireland by Dr. R. H. Cole, Dr. M. A. Collins, Dr. Edwin Goodall, Dr. J. R. Lord, Sir Frederick Mott, and Dr. R. Worth. The printed Memorandum of Evidence submitted by the Association, together with three appendices, has since been published.<sup>1</sup>

Dr. COLE said that it was the view of his association that the safeguards provided by the existing Lunacy Acts against abuses and illegal detention had, on the whole, proved satisfactory, but the Acts had failed to keep pace with medical progress, especially in regard to the treatment of the initial and more curable stage of mental disorders. It was desirable that clinics for mental disorders, preferably in connexion with universities, medical schools, and general hospitals, should be established. Voluntary patients should be received in such clinics, and provision should also be made in them for the reception of non-volitional patients for a limited time without certification. These clinics should be provided and maintained by local authorities. The supervisory committee should be the subcommittee of a local statutory body, and the inspection and approval of buildings used for such clinics should be the duty of the central department. The Medico-Psychological Association also urged that mental hospitals should be encouraged to admit voluntary patients, who should be required to give seventy-two hours' notice of their desire to leave the institution. Further provision should be made for paying patients in homes where they could be received in the early stages of their disease without certification.

The association suggested that all matters of mental health should be centralized in the Board of Control, which should be designated the Board of Mental Health. The number of medical members on the Board should be increased, they should be better paid, and in making appointments of medical commissioners experience in general medicine and status in the profession should be taken into account. The management of all rate-supported institutions should be vested in one statutory committee of mental health of a local authority. Certain changes in the legal formalities were suggested. The certification of rate-aided patients should follow the same procedure—namely, the two certificates—as that of private patients. It was desirable that patients of either class should be admitted to mental hospitals under a provisional order, to take the place of the present urgency procedure for unwilling patients. This provisional order might be used, not only on the ground of urgency, but so as to provide means of temporary observation and treatment under safe conditions. It should be accompanied by a medical certificate specifying facts and reasons, and should hold good for three days, the period to be extended by twenty-eight days in suitable cases. It was undesirable that patients alleged to be of unsound mind should be removed to a workhouse before reception at a mental hospital. If an intermediate stage was necessary after the provision of clinics for incipient cases it would be better supplied by a special clinic under the management of the local authority. The association also laid it down that the protection afforded by Section 330 of the Lunacy Act, 1890, to medical practitioners should be extended to stay proceedings at an earlier stage than at present, and that practitioners should receive the same immunity as was given to witnesses in a court of law. The association also had certain amendments to suggest to the Mental Treatment Bill, 1923, should it be reintroduced.

The witnesses were next examined at length on their suggestions with regard to early treatment.

Dr. EDWIN GOODALL said that the association had been pressing for some years for a relaxation of lunacy law to permit of the more effective treatment of mental disorder in its early stages. The establishment of clinics assumed the existence of a general hospital, and to meet the need in areas remote from such a hospital it would be necessary to have a comprehensive scheme of hospital linkage such as was described by Lord Dawson in the interim report of the Consultative Council on Medical and Allied Services. The psychiatric clinic should be under the same administration as that of the general hospital, but in a building not contiguous. He favoured the plan in being at Munich and elsewhere in which the psychiatric unit was installed in a separate pavilion in its own grounds. It was not wise to have mental cases in the general wards.

The CHAIRMAN remarked that this would rule out many of the large hospitals of London, which could make no such provision of a separated building. Dr. GOODALL replied that London was a problem in itself, but in the great cities of Germany, even in Berlin, at the Charlottenburg Clinic, it had been found possible

<sup>1</sup> London: Adlard and Son and West Newman, Ltd.

to set apart a special building enclosed in its own grounds. Asked what would be the relation between the clinic and the existing asylum system, he said that there would be no relation at all, except in so far as incurable or violent cases were concerned. In his view, all early cases, whatever their nature, should be admissible to the clinic, where they would receive more intensive treatment than was usual at an asylum. A clinic would employ a much larger medical and nursing personnel in proportion to patients, and the staff would be assisted by a number of other medical men who were there for tuition and research. In this connexion he recited the extraordinarily large staff roll of the Boston Psychopathic Hospital, which had only 110 beds, but employed a large number of medical officers and laboratory workers in many different departments.

The CHAIRMAN said he had been impressed by the completeness of the staff at Boston, but it was hardly to be expected that many institutions, in this country at all events, could enjoy the same adequacy. He asked whether it would be a true description of the clinics that they were clearing-houses. Dr. GOODALL, in his reply, expressed strong objection to this title. The clinics would be institutions for the treatment and cure of patients, not corridors to the asylum. Patients would go there for six months, and if at the end of that time they were not cured their stay should be renewable for a further period.

Sir HUMPHRY ROLLESTON asked whether it was not better to send a maniacal patient to a secluded portion of a mental hospital rather than to a clinic, where his presence might have a detrimental effect on other patients. Dr. GOODALL answered that he knew this was often urged, but Professor Winckler, whose psychiatric clinic at Utrecht was probably the best in existence, had assured him that there was nothing in it. He was unable to see why such a patient should not be taken into the clinic; appropriate treatment he could be very quickly and effectively calmed down.

A long discussion ensued on the subject of "voluntary" patients.

The CHAIRMAN said that as a lawyer he had often felt considerable perplexity as to whether a person suffering from mental disorder could be said to have any volition at all. He felt that many of the cases spoken of as voluntary were not really voluntary having regard to the disturbance of will power and intelligence connoted by mental disorder. Dr. GOODALL suggested that this was one of the matters in which the medical profession might be trusted. The CHAIRMAN remarked that while that was true, he was not fond of colourable phrases, and a "voluntary mental patient" always seemed to him a contradiction in terms. Dr. GOODALL said that many of the patients had full volition, and others were "betwixt and between." The CHAIRMAN remarked that it might be a lawyer's prejudice, but it did not commend itself to his mind to give any particular value to the assent of a person who was mentally in a pathological condition. No one would propose to make valid a contract by a man in that state of mind signing away his property, and yet here it was proposed to rely upon the signature of such a man to a document which deprived him of his liberty. Dr. MENZIES pointed out that there was one class of persons who were liable to be forgotten in connexion with these clinics—namely, persons already certified in mental hospitals who developed a physical illness and required surgical or other treatment which a general hospital could afford. It was desirable that such persons should be transferred to the clinic at the general hospital for a short period without any breaking of their committal order.

The next point taken was the association's recommendation that the reception into mental hospitals should follow the same procedure in the case of private and of rate-aided patients.

Dr. COLE said that doubtless a second certificate in the one case as in the other would be an additional safeguard. Dr. COLLINS gave some figures to show that under the Act at present the great majority of persons came in under one certificate. Of the admissions to the Kent County Hospital in 1924, the number was 196; 7 were admitted as paupers in receipt of relief and 29 were admitted under two certificates as persons not under proper care and control.

The witnesses were next examined on their recommendation (already explained) for admission to mental hospitals under a "provisional order."

The CHAIRMAN suggested that such an order would attract to itself just the same stigma as certification. It was residence in the institution, not the procedure of admission, which constituted the stigma. Dr. MENZIES affirmed his belief that if a considerable proportion of admissions to mental hospitals were on a voluntary basis the distinction between a mental hospital and a general hospital would gradually pass away. Dr. LORD expressed the view that at his own asylum, if permission were given to take in voluntary patients, 50 per cent. of the inmates would be given to take in boarders within five years, and the stigma of detention would be correspondingly diminished. The CHAIRMAN was of opinion that the amount of renaming would obliterate the fact, which constituted the real stigma in the popular mind, that in a person's life there had been a "pathological episode" during which he had ceased to be to some extent a normal, rational human being. Everyone would agree that the mental hospital should be assimilated as far as possible to the general hospital as a place of hopefulness and cure. On the point that a psychiatric department in a general hospital might attract to itself something of the same stigma, one of the Commissioners mentioned that the mental ward in one institution he was aware of was known as the "barmy ward."

The examination of the witnesses had not concluded when the Commission rose for the day.



## Nova et Vetera.

### A POET'S ANATOMY.

THE metrical form has not often been used as a means of conveying exact knowledge, and anatomists and physiologists have doubtless shown a wise discretion in avoiding it. Yet it was chosen nearly three hundred years ago by the Rev. Phineas Fletcher for that purpose.

Phineas Fletcher was born in 1582, the son of a Kentish clergyman; he was educated at Eton and at King's College, Cambridge, of which he was a Scholar and a Fellow. During his residence at the university he wrote a pastoral play, *Sicelides, A Piscatory*, which was published in London in 1631, "As it hath bene Acted in King's Colledge in Cambridge." Two years later *The Purple Island* appeared, "Printed by the Printers to the Universitie of Cambridge 1633." His other poetical works and those of his younger brother Giles call for no mention here. Sir Henry Willoughby, in whose house in Derbyshire he was for five years chaplain, presented him to the living of Hilgny in Norfolk, where he married and spent the rest of his life, and where this poem was written.

Phineas must not be confused with his greater contemporary John Fletcher, the dramatist and associate of Beaumont, who was also the son of a country clergyman, a Cantab., and a native of Rye, only a few miles distant from the birthplace of Phineas at Cranbrook. It is not likely that Phineas had any practical knowledge of anatomy, but he probably had read Vesalius or one of his translators. He showed no knowledge of the recent discoveries of his countryman Harvey, although Harvey's lectures were delivered early in 1616 and the treatise *De Motu Cordis et Sanguinis* was published in 1628.

*The Purple Island, or Isle of Man*, is a pastoral poem in twelve cantos of seven-lined rhyming stanzas, in which not only is man's body and its functions described in an allegorical fashion, but the Creation and the Fall and the strife between sin and virtue and other high matters are set forth. It will readily be admitted that for so vast a subject 4,879 lines are none too many. It has been suggested that in treating the anatomy of the human body in this allegorical fashion Fletcher was merely elaborating the twelfth chapter of Ecclesiastes, but it is not certain that that chapter is wholly anatomical in its conceptions. The allegorical descriptions in the text are accompanied by copious marginal notes which purport to translate the allegorical statements of the poem into plain English.

The first canto consists of an account of the Creation and Fall of man, but in the second we come down to more prosaic matters. After stating that the bones, cartilages, and ligaments are formed respectively of different constituents of the seed, he comes to the vascular and nervous systems and then to the skin, the following description of which amply exemplifies the value of marginal notes:

"The first of these is that round spreading fence,  
Which like a sea girls th'Isle in every part;  
Of fairest building, quick and nimble sense.  
Of common matter fram'd with special art;  
Of middle temper, outwardst of all,  
To warn of every chance that may befall:  
The same a fence, and spie; a watchman and a wall."

And so on. The note to this stanza runs as follows:

"The skinne is a membrane of all the rest of the most large, and thick, formed of the mixture of seed and blood; the covering, and ornament of parts that are under it: the temper moderate, the proper organ of outward touching (say Physicians)."

After describing the fat and the walls of the abdomen he comes to the "Urino-Lake," as he calls the bladder, and to the parts of generation, which his modesty will not allow him to particularize:

"From thence with blinder passage (flying name)  
These noysome streams a secret pipe conveys;  
Which though we thide the hidden parts of shame,  
Yet for the skille deserve no lesser praise."

Elsewhere he writes:

"Flie then those parts, which best are undescried,  
Forbear my maiden song, to blazon wide  
What th'Isle and Nature's self doth ever strive to hide."

"If, as seems most probable, Phineas was the author of the anonymous but lascivious poem, "Brittain's Ida," we can understand his reluctance to acknowledge its authorship. His opinions of pregnancy and lactation are quaint. Thus in verse he sings:

"For when the lesser Island (still increasing)  
In Venus temple to some greatness swells,  
Now larger rooms and bigger spaces seizing,  
It stops the Itear rivers; backward reels  
The stream and to these hills bears up her flight,  
And in these founts (by some strange hidden might)  
Dies his fair rosie waves into a lily white."

After this the marginal prose comes with a sense of bathos thus:

"When the infant grows big he so oppresseth the vessels of blood, that partly through the readinesse of the passage, but especially by the providence of God, the blood turns back to the breast and there by an innate but wonderfull facultie is turned into milk."

Of the Diazomo or Diaphragma we are told in a note:

"Here most men have placed the seat of laughter: It hath much sympathie with the brain; so that if the midriffe be inflamed, present madness ensues it."

As is well known, the early anatomists were much impressed by the size of the liver, and, knowing practically nothing of its functions, they did not hesitate to invent a great deal.

"In this fair town, the Isles great steward dwells;  
His porphyric house glitters in purple die;  
In purple clad himself; from hence he deals  
His store to all the Isles necessitie."

The joviall hepar sits, with great expence  
Cheering the Islo by his sweet influence,  
So slakes their envious rage and endless difference."

The sufferer from long residence in the tropics will hardly recognize his tyrant in this guise.

"Within some say Love hath his habitation;  
Not Cupid's self, but Cupid's better brother:  
For Cupid's self dwells with a lower nation,  
But this more sure, much chaster than the other;  
By whose command we either love our kinde,  
Or with most perfect love affect the minde;  
With such a diamond knot he often souls can binde."

A marginal note reminds us that "hero Plato disposed his seat of love." But, unfortunately, although the liver is beneficent its excrements are not:

"Three pois'nous liquors from this purple well  
Rise with the native streams."

One is red, one black, and the third "wheyish cold." The fiery red fluid is "the spring of dire debate and civil ire," but Choleodochus or the Gall takes charge of it, "And safely locks it up in prison bands"; while "The third bad water bubbling from the fountain" goes to the Nephros mountain or kidneys, "Which suck the best for growth, and nourishment," and the worst "Runs down to the Urino-Lake, his banks thrice daily filling."

The idea expressed in the last line of the periodical excretion of urine is curious and not easily explained, except as an example of the popular liking for the number three.

If it were not for the spleen, which deals with the black fluid, we should all be in a very bad way, for as the notes explain:

"If the splene should fail in this office the whole body would be filled with melancholy fancies and vain terrors;  
"Where the splene flourishes all the body decays, and withers; where the splene is kept down, the body flourishes. Hence Stratonius merrily said that in Crete dead men walked because they were so splenitive and pale-coloured."

This is rather contradictory and puzzling, and it would seem that our reverend anatomist had not quite grasped the current pathology, but the reference to Stratonius suggests the enlarged spleen of malaria.

The stanzas on the brain and the organs of special sense merely represent the usual seventeenth century physiology, whose teachers had not yet learnt to admit how little they did know and often hid their ignorance behind a closely woven veil of speculation.

We cannot recommend *The Purple Island* as a textbook of anatomy, but Phineas Fletcher is still worth reading for his melodious verse, wealth of language, and picturesque imagery.

# British Medical Journal.

SATURDAY, MAY 9TH, 1925.

## PUERPERAL SEPSIS.

WE offer our congratulations to the members and executive of the British Congress of Obstetrics and Gynaecology on the success, both scientific and social, which has attended their meetings recently held in London, an account of the proceedings at which has appeared in our last two issues. The pooling of the professional experiences of those intimately concerned in the advance of obstetrics and in the teaching of this important branch of medicine cannot fail to have results of value, not only for the profession but for the community. In particular the discussion of the topical subject of puerperal sepsis, to which the Congress devoted its opening day, must compel the grave attention of the Ministry of Health, the Central Midwives Board, and generally of the members of the medical profession engaged in midwifery. Evidence is forthcoming, moreover, that public opinion is becoming anxiously concerned, and a note of real responsibility marked its consideration by the Congress.

Sir George Newman, in a prefatory note to Dame Janet Campbell's very able report on maternal mortality, issued by the Ministry last year, says: "The problem with which we are faced is this. There are not less than, say, 700,000 mothers in England and Wales giving birth to children per annum. Of this number approximately 3,000 per annum have died during the last ten years in the fulfilment of this maternal function. That is a serious and largely an avoidable loss of life at the time of its highest capacity and in its most fruitful effort. Yet the number of deaths by no means indicates the whole loss, for a vastly greater number than 3,000 of these mothers are permanently injured or invalided in this physiological process of childbirth." In this total maternal mortality and morbidity, thus so forcefully and justifiably deprecated, the "sepsis" factor is dominant, and, by common consent, is the most amenable to solution by way of prevention; the question naturally arises why a factor admittedly largely preventable has continued to hold so outstanding a position.

The two reports-in-chief, summaries of which were published in our issue of April 25th, were presented by the President, Dr. H. Russell Andrews, and by Dr. Daniel Dougal, both of whom had expended much time in ably analysing the material submitted to their respective committees. The President's report dealt with returns submitted through the constituent societies of the Congress other than the North of England Obstetrical and Gynaecological Society, and Dr. Dougal's with information garnered by that society. The basis material in both reports, as would be expected from their declared objective, which was the prognosis and treatment of puerperal sepsis, was mainly clinical, and incidentally bacteriological or pathological. Sir Even Maclean's paper on puerperal sepsis in Wales dealt with an interesting aspect of the problem as it meets the local authorities, the general practitioners in rural and urbanized areas, and the midwives, and further illustrated the important posi-

tion taken by the Principality in the sepsis and general maternal mortality tables. Valuable contributions to the essentially bacteriological considerations, both in evident sepsis and in pregnancy presumably normal, were contained in the joint communications of Dr. Gibbon FitzGibbon and Professor J. W. Bigger. Dr. T. H. C. Stevenson of the General Register Office emphasized by means of graphs the fact that puerperal sepsis mortality has a winter maximum in the fourth and first quarters of the year, and that this applied also to some of the "other causes" of maternal mortality in which a "sepsis" element may be assumed to exist—as, for instance, phlegmasia alba dolens. Dr. Stevenson and other speakers in the course of the discussion referred to the difficulty of making international comparisons, and the view was expressed that the need of so amending the International List of Causes of Death as to meet this point ought to be represented in the proper quarter.

The general discussion was opened by Professor J. Whitridge Williams of Baltimore, who, together with Professor W. W. Chipman of Montreal, was cordially welcomed as one of the official guests of the Congress. Dr. Whitridge Williams observed that whilst there was much obviously common ground in the two reports, the disparities were due mainly to the more serious type of cases selected for analysis by the North of England Committee. A mortality of 35.8 per cent. in 247 cases was shown in the London report, as against 76 per cent. in 154 cases in that of the North of England Society. He laid stress on the points demonstrated by both reports, points which he said he had for years been teaching in America: first, that women subjected to much manipulation were more likely to develop infection than those who were left alone; and secondly, that in infected cases intra-uterine manipulation was especially dangerous; both reports gave such cases a mortality of something like 80 per cent. He considered that the value of anti-streptococcic serum was in the balance, and he was frankly pessimistic as to the effect of treatment in severe cases of infection, particularly if associated with general streptococcic peritonitis, when death was practically inevitable. This view was combated to a certain extent by Professor Blair Bell, who claimed that some of the cases complicated by peritonitis could be saved by drainage of the peritoneal cavity. Dr. Whitridge Williams, indeed, agreed that in severe cases with pyaemia operative treatment might reduce the mortality from about 70 per cent. to 50 per cent., but maintained that cases which did not show these acute general conditions might recover if left alone, prognosis depending on the resistance of the patient and the virulence of the organisms. What was wanted, he urged, was research, not purely obstetrical, but proceeding on general lines of bacterial investigation. In commenting on the observations of Drs. FitzGibbon and Bigger, which appeared to indicate that, roughly, streptococci (fortunately not of the haemolytic type) were found in the vagina of the pregnant woman in two cases out of three, he said that the technique was, perhaps, not above suspicion, and deprecated the use of the term "endogenous infection" except in regard to the gonococcus and possibly certain saprophytic organisms. Dr. Whitridge Williams is clearly a whole-hearted supporter of the view that, with the exceptions mentioned, it is proper to regard the source of puerperal infection as exogenous. But this opinion was not shared by other speakers, and Mr. Victor Bonney restated his belief that puerperal sepsis was principally autogenetic, and

that it was making too much of the bacteriological evidence to believe that only haemolytic streptococci could give rise to sepsis.

The claim that non-haemolytic streptococci may be included in the normal vaginal or post-partum uterine flora, though not quite new, requires confirmation, and the hint of the possible existence of certain undefined conditions which may confer pathogenicity on this type of streptococcus also supports the call for further organized research. Subsequent speakers, notably Dr. C. E. Douglas (Cupar, Fife) and Lady Barrett, urged that such further research should have fuller regard to the factors which constitute and the conditions which may vary the power of resistance to infection, and this view is undoubtedly shared by many. As to treatment, reference to our reports of the discussion shows some methods recommended, but the two reports-in-chief practically agree that the various treatments mentioned in the returns represent such a medley of ways and means as to defy analysis.

The educational, the propaganda, and the administrative aspects of the subject were not forgotten, and, whenever tested, the feeling of the Congress supported those who advocated the fuller practical training in obstetrics of the medical student; the more complete and better organized provision of well trained and suitably educated midwives; the ante-natal supervision of mothers, both domiciliary and, where necessary, in clinics, as advocated by the British Medical Association in the evidence before the Royal Commission on the Insurance Acts; and a substantial addition to the existing provision of maternity homes and of maternity wards in or in connexion with the general hospitals. In regard to this last-named requirement the Congress unanimously adopted for submission to the Ministry of Health a resolution to the effect that "the most urgent requirement in connexion with the problem of puerperal sepsis is the provision of adequate accommodation for the reception and treatment of these cases in hospitals, supervised wherever possible by obstetric surgeons."

It remains to add that perhaps never before has such a degree of influential attention been focused on this principal item in the maternal mortality rate of our country. The Ministry of Health is gravely concerned, and is asking for advice and guidance in the matters of definition and notification from the Obstetrical and Gynaecological Section of the Royal Society of Medicine. The reply of the Section has been submitted to the Council of the British Medical Association, which has set up a special committee on the causation of puerperal morbidity and mortality; the reply has been referred to this committee, which will report also on the administrative action that may properly be taken in the matter through the vast machinery of the Association. It is understood that the Central Midwives Board contemplates an inquiry through the agency of the local authorities, and the Society of Medical Officers of Health and the midwives' organizations are also keenly interested.

There is already evident some danger of overlapping and dissipation of energy, and it would seem appropriate to suggest that the Minister of Health might consider the advisability of summoning a conference of representatives of the bodies and interests principally concerned, in order that the genuine interest aroused may be turned to the best account and the various parts of the whole subject allocated to persons or bodies to the best advantage, and that thus the prospect of this great problem being handled in a fashion befitting its truly national importance may be enhanced.

## CLINICAL FEATURES AND PREVENTION OF FOOD POISONING.

THE record of one hundred recent outbreaks of food poisoning in this country, which form the basis of the report of the Medical Research Council analysed elsewhere in this issue (p. 897), has two lessons to teach which deserve a special emphasis; they are included in the sections which deal with the clinical features and the prevention of food poisoning. The opinions Dr. W. G. Savage and Mr. Bruce White express on these two subjects, whether accepted in their entirety or not, are likely to conduce to the formation of a clearer idea of the clinical features of food poisoning, and to point the way to the safeguarding of food from infection.

Excluding botulism—a very deadly, and fortunately extremely rare, form of food poisoning—we find a remarkable uniformity of symptoms in all the other outbreaks reported in this country. The cardinal symptoms of the salmonella type of food poisoning are diarrhoea, vomiting, and abdominal pain. The significance of these symptoms will be appreciated if the different agencies which may be at work in this variety, much the commonest, of bacterial poisoning have been dissected out. Thus, food may be infected with living salmonella bacilli, this constituting the most serious factor. Or, as in canned food, the living germs may have been destroyed, but the toxin they formed, being more resistant to heat than the living cells, may survive in the food; this is the second and less serious element to be considered. Finally, the experimental work which Dr. Savage and Mr. White described in their earlier report on food poisoning and the salmonella group<sup>1</sup> defined the existence of a potent gastro-intestinal irritant in food so infected, and this, acting alone, accounts for the mildest type of illness.

Taking these three possibilities in the reverse order, we note that in some outbreaks of food poisoning the only symptoms are those of transient gastro-intestinal irritation, without any evidence of absorption of toxic substances. These outbreaks are characterized by a short incubation period, rapid recovery, and no troublesome sequelae. In this variety the only factor to be reckoned with is the irritant action on the alimentary tract, and probably the majority of such cases do not come to medical notice, and do not figure in their true proportion in any statistics of food poisoning. More serious symptoms result when this irritant action is followed by the absorption of the specific toxins the salmonella have formed during their growth. The main effect of these toxins is severe gastro-enteritis associated with constitutional disturbance such as fever, prostration, and cramping pains. These pass off quickly as the toxic substance is eliminated, and after twenty-four hours all anxiety has usually passed. This form of food poisoning is rarely fatal. The features which distinguish it are the rapid onset of severe symptoms, manifesting themselves in two to four hours after eating the food, and the equally rapid return to health. Statistics show that canned food is the commonest vehicle for this type of infection, a fact which is easily understood when the power of heat resistance possessed by salmonella toxin is remembered. Food poisoning in its most dangerous form follows when living salmonella bacilli are taken with the food. As toxins may also be present the incubation period may be as short as before, but the initial symptoms are followed by a severe illness which runs a protracted course. Here the patient suffers from a general bacterial infection, and we may expect several days of fever and a slow convalescence.

<sup>1</sup> Medical Research Council, Special Report No. 91.

Unfortunately, the mortality from food poisoning in this country is low, probably only about 1.2 to 1.3 per cent. even when infection with living salmonella bacilli has occurred; in outbreaks due to salmonella infections alone the mortality is about 0.54 per cent. Food poisoning of this type leads to a fatal issue usually only in patients suffering from some debilitating disease, or those already afflicted with an intestinal lesion, or patients at the extremes of life.

The ultimate goal of hygiene is the complete prevention of food poisoning. We can only advance to this step by step, but the researches of recent years have indicated a number of limited objectives well within reach. It must be recognized that food poisoning is not the result of the normal decomposition of food, but the infection of food with a special class of bacteria, the salmonellas. Not all of these need special guard, only a few are of any pathological significance. It is the essence of the problem is how to control these especially dangerous germs, and to exclude them from food supplies. To solve this question the authors of this report make three suggestions which deserve careful thought.

The first step in the control of bacteria responsible for food poisoning is more accurate knowledge of their habitat. Of this little is known, and it is unfortunate that usually outbreaks of food poisoning are inadequately studied. Thus, only a few outbreaks come under any official cognizance; even in Dr. Savage's report several only came to be investigated through the dovetailing up of paragraphs in newspapers, and were usually unknown to the official guardians of the public health, central or local. Some system of notification might, it is thought, be helpful by enabling medical officers of health to investigate outbreaks earlier and more thoroughly. Some local authorities have a skilled staff to undertake bacteriological and chemical inquiries, but others have not. All outbreaks which epidemiological inquiries suggest to be food poisoning ought to be investigated, and the investigation should include the study of *post-mortem* material. An autopsy is usually held in a fatal case, and sometimes a *post-mortem* examination is made, but to obtain the best results the services of a pathologist familiar with food poisoning should be available.

The second step in control which Dr. Savage suggests is better supervision of "made-up" foods, such as meat pies, brawn, potted meat, and sausages. They are considered to be an important class as a source of food poisoning outbreaks. The meat from which they are made undergoes considerable manipulation, and is therefore specially liable to bacterial contamination. They are mostly foods which are heated and then cooled slowly, offering an encouraging medium to bacterial growth. Their preparation is not infrequently undertaken in slaughterhouses or adjacent premises where opportunities for specific infection are plentiful. Supervision could be exercised by requiring that every person carrying on such a business should be licensed to do so by the local authority, which should satisfy itself that the premises are suitable, the procedures likely to be conducted in a cleanly fashion, and all precautions taken to prevent specific bacterial contamination.

A third step in control should be directed to diminish outbreaks of food poisoning from canned food, which is a frequent vehicle for the transmission of food poisoning, particularly that variety due to toxins of the salmonella bacilli. Since infection of the food must arise before the food is put into tins, or before these are sealed, attention must be focused on the place of manufacture. Some properly developed

system of coding, with disclosure of the code marks to a central authority in the country of import, would materially facilitate investigation of any particular consignment.

These measures would do a great deal, but, as the report observes, "any effective control is only likely to be attained when our knowledge of the parasitic and saprophytic life of the salmonella group has been put upon a basis of exactly ascertained fact."

#### INOPERABLE CARCINOMA OF THE CERVIX.

In a leading article in our issue of March 28th, 1925, reference was made to two American reports dealing with the incidence of carcinoma of the cervix uteri, and its response to radium therapy alone, or combined with x-ray treatment. In each report the conclusion was reached that the combination of radium and x rays in the treatment of this form of cancer is likely to gain favour, especially in borderline and inoperable cases; in the inoperable cases better results were obtained by radium therapy than by any other non-operative palliative procedure, or by cauterization. In his *Clinical Index of Radium Therapy*, published by the London Radium Institute, and reviewed in our issue of April 4th (p. 670), Mr. Hayward Pinch dwells on the need for forming a clear opinion as to the operability or otherwise of the growth in cervical cancer, and for relying principally in inoperable cases upon radiation, supplemented by local operations, such as excision, scraping, or diathermy, of fungating portions of the growth. In our present issue will be found a paper by Dr. Malcolm Donaldson upon the treatment of inoperable carcinoma of the cervix with radium, based in the main on his experience of 85 cases treated at St. Bartholomew's Hospital during the past four years, but taking into account also the methods and results of other workers in various centres abroad. We publish also a paper by Dr. Gilbert Strachan upon the same subject, founded on a study of 40 cases treated with radium at the Cardiff Royal Infirmary during the past three years; both papers were communicated to the fifth British Congress of Obstetrics and Gynaecology held in London a fortnight ago. In the discussion that followed Dr. Watts Eden made the significant remark that it almost seemed as though surgery had said its last word about carcinoma of the cervix; the extended operation had been carried to a point from which, he imagined, no further advance was possible; it would be necessary to look to radium alone in cases in which an operation could not be done. Again, two French workers, whose recent paper is summarized in the *Epitome* this week (paragraph 478), while sceptical about radium as a routine mode of treating cervical carcinoma, and satisfied that at present all operable cases should be treated surgically, are emphatic in declaring that, when the limits of the neoplasm cannot easily be passed in surgical extirpation, radium is preferable to all other modes of treatment. From all this, we think, the inference may legitimately be drawn that the treatment of inoperable carcinoma of the cervix uteri has now become a special branch of the cancer problem, calling for intensive inquiry along collective lines, and that the most hopeful method of treatment in such cases is either by radium or by x rays. Serious work in this direction has, however, been carried out during so short a space of time that the most suitable technique has yet to be determined. Two needs in particular suggest themselves: uniformity in the recording of observations, and employment of the same technique by each worker in a series of cases. With a view to meeting these two primary needs an informal association has been formed in this country by a number of workers in this field, in order that suggestions, methods, and published papers bearing on the subject may be circulated to all concerned. The object, as we understand it, is not to hold